



**RICHMOND HIGHWAY
CORRIDOR IMPROVEMENTS**
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**Richmond Highway (Route 1) Corridor Improvements
Project Between Jeff Todd Way and Napper Road
Fairfax County, Virginia**

**ENVIRONMENTAL
ASSESSMENT
September 2018**



**VDOT Project #: 0001-029-205, C501, P101, R201
UPC#: 107187**

ENVIRONMENTAL ASSESSMENT

RICHMOND HIGHWAY (ROUTE 1) CORRIDOR IMPROVEMENTS PROJECT BETWEEN JEFF TODD WAY AND NAPPER ROAD, FAIRFAX COUNTY, VIRGINIA



VDOT Project #: 0001-029-205, C501, P101, R201

UPC#: 107187

[September 2018]

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
and
VIRGINIA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL ASSESSMENT

RICHMOND HIGHWAY (ROUTE 1) CORRIDOR IMPROVEMENTS

VDOT Project #:0001-029-205, C501, P101, R201, UPC #: 107187

Federal Project No.:STP-5AO1(686)

From: Jeff Todd Way

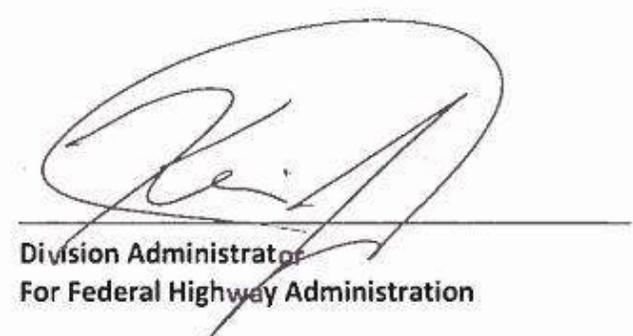
To: Napper Road

Submitted Pursuant to 42 U.S.C. 4332(2)(C)

Approved for Public Availability:

3/23/2018

Date



Division Administrator
For Federal Highway Administration

ERRATA NOTICE

Following the March 14, 2018 publication of the Environmental Assessment (EA) for the Richmond Highway Corridor Improvements project, the estimated number of right-of-way total parcel acquisitions were refined based on more advanced preliminary design. Accordingly, the following technical corrections to the EA, tabulated below, are needed. These changes, and any others that may be required in response to comments received during the public comment period, will be reflected in the revised EA the Virginia Department of Transportation will provide to the Federal Highway Administration prior to requesting a decision be made under the National Environmental Policy Act of 1969 (NEPA).

Page	Location	Correction
3-2	Table 3-1, Row 2	The reported number of displacements resulting from the Build Alternative would require 6 residential parcels with 5 single-family homes and 12 trailers; 32 business parcels with 46 individual businesses, and 2 religious community facilities on 2 parcels.
3-2	Table 3-1, Row 4	The Build Alternative would potentially require displacing 17 housing units on 6 residential parcels, 46 businesses on 32 parcels, and 2 religious community facilities on 2 parcels. Sixteen housing units on 5 residential parcels could be displaced in Census block groups containing minority populations, while 1 housing unit would be displaced in a non-Environmental Justice (EJ) Census block group. The non-minority resident population within these minority population block groups ranges from 15.9 to 84.1%. Therefore, it is probable that not all displacements would be borne by minorities and the impact would not be disproportionate and adverse. No displacements in the low-income population area at Spring Garden Apartment complex would occur.
3-16	Section 3.3.1 Paragraph 5	The Build Alternative would potentially require displacing 17 housing units on six residential parcels, 46 businesses on 32 parcels, and 2 community facilities on 2 total acquisition parcels (Table 3-5).
3-16	Table 3.5 Rows 1-3	The total number of residential parcels with displacements would be 6 with 17 displaced housing units; the total number of commercial parcels with displacements would be 32 with 46 business displacements; and, the total number of community facility parcels with displacements would be 2 with 2 religious community facilities displaced.
3-20	Section 3.3.3 Paragraph 4	Seventeen housing units from 6 residential parcels would be displaced under the Build Alternative.
3-23 to 3-24	Section 3.3.4, Paragraph 7	Seventeen housing units on 5 residential parcels could be displaced in Census block groups containing minority populations, and 1 housing unit from 1 residential parcel could be displaced in a non-EJ area. Although housing displacements could occur on 5 parcels within Census block groups containing minority populations, the non-minority resident population within those same block groups ranges from 15.9 to 84.1 percent. This increases the probability that not all residential displacements would be borne by minorities and the impact would not be disproportionate and adverse. No residential displacements would occur at the Spring Garden Apartments, the only low-income population in the study area.
3-25	Section 3.3.5, Paragraph 5	The Build Alternative would require displacing 46 businesses on 32 parcels that comprise approximately 5 percent of establishments within the zip codes encompassing the Study Area. The number of commercial displacements may possibly be reduced in the design process. Displaced businesses would be compensated under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and would be eligible for relocation assistance. Commercial displacements under the Build Alternative would not substantially

		<p>impact median household income or resident employment in the study Census block groups, even assuming all displaced businesses would relocate out of the Study Area. This is because the total number of displaced businesses would be a small proportion of the total number of establishments (approximately five percent) in the study zip codes.</p>
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Appendix A: Agency Coordination

LIST OF ACRONYMS

AADT	Annual Average Daily Traffic
AAWDT	Average Weekday Daily Traffic
ACS	American Community Survey
AOI	Area of Interest
APE	Area of Potential Effect
ASTM	American Society of Testing and Materials
BRT	Bus Rapid Transit
CBC	Community Business Centers
CBPA	Chesapeake Bay Preservation Act
CEDAR	Comprehensive Environmental Data and Reporting System
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CLRP	Constrained Long-Range Plan
CNEs	Common Noise Environments
CO	Carbon Monoxide
CWA	Clean Water Act
CZMP	Coastal Zone Management Program
dBA	A-weighted Sound Decibel
DRPT	Department of Rail and Public Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
EJ	Environmental Justice
ENTRADA	Environmental Traffic Data Analysis Program (VDOT)
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FFRMS	Federal Flood Risk Management Standard
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
FY	Fiscal Year
GHG	Greenhouse Gas
GIS	Geographic Information System
GWMA	Groundwater Management Areas
HHS	Department of Health and Human Services
HMA	Hazardous Materials Assessment
HSEMA	Homeland Security and Emergency Management Agency
HUC	Hydrologic Unit Codes
ICE	Indirect Cumulative Effects
IPaC	Information for Planning and Conservation (USFWS)
LOD	Limits of Disturbance

LOS	Level of Service
LPA	Locally Preferred Alternative
MPH	Miles Per Hour
MSAT	Mobile Source Air Toxics
MWCOG	Metropolitan Washington Council of Governments
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NCHRP	National Cooperative Highway Research Program
NCRTPB	National Capital Region Transportation Planning Board
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHD	National Hydrography Dataset
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service (NOAA Fisheries)
NOAA	National Oceanic and Atmospheric Administration
NRHP	National Register of Historic Places
NCDOT	North Carolina Department of Transportation
NVTA	Northern Virginia Transit Authority
OCR	Office of Community Revitalization
OIPI	Office of Intermodal Planning and Investment
OMVHS	Original Mount Vernon High School
PA	Programmatic Agreement
PCB	Polychlorinated Biphenyl
PEM	Palustrine, Emergent
PFO	Palustrine, Forested
PIM	Public Information Meetings
POW	Palustrine, Open Water
REX	Richmond Highway Express
RMA	Resource Management Area
RPA	Resource Protection Area
SAV	Submerged Aquatic Vegetation
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SSA	Sole Source Aquifer
TAZ	Traffic Analysis Zone
TIP	Transportation Improvement Program
TNM	Traffic Noise Model (FHWA)
TTI	Travel Time Indices
USACE	US Army Corps of Engineers
USDOT	US Department of Transportation
USEPA	United States Environmental Protection Agency

USFWS	United States Fish and Wildlife Service
USGS	US Geological Survey
v/c	Volume to Capacity Ratio
VAC	Virginia Administrative Code
VaFWIS	Virginia Fish and Wildlife Information Service
VDACS	Virginia Department of Agriculture and Consumer Services
VD CR	Virginia Department of Conservation and Recreation
VD CR- DNH	Virginia Department of Conservation and Recreation – Division of Natural Heritage
VDEQ	Virginia Department of Environmental Quality
VDGIF	Virginia Department of Game and Inland Fisheries
VDH	Virginia Department of Health
VDHR	Virginia Department of Historic Resources
VDOT	Virginia Department of Transportation
VIMS	Virginia Institute of Marine Science
VMT	Vehicle Miles Traveled
VRE	Virginia Railway Express
VRRM	Virginia Runoff Reduction Method
WMATA	Washington Metropolitan Area Transit Authority
WOUS	Waters of the United States

1. PURPOSE AND NEED

1.1 INTRODUCTION

The Virginia Department of Transportation (VDOT), in cooperation with the Federal Highway Administration (FHWA), is preparing an Environmental Assessment (EA) for the Richmond Highway (Route 1) Corridor Improvements Project between Jeff Todd Way and Napper Road (**Figure 1-1**). Improvements are proposed for an approximate 2.9-mile section of Richmond Highway between Route 235 (Mount Vernon Memorial Highway – South) to 0.07 miles north of Route 235 (Mount Vernon Highway – North) at Napper Road. The environmental study area extends further north along the Richmond Highway to Sherwood Lane. The EA is being prepared in accordance with the National Environmental Policy Act (NEPA), FHWA regulations at 23 Code of Federal Regulations (CFR) § 771 and Technical Advisory T 6640.8, and Council on Environmental Quality (CEQ) guidance at 40 CFR § 1500 -1508.

The following sections describe the basis for preparing an EA, the Study Area for the Richmond Highway (Route 1) Corridor Improvements Project (hereafter Richmond Highway), the history of the improvement studies leading to the development of this EA, and existing and future transportation needs in the Study Area. The chapter concludes with a summary of the transportation needs discussed earlier in the chapter.

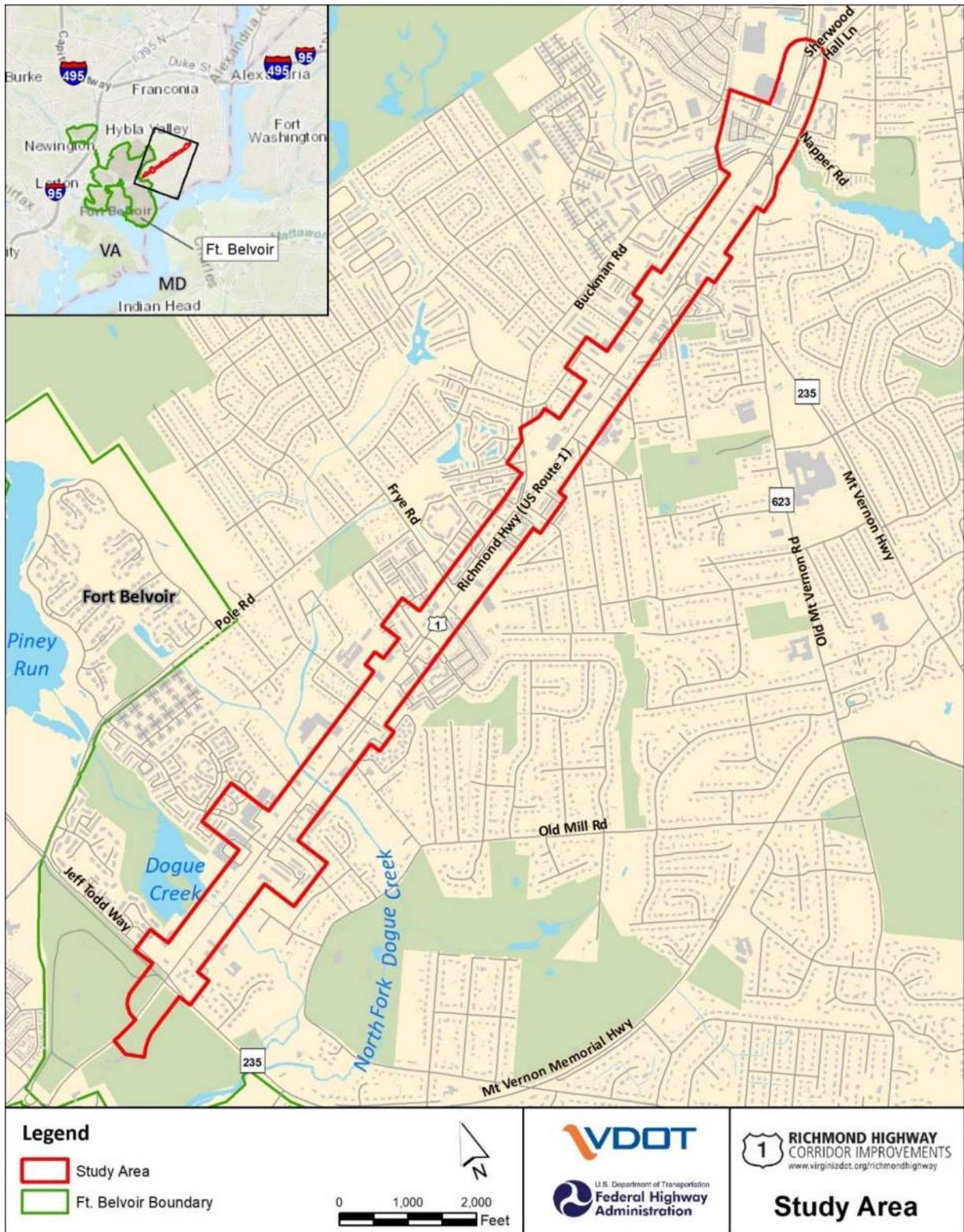
1.2 BASIS FOR PREPARING AN EA

A decision to prepare an EA rather than an EIS is to determine whether significant environmental impacts would occur. Pursuant to NEPA, the determination of impact significance requires considerations of both context and intensity (40 CFR § 1508.27). Context refers to the setting of the project (local, state, region, national). Intensity refers to the severity of the impact. The setting for this project is approximately 2.9 miles of an existing heavily traveled principal arterial in an urbanized area. The highway has been in place for decades. Lands along the Study Area are largely developed as commercial, residential and office properties. Lands that are not developed are largely publicly owned parks. The proposed improvements would widen Richmond Highway from a four-lane undivided roadway to a divided six-lane facility with bicycle and pedestrian accommodations, and a median wide enough to accommodate future Bus Rapid Transit (BRT) as called for in the Department of Rail and Public Transportation (DRPT) Multimodal Study (DRPT, 2015) / Fairfax County Board of Supervisors Resolution (Fairfax County, 2015a). The median would be maintained as a grass strip until the implementation of the BRT.

Chapter 3 Environmental Consequences describes the environmental impacts of the project. Based on the analyses of the intensity of those impacts, the impacts would not be significant. The following information supports this conclusion:

- The Build Alternative would not cause any violation of federal, state or local law or requirements imposed for the protection of the environment.
- The Build Alternative would have no adverse effect on historic properties along Richmond Highway in the Study Area, a finding in which the State Historic Preservation Officer (SHPO) has concurred.
- With one exception, the Build Alternative would not use any Section 4(f) properties along the study highway. The one exception would be the Original Mount Vernon High School (OMVHS), owned by Fairfax County. However, the alternative would have a *de minimis* impact on that property.

Figure 1-1: Richmond Highway Study Area



- Although the Build Alternative would result in approximately 40 residential displacements, the number is not significantly high given the urban setting of the project. Furthermore, all displacees can be relocated in accordance with federal relocation requirements.
- No disproportionately high or adverse environmental effects on minority or low-income populations would occur under the Build Alternative.
- All applicable air quality requirements of NEPA and federal and state transportation conformity regulations would be met. As such, the Build Alternative would not cause or contribute to a new violation, increase the frequency or severity of any violation, or delay timely attainment of the National Ambient Air Quality Standards established by the US Environmental Protection Agency (USEPA).
- Although noise impacts would occur along the Richmond Highway in the Study Area, these impacts can be mitigated by installing new barriers where they are determined to be feasible and reasonable. Because this is already an existing heavily traveled highway, future build condition noise levels would not be substantially higher than no-build condition noise levels.

Chapter 4 summarizes the agency and public involvement conducted for the Richmond Highway Corridor Improvements EA to date. Federal, state and local agencies, adjacent property owners and the public provided input during scoping and at the public information meetings. No comments were received that objected to the preparation of an EA rather than an EIS.

If, at any point during the EA process, significant environmental impacts are identified, then an EIS would be prepared.

1.3 STUDY AREA

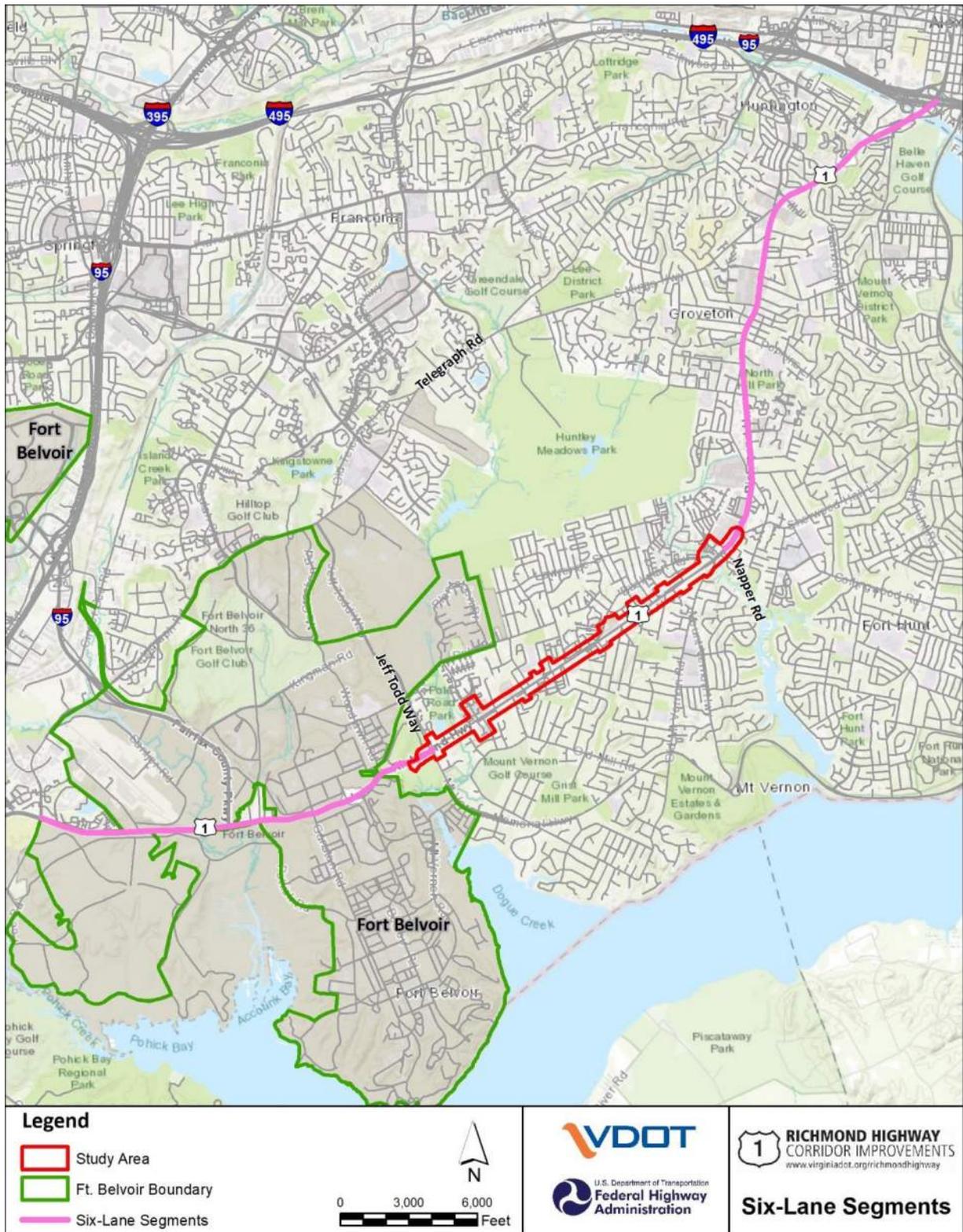
Based on historical connections to the state capital in Richmond, Route 1 is also known as the “Richmond Highway.” Richmond Highway is the principal north-south route for local traffic in eastern Fairfax County for shopping and other general-purpose trips, and serves as a major commuter route and an alternate north-south route for nearby Interstate 95 (I-95). The section of Richmond Highway evaluated in this EA is in the southeast portion of Fairfax County between Hybla Valley to the north and Fort Belvoir to the south (**Figure 1-1**).

Richmond Highway is currently functionally classified as an “Other Principal Arterial” according to FHWA’s criteria (FHWA, 2013). Other Principal Arterials in urban settings serve major centers of metropolitan areas and directly serve adjacent land uses. The existing types of access for the Richmond Highway include driveways to specific parcels and at-grade intersections with other secondary roads.

Richmond Highway in the Study Area is a four-lane, undivided road with left turn lanes at all signalized intersections and right and left turn lanes in each direction at major destinations to either side of the highway; however, intermittent sections include left turn lanes and painted or raised concrete median. Currently there are left-turn lanes at most of the unsignalized intersections. The posted speed limit is 45 miles per hour (mph).

Richmond Highway on either side of the Study Area has six general purpose lanes (**Figure 1-2**). Beginning at the southwest end of the current Study Area at the Mount Vernon Memorial Highway (VA 235) / Jeff Todd Way intersection, Richmond Highway was recently widened to six lanes extending 3.68 miles south through Fort Belvoir and ending at Telegraph Road. Richmond Highway has also been previously widened to six general purpose lanes from approximately the Ladson Lane intersection in the northern Study Area, north to I-95 / I-495.

Figure 1-2: Richmond Highway Six-Lane Segments Adjacent to Study Area



1.4 HISTORY OF STUDY

Many studies and plans have been completed over the last 18 years to assess transportation issues in the Richmond Highway corridor. Each study shown in **Figure 1-3** has identified transportation challenges in the corridor as well as provided recommendations to address these challenges as described in **Table 1-1**. The previous studies have consistently identified three key issues:

- viable multimodal travel options on the corridor are limited and / or insufficient
- congestion impedes reliable and efficient travel
- existing transportation services and networks fail to support planned land uses and economic development efforts

Figure 1-3: Previous Richmond Highway Studies

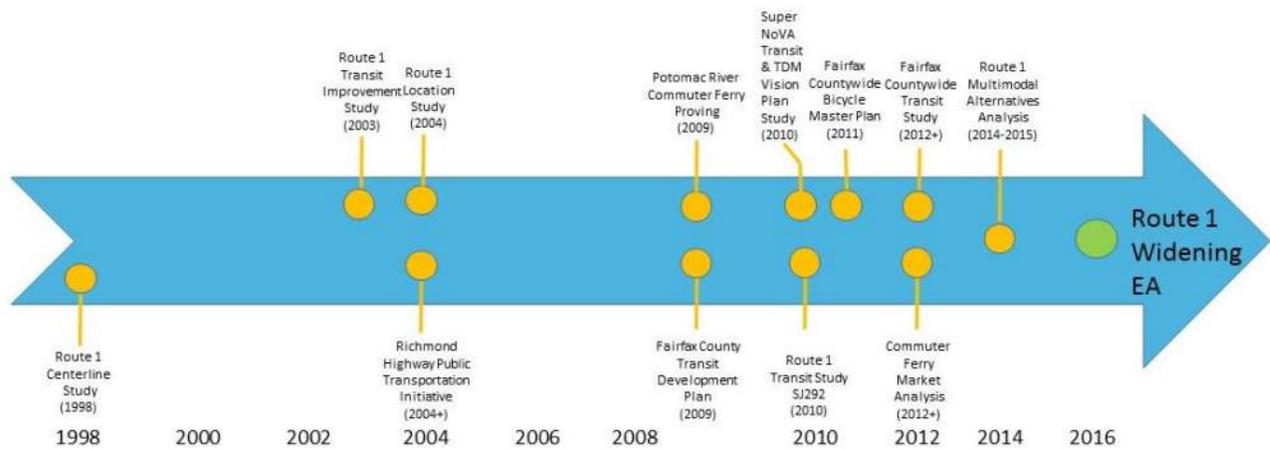


Table 1-1: Needs and Recommendations of Previous Studies (Chronologically)

Plan	Agency	Date	Identified Needs	Alternatives Recommended for Richmond Highway
Route 1 Centerline Study	VDOT	1998	<ul style="list-style-type: none"> • Increasing congestion threatens mobility and economic development • Non-motorized facilities are inadequate <ul style="list-style-type: none"> • Enhanced transit is necessary to meet travel demands 	<ul style="list-style-type: none"> • Additional lane in each direction throughout • Bicycles in shared outer lane (15') • Pedestrians (10' planting strip, 6' sidewalk) • Accommodation for higher quality transit (undefined)
Route 1 Transit Improvement Study	WMATA ¹	2003	<ul style="list-style-type: none"> • Substantial growth in development requires enhanced transit services 	<ul style="list-style-type: none"> • Phased: BRT "light" (in shared lanes) preceding BRT in dedicated curbside lanes • Light rail in dedicated or semi-exclusive lanes

Plan	Agency	Date	Identified Needs	Alternatives Recommended for Richmond Highway
Richmond Highway Public Transportation Initiative	Fairfax County DOT ²	2004-present	<ul style="list-style-type: none"> • Seriously deficient pedestrian facilities • Bus stop amenities are lacking 	<ul style="list-style-type: none"> • Safety improvements at intersections • Complete sidewalk network • Local and express bus stop improvements
Mt Vernon Vision	Citizens	2010	<ul style="list-style-type: none"> • Transportation should support land use development • Substantial growth in development requires enhanced transit services 	<ul style="list-style-type: none"> • Metrorail: LRT³ or monorail as an alternative • Complete sidewalk network
Route 1 Transit Study SJ292	DRPT	2010	<ul style="list-style-type: none"> • Enhanced transit is necessary to meet travel demands 	<ul style="list-style-type: none"> • BRT • Complete pedestrian network • Additional lane in each direction throughout
SuperNoVa Transit / TDM Vision Plan	DRPT	2012	<ul style="list-style-type: none"> • Additional transportation options are necessary to accommodate growth • Enhanced intermodal connections and facilities 	<ul style="list-style-type: none"> • BRT or LRT north of Fort Belvoir • Pedestrian and bicycle accommodation
Constrained Long Range Plan and Regional Vision	MWCOG ⁴	2013	<ul style="list-style-type: none"> • Additional transportation options are necessary to accommodate growth <ul style="list-style-type: none"> • Foster walkable communities • Enhanced intermodal connections and facilities • Affordable transportation options • Secure and reliable funding for transit 	<ul style="list-style-type: none"> • Additional lane per direction
Route 1 Multimodal Alternatives Analysis	DRPT, VDOT, OIPI ⁵ , Fairfax County, Prince William County	2014-2015	<ul style="list-style-type: none"> • Transit travel time is not competitive with automobiles, service is infrequent, and dwell times at stops and peak period congestion delay transit • Pedestrian and bicycle facilities for travel are limited, substandard and unable to compete with the attractiveness of 	<ul style="list-style-type: none"> • Attractive and competitive transit service to support transit dependent population • Safe and accessible pedestrian and bicycle access • Provide appropriate level of vehicle accommodation • Support and accommodate more robust land development to support anticipated population and employment growth

Plan	Agency	Date	Identified Needs	Alternatives Recommended for Richmond Highway
			<p>single-occupancy vehicle travel</p> <ul style="list-style-type: none"> • Pedestrian crossings of US Route 1 are infrequent, wide and not near existing transit stops • Bicycle access is difficult with few alternative paths • Vehicle users experience substantial congestion along US Route 1 during peak periods resulting in highly variable and unpredictable travel times • Current development patterns fail to optimize development potential at designated activity centers and existing street connectivity is poor at commercial nodes 	
Fairfax County Comprehensive Plan – Mt Vernon Planning District	Fairfax County	Amended 2015	<ul style="list-style-type: none"> • Increasing congestion threatens mobility and economic development • Substantial growth in development requires enhanced transit services • Transportation should support land use development 	<ul style="list-style-type: none"> • Consistent 3 lanes per direction throughout • High quality transit (rail or BRT) in dedicated guideway (median) <ul style="list-style-type: none"> • Multiuse trail for bikes and pedestrians (9’ buffer, 9’ trail) • Realign: South Buckman opposite Radford Ave, Russell Rd to Reddick Ave, Sacramento Dr to Cooper Rd, Old Mill Rd (Jeff Todd Way) to Mt Vernon Hwy • Consolidate / eliminate sporadic service drives
Constrained Long Range Plan and Regional Vision	MWCOG	2015	<ul style="list-style-type: none"> • Improve safety and operation of intersections and / or roadway segments • Address congestion • Improve transit 	<ul style="list-style-type: none"> • Widen to 6 lanes • Reconstruct / replace bridges as necessitated to the 6-lane width <ul style="list-style-type: none"> • Bicycle / pedestrian accommodations included • 2015 Amendment: BRT from Huntington Metro Station to Woodbridge VRE[®] Station

Plan	Agency	Date	Identified Needs	Alternatives Recommended for Richmond Highway
				<ul style="list-style-type: none"> • 2015 Amendment: Priority but unfunded US Bike Route 1 Signing in Northern Virginia (VDOT) to install route and wayfinding signage along 50 miles of US Bicycle Route 1, a national AASHTO⁷ bicycle route.
FY 2017 Candidate Projects	NVTA ⁸	2015	<ul style="list-style-type: none"> • Severe peak hour congestion • Lack of signals and turn lanes at key intersections <ul style="list-style-type: none"> • Lack of bicycle / pedestrian facilities • Bicycle/pedestrian conflicts with too many driveways • Improve traffic into and out of Fort Belvoir • Supports economic development 	<ul style="list-style-type: none"> • Consistent 6-lane facility from Mt Vernon Memorial Hwy to Napper Rd • Signalization and turn lanes where needed • Connect bicycle / pedestrian facilities through corridor • Provision for future transit • Consolidate driveway entrances
Fairfax County Countywide Transit Network Study	Fairfax DOT	Ongoing	<ul style="list-style-type: none"> • Need more transportation choices for Fairfax County and regional connectivity • Support local and regional economic development goals • Strengthen quality of life by making transit-friendly, sustainable investments 	<ul style="list-style-type: none"> • BRT from Huntington to Woodbridge • Metrorail Yellow Line Extension from Huntington to Hybla Valley <ul style="list-style-type: none"> • An additional BRT station at Belvoir Rd to serve Pence Gate

¹Washington Metropolitan Area Transit Authority

²Fairfax County Department of Transportation

³Light Rail

⁴Metropolitan Washington Council of Governments

⁵Office of Intermodal Planning and Investment

⁶Virginia Railway Express

⁷American Association of State Highway and Transportation Officials

⁸Northern Virginia Transportation Authority

The most recent study completed in 2015 is the *Route 1 Multimodal Alternatives Analysis* (hereafter “DRPT Multimodal Study”) sponsored by the DRPT, VDOT, the Office of Intermodal Planning and Investment (OIPI) and Fairfax and Prince William Counties (DRPT, 2015). The DRPT Multimodal Study identified a range of multimodal improvements that best met community needs and the needs of travelers to, and through, the 15-mile Richmond Highway corridor extending from Route 123 in Woodbridge in Prince William County to I-95 / I-495 in Fairfax County. A *Purpose and Need Report* (DRPT, 2014a) completed by the DRPT Multimodal Study established elements of the Purpose and Need for the proposed improvements to the section of Richmond Highway evaluated in this EA.

The needs in the corridor generated by the DRPT Multimodal Study for their 15-mile study location along Richmond Highway were developed as follows:

- reviewed and analyzed past plans and studies and current policy guidance
- assessed existing and forecasted / desired conditions for transportation and land use
- engaged communities and solicited public and stakeholder input

After extensive public and agency engagement (see **Chapter 4 Coordination and Comments**), four specific needs for a major multimodal investment in the corridor were identified by the DRPT Multimodal Study:

- attractive and competitive transit service to support transit dependent population
- safe and accessible pedestrian and bicycle access
- provide appropriate level of vehicle accommodation
- support and accommodate more robust land development to support anticipated population and employment growth

The DRPT Multimodal Study recommended transit, pedestrian and bicycle, vehicular, and land use and development improvements to Richmond Highway within the EA Study Area. See **Chapter 2 Alternatives** for a detailed description of the alternatives screening criteria, alternatives evaluated, and recommendations made by the DRPT Multimodal Study. The DRPT Multimodal Study recommended Alternative 4 BRT / Metrorail Hybrid as the transit mode for advancement, which includes long-term extension of the Metrorail Yellow Line, from Huntington to Hybla Valley, with BRT in the median within the DRPT Multimodal Study 15-mile corridor. This alternative also included phased implementation of the multimodal improvements within the current EA Study Area consisting of widening Richmond Highway from four to six lanes and providing continuous bicycle and pedestrian facilities. An underground extension of the Metrorail Yellow Line to Hybla Valley was also recommended when warranted by increased population density within the 15-mile study corridor. The DRPT formally endorsed the DRPT Multimodal Study recommendations by resolution in 2014 (DRPT, 2014b), contingent on supportive land use and an achievable funding plan, both of which are advancing.

The Fairfax County Board of Supervisors authorized the amendment of their Comprehensive Plan by resolution in May 2015 to include the DRPT recommendations for “Alternative 4 Bus Rapid Transit (BRT/Metrorail Hybrid)”. In response Fairfax County Department of Planning and Zoning and the Office of Community Revitalization (OCR) is proceeding with actions necessary to revise land use throughout the corridor referenced as “Embark Richmond Highway”. Concurrent to this initiative staff was directed to implement the widening of Richmond Highway and BRT, which extends from the Huntington Metro Station approximately 3.5 miles north of the Study Area, through the current Study Area, to Accotink Village approximately 1.5 miles south of the Study Area. Consistent with the DRPT Multimodal Study recommendations for phasing roadway improvements to Richmond Highway, Fairfax County first pursued

roadway and pedestrian / bicycle improvements to the section of Richmond Highway extending from the Mount Vernon Memorial Highway (VA 235) / Jeff Todd Way intersection through Fort Belvoir, and south to the Telegraph Road intersection. The County then pursued widening Richmond Highway and pedestrian / bicycle improvements in the current Study Area from the Mount Vernon Memorial Highway (VA 235) / Jeff Todd Way intersection to the Mount Vernon Highway (VA 235) / Buckman Road intersection. The recommended roadway improvements within the current Study Area were subsequently included in the Metropolitan Washington Council of Governments' (MWCOG) 2015 Financially Constrained Long-Range Transportation Plan (CLRP) and advanced to preliminary design.

In February 2016, FHWA and VDOT initiated this Richmond Highway Corridor Improvements Project EA to evaluate the potential environmental effects of improvements to Richmond Highway between Jeff Todd Way and Napper Road, constructing enhanced bicycle and pedestrian facilities, and providing space for future transit in the median consistent with the DRPT Multimodal Study's Alternative 4 BRT / Metrorail Hybrid.

In May 2016, the 2015 CLRP was amended to include BRT along Richmond Highway from the Huntington Metro Station approximately 3.5 miles north of the Study Area, through the Study Area, continuing approximately 8 miles south to the Woodbridge Virginia Railway Express (VRE) Station. This independent transit study is currently underway. The current cost to construct the BRT was estimated at approximately \$500 Million dollars of which the County has no funding from the Federal Transit Administration (FTA) for construction. On December 2 of 2016, Fairfax County received a grant from DPRT and FTA for funding to expand an ongoing comprehensive plan amendment process to improve access to transit and enable high quality mixed-use development around future BRT stations along Richmond Highway. The planning work will support the continued expansion of Fort Belvoir by improving transit access to the facility and mitigating traffic congestion. Final outcomes will include station area concept plans, urban design guidelines, and a conceptual street grid layout.

Considering the DRPT Multimodal Study and preliminary engineering identification of the roadway deficiencies of Richmond Highway in the Study Area, the Richmond Highway Corridor Improvements EA will address the following needs:

- Accommodate Travel Demand
- Improve Safety

The sections below describe existing and future transportation needs in the Study Area.

1.5 NEEDS OF STUDY

1.5.1 Accommodate Travel Demand

Travel Demand

Travel demand along Richmond Highway within, and through, the Study Area is generated by various modes (vehicular, bicycle and pedestrian) and users (commuters, freight trucks, military, recreationists and tourists). Richmond Highway provides a vital regional link for commuters traveling to and from large regional employers and institutions in Fairfax and Arlington Counties, Alexandria and the District of Columbia. Fort Belvoir just south of the Study Area is a major employer in Fairfax County, with approximately 39,000 civilian and military personnel in approximately 140 tenant and satellite organizations (US Army, 2015a and 2016a). The Inova Mount Vernon Hospital, USA Mobility, Defense Contract Audit Agency and Defense Logistics Agency are other major area employers within or near the

Study Area (Fairfax County Economic Development Authority, No Date). Tourist destinations within the 2.5 miles of the Study Area include George Washington's Mount Vernon Estate and Gardens, George Washington's Distillery and Grist Mill, the Frank Lloyd Wright-designed Pope-Leighey House, River Farm and Woodlawn Plantation. Recreational destinations near the Study Area include Huntley Meadows Park just north of the Study Area, and Pohick Bay Regional Park and Mason Neck State Park approximately 5 miles southwest of the Study Area. Tourism and recreation is seasonal and traffic peaks during the summer months.

Commuters also use Richmond Highway to access transit stations such as the Huntington Metrorail Station north of the Study Area, and the Woodbridge VRE to the south. Richmond Highway serves as an alternate north to south route for I-95 and a designated District of Columbia Homeland Security and Emergency Management Agency evacuation route (HSEMA, 2016).

Richmond Highway also functions as a route for local traffic for shopping and other general-purpose trips. The Study Area is dominated by commercial and office space generating business and personal travel. Several shopping centers are within the Study Area including:

- Sacramento Center
- Pear Tree Village
- Cooper Shopping Center
- Marcel Shopping Center
- Woodlawn Center
- Lukens Plaza
- Engleside Plaza
- Sky View Park Plaza
- Uno Plaza
- Potomac Square
- Mount Vernon

Using the MWCOC Version 2.2 Regional Travel Demand Model, the DRPT Multimodal Study found that the largest share of trips in the 15-mile study area along the Richmond Highway were those that began and ended in the corridor, followed in frequency by travel to and from other areas of Fairfax County (DRPT, 2014c). Travel demand within the Richmond Highway Corridor Improvements Study Area has been modeled with the updated MWCOC Regional Travel Demand Model Version 2.3.57a. The latest modeling for the current study shows that travel demand in the Study Area generally follows the same pattern identified in the 2014 DRPT Multimodal Study (see the *Richmond Highway Corridor Improvement Traffic Operations Analysis Report*).

Table 1-2 shows 2016 traffic volumes along Richmond Highway within the Study Area generated by commuters, recreational and tourist travel, shopping and local general purpose trips as discussed above.

Table 1-2: Existing (2016) Study Area Traffic Volumes

Richmond Highway Traffic Section	Average Annual Daily Traffic (AADT)	Average Weekday Daily Traffic (AAWDT)	Northbound AM(PM) Peak Hour	Southbound AM(PM) Peak Hour
From Route 235 (Mt Vernon Memorial Hwy) to Route 235 (Mt Vernon Hwy)	38,645	39,855	1,725 (1,485)	1,160 (1,570)

Travel options to meet existing travel demand are limited in the Study Area along Richmond Highway. The sidewalks along Richmond Highway are discontinuous and there are no dedicated bicycle facilities. Further, there is no dedicated transitway within the study corridor. The lack of travel options along Richmond Highway through the Study Area discourages travel by other modes, contributing to increased vehicular traffic congestion.

Accessibility and Mobility

Transportation accessibility focuses on getting people and goods to destinations in high demand. Accessibility is enhanced by increasing the speed one can travel to reach a destination and the subsequent reduction in travel time (i.e., mobility). Moreover, for transportation to be accessible, it needs to be reliable so that people and goods arrive as planned.

Increase Capacity

High travel demand coupled with limited capacity leads to congestion that has an adverse effect on travel time and travel reliability. Potential capacity is reduced when considering factors such as lane drops and merges, as well as lack of shoulders and turn lanes. The Richmond Highway transitions from a consistent six general purpose lanes both north and south of the Study Area to four general purpose lanes within the Study Area. Lane drops in the Study Area that occur at the Mount Vernon Highway (VA 235) / Buckman Road intersection on the northeast, and the Mount Vernon Memorial Highway (VA 235) / Jeff Todd Way intersection on the southwest, cause traffic backups approaching the Study Area during peak travel periods, contributing to congestion. In addition, routine maintenance results in either shoulder or lane closures that affect capacity.

Relieve Congestion

When travel demand exceeds capacity, congestion occurs. Congestion can be described as a condition characterized by unstable traffic flow, reduced travel speeds, stop-and-go movements, travel delays, and queuing. Vehicular congestion within the Study Area occurs in one of two forms: recurring and non-recurring. Recurring congestion happens on a regular basis at the same general location that is caused by not enough capacity to accommodate traffic volumes. Non-recurring congestion is irregular and occurs at varying times and locations. For example, non-recurring congestion can be caused by weather events, or accidents. Both types of congestion occur in the Richmond Highway Corridor Improvements Study Area.

Congestion can be evaluated in terms of the Travel Time Index (TTI). The TTI is the ratio of actual travel time to free flow travel time such that a TTI of 1.00 indicates free flow conditions, whereas an index of 1.3 indicates travel takes 30 percent longer than in free flow conditions. Peak traffic morning hours are between 7:15 – 9:15 AM and peak traffic evening hours are from 3:15 – 6:15 PM. In 2016, the *Richmond Corridor Study Traffic Operations Analysis Report* calculations for southbound Richmond Highway through the Study Area during the peak traffic morning hours yielded a TTI of 1.6 and during the peak traffic evening hours found a TTI of 1.3. For the northbound lanes, during the morning traffic peak a TTI of 1.4 indicates travel on Richmond Highway through the Study Area takes 40 percent longer than free flow conditions, and during the evening it takes nearly twice as long as free flow (TTI of 1.7).

Another measure of evaluating intersection operation is the traffic volume to capacity ratio (v / c). A v / c ratio less than 0.85 generally indicates that adequate capacity is available and vehicles are typically not expected to experience significant queues and delays. The current study measured existing (2016) traffic maximum v / c at the Mount Vernon Memorial Highway (VA 235) / Jeff Todd Way intersection during peak morning hours that had a v / c of 0.98 and during peak evening hours a v / c of 1.08. At the Mount Vernon

Highway (VA 235) / Buckman Road intersection, maximum peak morning v / c is 1.26 and 0.89 at peak evening hours. The data indicates traffic volume on Richmond Highway in the Study Area exceeds existing roadway capacity during peak travel hours.

Factors contributing to congestion in the Study Area include:

- too many access points along the corridor
- lack of turn lanes for driveways and side streets
- poor signal timing
- congestion from downstream points outside of the study area along northbound Richmond Highway

1.5.2 Improve Safety

Safety along Richmond Highway in the Study Area is impacted by too many and inadequately spaced driveways (uncontrolled access), inadequately spaced signalized intersections, lack of turn lanes, inadequate shoulder width, inadequate pedestrian and bicycle facilities, and roadway flooding.

Access Management and Roadway Deficiencies

Much of Richmond Highway in the Study Area is developed with uncontrolled access. Large numbers and close spacing of driveways increase potential conflicts on the road, presenting challenges to drivers, increasing points of conflicts between drivers and pedestrians, and increasing congestion and crashes. Also, spacing is too close between certain Richmond Highway signalized intersections within the Study Area, shoulders are too narrow and turn lanes are lacking, contributing to congestion and crashes.

A five-year crash analysis for Richmond Highway in the Study Area was conducted for the timeframe between May 1, 2011 and April 30, 2016 (see the *Richmond Highway Corridor Improvements Traffic Operations Analysis* report). The crash study limits incorporated the major intersections along approximately 3 miles of Richmond Highway from the Mount Vernon Memorial Highway (VA 235) / Jeff Todd Way intersection to the Napper Road intersection. During the study period, a total of 462 crashes occurred between these intersections along Richmond Highway, with the following results:

- 247 injury related crashes and 1 fatality
- 213 crashes causing property damage
- 22 crashes involving pedestrians (no bicycles)

Crash hotspots (30 or more crashes) were identified at the Mount Vernon Memorial Highway (VA 235) / Jeff Todd Way, Sacramento Drive / Cooper Road and Mount Vernon Highway / Buckman Road intersections. The higher rate of crashes in these areas is attributed to the signal interrupting continuous traffic flow and / or inadequate clearance at the signal; closely spaced signals and high number of accesses; and poor sight distance, respectively. The May 2011 to April 2016 crash rate in the crash study limits was calculated to be 263.13 crashes per 100 million Vehicle Miles Traveled (VMT), considerably higher than the 2015 statewide average of 142.35 per 100 million VMT.

Dogue Creek, North Fork Dogue Creek and Little Hunting Creek are large stream crossings along Richmond Highway in the Study Area (**Figure 1-1**). Flooding on Richmond Highway in the Study Area during high water events is occurring because of inadequate structures at these crossings, posing a safety issue.

Pedestrian Bicycle Facilities

The DRPT Multimodal Study, Fairfax County plans, and National Capital Region Transportation Planning Board (NCRTPB) regional bicycle and pedestrian plans have identified the need for multimodal facilities along Richmond Highway that meet planned goals for walkable communities focused on connectivity to future transit hubs (DRPT, 2014a; Fairfax County, 2014; NCRTPB, 2015). The DRPT Multimodal Study noted several specific pedestrian and bicycle facility needs along the Richmond Highway (DRPT, 2014a), including the following:

- bicycle and pedestrian facilities are not continuous
- pedestrian crossings are infrequent, wide, and not near existing transit stops
- more bicycle access is needed buffered from the heavy traffic on the corridor; and
- Americans with Disabilities Act accommodations are needed to pedestrian destinations such as bus stops in several locations

Currently, sidewalks are discontinuous on both sides of the road through the Study Area, and there are many intersecting driveways. Even though pedestrian crosswalks on the Richmond Highway are within walking distance from most existing transit stops in the Study Area, cross walks are scarce, and present only at seven intersections.

At this time, no separate bicycle lanes or paths exist within the Study Area. Bicyclists use existing sidewalks in conflict with other pedestrian users. Alternatively, bicycle riders in the vehicular travel-way contend with heavy traffic and higher safety risks. In the Fairfax County *Bicycle Master Plan*, Fairfax County characterizes Richmond Highway in the Study Area as a route “of caution” where “bicyclists are urged to exercise extra caution due to narrow shoulders or lanes, poor sight distances, high traffic volumes, or other challenging characteristics” (Fairfax County, 2014).

Designated trails are located near the Study Area within Mount Vernon Manor Park and Vernon Heights Park, but the trails have no direct connection to Richmond Highway in the Study Area.

1.6 NEEDS: FUTURE CONDITIONS

1.6.1 Overview

Section 1.4 describes the existing needs along Richmond Highway in the Study Area. In the absence of improvements to address existing needs to accommodate travel demand and improve safety, these needs would continue in the future, as described below.

1.6.2 Accommodate Travel Demand

Travel Demand

The MWCOC forecasts the number of households, population, and employment in the National Capital Region by Traffic Analysis Zone (TAZ). **Figure 1-4** shows the TAZs encompassing the Study Area. The population of the TAZ surrounding the Study Area is expected to increase from 41,797 in 2015 to 48,436 in 2045, an approximately 16 percent increase (MWCOC, 2016b). Recently, the Record of Decision for the *Fort Belvoir Final Environmental Impact Statement for Short-term Projects and Real Property Master Plan Update* proposed up to 17,000 additional workers at Fort Belvoir by 2030, an increase of approximately 44 percent (US Army, 2015b, 2016b). The Study Area is also within the Hybla Valley / Gum Springs, South County and Woodlawn commercial revitalization areas identified in the 2013 *Fairfax County Comprehensive Plan*. These factors would contribute to future travel demand in the Study Area.

From 2016 to 2045, traffic volumes under the No-Build conditions are forecasted to grow as shown in **Table 1-3**. Average annual weekday daily traffic is expected to increase 37.4 percent both at the Mount Vernon Memorial Highway (VA 235) / Jeff Todd Way intersection on the southwest end of the Study Area, and the Mount Vernon Highway (VA 235) / Buckman Road intersection at the northeast end. The ability to maintain steady traffic flow in the Study Area will become increasingly difficult based on 2045 modeled No-Build traffic volumes.

The lack of pedestrian, bicycle and options for transit dependent populations along Richmond Highway through the Study Area would continue in the future. The forecasted increased population and travel demand would not be met without accommodating multimodal improvements to serve these needs. The current Richmond Highway Corridor Improvements Study should not preclude development of future pedestrian and bicycle facilities, and BRT running in the median, based on the DRPT Multimodal Study recommendations and the Fairfax County Board of Supervisors Resolution to initiate Embark Richmond Highway.

Accessibility and Mobility

Under future No-Build conditions, travel time in the Study Area is expected to increase in the 2045 design year compared to existing conditions (**Table 1-4**). The future No-Build traffic model signal timing is optimized for the estimated demand under the existing lane configuration. Northbound travel on Richmond Highway in the Study Area in the evening peak travel period is forecast to take over 15 times (i.e., 1,500 percent) longer than free-flow conditions. The TTI is expected to worsen, even though, as noted in **Table 1-4**, traffic modeling indicates traffic fails to enter / exit the network within the Study Area at the southern and northern limits due to signal cycle failure outside the Study Area. Signal cycle failure occurs when traffic queues do not completely discharge during each signal cycle, forcing drivers to wait for more than one red light. The Study Area TTI shown in **Table 1-4** account for the signal cycle failures outside the Study Area.

Figure 1-4: Traffic Analysis Zones (TAZ) Along the Study Area



Table 1-3: Existing (2016) and 2045 No-Build Design Year Traffic Volumes

Year	Richmond Highway Traffic Section	Average Annual Daily Traffic (AADT)	Average Weekday Daily Traffic Volume (AAWDT)	Northbound Peak Hour AM / (PM)	Southbound Peak Hour AM / (PM)
Existing (2016)	Mt Vernon Memorial Hwy (VA 235) / Jeff Todd Way to Mt Vernon Hwy (VA 235) / Buckman Rd	38,645	39,855	1,725 (1,485)	1,160 (1,570)
No-Build Design Year (2045)	Mt Vernon Memorial Hwy (VA 235) / Jeff Todd Way to Mt Vernon Hwy (VA 235) / Buckman Rd	53,085	54,745	2,370 (2,040)	1,595 (2,155)

Table 1-4: Existing (2016) and 2045 No-Build Travel Time Index (TTI)

Travel Direction and Peak Hour	Existing (2016) TTI	No-Build Design Year (2045) TTI
Southbound AM Peak ¹	1.6	1.7
Northbound AM Peak ²	1.4	2.5
Southbound PM Peak ³	1.3	2.5
Northbound PM Peak ⁴	1.7	15.3

¹16% of traffic fails to enter the network due to signal cycle failure at northern study limits

²19% of traffic fails to enter the network due to signal cycle failure at southern study limits

³23% of traffic fails to enter the network due to signal cycle failure at northern study limits

⁴32% / 64% of traffic fails to enter / exit the network due to signal failure at southern / northern limits, respectively

Intersection congestion as measured by v/c is also predicted to increase at the Mount Vernon Highway (VA 235) / Buckman Road intersection by 2045 under the No-Build design year (**Table 1-5**) compared to existing (2016) conditions. However, v/c would improve under the No-Build design year (2045) compared to existing (2016) conditions. This is because the Richmond Highway widening project extending south from the Mount Vernon Memorial Highway (VA 235) / Jeff Todd Way intersection through Fort Belvoir would be completed by 2045, including two northbound left turn-lanes and a continuous exclusive right turn-lane at the Mount Vernon Memorial Highway (VA 235) / Jeff Todd Way intersection. That project recently completed construction. With the increase in northbound lane capacity at the intersection, traffic operations are expected to improve in the future.

Table 1-5: Existing (2016) and 2045 No-Build Volume to Capacity Ratio (v / c) at Two Richmond Highway Study Intersections

Location	Existing (2016) AM (PM) v / c	No-Build Design Year (2045) AM (PM) v / c
Mount Vernon Memorial Highway (VA 235) / Jeff Todd Way	0.98 (1.08)	0.91 (0.96)
Mount Vernon Highway (VA 235)/Buckman Road	1.26 (0.89)	1.44 (1.14)

Future increases in travel demand and traffic volumes would decrease access to regional and local travel destinations in the Mount Vernon area due to increasing congestion, travel time, and travel unreliability. Congestion during peak periods would become progressively worse. Periods of congestion would become longer as would the queues resulting from that congestion, especially where the number of lanes drop on either end of the Study Area. Likewise, average travel speeds would decline further, resulting in longer and less reliable travel times. Although routine maintenance along Richmond Highway in the Study Area would continue, there are no currently programmed comprehensive improvements to alleviate existing roadway deficiencies or roadway flooding in the Study Area. These factors would continue to impair Study Area accessibility and mobility for the foreseeable future.

1.6.3 Improve Safety

Access Management and Roadway Deficiencies

Inadequate access control would exacerbate congestion along the Study Area in the future, based on the modeled increased traffic volumes expected by 2045 (**Table 1-3**). Too many driveways / entrances, closely spaced signals, unsignalized intersections and inadequate turn lanes result in more turning movements that impede traffic flow. Traffic accidents would also likely increase with higher traffic volumes in portions of the Study Area with too many conflict points, as discussed in **Section 1.6.2**.

Roadway flooding issues in the Study Area would continue in the future. The most pressing roadway flooding issue in the Study Area is along the north side of Richmond Highway at the Dogue Creek crossing where the creek is directly eroding the roadbed. Constrained flow at the North Fork of Dogue Creek crossing and the Little Hunting Creek Bridge on Richmond Highway would continue to cause roadway flooding in high water events.

Pedestrian and Bicycle Facilities

The Fairfax County *Bicycle Master Plan* states that new roadway projects should consistently include multimodal facilities and that new and rehabilitated bridge projects should include sidewalk and bicycle facilities (Fairfax County, 2014). The plan further states that where a shared use path adjacent to a roadway is proposed along roads where no on-street facilities exist, then shared use paths should be provided on both sides of the street. Where it is infeasible to provide shared use paths on both sides of the road, the plan indicates a single shared use path should be provided consistently on the same side of the road and not alternate sides in contiguous roadway segments. The Plan recommends bikeway improvements in the Study Area include cycle tracks and shared use path. Cycle tracks are dedicated bicycle facilities that physically separate bicyclists from motor vehicle traffic and pedestrian traffic. The

Plan acknowledges that cycle tracks can be configured and designed in a variety of ways, and does not make a specific recommendation regarding Richmond Highway in the Study Area.

The Fairfax County plan also identifies “Policy Roads” from the Sacramento Drive to Highland Road intersection and Radford Road to Russell Road intersection along the Richmond Highway within the Study Area (see **Section 3.3 Socioeconomic Resources Figure 3-3**). “Policy Roads” are defined where selection of bicycle facilities should be coordinated with other planning decisions regarding a roadway’s capacity and operation as well as the type and configuration of development alongside it.

The NCRTPB 2015 *Bicycle and Pedestrian Plan for the National Capital Region* indicates bicycle and pedestrian projects are needed along the Richmond Highway through the Study Area (NCRTPB, 2015).

With the forecasted population increase and travel demand, the lack of pedestrian and bicycle facilities along Richmond Highway in the Study Area would contribute to decreased safety as the same conflict points would exist, except with even more vehicular traffic. This could lead to increased vehicle crashes with pedestrians and bicycles.

1.7 PURPOSE AND NEED SUMMARY

Based on the existing and future transportation needs as described above, the purpose and need for the project is to:

- Accommodate Travel Demand – better accommodate existing and future travel demand at peak travel hours, reducing congestion and increasing corridor accessibility and mobility (including BRT implementation based on the DRPT Multimodal Study and Fairfax County Board of Supervisors Resolution)
- Improve Safety – implement access control; provide adequately spaced signalized intersections; provide turn lanes where needed; improve structures at natural stream crossings; and enhance pedestrian and bicycle facilities

2. ALTERNATIVES

2.1 INTRODUCTION

This chapter describes the alternatives development process and screening criteria approach for the Richmond Highway Corridor Improvements EA, including the identification of an initial range of alternatives considered and alternatives retained for detailed evaluation. Initial alternatives that were previously considered are described in **Section 2.2**. The DRPT Multimodal Study serves as the basis for this alternatives chapter that included the use of three levels of evaluation to identify refined alternatives and to advance a selection. The DRPT Multimodal Study included transit alternatives that are not evaluated in this EA, however, the Richmond Highway Corridor Improvements Project would not preclude provision for future BRT in the median of Richmond Highway.

2.2 ALTERNATIVES NOT RETAINED FOR DETAILED STUDY

2.2.1 DRPT Multimodal Study (2015)

The DRPT Multimodal Study conducted between 2013 to 2015 developed multiple alternatives that overlap the current Study Area to meet a purpose and need statement as discussed in Chapter 1. The alternatives development process used by the DRPT Multimodal Study is described in the *Detailed Evaluation of Alternatives Report* (DRPT, 2014c) and *Final Report* (DRPT, 2015)¹. The study examined the 15-mile corridor extending from Route 123 in Woodbridge in Prince William County to the I-95 / I-495 Beltway in Fairfax County (**Figure 2-1**). The study identified a range of multimodal improvements that best met community needs and the needs of travelers to, and through, the 15-mile Richmond Highway corridor using three levels of screening criteria (**Figure 2-2**). Ultimately, four alternatives were evaluated in detail:

- Alternative 1: Curb Running BRT
- Alternative 2: Median BRT
- Alternative 3: Median Light Rail Transit
- Alternative 4: BRT / Metrorail Hybrid

The DRPT Multimodal Study evaluated potential environmental impacts for the four alternatives in the 15-mile study corridor that factored into the selection of a preferred alternative. The current Richmond Highway widening project is a 2.9-mile subsection of the overall 15-mile project discussed in the DRPT Multimodal Study.

