TO: FHWA
FROM: John Muse
DATE: April 1, 2021

CATEGORICAL EXCLUSION (CE)

Date CE level document approved by VA FHWA Division: September 24, 2019
FHWA Contact: John Simkins
Project Name: Neabsco-Potomac Commuter Parking Garage
Route: 0642 (Opitz Boulevard)
Route Type: Secondary
Project Type: Construction
State Project Number: PRGA-076-242, P101, C501, R201
Federal Project Number: STP-5A01(907)
UPC: 111485

From: River Rock Way
To: Potomac Center Boulevard
County/City: Prince William County
District / Residency: Northern Virginia District

Project in STIP:	Yes ☒	No ☐	
Project in Long Range Plan:	Yes ☒	No ☐	N/A Project Outside of MPO Area ☐
Next Phase of Funding Available:	Yes ☒	No ☐	

Project Description:

Prince William County Department of Transportation (PWC DOT) proposes the construction of a commuter parking garage with a capacity of 1,400 automobiles, along with associated bus transfer and "kiss-and-ride" facilities (transit center), within an undeveloped property bordered by Opitz Boulevard (Route 642) to the north, River Rock Way to the west, and Potomac Center Boulevard and Bridge View Drive to the east and southeast, respectively. The approximately 17-acre project site was recently purchased by the county.

The siting of the overall parking garage facility would make available approximately 2.7 acres of the project site fronting Opitz Boulevard for future development, which would not be part of this project. In the short-term, this area would remain covered by wooded forest.

Access to and from the proposed parking garage for commuters and transit buses would be provided via driveways from River Rock Way, Potomac Center Boulevard, and Bridge View Drive.

In addition to signal optimization at intersections surrounding the project site, the following roadway changes would be made to facilitate access to and from the commuter parking garage and transit center:

- River Rock Way, south of Opitz Boulevard: (1) extend the existing southbound left turn lane into the project site up to Opitz Boulevard, creating two southbound receiving lanes; and (2) change the northbound lane configuration to two left-turn lanes, one shared left-through lane and one right-turn lane, which would increase the total number of lanes from three to four.

- Opitz Boulevard, west of River Rock Way: extend the northbound Interstate 95 (I-95) ramp lane to the intersection, creating a third westbound lane.
- Opitz Boulevard between River Rock Way and Potomac Center Boulevard: (1) extend the westbound left-turn lane to River Rock Way from 255 feet to 400 feet; and (2) extend the eastbound right-turn lane to Potomac Center Boulevard across the entire block.
- Opitz Boulevard, east of Potomac Center Boulevard: extend the westbound dual left-turn lanes from 415 feet to 1000 feet.
- Potomac Center Boulevard, south of Opitz Boulevard: (1) extend the northbound dual left-turn lane back to Bridge View Drive; and (2) provide a third southbound receiving lane.
- Bridge View Drive and River Rock Way, both west of Potomac Center Boulevard: change the eastbound middle through-only lane to a shared left-through lane.

CE Category 23 CFR 771.117: (d)(4)
Description of CE Category: Transportation corridor fringe parking facilities.

USGS Map Attached Yes ☒

Logical Termini and Independent Utility:
Yes ☒ N/A ☐ (For Non-highway construction only, explain in comments below)

Purpose and Need Statement:

The project is intended to serve as a park-and-ride facility for commuters to relieve over-capacity conditions at the Route 1/Route 234 and Prince William Parkway/Horner Road park-and-ride facilities. By providing a transit center, including provisions for "slugging" (commuters joining casual or ad hoc carpools), the new commuter bus garage would provide residents of Prince William County and others nearby with additional options for traveling during peak periods along the congested I-95, U.S. Route 1 and VA Route 234 corridors.

Comments: The project is included in a State Transportation Improvement Program (STIP) and Constrained Long Range Plan (CLRP) grouping for Construction: Safety/ITS/Operational Improvements. The improvements are justifiable and are a reasonable expenditure of funds even if no additional transportation improvements are made. Therefore, the project has independent utility. The project termini are rational end points for environmental review and are logical.

Typical Section: Opitz Boulevard is an east-west oriented four-lane secondary arterial roadway. River Rock Way and Potomac Center Boulevard are four-lane north-south oriented collector roadways with signalized intersections at Opitz Boulevard. Bridge View Drive is a two- to four-lane minor collector road with a signalized intersection at Potomac Center Boulevard. These roadways would be modified as described above.

Structures: The nine-level (eight floors) parking garage as viewed from the south side would be sited approximately in the middle of the project site and north of an unnamed perennial stream running west to east along the southern end of the project site. The bus transfer facility would be placed on the north side of

the parking garage, and the "kiss-and-ride" drop-off and "slugging" area would be placed on the ground level of the garage (from the north side) adjacent to the transfer facility.

The project's stormwater management (SWM) would be designed to convey stormwater retained within the facility to an existing regional wet pond located southeast of the project site across Potomac Center Boulevard, which was designed to accommodate urban development on the project site. Additional SWM may be needed due to ancillary roadway improvements to facilitate access to the commuter parking garage, and the 2.7-acre parcel designated for future development. New offsite SWM facilities are unlikely. However, the project may need to retrofit an existing pond located east of the project site across from Opitz Boulevard.

SOCIO-ECONOMIC	**PRESENT**		**IMPACTS**	
	YES	**NO**	**YES**	**NO**
Minority/Low Income Populations: see below	☒	☐	☐	☒
Disproportionate Impacts to Minority/Low Income Populations: Yes ☐ No ☒				
Existing or Planned Public Recreational Facilities:	☐	☒	☐	☒
Source: *U.S. Census Bureau-American Fact Finder; site visit; project plans*				
Community Services: See below	☒	☐	☐	☒
Source: *Site visit, Google mapping, project plans, Sentara Northern Virginia Medical Center website, Prince William County Public Schools website*				
Consistent with Local Land Use: Yes ☒ No ☐				
Source: *Code of Ordinance Prince William County Virginia, Prince William County Zoning Districts Map; Purchase and Sale Agreement by and between JBG/Woodbridge, LLC ("Seller") and The Board of County Supervisors of Prince William County, Virginia ("Purchaser"), April 9, 2019*				
Existing or Planned Bicycle/Pedestrian Facilities: see below	☒	☐	☐	☒
Source: *Google mapping; site visit; project plans; Prince William County 2008 Comprehensive Plan Trails Map, dated April 15, 2013, Correspondence with PWC Department of Fire and Rescue and PWC Public Schools*				

Comments:

Environmental Justice

To determine if the neighborhoods immediately surrounding the project limits contain minority or low-income populations, the demographic characteristics of the county and the commonwealth were used for comparison. Estimated 2017 demographic and income information was obtained from the U.S. Census Bureau website.

Within Prince William County, the racial minority population comprises slightly above 41 percent of the overall population. In comparison, the racial minority population within the commonwealth is almost 32 percent. At almost 21 percent of the total, African Americans comprise the largest share of the minority population in the county, which is similar to the overall percentage statewide (19 percent). The next largest racial minority group in the county is Asians (eight percent of the population). The project site is in Census Tract (CT) 9005.02 where the percentage of minorities is approximately 62 percent, which is above the 50 percent threshold to be considered a minority population per Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. In addition, the three census tracts adjacent to CT 9005.02 also contain racial minority populations that exceed the 50 percent threshold or have a racial minority population that is meaningfully greater than the proportion of racial minorities living throughout the county (greater than 10

percentage points). However, the residential communities of these adjacent census tracts are not in proximity to the project site.