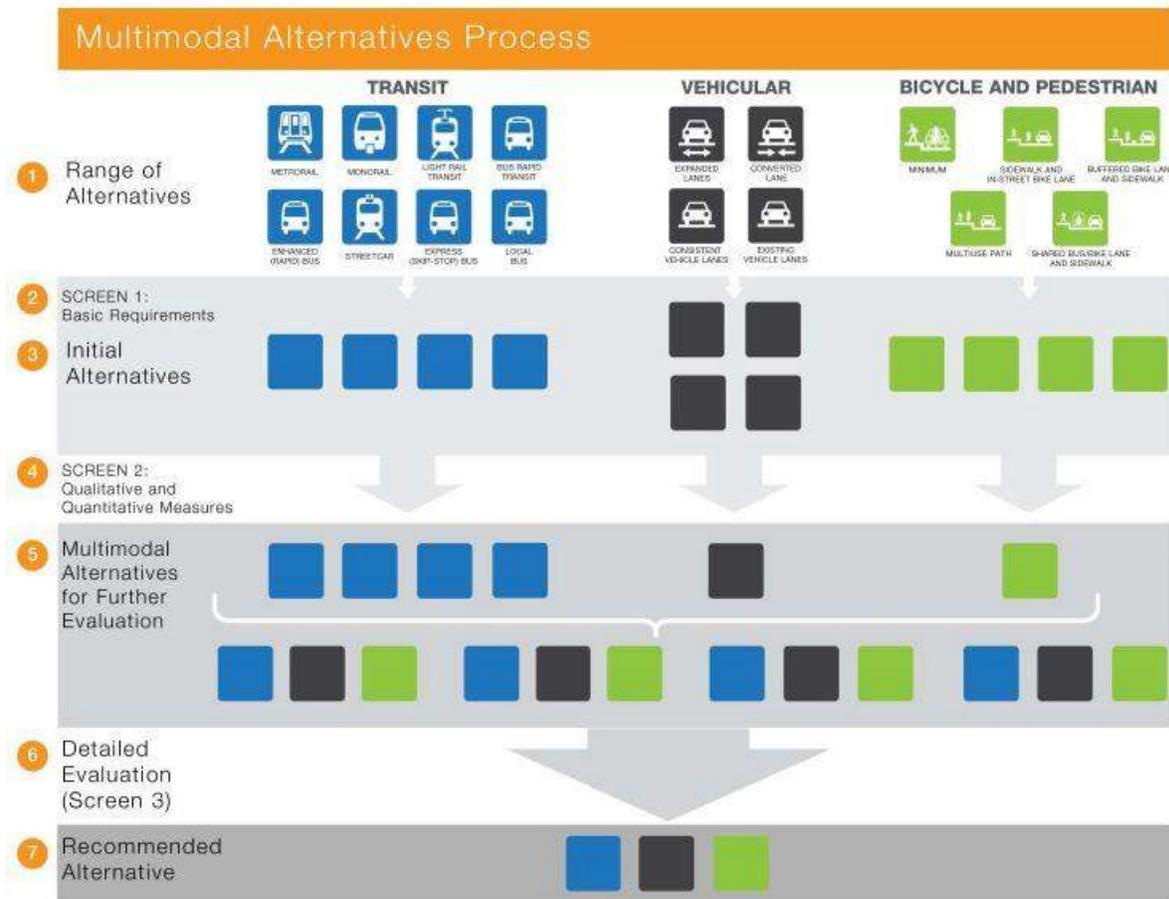
¹ <http://www.drpt.virginia.gov/transit/major-transit-initiatives/major-transit-planning/route-1-multimodal-alternatives-analysis/>

Figure 2-1: DRPT Multimodal Study (2015) Location



Source: DRPT (2015)

Figure 2-2: Overview of DRPT Multimodal Study Alternatives Development and Screening Process



Source: DRPT (2015)

The technical evaluation in the DRPT Multimodal Study recommended that Alternative 4 would best meet the stated project goals and objectives (Figure 2-3).

In October 2014, the DRPT Multimodal Study Executive Steering Committee Resolution identified Alternative 4 BRT / Metrorail Hybrid as the preferred alternative. The implementation of Alternative 4 would consist of widening Richmond Highway from four travel lanes to six travel lanes where necessary to create a consistent, six-lane cross section along the corridor. A continuous facility for pedestrians and bicyclists would be created along the 15-mile corridor. A BRT system in the median would run from the Huntington VRE Station to Route 123 in Woodbridge. However, within Prince William County, the BRT would be a curb-running system in mixed-traffic. A 3-mile Metrorail Yellow Line extension from Huntington to Hybla Valley was recommended for construction as expeditiously as possible. Phased implementation was recommended with completion of the Richmond Highway widening and BRT in the near term, and completion of the Metrorail Yellow Line extension in the long term.

In May 2015, the Fairfax County Board of Supervisors Resolution endorsed the Executive Steering Committee’s recommendation of Alternative 4 BRT / Metrorail Hybrid as the Locally Preferred Alternative (LPA). The endorsement was contingent upon supportive land use and an achievable funding plan, as contained in the Resolution adopted by the DRPT Multimodal Study Executive Steering Committee. Upon the endorsement, Alternative 4 (recommended alternative) was considered the LPA. The Fairfax County Board of Supervisors Resolution also directed staff to proceed with conducting the environmental studies for Richmond Highway widening and BRT projects (Fairfax County, 2015a).

Figure 2-3: Evaluation of Alternatives Summary

Evaluation Factors (Goals)	Alternative 1: BRT-Curb	Alternative 2: BRT-Median	Alternative 3: LRT	Alternative 4: Metrorail-BRT (Hybrid)
Goal 1: Local and Regional Mobility	0.7	0.8	0.8	1.00
Goal 2: Safety and Accessibility	0.7	0.8	0.8	0.8
Goal 3A: Economic Development	0.6	0.6	0.6	0.7
Goal 3B: Cost Effectiveness	1.0	0.9	0.7	0.5
Goal 4: Community and Health Resources	0.7	0.7	0.7	0.8
Ability to Meet Project Goals Average	0.7	0.8	0.7	0.8

Source: DRPT (2015)

2.2.2 Design Options Not Retained for Detailed Study

During the earliest phase of preliminary design, several design options were initially considered to implement the Build Alternative. These included making all the improvements to one or the other side of Richmond Highway through the Study Area. Because of the extensive right-of-way needed for these options (**Table 2-1**), impacts to communities would be much greater than if proposed improvements were centered on the existing Richmond Highway. These design options were therefore not advanced for further detailed study.

Table 2-1: Design Options Right-of-Way Summary

Design Options	Number of Parcels with Major Impact* by Right-of-Way
Option 1 - Baseline of Construction Along Center of Roadway	23
Option 2 - Baseline of Construction Holding Existing Right-Of-Way Line Along the West Side	61
Option 3 - Baseline of Construction Holding Existing Right-Of-Way Line Along the East Side	45

*Major impact is defined as building demolition would be required.

2.3 ALTERNATIVES RETAINED FOR DETAILED STUDY

Based upon selection of the LPA, the No-Build and one Build Alternative have been retained for detailed study in this EA. The following describes the No-Build and Build Alternative and the ability of the alternatives to meet purpose and need.

2.3.1 No-Build Alternative

The No-Build Alternative includes continued road maintenance and repairs of existing transportation infrastructure within the Study Area. The MWCOG Transportation Improvement Program (TIP) does not have any planned improvement projects listed for Richmond Highway within the Study Area. The MWCOG CLRP includes the current study for widening Richmond Highway, and the independent study of BRT along Richmond Highway from the Huntington Metro Station approximately 3.5 miles north of the Study Area, continuing approximately 8 miles south to the Woodbridge Virginia Railway Express Station. For the purposes of this study, the No-Build Alternative does not include either proposed project. The No-Build Alternative serves as the baseline against which the potential environmental effects of the Build Alternative are compared.

2.3.2 Build Alternative

The Build Alternative is similar to Alternative 4 of the DRPT Multimodal Study. The Build Alternative would include the widening of approximately 2.9 miles of Richmond Highway between Jeff Todd Way and Napper Road in the Village of Mount Vernon in Fairfax County. The road would be widened from a four-lane undivided roadway to a six-lane divided roadway (three travel lanes either side) with bicycle and pedestrian accommodations. The Build Alternative would have six travel lanes, a median, sidewalk, curb and gutter, bicycle facilities to either side of Richmond Highway, and landscaping. The median would be wide enough to accommodate BRT as called for in the DRPT Multimodal Study / Fairfax County Board of Supervisors Resolution. The median would be maintained as a grass strip until the implementation of the BRT. The conceptual design would include a pedestrian sidewalk separated from a bicycle path, however, the exact configuration could change in later design phases. Utilities would be relocated within the conceptual right-of-way for the improvements that would be a maximum 202 feet wide centered on the existing Richmond Highway.

Conceptual design for certain intersections include “superstreet” designs to facilitate traffic turning movements. A superstreet is also known as a restricted crossing U-turn, J-turn, or Reduced Conflict

Intersection. **Figure 2-4** shows an example of the superstreet intersection versus traditional intersection turning movements at Sacramento Drive and Cooper Road. Superstreet intersections are proposed at Sacramento Drive, Mohawk Lane and Mount Vernon Highway / Buckman Road intersections.

Access management would be implemented to restrict traffic movements to and from side streets to improve traffic flow and reduce conflicting movements. **Figure 2-5** presents an example of access management measures in plan view.

Figure 2-4: Superstreet versus Traditional Intersection Design at Sacramento Drive

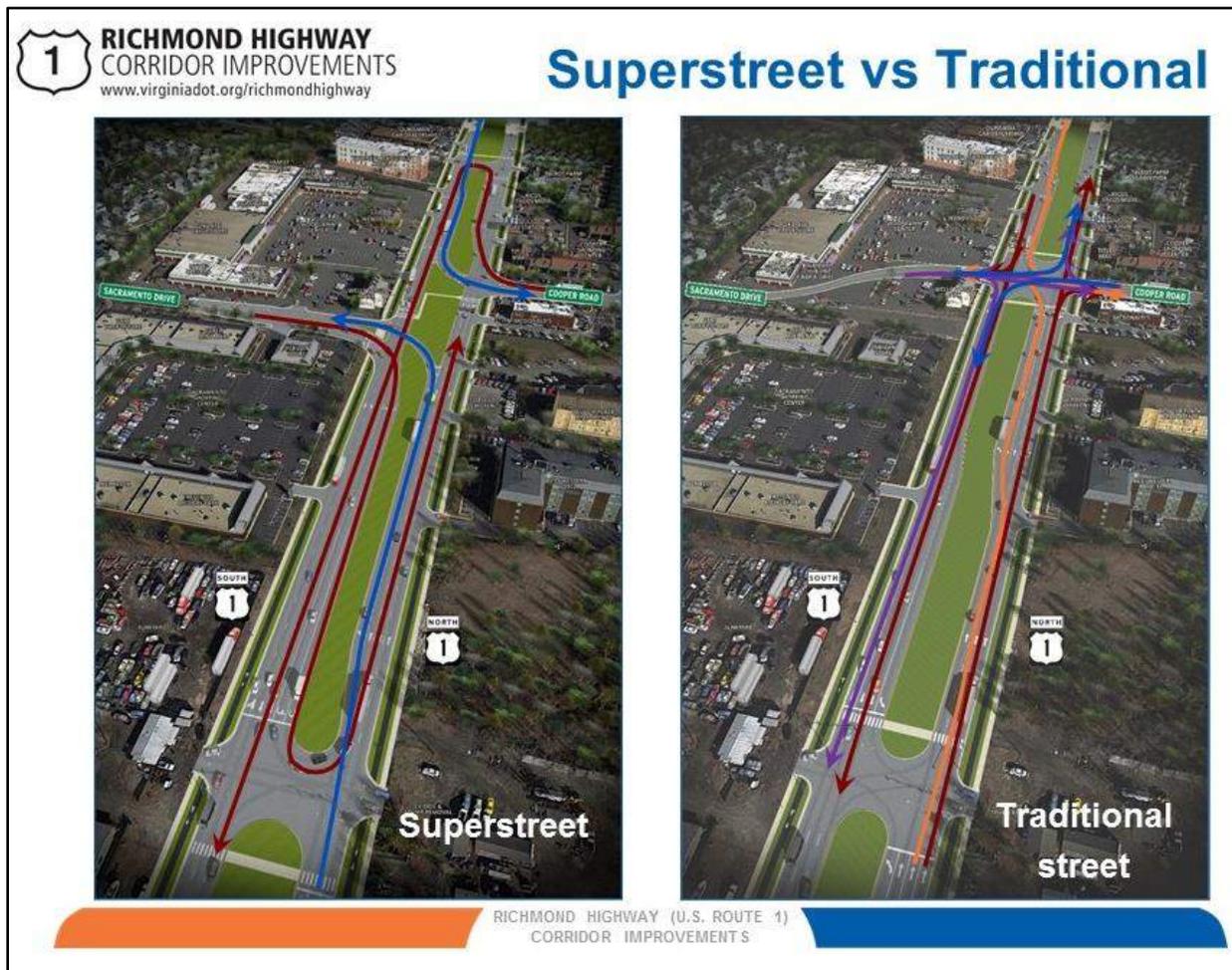
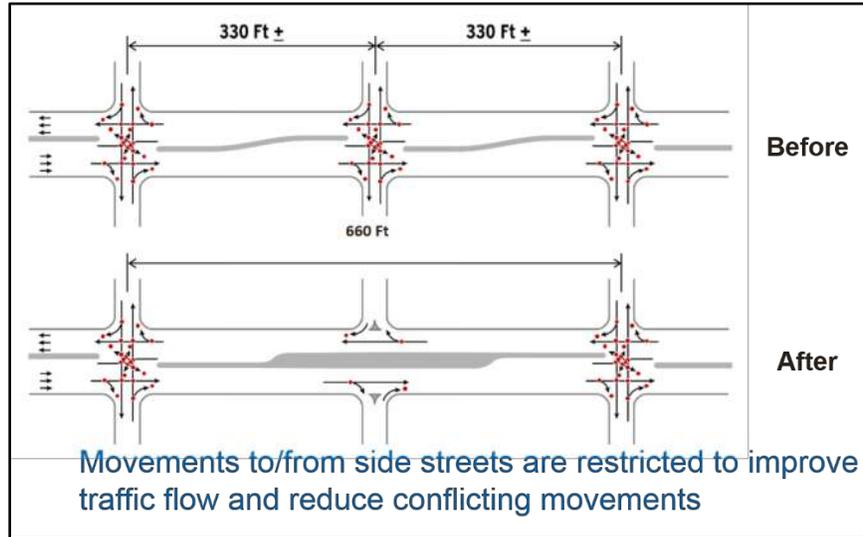


Figure 2-5: Example Access Management Design¹



¹ Before design shows signalized intersection spacing at 330 feet, whereas, after design shows 660 feet between signalized intersections

In addition to the superstreets design, the Build Alternative improvements would include modifications to existing intersecting roadways and bridges, existing drainage systems and stormwater management facilities, and include noise barriers at locations meeting the federal criteria and supported by adjacent benefited property owners. Certain design details such as stormwater management facilities, access management and noise barriers would be developed in more advanced design phases. The potential impacts of future design modifications to the Build Alternative will be documented in a NEPA re-evaluation.

2.3.3 Ability of Alternatives to Meet Purpose and Need

As documented in **Chapter 1.0**, the purpose of the project improvements under evaluation is based on the following primary need elements: accommodate travel demand and improve safety. Based on these elements of need, **Table 2-2** documents the measures of effectiveness identified for evaluating the alternatives and their ability to meet the identified purpose and need.

Table 2-2: Measures of Alternative Effectiveness

Element of Need	Measure in Meeting Need
Accommodate Travel Demand	<ul style="list-style-type: none"> • Increase future traffic volume • Improve future travel time index • Improve future v / c¹ ratio • Accommodate future transit options (planned BRT based on the DRPT Multimodal Study / Fairfax County Board of Supervisors Resolution)
Improve Safety	<ul style="list-style-type: none"> • Implement access control

Element of Need	Measure in Meeting Need
	<ul style="list-style-type: none"> • Provide adequately spaced signalized intersections • Provide turn lanes where needed • Improve structures at natural stream crossings • Enhance bicycle and pedestrian facilities by providing adequate crosswalks and continuous pedestrian and bicycle facilities to either side of Richmond Highway

¹ Volume to capacity ratio

This section describes the ability of the No-Build and Build Alternative to address the identified components of the purpose and need based on the measures of effectiveness listed above. The Build Alternative has been developed based on the LPA selected by the DRPT Multimodal Study and Fairfax County described in **Section 2.2.1**. The Build Alternative described in the preceding sections has been retained for detailed evaluation in this EA based on its ability to meet the identified transportation needs in the Study Area as demonstrated by its effectiveness relative to the above listed measures of effectiveness.

The No-Build Alternative does not meet the stated purpose and need. The No-Build Alternative would maintain the current configuration of the Richmond Highway. Per the No-Build traffic forecasts discussed in **Section 1.5.2**, traffic volumes are expected to increase in the future which will lead to more severe congestion and decreased travel reliability during peak travel periods on Richmond Highway in the Study Area. Under the No-Build Alternative, high crash rates would continue as traffic would not be deconflicted by improving access management and wider signal spacing. Natural stream crossings that currently flood during high water events would not be improved, decreasing safety. Further, lack of space for future dedicated BRT in the median as per the DRPT Multimodal Study / Fairfax County Board of Supervisors Resolution, discontinuous sidewalks and lack of bicycle facilities would continue under the No-Build Alternative, decreasing travel options along Richmond Highway and increasing traffic and pedestrian / bicycle conflict points. As the No-Build Alternative would not address the purpose and need for the project, the following only discusses the ability of the Build Alternative to meet purpose and need.

Accommodate Travel Demand

As identified in **Section 1.4.1** and **1.5.2**, existing and forecasted No-Build travel demand cause severe congestion during peak travel hours in the peak travel directions along Richmond Highway in the Study Area. The additional lane in each direction included as part of the Build Alternative would allow for higher throughput as evidenced in traffic volume estimated for the Build Alternative opening year (2025) compared to current (2016) conditions, and the Build Alternative design year (2045) compared to the 2045 No-Build conditions (**Table 2-3**). See the *Richmond Highway Future Conditions Traffic Report* for a detailed description of the methods used to forecast opening and design year traffic conditions of the Build Alternative.

Table 2-3: Existing No-Build, Opening Year (2025) Build Alternative, 2045 No-Build and Build Alternative Design Year (2045) Traffic Volumes

Year	Richmond Highway Traffic Section	Average Annual Daily Traffic (AADT)	Average Weekday Daily Traffic Volume (AAWDT)	Northbound Peak Hour AM / (PM)	Southbound Peak Hour AM / (PM)
Existing 2016 No-Build	Mt Vernon Memorial Hwy (VA 235) / Jeff Todd Way to Mt Vernon Hwy (VA 235) / Buckman Rd	38,645	39,855	1,725 (1,485)	1,160 (1,570)
Opening Year 2025 – Build Alternative	Mt Vernon Memorial Hwy (VA 235) / Jeff Todd Way to Mt Vernon Hwy (VA 235) / Buckman Rd	52,255	53,890	2,377 (2,016)	1,751 (2,112)
2045 No-Build Alternative	Mt Vernon Memorial Hwy (VA 235) / Jeff Todd Way to Mt Vernon Hwy (VA 235) / Buckman Rd	53,085	54,745	2,370 (2,040)	1,595 (2,155)
Design Year 2045 – Build Alternative	Mt Vernon Memorial Hwy (VA 235) / Jeff Todd Way to Mt Vernon Hwy (VA 235) / Buckman Rd	68,330	70,465	2,800 (2,636)	2,064 (2,762)

Table 2-4 provides the travel time index (TTI) from Jeff Todd Way / Mount Vernon Memorial Highway (VA 235) to Buckman Road / Mount Vernon Highway (VA 235) intersections along Richmond Highway under No-Build and Build Alternative scenarios. Under the opening year (2025) Build Alternative, southbound TTI would be slightly longer than existing TTI in both the morning and evening peak travel periods. Similarly, southbound morning and evening peak travel-time TTI under the design year (2045) Build Alternative would be longer compared to the 2045 No-Build Alternative. This is attributed to the proposed signal timing changes that are balanced to benefit north and southbound traffic flow in the overall Richmond Highway corridor in the Study Area.

Table 2-4: Travel Time Indices (TTI) for Existing (2016), Opening Year (2025) Build, 2045 No-Build and Build Alternative Design Year (2045)

Travel Direction and Peak Hour	Existing 2016 TTI	Opening Year (2025) Build Alternative TTI	Design Year (2045) No-Build Alternative TTI	Design Year (2045) Build Alternative TTI
Southbound AM Peak ¹	1.6	1.7	1.7	2.0
Northbound AM Peak	1.4	1.5	2.5	1.6
Southbound PM Peak ²	1.3	1.9	2.5	2.7
Northbound PM Peak	1.7	1.5	15.3	2.2

¹AM Peak is 7:15 – 9:15 AM

²PM peak is 3:15 – 6:15 PM

A v / c ratio less than 0.85 generally indicates that adequate capacity is available and vehicles are typically not expected to experience significant queues and delays. Volume to capacity ratios shown in **Table 2-5** indicate the opening year (2025) Build Alternative would improve northbound during AM and PM peak travel as compared to existing (2016) conditions, but southbound traffic would have higher v / c during the morning and evening peak travel periods. A similar pattern occurs comparing the v / c in the design year (2045) of the Build Alternative to the 2045 No-Build conditions. This is due to balancing signal timing for the benefit of north and southbound traffic throughput through the entire Richmond Highway corridor in the Study Area. **Table 2-5** also shows that the No-Build design year (2045) v / c is expected to improve over existing (2016) conditions. This is because the Richmond Highway widening project extending south from the Mount Vernon Memorial Highway (VA 235) / Jeff Todd Way intersection through Fort Belvoir would be completed by 2045, including two northbound left turn-lanes and a continuous exclusive right turn-lane at the Mount Vernon Memorial Highway (VA 235) / Jeff Todd Way intersection. That project was recently completed in Summer 2017. With the increase in lane capacity at the intersection, traffic operations are expected to improve in the future.

Table 2-5: Volume to Capacity Ratio (v / c) for Existing (2016), Opening Year (2025) Build Alternative, 2045 No-Build and Build Alternative Design Year (2045)

Location	Existing 2016 AM / PM v / c	Opening Year (2025) Build Alternative AM / PM v / c	2045 No-Build Alternative AM / PM v / c	Design Year (2045) Build Alternative AM / PM v / c
Mount Vernon Memorial Highway (VA 235) / Jeff Todd Way	0.98 (1.08)	0.64 (0.71)	0.91 (0.96)	0.81 (0.92)

Location	Existing 2016 AM / PM v / c	Opening Year (2025) Build Alternative AM / PM v / c	2045 No-Build Alternative AM / PM v / c	Design Year (2045) Build Alternative AM / PM v / c
Mount Vernon Highway (VA 235) / Buckman Road	1.26 (0.89)	0.64 (0.54)	1.44 (1.14)	0.76 (0.71)

Level of service (LOS) provides a comparative measure of the traffic performance of roads through a grading from A to F. Under the Design-Year Build Alternative, all the study intersections and mainline Richmond Highway approaches are expected to operate at LOS E or better (**Table 2-6**). During AM and PM peak traffic hours, approximately 14 percent of the side street approaches are expected to fail at lower thresholds of LOS F. When compared to the 2045 No-Build conditions, LOS at all the study intersections is expected to be similar or better, with one exception. The operations at the Richmond Highway intersection with Frye Road would slightly degrade to LOS D during the AM peak hours, when compared to LOS C under the 2045 No-Build Alternative. This is attributed to the additional U-turns along Richmond Highway, which are a result of restricted left-turns from access driveways to the intersection vicinity.

Table 2-6: Level of Service Rankings at Key Study Area Intersections for Existing (2016), Opening Year (2025) Build Alternative, 2045 No-Build and Build Alternative Design Year (2045)

Intersection	Existing 2016 Peak LOS AM / (PM)	Opening Year (2025) Build Alternative Peak LOS AM / (PM)	2045 No-Build Alternative Peak LOS AM / (PM)	Build Alternative 2045 Peak LOS AM / (PM)
Richmond Highway at Ladson Lane	B / (D)	A / (B)	D / (F)	B / (D)
Richmond Highway at Mt Vernon Highway / Buckman Road	D / (D)	B / (C)	F / (F)	C / (D)
Richmond Highway at Janna Lee Avenue	B / (A)	C / (D)	E / (F)	D / (D)
Richmond Highway at Russell Road	C / (B)	A / (B)	D / (E)	D / (D)
Richmond Highway at Mohawk Lane	B / (B)	C / (C)	C / (F)	A / (C)
Richmond Highway at Buckman Road / Radford Avenue	A / (B)	C / (C)	B / (F)	B / (B)

Intersection	Existing 2016 Peak LOS AM / (PM)	Opening Year (2025) Build Alternative Peak LOS AM / (PM)	2045 No-Build Alternative Peak LOS AM / (PM)	Build Alternative 2045 Peak LOS AM / (PM)
Richmond Highway at Frye Road	B / (B)	B / (B)	C / (F)	D / (D)
Richmond Highway at Lukens Lane	B / (B)	B / (B)	C / (F)	C / (D)
Woodlawn Court	N / A ¹	A / (B)	N / A ¹	B / (C)
Richmond Highway at Cooper Road	B / (C)	D / (D)	C / (E)	C / (B)
Richmond Highway at Sacramento Drive	B / (C)	A / (B)	D / (F)	B / (B)
Sacramento Drive Southern U-Turn	N / A	B / (C)	N / A	A / (B)
Richmond Highway at Mt Vernon Memorial Highway / Jeff Todd Way	D / (D)	C / (C)	F / (F)	E / (E)

¹Woodlawn Court is not currently signalized.

Under the Build Alternative, space would be set aside in the median for planned BRT facilities along Richmond Highway through the Study Area, in accordance with Fairfax County’s Comprehensive Plan to accommodate future travel demand. None of the Build Alternative design features would preclude accommodating future transit (which would be BRT, based on the DRPT Multimodal Study and Fairfax County Board of Supervisors Resolution). In May 2016, the 2015 CLRP was amended to include BRT along Richmond Highway from the Huntington Metro Station approximately 3.5 miles north of the Study Area, through the Study Area, continuing approximately 8 miles south to the Woodbridge VRE Station. This independent transit study is currently underway.

Improve Safety

Under the Build Alternative, safety would be improved by implementing access control, providing adequately spaced signalized intersections, providing turn lanes where needed, improving structures at natural stream crossings, and enhancing pedestrian and bicycle facilities.

Access control would be improved by the Build Alternative implementing superstreet intersections that deconflict traffic movements, providing adequate spacing between signals, providing turn lanes where needed, and restricting traffic movements to and from side streets to improve traffic flow and reduce conflicting movements that increases safety.

Improving structures at major natural stream crossings as proposed would increase elevations compared to existing structures, which reduces flooding on Richmond Highway.

The Build Alternative would enhance bicycle and pedestrian facilities in the Study Area by providing adequate crosswalks on Richmond Highway and continuous pedestrian and bicycle facilities to either side

of the highway. This would increase safety by reducing conflict points between traffic and pedestrians / bicyclists.

Conclusion

Based on the above findings, the Build Alternative meets the measures of alternative effectiveness. The Build Alternative therefore would address the purpose and need for the project as described in **Chapter 1**.

3. ENVIRONMENTAL CONSEQUENCES

3.1 INTRODUCTION AND OVERVIEW OF ENVIRONMENTAL ISSUES

This chapter presents existing conditions for each of the resources identified within the Study Area, and analyzes the environmental consequences resulting from implementation of the alternatives evaluated. More detailed information is provided in respective technical reports:

- *Richmond Highway Corridor Improvements: Socioeconomic and Land Use Technical Report (VDOT, 2017a)*
- *Richmond Highway Corridor Improvements: Natural Resources Technical Report (VDOT, 2017b)*
- *Richmond Highway Corridor Improvements: Rare, Threatened, and Endangered Species Technical Report (VDOT, 2017c)*
- *Richmond Highway Corridor Improvements: Air Quality Analysis Technical Report (VDOT, 2017d)*
- *Richmond Highway Corridor Improvements: Noise Analysis Technical Report (VDOT, 2017e)*
- *Richmond Highway Corridor Improvements: Hazardous Materials Assessment Technical Report (VDOT, 2017f)*
- *Richmond Highway Corridor Improvements: Indirect and Cumulative Effects Technical Report (VDOT, 2017g)*

The Study Area encompasses approximately a 2.9-mile section of the Richmond Highway corridor between Route 235 (Mount Vernon Memorial Highway – South) to Sherwood Hall Lane. The Study Area is generally defined as 300 feet on either side of the existing Richmond Highway centerline, with additional areas extending as much as 1,000 feet for access management.

The No-Build Alternative is not expected to result in environmental effects, except as noted in the following sections.

Table 3-1 summarizes the environmental conditions within the Study Area and the estimated potential effects of the Build Alternative. The direct effects of the Build Alternative are assessed within the limits of disturbance (LOD) established by conceptual design. The planning level LOD includes the grading limits, permanent right-of-way and temporary right-of-way areas needed to construct the Build Alternative. This planning level LOD would be refined as design advances through more detailed design and permitting following a FHWA NEPA decision. Indirect and cumulative effects are assessed within broader study areas established for socioeconomic, natural, and cultural resources.

Table 3-1: Environmental Resources and Build Alternative Impact Summary

Resources	Resource Summary / Inventory	Potential Impact of the Build Alternative
Land Use and Locality Plans	Study Area land use is primarily commercial followed by residential; recreation and open space; institutional, government, and utilities; and industrial. 3 CBCs ¹ are within the Study Area.	The Build Alternative would require approximately 22 acres of primarily commercial land be converted to transportation use. Refer to Section 3.2 for more information.
Communities and Community Facilities	The Study Area includes 5 communities: Mount Vernon, Woodlawn, Hybla Valley, Groveton and Fort Hunt. Also within the Study Area are 24 community facilities including 4 schools, a post office, 4 parks, 8 religious institutions, 5 community centers / non-profits, and 2 government buildings.	The Build Alternative is located along an existing corridor and would not create a new physical barrier to inter-community interaction or cause adverse impacts to community connectivity or cohesion. The Build Alternative would potentially require 6 residential and 38 commercial building displacements on 42 parcels as well as the potential full right-of-way acquisition of 2 religious facilities. The potentially affected properties are located along the edge of the communities adjacent to Richmond Highway, lessening potential impacts to community cohesion. Refer to Section 3.3 for more information.
Bike Paths and Recreational Trails	Bike routes within the Study Area are on local streets and along Richmond Highway. No bike lanes, shared use paths, or cycle tracks are located within the Study Area.	The Build Alternative would provide enhanced bicycle and pedestrian facilities on both sides of Richmond Highway. Access to Richmond Highway for bicycling may be impacted by temporary closures or detours during construction. Refer to Section 3.3 for more information.
Socioeconomics and Environmental Justice	Based on 2010 Census data, approximately 30,934 residents live in the Census block groups within the Study Area. Approximately 93% of the labor force in the Study Area is employed. Median household income within the study Census block groups is \$67,193. Minority populations are identified in 14 of the 15 Study Area Census block groups. No low-income populations were identified at the Census block group level; however, a low-income population was identified at the Spring Garden Apartments south of Richmond Highway in the northeastern Study Area. An estimated 11,424 housing units are in the Study Area Census block groups, mostly occupied (92.9 %) and owner-occupied (52%). Up to 909 business establishments are within the zip codes	No substantial impact to population, employment, income or housing would occur under the Build Alternative. Approximately 39 residential, 133 commercial and 10 community facility parcels are in the LOD. The Build Alternative would potentially require displacing 40 housing units on six residential parcels, 38 commercial buildings with 25 involving total parcel acquisitions, total acquisition of one undeveloped parcel zoned commercial, and two community facilities on two total acquisition parcels. All right-of-way acquisitions would be conducted under the Uniform Relocation Assistance and Real Property Policies Act of 1970. Fifteen housing units on six residential parcels could be displaced in Census block groups containing minority populations, 24 housing units could be displaced from one residential parcel at the Spring Garden Apartments constituting a low-

Resources	Resource Summary / Inventory	Potential Impact of the Build Alternative
	encompassed by the Study Area, of which 55.1% have from 1 to 4 employees.	income population, and one housing unit from one residential parcel could be displaced in Census block group 4161.00 BG 1 that does not meet the thresholds for minority or low-income populations. The non-minority resident population within these minority population block groups ranges from 15.9 to 84.1%. Therefore, it is probable that not all displacements would be borne by minorities and the impact would not be disproportionate and adverse. Although 24 housing units where a low-income population resides at the Spring Garden Apartment complex may be displaced under the Build Alternative, other apartments and single-family housing would be similarly impacted in areas not meeting the definition of a low-income population; thus, the impact to low-income populations would not be disproportionate. Refer to Section 3.3 for more information.
Streams and Water Quality	A total of 2,968.5 linear feet of streams have been identified in the study area. Three perennial streams are located within the Study Area. Two of these streams (1,808.3 linear feet) are designated as "impaired waters" under Section 303(d) of the Clean Water Act.	The Build Alternative would impact up to 963.2 linear feet of perennial stream. Refer to Section 3.4 for more information.
Wetlands	A total of 1.2 acres of wetlands have been delineated within the Study Area.	The Build Alternative would impact 0.2 acre of wetlands. Refer to Section 3.4 for more information.
Aquifers / Water Supply	No public water resources were found within the Study Area. The Study Area is located within the Eastern Groundwater Management Area in Virginia.	As no public water resources are within the LOD, no impacts would occur to these resources. Roadway cuts are not anticipated to encounter the groundwater table. Refer to Section 3.4 for more information.
Terrestrial Wildlife / Habitat	Expanses of terrestrial habitat in the Study Area are rare and fragmented as residential, commercial, industrial, government / military, and open water areas are common, resulting in low quality edge habitat. Natural areas that remain are within stream corridors and Fairfax County Parks. No wildlife refuges or wildlife management areas are located within the Study Area. Wildlife species present include those most adapted to dense urban and suburban development.	The Build Alternative would continue to pose a barrier to wildlife movement. However, incrementally increasing the width of the roadway would not likely substantially exacerbate existing conditions. Refer to Section 3.4 for more information.

Resources	Resource Summary / Inventory	Potential Impact of the Build Alternative
Anadromous Fish	Dogue Creek and the Potomac River are confirmed Anadromous Fish use streams and Little Huntington Creek is a potential Anadromous Fish use stream. These anadromous fish confirmed use areas and potential use areas do not extend upstream into the Study Area.	No Anadromous Fish Use Areas are within the LOD, therefore, no direct impacts to these areas would occur under the Build Alternative. Refer to Section 3.4 for more information.
Rare, Threatened, and Endangered Species	2 species currently federally listed as threatened or endangered that are known to occur or have potential to occur within or near the Study Area include the Atlantic Sturgeon (<i>Acipenser oxyrinchus</i>) and the Northern Long-eared Bat (<i>Myotis septentrionalis</i>). State threatened or endangered species potentially within the Study Area include the Little Brown Bat (<i>Myotis lucifigus lucifigus</i>), Tri-colored Bat (<i>Perimyotis subflavus</i>), Wood Turtle (<i>Glyptemys insculpta</i>), and Peregrine Falcon (<i>Falco peregrinus</i>). Bald eagles (<i>Haliaeetus leucocephalus</i>) are protected under the Bald and Golden Eagle Protection Act. The Potomac River shoreline from Fort Belvoir until Dogue Creek is a bald eagle concentration area for yearly periods spanning May 15 th to August 31 st and December 15 th to March 15 th . Known eagle nests are along the Potomac River and its embayments.	Surveys for protected species may be required if potential habitat is identified in the Build Alternative LOD. Although the Build Alternative could potentially affect threatened and endangered species and their habitat, mitigation measures would be developed as necessary following coordination with the VDCR ² , VDGIF ³ , and USFWS ⁴ prior to construction. Mitigation measures may include use of time-of-year restrictions on construction, contractor training in recognizing and avoiding threatened, and endangered species and their habitats, and restoration of habitat. A known bald eagle nest is within the potential noise buffer area of the Build Alternative and may require an Eagle Act permit. Refer to Section 3.4 for more information.
Floodplains	There are 26.7 acres of FEMA designated 100-year floodplains within the Study Area.	The Build Alternative would involve 8.6 acres of encroachment within regulated floodplains, mostly perpendicular crossings. The actual encroachment may be different based upon the total extent of fill required for construction and the use of bridges at the major water crossings. The Build Alternative would not pose a flooding risk. The Build Alternative would design water crossings consistent with procedures for the location and hydraulic design of highway encroachments on floodplains contained in 23 CFR § 650 Subpart A. No substantially adverse impact to natural and beneficial floodplain values would occur. Refer to Section 3.4 for more information.
Chesapeake Bay Preservation Areas	Within the Study Area, 31.3 acres of RPAs ⁵ are concentrated adjacent to the Dogue Creek, North Fork Dogue Creek, and Little Huntington Creek stream corridors.	11 acres of RPAs are within the LOD, concentrated along the stream corridors. Public roads and their appurtenant structures are conditionally exempt from regulation under 8VAC25-830-150. If the exemption conditions

Resources	Resource Summary / Inventory	Potential Impact of the Build Alternative
		would be met by the Build Alternative, no further analysis is required in this EA. Refer to Section 3.4 for more information.
Virginia Coastal Zones	The Study Area is located within Virginia's Coastal Zone. Since the proposed project would receive federal funding for construction and require federal approval, the project must be consistent with the applicable Enforceable Regulatory Programs comprising Virginia's CZMP ⁶ .	VDOT would submit a description of how the Build Alternative construction would be consistent with the applicable Enforceable Regulatory Programs comprising Virginia's CZMP to VDEQ ⁷ . This process would be completed during the design and permitting phase if the Build Alternative was implemented. Refer to Section 3.4 for more information.
Topography and Soils	The Study Area is in the Coastal Plain that consists of unconsolidated sand, silt and clay, and gravel deposited by ancient oceans and rivers. The overall drainage pattern in the Study Area is to the southeast. The soils in the Study Area include some hydric soils and two types of highly-erodible soils. The latter includes the Kingstowne-Sassafras-Marumscoc complex comprising 0.3% and the Sassafras-Marumscoc complex is 0.1% of the Study Area.	The Build Alternative could encounter two highly erodible soil types; however, over 70% of the soils in the Study Area are urban soils and present a low to moderate erosion potential. The topography is nearly level, thus deep cuts or fills are not anticipated under the Build Alternative. A Stormwater Pollution Protection Plan would effectively manage highly erodible soil types in the LOD. Refer to Section 3.4 for more information.
Invasive Species	Executive Order 13112 Invasive Species (as amended) directs no federal agency can authorize, fund, or carry out any action that it believes is likely to cause or promote the introduction or spread of invasive species. Invasive species are non-native (alien, exotic or non-indigenous) plants, animals or diseases causing economic or environmental harm or harm to human health. Common invasive plant species in the Study Area include tree-of-heaven (<i>Ailanthus altissima</i>), multiflora rose (<i>Rosa multiflora</i>), and Japanese honeysuckle (<i>Lonicera japonica</i>). Although not observed in the Study Area, several species of rodents, European starling (<i>Sturnus vulgaris</i>) and English sparrow (<i>Passer domesticus</i>) and other invasive animal species could occur.	The Build Alternative has the potential to introduce invasive species. While most of the area within the LOD is previously disturbed the disturbance of natural areas as well as the removal and transfer of fill from borrow sites within the LOD or offsite locations could spread invasive species. This potential is minimized by adherence to VDOT's Road and Bridge Specifications requiring prompt seeding of disturbed areas and mixes tested in accordance with the Virginia Seed Law and VDOT's standards and specifications. Refer to Section 3.4 for more information.
Submerged Aquatic Vegetation (SAV)	Existing SAV beds occur downstream, outside of the Study Area within Dogue Creek and the Potomac River.	No SAV are within the Study Area or LOD, therefore no direct effects to SAV would occur under the Build Alternative. Refer to Section 3.4 for more information.

Resources	Resource Summary / Inventory	Potential Impact of the Build Alternative
Archaeological Resources	A Phase I survey was performed to identify archaeological resources within the APE ⁸ . 3 previously identified archaeological sites were investigated, of which 2 have been destroyed by development, and the remaining site found not eligible for the NRHP ⁹ by the SHPO ¹⁰ / VDHR ¹¹ . No other archaeological sites were found.	The Build Alternative would not affect any archaeological historic properties. Refer to Section 3.5 for more information.
Architectural Resources	A Phase I survey for architectural resources found 159 resources, of which 4 had been previously demolished since recordation. Four of the remaining 155 resources, are either eligible for, potentially eligible for, or listed on the NRHP. In addition, Woodlawn Plantation is also a designated National Historic Landmark.	<p>The Build Alternative is within the viewshed of Woodlawn Plantation, Woodlawn Cultural Landscape Historic District, and the Sharpe Stable Complex. However, previous roadway and other development has diminished the historic setting and feeling of these resources. Although the Build Alternative would have an indirect effect to these historic properties, the effect would not be adverse.</p> <p>The Build Alternative would impact the circular drive and parking area along the OMVHS¹² (NRHP-eligible) frontage to Richmond Highway. Previous modifications to this area has diminished its physical integrity such that it no longer conveys its historic significance. In recognition of the importance of the School to the community, VDOT commits to install 2 interpretive signs and conduct an oral history project disseminated to the public. Based on these commitments, the SHPO has concurred that no adverse effect to historic properties would occur under the Build Alternative. Refer to Section 3.5 for more information.</p>
Air Quality	The USEPA Green Book, which lists non-attainment, maintenance, and attainment areas, shows that Fairfax County is designated as non-attainment for the 2008 8-hour ozone standard, and as an attainment area for all other NAAQS ¹³ .	<p>Carbon monoxide (CO) – All intersections are screened out under the 2016 FHWA-VDOT Programmatic Agreement for CO or by using the “weight of evidence” approach.</p> <p>Mobile Source Air Toxics (MSAT) – The Build Alternative has a low potential for MSAT effects. Refer to Section 3.6 for more information.</p>
Noise	The measurement of individual, 1-minute equivalent sound levels (Leq) in the Study Area ranged from a low of 38 a-weighted sound decibels (dBA) to a high of 71 dBA.	Residential impacts are predicted to occur under the Build Alternative. To mitigate these impacts, a total of 0.38 miles of barriers have been preliminarily identified as being feasible and reasonable. These noise barriers would benefit 57 of the impacted receptors, as well as 59 not impacted receptors.

Resources	Resource Summary / Inventory	Potential Impact of the Build Alternative
Hazardous Materials	Within the 1-mile search radius from Richmond Highway, 61 sites were given a priority ranking associated with the potential risk for mobilizing hazardous or contaminated substances before, during and after project construction.	Contaminants from 19 properties with high to moderate contaminant risks could migrate into the Build Alternative LOD. Prior to acquisition of right-of-way and construction, a Phase I ESA ¹⁴ should be conducted. Refer to Section 3.8 for more information.
Indirect Effects and Cumulative Impacts	Past and present actions have been both beneficial and adverse to socioeconomic resources and land use within the Study Area. Past development has produced a steady decline in natural and historic resources conditions, and cultural resources have been continuously created and destroyed by succeeding developments over time.	While some indirect effects and cumulative impacts would occur under the Build Alternative, no significant issues were identified. See Section 3.11 for more information.
Section 4(f) and 6(f) Properties	7 Section 4(f) resources are within the Study Area. These include 3 parks and 4 historic properties.	No Section 4(f) use would occur under the Build Alternative at the 3 parks in the Study Area as no permanent or temporary right-of-way would be acquired and no constructive use would occur. The SHPO / VDHR has concurred that no adverse effect from the Build Alternative would occur to historic properties. The FHWA intends to make a <i>de minimis</i> finding for the OMVHS resource. Refer to Section 3.12 for more information.

¹ Community Business Centers
² Virginia Department of Conservation and Recreation
³ Virginia Department of Game and Inland Fisheries
⁴ US Fish and Wildlife Service
⁵ Resource Protection Areas
⁶ Coastal Zone Management Program
⁷ Virginia Department of Environmental Quality
⁸ Area of Potential Effect
⁹ National Register of Historic Places
¹⁰ State Historic Preservation Officer
¹¹ Virginia Department of Historic Resources
¹² Original Mount Vernon High School
¹³ National Ambient Air Quality Standards
¹⁴ Environmental Site Assessment

3.2 LAND USE AND LOCALITY PLANS

3.2.1 Existing Conditions

The Study Area is primarily comprised of the well-established communities of Woodlawn and Mount Vernon, and to a lesser extent, Hybla Valley, Fort Hunt, and Groveton. These communities are defined by their extensive residential land use with commercial land use focused around the Richmond Highway corridor. The Study Area is primarily commercial followed by residential; recreation and open space; institutional, government, and utilities; and industrial as shown in **Table 3-2**. No agricultural or industrial land use is within the Study Area.

Table 3-2: Study Area Existing Land Use (2016)

Land Use	Acres	Percent of Study Area Land Use
Agricultural	0.0	0.0%
Commercial	183.0	47.0%
Residential	102.0	26.2%
Industrial	0.0	0.0%
Institutional, Government, Utilities	41.5	10.7%
Recreation and Open Space	62.7	16.1%
Total	389.2	100.0%

(Fairfax County, 2016a)

The Study Area is within the Mount Vernon Planning District. The *Fairfax County Comprehensive Plan (2013)* makes land use recommendations based on six Community Business Centers (CBC) within the Mount Vernon Planning District (**Figure 3-1**). Three of these CBCs are within the Study Area: Hybla Valley / Gum Springs, South County Center, and Woodlawn. The areas between these CBCs are classified as Suburban Neighborhoods Areas. Development recommendations for the CBCs and Suburban Neighborhoods are intended to foster revitalization, redevelopment, and creation of distinctive urban environments (Fairfax County, 2013a). Fairfax County is in the process of amending its Comprehensive Plan for the Richmond Highway corridor.

3.2.1 Environmental Consequences

No-Build Alternative

The No-Build Alternative would not require right-of-way acquisitions; therefore, no associated direct impact on land use in the Study Area would occur.

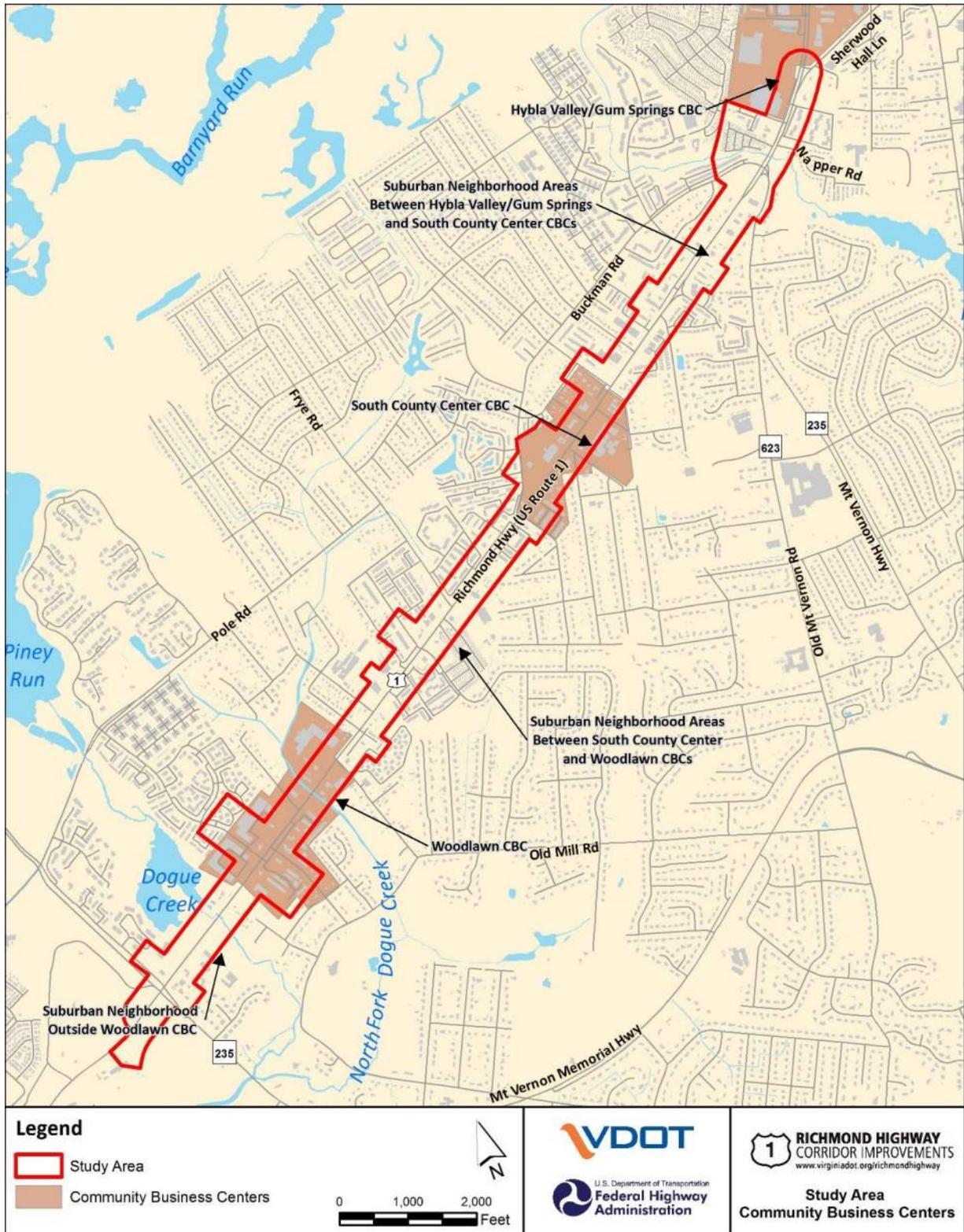
Build Alternative

The Build Alternative would potentially require approximately 22 acres of permanent right-of-way to construct the proposed improvements. **Table 3-3** shows the approximate acres of land use per land use class proposed to be permanently converted to transportation use. The Build Alternative would meet County transportation goals while widening on existing alignment, minimizing impacts to adjacent commercial and residential areas. Temporary right-of-way required for construction would be short-term and returned to the previous land use upon completion of the project.

Table 3-3: Build Alternative Land Use Conversion to Transportation

Land Use Category	Converted Acres
Commercial	11.1
Residential	3.7
Industrial	0.0
Institutional, Government, Utilities	2.2
Recreation and Open Space	5.0
Total	22.0

Figure 3-1: Study Area Community Business Centers



3.3 SOCIOECONOMIC RESOURCES

3.3.1 Communities and Community Facilities

Existing Conditions

The Study Area is located within the Mount Vernon Planning District which is further subdivided into Planning Sectors. The Study Area spans five Planning Sectors which include: Mount Vernon, Woodlawn, Hybla Valley, Groveton, and Fort Hunt. For the purposes of this study, these Planning Sectors are considered “communities.” These communities were established during the early 19th century and have grown along Richmond Highway. The areas of the communities adjacent to Richmond Highway are primarily commercial, interspersed with higher density housing in the form of apartment buildings and townhomes, and fewer single-family residences.

Twenty-four community facilities are within the Study Area (**Table 3-4** and **Figure 3-2**). Of these, four are schools, one is a post office, four are parks, eight are religious institutions, five are community centers and / or non-profits, and two are government buildings. These facilities provide services to communities and neighborhoods in and around the Study Area.

Table 3-4: Community Facilities

Facility	Address / Community	Access	Transit Access
Schools			
Creative Learning School	8331 Washington Avenue / Mount Vernon	Access from Richmond Highway via driveways at Mohawk Lane and Washington Avenue	REX ¹ and Route 171 bus routes provide direct access at Richmond Highway / Mohawk Lane (500 ft). Route 171 provides proximal access at Richmond Highway / Gregory Drive (600 ft)
Buckman Road KinderCare	4287 Buckman Road / Woodlawn	Access from Richmond Highway via driveway at Buckman Road	REX and Route 171 bus routes provide proximal access at Richmond Highway / Mohawk Lane (0.3 mi).
Hopkins House-McNeil Preschool Academy	8543 Forest Place / Mount Vernon	Access from Richmond Highway via driveways off Forest Place	Route 171 bus route provides direct access at Richmond Highway and: Sky View Drive (500 ft), Forest Place (500 ft), and Frye Road (1,000 ft). Woodlawn Court, Cooper Road, Talbot Farm Drive, and Sacramento Drive. REX provides proximal access at Richmond Highway and Cooper Road and Sacramento Drive. Route 151 and Route 152 bus routes provide proximal access at Sacramento Drive and Richmond Highway.

Facility	Address / Community	Access	Transit Access
Capital Kids Preschool and Learning Center	8758 Richmond Highway / Woodlawn	Access from Richmond Highway via driveway off Sacramento Drive	Route 151 and Route 152 bus routes provide direct access at Sacramento Drive / Richmond Highway (400 ft northwest). Route 171 provides direct access at Richmond Highway / Cooper Road (200 ft). REX provides direct access at Sacramento Drive / Richmond Highway (300 ft).
Post Office			
Engleside United States Post Office	8588 Richmond Highway / Woodlawn	Access from northbound and southbound Richmond Highway, via right-hand turn and left-hand turn lane at the intersection with Wyngate Manor Court	Route 171 bus route provides proximal access at Richmond Highway and: Highland Lane, Skyview Drive, and Forest Place (all approximately 600-700 ft).
Parks and Recreation			
Little Hunting Creek Park	Richmond Highway / George Washington Memorial Parkway / Fort Hunt & Mount Vernon	No access from Richmond Highway; no parking areas and access to the Park via Napper Road.	REX and Routes 171, 151, and 152 provide proximal access at Richmond Highway / Ladson Lane (700 ft)
Vernon Heights Park	8225 Central Avenue / Mount Vernon	No parking areas; access to park via trails off Shannons Green Way, Central Avenue, and Drews Court	Route 171 provides proximal access at Richmond Highway / Roxbury Drive (600 ft) and Richmond Highway / Shannons Green Way (1,000 ft). Route 151 / 152 provides proximal access at Mount Vernon Memorial Highway / Albee Lane (0.4 mi).
Pole Road Park	5701 Pole Road / Woodlawn	No access from Richmond Highway. No parking areas; access to park via Woodlawn Green Drive and Shadwell Court (located in neighborhood off Jeff Todd Way)	Routes 171, 151, and 152 provide proximal access at Richmond Highway / Mount Vernon Memorial Highway (800 ft). Routes 151 and 152 provide proximal access at Pole Road / Sacramento Drive (0.25 mi).

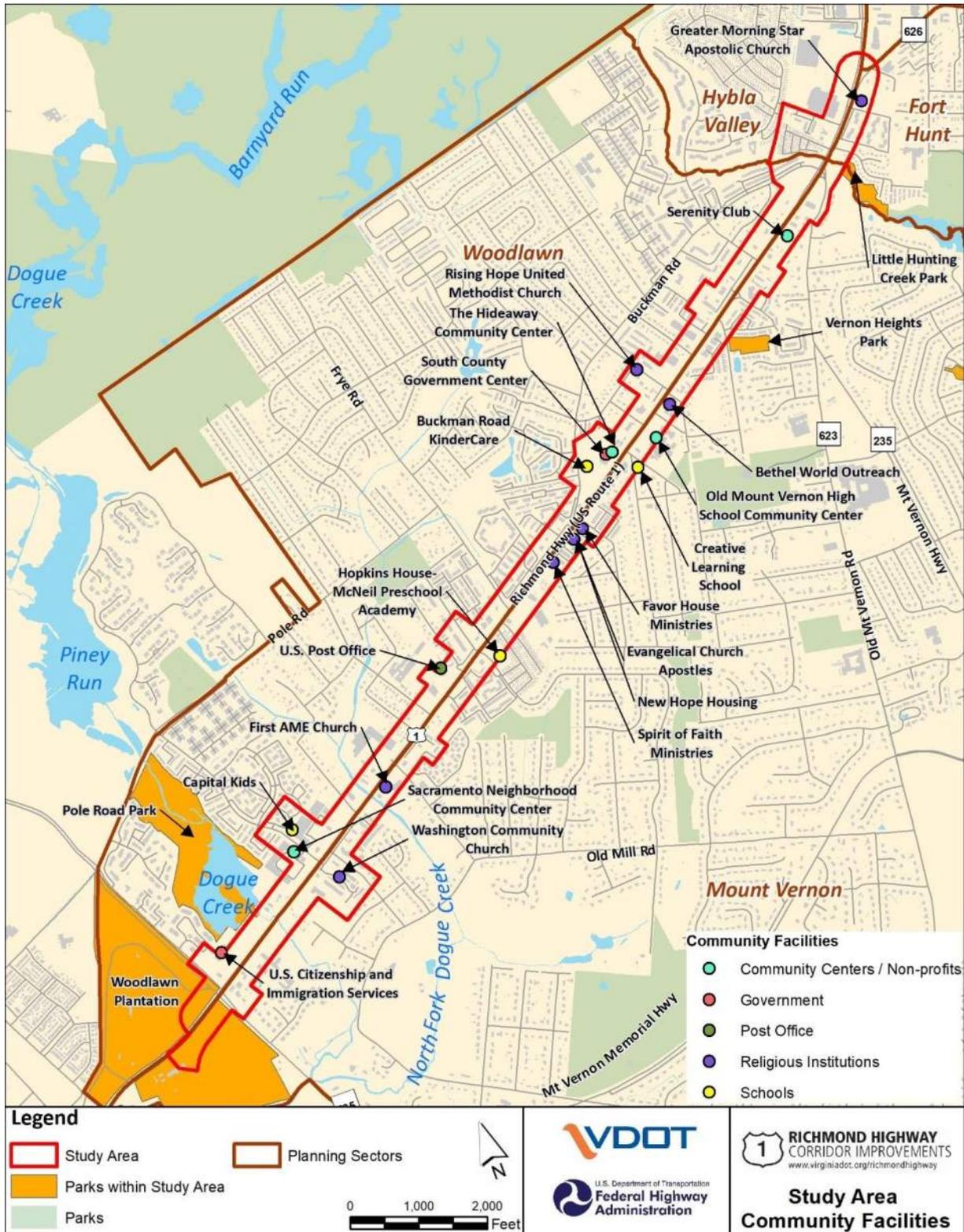
Facility	Address / Community	Access	Transit Access
Woodlawn Plantation	9000 Richmond Highway / Woodlawn & Mount Vernon	Driveway off Richmond Highway	Route 171 provides proximal access at Richmond Highway / Woodlawn Road (0.5 mi). Routes 101, 151, and 152 provide proximal access at Mount Vernon Memorial Highway / Richmond Highway (1 mi). REX, Route 171, and Route 151 provide proximal access at Richmond Highway / Old Mill Road (1 mi). REX, Route 171, and Route 152 bus routes provide proximal access at Richmond Highway / Mount Vernon Memorial Highway (1.1 mi).
Religious Institutions			
First AME Church	8653 Richmond Highway / Mount Vernon	Parking area adjacent to northbound Richmond Highway; no direct access from southbound Richmond Highway	REX and Route 171 bus routes provide proximal access at Richmond Highway / Lukens Lane (1,000 ft). Route 171 provides proximal access at Richmond Highway / Woodlawn Court (1,000 ft).
Spirit of Faith Ministries	8431 Richmond Highway / Mont Vernon	Parking area adjacent to northbound Richmond Highway; center turn lane for access from southbound Richmond Highway	REX and Route 171 bus routes provide proximal access at Richmond Highway / Frye Road (1,000 ft). Route 171 provides proximal access at Richmond Highway / Buckman Road (800 ft), Richmond Highway / Brevard Court (600 ft), and Richmond Highway / Graves Street (200 ft).
Evangelical Church Apostles	8401 Richmond Highway / Mount Vernon	Parking area with access from northbound and southbound Richmond Highway via signalized intersection at Buckman Road	Route 171 provides direct access at Richmond Highway / Buckman Road (100 ft) and Richmond Highway / Brevard Court (300 ft). Route 171 provides proximal access at Richmond Highway / Graves Street (0.2 mi).
Favor House Ministries	8400 Radford Avenue / Mount Vernon	Parking area with access from Radford Avenue or Richmond Highway via signalized intersection at Buckman Road	Route 171 provides direct access at Richmond Highway / Buckman Road (100 ft).
Rising Hope Mission Church	8220 Russell Rd / Woodlawn	Parking area on all three sides of the building with access from Russell Rd (additional	Routes 151 and 152 provide proximal access at Buckman Road / Russell Road (1,000 ft). Route 171

Facility	Address / Community	Access	Transit Access
		parking at the Aldi's supermarket shopping center across the street)	provides proximal access at Russell Road / Richmond Highway (1,000 ft).
Bethel World Outreach Church	8305 Richmond Highway / Woodlawn	Parking area with access from Reddick Ave and Maury Pl	Route 171 provides proximal access at Richmond Highway / Russell Road (500 ft). Routes 151 and 152 provide proximal access at Buckman Road / Russell Road (0.4 mi).
Greater Morning Star Apostolic Church	7929 Richmond Highway / Fort Hunt	Parking area is directly adjacent to northbound Richmond Highway access from Northbound Richmond Highway. No direct access from Southbound Richmond Highway	Routes 151, 152, 161, 162, and 171 provide proximal access at Richmond Highway / Sherwood Hall Lane (1,000 ft). Routes 151, 152, 171 and REX provide proximal access at Richmond Highway / Ladson Lane (1,000 ft).
Washington Community Church	8800-C Pear Tree Village Court / Mount Vernon	Parking area with access from Richmond Highway / Pear Tree Village Ct and Cooper Road / Pear Tree Village Ct.	REX and Route 171 bus routes provide proximal access at Cooper Road / Richmond Highway (800 ft). REX and Routes 171, 151, and 152 provide proximal access at Sacramento Drive / Richmond Highway (1,000 ft).
Government			
South County Government Center / South County Health Center / Mount Vernon District Office Fairfax County Health Services	8350 Richmond Highway / Woodlawn	Access via Richmond Highway at Mohawk Lane intersection as well as access via driveway from Buckman Road	REX and Route 171 bus routes provide direct access at Richmond Highway / Mohawk Lane (200 f.). Route 171 bus route provides proximal access at Richmond Highway / Gregory Drive (500 ft).
United States Citizenship and Immigration Services – Application Support Center	8850 Richmond Highway Suite 100 / Woodlawn	Parking area with access via southbound Richmond Highway as well as access via Jeff Todd Way	REX, Route 171, and Route 151 provide direct access at Richmond Highway / Old Mill Road (500 ft). REX, Route 152, and Route 171 provide proximal access at Richmond Highway / Mount Vernon Memorial Highway (500 ft). Route 101, Route 152, and Route 151 provide proximal access at Mount

Facility	Address / Community	Access	Transit Access
			Vernon Memorial Highway / Richmond Highway (0.25 mi).
Community Centers / Non-profits			
Sacramento Neighborhood Community Center (non-profit)	8792 Sacramento Dr Suite E	Access off Richmond Highway at Sacramento Center as well as driveway via Sacramento Drive	REX and Route 171 bus routes provide direct access at Richmond Highway/ Sacramento Drive (285 ft).
Serenity Club Inc (non-profit AA)	8121 Richmond Highway / Woodlawn	Parking area with access via Route 1	Route 171 provides proximal access at Richmond Highway / Buckman Road (1100 ft) and Richmond Highway / Jama Lee Ave (800 ft).
New Hope Housing Inc.	8407 Richmond Highway E / Mount Vernon	Limited parking with access via Route 1	Route 171 provides proximal access at Richmond Highway / Graves Street (700 ft) and Richmond Highway / Brevard Ct (500 ft).
Old Mount Vernon High School Community Center	8333 Richmond Highway / Mount Vernon	Access from northbound and southbound Richmond Highway, via driveways off Maury Place, Mohawk Lane, Reddick Avenue, and small parking area adjacent to Richmond Highway northbound	Route 171 provides direct access at Richmond Highway / Gregory Drive (400 ft) and Richmond Highway / Mohawk Lane (800 ft). REX provides direct access at Richmond Highway / Mohawk Lane (800 ft).
Hideaway Teen Center	8350 Richmond Highway / Woodlawn	Access via Richmond Highway at Mohawk Lane intersection as well as via driveway from Buckman Road	REX and Route 171 bus routes provide direct access at Richmond Highway / Mohawk Lane (200 ft). Route 171 bus route provides proximal access at Richmond Highway and Gregory Drive (500 ft).

¹ Richmond Highway Express

Figure 3-2: Community Facilities within the Study Area



Environmental Consequences

No-Build Alternative

The No-Build Alternative would include routine maintenance and repairs of existing Richmond Highway in the Study Area that would have no direct physical impact on communities or community facilities. Therefore, in the absence of the Build Alternative improvements, increasing travel demand, congestion, and inadequate access control would increasingly hamper community mobility and connectivity and access to community facilities.

Build Alternative

Communities

The Build Alternative would improve access to adjacent communities by reducing congestion, improving safety, enhancing pedestrian and bicycle facilities, and providing space for future transit services along Richmond Highway in the Study Area. Continuous sidewalk and bicycle facilities would be provided along Richmond Highway in the Study Area along with adequately spaced, signalized crosswalks.

A total of 182 individual parcels are within the LOD of the Build Alternative. Of these, 39 are residential, 133 are commercial, and 10 are community facilities. The Build Alternative would potentially require displacing 40 housing units on six residential parcels, 38 commercial buildings with 25 involving total parcel acquisitions, total acquisition of one undeveloped parcel zoned commercial, and two community facilities on two total acquisition parcels (**Table 3-5**). See the *Socioeconomics and Land Use Technical Report* (VDOT, 2017a) for detailed information on potential displacements. Property acquisition and potential displacements would be conducted in accordance with all applicable federal laws, regulations and requirements, including but not limited to, 23 CFR § 710, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended and its implementing regulations found in 49 CFR § 24. All persons displaced due to federally-assisted projects would be treated fairly, consistently, and equitably. Relocation resources would be available to all displaced residents and businesses without discrimination. The potentially affected properties are located along the edge of the communities adjacent to Richmond Highway, lessening potential impacts to community cohesion. Temporary construction easements are anticipated to have minimal community cohesion impacts from noise, dust, and visual impacts.

Table 3-5: Build Alternative Total Parcel Acquisitions

Parcel Type	Total Parcels with Displacements	Displaced Housing Units / Buildings
Residential	6	40
Commercial	42	38
Community Facility	2	2

The Build Alternative is located along an existing corridor and would not create a new physical barrier to inter-community interaction or cause adverse impacts to community connectivity or cohesion. Access control measures would be implemented including adequately spaced signalized intersections and left-turn lanes where needed.

Community Facilities

The Build Alternative would improve access to community facilities by reducing congestion, improving safety, and providing space for future BRT in the median along Richmond Highway in the Study Area, as called for in the DRPT Multimodal Study / Fairfax County Board of Supervisors Resolution. Short-term impacts to community facilities could include temporary road closures, changes to travel patterns, temporary reductions in parking, and traffic detours during construction.

Currently, of the 24 community facilities identified within the Study Area, two facilities would potentially be displaced, namely, First AME Church and Spirit of Faith Ministries in the Mount Vernon Community. Portions of right-of-way could be acquired from seven additional community facility parcels, with a majority of the impacts being slivers of land along the edge of the parcel and / or otherwise would not preclude access to or the primary use of these facilities. Religious institutions' service times and funeral processions could be impacted during construction; however, these impacts would be temporary in nature and would cease upon completion of construction.

3.3.2 Bike Paths and Recreational Trails

Existing Conditions

No bike lanes, shared use paths or cycle tracks as defined by Fairfax County are present in the Study Area along Richmond Highway (Fairfax County, 2014). However, bike routes as designated by Fairfax County (recommended routes for the safest cycling from point A to point B) exist within the Study Area on local streets and along Richmond Highway (**Figure 3-3**). Per the *Fairfax County Bicycle Master Plan (2014)*, bike lanes, shared-lanes, and cycle tracks are recommended throughout the Study Area.

Environmental Consequences

No-Build Alternative

As the No-Build Alternative would not result in improvements to Richmond Highway in the Study Area, no changes to bicycle facilities would result.

Build Alternative

The Build Alternative would benefit pedestrian and bicycle facilities in the Study Area by providing enhanced facilities to both sides of Richmond Highway. These improvements would increase safety by separating pedestrian and bicycle traffic from the roadway travel lanes. Further, the Build Alternative improvements would provide more connections to the existing limited pedestrian and bicycle networks in the Study Area and within Fairfax County. Short-term impacts to existing pedestrian facilities and bike routes along Richmond Highway during construction could include detours and temporary closures.

3.3.3 Population Characteristics

Existing Conditions

Population

According to 2010 US Decennial Census data, the population of the Census block groups in the Study Area is approximately 30,934 persons (2.9 percent of Fairfax County population and less than 1.0 percent of Virginia's population). **Figure 3-4** presents the Census block group boundaries and **Table 3-6** summarizes the study Census block group populations. Census block group 4215.00 BG 2 is the most populated (3,028

Figure 3-3: Study Area Bike Routes

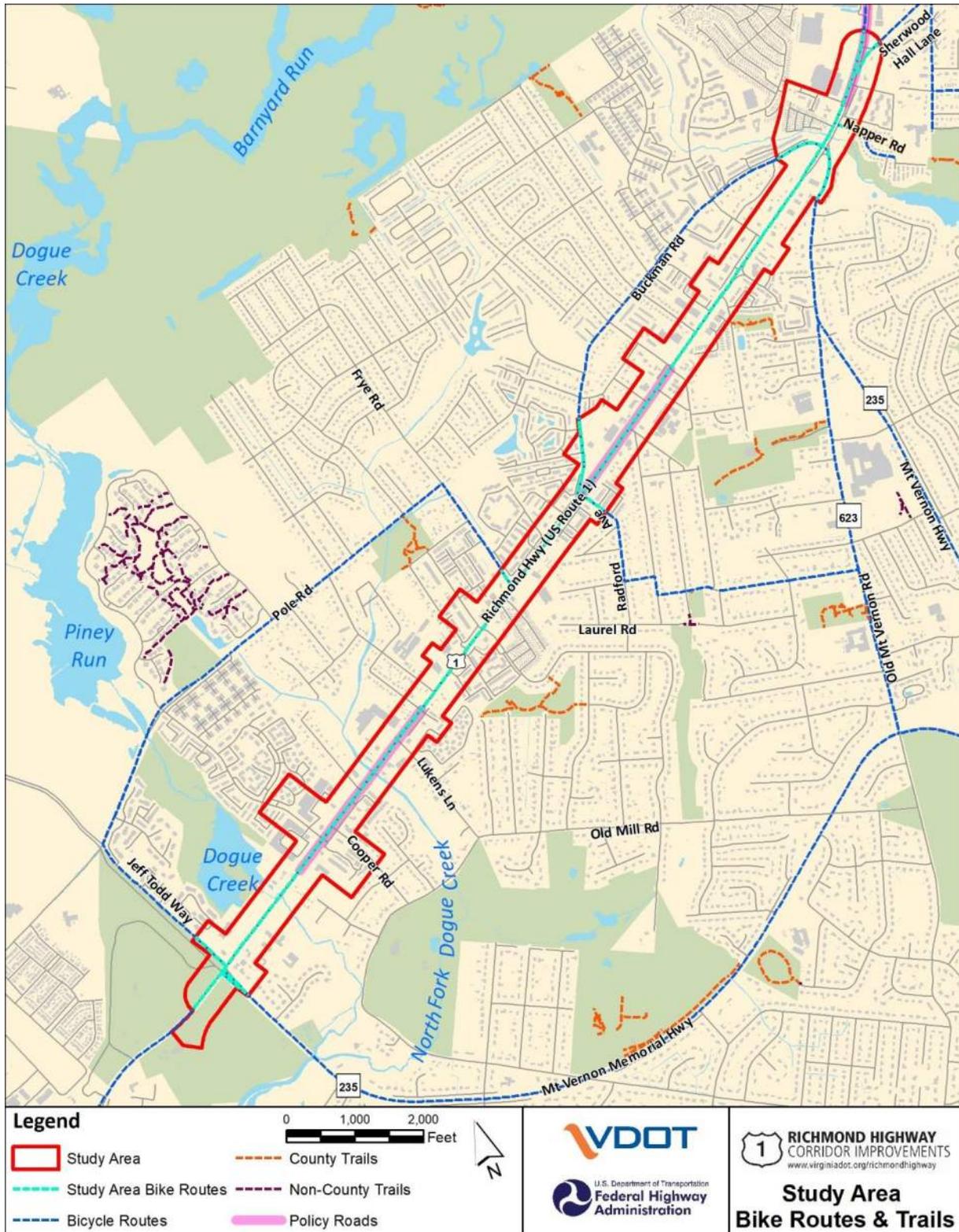
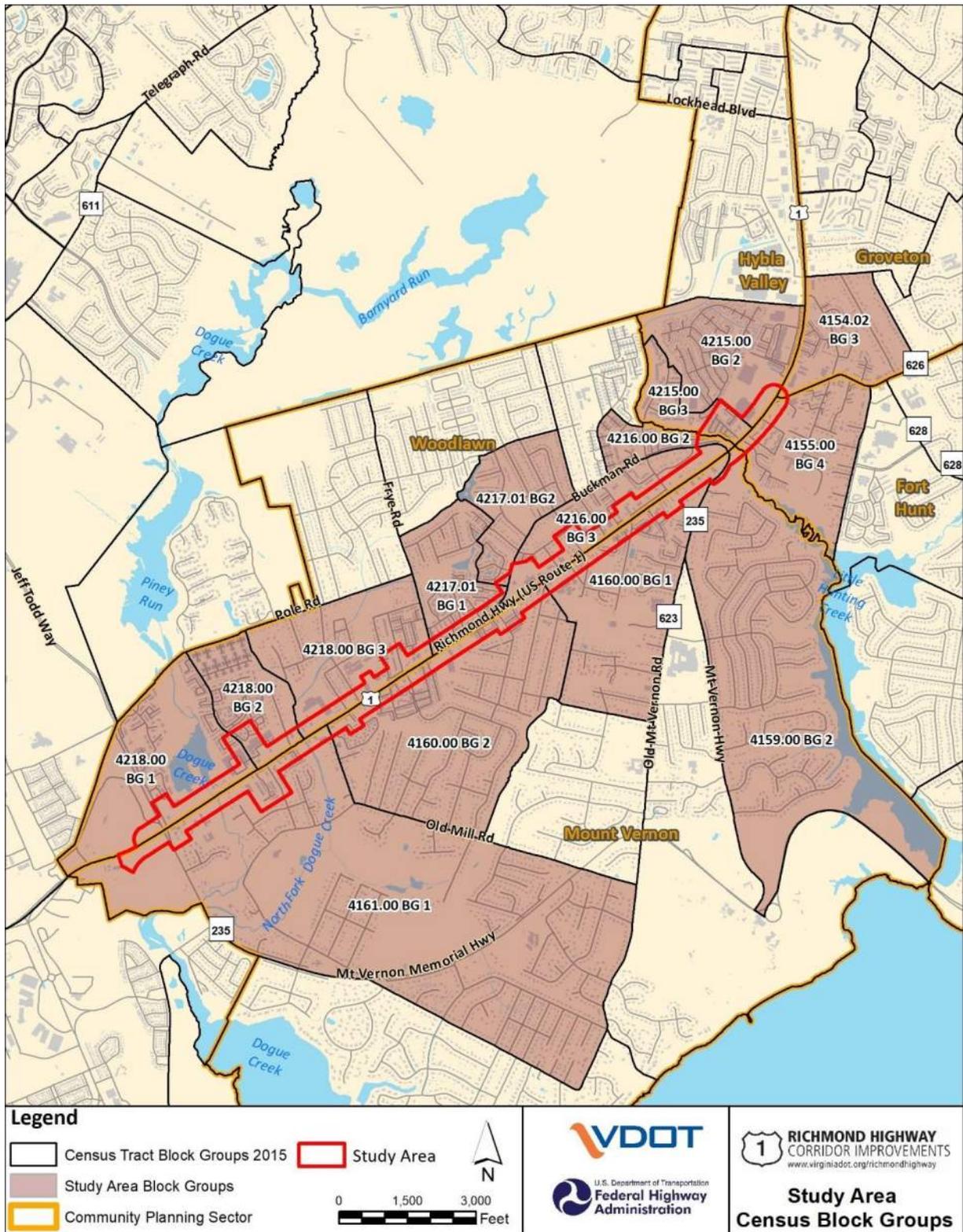


Figure 3-4: Study Area Census Block Groups



persons) and located in the northwest end of the Study Area adjacent to Richmond Highway. Census block group 4154.02 BG 3 has the lowest population (1,013 persons) within the Study Area and is located across Richmond Highway from the most populated census block in the northeast end of the Study Area.

Housing

Housing characteristics are summarized based on the American Community Survey (ACS) 2011-2015 five-year data at the Census block group level. A total of approximately 11,424 housing units are within the Study Area Census block groups and approximately 10,615 are occupied with the greatest number in Census block group 4160.00 BG 2 (1,225) in the Woodlawn community. Approximately 52 percent of the occupied housing units in the Study Area are owner-occupied and 48 percent are renter-occupied.

Environmental Consequences

No-Build Alternative

The No-Build Alternative would not result in project-related construction or any associated property acquisitions in the Study Area. Therefore, no impacts to population or housing would result from the No-Build Alternative.

Build Alternative

The Build Alternative would require additional right-of-way from residential properties for construction of the proposed improvements adjacent to the existing Richmond Highway right-of-way. Forty housing units from six residential parcels would be displaced under the Build Alternative. This equates to less than one percent of the total housing units in the study Census block groups. Per the ACS 2011-2015 five-year data, approximately 809 housing units are unoccupied in the study Census block groups. Displaced residents and the owners of property acquired for right-of-way would be compensated in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

Table 3-6: Study Area Block Group Population

Geographic Areas / Block Groups	Total Population	Community	Percent of Study Block Groups Total Population
4154.02 BG 3	1,013	Groveton	3.3%
4155.00 BG 4	1,459	Fort Hunt	4.7%
4159.00 BG 2	2,224	Mount Vernon	30.7%
4160.00 BG 1	1,679	Mount Vernon	
4160.00 BG 2	3,047	Mount Vernon	
4161.00 BG 1	2,535	Mount Vernon	
4215.00 BG 2	3,028	Hybla Valley	15.9%
4215.00 BG 3	1,884	Hybla Valley	
4216.00 BG 2	2,026	Woodlawn	45.5%
4216.00 BG 3	1,631	Woodlawn	
4217.01 BG 1	2,966	Woodlawn	
4217.01 BG 2	1,580	Woodlawn	
4218.00 BG 1	1,965	Woodlawn	

Geographic Areas / Block Groups	Total Population	Community	Percent of Study Block Groups Total Population
4218.00 BG 2	2,608	Woodlawn	
4218.00 BG 3	1,289	Woodlawn	
Study Block Groups Total	30,934	N / A	100% ¹
Fairfax County	1,081,726		
Virginia	8,001,024		

(US Census Bureau, 2010)

¹due to rounding totals to 100.1%

3.3.4 Environmental Justice

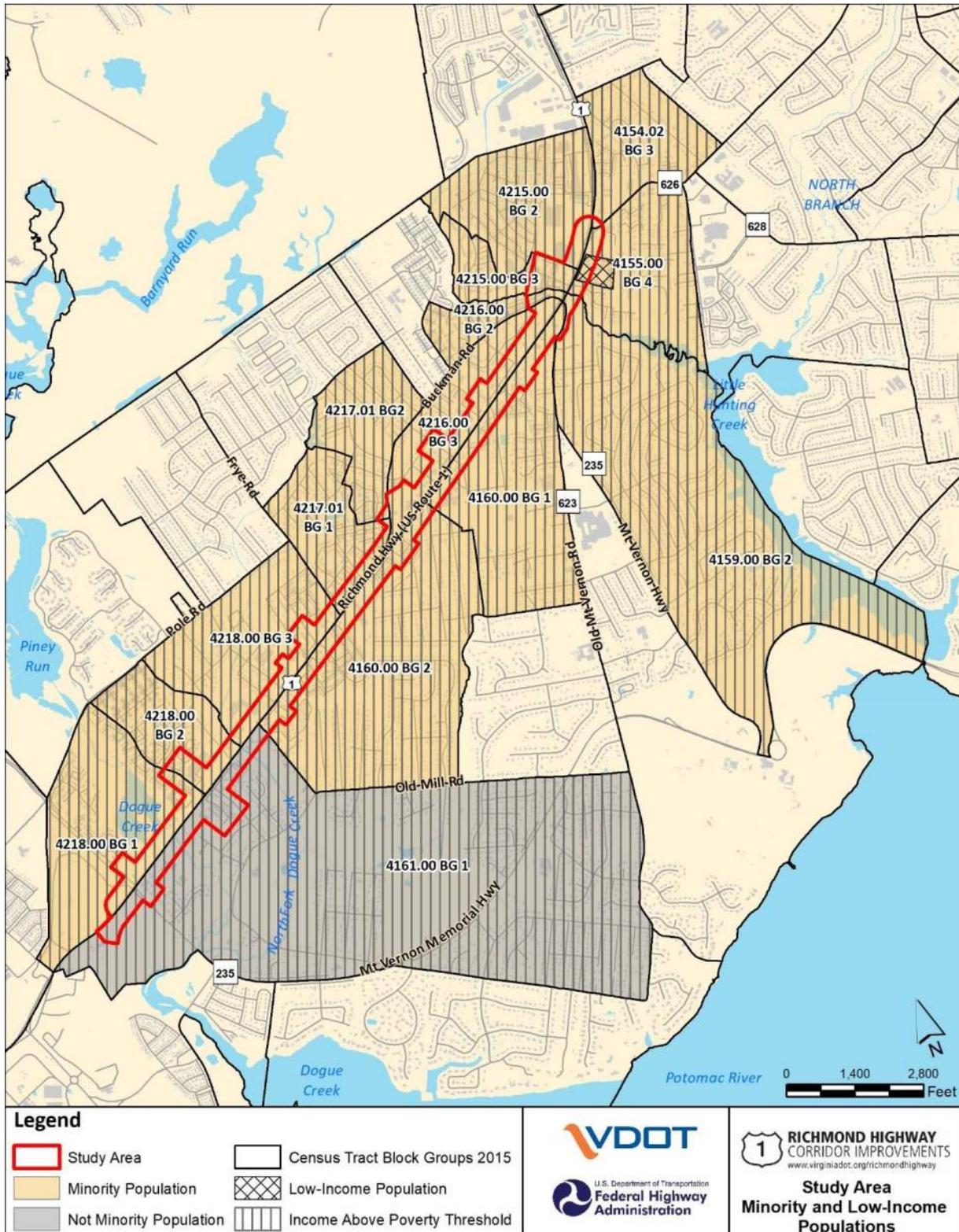
The USEPA defines Environmental Justice (EJ) as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and polices.” The EJ analysis has been prepared in accordance with the definitions, methodologies, and guidance provided in Executive Order 12898; CEQ’s *Environmental Justice Guidance Under the National Environmental Policy Act* (1997); US Department of Transportation (USDOT) Order 5610.2(a) *Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (2012 revision); FHWA EJ Order 6640.23A: *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (2012); FHWA memorandum *Guidance on Environmental Justice and NEPA* (2011); the FHWA *Environmental Justice Reference Guide* (2015); and FHWA Technical Advisory T6640.8A: *Guidance for Preparing and Processing Environmental and Section 4(f) Documents*.

Existing Conditions

Minority Populations

Data on minority populations is based on ACS 2011-2015 five-year data provided in detail in the *Richmond Highway Socioeconomics and Land Use Technical Report* (VDOT, 2017a). Executive Order 12898 and the USDOT / FHWA EJ Orders are concerned with identifying minority and low-income populations. Minority populations are defined as any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed / transient persons (such as migrant workers or Native Americans) who would be similarly affected by a proposed USDOT / FHWA program, policy, or activity (USDOT and FHWA EJ Orders). For the purposes of this analysis, a minority population is present when: (a) the minority population of the affected area exceeds 50 percent of total population, or (b) the minority population percentage in the affected area is “meaningfully greater” than the minority population percentage in the general population or other appropriate unit of geographical analysis (CEQ, 1997). In this study, the minority population for a study Census block group will be found to be “meaningfully greater” than surrounding study block groups if its minority population is greater than the value of the block group with the lowest percentage of minority population within the study Census block groups, plus an additional 10 percent of that value. A total of 14 out of 15 study Census block groups meet the definition of a minority population (**Figure 3-5**). The only Census block group that does not meet the definition is 4161.00 block group 1.

Figure 3-5: Study Census Block Group Minority and Low-Income Populations



Low-Income Population

The *Richmond Highway Socioeconomics and Land Use Technical Report* (VDOT, 2017a), includes information on low-income populations in the Study Area Census block groups. A low-income population is defined as any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed / transient persons (such as migrant workers or Native Americans) who would be similarly affected by a proposed USDOT / FHWA program, policy, or activity (USDOT / FHWA EJ Orders). Using ACS 2011-2015 five-year data, low-income populations are identified where the median household income for a study Census block group is at or below the Health and Human Services (HHS) poverty threshold for a family of four (\$24,250). No study Census block groups have a median household income below the HHS poverty threshold, and therefore none are considered low-income populations. A federally-assisted affordable housing complex (Spring Garden Apartments) located in the northern Study Area at 7959 Richmond Highway is considered a low-income population.

Environmental Consequences

No-Build Alternative

The No Build Alternative would not improve Richmond Highway and therefore would not result in any impacts to EJ populations.

Build Alternative

When impacts to EJ populations were identified, the impacts experienced by the affected population were compared to those experienced by others residing in the entire Build Alternative LOD. A disproportionately high and adverse effect on minority and low-income population locations is defined by the FHWA EJ Order as an impact that:

- Would be predominately borne by a minority and / or low-income population, or
- Would be suffered by the minority population and / or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that would be suffered by the nonminority population and / or non-low-income population.

Per the FHWA *Memorandum Guidance on Environmental Justice and NEPA* (December 16, 2011), the impacts of the Build Alternative to minority and low-income populations were compared with respect to the impacts on the overall population within the Study Area (Census Block Groups that intersect with the Build Alternative). The benefits of reduced congestion, improved mobility, and enhanced pedestrian and bicycle facilities under the Build Alternative would be borne by all who reside along or use the Richmond Highway corridor, including minority and low-income populations.

Under the Build Alternative conceptual design, improvements are proposed to either side of an existing facility, that at the planning level, would not disproportionately impact either side. Fifteen housing units on six residential parcels could be displaced in Census block groups containing minority populations, 24 housing units could be displaced from one residential parcel at the Spring Garden Apartments constituting a low-income population, and one housing unit from one residential parcel could be displaced in Census block group 4161.00 BG 1 that does not meet the thresholds for minority or low-income populations. These potential displacements are preliminary based on conceptual design. The number and location of potential displacements would be further refined in later design phases if the Build Alternative is implemented. Further, although housing displacements could occur on six parcels within Census block groups containing minority populations, the non-minority resident population within those same block

groups ranges from 15.9 to 84.1 percent. This increases the probability that not all residential displacements would be borne by minorities and the impact would not be disproportionate and adverse. Although 24 housing units where a low-income population resides at the Spring Garden Apartment complex may be displaced under the Build Alternative, other apartments and single-family housing would be similarly impacted in areas not meeting the definition of a low-income population; thus, the impact to low-income populations would not be disproportionate. Potential temporary right-of-way impacts during construction are not considered disproportionate or adverse to minority or low-income populations within the Study Area, as use would be short-term and the land would be returned in condition similar to its original use.

All parcels would retain at least one access without impacting use of the parcel; thus, access changes are not anticipated to be disproportionate and adverse to minority or low-income populations residing in the Study Area. The Build Alternative would cause noise impacts to both EJ populations and other residents; therefore, consideration for mitigation would be provided without discrimination when warranted and determined to be feasible and reasonable.

3.3.5 Economics

Existing Conditions

Income

The income data is based on the ACS 5-year 2011-2015 median household income data of persons residing in the study Census block groups. Census block group 4215.00 BG 3 located in Hybla Valley had the lowest median household income (\$25,957) and block group 4159.00 BG 2 located in Mount Vernon had the highest median household income (\$154,408). The median household income of all the study Census block groups is \$67,163, which is less than that of Fairfax County (\$112,552), but greater than that of Virginia (\$65,015).

Employment

Per the ACS five-year 2011-2015 labor force and employment data, approximately 93.1 percent of the work force in the study Census block groups is employed. This is less than the Fairfax County (95.2 percent) employment rate and similar to the statewide rate (93.7 percent). Most civilian workers residing in the study Census tracts are engaged in professional, scientific, management, administrative, and waste management (17.7 percent); and educational services, health care, and social assistance (16.6 percent) industry sectors. In comparison, the same categories account for 24.8 percent and 17.7 percent of respective employed residents in Fairfax County, and 14.7 percent and 21.8 percent in Virginia.

Business

The US Census Bureau's Business Patterns 2014 data (US Census Bureau, 2016a and 2016b) provides certain business characteristics by North American Industry Classification System (NAICS) code and zip code. There are 519 business establishments in zip code 22306 and 390 in zip code 22309. The top five establishment sectors in the Study Area zip codes are: retail trade; health care and social assistance; other services; professional, scientific, and technical services; and accommodation and food services. The most establishments in Fairfax County and statewide are in the professional, scientific, and technical services sector.

Environmental Consequences

No-Build Alternative

The No-Build Alternative would not make any improvements to Richmond Highway in the Study Area, and thus no direct impact to income, employment, or economics would occur.

Build Alternative

The Build Alternative would require displacing 38 commercial buildings on 42 parcels that comprise approximately four percent of establishments within the zip codes encompassing the Study Area. Twenty-five of the 38 displaced commercial buildings would be on total acquisition parcels. One undeveloped commercial parcel would be acquired. The number of commercial displacements may possibly be reduced in the design process. Displaced businesses would be compensated under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and would be eligible for relocation assistance. Commercial displacements under the Build Alternative would not substantially impact median household income or resident employment in the study Census block groups, even assuming all displaced businesses would relocate out of the Study Area. This is because the total number of displaced businesses would be a small proportion of the total number of establishments (approximately four percent) in the study zip codes. Also, given that most businesses in the study zip codes have less than five employees, it is likely most of the displaced businesses would be relatively small, with little impact on median household income or employment in the study Census block groups. Temporary job increases associated with construction of the Build Alternative may occur in the Study Area. The extent and duration of such temporary job increases would be proportional to the construction cost of the Build Alternative.

3.4 NATURAL RESOURCES

3.4.1 Water Resources

Existing Conditions

Water Quality

Section 305(b) of the Clean Water Act (CWA) requires each state to submit a report to the USEPA every two years describing the status of its surface and ground waters. Under Section 303(d) of the CWA, states are required to develop a list of impaired waters. Three perennial streams are within the Study Area: Little Hunting Creek, North Fork Dogue Creek and Dogue Creek. Of these, Little Hunting Creek and Dogue Creek are designated “impaired waters” under Section 303(d) of the CWA (Virginia Department of Environmental Quality [VDEQ], 2014). Causes of impairment to these two streams include the presence of polychlorinated biphenyls (PCBs) in the water column (Little Huntington Creek) and *E. coli* (Dogue Creek). **Table 3-7** provides the source of impairment, impaired use, and stream length within the Study Area.

Table 3-7: Study Area Impaired Waterbodies

ID	Waters Name	Impairment Reach	Impairment Cause (Impaired Use)	Impairment Source	Impairment Length within Study Area (Feet)
VAN-A14R_LIF01A08	Little Hunting Creek	Segment begins at the confluence with an unnamed tributary, approximately 0.82 river miles upstream from the Route 1 bridge, and continues downstream until tidal waters	PCBs in Water Column (Fish Consumption)	Atmospheric Deposition – Toxics, Combined Sewer Overflows, Contaminated Sediments, Upstream Source	1,174.0
VAN-A14R_DOU01A04	Dogue Creek	Segment begins at the confluence with an unnamed tributary to Dogue Creek, approximately 0.3 river miles upstream from Rt. 622, and continues downstream until the end of the free-flowing waters of Dogue Creek	<i>E. coli</i> (Recreation)	Source Unknown	634.3

Streams

Non-tidal streams were identified within the Study Area using the National Hydrography Dataset (NHD) from the US Geological Survey (USGS, 2016a) and field reconnaissance of the Study Area.

The Study Area is contained in two 12-digit Hydrologic Unit Code (HUC) subwatersheds (Virginia Department of Conservation and Recreation [VDNR], 2015). The eastern portion of the Study Area is in the Potomac River – Little Hunting Creek subwatershed (HUC 020700100307) and the western portion of the Study Area is in the Dogue Creek subwatershed (HUC 020700100306). **Table 3-8** summarizes the linear feet of streams in the Study Area by Cowardin classification (Cowardin et al., 1979). All waters ultimately flow to the Potomac River.

Table 3-8: Streams within Study Area

Cowardin Abbreviation	Waters Name	Cowardin Classification	Acreage / Linear Feet within Study Area
R3	Little Hunting Creek, North Fork Dogue Creek and Dogue Creek	Upper Perennial	1.4 / 2,836.3
R6	Unnamed tributaries to Little Hunting Creek, North Fork Dogue Creek and Dogue Creek	Ephemeral	<0.01 / 132.2
Total			1.4 / 2,968.5

Wetlands

Executive Order 11990, Protection of Wetlands, established a national policy and mandates that each federal agency acts to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance their natural value. A field delineation of Waters of the US (WOUS) and wetlands was performed according to the methodology outlined in the US Army Corps of Engineers (USACE) Wetlands Delineation Manual (USACE, 1987) and the Regional Supplement to the USACE Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0) (USACE, 2010).

A total of approximately 1.2 acres of wetlands are within the Study Area that **Table 3-9** presents by Cowardin et al. (1979) classification.

Table 3-9: Wetlands within Study Area

Cowardin Abbreviation	Cowardin Classification	Acreage within Study Area
PEM	Palustrine, Emergent	0.3
PFO	Palustrine, Forested	0.8
POW	Palustrine, Open Water	0.1
Total		1.2

Aquifers / Water Supply

The Virginia Department of Health (VDH) reviews projects for their proximity to public drinking water sources. The USEPA’s National Sole Source Aquifer (SSA) Geographic Information System (GIS) Layer was used to determine the boundaries of SSAs. Information on groundwater and underlying aquifers was obtained with assistance from VDEQ’s Ground Water Withdrawal Permitting Program, Office of Water Supply. No public water resources were found in the Study Area, but the Study Area is within the Eastern Groundwater Management Area in Virginia. Under the Ground Water Management Act of 1992, Virginia manages groundwater through a program regulating the withdrawals of groundwater within designated Groundwater Management Areas (GWMA). Any person or entity located within a declared GWMA must obtain a permit to withdraw 300,000 gallons or more of groundwater in any one month.

Environmental Consequences

No-Build Alternative

The No-Build Alternative would not result in changes to water quality, streams, wetlands, or aquifers / water supply.

Build Alternative

Water Quality

The Build Alternative would disturb up to 76.6 acres of land. Construction of the Build Alternative would address compliance using the Virginia Runoff Reduction Method (VRRM), a stormwater compliance framework focused not only on water quality treatment, but also on reducing the overall runoff volume to better replicate pre-development hydrologic conditions.

Streams

The Build Alternative would impact up to 0.6 acre or 963.2 linear feet at the existing crossings of three Upper Perennial (R3) streams: Dogue Creek, North Fork Dogue Creek, and Little Hunting Creek. In

accordance with the USACE-USEPA 2008 Compensatory Mitigation for Losses of Aquatic Resources, VDOT would first attempt to mitigate for stream impacts caused by the Build Alternative by purchasing stream credits from an approved stream mitigation bank within the 8-digit HUC watersheds encompassing the Build Alternative. If credits are not available for purchase in this watershed(s), VDOT would look to contribute to an approved in-lieu fee program.

Wetlands

Under the Build Alternative, a total of 0.2 acre of wetland impacts would occur. A palustrine emergent wetland associated with North Fork Dogue Creek would have an impact of 0.1 acre, and a palustrine forested wetland near the crossing of Dogue Creek would have an impact of 0.1 acre. In accordance with the USACE 2008 Compensatory Mitigation for Losses of Aquatic Resources, VDOT would first attempt to mitigate for wetland impacts caused by the Build Alternative by purchasing wetland credits from an approved wetland mitigation bank within the 8-digit HUC watershed encompassing the Build Alternative. If credits are not available for purchase in this watershed, VDOT would look to contribute to an approved in-lieu fee program.

Aquifers / Water Supply

The Build Alternative would not involve any effects from construction because there are no public groundwater wells, surface water intakes, springs, SSA, or reservoirs in the Study Area and roadway cuts are not anticipated to encounter the aquifer.

3.4.2 Wildlife

Existing Conditions

Terrestrial Wildlife / Habitat

Information was collected from database queries from the US Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC), the Virginia Department of Game and Inland Fisheries (VDGIF) Fish and Wildlife Information Service (VAFWIS), and the Virginia Department of Conservation and Recreation – Department of Natural Heritage (VDCR-DNH).

Information on land use was gathered from local comprehensive and land use plans, aerial photos, input from local and regional planning officials, and field reconnaissance.

Expanses of terrestrial habitat in the Study Area are rare and fragmented as residential, commercial, industrial, government / military, and open water areas are common, resulting in low quality edge habitat. There are three wildlife corridors that coincide with Dogue Creek, North Fork Dogue Creek, and Little Hunting Creek within the Study Area. However, the existing Richmond Highway fragments these corridors at the stream crossings. The wildlife species most capable of adapting to habitat fragmentation due to dense urban and suburban development include but are not limited to rabbits, whitetail deer, eastern gray squirrels, red fox, raccoon, striped skunk, and many common non-migratory bird species (VDGIF, 2015).

Anadromous Fish

The National Oceanic and Atmospheric Administration (NOAA) Fisheries has jurisdiction over anadromous fish listed under the Endangered Species Act through their Office of Protected Resources. The presence of both confirmed and potential Anadromous Fish Use Areas was obtained using VDOT's Comprehensive Environmental Data and Reporting System (CEDAR) GIS Database that contains VDGIF's anadromous fish

information from the VAFWIS database (VDOT, 2016b). Dogue Creek and the Potomac River are confirmed Anadromous Fish Use streams and Little Huntington Creek is a potential Anadromous Fish Use stream. Although these streams are within the vicinity (2-mile radius) of the Study Area, the Anadromous Fish Confirmed Use Areas and potential use areas do not extend upstream into the Study Area.

Environmental Consequences

No-Build Alternative

The No-Build Alternative would not involve any project-related construction to Richmond Highway in the Study Area or changes to the natural environment other than those from continued maintenance of the roadway. As a result, project-related environmental effects to wildlife and terrestrial habitat from the No-Build Alternative are not anticipated. No direct impacts to Anadromous Fish Use Areas would occur. Potential downstream effects to anadromous fish under the No-Build Alternative are addressed in the *Indirect and Cumulative Effects Technical Report (VDOT, 2017g)*.

Build Alternative

Terrestrial Wildlife / Habitat

Under the Build Alternative, Richmond Highway in the Study Area would continue to pose a barrier to wildlife movement. Incrementally increasing the width of the roadway would not likely substantially exacerbate existing conditions. Potential for temporary impacts to wildlife exist with the removal of vegetated cover within the construction footprint and construction noise, likely causing animal migration away from the disturbance and a temporary reduction in habitat usage by mostly common edge-dwelling species. Measures to minimize impacts to habitat connectivity and wildlife passage would be evaluated by VDOT in consultation with federal, state and local wildlife officials while developing mitigation commitments for the Final EA and, if the Build Alternative was implemented, as part of permitting.

To reduce potential impacts to adjacent terrestrial habitats, construction practices would avoid the removal of existing vegetation to the greatest extent practicable, and would include the implementation and maintenance of strict erosion and sediment control measures and stormwater management best management practices.

Pollinator species could include honey bees, native birds, bats, and butterflies. The study area is in a densely populated urban area that has been previously disturbed; therefore, the area does not currently support much pollinator habitat. These pollinator species could be considered in the development of the seed mix. The VDOT Pollinator Habitat Program is in development and currently focuses on rest areas and park and rides along state-maintained roadways.

Anadromous Fish

No Anadromous Fish Use Areas are within the Study Area or the LOD; therefore, no direct impacts to these areas would occur under the Build Alternative. However, Anadromous Fish Use Areas are within the vicinity (2-mile radius) of the Study Area. Potential indirect effects of the Build Alternative to Anadromous Fish Use Areas are evaluated in the *Indirect and Cumulative Effects Technical Report (VDOT, 2017g)*.

3.4.3 Threatened and Endangered Species

The federal Endangered Species Act of 1973 and subsequent amendments and regulations define basic protections for federally-listed wildlife and plants that are considered threatened, endangered, or species

of greatest conservation need. The law also affords protection to prescriptive habitat critical for protected species’ survival, and applies to all federal, state, and privately-authorized projects or actions. The USFWS and the NOAA National Marine Fisheries Service (NMFS) are responsible for listing, protecting, and managing federally-listed threatened and endangered species.

The Virginia Endangered Species Act of 1972 and the Endangered Plant and Insect Species Act of 1979 protect the species that are listed as threatened or endangered in the state. The VDGIF and the Virginia Department of Agriculture and Consumer Services (VDACS) are responsible for administering and enforcing the state endangered species regulations. In addition, a cooperative agreement with the USFWS, signed in 1976, recognizes VDGIF as the designated state agency with regulatory and management authority over federally-listed animals and provides for federal / state cooperation regarding the protection and management of those species. VDACS holds authority to enforce regulations pertaining to plants and insects.

Existing Conditions

The information obtained from the agency database review conducted for this project is summarized below in **Table 3-10**. The USFWS IPaC (USFWS, 2011) was searched for species within the Study Area boundaries. The VDGIF VAFWIS data search (VDGIF, 2016a) was conducted within a 2-mile radius of the center of the Study Area. **Table 3-10** presents the species that are currently listed as threatened or endangered that are known to occur, or have the potential to occur, in the vicinity of the Study Area along with each species’ listed status and source of its listing.

Table 3-10: Threatened or Endangered Species Mapped within the Vicinity of the Study Area

Species	Status	Source of Listing
Atlantic Sturgeon (<i>Acipenser oxyrinchus</i>)	Federally Endangered	VaFWIS
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Federally Threatened	IPaC
Little Brown Bat (<i>Myotis lucifigus lucifigus</i>)	State Endangered	VaFWIS
Tri-colored Bat (<i>Perimyotis subflavus</i>)	State Endangered	VaFWIS
Wood Turtle (<i>Glyptemys insculpta</i>)	State Threatened	VaFWIS
Peregrine Falcon (<i>Falco peregrinus</i>)	State Threatened	VaFWIS

Environmental Consequences

No-Build Alternative

The No-Build Alternative would not involve any construction or changes to the natural environment. Thus, environmental effects to threatened or endangered species from the No-Build Alternative are not anticipated.

Build Alternative

No species or habitat surveys were completed in the Study Area during preparation of this EA to confirm the presence, or indicate the absence of, those species listed in **Table 3-10**. Due to the potential presence of listed species in the Study Area, close regulatory coordination would be required during the permitting process for the Build Alternative. At that time, the agencies may require surveys be completed to confirm the presence, or absence of, listed species in the Study Area. If required, these surveys must be conducted by an approved surveyor, and often are only acceptable if completed during certain periods of the year. If presence of a listed species is confirmed, the agencies may recommend a time-of-year restriction for activities within occupied habitat and these restrictions would be determined as part of the permitting process. A summary of current, applicable VDGIF time-of-year restrictions (VDGIF, 2016b) for the protected species with the potential to occupy the Study Area is provided in **Table 3-11**. Use of these time-of-year restrictions would offset potential direct impacts, would mitigate indirect effects outside of the area of direct impact, and should result in a “not likely to adversely affect” determination from the resource agencies. If impacts cannot be avoided, Endangered Species Act Section 7 coordination may be required.

In accordance with a memorandum of understanding between VDOT and FHWA, the results of presence/absence surveys would not influence the NEPA/location decision process. Therefore, if surveys were required from the resource agencies, the coordination requiring the surveys would occur during the permitting/design stage of the study. Following, or as part of, the coordination, VDOT would complete the surveys required by the natural resource agencies.

Table 3-11: Protected Species Time of Year Restrictions

Species	Time of Year Restrictions
Wood Turtle	For instream work: 01 October – 31 March; For work within 900 feet of stream (zone of concern): 01 April – 30 September. Maintain undisturbed naturally vegetated buffer of at least 300 feet on stream.
Peregrine Falcon	15 February – 15 July for activities within 600 feet of nest.
Northern Long-eared Bat	15 April – 15 September for tree removal activities. Prohibit tree removal within 150 feet of a documented maternity roost and prohibit tree removal within 0.25 miles of a documented hibernaculum from 1 June through 31 July
Little Brown Bat and / or Tri-colored Bat	0.25 miles of a “major” hibernaculum within 150 feet of a known roost tree
Bald Eagle Concentration Area	Yearly periods extending 15 May – 31 August and 15 December – 15 March

Source: VDGIF, 2016b.

In addition to potentially timing construction activities to avoid impacts to threatened or endangered species, potential impacts to listed species may be reduced further through efforts to minimize the construction footprint of the project. Mitigation measures may also include contractor training in recognizing and avoiding threatened or endangered species and their habitats, and restoration of habitat. Construction practices would avoid the removal of existing vegetation to the greatest extent possible and include the implementation of best management practices for erosion and sediment control as well as stormwater management to reduce potential impacts to adjacent habitats and properties. Practices such as use of silt fence and straw bales, diversion ditches, sediment traps and basins, culvert outlet protection,

vegetative streambank stabilization, dewatering structures, temporary and permanent seeding, and flagging or fencing of areas not to be disturbed would minimize impacts to both protected terrestrial and aquatic species.

3.4.4 Floodplains

Several federal directives regulate construction in floodplains to ensure that consideration is given to avoidance and mitigation of adverse effects to floodplains. These federal directives include the National Flood Insurance Act of 1968, Executive Order 11988, and USDOT Order 5650.2 titled “Floodplain Management and Protection”. The National Flood Insurance Act of 1968 established the National Flood Insurance Program (NFIP), which is administered by the Federal Emergency Management Agency (FEMA). In Virginia, the VDCR is responsible for coordination of all state floodplain programs. Development within floodplains is also regulated by local flood insurance programs administered by localities under the NFIP.

To reduce the risk of flood loss and to minimize the impact of floods on human safety, while preserving the natural beneficial values of floodplains, Executive Order 11988, *Floodplain Management*, requires federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with construction within and modification of floodplains. The order also requires agencies to avoid direct and indirect support of floodplain development wherever there is a practical alternative. Executive Order 13690, *Establishing a Federal Flood Risk Management Standard (FFRMS) and a Process for Further Soliciting and Considering Stakeholder Input*, amends Executive Order 11988 by requiring federal agencies to use natural systems, ecosystem process, and nature-based approaches to identify alternatives and require federal agency regulations or procedures to be consistent with the FFRMS. USDOT Order 5650.2 guides the USDOT’s implementation of Executive Order 11988 and requires the detailed consideration of impacts to floodplains, as well as avoidance and minimization.

In support of USDOT Order 5650.2, regulations promulgated at 23 CFR § 650 state that it is the policy of the FHWA, among other things, to avoid significant encroachments of the floodplain, where practicable. A significant encroachment is defined as:

A highway encroachment and any direct support of likely base floodplain development that would involve one or more of the following construction- or flood-related impacts:

- (1) A significant potential for interruption or termination of a transportation facility which is needed for emergency vehicles or provides a community’s only evacuation route.
- (2) A significant risk, or
- (3) A significant adverse impact on natural and beneficial floodplain values.

The VDCR floodplain management program and VDOT construction specifications for roadways also address roadway construction within floodplains. Sections 107 and 303 of VDOT’s specifications require the use of stormwater management practices to address issues such as post-development storm flows and downstream channel capacity. These standards require that stormwater management be designed to reduce stormwater flows to preconstruction conditions for up to a 10-year storm event. As part of these regulations, the capture and treatment of the first half inch of run-off in a storm event is required, and all stormwater management facilities must be maintained in perpetuity.

Existing Conditions

Approximately 26.7 acres of FEMA mapped 100-year floodplains are within the Study Area. The 100-year floodplain includes those areas that statistically have a one percent chance of being flooded in any given year. The 100-year floodplains occurring with the Study Area are associated with Dogue Creek, the North Fork Dogue Creek, and Little Hunting Creek (**Figure 3-6**).

Environmental Consequences

No-Build Alternative

No project-related construction or changes to the natural environment other than those from continued maintenance of Richmond Highway would occur in the Study Area under the No-Build Alternative. Thus, project-related environmental effects to FEMA floodplains or their natural and beneficial floodplain values are not anticipated.

Build Alternative

The Build Alternative would encroach upon approximately 8.6 acres of regulated floodplains (**Table 3-12**). Individual impacts to any one floodplain would be relatively small in size and severity as most floodplain encroachments from the Build Alternative would be from the perpendicular crossing of floodplains, not from longitudinal encroachments. Perpendicular crossings would result in less floodplain fill, maximizing floodwater conveyance and storage compared to longitudinal encroachments.

Table 3-12: FEMA 100-Year Floodplains within the LOD (Acres)

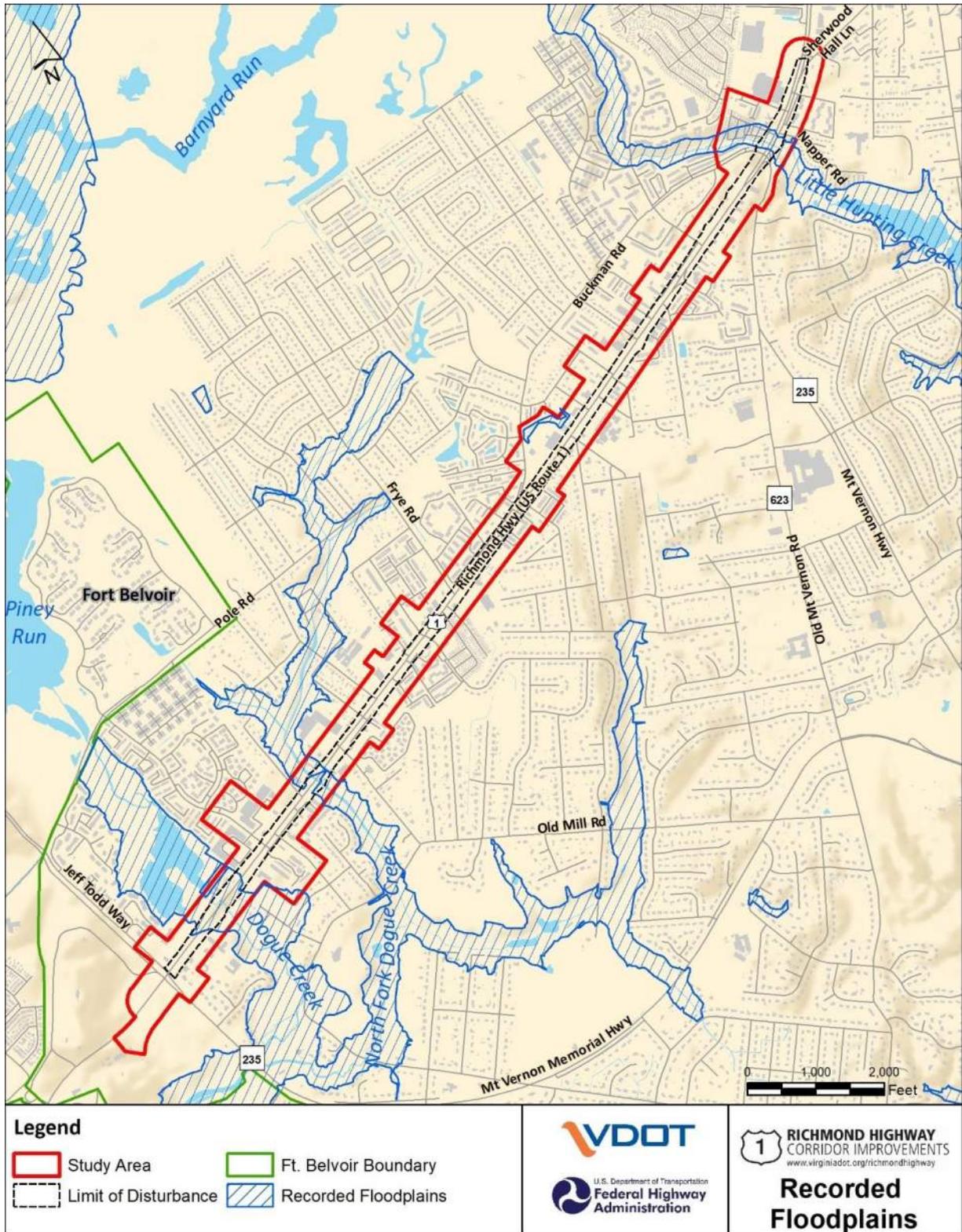
Waterway	Acre(s) within LOD ¹
Dogue Creek	5.5
North Fork Dogue Creek	1.2
Little Hunting Creek	1.9
Total	8.6

¹The 100-year floodplain acreage within the LOD is a conservative impact estimate based on the assumption the crossing would consist of roadway fill. If the Build Alternative is implemented, it is expected refined designs for these crossings in later project phases would reduce the potential encroachment to floodplains. The Build Alternative would be designed in accordance with 23 FR § 650 Subpart A and Sections 107 and 303 of VDOT’s specifications to minimize floodplain encroachment.

The Build Alternative is consistent with local land use plans and is not projected to either encourage or accelerate growth or changes in land use within floodplains. Therefore, the Build Alternative would not encourage, induce, allow, serve, support, or otherwise facilitate incompatible base floodplain development.

Efforts to minimize floodplain encroachment would be considered during advanced design to avoid or minimize impacts on natural and beneficial floodplain values. The Build Alternative’s water crossings would be designed consistent with procedures for the location and hydraulic design of highway encroachments on floodplains contained in 23 CFR § 650 Subpart A Location and Hydraulic Design of Encroachments on Flood Plains. In addition, the Build Alternative would be designed in accordance with Sections 107 Legal Responsibilities and 303 Earthwork of VDOT’s Road and Bridge specifications.

Figure 3-6: Study Area FEMA Recorded Floodplains



Therefore, the Build Alternative is not expected to increase flood elevations, the probability of flooding, or the potential for property loss and hazard to life.

3.4.5 Chesapeake Bay Preservation Act Requirements

The Chesapeake Bay Preservation Act (CBPA) requires local governments in the coastal zone to include water quality protection measures in their zoning and subdivision ordinances and in their comprehensive plans (VDEQ, 2016a). Within the Chesapeake Bay watershed of coastal counties, Resource Protection Areas (RPAs) include tidal wetlands, tidal shores, waterbodies with perennial flow, and non-tidal wetlands connected by surface flow and contiguous to tidal wetlands or perennial water bodies, as well as a 100-foot vegetated buffer area located adjacent to and landward of these features. Resource Management Areas (RMAs) include those lands contiguous to the inland boundary of the RPA, which if improperly used or developed, has the potential to degrade water quality or diminish functions of the RPA. RMAs include floodplains, highly erodible soils (including steep slopes), highly permeable soils, non-tidal wetlands not included in RPAs, and any other sensitive lands considered by the local government to be necessary to protect the quality of water resources (9 Virginia Administrative Code [VAC] 25-830-90).

Existing Conditions

The Study Area is within the Chesapeake Bay watershed. The RPAs and RMAs are concentrated adjacent to the Dogue Creek, North Fork Dogue Creek, and Little Hunting Creek stream corridors in the Study Area.

Environmental Consequences

No-Build Alternative

The No-Build Alternative would not impact CBPA areas.

Build Alternative

Although RPAs and RMAs occur in the Study Area, public roads and their appurtenant structures are conditionally exempt from regulation under 8VAC25-830-150. The exemption of public roads is further conditioned on the optimization of the road alignment and design, consistent with other applicable requirements, to prevent or otherwise minimize encroachment in the RPA and adverse effects on water quality.

Since all public roads in the Study Area would meet the exemption conditions, they would not be under the CBPA purview under the Build Alternative. Therefore, if the above conditions are met, no additional avoidance or minimization for CBPA areas would be necessary under the Build Alternative.

3.4.6 Virginia Coastal Zone Management Program

The Virginia Coastal Zone Management Program (CZMP) is a network of Virginia state agencies and local governments which administers enforceable laws, regulations, and policies that protect Virginia's coastal resources and foster sustainable development. Federal projects occurring within any land or water use, or natural resource of a State's coastal zone, including cumulative and secondary impacts, must be consistent with the State's federally approved CZMP per Section 307 of the Federal Coastal Zone Management Act of 1972, as amended, and NOAA regulations (15 CFR § 930).

Existing Conditions

The Study Area is located within Virginia's coastal zone. As such, since this project would receive federal funding for construction and require federal approval, the project must be consistent with the applicable

Enforceable Regulatory Programs that comprise Virginia’s CZMP (VDEQ, 2016b). When the USACE reviews a Joint Permit Application for impacts to WOUS, the USACE will require that the applicant demonstrate consistency with these enforceable programs of the CZMP.

Environmental Consequences

No-Build Alternative

Under the No-Build Alternative, no improvements to Richmond Highway in the Study Area would occur other than routine maintenance. Thus, no project-related impacts to coastal resources would occur.

Build Alternative

The Build Alternative would disturb additional land within Virginia’s coastal zone. The Build Alternative construction would be consistent with the applicable Enforceable Regulatory Programs that comprise Virginia’s CZMP.

3.4.7 Topography and Soils

The Study Area is in the Coastal Plain region. The province consists of unconsolidated sand, silt and clay and gravel strata deposited by ancient oceans and rivers. The overall drainage pattern in the Study Area is to the southeast and is a broad, nearly level area.