The county's poverty rates for families (5.2 percent) and all individuals (7 percent), as defined by low-income thresholds established by the U.S. Department of Health and Human Services, are well below the rates for the commonwealth overall (7.8 and 11.2 percent, respectively). In CT 9005.02, 2017 estimates show a zero percent poverty rate for families and a 1.8 percent poverty rate for all individuals. In addition, the median household income in the census tract ($118,333) is well above the median household incomes in the county ($101,059) and commonwealth ($68,766). Therefore, the census tract containing the project site does not contain low-income populations per guidance provided by the Council on Environmental Quality in the context of compliance with Executive Order 12898.

Despite the presence of a minority population within the census tract containing the project site, the project would not result in disproportionately high and adverse human health or environmental effects on this population. The project would not require the displacement of any residence, nor would these facilities be placed at a location adjacent to existing residences. As noted below, community services will not be impacted by the project. The commuter parking structure would benefit nearby residents (those within close driving distance), including those who are minorities, by providing an option to commuting by auto to distant employment centers, such as Washington, DC. According to the U.S. Census, about 40 percent of the civilian-employed population in CT 9005.02 are government workers, some of whom may be employed by the federal government at locations at or near Washington, DC.

Community Services

Sentara Northern Virginia Medical Center is located immediately north of the project site across from Opitz Boulevard. According to its website, the hospital specializes in advanced imaging, cardiac care, comprehensive breast care, orthopedics, women's services and weight loss surgery. The hospital complex includes a main building surrounded by large asphalt paved parking areas, and a smaller building for physician offices. Other medical related offices are located near the project site across from Potomac Center Boulevard. Ann Ludwig School, a public school, is located east of the project site across from Potomac Center Boulevard. According to the Prince William County Public Schools website, the school serves other public schools on the east side of the county with students who are new to Prince William County Public Schools and who speak and/or understand another language in addition to or instead of American English. The project would not require property from or affect access to any of these community service facilities.

Both the PWC Department of Fire and Rescue (DFR) and PWC Public Schools (PS) were contacted to determine if the project would affect these agencies' transportation operations. The DFR Assistant Chief Fire Marshall responded that the project "will have no impacts to [their] resources or services." The Director of PS Office of Transportation Services responded that the PS bus services "will not be impacted" by the project.

Land Use

The project site is vacant with no urban land uses. Most of the site is covered by wooded forest, with the remainder as open grass turf being used as a utility easement (see Natural Resources). Most of the property purchased by the county for the project is zoned B-1, General Business, as well as Planned Mixed District (PMD) along the southern end of the County purchase. The project footprint would occupy these two zoning districts. A sliver of the project site along northern end, diagonal to Opitz Boulevard, is zoned for High Rise Office, but this area would not be occupied by the project. The project is generally consistent with the B-1 and PMD zoning. The

B-1 zoning is for office, retail and commercial land uses, but allows land uses that support such uses, such as parking facilities. The PMD zoning is for implementing the economic development goals and objectives as set forth in the county's comprehensive plan. More specifically, it is intended to implement the community employment center and regional employment center land use classifications of the Comprehensive Plan. The zoning tries to promote integration among the business community and residences. Per the purchase and sales agreement between the previous landowner and the county, the county agreed to develop a "structured parking garage consisting of not less than 1,200 parking spaces and a commuter transportation hub for use by PWC and/or regional bus system, private commuters and car poolers." In addition, the county may allow "one or more public uses, office and/or hotel" within the purchased property. The remaining 2.7-acre parcel not needed for the project, which is located fronting Opitz Boulevard, would be available for development of any of these other land uses.

Bicycle/Pedestrian Facilities

River Rock Way, Potomac Center Boulevard and Bridge View Drive have pedestrian sidewalks or walkways on the edge of the property obtained by the county for the project. These roadways do not have separate bicycle facilities, and as such, these facilities are identified as shared-use paths (SUP) by the county, except the sidewalk along Potomac Center Boulevard. Opitz Boulevard fronting the project site does not have pedestrian walkways or bicycle facilities along the property edge. However, sidewalks are provided on the north side of the roadway, fronting Sentara Northern Virginia Medical Center. The proposed project would not affect these existing SUP and pedestrian facilities, except for new open intersections that would bifurcate them on River Rock Way, Potomac Center Boulevard and Bridge View Drive. The project would include new crosswalks at these locations. According to the County Comprehensive Plan Trails Map, a future bike facility is identified along the south side Opitz Boulevard adjacent to the project site. The proposed project would not preclude the county from developing this new facility.

SECTION 4(f) and SECTION 6(f)	**YES**	**NO**
Use of 4(f) Property: Acres of use: Not applicable	☐	☒
Name of Resource: Not applicable		
Type of Resource:		
Individually Eligible Historic Property:	☐	☒
Contributing Element to Historic District	☐	☒
Public Recreation Area:	☐	☒
Public Park:	☐	☒
Public Wildlife/Waterfowl Refuge:	☐	☒
Planned Public Park, Recreation Area, Wildlife or Waterfowl Refuge:	☐	☒
Source: *See Socio-Economic and Cultural Resources sections*		
De Minimis:	☐	☒
Type of Use:		
Permanent:	☐	☒
Temporary:	☐	☒
*Constructive:	☐	☒
*Temporary Non 4(f) Use	☐	☒

Section 4(f) Evaluation Attached:	☐	☒
Conversion of 6(f) Property: Acres of Conversion: Not applicable	☐	☒
Source: *Prince William County Mapper, GIS Division, "Parks" GIS Data*		
Comments: The proposed project would not require a Section 4(f) use, nor a Section 6(f) conversion associated with any planned or existing park or historic resource within the vicinity of the project area**.**		

CULTURAL RESOURCES	**COMPLETE**	**N/A**
Source: *Letter from the PWC DOT to the State Historic Preservation Officer dated January 10, 2020; Virginia Cultural Resources Information System*		
"No Effect" Pursuant to 1999 DHR Agreement	☐	☒
Phase I Architecture Conducted	☐	☒
Phase II Architecture Conducted	☐	☒
Phase I Archaeology Conducted	☐	☒
Phase II Archaeology Conducted	☐	☒
Section 106 Effect Determination: No Historic Properties Affected		
DHR Concurrence on Effect: Yes ☒ Date: February 7, 2020		
MOA Attached: Yes ☐ N/A ☒ Execution Date: / /		
Name of Historic Property: Not Applicable.		

Comments:

In accordance with Section 106 of the National Historic Preservation Act, the Area of Potential Effects (APE) for archaeological resources was set at the anticipated limits of disturbance (LOD) needed to construct the project. The APE for architectural or structural resources encompassed a 0.25-mile buffer extending out from the LOD to consider potential visual effects on surrounding standing structures that may be historic. The project site is vacant, and mapping dated as far back as 1890 shows no evidence of structures within the project site. As noted in a letter from the PWC DOT to the Virginia State Historic Preservation Officer (SHPO), the structures, such as a hospital (see Socioeconomic section), within the APE are relatively new (i.e., under the 50-year old threshold), and those that were built near the 50-year old threshold lack unique architectural character or historic association. None of these structures appear to meet the criterion of eligibility for the National Register of Historic Places (National Register), and therefore, a formal architectural survey was not deemed warranted.

The letter to the SHPO also noted that based on prior archaeological investigations, the LOD does not appear to have sufficient potential for prehistoric or historic archaeological sites to justify additional investigations. A single archaeological site (44PW1104) within the LOD was identified from a previous investigation, but it was found not eligible for listing on the National Register. In addition, the Prince William County Archaeologist conducted a cultural resources assessment and records check of the project site and surrounding area and concluded that no additional studies are recommended for the project.

The PWC DOT letter requested concurrence from the SHPO for the APE delineations, eligibility determinations and the "no historic properties affected" assessment for the project in accordance with Section 106. The SHPO concurred on February 7, 2020.

NATURAL RESOURCES	PRESENT YES	PRESENT NO	IMPACTS YES	IMPACTS NO
Surface Water: See below	☒	☐	☒	☐
Source: *Approved Jurisdictional Determination, December 18, 2019*				
Federal Threatened or Endangered Species: Terrestrial: Northern Long-Eared Bat (*Myotis septentrionalis*) (NLEB) Aquatic: Plants: Harperella (*Ptilimnium nodosum*) and Small Whorled Pogonia (*Isotria medeoloides*)	☐ ☐ ☐	☒ ☐ ☒	☐ ☐ ☐	☒ ☐ ☒
Source: *U.S. Fish and Wildlife Service (USFWS), November 22, 2019 List of Threatened and Endangered Species; Field Survey for Small Whorled Pogonia (Isotria medeoloides) and Harperella (Ptilimnium [Harperella] nodosum), Neabsco-Potomac Commuter Parking Garage, Prince William County, Virginia, Prepared by EEE Consulting, Inc., November 12, 2019; Self-Certification dated February 4, 2020; USFWS IPaC generated letter dated February 10, 2020 verifying consistency with the January 5, 2016 Programmatic Biological Opinion regarding the NLEB*				
100 Year Floodplain: If "Yes" then identify the regulatory floodway zone: see below	☐	☒	☐	☒
Source: *Federal Emergency Management Agency Flood Map Service Website*				
Tidal Waters/Wetlands:	☐	☒	☐	☒
Wetlands: See below	☒	☐	☒	☐
Source: *Approved Jurisdictional Determination, December 18, 2019*				

	YES	NO
Permits Required	☒	☐
Source: *Approved Jurisdictional Determination, December 18, 2019*		

Comments:

Surface Waters and Wetlands

Wetlands investigations in the field were conducted in July 2019. The areas investigated included the property purchased by Prince William County for the project (the project site), as well roadway sections along Opitz and Potomac Center Boulevards, which would be modified for the project. Field verification with the U.S. Army Corps of Engineers (USACE) was conducted on November 8, 2019. The investigations, verified by the USACE through an Approved Jurisdictional Determination (JD), identified two non-tidal upper riverine stream channels, referred as Streams 1 and 2, and three non-tidal wetlands, referred as Wetlands 1, 2 and 3. The stream channels form a single tributary to Neabsco Creek, located to the southeast of the project site. All three wetlands feature surface water and flow discharge connections with Stream 2. Two of them are classified as palustrine emergent (PEM) wetlands and the other is classified as a palustrine forested (PFO) wetland. Brief descriptions of the stream channels and the wetlands, and how they would be affected by the construction of the project are provided in the following table.

ID	Type	Location	Length or Size	Potential Impact
Stream 1	Perennial	Oriented west (upstream) to east, crossing along the	708 linear feet	No direct impact to the stream. A retaining wall would be needed within 50 feet of the

		southeast end of the project site.		stream to provide a fire lane for emergency vehicle access.
Stream 2	Intermittent	Oriented north (upstream) to south, crossing along the east end of the project site, and connects with Stream 1 at the south end of the project site.	909 linear feet	Approximately 500 linear feet of the stream would be conveyed by culvert at two locations where driveways cross the stream.
Wetland 1	PEM	Adjacent to Stream 1 on the east side of the project site.	0.04 acres	Complete displacement due to driveway crossing from Potomac Center Drive.
Wetland 2	PEM	Adjacent to Stream 1, just north of or upstream from Wetland 1.	0.011 acres	Complete displacement due to driveway crossing from Potomac Center Drive
Wetland 3	PFO	Adjacent to Stream 1, just south of or downstream from Wetland 1.	0.003 acres	No direct impact. Wetland would remain between the two culverts noted above. Uncertain how the change in hydrological characteristics of the stream due to the two culverts would affect this wetland.

Mitigation measures to address the impacts noted in the table would be determined through the process of obtaining the necessary permits noted below. Compensatory mitigation would likely be necessary.

Botanical Resources

The project site has two distinct botanical landscape types or habitat. The majority of the site supports woodland habitat, largely fronted by River Rock Way and Opitz Boulevard. The eastern end of the project site fronted by Potomac Center Boulevard, between Opitz Boulevard and Bridge View Drive, contains grass turf, which is used as a utility easement, particularly for overhead power lines. The woodland habitat consists of a mixed canopy of oak-hickory forest cover, which is typical for this area of the county. The wooded species include American beech (*Fagus grandifolia*), white oak (*Quercus alba*), and northern red oak (*Q. rubra*). Other species, which are better adapted to the drier soils of the project site, include chestnut oak (*Q. montana*), black oak (*Q. velutina*), hickories (*Carya spp.*), mountain laurel (*Kalmia latifolia*), Virginia pine (*Pinus virginiana*), black locust (*Robinia pseudoacacia*), and lowbush blueberry (*Vaccinium pallidum*). This oak-dominated habitat does not support a forest floor featuring extensive herbs because of unfavorable topsoil moisture retention conditions and observed evidence of deer herbivory. The forest floor does contain extensive infestation of invasive stiltgrass (*Microstegium vimineum*) and long-bristled smartweed (*Persicaria longiseta*), especially along wetter areas near the streams and old forest trails. The project would require displacing approximately 5.3 acres (230,000 square feet) of the woodland habitat. Woodlands on the north and south ends of the project site, or areas not needed for the construction of the project, would remain. However, approximately 2.7 acres of woodlands along the north end fronting Opitz Boulevard may eventually be displaced by future development (see Land Use under Socioeconomic Section).

Threatened or Endangered Species

Consultation with the U.S. Fish and Wildlife Service (USFWS) in accordance with Section 7 of the Endangered Species Act resulted an official Species List that identified three threatened or endangered (Federal Trust) species that may exist within the project site: the northern long-eared bat (NLEB) (*Myotis septentrionalis*), the harperella (*Ptilimnium nodosum*) and the small whorled pogonia (*Isotria medeoloides*).

The NLEB hibernates in caves and mines during winter. During summer, the NLEB is known to roost in live or dead trees. The project would require clear-cutting approximately 5.3 acres of the oak-hickory forest to provide for the parking garage, transit center, driveways and related facilities. Despite the project site having the type of habitat that could be favored by the NLEB in the summer and any clear-cutting between mid-April to mid-September could disturb NLEB roosting, the USFWS recommends time of year restrictions (TOYR) for cutting trees be used as an optional precaution for projects located in areas in which there are no recorded roost trees within a 150-foot radius or a hibernacula within a quarter-mile radius. The PWC DOT determined that a TOYR does not appear necessary given that the project site is far from any recorded roost tree or a hibernaculum and has chosen not to implement one.