The boundary of the Study Area was established as the Area of Interest (AOI) using the Natural Resources Conservation Service Web Soil Survey. The Study Area’s base soil data was taken from the resulting soil map and soil data explorer and referenced to the mapping in the Description and Interpretive Guide to Soils in Fairfax County prepared by Fairfax County Public Works and Northern Virginia Soil and Water Conservation District (Fairfax County, 2013).

Table 3-13 shows the soil types in the Study Area and their erosion potential. Highly erodible soils within the Study Area include the Kingstowne-Sassafras-Marumsko complex and Sassafras-Marumsko complex (**Figure 3-7**). Hydric soils in the Study Area are identified in **Table 3-13** and shown in **Figure 3-8**.

Table 3-13: Study Area Soil Types

Fairfax County, VA (VA059)					
Map Unit Symbol	Map Unit Name	Acre(s) in Study Area	Percent of Study Area	Erosion Potential	Hydric Soil Components (%)
40	Grist Mill sandy loam, 0 to 25 percent slopes	0.6	0.2%	Moderate	0
95	Urban land	178.4	58.8%	N / A	0
98	Urban land-Grist Mill	34.8	11.5%	Moderate	0
100	Urban land-Kingstowne complex	9.7	3.2%	Moderate	0
103A	Wheaton-Codorus complex, 0 to 2 percent slopes	2.8	0.9%	Low	5

Fairfax County, VA (VA059)					
30A	Codorus and Hatboro soils, 0 to 2 percent slopes, occasionally flooded	14.1	4.7%	Low	35
43A	Grist Mill-Gunston complex, 0 to 2 percent slopes	4.1	1.3%	Low	8
46B	Grist Mill-Mattapex complex, 2 to 7 percent slopes	13.0	4.3%	Low	3
67B	Kingstowne-Beltsville complex, 2 to 7 percent slopes	22.8	7.5%	Low	0
70C	Kingstowne-Sassafras complex, 7 to 15 percent slopes	1.5	0.5%	Moderate	0
71C	Kingstowne-Sassafras-Marumsco complex, 7 to 15 percent slopes	1.0	0.3%	High	0
77B	Mattapex loam, 2 to 7 percent slopes	20.6	6.8%	Moderate	3
91C	Sassafras-Marumsco complex, 7 to 15 percent slopes	0.2	0.1%	High	0
Total		303.5	100.0%	N / A	N / A

Environmental Consequences

No-Build Alternative

The No-Build Alternative would not involve any project-related construction or changes to the natural environment. Thus, no project-related effects to soils in the area are anticipated.

Build Alternative

The Build Alternative could encounter two highly erodible soil types (**Table 3-13** and **Figure 3-7**); however, over 70 percent of the soils in the Study Area are urban soils and present a low to moderate erosion potential. The topography is nearly level, thus deep cuts or fills are not anticipated under the Build Alternative. The design of the Build Alternative would ensure that bank erosion and highly erodible soils would be addressed prior to construction. The project would be designed in accordance with the Virginia Erosion and Sediment Control Handbook and a Virginia Stormwater Water Management permit would be required for the project. Therefore, construction of the Build Alternative would not substantially adversely impact soils that would be managed in accordance with Virginia regulatory programs.

Figure 3-7: Erosion Potential of Study Area Soils

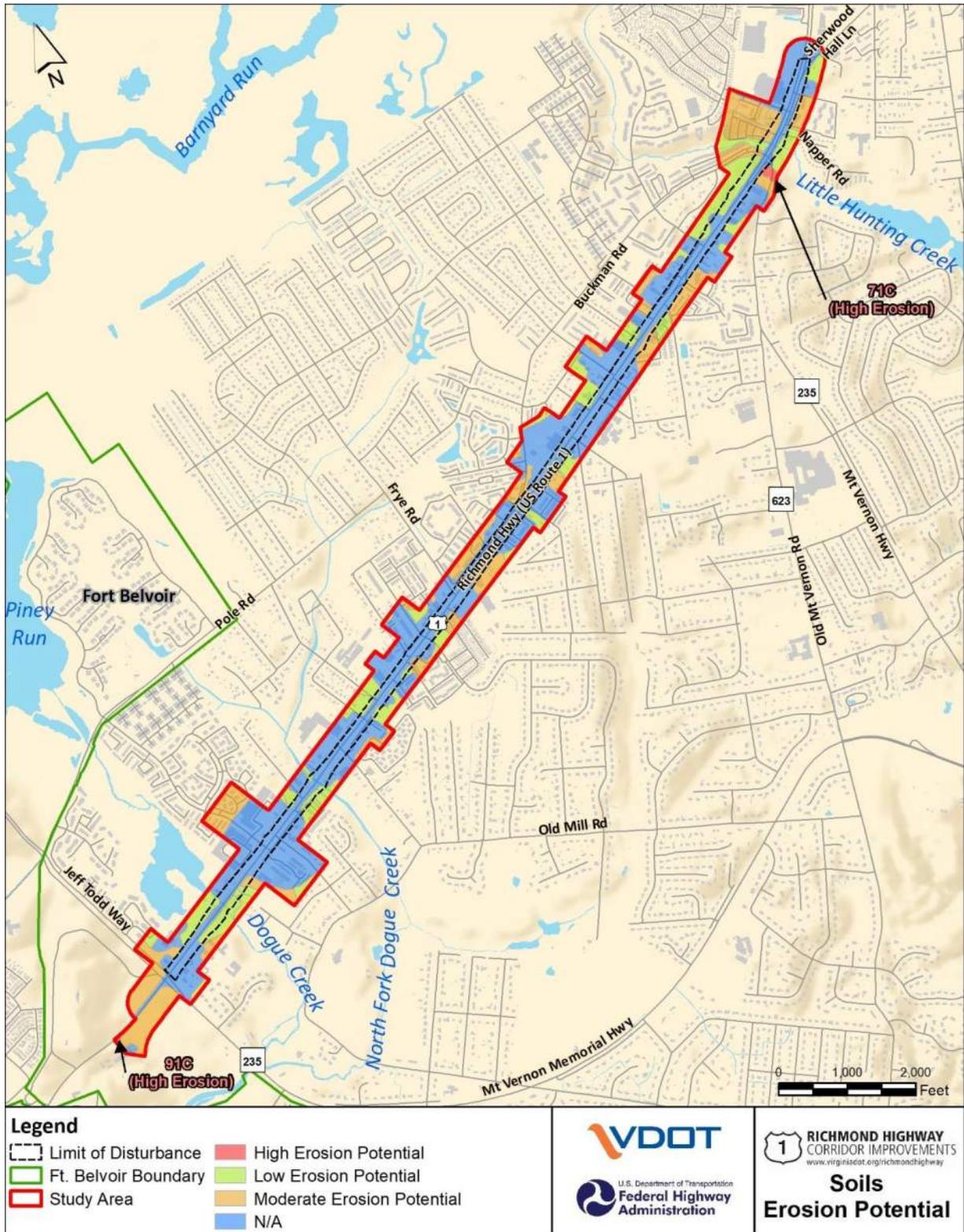
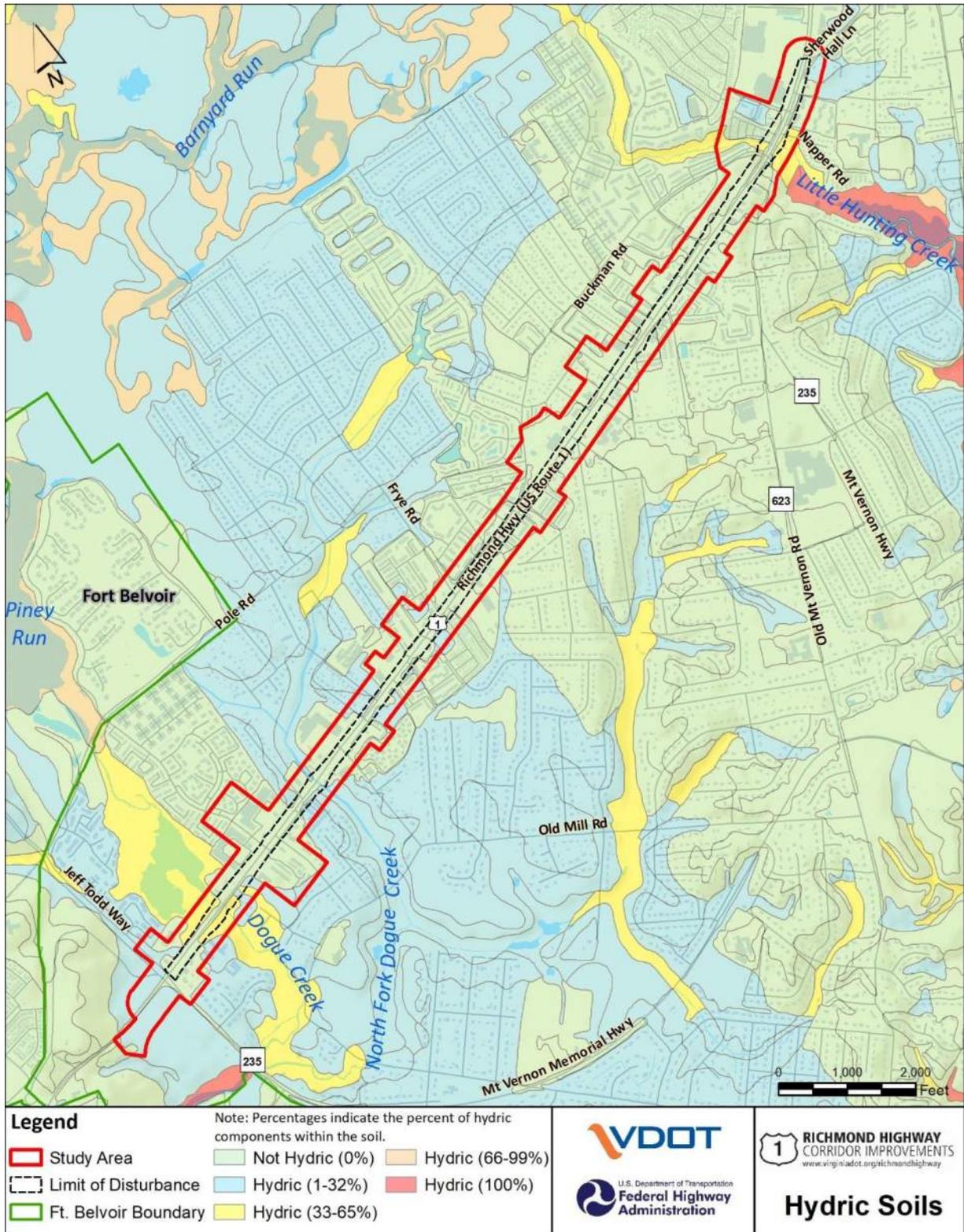


Figure 3-8: Hydric Soils Mapping



3.4.8 Vegetation

Existing Conditions

Invasive Species

In accordance with Executive Order 13112, Invasive Species, as amended, no federal agency can authorize, fund, or carry out any action that the agency believes is likely to cause or promote the introduction or spread of invasive species. Other regulations in governing invasive species include the Non-Indigenous Aquatic Nuisance Prevention and Control Act of 1990 (as amended), Lacey Act of 1900 (as amended), Plant Protection Act of 2000, Federal Noxious Weed Act of 1974 (as amended), and the Endangered Species Act of 1973 (as amended). Likewise, the State of Virginia acted in 2003 to amend the Code of Virginia by adding the Nonindigenous Aquatic Nuisance Species Act, which, among other things, addresses the development of strategies to prevent the introduction of, to control, and to eradicate invasive species.

Plants

The VDCR-DNH, in association with the Virginia Native Plant Society, have identified and listed invasive plant species that are known to currently threaten Virginia's natural populations. The Study Area is located within the Coastal Plain region. The highly invasive plant species identified at the WOUS field investigation data points include:

- lesser celandine (*Ficaria verna*)
- multiflora rose (*Rosa multiflora*)
- Japanese stiltgrass (*Microstegium vimineum*)
- Japanese honeysuckle (*Lonicera japonica*)

Animals

Many aquatic and terrestrial animal species threaten the native plant and animal communities in Virginia. The VAC (4VAC15-20-160) designates the following as nuisance species in Virginia, which are likely to occur within the Study Area. However, none of these species were documented as being observed during field investigations. These species are listed as established in Virginia and include:

- house mouse (*Mus musculus*)
- Norway rat (*Rattus norvegicus*)
- black rat (*Rattus rattus*)
- coyote (*Canis latrans*)
- nutria (*Myocastor coypus*)
- woodchuck (*Marmota monax*)
- European starling (*Sturnus vulgaris*)
- English sparrow (*Passer domesticus*)
- pigeon (*Columba livia*)

Likewise, the VDCR-DNH has identified invasive species which threaten Virginia's wildlife and plant systems such as the:

- emerald ash borer (*Agrilus planipennis*),
- northern snakehead fish (*Channa argus*),
- rapa welk (*Rapana venosa*),
- imported fire ant (*Solenopsis invicta*).

In addition, the VDCR-DNH has also identified the Zebra mussel (*Dreissena polymorpha*), Sirex woodwasp (*Sirex noctilio* F.), rusty crayfish (*Orconectes rusticus*), and the Chinese mitten crab (*Eriocheir sinensis*) as species that may threaten Virginia's wildlife and plant systems; however, they are not well established in the Commonwealth.

Submerged Aquatic Vegetation

Submerged Aquatic Vegetation (SAV) beds are an important component of the Chesapeake Bay ecosystem and barometer for water quality as they filter polluted runoff, provide essential habitat for all life stages of numerous aquatic species, and provide a valuable food source for waterfowl (Virginia Institute of Marine Science [VIMS], 2016).

Species of SAV most commonly found in the Chesapeake Bay and its tributaries within the vicinity of the Study Area include eelgrass (*Zostera marina*) and widgeon grass (*Ruppia maritima*). Other species, less likely to occur due to their association with freshwater and lower salinity levels, include wild celery (*Vallisneria americana*), hydrilla (*Hydrilla verticillata*), redhead grass (*Potamogeton perfoliatus*), sago pondweed (*Stuckenia pectinata*), and Eurasian watermilfoil (*Myriophyllum spicatum*) (Orth et al., 2015).

Mapping indicates that existing SAV beds occur downstream of the Study Area within Dogue Creek and the Potomac River (Orth et al., 2011 and 2012; Orth et al., 2013 and 2014).

Environmental Consequences

No-Build Alternative

The No-Build Alternative would not involve any construction on Richmond Highway within the Study Area other than routine maintenance, or changes to the natural environment; therefore, no project-related changes regarding invasive species or SAV conditions would occur.

Build Alternative

Invasive Species

The Build Alternative has the potential to introduce invasive species, particularly those species noted above. While most of the area within the LOD is previously disturbed by a myriad of development activities, the disturbance of natural areas as well as the removal and transfer of fill from borrow sites within the LOD or offsite locations could spread invasive species. The introduction of plant and animal invasive / nuisance species could occur from vehicles transporting these species or their seed. Offsite borrow and disposal areas, staging areas, and access roads could contribute similarly to the spread or introduction of these species. In accordance with Executive Order 13112, Invasive Species, the spread of invasive species under the Build Alternative would be minimized by adhering to provisions in VDOT's Road and Bridge Specifications. The addition of invasive animal species is expected to be minimal because much of the construction under the Build Alternative would be along existing disturbed corridors.

The invasive species are not anticipated to impact pollinators or pollinator habitat as the study area is in a densely populated urban area that has been previously disturbed; therefore, the area does not currently support much pollinator habitat. Pollinator species could include honey bees, native birds, bats, and butterflies. These pollinator species could be considered in the development of the seed mix for landscaping. The VDOT Pollinator Habitat Program is in development and currently focuses on rest areas and park and rides along state-maintained roadways.

Submerged Aquatic Vegetation

No SAV are within the Study Area or LOD, therefore no direct effects to SAV would occur under the Build Alternative. See the *Indirect and Cumulative Effects Technical Report (VDOT, 2017g)* that describes the potential downstream effects of construction to SAV and best management practices to minimize adverse indirect effects.

3.5 CULTURAL RESOURCES

3.5.1 Methodology

In accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended) (54 U.S.C. § 306108) and its implementing regulations at 36 CFR § 800, potential effects to archaeological and architectural historic properties that are listed in, eligible for, or potentially eligible for the National Register of Historic Places (NRHP) have been analyzed within the Area of Potential Effect (APE) for the Richmond Highway Corridor Improvements project. VDOT and FHWA have coordinated Section 106 findings and determinations with consulting parties in accordance with 36 CFR § 800.2-§ 800.13.

Prior to undertaking the technical studies, the APE was defined for the Build Alternative. The APE is the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. For this project, within the southern and northern project limits, the archaeological APE generally corresponds to an area within 190 feet either side of existing Richmond Highway centerline. Additional areas included are along the legs of intersecting roads (within 50 feet of pavement) and / or for access management. For the purposes of Section 106, these areas constitute the APE for direct effects on archaeological historic properties.

The APE for architectural resources is generally 300 feet to either side of Richmond Highway, and parcels abutting intersecting road improvements, including access management. This area comprises the geographic area in which the undertaking may directly or indirectly cause impacts to historic properties. The Virginia Department of Historic Resources (VDHR), the State Historic Preservation Officer (SHPO) in Virginia, concurred with the definition of the project's APE in September 2016 and for a later expansion in May 2017 (see **Appendix A: Agency Coordination**).

Phase I surveys for archaeological and architectural resources have been completed in accordance with VDHR's *Guidelines for Conducting Cultural Resource Survey in Virginia* (VDHR 2011) and the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation*. Cultural resources were evaluated for their eligibility for listing on the NRHP in accordance with 36 CFR § 60.4.

3.5.2 Existing Conditions

Archaeological Resources

Within the APE, a literature search for previously identified archaeological surveys and sites was conducted using VDHR archival sources. A Phase I cultural resources survey was performed in the APE to identify archaeological resources in areas not previously surveyed and to relocate previously identified resources to assess their current condition. See the *Cultural Resources Survey for the Widening of US Route 1 from Napper Road to Mount Vernon Highway* (Goode et al., 2016) and *Supplemental Cultural Resources Survey for the Widening of US Route 1 from Napper Road to Mount Vernon Highway* (Goode et al., 2017) reports for detailed descriptions of this effort. Three previously identified archaeological sites were investigated, of which two have been destroyed by development, and the remaining site found not eligible for the NRHP by VDHR. No other archaeological sites were found by the Phase I pedestrian survey or

shovel testing. VDHR concurred with these findings in November 2016 and May 2017 (see **Appendix A: Agency Coordination**).

Architectural Resources

Background research and VDHR site records searches were conducted to identify previously recorded architectural resources within the APE. A Phase I survey to identify architectural resources in areas not previously surveyed and relocate previously recorded resources found 159 architectural resources, of which four had been previously demolished (C.V. Goode et al., 2016; C. Goode et al., 2017). Of the remaining 155 architectural resources in the APE, four are either eligible for, potentially eligible for, or listed on the NRHP (**Table 3-14**). In addition, Woodlawn Plantation (029-0056) is also a designated National Historic Landmark.

No other assemblage of buildings that merits further study or could comprise a historic district is within the project APE. No American Battlefield Protection Program Potentially National Register eligible lands are in the APE.

Table 3-14: Historic Properties within the APE

Resource	VDHR ¹ Number	Description	NRHP Eligibility
Woodlawn Plantation	029-0056	Circa 1800 plantation	National Historic Landmark, NRHP Listed, Contributing to Woodlawn Cultural Landscape District
Original Mount Vernon High School (OMVHS)	029-0230	1939 Colonial Revival Former High School	Listed
Woodlawn Cultural Landscape Historic District	029-5181	Rural cultural landscape associated with Woodlawn Plantation and George Washington’s Mount Vernon (1799-1964)	Potentially Eligible (considered by VDOT to be eligible for the NRHP for the purposes of Section 106 for this project)
Sharpe Stable Complex	029-5181-0005	Circa 1913-1997 bank barn, riding rink, and paddocks	Individually Potentially Eligible, Contributing to Woodlawn Cultural Landscape District

3.5.3 Environmental Consequences

No-Build Alternative

No project-related improvements to Richmond Highway would occur under the No-Build Alternative, thus, no impact to archaeological or architectural resources would occur.

Build Alternative

The only historic property within the Build Alternative's direct LOD is the Original Mount Vernon High School (OMVHS) designated VDHR # 029-0230. The NRHP boundary of the school property is anticipated to be truncated by approximately 50 to 60 feet along the property's frontage with Richmond Highway. This area currently is the location of a circular entrance driveway and parking area that appears to have been constructed sometime during 1951-1953. Comparison of historic aerials indicate the circular driveway has had several modifications from its original appearance. Also, the original purpose of the circular driveway as a school bus drop off location has been eliminated with the closing of the county school in the mid-1980s. These events indicate the physical integrity of the historic setting and feeling of the circular driveway feature has been previously diminished and no longer conveys its historic significance. However, in recognition of the importance of the OMVHS to the county and local community, VDOT proposes to install two interpretive signs on the property highlighting the architectural and historic education context of the campus. VDOT also commits to working with Fairfax County to conduct an oral history project for the OMVHS that can be disseminated to the public. Based on these commitments, the SHPO has concurred with the finding that although the Build Alternative would have an effect on the OMVHS historic property, the effect would not be adverse (see **Appendix A: Agency Coordination**).

Woodlawn Plantation (029-0056), the Woodlawn Cultural Landscape Historic District (029-5181) and the Sharpe Stable Complex (029-5181-0005) are situated in the southern terminus of the Build Alternative that would widen the median enough to accommodate BRT as called for in the DRPT Multimodal Study / Fairfax County Board of Supervisors Resolution.

Although a change in views from portions of these historic properties toward the southern terminus of the project would occur, this change would not diminish any aspects of integrity as existing conditions have previously diminished the historic setting and feeling of this area due to a major intersection upgrade, including previous widening of Jeff Todd Way and the Mount Vernon Memorial Highway (VA 235) in 2013 to 2014, and recent widening and partial realignment of Richmond Highway south of Jeff Todd Way. Although the Build Alternative would have an indirect effect to these historic properties, the effect would not be adverse. The SHPO has concurred with these findings (see **Appendix A: Agency Coordination**) and no further comments from consulting parties other than from Linda Blank of Fairfax County regarding the OMVHS were received, which VDOT has addressed to her satisfaction.

3.6 AIR QUALITY

NEPA requires consideration of whether the proposed action would have an adverse effect on air quality in the Study Area. Accordingly, qualitative carbon monoxide (CO), Mobile Source Air Toxics (MSATs), and indirect effects and cumulative impacts analyses have been prepared. This analysis included the application of the *VDOT-FHWA Programmatic Agreement (PA) for Project-Level Air Quality Analyses for CO* (VDOT, 2016c)² to screen intersections for CO impacts.

² See: http://virginiadot.org/projects/environmental_air_section.asp

3.6.1 Existing Conditions

Regional Air Quality Status

The USEPA Green Book shows that Fairfax County is designated as a nonattainment area for ozone and an attainment area for all other National Ambient Air Quality Standards (NAAQS).³

As the Study Area is in a nonattainment area for ozone, federal conformity requirements (specifically 40 CFR § 93.114 and 40 CFR § 93.115) for regional conformity (not project-level) apply. More specifically, there must be a currently conforming transportation plan and program at the time of the project approval, and the project must come from a conforming plan and program (or otherwise meet criteria specified in 40 CFR § 93.109(b)).

Transportation Plan and Program Status

The project is included in the NC RTPB (federally-designated metropolitan planning organization for metropolitan Washington) 2016 CLRP⁴ (ID 1942) (NC RTPB, 2016a), and the Fiscal Year (FY) 2017 – 2022 TIP⁵ (ID 6443) (NC RTPB, 2016b). The project is found in the Air Quality Conformity Analysis for 2016 CLRP Amendment⁶ as Project ID VP1U (NC RTPB, 2016c).

3.6.2 Environmental Consequences

No-Build Alternative

Transportation Conformity

The No-Build Alternative includes continued road maintenance and repairs of existing transportation infrastructure within the Study Area. The No-Build Alternative would not be consistent with the NC RTPB's 2016 CLRP⁷ or the FY 2017 – 2022 TIP⁸.

Carbon Monoxide

Analysis of the No-Build Alternative for CO is not required, per the FHWA-VDOT 2009 Agreement for No-Build Analyses. Based on that Agreement, analysis of the No-Build scenario is not required for projects that qualify for an EA under NEPA.

³ While the DC-MD-VA area (including Fairfax County) county was previously designated a maintenance area for fine particulate matter (PM_{2.5}) for the 1997 primary annual standard, that standard was revoked by the USEPA in 2016. The region is therefore now in attainment of the NAAQS for PM_{2.5}. More specifically, USEPA revoked the 1997 annual primary NAAQS for PM_{2.5} in its final rule (81 FR 58010) (issued August 24, 2016, effective October 24, 2016) on "*Fine Particulate Matter National Ambient Air Quality Standards: State Implementation Plan Requirements*. The final rule states: "... USEPA is revoking the 1997 primary annual standard for areas designated as attainment for that standard because the USEPA revised the primary annual standard in 2012." Accordingly, the DC-MD-VA area (including Fairfax County) is no longer designated maintenance for PM_{2.5}, and the associated USEPA regulatory requirements for conformity for PM_{2.5} are eliminated for northern Virginia.

⁴ See: <http://www1.mwccog.org/clrp/resources/2016/2016AmendmentReport.pdf>

⁵ See: <http://www1.mwccog.org/clrp/projects/tip/fy1722.asp>

⁶ See: <http://www1.mwccog.org/clrp/resources/2016/ConformityReportFull.pdf>

⁷ See: <http://www1.mwccog.org/clrp/resources/2016/2016AmendmentReport.pdf>

⁸ See: <http://www1.mwccog.org/clrp/projects/tip/fy1722.asp>

Mobile Source Air Toxics

USEPA's vehicle and fuel regulations are expected to result in substantially lower MSAT levels in the future than exist today due to cleaner engine standards coupled with fleet turnover. The magnitude of the USEPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the Study Area will be substantially lower in the future than they are today.

Build Alternative

Transportation Conformity

The project is included in the NCRTPB's 2016 CLRP (ID 1942), and the FY 2017 – 2022 TIP (ID 6443). The project is found in the Air Quality Conformity Analysis for the 2016 CLRP Amendment⁹ as Project ID VP1U.

Carbon Monoxide

As the project is in a region that is in attainment of the NAAQS for CO, only NEPA applies, and USEPA project-level ("hot-spot") transportation conformity requirements do not apply. For purposes of NEPA, the potential for CO impacts from the project in terms of potential violations of the NAAQS was assessed and no potential impacts were identified. More specifically, each of the 11 Study Area intersections were considered for project-specific modeling. All were determined to not require project-specific modeling but could be instead screened out using a weight-of-evidence approach and / or the "worst-case" modeling that forms the basis for the *VDOT-FHWA Programmatic Agreement for Project-Level Air Quality Analyses for Carbon Monoxide*. As such, the project would not cause or contribute to a violation of the CO NAAQS within the Study Area.

Mobile Source Air Toxics

A qualitative analysis was conducted for MSATs as the Build Alternative is considered a minor-widening project where the design year traffic is projected to be less than the 140,000 to 150,000 annual average daily traffic (AADT) threshold noted in the *Updated Interim Guidance on MSAT Analysis in NEPA Documents* (2016). Therefore, this project is best characterized as one with "Low Potential MSAT Effects".

As noted above, best available information indicates that, nationwide, regional levels of MSATs are expected to decrease in the future due to ongoing fleet turnover and the continued implementation of increasingly more stringent emission and fuel quality regulations. The technical shortcomings of emissions and dispersion models and uncertain science with respect to health effects effectively limit meaningful or reliable estimates of MSAT emissions and effects of this project at this time.

It is possible that localized increases in MSAT emissions may occur as a result of this project. For example, there may be localized areas where ambient concentrations of MSATs could be higher under the Build Alternative than the No-Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the expanded roadway sections along Richmond Highway. Even in these locations, however, emissions will likely be lower than present levels in the design year of this project as a result of the USEPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent between 2010 and 2050.

Although local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures, the magnitude of the USEPA-projected reductions is so

⁹ See: <http://www1.mwcog.org/clrp/resources/2016/ConformityReportFull.pdf>

great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

Greenhouse Gases

With the recent withdrawal of federal guidance addressing greenhouse gas (GHG) analyses and climate change¹⁰, the Department protocol (VDOT Resource Document, Section 4.7)¹¹ for GHG analyses was reviewed for applicability to this project. Based on that protocol, a GHG analysis is not warranted for this project as it involves an EA and not an EIS.

Indirect Effects and Cumulative Impacts

The CO and MSAT assessments conducted for the project are considered indirect effects analyses because they take into account air quality impacts attributable to the project that occur at a later time in the future. These qualitative assessments indicate that the potential for indirect effects associated with the project are not expected to be significant.

The annual regional conformity analysis (Air Quality Conformity Analysis of the 2016 CLRP Amendment and FY 2017-2022 TIP) conducted by the NCRTPB represents a cumulative impact assessment for purposes of regional air quality. The existing air quality designations for the region are based, in part, on the accumulated mobile source emission from past and present actions, and these pollutants serve as a baseline for the current conformity analysis. That conformity analysis quantifies the amount of mobile source emissions for which the area is designated nonattainment / maintenance that will result from the implementation of all reasonably foreseeable (i.e., those proposed for construction funding over the life of the region's transportation plan) and regionally significant transportation projects in the region.

As noted above, the conformity analysis conducted for the NCRTPB 2016 CLRP Amendment includes the project. Therefore, this demonstrates that the incremental impact of the proposed project on mobile source emissions, when added to the emissions from other past, present, and reasonably foreseeable future actions, is in conformance with the State Implementation Plan (SIP) and will not cause or contribute to a new violation, increase the frequency or severity of any violation, or delay timely attainment of the NAAQS established by the USEPA.

Overall, the potential for indirect and cumulative effects of the project is not expected to be significant.

Mitigation

Emissions may be produced in the construction of this project from heavy equipment and vehicle travel to and from the site, as well as from fugitive sources. Construction emissions are short term or temporary in nature. To mitigate these emissions, all construction activities are to be performed in accordance with VDOT *Road and Bridge Specifications*¹².

The VDEQ provides general comments for projects by jurisdiction. Their comments in part address mitigation. For Fairfax County, VDEQ comments relating to mitigation are¹³ "...all reasonable precautions

¹⁰See: <https://www.federalregister.gov/documents/2017/04/05/2017-06770/withdrawal-of-final-guidance-for-federal-departments-and-agencies-on-consideration-of-greenhouse-gas>

¹¹ Available from the VDOT website referenced above for the FHWA-VDOT Programmatic Agreement for CO.

¹² See: <http://www.virginia.gov/business/const/spec-default.asp>

¹³ Spreadsheet entitled: "DEQ SERP Comments rev8b", March 2017, downloaded from the online data repository for the VDOT Resource Document. See: http://www.virginia.gov/projects/environmental_air_section.asp

should be taken to limit the emissions of VOC and NOx. In addition, the following VDEQ air pollution regulations must be adhered to during the construction of this project: 9 VAC 5-130, Open Burning restrictions¹⁴; 9 VAC 5-45, Article 7, Cutback Asphalt restrictions¹⁵; and 9 VAC 5-50, Article 1, Fugitive Dust precautions¹⁶.”

3.7 NOISE

3.7.1 Existing Conditions

A preliminary noise evaluation was performed and a more detailed review will be completed during final design. As such, noise barriers that are found to be feasible and reasonable during the preliminary noise analysis may also not be found to be feasible and reasonable during the final design noise analysis. Conversely, noise barriers that were not considered feasible and reasonable may meet the established criteria and be recommended for construction.

This study details the noise impact and mitigation assessment for the Existing Conditions (2016) and for design year (2045) No-Build and Build Alternatives. The traffic data used in the noise analysis is based upon VDOT’s environmental traffic data (ENTRADA) analysis program. The worst noise hour was derived through an analysis of 15 am and pm hours, which were then narrowed to the 7am, 3pm and 4pm hours by further analysis. Traffic volumes and speeds for those hours were modeled in FHWA’s Traffic Noise Model (TNM), and the 3pm hour was determined to produce the highest noise levels.

Numerous noise sensitive land uses exist on both northbound and southbound sides of Richmond Highway in the Study Area. See **Table 3-15** for a summary of predicted worst-hour noise level ranges.

Table 3-15: Predicted Worst-Hour Noise Levels for Modeled Receptors

CNE ¹ ID	NAC L _{eq} (h) ²	Area Land Use and Description	Range of Predicted Worst-Hour L _{eq} ³ Exterior Noise Levels, dB(A) ⁴		
			Existing 2016	No-Build 2045	Build 2045
01	72	Candlewood Suites and Hampton Inn hotels	52-64	53-65	52-65
02	67	Best Western hotel and Belvoir Plaza Apartments	40-58	41-60	44-60
03	67	Residences on Talbott Farm Drive	47-61	48-63	52-68
04	67	Residences on Lukens Lane	51-51	52-52	53-53
05	67	Residences at Terrace Towne Homes on Walutes Circle	44-57	46-58	46-58
06	67	Residences on Wyngate Manor Court, Washington Square Apartments	39-64	41-66	42-68
07	67	Residences at Ray’s Mobile Colony	51-65	52-66	53-67
08	67	Residences on Halfe Street and Radford Avenue	50-59	52-61	53-62
09	67	Mount Zephyr community of residences on Sonia Court	40-61	41-62	43-66
10	67	Residences and daycare center on Mohawk Lane and Washington Avenue	53-69	55-71	56-72
11	67	Residences on Reddick Avenue	56-59	57-60	57-60

¹⁴ See: <http://law.lis.virginia.gov/admincode/title9/agency5/chapter130/>

¹⁵ See: <http://leg1.state.va.us/cgi-bin/legp504.exe?000+reg+9VAC5-45-760>

¹⁶ See: <http://leg1.state.va.us/cgi-bin/legp504.exe?000+reg+9VAC5-50-60>

CNE ¹ ID	NAC L _{eq} (h) ²	Area Land Use and Description	Range of Predicted Worst-Hour L _{eq} ³ Exterior Noise Levels, dB(A) ⁴		
			Existing 2016	No-Build 2045	Build 2045
12	67	Residences on Central Avenue and Mary Evelyn Way	35-60	36-61	36-63
13	67	Residences in Parkside at Mount Vernon community, Vernon Heights Park	41-67	43-68	43-69
14	67	Spring Hills Mount Vernon assisted living facility	44-47	45-49	45-46
15	67	Residences on Shannons Green Way and Lamberts Lane	50-52	52-54	50-53
16	67	Residences on Mount Vernon Highway (southbound)	53-59	54-60	54-60
17	67	Residences on Mount Vernon Highway (northbound)	56-62	58-64	58-64
18	67	Residences on Napper Road and Brown Court, Little Hunting Creek Park	54-71	56-73	53-61
19	67	Residences at Spring Garden Apartments	53-70	54-72	54-72
20	67	Residences on Avery Park Court	60-60	62-62	63-64
21	67	Residences at Harmony Place Trailer Park on Pace Lane	52-70	54-71	57-65
22	67	Residences at Stony Brook Apartments on Buckman Road	54-55	55-56	57-58
23	67	Residences on Rolling Hills Avenue	57-70	58-72	58-63
24	67	Residences, pool at the Rolling Hills Apartments, and towne home community on Roxbury Lane	44-65	45-67	46-68
25	67	Residences on Martha Street	50-70	51-71	53-73
26	67	Residences at Mount Vernon Apartments on Russell Road	49-55	50-56	50-57
27	67	Residences on Gregory Drive and Main Street	52-56	53-58	54-58
28	67	Buckman Road KinderCare facility	59	60	62
29	67	Residences at multi-story apartment building at Pole Road and Buckman Road	54	56	58
30	67	Residences at Pembroke Village condominiums on Pembroke Drive	58	59	59
31	67	Residences at Pinewood South condominiums on Buckman Road	48-65	49-66	50-66
32	67	Residences on Woodlawn Garden Apartments on Blankenship Street and Graves Street	38-66	39-68	40-69
33	67	Residences at Skyview Park towne home community on Sky View Drive, Hallie Rose Street and Hallie Rose Place	42-54	43-56	46-57
34	67	Residences at Skyview Apartments, towne homes on Towne Manor Court	42-64	44-65	44-68
35	67; 72	Residences on Highland Lane and Engleside Street, including a first-row commercial undeveloped parcel	51-68	53-69	53-70
37	72	Roy Rogers restaurant outside dining area	67	68	68
38	67	Pole Road Park	60	61	59

¹Common Noise Environment

²Hourly Equivalent A-weighted Sound Level (dB(A))

³Equivalent Sound Level

⁴A-weighted, equivalent sound level in decibels

3.7.2 Environmental Consequences

Noise barrier analyses are warranted for all common noise environments (CNEs) with noise impacts. Noise barriers were not studied at impacted CNEs 7, 10, 24 and 25 due to excessive access constraints. Noise barriers determined to be physically feasible were evaluated at heights of 15, 20, 25 and 30 feet to assess whether they meet acoustic feasibility, design goal, and reasonableness criteria.

Potential noise barriers were determined to be feasible and reasonable at CNEs 3, 13, 19, 32 and 34. Noise barriers that are shown to be feasible and reasonable in the preliminary design may not be feasible and reasonable in final design. All noise barriers would be further evaluated in final design to determine any engineering constraints associated with constructing the noise barrier.

Table 3-16 summarizes each barrier’s feasibility, acoustical design details, benefited receptors, length, height, surface area, surface area per benefited receptor, and cost-reasonableness, where applicable.

Table 3-16: Summary of Barrier Characteristics

Barrier ID	CNE ID ¹	Barrier Length	Barrier Height	Surface Area (Square Feet)	Feasible?	Meets Design Goals?	Total Benefits	Barrier Square Feet per Benefited Receptor	Reasonable? (Square Feet per Benefit <1600)
1P	03	325	15	4,875	Yes	Yes	6	813	Yes
2P	06	576	30	17,280	No ²	n / a	n / a	n / a	n / a
3P	07	Not studied due to access limits			No	n / a	n / a	n / a	n / a
4P	09	354	30	10,620	Yes	No ³	n / a	n / a	n / a
5P	10	Not studied due to access limits			No	n / a	n / a	n / a	n / a
6P	13	351	15	5,265	Yes	Yes	40	132	Yes
7P	19	333	25	8,325	Yes	Yes	18	463	Yes
8P	24	Not studied due to access limits			No	n / a	n / a	n / a	n / a
9P	25	Not studied due to access limits			No	n / a	n / a	n / a	n / a
10P	31	216	30	6,480	No ²	n / a	n / a	n / a	n / a
11P	32	755	20	15,100	Yes	Yes	39	387	Yes
12P	34	249	15	3,735	Yes	Yes	13	287	Yes

¹Common Noise Environment Identification Number

²Less than 50% impacted residences benefited.

³No impacted residences receive at least 7 dB(A) insertion loss

3.8 HAZARDOUS MATERIALS

Hazardous materials are substances that are defined and regulated by the USDOT in 49 CFR § 171.8 and § 172.101 (49 USC § 5103). Regulations regarding hazardous materials issues with respect to right-of-way acquisition for highway construction are found in 40 CFR § 312. Hazardous wastes are regulated by the USEPA and defined in 40 CFR § 261. Materials are considered hazardous if they are specifically listed by regulations, exhibit hazardous characteristics, or are universal (e.g. batteries, pesticides, mercury-containing equipment) or mixed wastes. Concerns associated with these materials include health risks, environmental damages, liability issues, potentially high costs of clean-up, and project delay. Hazardous materials sites can include gas stations, industrial sites, businesses that use hazardous materials in

commercial operations, aboveground and underground storage tanks, disposal sites, spill sites, and others. The above listed agencies and VDEQ maintain databases of regulated sites and facilities. The *Hazardous Materials Assessment Technical Report (VDOT, 2017f)* contains an itemized listing of all known hazardous materials sites within the Study Area.

3.8.1 Methodology

The Hazardous Materials Assessment (HMA) investigation area covers parcels within a radius of approximately 1-mile surrounding Richmond Highway through the Study Area. Information was obtained from regulatory database searches (including a database search conducted by Environmental Data Resources, Inc.), site reconnaissance, available published information, and local and state government officials. The assessment identified potential sites of concern for facilities that may have generated, used, stored, or disposed of petroleum products or potentially hazardous materials. Each listed site was assessed for its potential hazardous-material risk to the Richmond Highway corridor based on the nature of the contamination, topographic location relative to the corridor, proximity to the proposed project LOD, current or historical site activities and the potential for contaminants or hazardous materials associated with these activities to be mobilized during project construction. This HMA did not include subsurface or other invasive assessments, or business environmental risk evaluations.

3.8.2 Existing Conditions

The Study Area has primarily commercial land use with some residential properties. Land use adjacent to Richmond Highway in the Study Area includes former and / or existing petroleum retail facilities and dry cleaners with the potential for soil or groundwater contamination.

Federal and state environmental data bases identified 644 property parcels within the 1-mile search radius. Of those properties, 61 sites were given a priority ranking associated with the potential risk for mobilizing hazardous or contaminated substances before, during and after project construction.

3.8.3 Environmental Consequences

No-Build Alternative

The No-Build Alternative would not directly impact any hazardous materials.

Build Alternative

Contaminants from 19 properties with high to moderate contaminant risks could migrate into the Build Alternative LOD. These sites represent a risk of potential contaminant impacts that could migrate from the parcel and intersect the project LOD during excavation or significant subsurface construction.

Prior to acquisition of right-of-way and construction, a Phase I Environmental Site Assessment (ESA) as defined by the American Society of Testing and Materials (ASTM) Method E1527-13 should be conducted. Based on proposed construction and findings from the phase I ESA, an ASTM Phase II should be performed on those properties with high or moderate risks. Sites that are identified to include potential contamination should be assessed on a site-by-site basis to determine applicable measures prior to design, acquisition and / or construction. Undocumented hazardous materials that are encountered during construction efforts shall be managed, handled and disposed of in accordance with federal, state and local regulations.

3.9 INDIRECT AND CUMULATIVE EFFECTS

3.9.1 Indirect Effects

According to the CEQ, indirect effects are “...effects, which are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable” (40 CFR 1508.8(b)). Indirect effects may include “growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems” (40 CFR 1508.8(b)). For the purposes of this EA, the methodology followed for analyzing indirect effects is prescribed in the National Cooperative Highway Research Program (NCHRP) Report 466, *Desk Reference for Estimating the Indirect Effects of Proposed Transportation Projects* (TRB, 2002). The indirect effects analysis relies on planning judgment that is described in the NCHRP 25-25 program, Task 22, *Forecasting Indirect Land Use Effects on Transportation Projects* (TRB, 2007), and North Carolina Department of Transportation’s (NCDOT) *Guidance for Assessing Indirect and Cumulative Impacts of Transportation Projects in North Carolina* (NCDOT, 2001). Refer to the *Indirect and Cumulative Effects Technical Report* for a more detailed discussion of the methodology for analysis of indirect effects (VDOT, 2017g).

No-Build Alternative

Under the No-Build Alternative, increased traffic delays, congestion, and the lack of improved bicycle and pedestrian access would have an adverse indirect effect on community facilities, businesses, and residents. Additional proximity effects such as noise, air quality, and visual intrusions are expected as a result of the increased congestion along the existing roadway network. Increased traffic on the roadway from future area growth could affect communities, businesses, and the population that lives along or that uses the roadway, potentially causing residential and business relocations away from traffic congestion and associated air and noise impacts. Potential natural resources indirect effects could be associated with petroleum spills and leaks from vehicles and salt or chemicals due to maintenance activities, and animal-vehicle collisions. Increased traffic delays would negatively affect the accessibility to the identified historic resources.

No induced growth would be expected as a result of the No-Build Alternative. The Indirect and Cumulative Effects (ICE) Study Areas and surrounding locality is already highly developed and built-out with mature infrastructure.

Build Alternative

Indirect effects to communities, community facilities, bike paths and recreational resources, and economics from the Build Alternative are expected to be minor during construction. Construction could cause temporary noise impacts, temporary road closures, and detours that could potentially increase commute times, travel time to community facilities, and emergency vehicle response times. However, the Build Alternative would have long-term beneficial effects such as reduced travel time, increased travel reliability, a reduced rate of bicycle / pedestrian and motor vehicle crashes, an increase in bicycle and pedestrian network usage, and a shift in community transportation mode choice from motor vehicle to bicycle and pedestrian passage between communities, residents, neighborhoods and businesses.

Potential indirect effects to waters, wetlands, and water quality could result from increased stormwater runoff due to increases in impervious surfaces. Implementation of strict erosion and sediment control and stormwater measures during construction would minimize permanent and temporary impacts to waters, wetlands and water quality, and thereby minimize indirect effects as well. Potential indirect effects to

floodplains could occur if fill is placed into floodplains, changing the flood flow elevations. All construction activities would be designed to ensure that culverts and bridges are adequately sized and do not impede floodwater passage.

Indirect effects to wildlife and threatened, endangered, and special status species could be related to increased noise, potential for animal-vehicle collisions, potential for oil spills, potential for introduction of invasive species, changes in vegetative composition due to changes in light and hydrologic regimes, and loss of habitat. New and expanded fragmentation to wildlife habitat could be an additional indirect effect, however, since the Build Alternative would be on an existing alignment, habitat and wildlife corridor fragmentation is expected to be minimized. Existing culvert and bridge crossings would allow for the continued passage of wildlife beneath Richmond Highway. The proposed replacement of the existing Dogue Creek short span bridge with a longer, higher bridge would allow for continued wildlife movement, aiding aquatic and terrestrial organism passage beneath the road. During construction, the contractor would adhere to VDOT's Road and Bridge Specifications manual, Chapter 40 of Title 3.2 of the Code of Virginia, 2VAC-5-390-20, and other applicable regulations to prevent the introduction and establishment of invasive species.

The Build Alternative would directly affect one historic resource (the OMVHS) and indirectly effect the viewshed of two historic resources (the Woodlawn Plantation and the Sharpe Stable Complex) and one historic district (Woodlawn Cultural Landscape Historic District). Through coordination with VDHR, to recognize the importance of the OMVHS to the county and local community and minimize direct effects to the OMVHS, VDOT proposes to install two interpretive signs on the property highlighting the architectural and historic education context of the campus. VDOT also commits to working with Fairfax County to conduct an oral history project for the OMVHS that can be disseminated to the public. No mitigation is proposed for the indirect effects on the historic properties and district.

The ICE Study Areas and surrounding locality are built-out with mature infrastructure. Review of aerial photography shows that more than 90 percent of the area within 1 mile of the direct effects Study Area is developed or undevelopable (see the ICE Technical Report, Appendix B.) Since the Build Alternative would not contribute to any conditions conducive to induced growth including transportation on new alignment, new interchanges, land use progression, or largely new infrastructure or economic advances that are not already planned in the ICE Study Areas, no induced growth would be expected as a result of the Build Alternative.

3.9.2 Cumulative Effects

CEQ defines cumulative effects (or impacts) as "...the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR § 1508.7). Cumulative effects include the total of all impacts, direct and indirect, experienced by a particular resource that have occurred, are occurring, and / or would likely occur as a result of any action or influence, including effects of a federal activity (USEPA, 1999). The cumulative effects analysis is based on the five-part evaluation process outlined in *Fritiofson v. Alexander*, 772 dF.2d 1225 (5th Cir. 1985), as described in FHWA's *Guidance: Questions and Answers Regarding the Consideration of Indirect and Cumulative Impacts in the NEPA Process* (FHWA, 2014):

1. What is the geographic area affected by the study?
2. What are the resources affected by the study?

3. What are the other past, present, and reasonably foreseeable actions that have impacted these resources?
4. What are those impacts?
5. What is the overall impact on these various resources from the accumulation of the actions?

Following is a summary of this evaluation. Refer to the *Indirect and Cumulative Effects Technical Report* for a more detailed discussion of each step of the evaluation (VDOT, 2017g).

The ICE Study Area has been in a progression of development since the early 1900s, being fully developed in the 1970s, in part due to the adjacency of the area to Washington, D.C. The potential for future development is largely limited to redevelopment or infill development due to lack of vacant land within the ICE Study Area. Past and present actions have been both beneficial and adverse to socioeconomic resources, and it is expected that reasonably foreseeable future actions could be as well. Past and present growth and development has increased the standards of living for communities, provided for community cohesion, as well as community facilities and recreational resources. Such growth and development has benefited local economies by improving access to markets and customers. Some past and present development actions have resulted in large-scale residential, community facility, and business relocations that adversely affected community cohesion. Transportation facilities have divided and isolated communities, reducing access to neighbors and services.

Historically, conversion of natural areas to developed land has had the greatest impact on the area, with much of this conversion occurring without the benefit of modern stormwater management facilities and / or water quality regulations. This development has helped lead to the degradation and / or loss of natural resources over time. Past actions also resulted in the loss and fragmentation of much of the terrestrial wildlife habitat in the ICE Study Area. Refer to the *Indirect and Cumulative Effects Technical Report* for a more detailed discussion of the historic land use of the area and for historic topographic maps (VDOT, 2017g). Present and reasonably foreseeable future actions include protections to wetlands, floodplains, water quality, and threatened, endangered, and special status species afforded by federal, state, and local regulations. These protections could limit future adverse impacts to natural resources. Additionally, local comprehensive planning includes natural resource management plans that aim to preserve remaining high valued wildlife habitat and water quality by directing growth to specific areas and densities, with the goal of sustaining natural resources for the future.

Damage or loss of historic resources was far more prevalent from actions that occurred prior to the NHPA of 1966. The NHPA of 1966 combined with the establishment of historic resource protection objectives established at the local planning level, have reduced the rates of impacts to historic resources. However, conflicts between the protection of historic properties and development and transportation continue to occur.

No-Build Alternative

The No-Build Alternative would not improve the existing Richmond Highway corridor. Future growth in the region would increase traffic on the roadway and could affect communities, businesses, and the population that lives along or that uses the roadway, potentially causing residential and business relocations away from traffic congestion and associated air and noise impacts. Additionally, no induced growth would be expected as a direct or cumulative result of the No-Build Alternative.

Since its initial construction, Richmond Highway has undergone many improvements and widenings, which have included updating associated stormwater facilities. However, there are still sections lacking

any stormwater management features, in addition to sections with outdated features which would not be improved under the No-Build Alternative. Existing untreated or poorly treated stormwater runoff would continue.

Under the No-Build Alternative, increased traffic delays would negatively affect the accessibility to the identified historic resources.

Build Alternative

The Build Alternative would decrease congestion, increase safety, and provide enhanced bicycle and pedestrian facilities. The Build Alternative would result in a beneficial cumulative effect, with beneficial impacts on local communities, community facilities, bike paths and recreational areas, and economics. The short-term impact of more jobs and associated expenditures resulting during construction of the Build Alternative could benefit the local communities and businesses. Once complete, the project is not anticipated to create induced growth or infill development beyond what was anticipated without the project.

The Build Alternative's impacts to waters, wetlands, and water quality; floodplains, wildlife habitat; and threatened, endangered, and special status species would contribute to the cumulative effects that have occurred in the past to natural resources within the study area; although the effects should be minimized by implementation of best management practices and compensatory mitigation. Construction and post-construction of the Build Alternative would potentially contribute to minor, localized increases in pollutants and nutrients causing impairment to waterways. Since construction of the Build Alternative would upgrade and replace current stormwater management systems, implementation of the Build Alternative could improve roadway runoff water quality from current conditions.

Prior to the NHPA and local protective measures, the impact to historic resources through the development of the area was much higher than the potential impacts today. Some historic properties (private and public) may continue to fall into disrepair or be impacted by development in the area. On federal undertakings, implementation of mitigation strategies would be coordinated with VDHR and Section 106 consulting parties (as necessary), reducing cumulative impacts on historic resources that would otherwise occur.

In summary, past and present actions have impacted the current state of socioeconomic, natural, and historic resources within the associated ICE Study Areas, and future actions would continue to affect these resources irrespective of this project. However, since the region is already highly developed, cumulative effects of the Build Alternative are expected to be minimal. Additionally, current regulatory requirements and planning practices are helping to avoid or minimize the contribution of present and future actions to adverse cumulative effects for socioeconomic, natural, and historic resources. For additional information, refer to the *Indirect and Cumulative Effects Technical Report* (VDOT, 2017g).

3.10 SECTION 4(F)

3.10.1 Existing Conditions

Under provisions of Section 4(f) of the USDOT Act of 1966 (49 USC § 303(c)), the FHWA may approve the use of land from publicly owned public parks or recreation areas, publicly owned wildlife or waterfowl refuges, or historic sites that are listed in, or eligible for listing in, the NRHP for federal-aid highway projects if it determines that there is no feasible and prudent avoidance alternative and the action includes all possible planning to minimize harm to the property. FHWA also may approve the use of land

from such properties if it determines that the use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by the applicant, will have a *de minimis* impact, as defined in 23 CFR § 774.17, on the property. A “use” of Section 4(f) property occurs:

1. When land is permanently incorporated into a transportation facility;
2. When there is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose; or,
3. When there is a constructive use of a Section 4(f) property.

Existing public parks, recreational areas, wildlife and waterfowl refuges, and public and private historic properties were identified through a review of locality planning documents as well as available mapping, aerial photography, agency data, and GIS data.

3.10.2 Environmental Consequences

No-Build Alternative

No impacts to identified Section 4(f) resources within the Study Area are expected under the No-Build Alternative.

Build Alternative

A total of seven Section 4(f) resources are within the Study Area. **Table 3-17** presents characteristics of park and recreation Section 4(f) resources in the Study Area, and **Table 3-18** presents historic property Section 4(f) resources. No wildlife or waterfowl refuges are present in the Study Area.

Table 3-17: Park and Recreation Section 4(f) Resources in the Study Area

Section 4(f) Resource	Function of the Resource	Amenities	Acres Within Study Area	Anticipated Section 4(f) Use / Finding
Pole Road Park	Park	2 Tennis courts, Playing Greens, Natural Area	0.1	No Use
Vernon Heights Park	Park	Trail, Natural Area	<0.01	No Use
Little Hunting Creek Park	Park	Stream Valley Park, Natural Area, Watershed	0.2	No Use

Table 3-18: Historic Property Section 4(f) Resources in the Study Area

Property	VDHR Number	Description	NRHP Eligibility	Anticipated Section 4(f) Use / Finding
Original Mount Vernon High School (OMVHS)	029-0230	1939 Colonial Revival Former High School	NRHP Listed	<i>De Minimis</i>
Woodlawn Plantation	029-0056	Circa 1800 plantation	National Historic Landmark, NRHP Listed, Contributing to Woodlawn Cultural Landscape District	No Use
Woodlawn Cultural Landscape Historic District	029-5181	Rural cultural landscape associated with Woodlawn Plantation and George Washington's Mount Vernon (1799-1964)	Potentially NRHP Eligible (considered by VDOT to be eligible for the NRHP for the purposes of Section 106 for this project)	No Use
Sharpe Stable Complex	029-5181-0005	Circa 1913-1997 bank barn, riding rink, and paddocks	Individually Potentially NRHP Eligible, Contributing to Woodlawn Cultural Landscape District	No Use

No Section 4(f) use would occur under the Build Alternative at the three parks in the Study Area as no permanent or temporary right-of-way would be acquired and no constructive use would occur. The park areas near the Build Alternative are already situated next to the existing Richmond Highway. Noise

impacts of the Build Alternative would not be substantially different than existing conditions near the three parks nor the modeled 2045 No-Build scenario (see the *Noise Analysis Technical Report [VDOT, 2017e]*). Modeled noise at the three parks under the Build Alternative is well below the FHWA noise abatement criteria for Activity Category C receptors. The visual setting of the three parks near Richmond Highway would not be substantially different than existing conditions

The Build Alternative would not require permanent nor temporary right-of-way from Woodlawn Plantation, Woodlawn Cultural Landscape Historic District, or the Sharpe Stable Complex. However, there would be a change in the views from portions of these historic properties toward the southern terminus of the Build Alternative. This change would not diminish any aspects of integrity as the historic setting and feeling have been previously diminished by the widening of Jeff Todd Way and the Mount Vernon Memorial Highway in 2013 to 2014, and the recent widening and realignment of Richmond Highway south of the Mount Vernon Memorial Highway (VA 235) / Jeff Todd Way intersection. Thus, no constructive use would occur. The Department of Historic Resources has concurred no adverse effect from the Build Alternative would occur to these historic properties (see **Appendix A: Agency Coordination**).

Under the regulations implementing Section 4(f) 23 CFR § 774.17, FHWA intends to make a *de minimis* impact finding with respect to the Build Alternative Section 4(f) involvement with the OMVHS historic property. The Build Alternative would acquire approximately 0.57 acres of right-of-way along the frontage of the OMVHS facing Richmond Highway, within the circular drive and parking area of the property. This area of the school grounds has been modified over time and has lost physical integrity such that its setting and feeling have been diminished and no longer conveys its historic significance. However, VDOT recognizes the importance of the OMVHS to the County and local community and proposes to install two interpretive signs on the property highlighting the architectural and historic education context of the campus. VDOT also commits to working with Fairfax County to conduct an oral history project for the OMVHS that can be disseminated to the public. Provided VDOT fulfills these commitments to install interpretive signage on the property and to conduct an oral history project, the Build Alternative would affect this historic property, but the effect would not be adverse. The Department of Historic Resources has concurred with this finding as has Fairfax County, the property owner (see **Appendix A: Agency Coordination**). The public will be given opportunity at the public hearing to review and comment on the proposed Build Alternative and the proposed *de minimis* finding.

4. COORDINATION AND COMMENTS

The DRPT Multimodal Study conducted to identify the purpose and need and preliminary alternatives for the Richmond Highway corridor included comprehensive public and stakeholder outreach consisting of three public meetings, information booths at corridor events, attending business association and neighborhood meetings, newsletters, press releases, a project website and social media.

Additional project input and guidance to the Multimodal Study was provided by:

- A Community Involvement Committee composed of business and community leaders and interested organizations. The committee met quarterly and provided guidance to the project team.
- An Executive Steering Committee, consisting of elected officials and senior agency staff, to assist with policy-related decision making and funding strategies. This committee met quarterly and provided strategic guidance throughout the study.
- A Technical Advisory Committee consisting of state and local agency staff with expertise in a range of relevant topic areas. This committee met quarterly and provided technical guidance on the work products.

The public involvement process for the Richmond Highway Corridor Improvements Project began on April 8, 2016 with the scoping period. During this time, the project team developed the Study Area boundary, as well as the project purpose and need, and preliminary environmental resources for evaluation. This information was developed through coordination with government agencies, community organizations, and other stakeholders, as well as reviews of the *Fairfax County Comprehensive Plan*, *Fairfax County Bicycle Master Plan*, and other local planning documents.

4.1 AGENCY COORDINATION

4.1.1 Agency Scoping Responses

VDOT began coordination with federal, state, and local government agencies via letters mailed on April 8, 2016. The letters formally announced the initiation of the Richmond Highway Corridor Improvements Project EA and provided a brief overview of the project. An attached questionnaire encouraged recipients to provide input on issues and resources related to the project. A second, identical round of letters and questionnaires were mailed on June 6, 2016 to government agencies that did not initially respond.

The letters and questionnaires were mailed to the following government agencies:

- Commonwealth Transportation Board, Northern Virginia District
- Fairfax County Department of Housing and Community Development
- Fairfax County Department of Neighborhood and Community Services
- Fairfax County Department of Planning and Zoning
- Fairfax County Department of Public Works and Environmental Services
- Fairfax County Department of Transportation
- Fairfax County Economic Development Authority
- Fairfax County Office of Executive Department
- Fairfax County Fire and Rescue Department
- Fairfax County Health Department
- Fairfax County Park Authority
- Fairfax County Planning Commission

- Fairfax County Police Department
- Fairfax County Public Schools
- Fairfax County Water Authority
- Federal Highway Administration, Eastern Federal Lands Highway Division
- Federal Highway Administration, Virginia
- Metropolitan Washington Council of Governments
- National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Habitat Conservation Division
- Northern Virginia Regional Commission
- Northern Virginia Regional Park Authority
- Southeast Fairfax Development Corporation
- The Historical Society of Fairfax County
- United States Army Corps of Engineers, Norfolk District
- United States Department of Agriculture, Natural Resources Conservation Service
- United States Department of Housing and Urban Development, Richmond Field Office
- United States Department of the Interior, Fish and Wildlife Service
- United States Department of the Interior, National Park Service
- United States Department of the Interior, Office of Environmental Policy and Compliance
- United States Environmental Protection Agency
- US Army Garrison, Fort Belvoir, Directorate of Public Works
- US Department of Homeland Security, Federal Emergency Management Agency
- US Department of Transportation, Federal Transit Administration
- Virginia Department of Agriculture and Consumer Services
- Virginia Department of Conservation and Recreation
- Virginia Department of Environmental Quality, Environmental Impact Review
- Virginia Department of Forestry
- Virginia Department of Game and Inland Fisheries
- Virginia Department of Health
- Virginia Department of Historic Resources
- Virginia Department of Housing and Community Development
- Virginia Department of Mines, Minerals and Energy
- Virginia Marine Resources Commission
- Virginia Outdoors Foundation
- Washington Metro Area Transit Authority

Several government agencies responded to the scoping letter and questionnaires (Appendix A). In their responses, agencies urged minimization of potential impacts to various natural, recreational, historic, community, and utility resources in the Study Area. Agencies also requested continued coordination throughout project development.

4.2 PUBLIC INVOLVEMENT

4.2.1 Public Scoping Responses

The public scoping of the project occurred at the same time as government agency notification. Letters and questionnaires were mailed on April 8, 2016 to the following community organizations, in addition to 806 property owners within one-quarter mile of the project:

- Alexandria Miracle International Church
- Emmanuel Baptist Church
- Engleside Post Office
- Fairfax County Board of Supervisors, Mount Vernon District
- Fairfax County Health Service, Mount Vernon District Office
- Favor House Ministries
- Fire Station 24, Woodlawn
- Inova Mount Vernon Hospital
- Islamic Saudi Academy
- Kingstowne Library
- Lorton Urgent Care
- Mount Vernon Apartments
- Mount Vernon Church of Christ
- Mount Vernon Civic Association
- Mount Vernon Council of Citizens Associations
- Mount Vernon Country Club
- Mount Vernon District Police Station
- Mount Vernon High School
- Mount Vernon Ladies' Association
- Mount Vernon Manor
- Mount Vernon Manor Citizens Association
- National Trust for Historic Preservation
- Pole Road, Fairfax County Park
- Rising Hope United Methodist Mission Church
- Sacramento Neighborhood Center
- Sherwood Regional Library
- South County Health Center
- Spirit of Faith Ministries
- Stony Brook Apartments
- The Hideaway Teen Center
- Washington Community Church
- Washington Mill Elementary School
- Wesley United Methodist Church
- Whitman Middle School

Several community organizations and property owners responded to the scoping letters and questionnaires. Common concerns from their responses included Study Area travel times; the project schedule; inclusion of Spanish-speaking residents in the EA process; continued public coordination; and potential natural resource, property, socioeconomic, Environmental Justice, and temporary construction impacts.

4.2.2 Public Information Meeting

Three Public Information Meetings (PIM) were held to provide an opportunity for anyone to learn about the project and provide comments. **Table 4-1** presents the meeting dates and locations.

Table 4-1: Public Information Meetings

Meeting Number	Date and Time	Location
PIM 1	Tuesday, April 18, 2017 6:30 pm to 8:30 pm	Mt. Vernon High School 8515 Old Mt. Vernon Road Alexandria, VA 22309
PIM 2	Monday, November 6, 2017 6:30 pm to 8:30 pm	Mt. Vernon High School 8515 Old Mt. Vernon Road Alexandria, VA 22309
PIM 3	Wednesday, April 4, 2018 6:30 pm to 8:30 pm	Mt. Vernon High School 8515 Old Mt. Vernon Road Alexandria, VA 22309

Pursuant to federal and state regulatory requirements and in accordance with VDOT’s Policy Manual for Public Participation in Transportation Projects (VDOT, 2016d), meetings were advertised in local newspapers, on the Project website, and via press releases. Project display boards, informational handouts and comment sheets were available at the meetings and posted on the Project website. During each meeting, VDOT representatives were available to discuss the project and explain display boards. Approximately 202 persons attended PIM 1 and 55 commenters submitted comments during the 30-day comment period after the meeting. Nearly 200 persons attended PIM 2 and 61 commenters submitted comments during the 30-day comment period after the meeting. Approximately 160 persons attended PIM 3 and 23 individual comments were submitted to VDOT.

4.2.3 EA Public Hearing

Following circulation of the EA, VDOT will hold a Public Hearing for this project. It will be held on October 29, 2018 at Mount Vernon High School, 8515 Old Mount Vernon Road, Alexandria, Virginia from 6:00 to 9:00 pm.

4.3 ADDITIONAL COORDINATION EFFORTS

In addition to the coordination previously discussed, numerous other meetings and coordination efforts were conducted with federal, state, and local agencies throughout the EA process including:

- Coordination with Fairfax County DOT and *Embark Richmond Highway*
- Agency Partnering meetings
- Coordination with the VDHR
- Coordination with USACE
- Coordination with USFWS
- Coordination with DEQ

4.3.1 Mailing List

A Project mailing list composed of property owners within the Study Area was developed, and property entry letters were mailed pursuant to § 33.1-94 of the Code of Virginia. VDOT mailed property owners

within the Study Area a letter on July 8, 2016 and December 15, 2016, stating that an agent of VDOT may need to access their property to perform environmental resource surveys; investigate potential environmental impacts; and conduct all testing and sampling, including, but not limited to shovel tests, soil samples, and borings. The letters included contact information for the VDOT NOVA District Environmental Contact, should letter recipients have questions or concerns.

4.3.2 Website

Information for the Project, including the EA and all technical documentation, is available to the public through the following VDOT website:

http://www.virginiadot.org/projects/northernvirginia/richmond_highway.asp

As the Project progresses, meeting information and materials will be posted, including comment forms for the public to provide feedback throughout the EA study.

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Appendix A: Agency Coordination

Molly Joseph Ward
Secretary of Natural Resources

Clyde E. Cristman
Director



Rochelle Altholz
*Deputy Director of
Administration and Finance*

David C. Dowling
*Deputy Director of
Soil and Water Conservation
and Dam Safety*

Thomas L. Smith
Deputy Director of Operations

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

MEMORANDUM

DATE: May 3, 2016
TO: Anissa Brown, VDOT
FROM: Roberta Rhur, Environmental Impact Review Coordinator
SUBJECT: DCR 16-011, VDOT Route 1 Widening in Alexandria VA

Division of Natural Heritage

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

Biotics documents the presence of natural heritage resources within two miles of the project area. However, due to the scope of the activity and the distance to the resources, we do not anticipate that this project will adversely impact these natural heritage resources.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please re-submit project information and map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from <http://vafwis.org/fwis/> or contact Ernie Aschenbach at 804-367-2733 or Ernie.Aschenbach@dgif.virginia.gov. According to the information currently in our files, Dogue Creek, which has been designated by VDGIF as a "Threatened and Endangered Species Water" for the Wood turtle, is within 2 miles of the project area. Therefore, DCR recommends coordination with VDGIF, Virginia's regulatory authority for the management and protection of this species to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).

The remaining DCR divisions have no comments regarding the scope of this project. Thank you for the opportunity to comment.

Cc: Amy Ewing, VDGIF



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

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Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

MEMORANDUM

TO: Anissa Brown, VDOT

FROM: Daniel Moore, Principal Environmental Planner - DEQ

DATE: June 13, 2016

SUBJECT: Scoping Comments – Route 1 Widening, Rte. 235 South to Rte. 235 North, Fairfax County

We have reviewed the scoping letter and submitted information for the proposed project and offer the following comments regarding consistency with the provisions of the *Chesapeake Bay Preservation Area Designation and Management Regulations* (Regulations):

In Fairfax County, areas protected by the *Chesapeake Bay Preservation Act*, as locally implemented, require conformance with performance criteria. These areas include Resource Protection Areas (RPAs) and Resource Management Areas (RMAs) as designated by the local government. RPAs include tidal wetlands, certain non-tidal wetlands and tidal shores, and a minimum 100-foot vegetated buffer area located adjacent to and landward of these features and along both sides of any water body with perennial flow. The RMA, which require less stringent performance criteria, includes all remaining areas of all three localities.

This project proposes to widen approximately 2.9 miles of Route 1 between the Mount Vernon Memorial Highway (Route 235 South) and the Mount Vernon Memorial Highway (Route 235 North). Construction, installation, operation and maintenance of public roads within CBPA lands are conditionally exempt from the *Chesapeake Bay Preservation Area Designation and Management Regulations*, § 9 VAC 25-830-150 B 1, if further conditioned by the following:

1. Optimization of the road alignment and design, consistent with other applicable requirements, to prevent or otherwise minimize (a) encroachment in the RPA and (b) adverse effects on water quality.

Provided adherence to the above requirements, the proposed activity would be consistent with the *Chesapeake Bay Preservation Act* and the Regulations.



COMMONWEALTH of VIRGINIA

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Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

June 9, 2016

Anissa Brown
VDOT Environmental Division
4975 Alliance Drive
Fairfax, Virginia 22033
Anissa.brown@vdot.virginia.gov

RE: Rt. 1 Widening Scoping Response
VDOT Project No. 0001-029-205, C501, P101, R201; UPC: 107187

Dear Ms. Brown:

This letter is in response to the scoping request for the above-referenced project.

As you may know, the Department of Environmental Quality, through its Office of Environmental Impact Review (DEQ-OEIR), is responsible for coordinating Virginia's review of federal environmental documents prepared pursuant to the National Environmental Policy Act (NEPA) and responding to appropriate federal officials on behalf of the Commonwealth. Similarly, DEQ-OEIR coordinates Virginia's review of federal consistency documents prepared pursuant to the Coastal Zone Management Act which applies to all federal activities which are reasonably likely to affect any land or water use or natural resources of Virginia's designated coastal resources management area must be consistent with the enforceable policies Virginia Coastal Zone Management (CZM) Program.

DOCUMENT SUBMISSIONS

In order to ensure an effective coordinated review of the NEPA document and/or federal consistency documentation, notification of the NEPA document and/or federal consistency documentation should be sent directly to OEIR. We request one electronic copy and two hard copies (CD, preferred, or paper) for our files and for small localities. Electronic copies may be sent to eir@deq.virginia.gov (10 MB maximum) or made available for download at a website, file transfer protocol (ftp) site or the VITAShare file transfer system (<https://vitashare.vita.virginia.gov>).

The NEPA document and the federal consistency documentation (if applicable) should include U.S. Geological Survey topographic maps as part of their information. We strongly encourage you to issue shape files with the NEPA document. In addition, project details should be adequately described for the benefit of the reviewers.

ENVIRONMENTAL REVIEW UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT: PROJECT SCOPING AND AGENCY INVOLVEMENT

As you may know, NEPA (PL 91-190, 1969) and its implementing regulations (Title 40, *Code of Federal Regulations*, Parts 1500-1508) requires a draft and final Environmental Impact Statement (EIS) for federal activities or undertakings that are federally licensed or federally funded which will or may give rise to significant impacts upon the human environment. An EIS carries more stringent public participation requirements than an Environmental Assessment (EA) and provides more time and detail for comments and public decision-making. The possibility that an EIS may be required for the proposed project should not be overlooked in your planning for this project. Accordingly, we refer to “NEPA document” in the remainder of this letter.

While this Office does not participate in scoping efforts beyond the advice given herein, other agencies are free to provide scoping comments concerning the preparation of the NEPA document. Accordingly, we are providing notice of your scoping request to several state agencies and those localities and Planning District Commissions, including but not limited to:

Department of Environmental Quality:

- DEQ Regional Office*
- Air Division*
- Office of Wetlands and Stream Protection*
- Office of Local Government Programs*
- Division of Land Protection and Revitalization
- Office of Stormwater Management*

Department of Conservation and Recreation

Department of Health*

Department of Agriculture and Consumer Services

Department of Game and Inland Fisheries*

Virginia Marine Resources Commission*

Department of Historic Resources

Department of Mines, Minerals, and Energy

Department of Forestry

Department of Transportation

Note: The agencies noted with a star (*) administer one or more of the enforceable policies of the Virginia CZM Program.

FEDERAL CONSISTENCY UNDER THE COASTAL ZONE MANAGEMENT ACT

Pursuant to the federal Coastal Zone Management Act of 1972, as amended, and its implementing regulations in Title 15, *Code of Federal Regulations*, Part 930, federal activities, including permits, licenses, and federally funded projects, located in Virginia’s Coastal Management Zone or those that can have reasonably foreseeable effects on Virginia’s coastal uses or coastal resources must be conducted in a manner which is consistent, to the maximum extent practicable, with the Virginia CZM Program.

Additional information on the Virginia’s review for federal consistency documents can be found online at <http://www.deq.virginia.gov/Programs/EnvironmentalImpactReview/FederalConsistencyReviews.aspx>

DATA BASE ASSISTANCE

Below is a list of databases that may assist you in the preparation of a NEPA document:

- DEQ Online Database: Virginia Environmental Geographic Information Systems

Information on Permitted Solid Waste Management Facilities, Impaired Waters, Petroleum Releases, Registered Petroleum Facilities, Permitted Discharge (Virginia Pollution Discharge Elimination System Permits) Facilities, Resource Conservation and Recovery Act (RCRA) Sites, Water Monitoring Stations, National Wetlands Inventory:

- www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx

- DEQ Virginia Coastal Geospatial and Educational Mapping System (GEMS)

Virginia's coastal resource data and maps; coastal laws and policies; facts on coastal resource values; and direct links to collaborating agencies responsible for current data:

- <http://128.172.160.131/gems2/>

- DHR Data Sharing System

Survey records in the DHR inventory:

- www.dhr.virginia.gov/archives/data_sharing_sys.htm

- DCR Natural Heritage Search

Produces lists of resources that occur in specific counties, watersheds or physiographic regions:

- www.dcr.virginia.gov/natural_heritage/dbsearchtool.shtml

- DGIF Fish and Wildlife Information Service

Information about Virginia's Wildlife resources:

- <http://vafwis.org/fwis/>

- Environmental Protection Agency (EPA) Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Database: Superfund Information Systems

Information on hazardous waste sites, potentially hazardous waste sites and remedial activities across the nation, including sites that are on the National Priorities List (NPL) or being considered for the NPL:

- www.epa.gov/superfund/sites/cursites/index.htm

- EPA RCRAInfo Search

Information on hazardous waste facilities:

- www.epa.gov/enviro/facts/rcrainfo/search.html

- EPA Envirofacts Database

EPA Environmental Information, including EPA-Regulated Facilities and Toxics Release Inventory Reports:

- www.epa.gov/enviro/index.html
- EPA NEPAssist Database

Facilitates the environmental review process and project planning:

<http://nepaassisttool.epa.gov/nepaassist/entry.aspx>

If you have questions about the environmental review process and/or the federal consistency review process, please feel free to contact me (telephone (804) 698-4204 or e-mail bettina.sullivan@deq.virginia.gov).

I hope this information is helpful to you.

Sincerely,

A handwritten signature in cursive script that reads "Bettina Sullivan".

Bettina Sullivan, Program Manager
Environmental Impact Review and
Long-Range Priorities

From: [Brown, Anissa \(VDOT\)](#)
To: [Susan Miller](#)
Cc: [Laura Wolfe](#)
Subject: FW: US Route 1 Widening from Napper Road to Mount Vernon Highway, Fairfax Co. (2016-0426)
Attachments: [image001.png](#)

As per Helen Ross, the Cultural Resources Manager, the scoping letter sent initiated the Section 106 process. We have a number assigned to the project in the response from Marc Holma. (2016-0426).

Anissa M. Brown

District Assistant Environmental Manager

4975 Alliance Drive

Fairfax, VA 22033

703-259-3358- Desk

571-318-0541-Cell

Anissa.Brown@VDOT.Virginia.gov



From: Holma, Marc (DHR)
Sent: Tuesday, May 10, 2016 10:30 AM
To: Brown, Anissa (VDOT)
Subject: US Route 1 Widening from Napper Road to Mount Vernon Highway, Fairfax Co. (2016-0426)

Dear Ms Brown:

This email is in response to your letter of 8 April 2016 initiating consultation on the above referenced project with the Department of Historic Resources (DHR). It is our understanding that the Virginia Department of Transportation (VDOT) proposes to widen an approximately 2.9 section of Route 1 between Route 235 (Mount Vernon Memorial Highway-South) to 0.07 miles north of Route 235 (Mount Vernon Memorial Highway-North). The roadway will be extended from four lanes to six lanes with a 58-foot wide median to not preclude future planned bus rapid transit, turning lanes, bicycle/pedestrian facilities, and other ancillary amenities. Currently an Environmental Assessment is being prepared according to the National Environmental Policy Act (NEPA).

The proposed widening of Route 1 has the potential to affect historic properties listed in or eligible for listing in the National Register of Historic Places. The DHR consulted with VDOT/Federal Highway Administration (FHWA) on earlier undertakings that widened sections of Route 1 farther south of the current project. From those projects it is our experience that the public and adjacent property owners will have considerable interest in what is being proposed as part of the subject undertaking. Please continue to consult with DHR pursuant to NEPA and Section 106 of the National Historic Preservation Act, as amended, and its implementing regulation 36 CFR Part 800. At this early stage in project coordination we are interested to know what consulting parties has VDOT/FHWA identified as part of the project initiation phase. Please provide us with a list of these individuals, groups, and organizations. Due to our experience with previous Route 1 widening project we may

have suggestions for others to include.

Please reference our website at http://dhr.virginia.gov/review/orc_home.html for guidance on what information we require when consulting with us under Section 106.

The DHR looks forward to working with you on this project.

Sincerely,
Marc Holma

Brown, Anissa (VDOT)

From: Brown, Anissa (VDOT)
Sent: Thursday, May 12, 2016 8:19 AM
To: 'Okorn, Barbara'
Subject: RE: US Route 1 Widening from Napper Rd to Mount Vernon Highway

Thank You, I appreciate your time and detailed comments. We are currently beginning our Environmental process, and will use your comments to better define the future project and environmental documents.

As with many widening projects, the team will consider using all existing paved areas, and any/all property adjacent could be impacted, although it's unknown at this time without a preliminary design, to determine which properties will be directly impacted. VDOT will be working directly with all agencies to minimize harm to the natural resources located within this area. We thank you for your comments and will look forward to working with you.

The process is anticipated to take approximately 12-18 months for the Environmental Document, and a Preliminary Design to be at an acceptable level for approval to move forward, the public will be notified when any new documents are available for review. Design activities may take 1-2 years to arrive at the final alignment, with a multi-year construction. The design and construction segments have not been started, at this time I will not be able to provide you a more detailed response.

This project is being administered on behalf of Fairfax County, currently there is no funding in place to construct the proposed project. Due to possible funding opportunities that could be arise the county will be actively seeking sources to fully fund this project at the earliest time. No timeline is available right now as to when this could happen.

Currently a project website is under construction, please use this link to see updates to the project:
<http://www.virginiadot.org/projects/northern%20virginia/default.asp>

In the Fall of 2016 a Public Information Meeting is being scheduled, with more specifics of the project. Please contact me should you have any questions or comments regarding this project.

Anissa M. Brown

District Assistant Environmental Manager

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Anissa.Brown@VDOT.Virginia.gov



From: Okorn, Barbara [mailto:Okorn.Barbara@epa.gov]
Sent: Monday, May 09, 2016 8:46 AM
To: Brown, Anissa (VDOT)
Subject: US Route 1 Widening from Napper Rd to Mount Vernon Highway

Ms. Brown,

EPA has reviewed your letter dated April 8, 2016 regarding the subject project. We understand that the study is being done in compliance with the National Environmental Policy Act (NEPA) and CEQ regulations implementing NEPA. Please find below recommendations for the scope of analysis for the proposed study. We suggest that the progress on the project be shared at the interagency partnering meeting and look forward to being involved as the study moves forward.

- Information regarding the purpose and need, alternatives analyzed, avoidance and minimization of resources, and cumulative effects for the proposed project should be included in the environmental assessment (EA).
- The EA should include a clear and robust justification of the underlying purpose and need for the proposed action. The purpose and need statement is important because it helps explain why the proposed action is being undertaken and what objectives the project intends to achieve. The purpose of the proposed action is typically the specific objective of the activity. The need should explain the underlying problem for why the project is necessary.
- Alternatives analysis should include the suite of other activities or solutions that were considered and the rationale for not carrying these alternatives forward for detailed study.
- The document should describe potential impacts to the natural and human environment. Existing resources should be identified and EPA encourages that adverse impacts to natural resources, especially wetlands and other aquatic resources, be avoided and minimized.
- Stormwater ponds, best management practices (BMPs) and construction staging areas should not be located in wetlands and streams. Stormwater management alternatives that address the existing and new construction should be considered.
- EPA suggests coordinating with other appropriate federal, state and local resource agencies on possible impacts to wetlands, streams, historic and/or rare, threatened and endangered species. As needed, assessment of aquatic resources functions should be provided. We would be pleased to coordinate with VDOT and the U.S. Army Corps of Engineers on this work.
- An evaluation of air quality and community impacts, including noise, light and possible traffic impacts, should be included in the document.
- Potential air impacts and general conformity should be included in the EA.
- The EA should also include an analysis of any hazardous sites or materials, and the status of any ongoing or past remediation efforts in the project area.
- The EA should include a discussion and analysis of greenhouse gas emissions, climate change, and extreme weather events (in particular in association with resiliency design).
- Environmental Justice (EJ) should also be evaluated, including the identification of potential communities of concern, and meaningful and timely community involvement, public outreach, and access to information. Our regional expert on EJ would be pleased to discuss methodology for identification of EJ communities at your convenience.
- Consideration should also be given to all potential impacts to at-risk populations, as well as consideration to sensitive subpopulations, possibly including elderly, children and others. Community impacts should also be avoided, minimized and mitigated.
- The document should address potential indirect and cumulative effects in the project areas, and analysis may aid in the identification of resources that are likely to be adversely affected by multiple projects, and sensitive resources that could require additional measures. It is suggested that a secondary and cumulative effects analysis begin with defining the geographic and temporal limits of the study; this is generally broader than the study area of the project. The cumulative impact analysis should evaluate impacts to environmental resources that have the potential to be impacted by the project (i.e. wetlands, surface water, etc)

Thank you for coordinating with EPA on this project. We look forward to working with you as more information becomes available. Please let me know if you have any questions on the recommended topics

above or if there is any information that we might be able to provide. Please provide a copy of the EA to EPA when it is available for review.

Barb

Barbara Okorn
USEPA Region III (3EA30)
1650 Arch Street
Phila, PA 19103
Phone (215) 814-3330

Brown, Anissa (VDOT)

From: Price, John <John.Price@fairfaxcounty.gov>
Sent: Monday, May 09, 2016 3:58 PM
To: Brown, Anissa (VDOT)
Subject: Route 1 Project Questionnaire (FXCO Fire/Rescue)
Attachments: Scan.pdf

Ms. Brown,

On behalf of FC Richard Bowers, (Fairfax County Fire/Rescue), the following are items I can readily identify that could/would have an impact on the area of work on Route 1 as it pertains to the service delivery for our Department. I felt bulleted items of interest would be better served in this case (as opposed to the listed questions);

- We want to ensure there is access for emergency vehicles to enter/access the work area for both North and South bound Route 1. (Typically, detours have always been clearly identified by VDOT in past projects) Specifically, the Woodlawn fire station at 8701 Lukens Lane, is in immediate proximity to the work zone you have identified. The Woodlawn fire station will be undergoing some renovations in the near future and we can further review later so this will not impact, (or at least minimize) that project.
- We would need to be made aware of any fire hydrants that the project has determined need to be either removed or re-located to ensure fire protection.
- We would like to ensure any traffic light pre-emption devices are in place or considered prior to construction (if this has not already been reviewed) We have personnel within our organization working closely to ensure pre-emption devices are identified when/where they can be beneficial.

I look forward to attending the Fall, 2016 Citizen Information Meeting and also realize we will have other opportunities to be included as the study progresses. Thank you for allowing us to provide some preliminary information as it applies to the Route 1 widening project. We have always enjoyed working with VDOT on major projects and appreciate your collaborative efforts. Should you have any questions or if something was unclear, please feel free to contact me via email.

Thank you

John S. Price Jr.

Battalion Chief
Fairfax County Fire/Rescue
Battalion 402 A-Shift & VDOT Liaison
703 827-0038 (office)
571 221-1302 (cell)
john.price@fairfaxcounty.gov

Copy to Peter Shuter-BH



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION

4975 Alliance Drive
Fairfax, VA 22030

CHARLES A. KILPATRICK, P.E.
COMMISSIONER

April 8, 2016

Ms. Gloria Addo-Ayensu, MD, MPH
Fairfax County Health Department
10777 Main Street Suite 203
Fairfax, VA 22030

Project: US Route 1 Widening from Napper Rd to Mount Vernon Highway
Fairfax County
VDOT Project Number 0001-029-205, C501, P101, R201; UPC: 107187

Dear Ms. Gloria Addo-Ayensu, MD, MPH:

The Virginia Department of Transportation (VDOT), in cooperation with the Federal Highway Administration (FHWA), has initiated the preparation of an Environmental Assessment (EA) for the US Route 1 Widening Project for an approximate 2.9 mile section of US Route 1 between Route 235 (Mount Vernon Memorial Highway – South) to 0.07 miles north of Route 235 (Mount Vernon Highway – North). The purpose of the EA is to evaluate resource impacts associated with widening the road from four lanes to six lanes with a 58-foot wide median to not preclude future planned bus rapid transit (BRT), turning lanes, bicycle/pedestrian facilities, and other ancillary facilities. The EA is being prepared in accordance with the National Environmental Policy Act (NEPA).

The enclosed map illustrates the proposed bounds of the EA study area. At this early stage of the study, our efforts are focused on ensuring that a full range of issues related to the project are addressed and all significant issues are identified. To that end, please review the enclosed map and provide comments on any issues, interests, or concerns regarding human and natural resources within the project area indicated. In addition please respond to the attached list of questions. If you do not have information to contribute to a specific question, do not feel as though you must provide an answer. An unanswered question is acceptable and will be interpreted as no comment. Our intent is to address your concerns and incorporate any recommendations into the planning process at the earliest possible time.

VDOT and FHWA will schedule a Citizen Information Meeting in the fall of 2016 and invite you to attend. Please note there will be future opportunities for involvement as the study progresses.

Ms. Gloria Addo-Ayensu, MD, MPH
April 8, 2016
Page Two

To avoid project delays, we request that you provide your response no later than May 8, 2016. You can mail your response to:

Anissa Brown
VDOT Environmental Division
4975 Alliance Drive
Fairfax, VA 22033

Or email them to: Anissa.Brown@VDOT.Virginia.gov

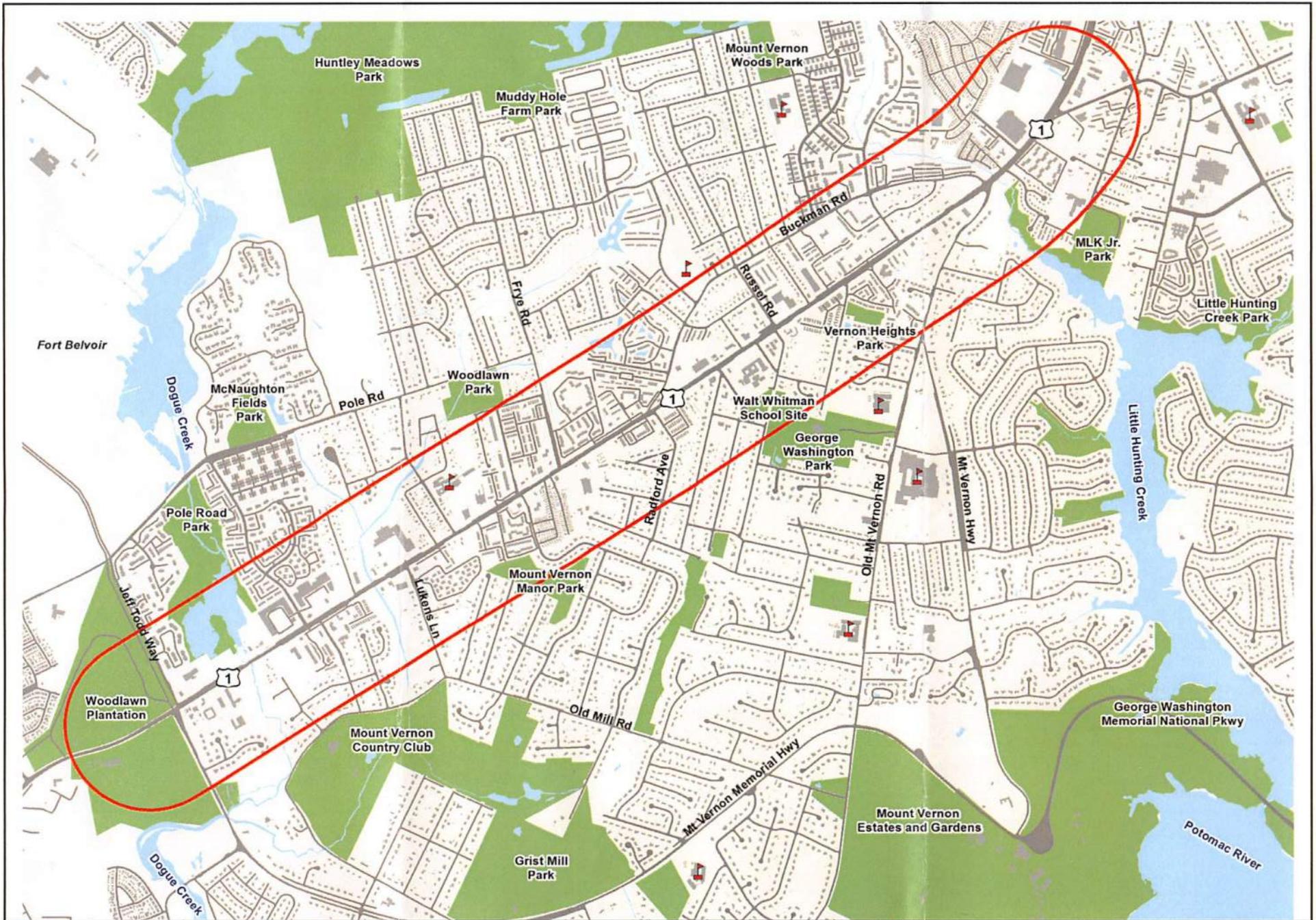
We greatly appreciate your cooperation and participation in this process. Should you require additional information or have further questions about the project, please contact me at (703) 259-3358 or by email at the address provided above.

Sincerely

A handwritten signature in blue ink, appearing to read "Anissa Brown", with a long horizontal flourish extending to the right.

Anissa Brown
VDOT Fairfax District Assistant Environmental Manager

Enclosures: Study Area Location Map
NEPA Evaluation Questionnaire



**US Route 1 Widening from Napper Rd to Mount Vernon Highway, Fairfax County
VDOT Project Number 0001-029-205, C501, P101, R201; UPC: 107187**

NEPA Evaluation Questionnaire

1. What constraints, if any, would you recommend for establishing a study area boundary to analyze the indirect effects and cumulative impacts to potentially affected resources?

N/A

2. Planning judgement¹ is a structured process that will be used as part of this study to analyze and forecast potential indirect effects and cumulative impacts. Does your agency possess any reports, data sources, or expert input that you recommend be used to inform the use of planning judgement in this study? Additionally, any other tools or resources that your agency might be able to provide to aid in the identification of indirect and cumulative impacts would be appreciated and considered.

N/A

3. As part of this scoping package we have provided a snapshot of recent economic and social data from the United States Census Bureau, we seek your concurrence that this data reflects your current jurisdictional population profile. Additionally, please identify locations in the study area where environmental justice populations may exist, or groups that interact with these environmental justice populations.

N/A

¹ Planning judgment is described in the National Cooperative highway Research Program, Transportation Research Board's Project 25-25, Task 22: Forecasting Indirect land Use Effects on Transportation Projects obtained at: [http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25\(22\)_FR.pdf](http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25(22)_FR.pdf).

4. What are the current planned projects within your jurisdiction / study area? Are there any public documents / permits that estimate impacts of these projects?

N/A

5. Please provide any additional comments or feedback that you feel may be beneficial to the development of this study.

Fairfax County Health Dept. records indicate that there are no wells or septic systems immediately adjacent to this project.

Geographic Areas/Block Groups	2010 US Decennial Census									
	Total Pop.	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some Other Race	Two or More Races	Hispanic or Latino	Housing Units: Occupancy Status
4154.02 BG 3	1,013	438	320	3	149	6	50	47	193	95.4%
4155.00 BG 4	1,459	232	935	8	138	0	72	74	165	95.9%
4159.00 BG 2	2,224	1,814	84	16	131	4	89	86	216	96.6%
4160.00 BG 1	1,679	845	514	6	161	0	101	52	262	91.3%
4160.00 BG 2	3,047	1,629	687	21	224	2	380	104	839	96.4%
4161.00 BG 1	2,535	2,083	175	6	176	1	37	57	143	96.3%
4215.00 BG 2	3,028	1,227	479	23	199	0	978	122	2,024	97.7%
4215.00 BG 3	1,884	362	901	11	92	0	443	75	716	92.7%
4216.00 BG 1	2,685	702	808	14	111	0	907	143	1,411	91.2%
4216.00 BG 2	2,026	387	980	32	154	1	309	163	665	95.3%
4216.00 BG 3	1,631	370	742	16	91	0	364	48	597	96.1%
4217.01 BG 1	2,966	973	915	18	189	7	673	191	1,525	95.8%
4217.01 BG 2	1,580	564	544	23	109	6	231	103	545	93.5%
4218.00 BG 1	1,965	742	744	4	189	0	191	95	386	93.8%
4218.00 BG 2	2,608	833	895	14	212	7	498	149	1,001	92.4%
4218.00 BG 3	1,289	590	346	16	153	0	109	75	251	93.3%
Study Area	33,619	13,791	10,069	231	2,478	34	5,432	1,584	10,939	94.7%
Fairfax County	1,081,726	677,990	99,218	3,884	189,661	864	66,194	43,915	168,482	96.0%

American Community Survey 2010-2014 Estimates			
Geographic Areas/Block Groups	Median Household Income	Total Pop. In Labor Force	Total Employed (Civilian and Military)
4154.02 BG 3	\$75,833	462	432
4155.00 BG 4	\$27,233	751	717
4159.00 BG 2	\$149,583	1,191	1,159
4160.00 BG 1	\$125,188	865	821
4160.00 BG 2	\$51,843	1,794	1,721
4161.00 BG 1	\$143,750	1,328	1,300
4215.00 BG 2	\$41,648	1,115	1,023
4215.00 BG 3	\$26,699	820	782
4216.00 BG 1	\$62,361	1,742	1,612
4216.00 BG 2	\$48,936	1,207	1,087
4216.00 BG 3	\$46,250	718	674
4217.01 BG 1	\$62,238	2,489	2,305
4217.01 BG 2	\$75,882	602	580
4218.00 BG 1	\$73,176	1,077	983
4218.00 BG 2	\$66,975	1,947	1,712
4218.00 BG 3	\$73,682	775	682
Study Area	\$64,668	18,883	17,590
Fairfax County	\$112,102	640,889	608,507

Brown, Anissa (VDOT)

From: Brown, Anissa (VDOT)
Sent: Thursday, April 28, 2016 2:10 PM
To: 'Joye, Adrian'
Cc: Sheehan, Pieter Anthony; Soto, Roy (VDH); Milgrim, John
Subject: RE: US Route 1 Widening from Napper Rd to Mount Vernon Highway, VDOT Project Number 0001-029-205, C501, P101, R201; UPC: 107187

Thank You for the comments I appreciate your time. We are currently beginning our Environmental process, and will use your comments to help better define the future project.

As with many widening projects, the team will consider using all existing paved areas, and any/all property adjacent could be impacted, but it's unknown at this time without a preliminary design, to determine which properties will be directly impacted. VDOT will be working closely with all agencies to minimize harm to the nature resources located in this area. We thank you for your comments and will look forward to working with you.

The process in place would take approximately 12-18 months for the Environmental Document, and Preliminary Design to be at an acceptable level for approval to move forward, the public will be notified at that time. Design activities may take 1-2 years to arrive at the final alignment, with a multi-year construction. The design and construction segments have not been started, at this time I will not be able to provide you a more detailed response.

This project is being administered on behalf of Fairfax County, currently there is no funding in place to construct the proposed project. Due to possible funding opportunities that could be arise the county will be actively seeking sources to fully fund this project at the earliest time. No timeline is available right now as to when this could happen.

Currently we are working on a project website, please use this link to see updates to the project:
<http://www.virginiadot.org/projects/northern%20virginia/default.asp>

In the Fall of 2016 a Public Information Meeting is being scheduled, with more specifics of the project.

Anissa M. Brown

District Assistant Environmental Manager

4975 Alliance Drive

Fairfax, VA 22033

703-259-3358- Desk

571-318-0541-Cell

Anissa.Brown@VDOT.Virginia.gov



From: Joye, Adrian [<mailto:Adrian.Joye@fairfaxcounty.gov>]
Sent: Wednesday, April 27, 2016 10:47 AM
To: Brown, Anissa (VDOT)
Cc: Sheehan, Pieter Anthony; Soto, Roy (VDH); Milgrim, John

Subject: US Route 1 Widening from Napper Rd to Mount Vernon Highway, VDOT Project Number 0001-029-205, C501, P101, R201; UPC: 107187

Dear Ms. Brown:

A review of Fairfax County Health Department records indicates that there are no private wells or onsite sewage disposal systems immediately adjacent to this project. The Fairfax County Health Department has no further information or additional comments in identifying environmental impacts and related issues that may affect construction of this improvement.

If you need further information concerning this response, please feel free to contact me directly.

Sincerely,

Adrian Joye
Environmental Health Program Manager
Fairfax County Health Department
10777 Main Street
Fairfax, VA 22030
703-246-8614 - Direct
703-278-8157 – Fax
Email: Adrian.joye@fairfaxcounty.gov

Brown, Anissa (VDOT)

From: Uhrmacher, Peter <Peter.Uhrmacher@fairfaxcounty.gov>
Sent: Friday, May 06, 2016 11:59 AM
To: Brown, Anissa (VDOT)
Subject: NEPA Questionnaire - Rt 1 Widening
Attachments: ea_rt_1_widening.pdf; NEPA Questionnaire.pdf

Hi Anissa,

Attached is the NEPA Questionnaire for the Route 1 Widening project. We don't anticipate any impact with respect to maintaining environmental justice.

If I can be of any assistance please give me a call.

Thanks

Peter Uhrmacher
Planning Technician II
Fairfax County Department of Housing and Community Development
3700 Pender Drive, Suite 300
Fairfax, VA 22030
703-246-5179

**US Route 1 Widening from Napper Rd to Mount Vernon Highway, Fairfax County
VDOT Project Number 0001-029-205, C501, P101, R201; UPC: 107187**

NEPA Evaluation Questionnaire

1. Please provide any data related to low-income and minority populations that would be used in the socioeconomic and environmental justice impact analysis as implemented by Executive order 12898 :Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations”, and Council on Environmental Quality guidance, Environmental Justice Guidance Under NEPA (1997).

We have mapped the FCRHA and privately owned affordable housing locations within and adjacent to the study area (The data used in our review consists of over 1,200 units of affordable rental housing).

Please see the attached map.

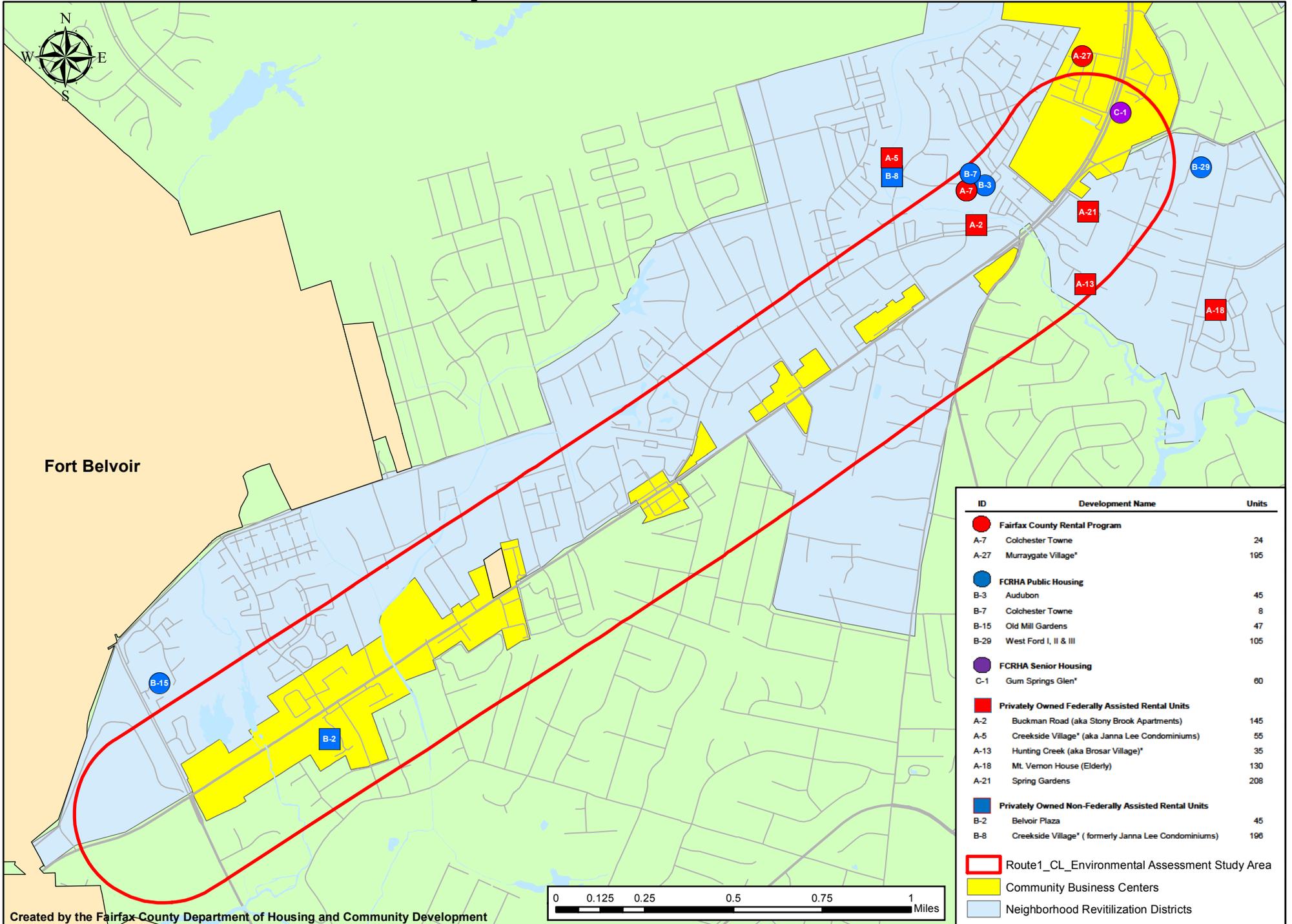
2. Please provide any information or feedback you feel would be beneficial to the development of this study.

VDOT's act of widening the roadway combined with the potential growth of the bus rapid transit system would benefit the residents of the area by providing increased and affordable transportation alternatives.

If we can be of any further assistance, or if you have any questions please contact:

Peter Uhrmacher
Planning Technician II
Fairfax County Department of Housing and Community Development
703-246-5179 or email at peter.uhrmacher@fairfaxcounty.gov

Affordable Housing Within and Adjacent to the Route 1 Environmental Assessment Study Area



Brown, Anissa (VDOT)

From: Brown, Anissa (VDOT)
Sent: Friday, May 06, 2016 2:11 PM
To: 'Uhrmacher, Peter'
Subject: RE: NEPA Questionnaire - Rt 1 Widening

Thank You for the comments I appreciate your time. We are currently beginning our Environmental process, and will use your comments to help better define the future project. VDOT will be working closely with all agencies to minimize harm to the nature resources located in this area. We thank you for your comments and will look forward to working with you.

This project is being administered on behalf of Fairfax County, currently there is no funding in place to construct the proposed project. Due to possible funding opportunities that could be arise the county will be actively seeking sources to fully fund this project at the earliest time. No timeline is available right now as to when this could happen.

Currently we are working on a project website, please use this link to see updates to the project:
<http://www.virginiadot.org/projects/northern%20virginia/default.asp>

In the Fall of 2016 a Public Information Meeting is being scheduled, with more specifics of the project.

Anissa M. Brown

District Assistant Environmental Manager

4975 Alliance Drive

Fairfax, VA 22033

703-259-3358- Desk

571-318-0541-Cell

Anissa.Brown@VDOT.Virginia.gov



From: Uhrmacher, Peter [<mailto:Peter.Uhrmacher@fairfaxcounty.gov>]
Sent: Friday, May 06, 2016 11:59 AM
To: Brown, Anissa (VDOT)
Subject: NEPA Questionnaire - Rt 1 Widening

Hi Anissa,

Attached is the NEPA Questionnaire for the Route 1 Widening project. We don't anticipate any impact with respect to maintaining environmental justice.

If I can be of any assistance please give me a call.

Thanks

Peter Uhrmacher

Planning Technician II
Fairfax County Department of Housing and Community Development
3700 Pender Drive, Suite 300
Fairfax, VA 22030
703-246-5179

Brown, Anissa (VDOT)

From: Tucker, Lloyd E. <Lloyd.Tucker@fairfaxcounty.gov>
Sent: Thursday, May 12, 2016 8:30 AM
To: Brown, Anissa (VDOT)
Subject: RE: NEPA Eval Questionnaire Answers for widening of US Rt. 1 VDOT Project number 0001-029-205

Thank you. I look forward to meeting in the fall as well.

Lloyd

From: Brown, Anissa (VDOT) [<mailto:Anissa.Brown@vdot.virginia.gov>]
Sent: Thursday, May 12, 2016 8:09 AM
To: Tucker, Lloyd E.
Subject: RE: NEPA Eval Questionnaire Answers for widening of US Rt. 1 VDOT Project number 0001-029-205

Thank You, I appreciate your time. We are currently beginning our Environmental process, and will use your comments to help better define the future project.

This project is being administered on behalf of Fairfax County, currently there is no funding in place to construct the proposed project. Due to possible funding opportunities that could be arise the county will be actively seeking sources to fully fund this project at the earliest time. No timeline is available right now as to when this could happen.

Currently we are working on a project website, please use this link to see updates to the project:
<http://www.virginiadot.org/projects/northern%20virginia/default.asp>

In the Fall of 2016 a Public Information Meeting is being scheduled, with more specifics of the project. I look forward to meeting you during this process. Please contact me should have any questions or comments regarding this project.

Anissa M. Brown

District Assistant Environmental Manager

4975 Alliance Drive

Fairfax, VA 22033

703-259-3358- Desk

571-318-0541-Cell

Anissa.Brown@VDOT.Virginia.gov



Environmental

From: Tucker, Lloyd E. [<mailto:Lloyd.Tucker@fairfaxcounty.gov>]
Sent: Tuesday, May 10, 2016 11:17 AM
To: Brown, Anissa (VDOT)
Subject: NEPA Eval Questionnaire Answers for widening of US Rt. 1 VDOT Project number 0001-029-205
Importance: High

Hi Anissa, below are the answers to the questions you provided. Apologies for not getting them to you on the 8th.

Please don't hesitate to call me if you have any questions.

Lloyd

1. To get a more accurate assessment of impacts of the boundary constraints I would recommend increasing the west boundary to include more of the mobile home, apartment and subsidized housing developments.
2. Yes, NCS possesses demographic, asset mapping, and basic needs data that could help inform planning judgement.
3. There is more recent data than the census data you provided and we'd be happy to provide it. Locations where environmental justice populations may exist are Little Hunting Creek, Pole Road Park, GW Park, MLK Park.
4. Original Mt. Vernon High School reutilization, new FCPS Elementary School
5. In the particular identified area the multiple ethnic minority groups need to be considered when doing community engagement to inform project decisions

Lloyd Tucker
Division Director
Neighborhood and Community Services
703-324-5318

Brown, Anissa (VDOT)

From: Brown, Anissa (VDOT)
Sent: Friday, May 06, 2016 2:55 PM
To: McEachin, Richard
Cc: Long, Jason; Bailey, Thomas; Grinnan, Michael F; Tucker, Michael; Martin, Shawn C.; Holland, Bryan
Subject: RE: US Route 1 Widening from Napper Road to Mount Vernon Highway (#0001-029-205, C501, P101, R201)

Thank You for the comments I appreciate your time.

This project is being administered on behalf of Fairfax County, currently there is no funding in place to construct the proposed project. Due to possible funding opportunities that could be arise the county will be actively seeking sources to fully fund this project at the earliest time. No timeline is available right now as to when this could happen.

Currently we are working on a project website, please use this link to see updates to the project:
<http://www.virginiadot.org/projects/northern%20virginia/default.asp>

In the Fall of 2016 a Public Information Meeting is being scheduled, with more specifics of the project.

Anissa M. Brown

District Assistant Environmental Manager

4975 Alliance Drive

Fairfax, VA 22033

703-259-3358- Desk

571-318-0541-Cell

Anissa.Brown@VDOT.Virginia.gov



From: McEachin, Richard [<mailto:Richard.McEachin@fairfaxcounty.gov>]
Sent: Friday, May 06, 2016 2:12 PM
To: Brown, Anissa (VDOT)
Cc: Long, Jason; Bailey, Thomas; Grinnan, Michael F; Tucker, Michael; Martin, Shawn C.; Holland, Bryan
Subject: US Route 1 Widening from Napper Road to Mount Vernon Highway (#0001-029-205, C501, P101, R201)

Good afternoon Ms. Brown,

At this time, the Fairfax County Police Department have no concerns with the study area. We also have no comment for any of the questions provided in the letter. We understand that there will be future opportunities to voice our concerns, should we have any at that time. Please allow this email to serve as a response from the Fairfax County Police Department for the project plan as it relates to the Environmental Assessment. Please do not hesitate to contact me should you require further assistance. Thank you.

MPO Richard L. McEachin
Fairfax County Police Department
VDOT Liaison Officer/Traffic Division
3911 Woodburn Road
Annandale, VA 22003
TEL: 703-280-0558

Brown, Anissa (VDOT)

From: Brown, Anissa (VDOT)
Sent: Friday, May 06, 2016 4:49 PM
To: 'Sneed, Kevin'
Cc: StCyr, Lori L
Subject: RE: US Route 1 Widening from Napper Rd. to Mt. Vernon Highway/VDOT Project Number 0001-029-205, C501, P101, R201:UPC:107187

Thank You, I appreciate your time.

This project is being administered on behalf of Fairfax County, currently there is no funding in place to construct the proposed project. Due to possible funding opportunities that could be arise the county will be actively seeking sources to fully fund this project at the earliest time. No timeline is available right now as to when this could happen.

Currently we are working on a project website, please use this link to see updates to the project:
<http://www.virginiadot.org/projects/northern%20virginia/default.asp>

In the Fall of 2016 a Public Information Meeting is being scheduled, with more specifics of the project.

Anissa M. Brown

District Assistant Environmental Manager

4975 Alliance Drive

Fairfax, VA 22033

703-259-3358- Desk

571-318-0541-Cell

Anissa.Brown@VDOT.Virginia.gov



From: Sneed, Kevin [<mailto:kmsneed@fcps.edu>]
Sent: Friday, May 06, 2016 3:40 PM
To: Brown, Anissa (VDOT)
Cc: StCyr, Lori L
Subject: FW: US Route 1 Widening from Napper Rd. to Mt. Vernon Highway/VDOT Project Number 0001-029-205, C501, P101, R201:UPC:107187

Good Afternoon Anissa,

Fairfax County Public Schools has reviewed VDOT's letter for comment for the above referenced.

After review, Fairfax County Public Schools has no comments at this time. We do intend to attend the public meetings and would appreciate being informed about the project as the planning progresses.

Thank you,

Kevin Sneed
Special Projects Administrator
Design + Construction/Planning
571 423-2280

Fairfax Water

FAIRFAX COUNTY WATER AUTHORITY
8560 Arlington Boulevard, Fairfax, Virginia 22031
www.fairfaxwater.org

**PLANNING & ENGINEERING
DIVISION**

Jamie Bain Hedges, P.E.
Director
(703) 289-6325
Fax (703) 289-6382

April 27, 2016



Ms. Anissa Brown
Virginia Department of Transportation (VDOT)
Environmental Division
4975 Alliance Drive
Fairfax, VA 22033

Re: **US Route 1 Widening from Napper Road
to Mount Vernon Highway**

Dear Ms. Brown:

This letter provides a response to your letter of April 8, 2016 that included a National Environmental Policy Act (NEPA) questionnaire on the subject project.

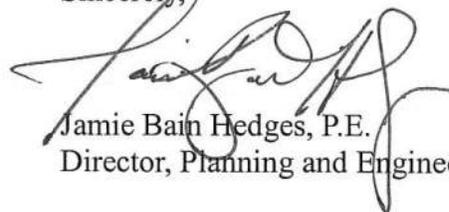
Fairfax Water is the largest water utility in the Commonwealth of Virginia, serving one out of every five Virginians who obtain water from public utilities. Nearly 2 million residents of Northern Virginia, including large portions of Fairfax, Loudoun, and Prince William Counties, the Towns of Herndon and Vienna, Dulles Airport, Ft. Belvoir and the Cities of Falls Church, Fairfax, and Alexandria, depend on Fairfax Water for their drinking water.

Sections of existing water main along the US Route 1 corridor are identified as having very high failure rates and very high repair costs, in addition to creating significant disruption to traffic. Fairfax Water's System Master Plan identifies the need to oversize the replacement of existing mains along US Route 1 as opportunities present themselves. The proposed VDOT project to widen US Route 1 from Napper Road to Mount Vernon Highway provides an opportunity to incorporate this into the water main relocation plans associated with this project.

We have no other comments on the questionnaire.

Please contact me at (703) 289-6325 if you have further questions.

Sincerely,



Jamie Bain Hedges, P.E.
Director, Planning and Engineering

cc: General Manager
Manager, Planning

Laura Wolfe

From: Brown, Anissa (VDOT) <Anissa.Brown@vdot.virginia.gov>
Sent: Friday, June 10, 2016 3:38 PM
To: Laura Wolfe
Subject: FW: Comments/Response to US Route 1 Widening from Napper to MV Hgwy

Follow Up Flag: FollowUp
Due By: Friday, June 10, 2016 3:45 PM
Flag Status: Flagged

Comment received yesterday.

Anissa M. Brown

District Assistant Environmental Manager

4975 Alliance Drive

Fairfax, VA 22033

703-259-3358- Desk

571-318-0541-Cell

Anissa.Brown@VDOT.Virginia.gov



From: Courtney, Rona J. [mailto:Rona.Courtney@fairfaxcounty.gov]
Sent: Thursday, June 09, 2016 1:13 PM
To: Brown, Anissa (VDOT)
Cc: Bartlett, Randy; Makely, Vanessa K; Kirkpatrick, Ronald N.
Subject: Comments/Response to US Route 1 Widening from Napper to MV Hgwy

Hello Anissa:

Below, Randy Bartlet, Director, Stormwater/Wastewater, Department of Public Works and Environmental Services, Fairfax County, has provided comments/responses to the NEPA Evaluation Questionnaire.

1) We have no comment on the boundary.

2) Our agency can provide the records we have of the County owned stormwater and wastewater facilities in the area. There are about 37,700 feet of existing sanitary sewer ranging in size from 8" to 30" and about 140 manholes, which may be impacted by the project, however we don't know the details until we receive the final plans. If laterals will not be re-used, the laterals can be abandoned in place with grout filled or can be removed completely and plugged.

3) We do not have information on economic or social data.

4) There are no planned projects at this time.

5) Stormwater management needs to be part of this project and should be designed to address new impervious surfaces as well as existing surfaces. The study should check with DEQ to determine if there are downstream impairments that will be impacted.

Thank You,

Rona Courtney

Fairfax County
Department of Public Works and Environmental Services
Director's Office
(703) 324-5033

Brown, Anissa (VDOT)

From: Stidham, Tammy <tammy_stidham@nps.gov>
Sent: Thursday, May 05, 2016 6:03 PM
To: Brown, Anissa (VDOT)
Subject: US Rte 1 Widening from Napper Rd to Mt Vernon
Attachments: 20160425 US Rte 1 Widening from Napper Rd to Mt Vernon Hwy.pdf

Please see attached regarding US Rte 1 Widening from Napper Rd to Mt Vernon

Thanks -
Tammy

Tammy Stidham
Chief, Planning, Compliance & GIS
National Capital Region
National Park Service
1100 Ohio Drive SW
Washington, DC 20242

voice - (202)619-7474
cell - (202)438-0028
tammy_stidham@nps.gov





United States Department of the Interior

NATIONAL PARK SERVICE

National Capital Region

1100 Ohio Drive, S.W.

Washington, D.C. 20242

IN REPLY REFER TO:

1.A.1 (LPD-NCR)

May 4, 2016

Anissa Brown
VDOT Environmental Division
4975 Alliance Drive
Fairfax, Virginia 22030

Subject: U.S. Route 1 Widening from Napper Road to Mount Vernon Highway

Dear Ms. Brown:

The National Park Service (NPS), National Capital Region has reviewed the project area (2.9 mile section of U.S. Route 1 between Route 235-South to 0.07 miles north of Route 235-North). At this time it does not appear that the widening will effect NPS property. However, the Potomac Heritage National Scenic Trail (POHE) has existing and planned trail segments in the project area (see attached map). POHE is a partnership to develop and maintain a system of trails for recreation, transportation, health, and education between the mouth of the Potomac River and the Allegheny Highlands. In the project area and vicinity, NPS is substantially engaged in (a) advocating for a seamless, non-motorized connection between Mount Vernon Estate and Gardens and sites within the Woodlawn Historic Overlay District; (b) interpretation of sites within the District; and (c) evaluating options for POHE routes between Grist Mill Park and Pohick Bay Regional Park.