To determine if the project site contains the harperella and the small whorled pogonia, a survey was conducted in July and August 2019. The time of year and site conditions were optimal (*i.e.*, the highest chance for observing these species) for the survey. No populations, colonies, or individuals of harperella or the small whorled pogonia were observed during the survey.

To complete Section 7 Consultation regarding these species, a Self-Certification Letter, along with supporting and pertinent information, was submitted on February 4, 2020. On February 10, 2020, the USFWS requested a verification letter, which is generated through its IPaC website, that the project would be consistent with activities analyzed in the January 5, 2016 Programmatic Biological Opinion (PBO) regarding the NLEB. The verification letter was produced and submitted to the USFWS on February 10, 2020. The USFWS did not respond within 30 days, meaning that they verified that the PBO has been satisfied. A revised species list was obtained from the USFWS on September 3, 2020, which provided a modified study area that included the intersection and roadway modifications noted in the Project Description. The identified species did not change.

Finally, the project will not require an Eagle Act permit because the project site is not located near a Bald Eagle nest or buffer location.

Permits

Due to its stream and wetlands impacts, the project will require a U.S. Army Corps of Engineers permit pursuant to Section 404 of the Clean Water Act (CWA). This action will also require a Water Quality Certification per CWA Section 401 and may require a Virginia Water Protection permit from the Virginia Department of Environmental Quality, as well as a permit from the Virginia Marine Resources Commission.

AGRICULTURAL/OPEN SPACE	**PRESENT**		**IMPACTS**	
	YES	**NO**	**YES**	**NO**
Open Space Easements	☐	☒	☐	☒
Source:				
Agricultural/Forestal Districts	☐	☒	☐	☒

Source: *Prince William County Zoning Districts Map; Virginia Outdoors Foundation GIS database*

Comments:

The areas surrounding the project site are largely urban (see Socio-Economic section). According to the Prince William County Department Zoning Districts Map, the project site is not within an Agricultural or Forestal District. The project site is zoned B-1 (General Business) and PMD (Planned Mixed District) (see Socioeconomic section). PWC DOT attempted to contact the Virginia Outdoors Foundation regarding whether there any open-space easements within the project site. No responses were received. The Virginia Outdoors Foundation's (VOF) Easements map database indicated that there are no VOF open space easements present within the project area.

FARMLAND	**YES**	**NO**
NRCS Form CPA-106 Attached: Rating: Not applicable	☒	☐
Alternatives Analysis Required:	☐	☒
If Form CPA-106 is not attached check all that are applicable:		
Land already in Urban use:	☐	☐
Entire project in area *not* zoned agriculture:	☐	☐
NRCS responded within 45 days:	☐	☐
NRCS Determined no prime or unique farmland in the project area.	☐	☐

Source: *Correspondence with the Natural Resources Conservation Service, including completion of Parts I, II and III of Form AD-1006, dated 01/08/2020*

Comments:

Per coordination with the Natural Resources Conservation Service (NRCS), the project area is exempt from the Farmland Protection Policy Act because it is in a designated urban area. No prime or unique farmland will be affected. For the completed Form AD-1006, Part II, the NRCS checked that the project site does not contain prime, unique, statewide or local important farmland. Parts IV through VII of the form do not need to be completed.

	PRESENT		
INVASIVE SPECIES	**YES**	**NO**	**UNKNOWN**
Invasive Species in the project area:	☒	☐	☐

There is potential for invasive species to become established along the limits of disturbance of the project during and following construction. Section 244.02(c) of VDOT's Road and Bridge Specifications (2016) includes provisions intended to control noxious weeds (which includes non-native and invasive species).

While rights-of-ways are at risk from invasive species colonization from adjacent properties, implementing the above provisions would reduce or minimize potential for introduction, proliferation, and spread of invasive species. Additionally, the implementation of BMPs for erosion/sediment control and abatement of pollutant loading would minimize indirect impacts to adjoining communities and habitat by reducing excess nutrient loads that could encourage invasive species proliferation.

Comments:

Based the botanical survey noted in the Natural Resources section, invasive species are present in the project site. Some of these invasive plants would be cleared as part of construction (see Natural Resources section). According to the Virginia Department of Conservation and Recreation, many invasive plant species are adapted to take advantage of soil disturbances and poor soil conditions. Since the project has the potential to further the establishment of invasive species, soil disturbance would be minimized to help to inhibit the re-establishment of these same species or the establishment of new invasive species. Landscaping and ground cover proposed with the project would be limited to native species.

AIR QUALITY

Carbon Monoxide (CO)	**Yes**	**No**
This project is located in a CO ☒ Attainment Area ☐ Maintenance Area		
CO Hotspot Analysis Required? (if "Yes", please attach analysis)	☐	☒
If "No", indicate which exemption it falls under: ☐ Exempt project under 40 CFR 93.126. ☒ Exempt project based on traffic volumes below thresholds in the current VDOT Project Level Air Quality Studies Agreement with FHWA/EPA.		

Ozone	
This project is located in an Ozone	☐ Attainment Area ☐ Maintenance Area ☒ Nonattainment Area ☐ Early Action Compact Area
Only projects located in ozone nonattainment or maintenance areas must complete this box ☐ Exempt from regional emissions requirements under 40 CFR 93.126 or 40 CFR 93.127. ☒ Properly programmed in the Constrained Long-Range Plan (CLRP), Visualize2045 under CLRP ID 3188 and FY 2017 - 2022 STIP grouping for Construction: Safety/ITS/Operational Improvements. ☐ The project is not regionally significant and/or is not of a type that would normally be included in the regional transportation model. ☐ This project is regionally significant; however the project was not modeled, or the scope of the project is not consistent with what was modeled in the currently conforming CLRP and TIP.	

Fine Particulate Matter (PM2.5)	**Yes**	**No**
This project is located in a $PM_{2.5}$	☐ Nonattainment Area ☐ Maintenance Area ☒ Attainment Area (if checked, do not fill out box below)	
$PM_{2.5}$ Hotspot Analysis Required? (If "Yes", Please Attach Analysis)	☐	☒
Check all that apply; ☐ A. Exempt project under 40 CFR 93.126, Table 2. ☐ B. Not a project of air quality concern under 40 CFR 93.123(b)(1)(i) thru (v). ☐ C. Properly programmed in the Visualize2045 CLRP and STIP grouping for Construction: Safety/ITS Operational Improvements. ☐ D. This project is regionally significant; however the project was not modeled, or its scope is not consistent with what was modeled, in the currently conforming CLRP and TIP.		
If "B" is checked above, please indicate the following for highway projects; Design Year , Peak AADT , Peak Diesel Truck %		

Mobile Source Air Toxics (MSAT)
This project ☒ is exempt with no meaningful potential MSAT effects ☐ is one with low potential MSAT effects (attach qualitative MSAT analysis) ☐ is one with high potential MSAT effects (attach quantitative MSAT analysis)
Check all that apply; ☒ Exempt project under 40 CFR 93.126, or qualifies as a CE under 23 CFR 771.117. ☐ Project with no meaningful impact on traffic volumes or vehicle mix.
If a qualitative MSAT analysis is required, please indicate the following for highway projects; Design Year: Peak AADT:
Source: *Air Quality Memo, Neabsco/Potomac Commuter Parking Garage, Prince William County, Virginia, August 2020*
Comments Since Prince William County is an attainment area for carbon monoxide (CO) per the National Ambient Air Quality Standards (NAAQS), analyses for potential CO impacts focused on potential microscale conditions at intersections. Using the 2016 FHWA-VDOT *Programmatic Agreement for Project-Level Air Quality Analyses for Carbon Monoxide* (2016 Agreement) and the 2009 FHWA-VDOT *Project-Level Carbon Monoxide Air Quality Studies Agreement* (2009 Agreement), which was included by reference in the 2016 Agreement, 9 intersections located near the project site were identified as potential locations of microscale CO impacts because they may be affected by year 2040 traffic conditions under the project. Per the 2016 and 2009 Agreements, none of them would require project-specific CO modeling.