We request that the study establish pedestrian and bicycle facilities that provide safe transportation opportunities between and among parks, schools, lodging services within the project area and the Woodlawn Historic Overlay District. Also, please recognize pedestrian and bicycle existing and planned segments of the POHE in development of alternatives as referenced in the attached map.

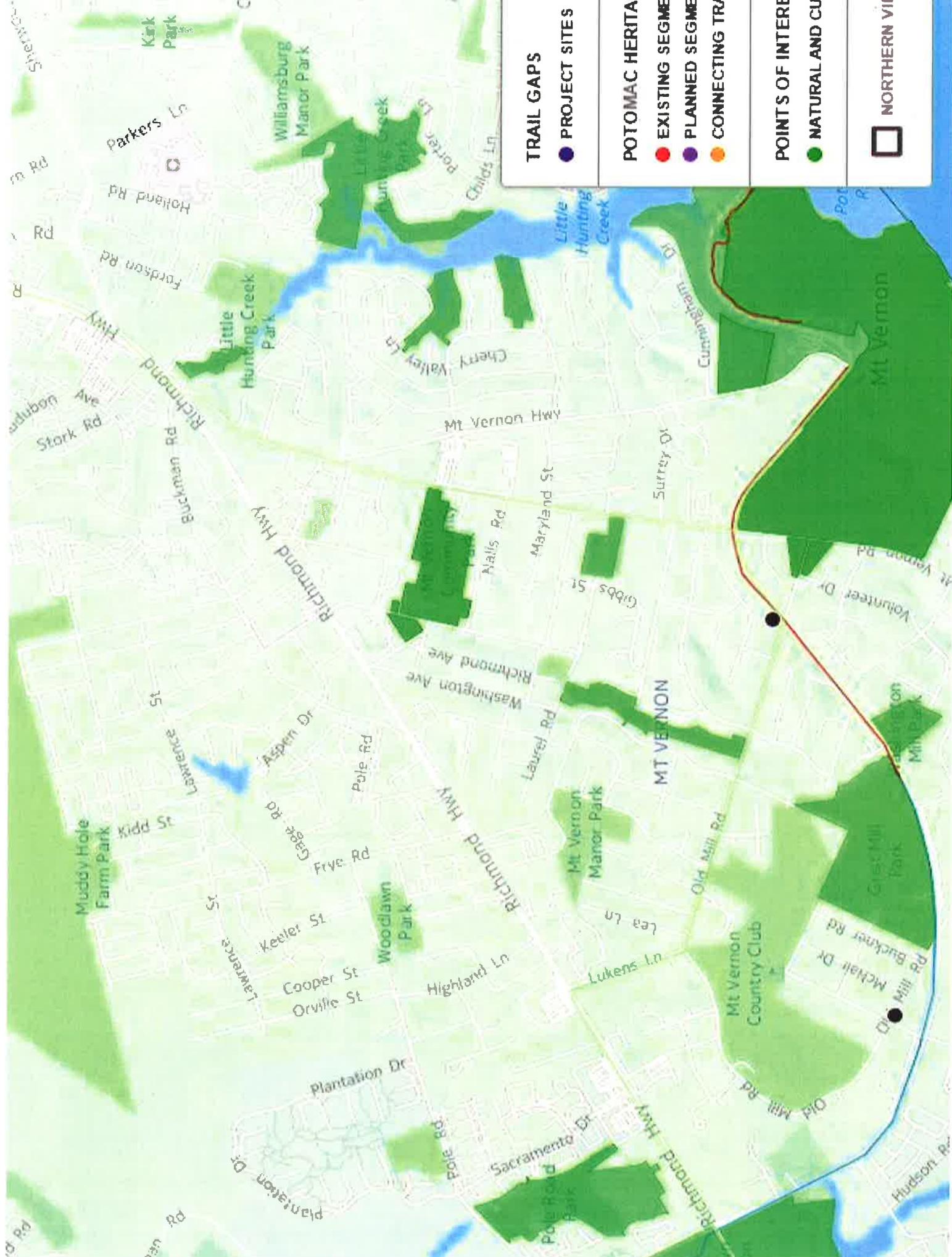
For continued coordination with NPS National Capital Region, please contact Tammy Stidham, Chief, Planning, Compliance and GIS at National Capital Region, 1100 Ohio Drive S.W., Washington, D.C. 20242. Ms. Stidham can be reached by phone at (202) 619-7474 or email tammy_stidham@nps.gov.

Sincerely,


Robert A. Vogel
Regional Director

cc:

Peter May, Associate Regional Director, Lands, Planning and Design
Tammy Stidham, Chief, Planning, Compliance & GIS, Lands, Planning and Design
Don Briggs, Superintendent Potomac Heritage National Scenic Trail

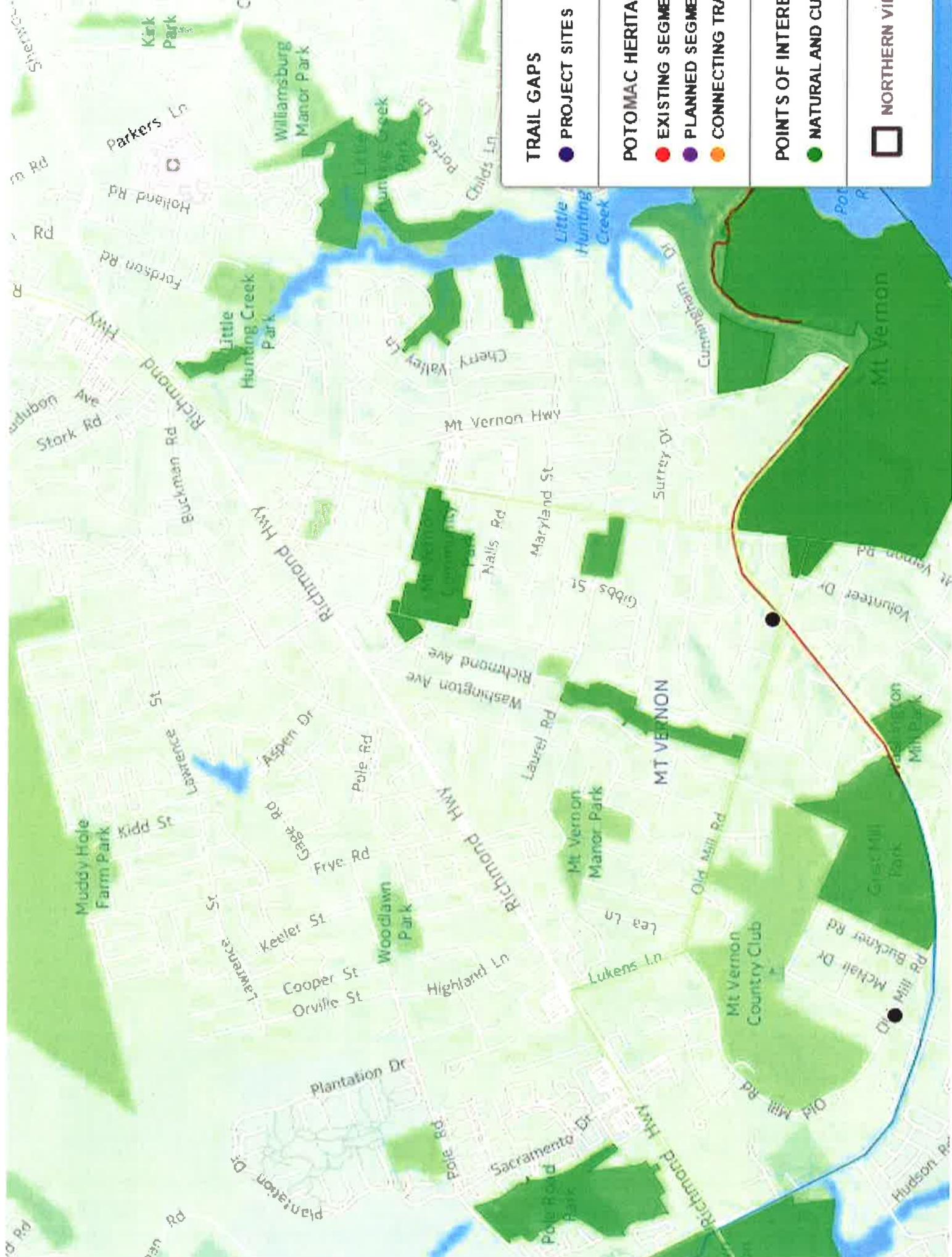


TRAIL GAPS

- PROJECT SITES
- POTOMAC HERITA
- EXISTING SEGME
- PLANNED SEGME
- CONNECTING TRJ

POINTS OF INTERE

- NATURAL AND CU
- NORTHERN VII



Nicholas Krause

From: Brown, Anissa (VDOT)
Sent: Friday, April 22, 2016 9:34 AM
To: 'Flegel, Donald - NRCS, Harrisonburg, VA'
Subject: RE: US Route 1 Widening, VDOT Project Number 0001-029-205, C501, P101, R201;
UPC: 107187

Thank You for the comments. We are currently beginning our Environmental process, and will use your comments to help better define the future project.

Anissa M. Brown
District Assistant Environmental Manager
4975 Alliance Drive
Fairfax, VA 22033
703-259-3358- Desk
571-318-0541-Cell
Anissa.Brown@VDOT.Virginia.gov

-----Original Message-----

From: Flegel, Donald - NRCS, Harrisonburg, VA [mailto:Donald.Flegel@va.usda.gov]
Sent: Friday, April 22, 2016 9:14 AM
To: Brown, Anissa (VDOT)
Subject: US Route 1 Widening, VDOT Project Number 0001-029-205, C501, P101, R201; UPC: 107187

Ms. Brown,
Please find attached the NEPA Evaluation Questionnaire for the subject project in Fairfax County, Virginia. If you have any questions concerning it, please feel free to contact me.
Don Flegel
Area Soil Resource Specialist
Harrisonburg, Virginia

This electronic message contains information generated by the USDA solely for the intended recipients. Any unauthorized interception of this message or the use or disclosure of the information it contains may violate the law and subject the violator to civil or criminal penalties. If you believe you have received this message in error, please notify the sender and delete the email immediately.

US Route 1 Widening from Napper Rd to Mount Vernon Highway, Fairfax County
VDOT Project Number 0001-029-205, CSOI, PIOI, R201; UPC: 107187

NEPA Evaluation Questionnaire

1. What constraints, if any, would you recommend be used for establishing a study area boundary in which to analyze the indirect effects and cumulative impacts to potentially affected resources?

2. Within the study area(s) you have recommended (see question 1), does your agency possess any data regarding [permitted or approved wetland or stream impacts and /or delineated wetlands; critical habitat, protected species and habitat] that you believe should be taken into account when considering potential indirect and cumulative effects?

There are approximately 30 acres of hydric soils mapped in the study area. These hydric soils are located on the floodplains of Dogue Creek and Little Hunting Creek. For an area to qualify as a wetland it must have all of the following characteristics: consist of a predominance of hydric soils; under normal circumstances support a prevalence of hydrophytic vegetation; and are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation.

3. Please provide input on positive and negative indirect effects that could occur through the implementation of alternatives within the study area such as: induced growth, economic development and investment, improved storm water management, and any pertinent reports or documents that may support your conclusions.

The study area contains approximately 85 acres of prime and statewide important farmland. However, it has already been committed to urban uses and thus does not qualify as prime or statewide important farmland. This will be the case when Form AD-1006 (USDA Farmland Conversion Impact Rating) is completed.

4. Does your agency possess any historic aerial imagery or mapping (i.e., NWI historical mapping) that might be useful for informing the analyses, specifically for indirect effects and cumulative impacts, conducted in this environmental study?

Brown, Anissa (VDOT)

From: Dan Iglhaut <DIGLHAUT@nvrpa.org>
Sent: Thursday, May 05, 2016 10:52 AM
To: Brown, Anissa (VDOT)
Cc: Briggs, Don; Mike DePue
Subject: US Route 1 Widening from Napper Rd. to Mt. Vernon Hwy.
Attachments: SKMBT_C75416050511100.pdf

Anissa,

Please see attached letter that was mailed today. Thank you for the opportunity to provide comments.

Dan

Dan Iglhaut | Deputy Director of Planning and Grants
703-359-4628 | dighlaut@nvrpa.org
5400 Ox Road, Fairfax Station, VA 22039 | www.novaparks.com





NOVA P A R K S

Northern Virginia Regional Park Authority

5400 Ox Road, Fairfax Station, VA 22039 | 703-352-5900 | Fax: 703-273-0905 | www.novaparks.com

May 5, 2016

Anissa Brown, Assistant Environmental Manager
VDOT Environmental Division
4975 Alliance Drive
Fairfax, VA 22033

RE: Rt. 1 Widening from Napper Rd. to Mount Vernon Hwy., VDOT Project No. 0001-029-205

Dear Ms. Brown:

The Northern Virginia Regional Park Authority (NOVA Parks) received your letter dated April 8, 2016 regarding the Environmental Assessment for the project referenced above and has the following comments.

NOVA Parks owns and operates Pohick Bay Regional Park located on the Potomac River on Mason Neck in southern Fairfax County. The park provides 1,002 acres of open space and recreation uses, including camping, aquatic center/outdoor swimming pool, 18-hole golf course, marina for renting and launching boats, 14 miles of equestrian and hiking trails, picnic areas, as well as historic and natural resources for conservation and public enjoyment.

NOVA Parks works in cooperation with the National Park Service which is planning the Potomac Heritage National Scenic Trail linking the public lands on Mason Neck with existing and planned PHNST trail segments to the north and south. The PHNST within VDOT's project area includes a segment on Jeff Todd Way/Mount Vernon Memorial Highway. This segment is also shown on the Countywide Trails Plan, which is part of Fairfax County's Comprehensive Plan. The Countywide Trails Plan also shows major paved trails along Route 1 and Jeff Todd Way/Mount Vernon Memorial Highway. These significant trail facilities must be addressed in the project's Environmental Assessment.

Please contact me at 703-359-4628 or dighlaut@nvrpa.org if you would like to discuss our comments in more detail.

Sincerely,

Daniel Iglhaut
Deputy Director of Planning and Grants

c: Don Briggs, National Park Service

City of Alexandria

Sean Kumar
Scott Price

Arlington County

Paul Ferguson
Michael A. Nardolilli

Fairfax County

Stella Koch
Laura Grape

City of Fairfax

Brian D. Knapp
Arthur F. Little

City of Falls Church

Barry D. Buschow
Jeffrey Tarbert

Loudoun County

Cate Magennis Wyatt
Daniel Kaseman



Reply to
Attention of

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

May 12, 2016

CENAO-WR-R
Northern Virginia Regulatory Section
NAO-2016-00751

Ms. Irene Rico
Division Administrator
Federal Highway Administration
Post Office Box 10249
Richmond, Virginia 23240-0249

Ms. Anissa Brown
VDOT Environmental Division
4975 Alliance Drive
Fairfax, VA 22033

Dear Ms. Rico and Ms. Brown:

This letter is in response your letter dated April 8, 2016 soliciting scoping comments for a study you have undertaken to evaluate improvements of approximately 2.9 miles of Route 1 between Route 235 South and Route 235 North in Fairfax County, Virginia. In accordance with the National Environmental Policy Act (NEPA), an Environmental Assessment (EA) is being prepared with the Federal Highway Administration (FHWA) as the lead federal agency and the Virginia Department of Transportation (VDOT) as the Joint Lead Agency.

It is likely the project will impact waters and/or wetlands regulated by the Norfolk District Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (33 U.S.C. 1344), and a permit or permits will likely be required for the improvements. USACE will participate as a cooperating agency in the preparation of the Environmental Assessment (EA). We recommend the use of a collaborative process for the study of this project, documenting concurrence of the pertinent Federal agencies at important steps, to provide the local governments and the public with a more dependable framework for planning decisions. We have been working with FHWA and VDOT to develop a synchronized process that would provide for such collaboration, and we encourage expeditious completion of that process and its use for this study.

We recommend coordination with the Cooperating Agencies of draft sections of the EA prior to publishing the document. Such coordination will help to minimize future delays or problems that can be addressed earlier in the process. The Coordination Plan does not appear to include this step.

You included a list of questions with your letter, and we have the following responses, which pertain only to aquatic resources:

1. We recommend that in establishing a study area boundary for analyzing indirect and cumulative effects, you include an area of sufficient size to include any indirect downstream effects, such as potential water quality effects from roadway runoff, as well as cumulative effects the watershed has experienced. You may find that the boundary of the entire watershed is needed to sufficiently address these effects to aquatic resources.
2. We can provide you with our record of impacts from authorized projects in the watershed, although the data are incomplete and most accurate only back to about 2007. At such time as you are conducting your cumulative effects analysis, if you will contact us we may be able to provide the most current information.
3. We recommend that your EA evaluate induced growth, economic development and investment as well as alternatives for aquatic resource impacts. However, we can specifically recommend that stormwater management facilities be located in an upland area prior to considering these features in a wetland and/or stream. Indirect effects of SMW facilities should be considered if they will be placed in aquatic resources. Such effects can include causing a barrier to the movement of aquatic organism, interrupting normal sediment transport in streams, and altering the hydrology of wetlands adjacent to basins.
4. We do not have available any historic imagery or mapping. All of our imagery has been acquired from publically available sources.
5. We do not have any tools to share that would be of use in indentifying indirect and cumulative effects other than our Regulatory database, from which we can provide some information about authorized impacts (as noted above). We recommend you refer to Virginia's record of identified impaired waters as one indicator of cumulative effects to surface waters. You may also wish to refer to the Virginia Department of Environmental Quality's WetCat program which will provide information regarding the condition of wetlands in the watershed, which can serve as an indicator of cumulative effects.
6. It appears that as part of the proposed Route 1 widening, a 58-foot wide median is planned within the proposed six lanes for "future planned bus rapid transit (BRT), turning lanes, bicycle/pedestrian facilities and other ancillary facilities." It appears that when evaluating project alternatives you should also consider not reserving the median for transit, but rather acquiring right-of-way and making any necessary widening in the future should a plan and funding for transit become available. Will pertinent features such as additional parking areas or stations or pedestrian sidewalks be required for the future BRT? These areas would need to be considered as a component for the additional width proposed and associated aquatic resource impacts. We cannot agree that a 58-foot median be proposed as part of the Preferred Alternative; if documentation to support such transit is not available, in particular designated funding for implementation. We will also need an analysis of the impacts to

wetlands and streams with the median reserved for transit, which causes a larger roadway footprint, compared to a design without the reserved median in order to evaluate this component of the typical section of the Preferred Alternative further. We also recommend that bicycle/pedestrian lanes are kept to a minimum or located to one side of the roadway to reduce impacts to aquatic resources. If the project is to be built in segments (possibly as proffers), then any segment submitted for permits must have independent utility and represent a stand-alone project. Presumably, no segments would be moved forward for construction until an EA evaluating the entire project has been completed, and a significant impact determination made by FHWA (i.e., Finding of No Significant Impact or Environmental Impact Statement).

Our regulations require that we consider a full range of public interest factors and conduct an alternatives analysis in order to identify the least environmentally damaging practicable alternative (LEDPA), which is the only alternative we can authorize. In addition to wetland and waters impacts, we must consider factors such as land use (including displacements of homes and businesses), floodplain hazards and values, water supply and conservation, water quality, safety, cost, economics, threatened and endangered species, historic and cultural resources, and environmental justice. As you develop alternatives, you should document how impacts to aquatic resources were avoided and minimized, and waters and wetlands should be identified and mapped before alternatives are considered. At a minimum, you should consider all available information such as aerial photography, U.S.G.S. quad sheets, National Wetland Inventory (NWI) maps, and soil mapping of the study area, as well as review of aerial photography (including color infrared aeriels) by a qualified reviewer.

Many projects funded by Federal-Aid Highway Funds managed by FHWA require permits from USACE. These projects are subject to compliance with Section 106 of the National Historic Preservation Act of 1966.

According to 36 CFR 800.2(a) (2):

“...If more than one Federal agency is involved in an undertaking, some or all [of] the agencies may designate a lead Federal agency, which shall identify the appropriate official to serve as the agency official who shall act on their behalf, fulfilling their collective responsibilities under section 106. Those Federal agencies that do not designate a lead Federal agency remain individually responsible for their compliance with this part.”

Pursuant to the above provision, FHWA (Virginia Division) is hereby designated as the lead federal agency to fulfill the collective Federal responsibilities under Section 106 for this undertaking: USACE authorizes FHWA to conduct Section 106 coordination on its behalf. Any Memorandum of Agreement prepared by FHWA under 36 CFR 800.6 should include the following clause in the introductory text:

“WHEREAS, pursuant to Section 10 and/or Section 404 of the Clean Water Act, a Department of the Army permit will likely be required from the Corps of Engineers for this

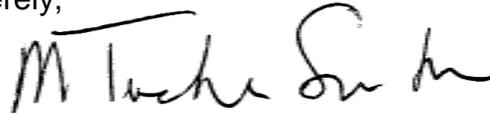
project, and the Corps has designated FHWA as the lead federal agency to fulfill federal responsibilities under Section 106; and

In addition, USACE hereby authorizes FHWA to conduct coordination on its behalf for this I66 project in accordance with Section 7 of the Endangered Species Act.

Thank you for the opportunity to comment on the preparation of the EA. To the extent that workload and scheduling allow, we will participate in stakeholder meetings. However, we request that VDOT consider separate meetings with the Cooperating Agencies as needed to resolve issues.

You may contact, Regena Bronson at regena.d.bronson@usace.army.mil or 540-548-2838 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Tucker Smith". The signature is written in a cursive, flowing style with a prominent initial "T".

Tucker Smith
Section Chief, Northern Virginia Regulatory Section

Copies furnished:

Environmental Protection Agency, Philadelphia
U. S. Fish and Wildlife Service, Gloucester
NOAA Fisheries Service, Gloucester Point
Virginia Department of Transportation, Fairfax
Virginia Department of Historic Resources, Richmond
Virginia Department of Environmental Quality, Richmond

Brown, Anissa (VDOT)

From: Virginia Field Office, FW5 <virginiafieldoffice@fws.gov>
Sent: Friday, May 13, 2016 9:43 AM
To: Brown, Anissa (VDOT)
Subject: Confirmation of Project Receipt RE: VDOT scoping letter to sign. (UNCLASSIFIED)

Thanks for submitting your online project package. We will review your package within 30 days of receipt. If you have submitted an online **project review request letter**, expect our response within 30 days. If you have submitted an online **project review certification letter**, you will typically not receive a response from us since the certification letter is our official response. However, if we have additional questions or we do not concur with your determinations, we will contact you during the review period.

Brown, Anissa (VDOT)

From: Bronson, Regena D NAO <Regena.D.Bronson@usace.army.mil>
Sent: Thursday, May 12, 2016 3:26 PM
To: Stannard, Halie (VDOT); Brown, Anissa (VDOT)
Cc: Virginia Field Office, FW5; LaBudde, Gregory (DHR); Barbara Okorn (Okorn.barbara@epa.gov); Hardwick, Steven (DEQ)
Subject: FW: VDOT scoping letter to sign. (UNCLASSIFIED)
Attachments: NAO 2016-00785 Scoping letter draft .pdf; Scoping letter Route 1 Fairfax.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

CLASSIFICATION: UNCLASSIFIED

Please find the attached letter for Mt Vernon road improvements.

Sorry for the delay in comments,

V/r,

Regena Bronson
USACE Fredericksburg Field Office
1329 Alum Spring Road, Suite 202
Fredericksburg, VA 22401
540-548-2838
regena.d.bronson@usace.army.mil

If you have a moment to take the following survey it would assist the Norfolk District in providing the highest level of support to the public. http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey
We value your comments and appreciate your taking the time to complete the survey.

CLASSIFICATION: UNCLASSIFIED

Brown, Anissa (VDOT)

From: Brown, Anissa (VDOT)
Sent: Friday, May 13, 2016 9:43 AM
To: 'Bronson, Regena D NAO'
Cc: Virginia Field Office, FW5; LaBudde, Gregory (DHR); Barbara Okorn (Okorn.barbara@epa.gov); Hardwick, Steven (DEQ)
Subject: RE: VDOT scoping letter to sign. (UNCLASSIFIED)

Thank You, I appreciate your time and detailed comments. We are currently beginning our Environmental process, and will use your comments to better define the future project and environmental documents.

As with many widening projects, the team will consider using all existing paved areas, and any/all property adjacent could be impacted, although it's unknown at this time without a preliminary design, to determine which properties will be directly impacted. VDOT will be working directly with all agencies to minimize harm to the natural resources located within this area. We thank you for your comments and will look forward to working with you.

The process is anticipated to take approximately 12-18 months for the Environmental Document, and a Preliminary Design to be at an acceptable level for approval to move forward, the public will be notified when any new documents are available for review. Design activities may take 1-2 years to arrive at the final alignment, with a multi-year construction. The design and construction segments have not been started, at this time I will not be able to provide you a more detailed response.

This project is being administered on behalf of Fairfax County, currently there is no funding in place to construct the proposed project. Due to possible funding opportunities that could be arise the county will be actively seeking sources to fully fund this project at the earliest time. No timeline is available right now as to when this could happen.

Currently a project website is under construction, please use this link to see updates to the project:

<http://www.virginiadot.org/projects/northern%20virginia/default.asp>

Anissa M. Brown
District Assistant Environmental Manager
4975 Alliance Drive
Fairfax, VA 22033
703-259-3358- Desk
571-318-0541-Cell
Anissa.Brown@VDOT.Virginia.gov

-----Original Message-----

From: Bronson, Regena D NAO [<mailto:Regena.D.Bronson@usace.army.mil>]
Sent: Thursday, May 12, 2016 3:26 PM
To: Stannard, Halie (VDOT); Brown, Anissa (VDOT)
Cc: Virginia Field Office, FW5; LaBudde, Gregory (DHR); Barbara Okorn (Okorn.barbara@epa.gov); Hardwick, Steven (DEQ)
Subject: FW: VDOT scoping letter to sign. (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

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V/r,

Regena Bronson
USACE Fredericksburg Field Office
1329 Alum Spring Road, Suite 202
Fredericksburg, VA 22401
540-548-2838
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We value your comments and appreciate your taking the time to complete the survey.

CLASSIFICATION: UNCLASSIFIED



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

October 30, 2015

Greetings:

Due to increased workload and refinement of our priorities in Virginia, this office will no longer provide individual responses to requests for environmental reviews. However, we want to ensure that U.S. Fish and Wildlife Service trust resources continue to be conserved. When that is not possible, we want to ensure that impacts to these important natural resources are minimized and appropriate permits are applied for and received. We have developed a website that provides the steps and information necessary to allow any individual or entity requiring review/approval of their project to complete a review and come to the appropriate conclusion. This site can be accessed at: <http://www.fws.gov/northeast/virginiafield/endangered/projectreviews.html>.

The website is frequently updated to provide new species/trust resource information and methods to review projects. Refer to the website for each project review to ensure that current information and methods are utilized.

If you have any questions about project reviews or need assistance, please contact Troy Andersen of this office at (804) 824-2428 or troy_andersen@fws.gov.

Sincerely,

Cindy Schulz
Field Supervisor
Virginia Ecological Services

Brown, Anissa (VDOT)

From: Brown, Anissa (VDOT)
Sent: Monday, May 02, 2016 12:03 PM
To: 'Troy Andersen'
Subject: RE: US Route 1 Widening from Napper Rd to Mount Vernon Highway, Fairfax County

Thank You for the comments I appreciate your time. We are currently beginning our Environmental process, and will use your comments to help better define the future project.

As with many widening projects, the team will consider using all existing paved areas, and any/all property adjacent could be impacted, but it's unknown at this time without a preliminary design, to determine which properties will be directly impacted. VDOT will be working closely with all agencies to minimize harm to the nature resources located in this area. We thank you for your comments and will look forward to working with you.

The process in place would take approximately 12-18 months for the Environmental Document, and Preliminary Design to be at an acceptable level for approval to move forward, the public will be notified at that time. Design activities may take 1-2 years to arrive at the final alignment, with a multi-year construction. The design and construction segments have not been started, at this time I will not be able to provide you a more detailed response.

This project is being administered on behalf of Fairfax County, currently there is no funding in place to construct the proposed project. Due to possible funding opportunities that could be arise the county will be actively seeking sources to fully fund this project at the earliest time. No timeline is available right now as to when this could happen.

Currently we are working on a project website, please use this link to see updates to the project:
<http://www.virginiadot.org/projects/northern%20virginia/default.asp>

In the Fall of 2016 a Public Information Meeting is being scheduled, with more specifics of the project.

Anissa M. Brown

District Assistant Environmental Manager

4975 Alliance Drive

Fairfax, VA 22033

703-259-3358- Desk

571-318-0541-Cell

Anissa.Brown@VDOT.Virginia.gov



Environmental

From: Troy Andersen [mailto:troy_andersen@fws.gov]
Sent: Monday, May 02, 2016 10:56 AM
To: Brown, Anissa (VDOT)
Subject: US Route 1 Widening from Napper Rd to Mount Vernon Highway, Fairfax County

Ma'am:

We recently received a letter regarding the subject project. We do not provide individual responses to requests for environmental reviews. Instead, we utilize an online project review process. The attached letter provides an overview of the process as well as a link to the process website. If you have additional questions regarding the process, don't hesitate to contact me.

V/R
Troy



Endangered Species/Conservation Planning Assistance Supervisor
USFWS - Virginia Field Office
Phone: 804-824-2428
Visit us at: <http://www.fws.gov/northeast/virginiafield/>

Brown, Anissa (VDOT)

From: Troy Andersen <troy_andersen@fws.gov>
Sent: Monday, May 02, 2016 10:56 AM
To: Brown, Anissa (VDOT)
Subject: US Route 1 Widening from Napper Rd to Mount Vernon Highway, Fairfax County
Attachments: 20151030_Letter_Service to Interested Parties_Online Project Reviews SIGNED.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Ma'am:

We recently received a letter regarding the subject project. We do not provide individual responses to requests for environmental reviews. Instead, we utilize an online project review process. The attached letter provides an overview of the process as well as a link to the process website. If you have additional questions regarding the process, don't hesitate to contact me.

V/R
Troy



Endangered Species/Conservation Planning Assistance Supervisor
USFWS - Virginia Field Office
Phone: 804-824-2428
Visit us at: <http://www.fws.gov/northeast/virginiafield/>

Brown, Anissa (VDOT)

From: Paxton, Kathryn (VDACS)
Sent: Thursday, April 28, 2016 12:03 PM
To: Brown, Anissa (VDOT)
Cc: Schmidt, Kevin (VDACS)
Subject: VDACS comments re: US Route 1 Widening from Napper Rd to Mount Vernon Highway
Attachments: Final.Response.VDOT US Route 1 Widening.Fairfax Co.4.27.16.pdf

Good afternoon,

Attached is VDACS's response to the request for comments re: the US Route 1 Widening from Napper Rd to Mount Vernon Highway project. Please let me know if we can provide any additional information.

Kathryn Paxton
Policy Analyst
Office of Policy, Planning and Research
Virginia Department of Agriculture and Consumer Services
(804) 786-5175



COMMONWEALTH of VIRGINIA

Department of Agriculture and Consumer Services

PO Box 1163, Richmond, Virginia 23218

Phone: 804/786-3501 • fax: 804/371-2945 • Hearing Impaired: 800/828-1120

www.vdacs.virginia.gov

April 27, 2016

Sandra J. Adams
Commissioner

Ms. Anissa Brown
VDOT Fairfax District Assistant Environmental Manager
VDOT Environmental Division
4975 Alliance Drive
Fairfax, Virginia 22033

Subject: US Route 1 Widening from Napper Road to Mount Vernon Highway
Fairfax County
VDOT Project Number: 0001-029-205, C501, P101, R201; UPC 107187

Dear Ms. Brown:

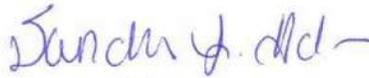
This is in response to your letter to this agency dated April 8, 2016, inviting comments concerning potential issues or concerns related to the US Route 1 Widening project in Fairfax County. We appreciate the opportunity to provide feedback on this project.

The Virginia Department of Agriculture and Consumer Services (VDACS) is responsible for the preservation of farmland and the protection of endangered and threatened plant and insect species. While VDACS does not have any input to contribute to the first, third, fourth, or fifth question on the US Route 1 Widening NEPA Evaluation Questionnaire, in response to the second question, we recommend that several issues be considered while developing this study. Concerning farmland preservation, § 3.2-204 of the Code of Virginia requires that in preparing reports on major state projects, each state agency shall demonstrate that it considered the impact of the projects on farm and forest lands as required in § 3.2-205 and that it adequately considered alternatives and mitigating measures. Therefore, VDACS encourages the Virginia Department of Transportation (VDOT) and others involved with this project to minimize the loss of farm and forest land to the highest degree possible. Also, VDACS asks that VDOT be mindful of any actions that could result in altering the water flow within surrounding agricultural lands and, to the greatest extent possible, minimize any adverse drainage or erosion issues that may result. In addition, VDACS suggests that VDOT determine whether Fairfax County has any established agricultural and forestal districts that may be impacted by this project. Should such districts exist, additional project review is required per § 15.2-4313 of the Code of Virginia.

Additionally, VDACS works closely with the Department of Conservation and Recreation (DCR) in determining the potential impact of proposed projects on state endangered and threatened plant and insect species. Through a Memorandum of Agreement between our agencies, DCR reviews these projects and submits comments on our behalf. Consequently, any inquiries

relating to state protected plant and insect species should be directed to DCR for response. If after researching its database of natural resources, critical habitats, and species locations DCR finds that a project poses a potential adverse impact on an endangered or threatened plant or insect species, the appropriate information will be referred to VDACS for further review and possible mitigation. Please note that requests of this nature should be sent to Rene Hypes at the DCR Division of Natural Heritage Project Review Program. Ms. Hypes can be reached at (804) 371-2708 or rene.hypes@dcr.virginia.gov.

Sincerely,



Sandra J. Adams
Commissioner

cc: Larry Nichols, Director, Division of Consumer Protection
Kevin Schmidt, Director, Office of Policy, Planning, and Research

Nicholas Krause

From: Dressler, Shirl (DGIF)
Sent: Monday, April 11, 2016 4:08 PM
To: Brown, Anissa (VDOT)
Subject: Route 1 Widening from Napper Road to Mount Vernon Highway
Attachments: SignedVDOTRt1WideningNapperRd-MountVernonHwy2016.pdf

Please see the attached.

Shirl Dressler, Program Support Technician
Bureau of Wildlife Resources, Statewide Resources
P O Box 90778
7870 Villa Park Drive, Suite 400
Henrico, VA 23228-0778
(804) 367-6913
(804) 367-2628 FAX
shirl.dressler@dgif.virginia.gov
collectionpermits@dgif.virginia.gov
"Wildlife has a place and that place is in the wild"



Molly J. Ward
Secretary of Natural Resources

COMMONWEALTH of VIRGINIA

Department of Game and Inland Fisheries

April 11, 2016

Bob Duncan
Executive Director

Ms. Anissa Brown
VDOT Environmental Division
4975 Alliance Drive
Fairfax, VA 22030

Re: Request for Determination of Impact upon Wildlife Resources: Route 1 Widening from Napper Road to Mount Vernon Highway Project

Dear Ms. Brown:

We appreciate that you submitted your project(s) for review by VDGIF to ensure the protection of sensitive wildlife resources during project development. Due to current staffing limitations within our Fish and Wildlife Information Services (FWIS) and Environmental Services sections, we are unable to review and provide comments on projects that are not currently involved in one of the regulatory review processes for which we are a consultative agency (see <http://www.dgif.virginia.gov/environmental-programs/environmental-services-section.asp>). Please note that no response from VDGIF does not constitute "no comment" nor does it imply support of the project or associated activities. It simply means VDGIF has not been able to respond to your request.

To assist you in determining which, if any, wildlife resources under our jurisdiction, including threatened and endangered wildlife, may be present on or near your project site, we recommend that you access the Virginia Fish and Wildlife Information System (VAFWIS) at <http://vafwis.org/fwis/>.

If you should have further questions or need additional information about VDGIF's Environmental Programs, please visit: <http://www.dgif.virginia.gov/environmental-programs/>.

Please feel free to attach a copy of this correspondence and any reports from VAFWIS with your project paper work to document your correspondence with us regarding this project.

Thank you,

A handwritten signature in black ink, appearing to read "Shirl Dressler", written over a horizontal line.

Shirl Dressler, Program Support Technician
Acting Environmental Services Admin.

Brown, Anissa (VDOT)

From: Brown, Anissa (VDOT)
Sent: Friday, April 15, 2016 9:06 AM
To: 'odwreview@vdh.virginia.gov'
Subject: FW: US Route 1 Widening Project Fairfax Co. UPC - 107187
Attachments: US 1 Widening Fairfax Co UPC 107187.pdf

Virginia Department of Health, Office of Drinking Water
109 Governor Street, Sixth Floor
Richmond, VA 23219

Please find enclosed a map showing the US Route 1 Widening Project extending for an approximate 2.9 mile section of US Route 1 between Route 235 (Mount Vernon Memorial Highway – South) to 0.07 miles north of Route 235 (Mount Vernon Highway – North).

The enclosed map illustrates the proposed bounds of the EA study area. At this early stage of the study, our efforts are focused on ensuring that a full range of issues related to the project are addressed and all significant issues are identified. To that end, please review the enclosed map and provide comments on any issues, interests, or concerns regarding human and natural resources within the project area indicated. In addition, please provide any other information you believe would be helpful to the study. If you do not have information to contribute, do not feel as though you must provide an answer. An unanswered question is acceptable and will be interpreted as no comment. Our intent is to address your concerns and incorporate any recommendations into the planning process at the earliest possible time.

VDOT and FHWA will schedule a Citizen Information Meeting in the fall of 2016 and invite you to attend. Please note there will be future opportunities for involvement as the study progresses.

To avoid project delays, we request that you provide your response no later than May 8, 2016. You can mail your response to:

Anissa Brown
VDOT Environmental Division
4975 Alliance Drive
Fairfax, VA 22033

Or email them to: Anissa.Brown@VDOT.Virginia.gov

We greatly appreciate your cooperation and participation in this process. Should you require additional information or have further questions about the project, please contact me at (703) 259-3358 or by email at the address provided above.

Anissa M. Brown

District Assistant Environmental Manager

4975 Alliance Drive

Fairfax, VA 22033

703-259-3358- Desk

571-318-0541-Cell

Anissa.Brown@VDOT.Virginia.gov

From: Soto, Roy (VDH)
Sent: Friday, April 15, 2016 8:07 AM
To: Brown, Anissa (VDOT)
Cc: Warren, Arlene (VDH); Douglas, Susan (VDH); Hammond, Drew (VDH)
Subject: FW: US Route 1 Widening Project Fairfax Co. UPC - 107187

Anissa:

Good morning. Hope this email finds you well.

Our project review team received the attached review request. In order to streamline our process, we are asking agencies to submit review requests through odwreview@vdh.virginia.gov.

Thanks in advance for your support. Feel free to share with other peers.

Best regards,

Roy Soto, PE, PMP, VCA
Special Projects Engineer
Virginia Department of Health, Office of Drinking Water
James Madison Building
109 Governor St, Room 628
Richmond, VA 23219
804.864.7516 (D)
www.vdh.virginia.gov/ODW/SourceWaterPrograms

From: Warren, Arlene (VDH)
Sent: Thursday, April 14, 2016 5:15 PM
To: odwreview (VDH)
Subject: US Route 1 Widening Project Fairfax Co. UPC - 107187

Reply should be sent to Anissa.Brown@VDOT.virginia.gov

AFW

Brown, Anissa (VDOT)

From: Brown, Anissa (VDOT)
Sent: Friday, May 06, 2016 8:32 AM
To: Warren, Arlene (VDH)
Cc: Soto, Roy (VDH)
Subject: RE: US Route 1 Widening Project Fairfax Co. UPC - 107187

Thank You for the comments I appreciate your time. We are currently beginning our Environmental process, and will use your comments to help better define the future project. VDOT will be working closely with all agencies to minimize harm to the nature resources located in this area. We thank you for your comments and will look forward to working with you.

This project is being administered on behalf of Fairfax County, currently there is no funding in place to construct the proposed project. Due to possible funding opportunities that could be arise the county will be actively seeking sources to fully fund this project at the earliest time. No timeline is available right now as to when this could happen.

Currently we are working on a project website, please use this link to see updates to the project:
<http://www.virginiadot.org/projects/northern%20virginia/default.asp>

In the Fall of 2016 a Public Information Meeting is being scheduled, with more specifics of the project.

Anissa M. Brown

District Assistant Environmental Manager
4975 Alliance Drive
Fairfax, VA 22033
703-259-3358- Desk
571-318-0541-Cell
Anissa.Brown@VDOT.Virginia.gov



From: Warren, Arlene (VDH)
Sent: Monday, May 02, 2016 5:13 PM
To: Brown, Anissa (VDOT)
Cc: Soto, Roy (VDH)
Subject: RE: US Route 1 Widening Project Fairfax Co. UPC - 107187

Project Name: US Route 1 Widening Project

Project #: N/A

UPC #: **107187**

Location: **Fairfax County**

VDH – Office of Drinking Water has reviewed the above project. Below are our comments as they relate to proximity to **public drinking water sources** (groundwater wells, springs and surface water intakes). Potential impacts to public water distribution systems or sanitary sewage collection systems **must be verified by the local utility.**

There are no public groundwater wells within a 1 mile radius of the project site.

There are no surface water intakes located within a 5 mile radius of the project site.

The project is not within the watershed of any public surface water intakes.

There are no apparent impacts to public drinking water sources due to this project.

From: Warren, Arlene (VDH)

Sent: Thursday, April 14, 2016 5:15 PM

To: odwreview (VDH)

Subject: US Route 1 Widening Project Fairfax Co. UPC - 107187

Reply should be sent to Anissa.Brown@VDOT.virginia.gov

AFW

Brown, Anissa (VDOT)

From: ImpactReview (VOF)
Sent: Wednesday, April 13, 2016 3:35 PM
To: Brown, Anissa (VDOT)
Subject: US Route 1 Widening from Napper Rd to Mt Vernon Hwy
Attachments: US Route 1 Widening from Napper Rd to Mt Vernon Hwy.pdf

Ms. Brown,

The Virginia Outdoors Foundation has reviewed the project referenced above and described in the attached document. As of 13 April 2016, there are not any existing nor proposed VOF open-space easements within the immediate vicinity of the project.

Please contact VOF again for further review if the project area changes or if this project does not begin within 24 months. Thank you for considering conservation easements.

In the future, please send requests for review to ImpactReview@VOFonline.org

Thanks,
Mike

Mike Hallock-Solomon, AICP
Virginia Outdoors Foundation

Brown, Anissa (VDOT)

From: Brown, Anissa (VDOT)
Sent: Monday, May 02, 2016 12:03 PM
To: Eversole, Mark (MRC)
Cc: Owen, Randy (MRC)
Subject: RE: US Route 1 widening from Napper Road to Mount Vernon Highway

Thank You for the comments I appreciate your time. We are currently beginning our Environmental process, and will use your comments to help better define the future project.

As with many widening projects, the team will consider using all existing paved areas, and any/all property adjacent could be impacted, but it's unknown at this time without a preliminary design, to determine which properties will be directly impacted. VDOT will be working closely with all agencies to minimize harm to the nature resources located in this area. We thank you for your comments and will look forward to working with you.

The process in place would take approximately 12-18 months for the Environmental Document, and Preliminary Design to be at an acceptable level for approval to move forward, the public will be notified at that time. Design activities may take 1-2 years to arrive at the final alignment, with a multi-year construction. The design and construction segments have not been started, at this time I will not be able to provide you a more detailed response.

This project is being administered on behalf of Fairfax County, currently there is no funding in place to construct the proposed project. Due to possible funding opportunities that could be arise the county will be actively seeking sources to fully fund this project at the earliest time. No timeline is available right now as to when this could happen.

Currently we are working on a project website, please use this link to see updates to the project:
<http://www.virginiadot.org/projects/northern%20virginia/default.asp>

In the Fall of 2016 a Public Information Meeting is being scheduled, with more specifics of the project.

Anissa M. Brown

District Assistant Environmental Manager

4975 Alliance Drive

Fairfax, VA 22033

703-259-3358- Desk

571-318-0541-Cell

Anissa.Brown@VDOT.Virginia.gov



From: Eversole, Mark (MRC)
Sent: Monday, May 02, 2016 10:51 AM
To: Brown, Anissa (VDOT)
Cc: Eversole, Mark (MRC); Owen, Randy (MRC)
Subject: US Route 1 widening from Napper Road to Mount Vernon Highway

Ms. Brown, we have reviewed your letter and mapping dated April 8, 2016 in which you request comments on the above referenced project. It appears that this road widening project will impact several streams within the jurisdiction of the Marine Resources Commission. It also appears that tidal wetlands may possibly be impacted at the Little Hunting Creek crossing. This project will require permits from the Marine Resources Commission for impacts to state owned submerged lands. You should anticipate receiving comments during permitting review that indicate the proposed stream crossings may impact anadromous fish passage, and a time of year restriction on work within jurisdictional streams may be imposed on the project. This restriction would halt construction within streams from February 15th through June 30th of any year during the construction window.

Thank you for the opportunity to provide comments on this proposal. We look forward to working with you as this project develops.

Mark Eversole
Virginia Marine Resources Commission
2600 Washington Avenue, 3rd Floor
Newport News, Virginia 23607
Office: (757)-247-8028
email: mark.eversole@mrc.virginia.gov



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

July 25, 2016

Ms. Anissa Brown
Assistant District Environmental Manager
VDOT Northern Virginia District
4975 Alliance Drive
Fairfax, Virginia 22030

RE: Request for Environmental Scoping Comments
US Route 1 Widening from Napper Road to Mount Vernon Highway
VDOT Project Number 0001-029-205; UPC 107187

Dear Ms. Brown:

This letter is in response to your request for information relating to potential environmental impacts associated with the proposed Route 1 widening project. Accompanying your letter was a National Environmental Policy Act (NEPA) Evaluation Questionnaire. The answers to those questions, as well as more generalized environmental responses, are provided below.

In response to a request for comments, Sandy Stallman of the Fairfax County Park Authority (FCPA) provided a three page memorandum, dated April 29, 2016, addressing the Route 1 widening project. Rather than incorporating the FCPA comments into this letter, a copy of it has been included for your consideration with this transmittal.

I Question One

Please identify all environmental or engineering studies/reports which have been recently completed by your agency within the study area.

Department of Public Works and Environmental Services (DPWES)

The proposed project area spans the Dogue Creek watershed and the Little Hunting Creek watershed. Both of these watersheds have completed watershed management plans (WMP) which identify the best projects for improving watersheds from a cost benefit ratio perspective. The completed watershed plans are available online at www.fairfaxcounty.gov/dpwes/watersheds.

Fairfax County Department of Transportation
4050 Legato Road, Suite 400
Fairfax, VA 22033-2895
Phone: (703) 877-5600 TTY: 711
Fax: (703) 877-5723
www.fairfaxcounty.gov/fcdot



The watershed plans took into account all available information at the time of completion. It should be noted that the Little Hunting Creek WMP was completed in 2005, while the Dogue Creek WMP was completed in 2011. For more information, please contact Heather Diez, heather.diez@fairfaxcounty.gov ; 703-324-5813

II Question Two

What are the current planned projects being completed by your agency within the study area? Are there any public documents/permits that estimate environmental impacts of these projects?

Department of Public Works and Environmental Services (DPWES)

Projects currently under construction:

- Intersection improvement at Route 1 with Sacramento Drive.

Projects to be constructed in FY 16/17:

- 110 linear feet (LF) of concrete sidewalk along Route 1 at Mount Eagle Drive westward
- 520 LF of concrete sidewalk and 10 curb cut ramps along the west side of Route 1 from Russell Road to 200 linear feet (LF) north of Roxbury Drive.
- 270 LF of concrete sidewalk and 8 curb cut ramps along west side of Route 1 from Gregory Drive to Russell Road.
- 940 LF of concrete sidewalk and 7 curb ramps along Route 1 from Frye Road to Radford Avenue.
- Bus shelter to be installed at Route 1 southbound at Brevard Court.
- Currently planning a redevelopment project at 8333 Richmond Highway which will utilize the existing facility, a former high school, as well as properties immediately adjacent and behind the site.
- Permits and environmental impact studies have not been obtained or done at this time. Most of the sidewalk projects are very limited in scope and will not require these documents. Where required, permits and documents will be obtained prior to commencement of construction.

Stormwater and Sanitary Sewer

The DPWES can provide the records of the County owned stormwater and wastewater facilities in the area. There are about 37,700 LF of existing sanitary sewer ranging in size from 8 inches to 30 inches, and about 140 manholes, which may be impacted by the project. However DPWES will not know the details until final plans are received. If laterals will not be re-used, the laterals can be abandoned in place by filling with grout, or can be removed completely and plugged.

Stormwater management needs to be part of this project and should be designed to address new impervious surfaces as well as existing surfaces. The study should check with the Virginia Department of Environmental Quality (DEQ) to determine if there are downstream impairments. For further information, please contact Randy Bartlett at 703-324-5732; Randy.Bartlett@fairfaxcounty.gov .

Other planned projects

At this time, there are no other completed or proposed WMP projects or identified in upcoming work plans within the study area. There are several structural projects that were proposed as part of the planning process. These include:

- **DC9206 – Stream Restoration** (No hyperlink.)
- **DC9207 – Stream Restoration** (See: http://www.fairfaxcounty.gov/dpwes/watersheds/publications/dc/08_bdf_wmp_ch5_pfs_2_ada.pdf)
- **DC9208 – Stream Restoration** (No hyperlink.)
- **DC9217 – Stream Restoration** (See: http://www.fairfaxcounty.gov/dpwes/watersheds/publications/dc/08_bdf_wmp_ch5_pfs_2_ada.pdf)
- **DC9501 – BMP/LID** (See: http://www.fairfaxcounty.gov/dpwes/watersheds/publications/dc/08_bdf_wmp_ch5_pfs_2_ada.pdf)
- **DC9502 – BMP/LID** (No hyperlink.)
- **LH9122 – BMP Retrofit** (See: http://www.fairfaxcounty.gov/dpwes/watersheds/publications/lhc/09_lh_wmp_appac_a_da.pdf)
- **LH9218 – Stream Restoration** (See: http://www.fairfaxcounty.gov/dpwes/watersheds/publications/lhc/09_lh_wmp_appac_a_da.pdf)

- **LH9819D – New Commercial LID (See: http://www.fairfaxcounty.gov/dpwes/watersheds/publications/lhc/09_lh_wmp_appac_a_da.pdf)**

All proposed projects in the Little Hunting Creek WMP have an associated project fact sheet. Only the ten year priority projects within the Dogue Creek WMP have associated project fact sheets. Projects that have an associated fact sheet are linked to the page in the WMP for more detail.

There are some non-structural projects proposed for the study area that include measures such as the installation of rain barrels in residential areas, additional inspection and enforcement of commercial areas, street sweeping, and buffer restoration.

It should be noted that the WMP effort focused primarily on public land, due to land right issues with working on private property. Therefore, there may be other projects that benefit stormwater management that are not listed here.

Fairfax County Department of Transportation (FCDOT)

FCDOT has the following projects planned or underway at this time. These are locally funded projects that fall under the dollar threshold for an Environmental Impact Review (EIR), so no EIR was prepared for them. Please contact Mark VanZandt, Mark.VanZandt@fairfaxcounty.gov; 703-877-5745 for additional information and plans.

Project Location/Description	Project Number	Phase
Route 1 – Sacramento Drive Intersection Improvements	1400013-2006	Construction
Frye Road Intersection Improvements – Phase II	1400012-2006	Bid Advertisement
Belford Drive Intersection Improvements	1400017-2006	Bid Advertisement
Route 1 SB: Russell Road to Roxbury Drive, Sidewalk Project	1400082-2012	Bid Advertisement

Route 1 SB: Gregory Drive to Russell Road, Sidewalk Project	1400083-2012	Construction
Route 1 NB: Frye Road to Radford Avenue, Sidewalk Project	1400084-2012	Construction
Route 1 NB: Engleside Street to Forest Place, Sidewalk Project	1400087-2012	Construction
Miscellaneous Bus Stop Improvements, Various Locations	Varies	Design

Fire & Rescue

Woodlawn Fire Station at 8701 Lukens Lane, Alexandria, Virginia, is in the area of the VDOT study. The project to renovate/expand the existing fire station was approved as part of the 2015 Bond Referendum. Although there are no environmental or engineering studies to be conducted, Fairfax County will be testing for hazardous materials inside the building. No other formal environmental testing is anticipated. Contact person: Teresa Lepe, DPWES Building Design and Construction Division; Teresa.Lepe@fairfaxcounty.gov; 703-324-5161.

III Question Three

Please provide appropriate contact information for ongoing studies being completed by your agency within the study area.

Transit Development Plan

FCDOT/Transit Services Division has completed the Transit Development Plan (TDP) and is finalizing the Comprehensive Transit Plan (CTP). Both documents include recommendations for transit services that operate along, or across the project corridor. Copies of the final TDP and draft CTP can be obtained from Stuart Boggs; Stuart.Boggs@fairfaxcounty.gov; 703-877-5608.

Old Mount Vernon High School

DPWES is currently planning a redevelopment project at 8333 Richmond Highway which will utilize the existing former high school, as well as properties immediately adjacent and behind the site. Permits and environmental impact studies have not been obtained or done. For more information, please contact Heather Diez, heather.diez@fairfaxcounty.gov ; 703-324-5813.

IV Question Four

Please provide any additional comments or feedback that you feel may be beneficial to the development to this study.

Existing Road Culverts

While it is not the purview of the Fairfax County Stormwater Management Branch to reconstruct underperforming road culverts, the expansion of Route 1 provides an ideal opportunity to ensure that all culverts are appropriately sized to convey the stormwater flows from rain events. We are aware that there is a drainage issue around Route 1 and Janna Lee / Buckman Road where the culvert capacity seems to be consistently restricted by sediment.

Floodplain

There are three FEMA floodplains that cross Route 1 (Dogue Creek, Tributary 1 to North Fork Dogue Creek, and Little Huntington Creek). DPWES does not expect that the proposed project will increase the existing base flood elevations and thus is not anticipated to impact properties.

Stormwater Management

Much of the area within the proposed study area does not have any associated stormwater management facilities, because many of the commercial areas along Route 1 were developed before stormwater management requirements were in place. Therefore, any additional quality and quantity control would benefit the health of the watershed and community at large. When planning the expansion of Route 1, DPWES encourages VDOT to address the stormwater from the entire span of Route 1 and not simply the additional lanes.

Lastly, this project provides the opportunity for partnerships on implementing stormwater management facilities that would not only address the needs for the roadway but also help to retrofit inadequate stormwater management into an older community. The Fairfax County Stormwater Planning Division would be willing to discuss this in more details as the planning and design phases proceed.

Streetlights

The widening of Route 1 will doubtless involve the removal of many existing streetlights along the Route 1 corridor, and is likely to create significant streetlight impacts to the Fairfax County Streetlight inventory in the project area. Approximately 233 existing streetlights and associated poles will require the following: pole relocations, as well as streetlight fixture upgrades and conversions. Also, additional street lighting, poles and fixtures will be required to meet roadway lighting requirements. This widening project will need to fund the entire costs of streetlight construction, installation, relocation, conversions and upgrades along Route 1. It is recommended that VDOT develop a complete lighting design for the entire length of the

Ms. Anissa Brown
July 25, 2016
Page 7 of 7

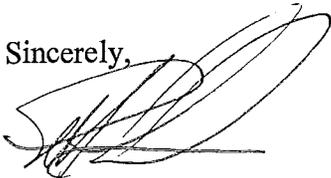
roadway. This design should be submitted to FCDOT and DPWES, Utilities Design and Construction Division, Streetlights and Developer Default Branch, for review and approval.

Urban Forestry

The Fairfax County Urban Forestry Management Division (UFMD) has GIS data on the urban forest canopy in the project area that may help in the assessment of impacts of the project on tree canopy loss. This information and expertise of UFMD staff will also aid in determining reforestation or other strategies to mitigate the impact of tree canopy loss.

Hopefully, the above information is useful to you in the preparation of the Environmental Assessment for the Route 1 Widening project. Please contact the Department's Environmental Specialist, Doug Miller (douglas.miller3@fairfaxcounty.gov; 703-877-5750), if any additional information is needed. We look forward to working with you and the rest of the VDOT team to make this project a success.

Sincerely,



For Tom Biesiadny
Director

Enclosure: FCPA Comments

cc: Fairfax County Board of Supervisors
Edward L. Long, Jr., County Executive
Robert A. Stalzer, Deputy County Executive
Catherine A. Chianese, Assistant County Executive
Eric Teitelman, Chief, CPTED Division, FCDOT
Noel Kaplan, Sr. Transportation Planner, FCDPZ
Fred Rose, Chief, Watershed Planning and Assessment Branch, FCDPW
Sandra Stallman, Manager, P & D Park Planning Branch, FCPA
Keith Cline, Fairfax County Urban Forester



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

July 25, 2016

Ms. Anissa Brown
Assistant District Environmental Manager
VDOT Northern Virginia District
4975 Alliance Drive
Fairfax, Virginia 22030

RE: Request for Environmental Scoping Comments
US Route 1 Widening from Napper Road to Mount Vernon Highway
VDOT Project Number 0001-029-205; UPC 107187

Dear Ms. Brown:

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Department of Public Works and Environmental Services (DPWES)

The proposed project area spans the Dogue Creek watershed and the Little Hunting Creek watershed. Both of these watersheds have completed watershed management plans (WMP) which identify the best projects for improving watersheds from a cost benefit ratio perspective. The completed watershed plans are available online at www.fairfaxcounty.gov/dpwes/watersheds.

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The watershed plans took into account all available information at the time of completion. It should be noted that the Little Hunting Creek WMP was completed in 2005, while the Dogue Creek WMP was completed in 2011. For more information, please contact Heather Diez, heather.diez@fairfaxcounty.gov ; 703-324-5813

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Other planned projects

At this time, there are no other completed or proposed WMP projects or identified in upcoming work plans within the study area. There are several structural projects that were proposed as part of the planning process. These include:

- **DC9206 – Stream Restoration** (No hyperlink.)
- **DC9207 – Stream Restoration** (See: http://www.fairfaxcounty.gov/dpwes/watersheds/publications/dc/08_bdf_wmp_ch5_pfs_2_ada.pdf)
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It should be noted that the WMP effort focused primarily on public land, due to land right issues with working on private property. Therefore, there may be other projects that benefit stormwater management that are not listed here.

Fairfax County Department of Transportation (FCDOT)

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Project Location/Description	Project Number	Phase
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Belford Drive Intersection Improvements	1400017-2006	Bid Advertisement
Route 1 SB: Russell Road to Roxbury Drive, Sidewalk Project	1400082-2012	Bid Advertisement

Route 1 SB: Gregory Drive to Russell Road, Sidewalk Project	1400083-2012	Construction
Route 1 NB: Frye Road to Radford Avenue, Sidewalk Project	1400084-2012	Construction
Route 1 NB: Engleside Street to Forest Place, Sidewalk Project	1400087-2012	Construction
Miscellaneous Bus Stop Improvements, Various Locations	Varies	Design

Fire & Rescue

Woodlawn Fire Station at 8701 Lukens Lane, Alexandria, Virginia, is in the area of the VDOT study. The project to renovate/expand the existing fire station was approved as part of the 2015 Bond Referendum. Although there are no environmental or engineering studies to be conducted, Fairfax County will be testing for hazardous materials inside the building. No other formal environmental testing is anticipated. Contact person: Teresa Lepe, DPWES Building Design and Construction Division; Teresa.Lepe@fairfaxcounty.gov; 703-324-5161.

III Question Three

Please provide appropriate contact information for ongoing studies being completed by your agency within the study area.

Transit Development Plan

FCDOT/Transit Services Division has completed the Transit Development Plan (TDP) and is finalizing the Comprehensive Transit Plan (CTP). Both documents include recommendations for transit services that operate along, or across the project corridor. Copies of the final TDP and draft CTP can be obtained from Stuart Boggs; Stuart.Boggs@fairfaxcounty.gov; 703-877-5608.

Old Mount Vernon High School

DPWES is currently planning a redevelopment project at 8333 Richmond Highway which will utilize the existing former high school, as well as properties immediately adjacent and behind the site. Permits and environmental impact studies have not been obtained or done. For more information, please contact Heather Diez, heather.diez@fairfaxcounty.gov ; 703-324-5813.

IV Question Four

Please provide any additional comments or feedback that you feel may be beneficial to the development to this study.

Existing Road Culverts

While it is not the purview of the Fairfax County Stormwater Management Branch to reconstruct underperforming road culverts, the expansion of Route 1 provides an ideal opportunity to ensure that all culverts are appropriately sized to convey the stormwater flows from rain events. We are aware that there is a drainage issue around Route 1 and Janna Lee / Buckman Road where the culvert capacity seems to be consistently restricted by sediment.

Floodplain

There are three FEMA floodplains that cross Route 1 (Dogue Creek, Tributary 1 to North Fork Dogue Creek, and Little Huntington Creek). DPWES does not expect that the proposed project will increase the existing base flood elevations and thus is not anticipated to impact properties.

Stormwater Management

Much of the area within the proposed study area does not have any associated stormwater management facilities, because many of the commercial areas along Route 1 were developed before stormwater management requirements were in place. Therefore, any additional quality and quantity control would benefit the health of the watershed and community at large. When planning the expansion of Route 1, DPWES encourages VDOT to address the stormwater from the entire span of Route 1 and not simply the additional lanes.

Lastly, this project provides the opportunity for partnerships on implementing stormwater management facilities that would not only address the needs for the roadway but also help to retrofit inadequate stormwater management into an older community. The Fairfax County Stormwater Planning Division would be willing to discuss this in more details as the planning and design phases proceed.

Streetlights

The widening of Route 1 will doubtless involve the removal of many existing streetlights along the Route 1 corridor, and is likely to create significant streetlight impacts to the Fairfax County Streetlight inventory in the project area. Approximately 233 existing streetlights and associated poles will require the following: pole relocations, as well as streetlight fixture upgrades and conversions. Also, additional street lighting, poles and fixtures will be required to meet roadway lighting requirements. This widening project will need to fund the entire costs of streetlight construction, installation, relocation, conversions and upgrades along Route 1. It is recommended that VDOT develop a complete lighting design for the entire length of the

Ms. Anissa Brown
July 25, 2016
Page 7 of 7

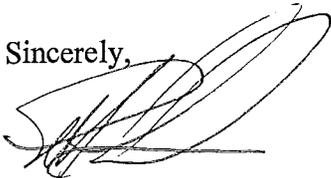
roadway. This design should be submitted to FCDOT and DPWES, Utilities Design and Construction Division, Streetlights and Developer Default Branch, for review and approval.

Urban Forestry

The Fairfax County Urban Forestry Management Division (UFMD) has GIS data on the urban forest canopy in the project area that may help in the assessment of impacts of the project on tree canopy loss. This information and expertise of UFMD staff will also aid in determining reforestation or other strategies to mitigate the impact of tree canopy loss.

Hopefully, the above information is useful to you in the preparation of the Environmental Assessment for the Route 1 Widening project. Please contact the Department's Environmental Specialist, Doug Miller (douglas.miller3@fairfaxcounty.gov; 703-877-5750), if any additional information is needed. We look forward to working with you and the rest of the VDOT team to make this project a success.

Sincerely,



For Tom Biesiadny
Director

Enclosure: FCPA Comments

cc: Fairfax County Board of Supervisors
Edward L. Long, Jr., County Executive
Robert A. Stalzer, Deputy County Executive
Catherine A. Chianese, Assistant County Executive
Eric Teitelman, Chief, CPTED Division, FCDOT
Noel Kaplan, Sr. Transportation Planner, FCDPZ
Fred Rose, Chief, Watershed Planning and Assessment Branch, FCDPW
Sandra Stallman, Manager, P & D Park Planning Branch, FCPA
Keith Cline, Fairfax County Urban Forester



FAIRFAX COUNTY PARK AUTHORITY

M E M O R A N D U M

TO: Douglas C. Miller
Environmental Program Coordinator
Fairfax County Department of Transportation

FROM: Sandy Stallman, AICP, Manager
Park Planning Branch, PDD *SS*

DATE: April 29, 2016

SUBJECT: U.S. Route 1 Widening from Napper Road to Mount Vernon Highway
VDOT Project No. 0001-029-205, C501, P101, R201; UPC 107187

The Fairfax County Park Authority has reviewed the transportation improvements along the U.S. Route 1 corridor described in VDOT's April 8, 2016 letter to the Fairfax County Department of Transportation. It is understood that at this phase of the project, specific resource impacts are yet to be identified and that preparation for the Environmental Assessment is underway. Thank you for the opportunity to comment on this proposal.

BACKGROUND

VDOT, in cooperation with the Federal Highway Administration, has initiated the preparation of an Environmental Assessment (EA) for certain transportation improvements along U.S. Route 1. The project would widen a 2.9-mile segment of U.S. Route 1 from Napper Road to Mount Vernon Highway from four lanes to six lanes, including a 58-foot wide median and ancillary facilities.

The study area contains or is near several Fairfax County parks. These include George Washington Park; Martin Luther King, Jr. Park; Little Hunting Creek Park (not included on the provided map and adjacent to Martin Luther King, Jr. Park); Mount Vernon Manor Park; Pole Road Park; Vernon Heights Park; the Walt Whitman School Site; and Woodlawn Park. Park amenities within the study area are diverse and include natural resources, recreational facilities, and significant historic sites.

ANALYSIS AND RECOMMENDATIONS

Natural Resources

The parks within the project area should be evaluated for impacts to the Park Authority's natural capital resulting from the proposed roadway expansion. If any direct or indirect impacts are identified, to include stormwater detention and release onto parkland, those impacts should be

avoided. The Park Authority recommends mitigation for unavoidable impacts to natural resources.

Cultural, Historic, and Archaeological Resources

It is noted that if this project receives federal funding, it would trigger Section 106 of the National Historic Preservation Act. Under Section 106, the project requires consultation from the Virginia Department of Historic Resources. The Park Authority recommends a Phase I archaeological survey on portions of the project not previously surveyed. If new sites are found and determined potentially significant, those and existing sites that the project may impact should be re-identified and if applicable, undergo Phase II archaeological testing to determine County significance or eligibility for inclusion in the National Register of Historic Places. If found eligible or significant to the County, avoidance or Phase III data recovery is recommended.

Trails and Connectivity

There are no Park Authority trails within the project corridor; however, the Countywide Trails Plan shows a future 8-10' wide Major Paved Trail along both sides of Route 1. Accordingly, the Park Authority supports the design and construction of a continuous 8'-10' trail along both sides.

Noise

Highway noise could negatively affect visitors to the park system within the study area. While the specific impacts of this project are not known, the Park Authority recommends additional analysis and expects that any related noise would be mitigated in accordance with all applicable federal, state, and local laws and regulations. Under federal highway Noise Abatement Criteria (NAC), the parks within and near the study area are classified under Activity Category C which includes parks, recreational areas, picnic areas, and similar public facilities (23 CFR 722).

SUMMARY

- If the Environmental Assessment identifies unavoidable impacts to the Park Authority's natural capital, onsite or offsite mitigation is recommended in consultation with Park Authority staff.
- Consultation with the Virginia Department of Historic Resources is recommended in accordance with Section 106 of the National Historic Preservation Act if required. The Park Authority recommends a Phase I archaeological survey and additional study as needed for areas not previously surveyed.
- Project staff should design and construct a contiguous 8'-10' wide paved trail along both sides of Route 1 per the recommendations of the Countywide Trails Plan.
- If the Environmental Assessment identifies unavoidable noise impacts to the Park Authority's parkland and facilities, appropriate mitigation is recommended.

Douglas C. Miller
U.S. Route 1 Widening, Napper Road to Mount Vernon Highway
Page 3

Thank you again for the opportunity to comment on this project. The Park Authority requests that it continue to be involved as the Environmental Assessment and project progresses so that specific impacts can be identified and addressed.

FCPA Reviewer: Ryan J. Stewart, Senior Planner, Park Planning Branch, PDD

Copy: David Bowden, Director, Planning and Development Division
Cindy Walsh, Director, Resource Management Division
Liz Crowell, Manager, Cultural Resource Management & Protection Section
John Stokely, Manager, Natural Resource Management & Protection Section
Liz Cronauer, Trail Program Manager, Planning and Development Division
Gayle Hooper, Landscape Architect, Park Planning Branch, PDD
Chron File
File Copy



FAIRFAX COUNTY PARK AUTHORITY

M E M O R A N D U M

TO: Douglas C. Miller
Environmental Program Coordinator
Fairfax County Department of Transportation

FROM: Sandy Stallman, AICP, Manager
Park Planning Branch, PDD *SS*

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Thank you again for the opportunity to comment on this project. The Park Authority requests that it continue to be involved as the Environmental Assessment and project progresses so that specific impacts can be identified and addressed.

FCPA Reviewer: Ryan J. Stewart, Senior Planner, Park Planning Branch, PDD

Copy: David Bowden, Director, Planning and Development Division
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Liz Cronauer, Trail Program Manager, Planning and Development Division
Gayle Hooper, Landscape Architect, Park Planning Branch, PDD
Chron File
File Copy

Nicholas Krause

From: Laura Wolfe
Sent: Monday, July 11, 2016 11:52 AM
To: Nicholas Krause
Subject: FW: VDOT US Route 1 Widening

LAURA D. WOLFE, AICP
Project Planner

RK&K
12600 Fair Lakes Circle, Suite 300
Fairfax, VA 22033

703.246.0028 P
703.259.3734 D
609.636.4795 C
www.rkk.com



RESPONSIVE PEOPLE | CREATIVE SOLUTIONS

From: Brown, Anissa (VDOT) [mailto:Anissa.Brown@vdot.virginia.gov]
Sent: Wednesday, June 29, 2016 11:18 AM
To: Laura Wolfe <lwolfe@rkk.com>
Subject: FW: VDOT US Route 1 Widening

Hi Laura, I received another comment via mail, and a few more via email. What was the end date on the 2nd mailing of the scoping letters?

Anissa M. Brown

District Assistant Environmental Manager

4975 Alliance Drive

Fairfax, VA 22033

703-259-3358- Desk

571-318-0541-Cell

Anissa.Brown@VDOT.Virginia.gov



From: David O'Brien - NOAA Federal [mailto:david.l.o'brien@noaa.gov]
Sent: Wednesday, June 29, 2016 10:33 AM
To: Brown, Anissa (VDOT)
Cc: Christine Vaccaro - NOAA Federal; Jenna Pirrotta - NOAA Affiliate
Subject: Re: VDOT US Route 1 Widening

Hello Anissa,

Based on the project's location, we do not anticipate impacts to NOAA trust resources.

Though Little Hunting Creek is designated as a potential anadromous fish use area by the VA Dept. of Game and Inland Fisheries, it appears the proposed widening of Rt. 1 is located upstream of suitable spawning habitat.

Please feel free to contact me if you have additional questions.

Regards,
Dave

David L. O'Brien
Fisheries Biologist
NOAA Fisheries Service
Virginia Field Office
1375 Greate Rd.
P.O. Box 1346
Gloucester Point, VA 23062
804-684-7828 phone
804-684-7910 fax
david.l.o'brien@noaa.gov

On Wed, Jun 29, 2016 at 9:22 AM, Jenna Pirrotta - NOAA Affiliate <jenna.pirrotta@noaa.gov> wrote:
Dear Anissa,

I just received your letter regarding early coordination with us on the US Route 1 Widening project, as it was rerouted to me in Gloucester, MA.

I'm including Dave O'Brien from the NMFS Habitat Conservation Division and Chris Vaccaro from the NMFS Protected Resources Division on this email. They will coordinate with you on this action.

If you need to initiate ESA consultation, please refer to our new section 7 consultation guidance on our website at:

<http://www.greateratlantic.fisheries.noaa.gov/protected/section7/index.html>.

Thanks,
Jenna

Jenna Pirrotta

Environmental Specialist
Integrated Statistics, Inc

Under contract to National Marine Fisheries Service
Greater Atlantic Regional Fisheries Office
55 Great Republic Drive
Gloucester, MA 01930
Office: [\(978\) 675-2176](tel:(978)675-2176)
Email: jenna.pirrotta@noaa.gov

Nicholas Krause

From: Laura Wolfe
Sent: Monday, July 11, 2016 11:52 AM
To: Nicholas Krause
Subject: FW: VDOT US Route 1 Widening

LAURA D. WOLFE, AICP
Project Planner

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Fairfax, VA 22033

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RESPONSIVE PEOPLE | CREATIVE SOLUTIONS

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Sent: Wednesday, June 29, 2016 11:18 AM
To: Laura Wolfe <lwolfe@rkk.com>
Subject: FW: VDOT US Route 1 Widening

Another NOAA comment.

Anissa M. Brown

District Assistant Environmental Manager
4975 Alliance Drive
Fairfax, VA 22033
703-259-3358- Desk
571-318-0541-Cell
Anissa.Brown@VDOT.Virginia.gov



From: Christine Vaccaro - NOAA Federal [<mailto:christine.vaccaro@noaa.gov>]
Sent: Wednesday, June 29, 2016 10:36 AM
To: Jenna Pirrotta - NOAA Affiliate
Cc: Brown, Anissa (VDOT); David O'Brien - NOAA Federal
Subject: Re: VDOT US Route 1 Widening

To echo Dave's comments--there are no ESA-listed species in the vicinity of your project area that could be exposed to effects of this activity. No further coordination with Protected Resources is needed.

-Chris

Chris Vaccaro
Fisheries Biologist
Protected Resources Division
NOAA Fisheries, Greater Atlantic Region
Gloucester, MA
Phone: 978-281-9167
Email: christine.vaccaro@noaa.gov

On Wed, Jun 29, 2016 at 9:22 AM, Jenna Pirrotta - NOAA Affiliate <jenna.pirrotta@noaa.gov> wrote:
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<http://www.greateratlantic.fisheries.noaa.gov/protected/section7/index.html>.

Thanks,
Jenna

Jenna Pirrotta
Environmental Specialist
Integrated Statistics, Inc

Under contract to National Marine Fisheries Service
Greater Atlantic Regional Fisheries Office
55 Great Republic Drive
Gloucester, MA 01930
Office: [\(978\) 675-2176](tel:9786752176)
Email: jenna.pirrotta@noaa.gov



U. S. Department of Housing & Urban Development

Richmond Office
600 E. Broad Street, 3rd Floor
Richmond, VA 23219
1-800-842-2610

JUN 27 2016

Ms. Anissa Brown, Assistant Environmental Manager
VDOT Environmental Division
4975 Alliance Drive
Fairfax, VA 22033

Re: US Route 1 Widening from Napper Road to Mount Vernon Highway Project
VDOT Project: 0001-029-205, C-501, P101, R201; UPC-107187
County: Fairfax County

Dear Ms. Brown:

Thank you for your letter of June 6, relating to the proposed widening of US Route 1 between Mount Vernon Memorial Highway – South, to 0.07 miles north of Mount Vernon Memorial Highway North, in Fairfax County Virginia. You requested information to help determine if the proposed road re-development might affect any neighborhood programs under the jurisdiction of the HUD Richmond Field Office and/or the HUD Washington DC Field Office along with low-income and minority populations.

After review of the location with regards to HUD properties and programs in the project area of Fairfax County, the two (2) above referenced Field Offices can find no impact to HUD programs, projects, or low-income and minority populations as a result of Virginia Department of Transportation's proposal to re-work US Route 1 Between the South and North intersections of Mount Vernon Memorial Highway with US Route 1.

Thank you for your interest in the Department's programs. If you should have any questions, please contact me at (804) 771-2100, Ext. 4807. Members of your staff that have questions or require technical assistance should contact Mr. Kerry Johnson, Environmental Protection Specialist, at Extension 4803.

Sincerely,

Carrie S. Schmidt
Director

F HOUSING AND URBAN DEVELOPMENT
OFFICE, MID ATLANTIC
DISTRICT, 3RD FLOOR
9-1800

3300

US OFFICIAL MAIL >>> PENALTY FOR PRIVATE USE \$300



PRIORITY SERVICES

ZIP 23219 \$ 000.46⁵

02 1W

0004887384 JUN 28 2016



Ms. Anissa Brown,
Assistant Environmental Manager
VDOT Environmental Division
4975 Alliance Drive
Fairfax, VA 22033



22030\$6664 R030





DIVISIONS
ENERGY
GAS AND OIL
GEOLOGY AND MINERAL RESOURCES
MINED LAND RECLAMATION
MINERAL MINING
MINES
ADMINISTRATION

COMMONWEALTH OF VIRGINIA

Department of Mines, Minerals and Energy

Washington Building, 8th Floor
1100 Bank Street
Richmond, Virginia 23219-3638
(804) 692-3200 FAX (804) 692-3237
www.dmme.virginia.gov

June 9, 2016



Anissa Brown
Fairfax District Assistant Environmental Manager
Virginia Department of Transportation
4975 Alliance Drive
Fairfax, Virginia 22030

Dear Ms. Brown:

The Department of Mines, Minerals and Energy (DMME) is making difficult decisions in response to state budget reductions. One of the most difficult decisions to date was to reduce staff in our Division of Geology and Mineral Resources (DGMR) in January 2009. Since that time, DMME has carefully reviewed services that we have provided in the past in order to determine which services can be provided in the future with existing staff. One service that we considered was the review of environmental impact reports for state and local projects.

We have determined that existing staff levels within DMME do not allow for the review of environmental impact reports on a routine basis. As a result, we ask that you remove DMME from your environmental review distribution lists. We understand that there are times when specific information related to geologic conditions, mineral extraction, and energy policy is an important consideration for a particular project. In these instances, please contact David Spears at (434) 951-6350 or by e-mail at david.spears@dmme.virginia.gov.

Sincerely,

John W. Warren
Director



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION

87 Deacon Road

Fredericksburg, VA 22405

Charles A. Kilpatrick, P.E.
COMMISSIONER

May 25, 2016

Ms. Julie V. Langan, Director
Attn: Mr. Marc Holma
Office of Review and Compliance
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221

Subject: Coordination of Project Area of Potential Effects
VDOT Project No.: 0001-029-205, B617, B618, C501, D603, P101, R201; UPC 107187
DHR File No. 2016-0426
Fairfax County
Federal Funding

Dear Mr. Holma:

The Virginia Department of Transportation (VDOT) is conducting environmental studies associated with the above referenced project in Fairfax County, Virginia. The project is federally funded, and the VDOT, on behalf of the Federal Highway Administration (FHWA), is coordinating this undertaking with your department in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800. This letter also solicits your comments with our definition of the Areas of Potential Effects (APE) for this project.

Project Description

Widening of US Route 1 from Napper Road to Mt. Vernon Highway: This project includes multi-modal improvements to US1/Richmond Highway including; widening of the roadway from 4-6 lanes, bicycle lane, and pedestrian facilities.

Area of Potential Effects Description

The following section provides a description of the Area of Potential Effects (APE) for the project. Please see the mapping provided in Attachment 1 for an illustration of the APE proposed. The APE is defined as the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist" (36 CFR 800.16(d)).

Specifically, the APE for archaeological resources for this project includes the area that would potentially be directly and physically impacted by land-disturbing activities associated with proposed construction of the project. The APE is defined with a cross-section of 380-ft centered on the existing US Route 1. A graphic depiction of this APE can be found in Appendix 1.

Likewise the APE for direct effects on architectural resources (e.g. buildings, structures, objects, architectural districts, battlefields, other historic landscapes) for the US Route 1 project is defined as the corridor that would be physically impacted by proposed land-disturbing activities and encompasses the entire projected construction footprint. The APE for indirect effects to architectural resources is defined as extending 300-ft away from either side of US Rte 1 (see Appendix 1).

Consulting Parties

VDOT has identified the following localities and organizations as potential consulting parties for the Section 106 process. Potential Consulting Parties include:

NPS, Potomac Heritage National Scenic Trail
Alexandria Monthly Meeting of the Religious Society of Friends
Woodlawn Baptist Church, Rev. Travis Hilton
Gum Springs Historic Society, Ron Chase
Fort Belvoir
Fairfax County Government
Washington Grist Mill (Mount Vernon)
Fairfax County Park Authority
National Trust for Historic Preservation, Woodlawn
Supervisor Daniel Storck, representing Mount Vernon District
Supervisor Jeffrey McKay, representing Lee District
Arcadia Center for Sustainable Food & Agriculture

The VDOT has also identified a Federally-recognized Native American Tribe, the Delaware, to participate in the Section 106 process. If your agency has suggestions for additional parties which should be included in this process, please provide the contact information at your earliest convenience.

Enclosed please find mapping which supports our recommendation for the APE definition (see Attachment 1). As the project continues to be developed, the FHWA and VDOT may modify the APE. The VDOT requests that the VDHR respond within thirty (30) days with any comments regarding the definition of the APE or the identification of any consulting parties. If you have any questions or need additional information, please contact me at (540) 654-1737 or Raymond.Ezell@vdot.virginia.gov.

Sincerely,



Raymond Ezell, RPA
Fredericksburg District Archaeologist

Attachment

cc:/John Simkins, FHWA

cc: /file 107187

CONCURRENCE

**VDOT Project No.: 0001-029-205, B617, B618, C501, D603, P101, R201; UPC 107187
DHR File No. 2016-0426**

The Virginia Department of Historic Resources (DHR) concurs with the Archaeological and Architectural Areas of Potential Effect contained in this correspondence below:

The APE for archaeological resources is the area with potential for direct effects encompassing a corridor 380-ft wide and centered on the existing US Rte 1.

The APE for architectural resources is the area with potential for direct effects (described above) and/or indirect effects. The architectural APE encompasses all above ground resources (buildings, structures, objects, architectural districts, battlefields, historic landscapes, etc.) in areas extending 300-ft away from either side of US Rte 1 or to the limits of any adjacent NRHP-listed or eligible properties, if such boundaries exceed 300-ft from US Rte 1.

Ms. Julie V. Langan,
Director, Virginia Department of Historic Resources
Virginia State Historic Preservation Officer

Date



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION

87 Deacon Road
Fredericksburg, VA 22405

Charles A. Kilpatrick, P.E.
COMMISSIONER

November 29, 2016

Ms. Julie V. Langan, Director
ATTN: Mr. Marc Holma, Office of Review and Compliance
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221

Action Required: Determination of Eligibility
VDOT Project: 0001-029-205, B617, B618, C501, D603, P101, R201; UPC 107187 (Widening of US Route 1 from Napper Road to Mt. Vernon Highway)
VDHR File: 2016-0426
County: Fairfax County
Funding: Federal

Dear Mr. Holma:

The Virginia Department of Transportation (VDOT) is currently conducting environmental studies for the proposed Route 1 (Richmond Highway) improvements from Napper Road (Rte 5255) to Mt. Vernon Highway (Rte 235) in Fairfax County. The project is federally funded, and the VDOT, on behalf of the Federal Highway Administration (FHWA), is coordinating this undertaking with your department and other interested/consulting parties in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800. This letter constitutes a formal request for concurrence with our determination of eligibility for cultural resources within the Area of Potential Effects (APE).

Project Description and APE

The undertaking proposes to widen Rte 1 from Mount Vernon Highway to Napper Road. Additional right-of-way (ROW) will be required for the project. This 2.91-mile section of Rte 1 is generally urbanized with little of the original environment remaining intact. The road is characterized primarily by business and residential uses that have developed over

time in a relatively unstructured manner. The proposed improvements to Rte 1 include the widening Rte 1 from four to six lanes and adding bicycle and pedestrian facilities. The widening of the existing four lane segment of Rte 1 is proposed to be accomplished by adding two additional lanes to the outside, plus turning lanes as needed, and to accommodate bicycle/pedestrian paths on the outside. A minimum 58-ft wide median will be retained along this section of Rte 1 to accommodate for potential future Bus Rapid Transit (BRT) improvements.

The APE is defined as the “geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist” (36 CFR 800.16(d)). Specifically, the APE for archaeological resources for this project includes the area that would be directly and physically impacted by land-disturbing activities associated with proposed widening of the Rte 1 corridor. The APE is essentially centered on existing Rte 1 and extends 190-ft to either side of Rte 1. A graphic depiction of this APE can be found in the Phase I cultural resources report (CHG 2016: Figures 8-12) submitted with this letter to the VDHR and consulting parties.

Likewise the APE for direct effects on architectural resources (e.g. buildings, structures, objects, architectural districts, battlefields, other historic landscapes) for the project has been defined to be the corridor that would be physically impacted by proposed land-disturbing activities and encompasses the project construction footprint. The APE for indirect effects to architectural resources is the area capturing any resources whose setting or feeling might be affected by changes to their viewshed resulting from the project and extends to 300-ft from the existing Rte 1. A graphic depiction of this APE can be found in the cultural resources report (CHG 2016: Figures 16-19).

Identification of Historic Properties

In July-August 2016, Commonwealth Heritage Group, Inc. (CHG), performed Phase I cultural resources survey for the Route 1 widening project. Please find enclosed 2 hardcopies (and 1 copy on CD-ROM) of the Phase I cultural resources report entitled, *Cultural Resources Survey for the Widening of U.S. Route 1 from Napper Road to Mt. Vernon Highway, Fairfax County, Virginia (Volumes I and II)*. The report meets the Secretary of the Interior’s Standards and Guidelines (1983), as well as the VDHR’s *Guidelines for Conducting Cultural Resource Survey in Virginia* (2011). The VDOT agrees with the recommendations provided in this report.

The archaeological survey included visual inspection, a walkover survey and the excavation of 84 shovel tests at 50-ft intervals. Shovel test radials were excavated at 25-foot intervals in cardinal directions from positive shovel tests. Previously identified sites were investigated by a combination of visual reconnaissance and shovel testing where warranted. The investigation showed that the majority of the APE for archaeology had been impacted by commercial and residential development and the installation of buried utilities and transportation features.

Archaeological Resources

CHG reinvestigated previously identified Sites **44FX3252** and **44FX3769** and **44FX0213**. Sites 44FX3769 and 44FX3252 have been completely destroyed by commercial

development. Site 44FX0213 has been extensively disturbed as well. No artifacts or features were encountered at Site 44FX0213, and it has been previously determined to be not eligible for the NRHP by VDHR in 2001. The VDOT agrees with this previous eligibility determination, no additional work is recommended for this site.

Architectural Resources

A total of 128 architectural resources were documented within the APE during the Phase I survey. For the thirty-three previously recorded architectural resources within the APE, one is listed on the VLR/NRHP (**Woodlawn Plantation, 029-0056**), one has been previously determined eligible (**Mount Vernon High School, 029-0230**), one potentially eligible (**Woodlawn Cultural Landscape Historic District, 029-5181**) and thirty (see list below) have been determined not eligible:

029-0479	029-5121,	029-5132,	029-5133,	029-5142,	029-5143,
029-5122	029-5123,	029-5134,	029-5135,	029-5144,	029-5145,
029-5124	029-5126,	029-5136,	029-5137,	029-5146,	029-5181,
029-5127	029-5128,	029-5138,	029-5139,	029-5705,	029-5706,
029-5129	029-5130,	029-5140,	029-5141,	029-5707,	029-5708

Four of these previously identified resources have been demolished (**029-5121, 029-5122, 029-5128, and 029-5144**). No change in the existing NRHP status for any of the resources above is recommended.

A total of 95 previously unrecorded architectural resources are recommended not eligible for listing on the VLR or the NRHP. It is the opinion of CHG that the resources lack significance and/or have lost integrity through modern alterations. The VDOT agrees with this recommendation. See below for a list of these resources recommended not eligible for the NRHP:

029-6070	029-6089	029-6110	029-6129	029-6148
029-6071	029-6090	029-6111	029-6130	029-6149
029-6072	029-6091	029-6112	029-6131	029-6150
029-6073	029-6092	029-6113	029-6132	029-6151
029-6074	029-6095	029-6114	029-6133	029-6152
029-6075	029-6096	029-6115	029-6134	029-6153
029-6076	029-6097	029-6116	029-6135	029-6154
029-6077	029-6098	029-6117	029-6136	029-6155
029-6078	029-6099	029-6118	029-6137	029-6156
029-6079	029-6100	029-6119	029-6138	029-6157
029-6080	029-6101	029-6120	029-6139	029-6158
029-6081	029-6102	029-6121	029-6140	029-6159
029-6082	029-6103	029-6122	029-6141	029-6160
029-6083	029-6104	029-6123	029-6142	029-6161
029-6084	029-6105	029-6124	029-6143	029-6162
029-6085	029-6106	029-6125	029-6144	029-6163
029-6086	029-6107	029-6126	029-6145	029-6164
029-6087	029-6108	029-6127	029-6146	029-6165
029-6088	029-6109	029-6128	029-6147	029-6166

The APE vicinity along Route 1 between Napper Road and Mount Vernon Highway was evaluated for the presence of a potential historic district. There is a previously reported potentially eligible historic district at the western end of the APE (Woodlawn Cultural Landscape Historic District, 029-5181), west of Mt. Vernon Hwy/Jeff Todd Way. That small portion of the APE within this historic district property contributes to the potential significance of the historic district, as it is comprised of a grassy field and a wooded parcel. For purposes of Section 106 for this undertaking, the VDOT considers the Woodlawn Cultural Landscape Historic District (**029-5181**) as eligible for the NRHP.

Within the overall APE, the buildings are from a variety of periods, styles, and associations. They represent early-twentieth century schools, mid-twentieth and late-twentieth century commercial buildings, and early-twentieth through early twenty-first century dwellings, including several mid-twentieth century apartment complexes. There are no historic or stylistic linkages between the buildings within the APE as a whole, except for the partial historic district previously recognized. There is no other assemblage of buildings that merits further study or could comprise a historic district within the project APE.

After the completion of the cultural resources survey for the project, a representative of the Friends of Historic Huntley brought to our attention the possibility of a portion of the former race for George Washington's Grist Mill to be located within the APE near Pole Road Park, west of Dogue Creek. The VDOT's cultural resources consultant visited this location and examined it for any visible remnants of the mill race feature. A possible mill race remnant was observed outside the current APE connecting a large pond in Pole Road Park and Dogue Creek (Attachment 1 and 2; CHG 2016: Figure 16). This feature measured approximately 300-ft in length; however the course of the feature appeared to have been modified, and it was not possible to positively determine if it was ever part of the 19th century mill race. The ponds in this park appear to have been developed sometime between 1979 and 1994, possibly in conjunction with the Jackson Miles Abbot Wetlands Refuge or Huntley Meadows Park. The undeveloped area adjacent to this feature (within the APE) was thoroughly shovel tested during the Phase I survey and no archaeological remains were found. Based upon the available data and field inspection, the VDOT believes that any possible remnant of this 19th century mill race is not within the project APE.

Battlefields

There are no American Battlefield Protection Program (ABPP) Potentially National Register (PotNR) eligible lands in the project APE.

Consulting Parties

This letter and the Phase I cultural resources report are being provided to the consulting parties copied below to allow them the opportunity to review and comment on VDOT's findings within 30 days of receipt.

The VDOT invites you to review the enclosed information (Phase I cultural resources report and VCRIS documents) and concur with our findings by signing the signature block below and returning the original signature to my attention within 30 days. If you or any of

the consulting parties copied on this letter have any questions or need additional information about this project, please do not hesitate to contact me at (540) 654-1737 or Raymond.Ezell@vdot.virginia.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Raymond Ezell', written in a cursive style.

Raymond Ezell, RPA
District Archaeologist

Enclosures

cc: Ms. Linda Blank, Fairfax County
Ms. Elizabeth Crowell, Fairfax County Park Authority
Mr. Luke J. Pecoraro, George Washington's Mount Vernon
Mr. Ross M. Bradford, National Trust for Historic Preservation
Mr. Ron Chase, Gum Springs Historical Society
Ms. Todi Carnes, Friends of Historic Huntley
Ms. Catherine C. Ledec, Friends of Huntley Meadows Park

cc:/file 107187

CONCURRENCE

Project: 0001-029-205, B617, B618, C501, D603, P101, R201; UPC 107187 (Widening of US Route 1 from Napper Road to Mt. Vernon Highway); VDHR File: 2016-0426

The Virginia Department of Historic Resources (DHR) concurs with the Virginia Department of Transportation's (VDOT's):

- 1) Definition of the project's Area of Potential Effects (APE);
- 2) Efforts to identify historic properties;
- 3) Recommendations that:
 - previously identified archaeological sites **44FX3252** and **44FX3769** have been completely destroyed, and site **44FX0213** has been previously determined not eligible for the NRHP;
 - The **Woodlawn Plantation, 029-0056**, has been previously listed on the VLR/NRHP and no change is recommended by VDOT;
 - The **Mount Vernon High School, 029-0230**, has been previously determined eligible for listing on the NRHP, and no change is recommended by VDOT;
 - For purposes of Section 106, the VDOT considers resource **029-5181, Woodlawn Cultural Landscape Historic District**, as eligible for the NRHP;
 - The following architectural resources have been previously determined not eligible for the NRHP by DHR:

029-0479, 029-5123, 029-5124, 029-5126, 029-5127, 029-5129, 029-5130, 029-5132, 029-5133, 029-5134, 029-5135, 029-5136, 029-5137, 029-5138, 029-5139, 029-5140, 029-5141, 029-5142, 029-5143, 029-5145, 029-5146, 029-5181, 029-5705, 029-5706, 029-5707, 029-5708, 029-5121 (demolished), 029-5122 (demolished), 029-5128 (demolished), 029-5144 (demolished) and no change is recommended by VDOT;

- The following newly recorded architectural resources are recommended not eligible for the NRHP:

029-6070	029-6078	029-6086	029-6096
029-6071	029-6079	029-6087	029-6097
029-6072	029-6080	029-6088	029-6098
029-6073	029-6081	029-6089	029-6099
029-6074	029-6082	029-6090	029-6100
029-6075	029-6083	029-6091	029-6101
029-6076	029-6084	029-6092	029-6102
029-6077	029-6085	029-6095	029-6103

029-6104	029-6120	029-6136	029-6152
029-6105	029-6121	029-6137	029-6153
029-6106	029-6122	029-6138	029-6154
029-6107	029-6123	029-6139	029-6155
029-6108	029-6124	029-6140	029-6156
029-6109	029-6125	029-6141	029-6157
029-6110	029-6126	029-6142	029-6158
029-6111	029-6127	029-6143	029-6159
029-6112	029-6128	029-6144	029-6160
029-6113	029-6129	029-6145	029-6161
029-6114	029-6130	029-6146	029-6162
029-6115	029-6131	029-6147	029-6163
029-6116	029-6132	029-6148	029-6164
029-6117	029-6133	029-6149	029-6165
029-6118	029-6134	029-6150	029-6166
029-6119	029-6135	029-6151	

- There is no assemblage of buildings that could comprise a historic district (beyond the previously recorded Woodlawn Cultural Landscape Historic District) within the project APE.

4) Finding that the reported segment of George Washington's Grist Mill race is not located within the project APE; and

5) Determination that the project is not located within the American Battlefield Protection Program's (ABPP) identified potentially National Register (PotNR) eligible battlefields.

Ms. Julie V. Langan
Director, Virginia Department of Historic Resources
Virginia State Historic Preservation Officer

Date

Attachment 1. Possible Mill Race Feature, view Northeast toward Dogue Creek.



Attachment 2. Possible Mill Race Feature, view Northeast toward Dogue Creek.





COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION

87 Deacon Road
Fredericksburg, VA 22405

Charles A. Kilpatrick, P.E.
COMMISSIONER

May 4, 2017

Ms. Julie V. Langan, Director
ATTN: Mr. Marc Holma, Office of Review and Compliance
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221

Action Required: Supplemental Identification of Historic Properties & Determination of Effect
VDOT Project: 0001-029-205, B617, B618, C501, D603, P101, R201; UPC 107187 (Widening of US Route 1 from Napper Road to Mt. Vernon Highway)
VDHR File: 2016-0426
County: Fairfax County
Funding: Federal

Dear Mr. Holma:

As reported to you previously, the Virginia Department of Transportation (VDOT) is planning to widen U.S. Route 1 (Richmond Highway) from Napper Road (Rte 5255) to Mt. Vernon Highway (Rte 235) in Fairfax County. The addition of potential impacts to intersecting and adjacent streets, an additional 0.24-mile northern extension along Rte 1, and stormwater basins situated outside the initial survey area necessitated the need for supplemental Phase I cultural resources investigation for the project. On behalf of the Federal Highway Administration (FHWA), the VDOT seeks your concurrence with our supplemental efforts to identify historic properties and the effects determination for cultural resources pursuant to 36 CFR 800.

Project Description and APE

The undertaking proposes to widen Rte 1 from Mount Vernon Highway to Napper Road. This section of Richmond Highway is urbanized with little of the original landscapes remaining. The proposed improvements to Rte 1 include widening from four to six lanes, replacing bridges over Dogue Creek and Little Hunting Creek, utility relocation, and

adding bicycle and sidewalk facilities. The widening of the existing four lane segment of Rte 1 is proposed to be accomplished by adding two additional lanes to the outside, plus turning lanes as needed. The corridor will also accommodate bicycle paths and sidewalks to the outside on both sides of the roadway. A minimum 58-ft wide median will be retained along this section of Rte 1 to accommodate for potential future Bus Rapid Transit (BRT) improvements. Conceptual planviews on aerial photographs are enclosed for your examination (see enclosed sheets).

The APE is defined as the “geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist” (36 CFR 800.16(d)). Specifically, the APE for archaeological resources for this project includes the area that would be directly and physically impacted by land-disturbing activities associated with proposed project. The APE for the original identification survey extends 190-ft to either side of Rte 1; while the supplemental APE includes several areas along the corridor that may also be needed for intersection and cross-street improvements, utility relocations, and stormwater management (see CHG 2017: Figures 3-7).

The APE for indirect effects to architectural resources is the area capturing any resources whose setting or feeling might be affected by changes to their viewshed resulting from the project. The indirect effects APE initially extended 300-ft in either direction from existing Rte 1 but has now been supplemented with additional areas outside the original study window. A graphic depiction of this APE can be found in the enclosed cultural resources report (CHG 2017: Figures 9-11).

Identification of Historic Properties

In February 2017, Commonwealth Heritage Group, Inc. (CHG) performed supplemental Phase I cultural resources survey for the project in additional potential impact areas that fell outside the initial project APE. Please find enclosed 2 hardcopies (and 1 copy on CD-ROM) of the Phase I cultural resources report entitled, *Supplemental Cultural Resources Survey for the Widening of U.S. Route 1 from Napper Road to Mt. Vernon Highway, Fairfax County, Virginia*. The report meets the Secretary of the Interior’s Standards and Guidelines (1983), as well as the VDHR’s *Guidelines for Conducting Cultural Resource Survey in Virginia* (2011). The VDOT agrees with the recommendations provided in this report.

Archaeological Resources

CHG performed phase I field investigation in the immediate vicinity of previously recorded site **44FX0213**. During the 2016 survey of this site, 44FX0213 was found to be extensively disturbed. During the 2017 supplemental survey, nine shovel tests were excavated in the immediate vicinity adjacent to the mapped site limits. This area was confirmed to also be extensively disturbed, and no artifacts or features were encountered. The VDOT continues to agree with the previous eligibility determination made by VDHR in 2001, that the site is not eligible for the NRHP. The remaining portions of the 2017 supplemental APE were found to be previously disturbed and did not require shovel testing.

Architectural Resources

CHG documented 31 previously unrecorded and 1 previously recorded architectural resources for the 2017 supplemental cultural resources survey. Previously recorded resource **029-5181-0005** (the Sharpe Stable Complex) was determined in August 2012 to be both individually potentially eligible for the NRHP and contributing to the Woodlawn Cultural Landscape Historic District (029-5181) by the VDHR. The property was most recently surveyed in October 2013 and updated in the Virginia Cultural Resources Information System (VCRIS) database (thereby making a VCRIS update for this study unnecessary). As described in the VDOT's November 29, 2016 letter to the VDHR, for purposes of Section 106 for this undertaking, the VDOT considers the Woodlawn Cultural Landscape Historic District (**029-5181**) as eligible for the NRHP.

Thirty-one newly recorded architectural resources, **029-6176 thru 029-6206**, were documented by the 2017 supplemental cultural resources survey. None of these architectural properties are recommended individually eligible for the NRHP. These properties have lost integrity thru modern alterations and/or lack historic significance. The 2017 supplemental APE was investigated for the presence of an historic district, and there appears to be no historic or stylistic linkages between the buildings within the APE as a whole. There is no assemblage of buildings that merits further study or could comprise a historic district within the 2017 supplemental APE.

In addition to the resources documented in the CHG 2017 supplemental report, a small architectural resource appears in the VCRIS database along the margin of the APE to the south of the terminus of the undertaking. The Arcadia Farm property (**029-5181-0007**) is characterized as a small farm plot established at Woodlawn in 2010 consisting of a 1950s era brick walkway, frame chicken house, and frame shed--both constructed ca. 2010. This resource was updated in VCRIS in 2016 (thereby making a VCRIS update for the current study unnecessary). The resource at 029-5181-0007 dates to ca. 2010 and is not eligible for the NRHP.

Battlefields

There are no American Battlefield Protection Program (ABPP) Potentially National Register (PotNR) eligible lands in the project supplemental APE.

Historic Properties

As a result of cultural resources investigation for the Rte 1 widening project, the DHR has previously concurred (dated, 12/29/16) that the following historic properties are located within the undertaking's APE: Mount Vernon High School (**029-0230**); Woodlawn Plantation (**029-0056**); Woodlawn Cultural Landscape Historic District (**029-5181**). The Original Mount Vernon High School (OMVHS) retains a local level of significance under Criteria A (Education) and C (Architecture) with a period of significance of 1939-1953. The Woodlawn Plantation was listed in the NRHP in 1970 and as a National Historic Landmark in 1998 for its national level of significance in the areas of art and history. It is a notable example of Federalist architecture, and its period of significance is 1800-1805. Additionally, it is significant as an example of the work of architect Dr. William Thornton, the first architect of the United States Capitol. The DHR has also previously concurred

with the VDOT that for the purposes of Section 106 for this undertaking the Woodlawn Cultural Landscape Historic District is eligible for the NRHP. The period of significance for this district property is 1799-1964 and may qualify for NRHP listing under Criteria A, C, and D in the areas of conservation, social history, ethnic heritage, education, religion, community planning, architecture, agriculture, military, and industry.

In addition to those historic properties mentioned above, the current supplemental investigation also noted the previously documented Sharpe Stable Complex (**029-5181-0005**). This property has been characterized by the VDHR as individually potentially eligible and as a contributing resource to the overlapping Woodlawn Cultural Landscape Historic District.

Effects on Historic Properties

In accordance with 36 CFR 800.5(a), the VDOT has applied the criteria of adverse effect to historic properties within the project's APE. The regulations implementing Section 106 of the National Historic Preservation Act define an effect as an "alteration to the characteristics of a historic property qualifying it for inclusion in or eligible for the National Register" [36CFR800.16(i)]. The effect is adverse when the alteration of a qualifying characteristic occurs in a "manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association" [36CFR800.5(a)].

Woodlawn Plantation (029-0056)

Concept level plans (see enclosed) for the undertaking illustrate that the NRHP boundary of the Woodlawn Plantation is situated along the south side of the Jeff Todd Way/Rte 1 intersection from the undertaking. There are no proposed improvements within the NRHP limits of the Woodlawn Plantation and no direct impact to the Woodlawn Plantation property from this undertaking. Although there will be a limited change in the views from the Woodlawn Plantation property toward the southern terminus of the project, this change will not diminish any aspects of historic integrity as there are existing conditions that have already diminished setting and feeling in this area. These include; a major intersection upgrade/widening at Jeff Todd Way (Rte 619) and Mt Vernon Highway in 2013-14, as well as recent widening (and partial realignment) of the Rte 1 section south of Jeff Todd Way. The VDOT acknowledges that the undertaking may have an indirect effect on this resource but that **effect will not be adverse**.

Original Mount Vernon High School (029-0230)

Concept level plans (see enclosed) for the undertaking illustrate that the NRHP boundary of the school property is anticipated to be truncated by approximately 50 to 60-ft along the property's frontage with Rte 1 (Figure 1). This area currently is the location of a circular entrance driveway and parking area that appears to have been constructed sometime during 1951-1953. School Board meeting minutes from 1951 reflect a discussion to construct a road from Rte 1 to provide a safer bus drop off/pick up area for students (draft OMOVHS NRHP nomination 2017). Comparison of 1963 aerial mapping and contemporary aerials indicates that the outer portion of the circular driveway has undergone several changes from its original appearance (Figure 2). It appears that the entrance feature has been partially truncated by subsequent widening of Rte 1, a sidewalk has been installed that bisects the long axis of the driveway feature, and large

plantings and landscaping appear to have been added along the frontage with Rte 1. It also appears that aerial utility poles crossing this portion of the parcel have been reconfigured as well. Furthermore, the original purpose of the circular driveway as a school bus drop off location has been eliminated with the closing of the county school in the mid-1980s.

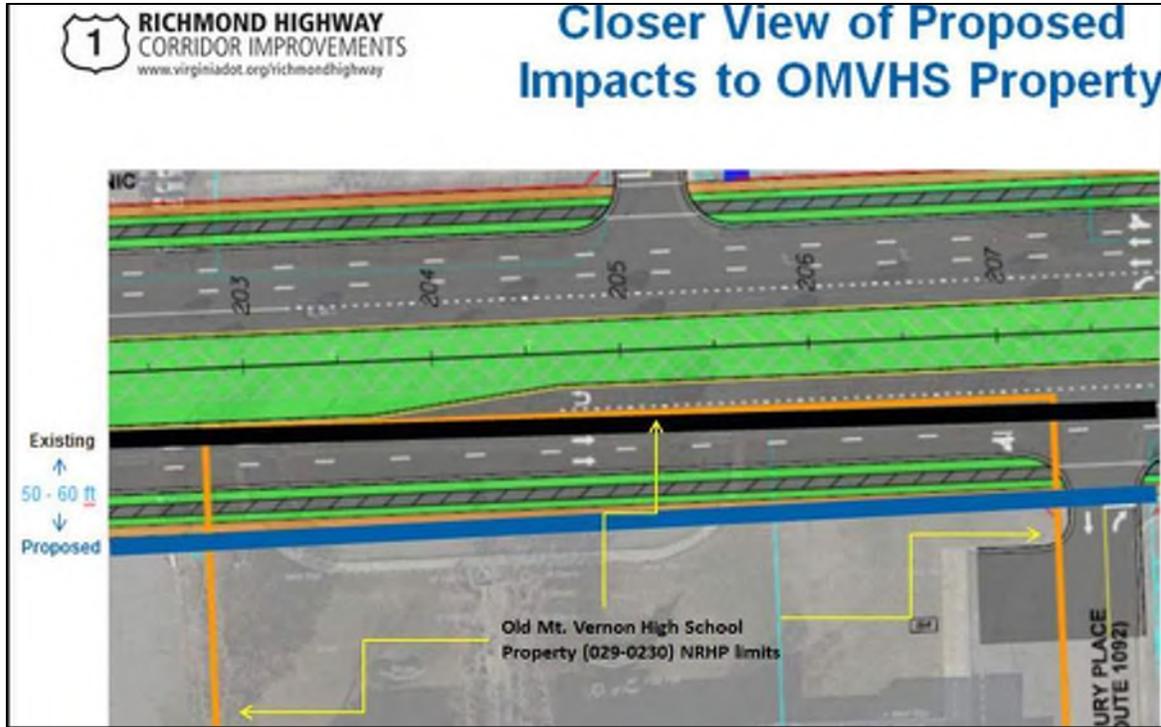


Figure 1. Anticipated Impact to the OMVHS Property Showing Approximately 50 to 60-ft of Encroachment from Road Widening.



Figure 2. Comparison of 1963 and 2016 aerial photographs of the Circular Driveway at the OMVHS.

It is VDOT's opinion that the physical integrity of the historic setting and feeling of the circular driveway feature along Rte 1 has been previously diminished and that it no longer conveys its significance. The VDOT, however, recognizes the importance of the OMVHS to the county and local community and proposes to install two interpretive signs on the property highlighting the architectural and historic education context of the campus. The VDOT also commits to working with Fairfax County to conduct an oral history project for the OMVHS that can be disseminated to the public. Provided that VDOT fulfills these commitments to install interpretive signage on the property and to conduct an oral history project, the VDOT believes that the project will have an effect on the historic property, but the **effect will not be adverse**.

Woodlawn Cultural Landscape Historic District (029-5181)

The Woodlawn Cultural Landscape Historic District is considered by the VDOT to be eligible for the NRHP for the purposes of Section 106 for this project. This district property is represented by one element that contributes to the NRHP-eligibility of the resource: the Sharpe Stable Complex (**029-5181-0005**).

Concept level plans (see enclosed) illustrate that the Sharpe Stable Complex is situated approximately 350-m southwest of the southern terminus of the undertaking located at the intersection of Jeff Todd Way (Rte 619) and Rte 1. There will be no direct impact to the Woodlawn Cultural Landscape Historic District and the Sharpe Stable Complex from the undertaking. Although there will be a change in the views from portions of the Woodlawn Cultural Landscape Historic District and the Sharpe Stable Complex toward the southern terminus of the project, this change will not diminish any aspects of integrity as there are existing conditions that have previously diminished historic setting and

feeling, such as a major intersection upgrade, widening of Jeff Todd Way and Mt Vernon Highway in 2013-14, and recent widening (and partial realignment) of the Rte 1 section south of Jeff Todd Way. The VDOT acknowledges that the undertaking may have an indirect effect on this resource, but the **effect will not be adverse**.

The Mount Vernon High School property (029-0230) is a resource subject to the requirements of Section 4(f) of the Department of Transportation Act (23 CFR Part 774). Upon your concurrence with VDOT's no adverse effect determination, the Federal Highway Administration intends on making a *de minimis* determination for the Mount Vernon High School pursuant to Section 4(f) of the Department of Transportation Act.

The VDOT invites you to review the enclosed information (supplemental Phase I cultural resources report, VCRIS documents, and conceptual plansheets) and concur with our findings by signing the signature block below and returning the original signature to my attention within 30 days. If you or any of the consulting parties copied on this letter have any questions or need additional information about this project, please do not hesitate to contact me at (540) 654-1737 or Raymond.Ezell@vdot.virginia.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Raymond Ezell', written over a horizontal line.

Raymond Ezell, RPA
District Archaeologist

Enclosures

cc: Ms. Linda Blank, Fairfax County
Ms. Elizabeth Crowell, Fairfax County Park Authority
Mr. Luke J. Pecoraro, George Washington's Mount Vernon
Mr. Ross M. Bradford, National Trust for Historic Preservation
Mr. Ron Chase, Gum Springs Historical Society
Ms. Todi Carnes, Friends of Historic Huntley
Ms. Catherine C. Ledec, Friends of Huntley Meadows Park

cc:/file 107187

CONCURRENCE

Project: 0001-029-205, B617, B618, C501, D603, P101, R201; UPC 107187 (Widening of US Route 1 from Napper Road to Mt. Vernon Highway); VDHR File: 2016-0426

The Virginia Department of Historic Resources (DHR) concurs with the Virginia Department of Transportation's (VDOT's):

- 1) Definition of the project's Area of Potential Effects (APE);
- 2) Efforts to identify historic properties;
- 3) Recommendations that:
 - previously identified archaeological site **44FX0213** has been previously determined not eligible for the NRHP;
 - previously recorded resource **029-5181-0005** (the Sharpe Stable Complex) has previously been determined individually potentially eligible for the NRHP and contributing to the eligibility of the Woodlawn Cultural Landscape Historic District
 - previously recorded resource **029-5181-0007** (Arcadia Farm) is not eligible for the NRHP
 - newly recorded architectural resources, **029-6176 thru 029-6206**, are recommended not eligible for the NRHP
 - there is no assemblage of buildings that could comprise a historic district within the 2017 supplemental project APE
- 4) Determination that the project, as proposed, is not located within the American Battlefield Protection Program's (ABPP) identified potentially National Register (PotNR) eligible battlefields.
- 5) Determination that the project will have a No Adverse Effect on historic properties provided that the VDOT fulfills the stipulation to install interpretive signage and to conduct an oral history project for the Original Mt. Vernon High School property (**029-0230**). The VDOT shall provide a draft of the interpretive sign layout and the oral history plan to the VDHR and consulting parties for review and comment for the purpose of verifying VDOT's fulfillment of this commitment.


Ms. Julie V. Langan
Director, Virginia Department of Historic Resources
Virginia State Historic Preservation Officer


Date





COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION

87 Deacon Road
Fredericksburg, VA 22405

Charles A. Kilpatrick, P.E.
COMMISSIONER

October 2, 2017

Ms. Julie V. Langan, Director
ATTN: Mr. Marc Holma, Office of Review and Compliance
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221

VDOT Project: 0001-029-205, B617, B618, C501, D603, P101, R201; UPC
107187 (Widening of US Route 1 from Napper Road to Mt.
Vernon Highway)
VDHR File: 2016-0426
County: Fairfax County
Funding: Federal
Action: Supplemental Determination of Effect

Dear Mr. Holma:

As you are aware, the Virginia Department of Transportation (VDOT) is planning to widen U.S. Route 1 (Richmond Highway) from Napper Road (Rte 5255) to Mt. Vernon Highway (Rte 235) in Fairfax County. The VDOT most recently coordinated this project with your office by letter on May 4, 2017 (concurrence received on May 31, 2017). On behalf of the Federal Highway Administration (FHWA), the VDOT is providing you, and the consulting parties copied on this letter, with additional details of the southern terminus of the project (see enclosed plan sheet) and its potential impacts to cultural resources pursuant to 36 CFR 800.

Project Description and Area of Potential Effect

As reported to you previously, this undertaking proposes to widen Route (Rte) 1 from Jeff Todd Way/Mt. Vernon Highway to Napper Road. This section of Richmond Highway is highly urbanized. The proposed improvements to Rte 1 include widening from four to six lanes, replacing bridges over Dogue Creek and Little Hunting Creek, utility relocation, and adding bicycle and sidewalk facilities. The widening of the existing four lane segment of Rte 1 is proposed to be accomplished by adding two additional lanes to the outside,

plus turning lanes as needed. The corridor will also accommodate bicycle paths and sidewalks to the outside on both sides of the roadway. A 58-ft wide median will be retained along most of the proposed section of Rte 1 to accommodate for potential future Bus Rapid Transit (BRT) improvements.

Additional details concerning the southern terminus of the project (Option 4) have become available and include a proposed retro-fit to lane transitions and the median for the portion of Rte 1 south of Jeff Todd Way/Mt. Vernon Highway to include a third dedicated through lane at this intersection and extending a 36-ft wide median south of the intersection. The proposed retro-fit improvements are anticipated to extend approximately 1,000-ft south of the intersection along Rte 1 and will be completely encapsulated within the existing right-of-way (ROW) for the section of the Rte 1 project currently under construction (VDOT Project No. 0001-029-001, B606, B607, C501, P101, R201). No new ROW will be needed.

The Area of Potential Effect (APE) for archaeological resources for the retro-fit improvements south of the Rte 1/Mt. Vernon Hwy intersection is completely contained within the existing, disturbed VDOT ROW, and no archaeological survey is required as significant archaeological deposits are not likely to be present. The APE for indirect effects to architectural resources is the area capturing any resources whose setting or feeling might be affected by changes to their viewshed resulting from the southern extension of the undertaking. A graphic depiction of the indirect effects APE can be found in the cultural resources supplemental report submitted to the Virginia Department of Historic Resources (VDHR) (see CHG 2017: Figure 9).

Historic Properties

The VDHR has previously concurred (on 12/29/16 and 5/31/17) that following historic properties are located within the undertaking's APE: Woodlawn Plantation (**029-0056**) and the Woodlawn Cultural Landscape Historic District (**029-5181**), including the contributing Sharpe Stable Complex (**029-5181-0005**).

Assessment of Effect

In VDOT's correspondence with the VDHR dated May 4, 2017, the VDOT recommended that the improvements for the Rte 1 widening project may alter the views from portions of the Woodlawn Plantation (029-0056), Woodlawn Cultural Landscape Historic District (029-5181) and Sharpe Stable Complex (029-5181-0005), but the undertaking will not diminish any aspects of integrity that qualify these properties for the National Register, as there are previously existing conditions that have diminished historic setting and feeling. On May 31, 2017, the VDHR agreed with this recommendation.