NOISE	**YES**	**NO**
Type I Project:	☒	☐
Source: *23 CFR 772(5)(h); Project conceptual design plans*		
Noise Analysis Attached:	☒	☐
Barriers Under Consideration:	☐	☒
Source: *Project conceptual design plans; Traffic Noise Screening Analysis, Neabsco/Potomac Commuter Parking Garage, Prince William County, Virginia, October 2020*		
Comments: Most noise in and around the project site is cause by traffic using adjacent roadways, such as Opitz Boulevard and I-95, which is located a short distance west of the project site. Because the operation of the commuter garage and transit center would affect traffic conditions surrounding the facility but is not anticipated to result in noise impacts, a traffic noise screening analysis was conducted per the VDOT State Noise Abatement Policy and Section 6.1.2 of the VDOT Highway Traffic Noise Impact Analysis Guidance Manual. The screening analysis, which used the FHWA Traffic Noise Model for both existing and build roadway conditions surrounding the project site, concluded that the project would not result in overall noise levels approaching or exceeding applicable FHWA Noise Abatement Criteria at identified noise sensitive receptors. No noise impacts are anticipated that would require the consideration of noise abatement.		

RIGHT OF WAY AND RELOCATIONS	YES	NO
Residential Relocations: If "Yes", number:	☐	☒
Source: *Project conceptual design plans*		
Commercial Relocations: If "Yes", number:	☐	☒
Source: *Project conceptual design plans*		
Non-profit Relocations: If "Yes", number:	☐	☒
Source: *Project conceptual design plans*		
Right of Way required: If "Yes", acreage amount:	☐	☒
Source: Project conceptual design plans.		

	PRESENT		IMPACTS	
	YES	NO	YES	NO
Septic Systems, Wells, or Public Water Supplies	☐	☒	☐	☒
Source: Project conceptual design plans.				
Hazardous Materials:	☐	☒	☐	☒
Source: *Phase I Environmental Site Assessment, Neabsco/Potomac Commuter Parking Garage – 2501 Opitz Boulevard, Woodbridge, Virginia, Prince William County, December 2019*				

Comments:

Relocations

The project will not require the displacement of any individual person, family, business, farm, institution or non-profit organization.

Utilities

As an undeveloped parcel, the project site does not generally contain utilities, although there are fiber optic lines within the 2.7-acre future development parcel, the eastern portion of the site is used as an easement for overhead power lines and an underground 20-inch natural gas line is aligned parallel to Potomac Center Boulevard on the eastern edge of the project site. These utilities do not need to be relocated by the construction of the commuter parking garage and transit center. The ancillary roadway and intersection improvements may include some minor relocations of streetlights, storm sewers, and similar facilities, as well as the relocation of traffic signals and associated conduits.

Hazardous Materials

A Phase I Environmental Site Assessment (ESA) was conducted for this project per American Society for Testing and Materials standards. The Phase I ESA did not identify any recognized environmental conditions (including controlled or historical) in connection with the project site. Several used tires and relatively small piles of municipal trash were observed during a site visit. These items are likely attributed to illicit dumping and camping by homeless individuals. The preparers of the Phase I ESA did not recommend any additional hazardous materials investigations for this project.

CUMULATIVE AND INDIRECT IMPACTS	PRESENT		
	YES	NO	N/A
Present or reasonably foreseeable future projects (highway and non-highway) in the area:	☒	☐	☐
Impact same resources as the proposed highway project (i.e. cumulative impacts):	☐	☒	☐
Indirect (Secondary) impacts:	☒	☐	☐

Source: *Project site plans; Purchase and Sale Agreement by and between JBG/Woodbridge, LLC ("Seller") and The Board of County Supervisors of Prince William County, Virginia ("Purchaser"), April 9, 2019; VDOT Environmental Division, Indirect and Cumulative Effects (ICE) Analysis, Environmental Memorandum (EM-NEPA-715), June 24, 2020*

Comments:

This section was prepared in accordance with EM-NEPA-715 (see reference above).

The project is being developed in coordination with the widening of Neabsco Mills Road, an increasingly congested artery in Woodbridge. Other nearby transportation projects involve improving the eastbound right turn from Opitz Boulevard and Potomac Center Boulevard and making pedestrian facility improvements along Opitz Boulevard, Potomac Center Boulevard and River Rock Way. In addition, a new southbound I-95 auxiliary would provide improved access to Sentara Virginia Medical Center offering express lane drivers the option to exit directly onto Opitz Boulevard.

The garage was selected for state funding due to its potential to serve as a "park and ride" lot for people commuting along I-95, U.S. Route 1 and VA Route 234.

The project would not require the entire property acquired by the county. Approximately 2.7 acres located at the north end of the property fronting Opitz Boulevard would be available for certain kinds of development, which may include office or hotel (see Land Use under Socioeconomic section). The project would keep this area as woodlands (see Natural Resources section). However, when development occurs within this section, most, if not all, of these woodlands would be displaced. The south end of the property would remain woodlands because most of this area encompasses a Resource Protection Area administered by the PWC Public Works Department.

The project may indirectly lead to economic growth due to greater urbanization in the general vicinity of the project site. However, the intensity of the incremental effect of the project would be small in the context of the urban conditions surrounding the project site (see Land Use in the Socio-Economic section), which is largely built-out consisting of a large hospital, medical offices, large to small sized retail, and low- to medium-density residences. Although the adjacent 2.7-acre parcel would be available for development, its future land use is limited per the Purchase and Sale Agreement between the previous landowner and the county and would occur based on market conditions, not the existence of the commuter parking garage. As noted in the Socio-Economic section, the future land use in this parcel would likely be a hotel or office building. Neither land use requires a commuter parking garage. Therefore, the project is not expected to cause substantial cumulative or indirect impacts.

PUBLIC INVOLVEMENT	YES	NO
Substantial Controversy on Environmental Grounds:	☐	☒
Source: *Prince William County Department of Transportation, Agency Scoping comments*		
Public Hearing: If "Yes", type of hearing: Design Public Hearing	☒	☐
Other Public Involvement Activities: If "Yes", type of Involvement: see below	☒	☐
Source: *Prince William County Department of Transportation, Agency Scoping comments*		

Comments:

A public information meeting was held on December 11, 2019 at Freedom High School, 15201 Neabsco Mills Rd, Woodbridge, VA 22191; which is located near the project site.

The CE was made available on the project website, and a 15-day public notice was published in *The Washington Post* on March 17, 2021, followed by additional advertisements in the *Prince William Times* and *InsideNOVA* on March 18, 2021. At the end of the 15-day public notice, 1 comment was received and was not NEPA related.

A Design Public Hearing for the project is tentatively scheduled in the Summer 2021 to present the final design and information about construction.

COORDINATION

The following agencies and one organization were contacted during development of this CE document due to specific regulatory requirements and the requirements of this CE form:

- Virginia Department of Historic Resources (State Historic Preservation Officer) regarding compliance with Section 106 of the Historic Preservation Act
- U.S. Army Corps of Engineers, Norfolk District regarding compliance with Section 404 of the Clean Water Act
- U.S. Department of Agriculture, Natural Resources Conservation Service regarding compliance with the Farmland Protection Policy Act
- U.S. Fish and Wildlife Service, Virginia Field Office regarding compliance with Section 7 of the Endangered Species Act
- PWC Department of Fire and Rescue regarding impacts to its transportation services
- PWC Public Schools regarding impacts to its transportation services
- Virginia Outdoor Foundation regarding protection of open-space easements

PWC DOT held coordination meetings involving staff from other county agencies and VDOT on July 17, 2019 (project kick-off), August 30, 2019, October 4, 2019 and November 12, 2019. In addition to these meetings, PWC DOT and consultant staff met with PWC Public Works staff on September 18, 2019 to discuss storm water drainage, and with Dominion Energy on January 15, 2020 to discuss potential impacts to underground gas pipelines adjacent to the project site.

This project meets the criteria for a Categorical Exclusion pursuant to 40 CFR 1508.4 and 23 CFR 771.117 and will not result in significant impacts to the human or natural environment.

Documentation of FHWA Review

Project Name: Neabsco-Potomac Commuter Parking Garage
State Project Number: PRGA-076-242
UPC: 111485

Based on preliminary environmental impact information compiled by VDOT, FHWA approved this project as a Categorical Exclusion on September 24, 2019. Based on my review of the Categorical Exclusion documentation submitted by VDOT, I find this information acceptable and sufficient as supporting documentation to support the original Categorical Exclusion determination.

John Simkins April 7, 2021

Approving FHWA Official, Date

Source A

Conceptual Design Plan

REVISED	STATE	STATE		SHEET NO.
		ROUTE	PROJECT	
	VA.	00	PRGA -076- 242	A-100

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

PRINCE WILLIAM COUNTY DEPARMENT OF TRANSPORTATION

COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

NEABSCO/POTOMAC COMMUTER PARKING GARAGE

VICINITY MAP

PRELIMINARY DESIGN SUBMITTAL
MARCH, 2020

LOCATION MAP

DESIGNED BY:M. DEPADUA
DRAWN BY:M. DEPADUA / J. RODRIGUEZ
CHECKED BY:R. STRACCAMORE
SUBMITTED BY: R. MORRIS

BUILDING CODE DESIGN SUPPORTING DATA

PROJECT BASIC DESCRIPTION

THE PROJECT INCLUDES CONSTRUCTION OF A NEW 453,406.53 SF OPEN PARKING GARAGE. THE PARKING GARAGE WILL CONSIST OF AN EIGHT-TIER/SEVEN FLOOR 1,400 PARKING SPACE STRUCTURE.

1. APPLICABLE CODES

   A. 2015 VIRGINIA UNIFORM STATEWIDE BUILDING CODE (VUSBC)
   B. DEPARTMENT OF JUSTICE ADA STANDARDS FOR ACCESSIBLE DESIGN.

2. OCCUPANCY/VUSBC CLASSIFICATION (311.3)

USE GROUP: S-2 "OPEN PARKING STRUCTURE"

3. CONSTRUCTION TYPE (TABLE 601)

VUSBC TYPE 1B - SPRINKLER PROTECTED BASED ON "OPEN PARKING STRUCTURE" CLASSIFICATION (406.5.2)

4. OCCUPANCY LOAD (TABLE 1004.1.2)

GROSS BUILDING AREAS:

GROUND LEVEL	24,184.00 SF
LEVEL 1	53,953.05 SF
LEVEL 2	53,201.10 SF
LEVEL 3	68,764.50 SF
LEVEL 4	71,072.58 SF
LEVEL 5	70,247.28 SF
LEVEL 6	70,247.28 SF
LEVEL 7	41,736.74 SF
TOTAL	453,406.53 SF

5. HEIGHT AND AREAS (TABLE 406.5.4)

HEIGHT (IN TIERS) TABLE 406.5.4
ALLOWED 18 TIERS
ACTUAL: VARIES 8 TIERS (AT SOUTH BAYS)
7 TIERS (AT NORTH BAYS)
6 TIERS (AT SOUTHEAST BAYS)

AREA PER TIER UNLIMITED

6. LENGTH OF EXIT TRAVEL DISTANCE (TABLE 1017.2)

WITH SPRINKLER: REQUIRED: 400'-0" MAXIMUM

7. MINIMUM NUMBER OF EXITS PER OCCUPANT LOAD (TABLE 1006.3.1)

OCCUPANT LOAD ON A TIER: 356 PERSONS (PER MAX. GROSS BUILDING AREA PER TIER, LEVEL 4)
REQUIRED: 2 EXITS PER TIER
ACTUAL: 4 EXITS PER TIER
(3 EXITS/ MEANS OF EGRESS TO MEET TRAVEL DISTANCE REQUIRMENT; 1 ACCESSIBILITY STAIR FROM GROUND LEVEL TO LEVEL 3)

8. AREA OF REFUGE

AREAS OF REFUGE: NOT REQUIRED (1009.3, EXCEPTIONS 5 AND 6)

THE LEADING EDGE (INTERSECTION OF THE TREAD AND RISER) OF STAIRWAY IS PERPENDICULAR TO THE DIRECTION OF TRAVEL.

9. ELEVATOR: ASME A17

A. ELEVATOR LOBBY ENCLOSURE: NOT REQUIRED (3007.6.2, EXCEPTION)
B. ELEVATOR CAR TO ACCOMMODATE AMBULANCE STRETCHER
C. GLASS IN ELEVATOR HOISTWAY ENCLOSURE (2409.1) LAMINATED GLASS CONFORMING TO ANSI 297.1 OR CPSC 16 CFR PART 1201.
D. ELEVATOR ACCESS (CPSM 4.2.2.1) ALL PASSENGER ELEVATOR SHALL BE ACCESSIBLE TO THE DISABLED.

10. DEAD END CORRIDORS (WHERE OCCURS)

MINIMUM PERMITTED: 30'-0"
ACTUAL: NONE

11. ROOF

ROOF FIRE CLASSIFICATION: CLASS 'C' ROOF

12. FIRE RESISTANCE RATING

FIRE RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE:

NO FIRE RESISTANCE RATING REQUIRED (TABLE 602, NOTE "C") THE PROPOSED PARKING STRUCTURE IS LOCATED ON A PARCEL OF LAND WITHOUT ANY EXISTING BUILDING OR STRUCTURE.

13. FIRE RESISTANCE RATING OF BUILDING ELEMENTS (TABLE 601)

A. EXTERIOR WALLS
   LOAD BEARING 0HR
   NON-LOAD BEARING 0HR

B. FLOOR CONSTRUCTION AND SECONDARY MEMBERS: 2HRS

14. FIRE SEPARATION ASSEMBLIES

FIRE ENCLOSURE OF STAIRWAYS NOT REQUIRED TO BE ENCLOSED.