It is VDOT's opinion that the proposed design of the retro-fit lane configuration and median south of Jeff Todd Way/Mt. Vernon Hwy remains consistent with this No Adverse Effect finding despite the extension of the project improvements approximately 1,000-ft south of the intersection of Rte 1 and Mt. Vernon Hwy. The integrity of the setting and feeling of the overlapping historic landscape district property (including its contributing Sharpe Stable Complex) and the adjacent Woodlawn Plantation has already been diminished in the area along Rte 1 south of Jeff Todd Way/Mt. Vernon Hwy due to

previously completed highway construction, as well as construction currently ongoing to widen the Rte 1 transportation corridor. The VDOT has determined that the proposed extension of the Rte 1 widening improvements south of Jeff Todd Way/Mt. Vernon Hwy may alter, but will not diminish, any remaining historic setting and feeling of the Woodlawn Cultural Landscape Historic District (including the Sharpe Stable Complex) and the Woodlawn Plantation historic properties.

The VDOT invites you to review the enclosed plansheet and concur with our findings by signing the signature block below and returning the original signature to my attention within 30 days. If you or any of the consulting parties copied on this letter have any questions or need additional information about this project, please do not hesitate to contact me at (540) 654-1737 or Raymond.Ezell@vdot.virginia.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Raymond Ezell', written in a cursive style.

Raymond Ezell, RPA
District Archaeologist

Enclosures

cc: Ms. Linda Blank, Fairfax County
Ms. Elizabeth Crowell, Fairfax County Park Authority
Mr. Luke J. Pecoraro, George Washington's Mount Vernon
Mr. Ross M. Bradford, National Trust for Historic Preservation
Mr. Ron Chase, Gum Springs Historical Society
Ms. Todi Carnes, Friends of Historic Huntley
Ms. Catherine C. Ledec, Friends of Huntley Meadows Park

cc:/file 107187

CONCURRENCE

Project: 0001-029-205, B617, B618, C501, D603, P101, R201; UPC 107187 (Widening of US Route 1 from Napper Road to Mt. Vernon Highway); VDHR File: 2016-0426

The Virginia Department of Historic Resources (DHR) concurs with the Virginia Department of Transportation's (VDOT's) following findings:

- The extension of Rte 1 south of Jeff Todd Way/Mt. Vernon Hwy will alter but not diminish the historic setting and feeling of the Woodlawn Plantation and the Woodlawn Cultural Landscape Historic District (including the Sharpe Stable Complex), and this finding is consistent with VDOT's earlier **No Adverse Effect** assessment of the project's effect on these resources, with which the VDHR concurred on May 31, 2017.



Ms. Julie V. Langan
Director, Virginia Department of Historic Resources
Virginia State Historic Preservation Officer

17 OCT 17

Date

2016-0426



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

June 30, 2017

PRELIMINARY JURISDICTIONAL DETERMINATION

Northern Virginia Regulatory Section
NAO-2016-00785 (Richmond Hwy JT to Napper Rd)

Virginia Department of Transportation
Attn: Mr. Bryan Campbell
4975 Alliance Drive
Fairfax, Virginia 22030

Dear Mr. Campbell:

This letter is in regard to your request for a verification of a preliminary jurisdictional determination for waters of the U.S. (including wetlands) on property known as the Richmond Highway Multi-Modal Improvements, located on an approximately 303.5 acre parcel (+/- 2.9 mile corridor), north of Fort Belvoir between Jeff Todd Way and Napper Road in Fairfax County, Virginia.

The maps entitled "Richmond Highway Corridor Improvements", by the Virginia Department of Transportation dated April 2017 (*copies enclosed*) provide the location of waters and/or wetlands on the property listed above. The basis for this delineation includes application of the Corps' 1987 Wetland Delineation Manual and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region*, and the positive indicators of wetland hydrology, hydric soils, and hydrophytic vegetation and the presence of an ordinary high water mark.

Discharges of dredged or fill material, including those associated with mechanized landclearing, into waters and/or wetlands on this site may require a Department of the Army permit and authorization by state and local authorities including a Virginia Water Protection Permit from the Virginia Department of Environmental Quality (DEQ), a permit from the Virginia Marine Resources Commission (VMRC) and/or a permit from your local wetlands board. This letter is a confirmation of the Corps preliminary jurisdiction for the waters and/or wetlands on the subject property and does not authorize any work in these areas. Please obtain all required permits before starting work in the delineated waters/wetland areas.

This is a preliminary jurisdictional determination and is therefore not a legally binding determination regarding whether Corps jurisdiction applies to the waters or wetlands in question. Accordingly, you may either consent to jurisdiction as set out in this preliminary jurisdictional determination and the attachments hereto if you agree with the determination, or you may request and obtain an approved jurisdictional determination.

“This preliminary jurisdictional determination and associated wetland delineation map may be submitted with a permit application.”

Enclosed is a copy of the “Preliminary Jurisdictional Determination Form”. Please review the document, sign, and return one copy to Ms. Theresita Crockett-Augustine either via email (theresita.m.crockett-augustine@usace.army.mil) or via standard mail to US Army Corps of Engineers, Northern Virginia Field Office at 18139 Triangle Plaza, Suite 213, Dumfries, Virginia 22026 within 30 days of receipt and keep one for your records. This delineation of waters and/or wetlands is valid for a period of five years from the date of this letter unless new information warrants revision prior to the expiration date.

If you have any questions, please contact Ms. Theresita Crockett-Augustine at (703) 221-9736 or theresita.m.crockett-augustine@usace.army.mil.

Sincerely,



Theresita Crockett-Augustine
Environmental Scientist
Northern Virginia Regulatory Section

Enclosures

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Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION:

A. REPORT COMPLETION DATE FOR PJD: June 30, 2017

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:

Virginia Department of Transportation
 Attn: Mr. Bryan Campbell
 4975 Alliance Drive
 Fairfax, Virginia 22030

DISTRICT OFFICE, FILE NAME, AND NUMBER: NAO, Virginia Department of Transportation, 2016-00785

**C. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
 (USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)**

State: **VIRGINIA** County/parish/borough: Fairfax City:

Center coordinates of site (lat/long in degree decimal format):

Latitude: 38.742 ° N Longitude: 77.085 ° W Northern Termini

Latitude: 38.714 ° N Longitude: 77.136 ° W Southern Termini

Universal Transverse Mercator:

Name of nearest waterbody: Little Huntington Creek, North Fork of Dogue Creek, Dogue Creek

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

- Office (Desk) Determination. Date:
- Field Determination. Date(s): May 24, 2017

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site Number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
1			2,836.3 (1.4 ac)	RPW	Section 404
2			1.1 ac (45,601.1 SF)	Wetland	Section 404

3			0.1 ac (3,970.8 SF)	OW	Section 404

1. The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre- construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "may be" waters of the U.S. and/or that there "may be" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items.

- Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map:
 - Data sheets prepared/submitted by or on behalf of the PJD requestor.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report. Rationale:
 - Data sheets prepared by the Corps:
 - Corps navigable waters' study:
 - U.S. Geological Survey Hydrologic Atlas: USGS
 - NHD data.
 - USGS 8 and 12 digit HUC maps.
 - U.S. Geological Survey map(s). Cite scale & quad name:
 - Natural Resources Conservation Service Soil Survey. Citation:
 - National wetlands inventory map(s). Cite name:
 - State/Local wetland inventory map(s):
 - FEMA/FIRM maps:
 - 100-year Floodplain Elevation: (National Geodetic Vertical Datum of 1929)
 - Photographs Aerial (Name & Date):
or Other (Name & Date):
 - Previous determination(s):
File no. and date of response letter:
 - Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

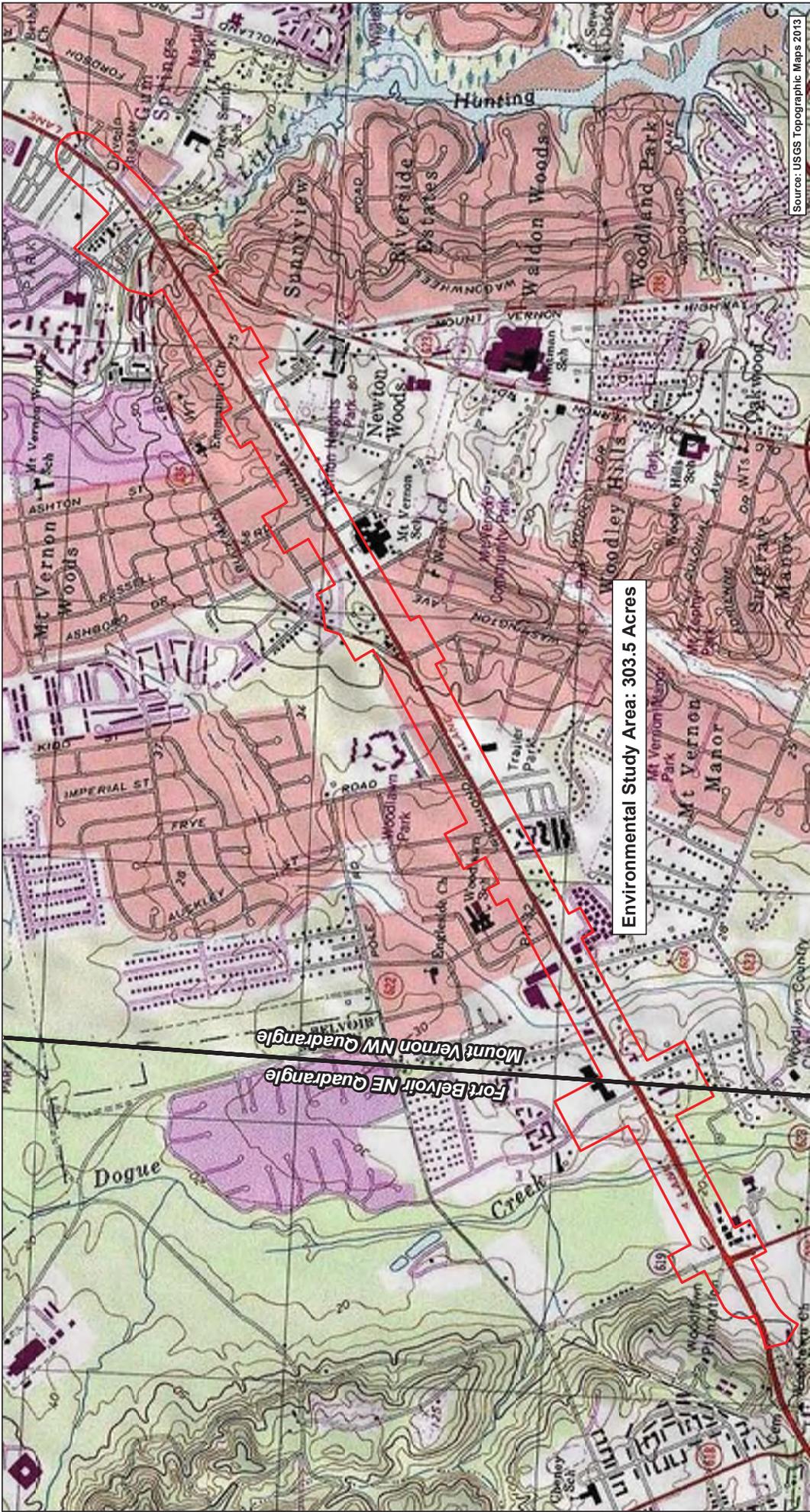
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Signature and date of
Regulatory staff member
completing PJD

Signature and date of person requesting
PJD (REQUIRED, unless obtaining the signature
is impracticable)¹

1 Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.



Source: USGS Topographic Maps 2013

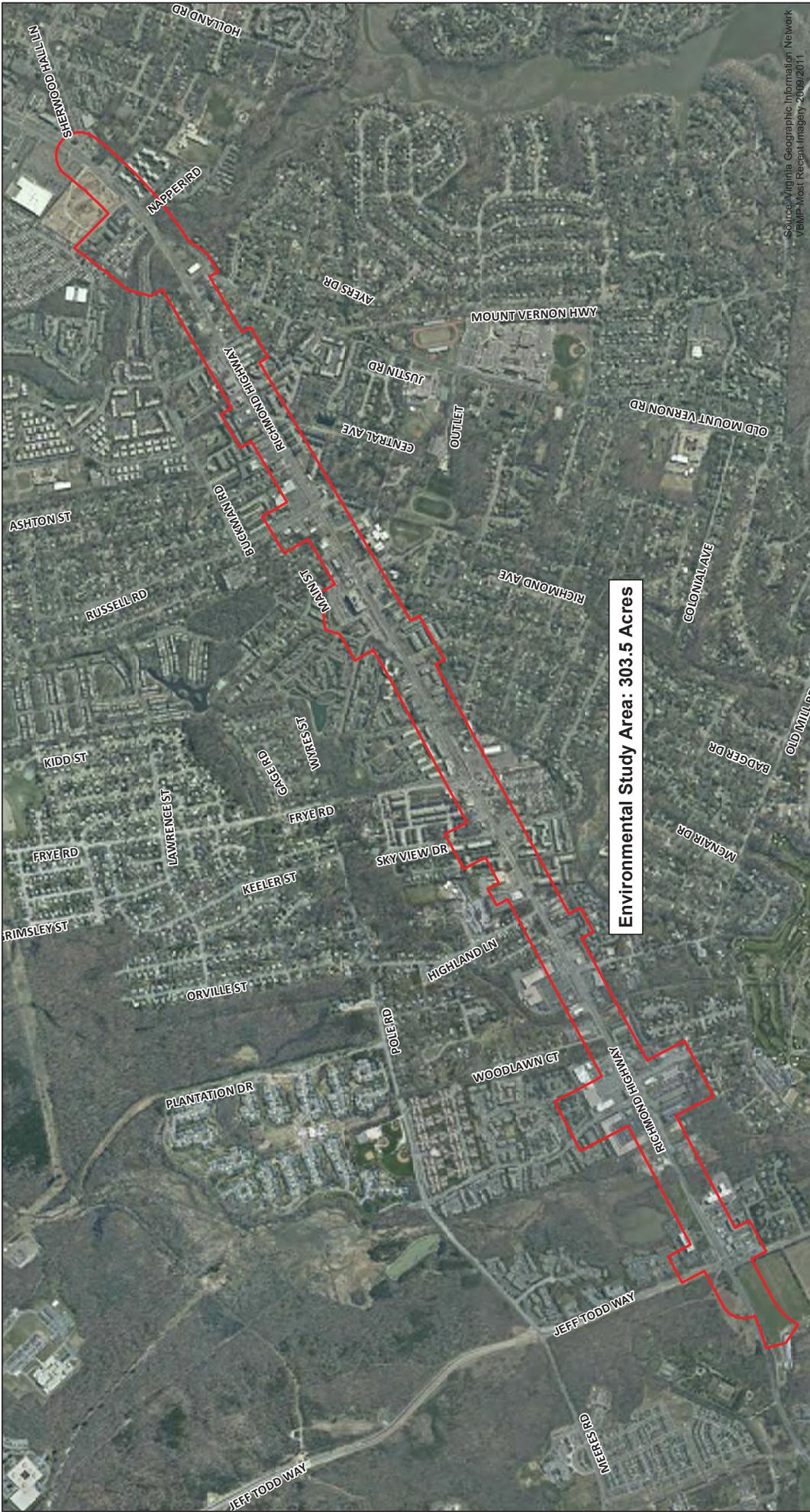


PROJECT TOPOGRAPHY
0001-029-205

Environmental Study Area: 303.5 Acres

- Environmental Study Area
- USGS Quadrangles 12k

PROJECT INFORMATION
 RICHMOND HIGHWAY CORRIDOR IMPROVEMENTS
 VDOT Project Number: 0001-029-205, C501, P101, R201
 FHWA Project Number:
 From: Jeff Todd Way in Fairfax County
 To: Napper Road in Fairfax County



PROJECT INFORMATION
 RICHMOND HIGHWAY CORRIDOR IMPROVEMENTS
 VDOT Project Number: 0001-029-205, C501, P101, R201
 FHWA Project Number:
 From: Jeff Todd Way in Fairfax County
 To: Napper Road in Fairfax County

Environmental Study Area

Richmond Highway Corridor Improvements
 VDOT

1

0 600 1,200 Feet

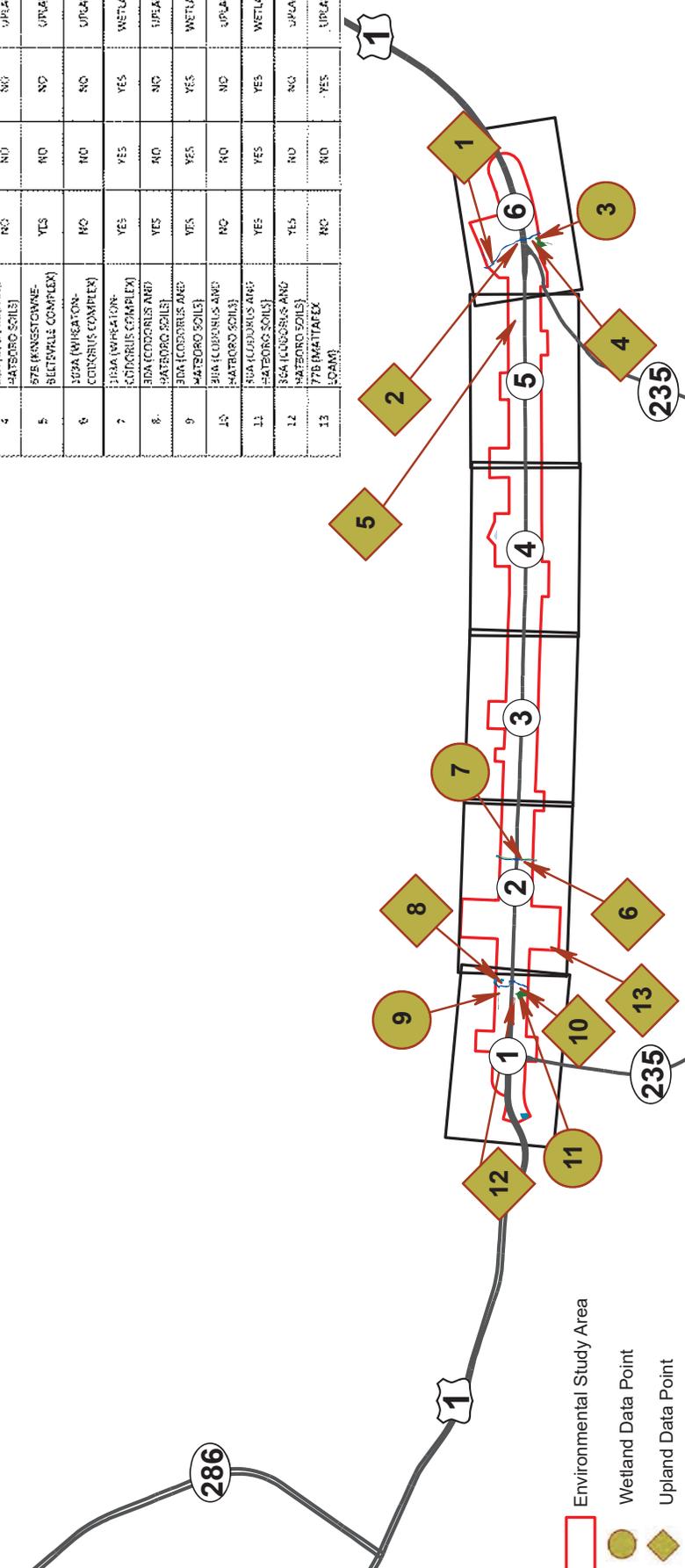
PROJECT 0001-029-205
AERIAL

PROJECT SITE DATA

LINEAR FEET (LF)	SQUARE FEET (SF)	ACRES (AC)
TOTAL ENVIRONMENTAL STUDY AREA	53,225,332.7	303.5
TOTAL WATERS OF THE U.S.	108,949.8	2.5
PALUSTRINE FORESTED WETLAND (PFC)	34,287.4	0.8
PALUSTRINE SCRUB/SHRUB WETLAND (PSS)	0.0	0.0
PALUSTRINE EMERGENT WETLAND (PEM)	11,353.7	0.3
PALUSTRINE OPEN WATER (POW)	3,970.8	0.1
STREAMS (R2/R3/R4)	50,377.2	1.1

DATA POINT SUMMARY TABLE

DATA POINT	SOIL TYPE	VEGETATION	WETLAND PARAMETERS MET?	SOIL	HYDROLOGY	DESIGNATION	COMPARISON CLASSIFICATION
1	30A (COCORBUS AND MATRORO SOILS)	YES	NO	NO	NO	UPLAND	-
2	30A (COCORBUS AND MATRORO SOILS)	YES	NO	NO	NO	UPLAND	-
3	30A (COCORBUS AND MATRORO SOILS)	YES	YES	YES	YES	WETLAND	PFC
4	30A (COCORBUS AND MATRORO SOILS)	NO	NO	NO	NO	UPLAND	-
5	57E (WHEATON-BELTSVILLE COMPLEX)	YES	NO	NO	NO	UPLAND	-
6	57E (WHEATON-BELTSVILLE COMPLEX)	NO	NO	NO	NO	UPLAND	-
7	103A (WHEATON-SCOTTSVILLE COMPLEX)	YES	YES	YES	YES	WETLAND	PEM
8	30A (COCORBUS AND MATRORO SOILS)	YES	NO	NO	NO	UPLAND	-
9	30A (COCORBUS AND MATRORO SOILS)	YES	YES	YES	YES	WETLAND	PFC
10	30A (COCORBUS AND MATRORO SOILS)	NO	NO	NO	NO	UPLAND	-
11	30A (COCORBUS AND MATRORO SOILS)	YES	YES	YES	YES	WETLAND	PFC
12	35A (COCORBUS AND MATRORO SOILS)	YES	NO	NO	NO	UPLAND	-
13	77B (MATTAPAN LOAM)	NO	NO	NO	YES	UPLAND	-



WATERS OF THE US BOUNDARY DELINEATION
 RICHMOND HIGHWAY CORRIDOR IMPROVEMENTS
 VDOT Project Number: 0001-029-205, C501, P101, R201
 FHWA Project Number:
 From: Jeff Todd Way in Fairfax County
 To: Napper Road in Fairfax County

NOTES:
 1. WATERS OF US BOUNDARY DELINEATION CONDUCTED IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS 2012 REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: ATLANTIC AND GULF COASTAL PLAIN REGION
 2. BASE MAPPING WAS OBTAINED FROM SURVEY INFORMATION PROVIDED BY NXL CONSTRUCTION SERVICES, INC. & RICE ASSOCIATES.
 3. WATERS OF THE US BOUNDARY LIMITS WERE OBTAINED FROM GPS SURVEY PROVIDED BY VDOT.



PROJECT
 0001-029-205

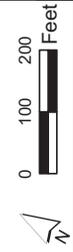
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Geomatics, Aergrid, IGN, IGP, swisstopo, and the GIS User Community

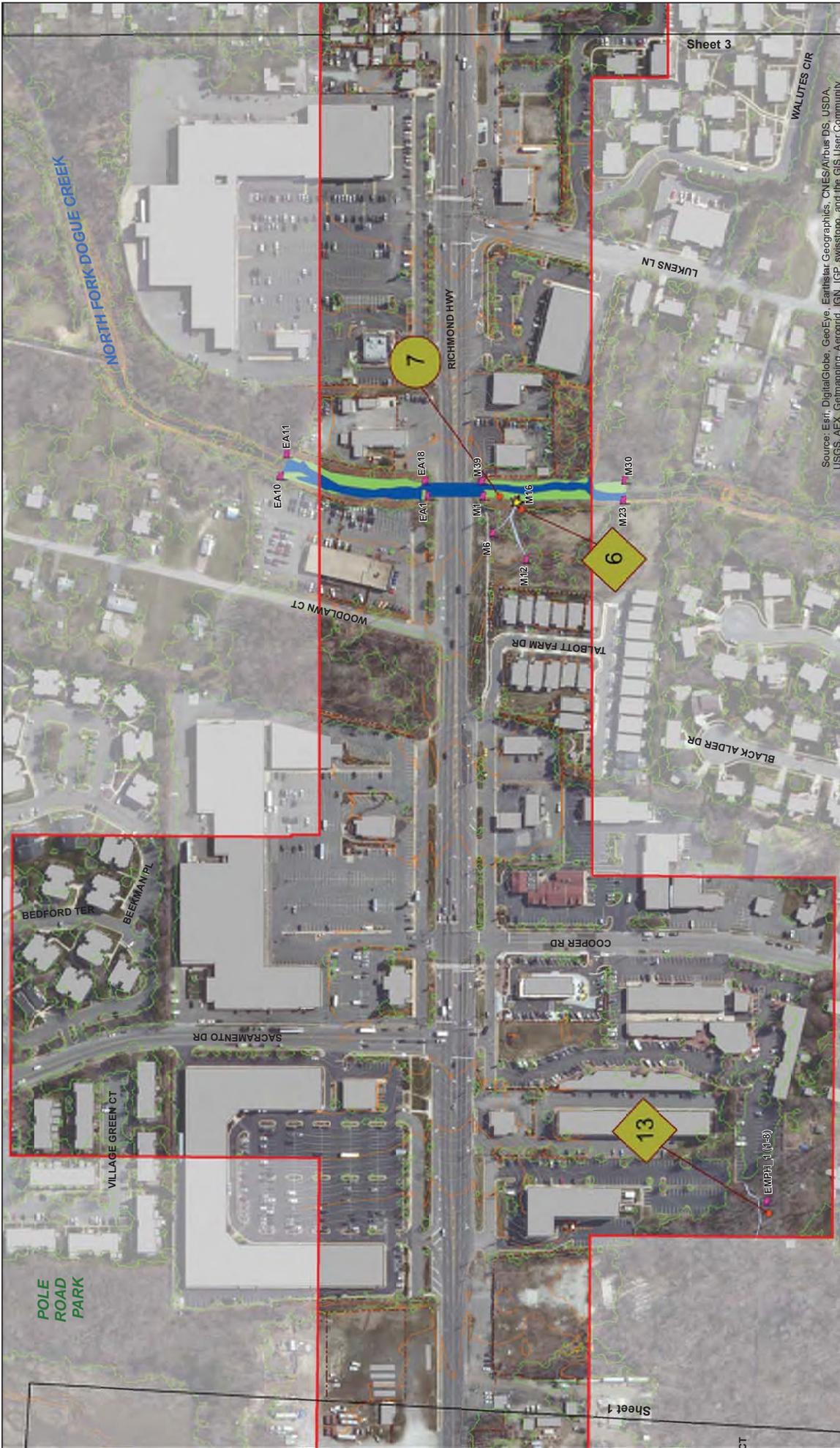


SHEET NO. 1
PROJECT 0001-029-205



WATERS OF THE US BOUNDARY DELINEATION	
	Environmental Study Area
	Welland Data Point
	Upland Data Point
	Welland Flag Location
	Non-Jurisdictional Feature
	Data Point
	PEM
	PFO
	POW
	R3
	R4
	Vegetation
	Buildings





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Geomatics, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

**WATERS OF THE US
BOUNDARY DELINEATION**

SHEET NO. 2
PROJECT 0001-029-205

0 100 200 Feet

Fence
 Vegetation
 Buildings

R3
 R4
 PEM
 PFO
 POW

Welland Flag Location
 Non-Jurisdictional Feature
 Data Point

Environmental Study Area
 Welland Data Point
 Upland Data Point

6
 7
 13

VDOT
 Richmond Highway
 Consider Improvements

Sheet 1

Sheet 3



WALT WHITMAN SCHOOL SITE
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Geomatics, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

WATERS OF THE US BOUNDARY DELINEATION

- Environmental Study Area
- Welland Data Point
- Upland Data Point
- Welland Flag Location
- Non-Jurisdictional Feature
- Data Point
- PEM
- PFO
- POW
- R3
- R4
- Fence
- Vegetation
- Buildings

SHEET NO. 4
PROJECT 0001-029-205

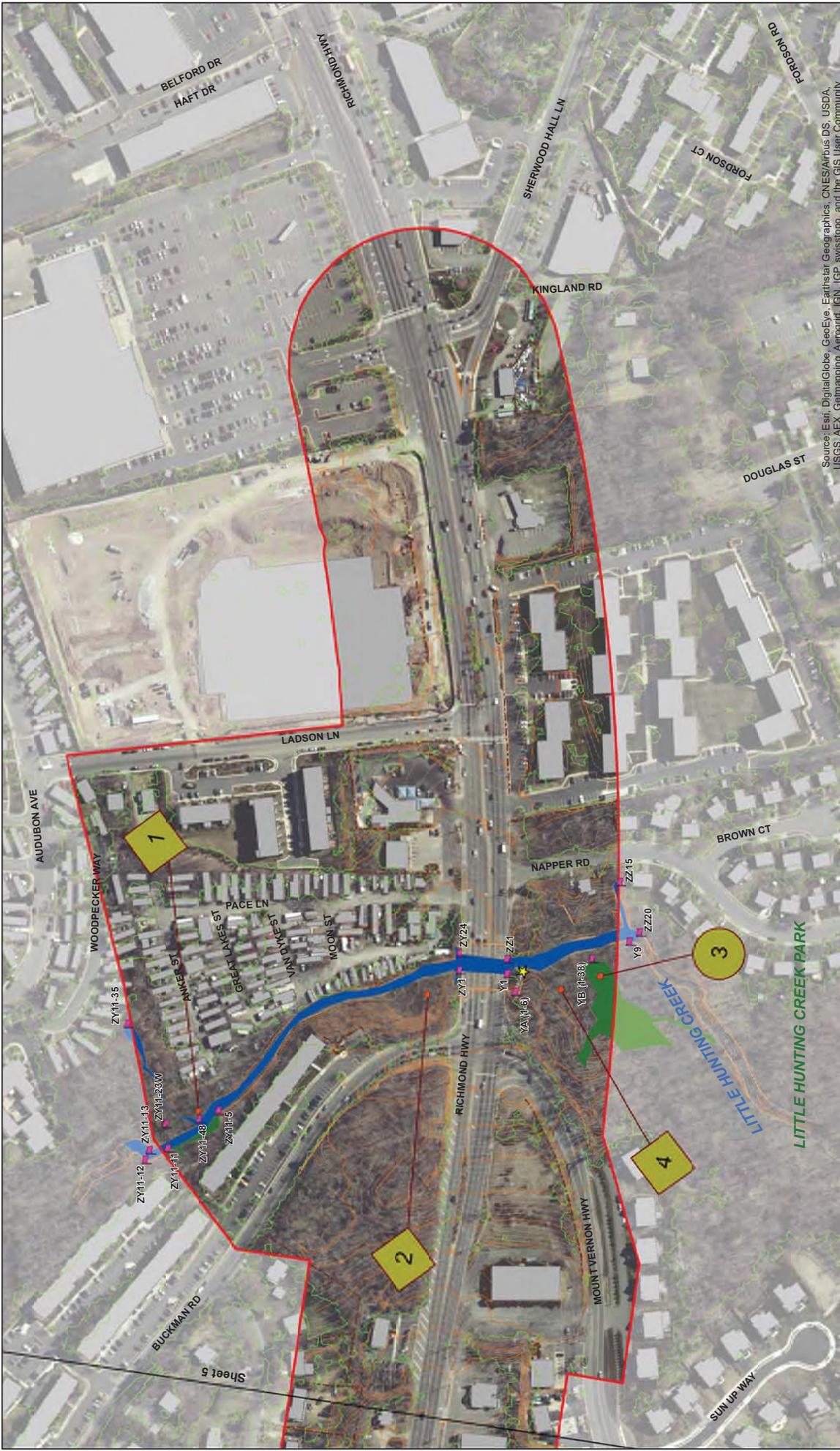
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Sheet 5

Sheet 3

Richmond Highway Consider Improvements

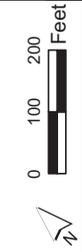
VDOT



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Geomatics, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



SHEET NO. 6
PROJECT 0001-029-205



- WATERS OF THE US BOUNDARY DELINEATION**
- Environmental Study Area
 - Wetland Data Point
 - Upland Data Point
 - Wetland Flag Location
 - ★ Non-Jurisdictional Feature
 - Data Point
 - R3
 - R4
 - PEM
 - PFO
 - POW
 - - - Fence
 - Vegetation
 - Buildings

Richmond Highway Consider Improvements
VDOT



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VIRGINIA 23510-1011

JUNE 30, 2017

Supplemental Preapplication Information

Project Number: NAO-2016-00785 (Route 7)
Applicant: Virginia Department of Transportation
Project Location: Fairfax County, Virginia

1. A search of the Virginia Department of Historic Resources data revealed the following:

- No known historic properties are located on the property.
- The following known architectural resources are located on the property:

VDHR Architectural Resources

DHR ID	Address	Restricted	Property Names
029-6080	8130 Richmond Highway - Alt Route 1	-	Auto Repair Garage, 8130 Richmond Highway (Function/Location), M & B Automotive Services (Current Name)
029-6079	8146 Mount Vernon Highway - Alt Route 235	-	7-Eleven (Current Name), Convenience store, 8146 Mount Vernon Highway (Function/Location)
029-6074	8113 Richmond Highway - Alt Route 1	-	El Amanecer (Current Name), Restaurant, 8113 Richmond Highway (Function/Location)
029-6081	8111 Janna Lee Avenue	-	Single dwelling, 8111 Janna Lee Avenue (Function/Location)
029-6082	3601 Rolling Hills Avenue	-	Single dwelling, 3601 Rolling Hills Avenue (Function/Location)
029-6075	8101 Richmond Highway - Alt Route 1	-	Commercial building, 8101 Richmond Highway (Function/Location), Mount Vernon Antique Center (Current Name)
029-6083	3513 Rolling Hills Avenue	-	Single dwelling, 3513 Rolling Hills Avenue (Function/Location)
029-6084	3513B Rolling Hills Avenue	-	Single dwelling, 3513B Rolling Hills Avenue (Function/Location)
029-6085	3511 Rolling Hills Avenue	-	Single dwelling, 3511 Rolling Hills Avenue (Function/Location)
029-6092	8122 Richmond Highway - Alt Route 1	-	Single dwelling, 8122 Richmond Highway (Function/Location)
029-5143	8126 Richmond Highway	Unrestricted	House, 8126 Richmond Highway (Function/Location)
029-6087	3507 Rolling Hills Avenue	-	Single dwelling, 3507 Rolling Hills Avenue (Function/Location)
029-6086	3509 Rolling Hills Avenue	-	Single dwelling, 3509 Rolling Hills Avenue (Function/Location)
029-5144	8124 Richmond Highway	Unrestricted	House, 8124 Richmond Highway (Function/Location)
029-6091	8120 Richmond Highway - Alt Route 1	-	Hybla Valley Center (Current Name), Offices, 8120 Richmond Highway (Function/Location)

029-6088	3505 Rolling Hills Avenue	-	Single dwelling, 3505 Rolling Hills Avenue (Function/Location)
029-6089	3503 Rolling Hills Avenue	-	Single dwelling, 3503 Rolling Hills Avenue (Function/Location)
029-5145	8015 Richmond Highway - Alt Route 1	-	House, 8015 Richmond Highway (Function/Location), Winter House (Current)
029-6090	3431 Buckman Road	-	Single Dwelling, 3431 Buckman Road (Function/Location)
029-5146	8018 Richmond Highway - Alt Route 1	-	Harmony Place (Current), Motel Court, 8018 Richmond Highway (Function/Location)
029-6196	3431 Ladson Lane	-	Single dwelling, 3431 Ladson Lane (Function/Location)
029-6197	7959 Richmond Highway - Alt Route 1	-	Apartment Complex, 7959 Richmond Highway (Function/Location), Spring Garden Apartments (Current Name)
029-6007	7836 Fordson Road - Alt Route 779	-	Bethlehem Baptist Church (Current Name)
029-5132	8363 Richmond Highway	Unrestricted	Ploutis Painting (Current)
029-6121	8426 Richmond Highway - Alt Route 1	-	Condominiums, 8426 Richmond Highway (Function/Location), Pinewood South Condominiums (Current Name)
029-5133	8361 Richmond Highway	Unrestricted	Kolas Painting (Current)
029-6120	8368 Richmond Highway - Alt Route 1	-	Commercial Building, 8368 Richmond Highway (Function/Location), Fast Auto Loans (Current Name)
029-5134	8359 Richmond Highway	Unrestricted	Carts House (Function/Location)
029-0230	8333 Richmond Highway - Alt Route 1	-	Mount Vernon High School (Historic), Saudi Islamic Academy (Current Name)
029-6132	8351 Richmond Highway - Alt Route 1	-	Campbell & Ferrara Nursery (Current Name), Commercial Building, 8351 Richmond Highway (Function/Location)
029-6110	8339 Richmond Highway - Alt Route 1	-	5 Ten Foodmart (Current Name), Commercial building, 8339 Richmond Highway (Function/Location)
029-5135	8340 Richmond Highway	Unrestricted	Woodlawn Kennel (Current)
029-6109	8334 Richmond Highway - Alt Route 1	-	Mt. Vernon Auto Clinic (Current Name), Service station, 8334 Richmond Highway (Function/Location)
029-6108	8242 Gregory Drive, 8328-8332 Richmond Highway - Alt Route 1	-	Commercial building, 8328-8332 Richmond Highway (Function/Location), Marcel Center (Current Name)
029-6107	8238 Gregory Drive	-	Single dwelling, 8238 Gregory Drive (Function/Location)

029-6201	4209 - 4229 Main Street	-	Chateaufneuf Townhouses (Current Name), Townhouses, 4229-4209 Main Street (Function/Location)
029-6101	8263 Richmond Highway - Alt Route 1	-	BP (Current Name), Service Station, 8263 Richmond Highway (Function/Location)
029-6106	8239 Gregory Drive	-	Single Dwelling, 8239 Gregory Drive (Function/Location)
029-6105	8312 Richmond Highway - Alt Route 1	-	Commercial building, 8312 Richmond Highway (Function/Location), Twisted Image (Current Name)
029-6103	8300 Richmond Highway - Alt Route 1	-	Service station, 8300 Richmond Highway (Function/Location), Sunoco (Current Name)
029-6104	8226 Russell Road	-	7-Eleven (Current Name), Commercial building, 8226 Russell Road (Function/Location)
029-6098	8244-8256 Richmond Highway - Alt Route 1	-	Mt. Vernon Shopping Center (Current Name), Shopping center, 8244-8256 Richmond Highway (Function/Location)
029-6202	4101 Main Street	-	Single dwelling, 4101 Main Street (Function/Location)
029-6203	4029 Main Street	-	Single dwelling, 4029 Main Street (Function/Location)
029-6099	4011 Buckman Road	-	Apartment complex, 4011 Buckman Road (Function/Location), Mt. Vernon Apartments (Current Name)
029-6143	8532 Highland Lane	-	Single Dwelling, 8532 Highland Lane (Function/Location)
029-5127	8600 Richmond Highway	Unrestricted	Wick's Repair, Inc. (Current)
029-6142	8529 Highland Lane	-	Single Dwelling, 8529 Highland Lane (Function/Location)
029-6165	8592 Richmond Highway - Alt Route 1	-	Meeting Hall, 8592 Richmond Highway (Function/Location), Mount Vernon Knights of Columbus Hall (Current Name)
029-5126	8609 Richmond Highway	Unrestricted	Petitt House (Current)
029-6141	8605 Richmond Highway - Alt Route 1	-	Absolute Tree & Stump Removal (Current Name), Commercial Building, ,8605 Richmond Highway (Function/Location)
029-6140	8601 Richmond Highway - Alt Route 1	-	Commercial Building, 8601 Richmond Highway (Function/Location), Griffin Plumbing (Current Name)
029-6138	8400-8508 Sky View Drive	-	Apartment Complex, 8400-8508 Sky View Drive (Function/Location), Skyview Apartments (Current Name)
029-5128	8589 Richmond Highway	Unrestricted	Motel, 8589-8591 Richmond Highway (Function/Location), Wyngate Manor Townhomes (Current Name)

029-6139	8545-8583 Richmond Highway - Alt Route 1	-	Apartment Complex, 8545-8583 Richmond Highway (Function/Location), Washington Square Apartments (Current Name)
029-5129	8541 Richmond Highway	Unrestricted	Motel, 8541 Richmond Highway (Function/Location)
029-6137	8510-8512 Richmond Highway - Alt Route 1, 8526 Richmond Highway - Alt Route 1	-	Commercial Building, 8510-8526 Richmond Highway (Function/Location), Skyview Park Plaza (Current Name)
029-5130	8537 Richmond Highway	Unrestricted	Kimchi House Korean Restaurant (Current)
029-6135	8434-8436 Frye Road	-	7-Eleven (Current Name), Commercial Building, 8434 Frye Road (Function/Location)
029-6131	106 Denfield Drive	-	Mobile Home Park, 106 Denfield Drive (Function/Location), Ray's Mobile Colony (Current Name)
029-6130	8515 Richmond Highway - Alt Route 1	-	Commercial Building, 8515 Richmond Highway (Function/Location), Rorer's Produce Market (Current Name)
029-6136	8500 Richmond Highway - Alt Route 1	-	Service station, 8500 Richmond Highway (Function/Location), Shell (Current Name)
029-6125	8420-8422 Graves Lane, 8420-8424 Blankenship Street, 8421-8425 Frye Road, 8480-8498 Richmond Highway - Alt Route 1, 8495-8499 Madge Lane	-	Apartment Complex, 8420 Blankenship Street (Function/Location), Woodlawn Garden Apartments (Current Name)
029-6129	8500 Greenleaf Street	-	Engleside Mobile Home Park (Current Name), Mobile Home Park, 8500 Greenleaf Street (Function/Location)
029-6128	8501 Richmond Highway - Alt Route 1	-	Restaurant, 8501 Richmond Highway (Function/Location), Thai Herbs Restaurant (Current Name)
029-6127	8457 Richmond Highway - Alt Route 1	-	Bestway Supermarket (Current Name), Commercial Building, 8457 Richmond Highway (Function/Location)
029-6126	8453 Richmond Highway - Alt Route 1	-	Commercial Building, 8453 Richmond Highway (Function/Location), Holly, Wood, and Vines (Current Name)
029-6124	8431 Richmond Highway - Alt Route 1	-	Church, 8431 Richmond Highway (Function/Location), Spirit of Faith Ministries (Current Name)
029-6123	8428 Richmond Highway - Alt Route 1	-	Cuco Lindo Restaurant (Current Name), Restaurant, 8428 Richmond Highway (Function/Location)
029-6122	8412 Richmond Highway - Alt Route 1	-	Commercial Building, 8412 Richmond Highway (Function/Location), Rent-all Center (Current Name)
029-5131	8369 Richmond Highway	Unrestricted	Pretty Pets (Current)
029-	8669 Richmond Highway	Unrestricted	Malone House (Current)

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029-6156	8770 Richmond Highway - Alt Route 1	-		Bank, 8770 Richmond Highway (Function/Location), Wells Fargo (Current Name)
029-6155	8700-8716 Richmond Highway - Alt Route 1	-		Shopping Center, 8700-8716 Richmond Highway (Function/Location), Woodlawn Shopping Center (Current Name)
029-5122	8668 Richmond Highway - Alt Route 1	Unrestricted		House, 8668 Richmond Highway (Function/Location)
029-6153	8655 Richmond Highway - Alt Route 1	-		Best Cleaners & Auto Body (Current Name), Commercial Building, 8655 Richmond Highway (Function/Location)
029-6152	8653 Richmond Highway - Alt Route 1	-		Church, 8653 Richmond Highway (Function/Location), First AME Church (Current Name)
029-6154	8670 Richmond Highway - Alt Route 1	-		Commercial Building, 8670 Richmond Highway (Function/Location), Ourisman Suzuki (Current Name)
029-5123	8656 Richmond Highway	Unrestricted		International Auto Body (Current)
029-6149	8624-8648 Richmond Highway - Alt Route 1	-		Engleside Plaza (Current Name), Shopping Center, 8624-8652 Richmond Highway (Function/Location)
029-6150	8629-8631 Richmond Highway - Alt Route 1	-		7-Eleven (Current Name), Commercial Building, 8629-8631 Richmond Highway (Function/Location)
029-5124	8622 Richmond Highway	Unrestricted		AP Lawn Mower Repair (Current Name), DiNicola Land Development, Inc. (Historic), House, 8622 Richmond Highway (Function/Location)
029-6148	8618 Richmond Highway - Alt Route 1	-		Single Dwelling, 8618 Richmond Highway (Function/Location)
029-6147	8534 Engleside Street	-		Single Dwelling, 8534 Engleside Street (Function/Location)
029-6144	8535 Engleside Street	-		Single Dwelling, 8535 Engleside Street (Function/Location)
029-6145	8553 Engleside Street	-		Single Dwelling, 8553 Engleside Street (Function/Location)
029-6146	8531 Engleside Street	-		Single Dwelling, 8531 Engleside Street (Function/Location)
029-6151	8528 Highland Lane	-		Single Dwelling, 8528 Highland Lane (Function/Location)
029-6164	8208 Martha Street	-		Single Dwelling, 8208 Martha Street (Function/Location)
029-6097	8210 Martha Street	-		Single Dwelling, 8210 Martha Street (Function/Location)
029-6095	8228 Richmond Highway - Alt Route 1	-		Goodwill (Current Name), Store, 8228 Richmond Highway (Function/Location)

029-5136	8257 Richmond Highway	Unrestricted	Red Carpet Inn (Function/Location)
029-6096	8212 Martha Street	-	Single Dwelling, 8212 Martha Street, (Function/Location)
029-6100	8249 Richmond Highway - Alt Route 1	-	Car Care Center (Current Name), Service station, 8249 Richmond Highway (Function/Location)
029-5137	8238 Martha Street, 8238 Richmond Highway	Unrestricted	House, 8238 Richmond Highway (Function/Location)
029-5138	8217 Martha Street, 8234 Richmond Highway	Unrestricted	Pinto Contractors (Current)
029-6111	3707 Rolling Hills Avenue	-	Apartment complex, 3707 Rolling Hills Avenue (Function/Location), Rolling Hills Apartments (Current Name)
029-5139	8218 Richmond Highway	Unrestricted	Village Turf, Inc. (Current)
029-5140	8214 Richmond Highway	Unrestricted	House, 8214 Richmond Highway (Function/Location)
029-6116	8166-8178 Richmond Highway - Alt Route 1	-	Kwik Stop Center (Current Name), Shopping Center, 8166-8178 Richmond Highway (Function/Location)
029-6115	8156-8158 Richmond Highway - Alt Route 1	-	Gas station, 8156-8158 Richmond Highway (Function/Location), Richmond Highway Mobil (Current Name)
029-6112	8150 Richmond Highway - Alt Route 1	-	Action Pre-owned Cars (Current Name), Commercial Building, 8150 Richmond Highway (Function/Location)
029-6114	8153 Richmond Highway - Alt Route 1	-	Commercial building, 8153 Richmond Highway (Function/Location), Potomac Motors Body and Paint (Current Name)
029-6113	8149 Richmond Highway - Alt Route 1	-	Commercial building, 8149 Richmond Highway (Function/Location), Mt. Vernon Car Wash (Current Name)
029-5141	8145 Richmond Highway	Unrestricted	Bargain Rent-A-Car (Current)
029-6070	8139 Richmond Highway - Alt Route 1	-	Commercial building, 8139 Richmond Highway (Function/Location), Touba African Hair Braiding & Beauty Supply (Current Name)
029-6073	8121 Richmond Highway - Alt Route 1	-	Amon Retail Center (Current Name), Commercial building, 8121 Richmond Highway (Function/Location)
029-5142	8135 Richmond Highway	Unrestricted	C&M Auto Machine Shop (Current)
029-6078	8158 Mount Vernon Highway - Alt Route 235	-	Gas station, 8158 Mount Vernon Highway (Function/Location), Mt. Vernon Citgo (Current Name)
029-5181	Huntington Avenue, Richmond Highway - Alt Route 1, Telegraph Road	-	Woodlawn Cultural Landscape Historic District (NRHP listing), Woodlawn Historic District

			(Historic)
029-0056	9000 Richmond Highway - Alt Route 1	-	House, 9000 Richmond Highway (Route 1) (Function/Location), Woodlawn (Historic/Current), Woodlawn Plantation (NRHP Listing)
029-5181-0007	8900 Richmond Highway	-	Arcadia Farm Property (Current Name)
029-6163	8860 Richmond Highway - Alt Route 1	-	Restaurant, 8860 Richmond Highway (Function/Location), Roy Rogers (Current Name)
029-5707	5638 Mount Vernon Memorial Highway - Alt Route 235	Unrestricted	7-Eleven (Current Name), Commercial Building, 5638-40 Mt. Vernon Memorial Highway (State Route 235) (Function/Location)
029-5705	8853 Richmond Highway - Alt Route 1	Unrestricted	Commercial Building, 8853-59 Richmond Highway (Route 1) (Function/Location)
029-6162	8851 Richmond Highway - Alt Route 1	-	Service Station, 8851 Richmond Highway (Function/Location), Shell (Current Name)
029-6161	8800 Richmond Highway - Alt Route 1	-	Commercial Building, 8800 Richmond Highway (Function/Location), Sitco Inc. (Current Name)
029-0479	Richmond Highway over Dogue Creek, Rt. 1	Unrestricted	Bridge, Rt.1, #1001 (Current)
029-6160	8801 Richmond Highway - Alt Route 1	-	Commercial Building, 8801 Richmond Highway (Function/Location), EP Stump & Tree Removal (Current Name)
029-6159	8743 Richmond Highway - Alt Route 1	-	Apartments, 8743 Richmond Highway (Function/Location), Belvoir Plaza Apartments (Current Name)
029-6158	8741 Richmond Highway - Alt Route 1	-	Restaurant, 8741 Richmond Highway (Function/Location), Su Pollo Peruvian Restaurant (Current Name)
029-6157	8689 Richmond Highway - Alt Route 1	-	Gas Station, 8689 Richmond Highway (Function/Location), Gulf Station (Current Name)
029-6198	7929 Richmond Highway - Alt Route 1	-	Church, 7929 Richmond Highway (Function/Location), Greater Morning Star Apostolic Church (Current Name)
029-6199	7925 Richmond Highway - Alt Route 1	-	Commercial building, 7925 Richmond Highway (Function/Location)
029-6200	7901 Richmond Highway - Alt Route 1	-	Bank, 7901 Richmond Highway (Function/Location), United Bank (Current Name)
029-5708	Richmond Highway, Route 1	Unrestricted	(Old) River Road (Historic), Accotink Turnpike (Historic), Historic Route 1 (Historic/Current), Jefferson Davis Memorial Highway (Historic), Richmond Highway (Current)

The following known archaeological resources are located on the property:

VDHR Archaeological Resources

DHR ID	Site Name	Site Category	Time Period	NR Eligible	Restricted
44FX0213	Gum Springs	Domestic, Transportation/Communication	Pre-Contact, Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	DHR Staff: Not Eligible	Restricted: No release
44FX3769	-	Domestic	World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991), Post Cold War (1992 - Present)	-	-
44FX1146	Woodlawn Plantation	Domestic	Colony to Nation (1751 - 1789), Early National Period (1790 - 1829)	NHL Listing	Restricted: No release
44FX3252	-	Domestic, Indeterminate, Transportation/Communication	Pre-Contact, Contact Period (1607 - 1750), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	-	Restricted: No release

The following known historic resources are located in the vicinity of the property (potential for effects to these resources from future development):

NOTE:

- 1) *The information above is for planning purposes only. In most cases, the property has not been surveyed for historic resources. Undiscovered historic resources may be located on the subject property or adjacent properties and this supplemental information is not intended to satisfy the Corps' requirements under Section 106 of the National Historic Preservation Act (NHPA).*
- 2) *Prospective permittees should be aware that Section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant.*

2. A search of the data supplied by the U.S. Fish & Wildlife Service, the Virginia Department of Conservation and Recreation and the Virginia Department of Game and Inland Fisheries revealed the following:

- No known populations of threatened or endangered species are located on or within the vicinity of the subject property.
- The following federally-listed species may occur within the vicinity of the subject property. See attached.
- The following state-listed (or other) species may occur within the vicinity of the subject property:

Genus	Species	Subspecies	Common Name	Fedstatus	Statestatus
Haliaeetus	leucocephalus	-	Eagle, bald	Federal Species of Concern	-
Glyptemys	insculpta	-	Turtle, wood	-	State Threatened
Falco	peregrinus	-	Falcon, peregrine	-	State Threatened

Please note this information is being provided to you based on the preliminary data you submitted to the Corps relative to project boundaries and project plans. Consequently, these findings and recommendations are subject to change if the project scope changes or new information becomes available and the accuracy of the data.

IPaC

U.S. Fish & Wildlife Service

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Fairfax County, Virginia



Local office

Virginia Ecological Services Field Office

(804) 693-6694

(804) 693-9032

6669 Short Lane

Gloucester, VA 23061-4410

<http://www.fws.gov/northeast/virginiafield/>

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species

¹ are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service.

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

¹ and the Bald and Golden Eagle Protection Act².

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service

³. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Conservation measures for birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Year-round bird occurrence data <http://www.birdscanada.org/birdmon/default/datasummaries.jsp>

The migratory birds species listed below are species of particular conservation concern (e.g. [Birds of Conservation Concern](#)) that may be potentially affected by activities in this location. It is not a list of every bird species you may find in this location, nor a guarantee that all of the bird species on this list will be found on or near this location. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To view available data on other bird species that may occur in your project area, please visit the [AKN Histogram Tools](#) and [Other Bird Data Resources](#). To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

NAME	SEASON(S)
American Bittern <i>Botaurus lentiginosus</i> https://ecos.fws.gov/ecp/species/6582	Wintering
American Oystercatcher <i>Haematopus palliatus</i> https://ecos.fws.gov/ecp/species/8935	Year-round
Bald Eagle <i>Haliaeetus leucocephalus</i> https://ecos.fws.gov/ecp/species/1626	Year-round
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> https://ecos.fws.gov/ecp/species/9399	Breeding
Blue-winged Warbler <i>Vermivora pinus</i>	Breeding

Fox Sparrow <i>Passerella iliaca</i>	Wintering
Gull-billed Tern <i>Gelochelidon nilotica</i> https://ecos.fws.gov/ecp/species/9501	Breeding
Kentucky Warbler <i>Oporornis formosus</i>	Breeding
Least Bittern <i>Ixobrychus exilis</i> https://ecos.fws.gov/ecp/species/6175	Breeding
Least Tern <i>Sterna antillarum</i>	Breeding
Peregrine Falcon <i>Falco peregrinus</i> https://ecos.fws.gov/ecp/species/8831	Wintering
Pied-billed Grebe <i>Podilymbus podiceps</i>	Breeding
Prairie Warbler <i>Dendroica discolor</i>	Breeding
Prothonotary Warbler <i>Protonotaria citrea</i>	Breeding
Purple Sandpiper <i>Calidris maritima</i>	Wintering
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i>	Year-round
Rusty Blackbird <i>Euphagus carolinus</i>	Wintering
Short-eared Owl <i>Asio flammeus</i> https://ecos.fws.gov/ecp/species/9295	Wintering
Snowy Egret <i>Egretta thula</i>	Breeding
Willow Flycatcher <i>Empidonax traillii</i> https://ecos.fws.gov/ecp/species/3482	Breeding

Wood Thrush *Hylocichla mustelina* Breeding

Worm Eating Warbler *Helmitheros vermivorum* Breeding

What does IPaC use to generate the list of migratory bird species potentially occurring in my specified location?

Landbirds:

Migratory birds that are displayed on the IPaC species list are based on ranges in the latest edition of the National Geographic Guide, Birds of North America (6th Edition, 2011 by Jon L. Dunn, and Jonathan Alderfer). Although these ranges are coarse in nature, a number of U.S. Fish and Wildlife Service migratory bird biologists agree that these maps are some of the best range maps to date. These ranges were clipped to a specific Bird Conservation Region (BCR) or USFWS Region/Regions, if it was indicated in the 2008 list of Birds of Conservation Concern (BCC) that a species was a BCC species only in a particular Region/Regions. Additional modifications have been made to some ranges based on more local or refined range information and/or information provided by U.S. Fish and Wildlife Service biologists with species expertise. All migratory birds that show in areas on land in IPaC are those that appear in the 2008 Birds of Conservation Concern report.

Atlantic Seabirds:

Ranges in IPaC for birds off the Atlantic coast are derived from species distribution models developed by the National Oceanic and Atmospheric Association (NOAA) National Centers for Coastal Ocean Science (NCCOS) using the best available seabird survey data for the offshore Atlantic Coastal region to date. NOAA/NCCOS assisted USFWS in developing seasonal species ranges from their models for specific use in IPaC. Some of these birds are not BCC species but were of interest for inclusion because they may occur in high abundance off the coast at different times throughout the year, which potentially makes them more susceptible to certain types of development and activities taking place in that area. For more refined details about the abundance and richness of bird species within your project area off the Atlantic Coast, see the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other types of taxa that may be helpful in your project review.

About the NOAA/NCCOS models: the models were developed as part of the NOAA/NCCOS project: [Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#). The models resulting from this project are being used in a number of decision-support/mapping products in order to help guide decision-making on activities off the Atlantic Coast with the goal of reducing impacts to migratory birds. One such product is the [Northeast Ocean Data Portal](#), which can be used to explore species in a particular area off the Atlantic Coast.

All migratory bird range maps within IPaC are continuously being updated as new and better information becomes available.

Can I get additional information about the levels of occurrence in my project area of specific birds or groups of birds listed in IPaC?

Landbirds:

The [Avian Knowledge Network \(AKN\)](#) provides a tool currently called the "Histogram Tool", which draws from the data within the AKN (latest, survey, point count, citizen science datasets) to create a view of relative abundance of species within a particular location over the course of the year. The results of the tool depict the frequency of detection of a species in survey events, averaged between multiple datasets within AKN in a particular week of the year. You may access the histogram tools through the [Migratory Bird Programs AKN Histogram Tools](#) webpage.

The tool is currently available for 4 regions (California, Northeast U.S., Southeast U.S. and Midwest), which encompasses the following 32 states: Alabama, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia, and Wisconsin.

In the near future, there are plans to expand this tool nationwide within the AKN, and allow the graphs produced to appear with the list of trust resources generated by IPaC, providing you with an additional level of detail about the level of occurrence of the species of particular concern potentially occurring in your project area throughout the course of the year.

Atlantic Seabirds:

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS [Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Facilities

Wildlife refuges

Any activity proposed on [National Wildlife Refuge](#) lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGES AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

[PFO1A](#)

A full description for each wetland code can be found at the National Wetlands Inventory website: <https://ecos.fws.gov/ipac/wetlands/decoder>

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Not for
consultation