15. VEHICLE BARRIER SYSTEM

VEHICLE BARRIER SYSTEM IS NOT LESS THAN 2 FEET 9 INCHES WHERE VERTICAL DISTANCE TO THE GROUND OR SURFACE BELOW IS GREATER THAN 1 FOOT.

16. ELEVATOR:

ASME A17.1 STANDARDS. COMPLY WITH DEPARMENT OF JUSTICE ADA STANDARDS FOR ACCESSIBLE DESIGN.

17. STANDPIPE SYSTEM (SECTION 905)

MAXIMUM HEIGHT OF LEVEL 7 IS APPROX. 58'-0" FROM FINISH GRADE. THEREFORE, STANDPIPE SYSTEM IS REQUIRED. (SECT. 905.3.1)

PROJECT	SHEET NO.
PRGA-076-242	A-100

03/09/2020

Source B

Agency Correspondence

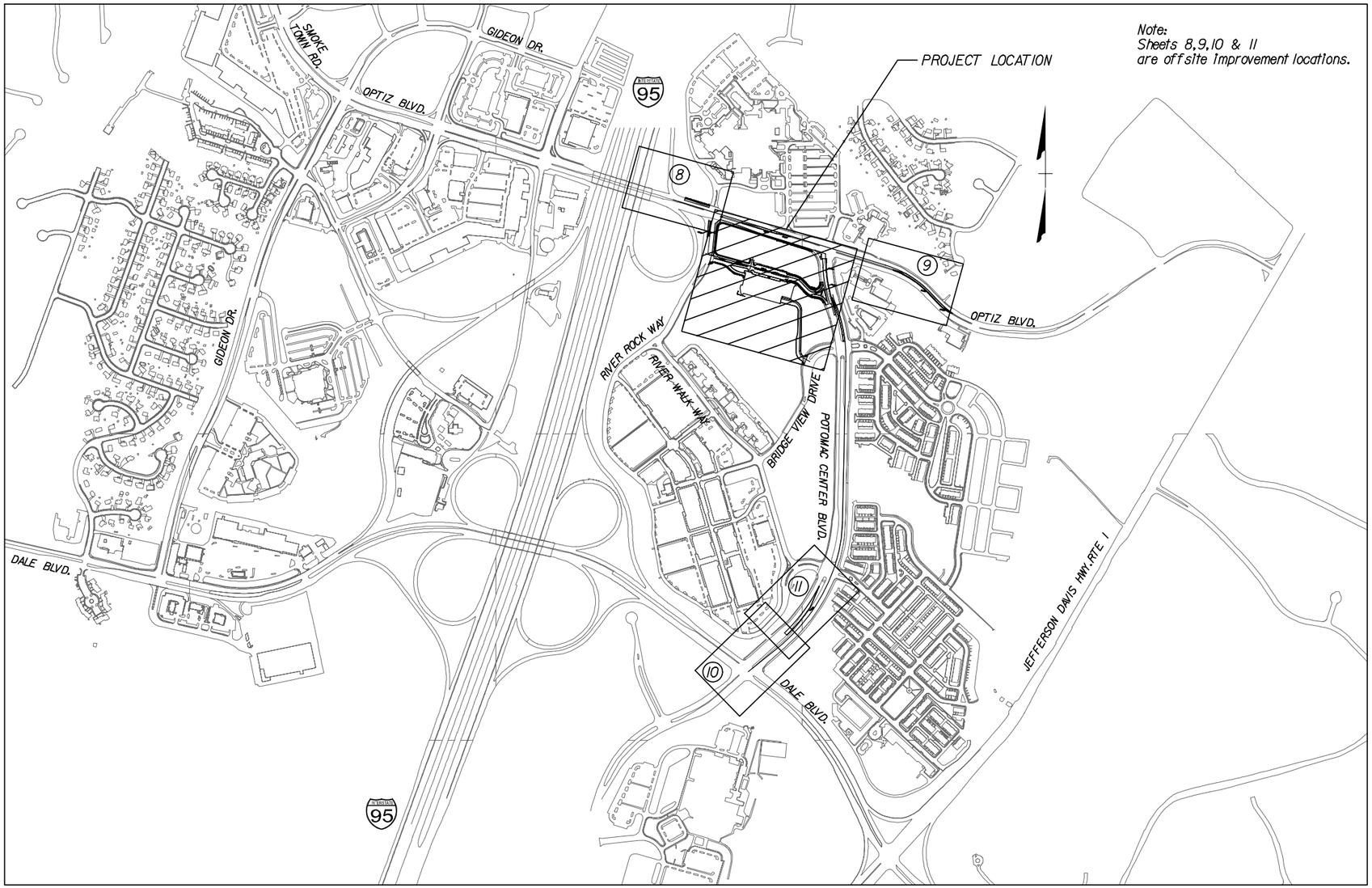
T:\85719-06 PWC Potomac TC Garage\05_CIVIL\CADD\dlll485\dlll4850IA.dgn

PROJECT MANAGER DAGMAWIE SHIKUBYE (PWC-VDOT)
SURVEYED BY, DATE KEVIN D. NELSON L.S. (WILLIAM H. GORDON ASSOCIATES, INC.) AUGUST 2019
DESIGN BY CHRISTI FRAGALE, PE (WSP USA, INC.)
SUBSURFACE UTILITY BY, DATE MID-ATLANTIC UTILITY LOCATING, INC., AUGUST 2019

LOCATION MAP

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		PRGA-076-242	IA

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

SCALE	PROJECT	SHEET NO.
0 500' 1000'	PRGA-076-242	IA

10-MAR-2020 12:37

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PROJECT MANAGER DAGMAWIE SHIKUBYE (PWC-VDOT)
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REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		PRGA-076-242	2B(3)

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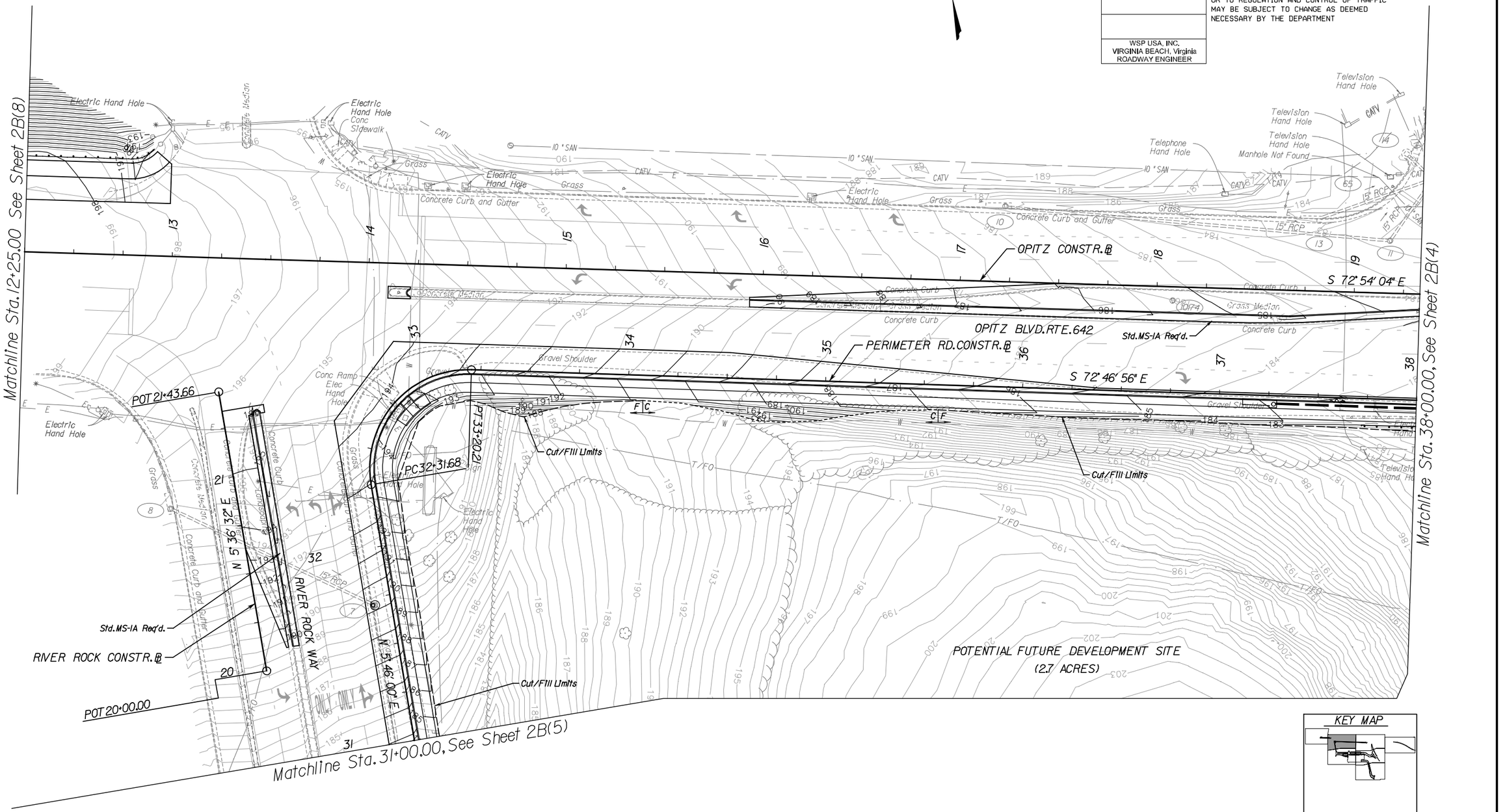
WSP USA, INC.
VIRGINIA BEACH, Virginia
ROADWAY ENGINEER



KEY MAP

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SCALE	PROJECT	SHEET NO.
0 25' 50'	PRGA-076-242	2B(3)

10-MAR-2020 12:39

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PROJECT MANAGER DAGMAWIE SHIKUBYE (PWC-VDOT)
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DESIGN BY CHRISTI FRAGALE, PE (WSP USA, INC.)
SUBSURFACE UTILITY BY, DATE MID-ATLANTIC UTILITY LOCATING, INC., AUGUST 2019

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	VA.		PRGA-076-242	2B(4)

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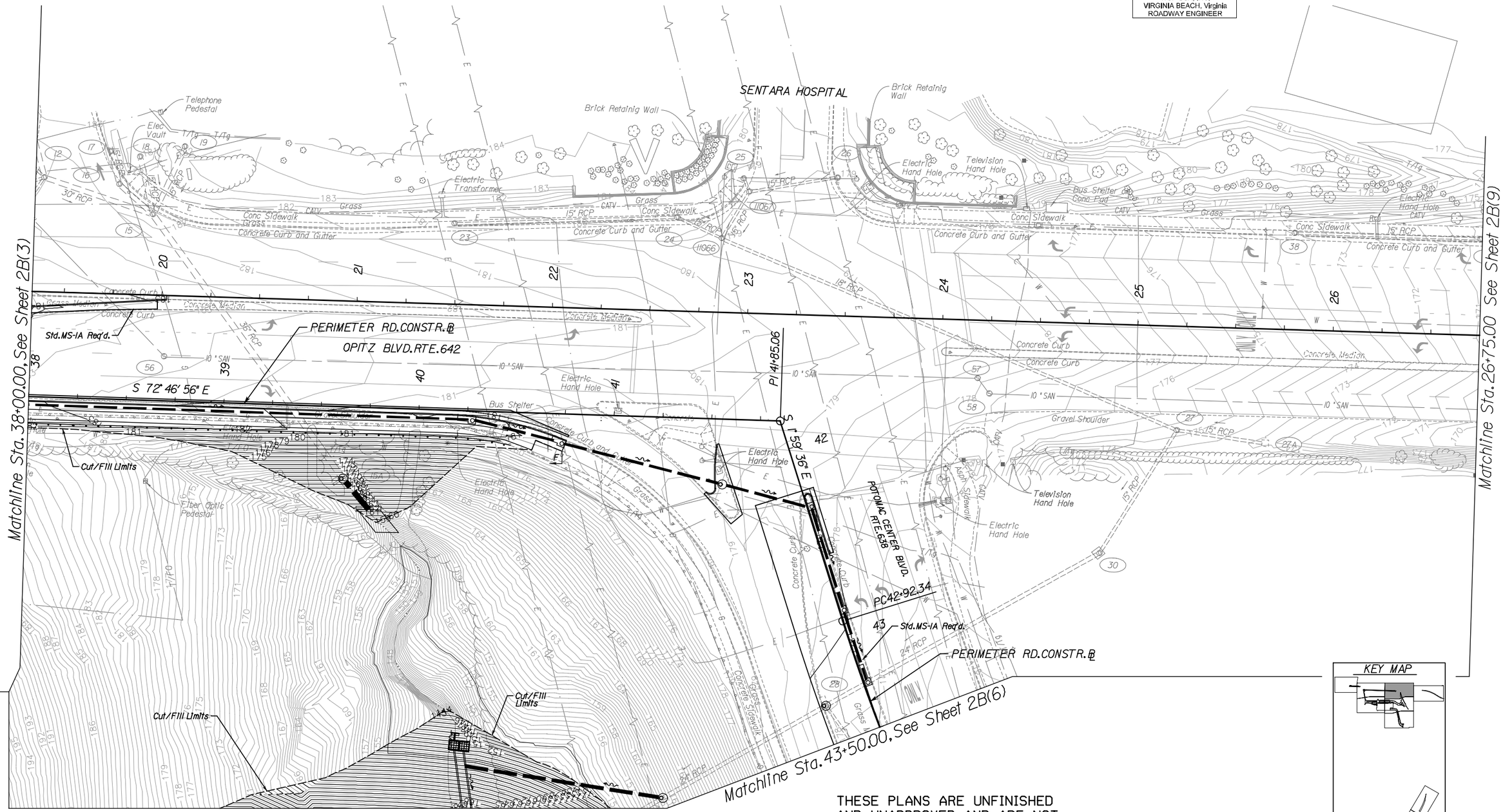
WSP USA, INC.
VIRGINIA BEACH, Virginia
ROADWAY ENGINEER



KEY MAP

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SCALE	PROJECT	SHEET NO.
0 25' 50'	PRGA-076-242	2B(4)

10-MAR-2020 12:39

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	VA.		PRGA-076-242	2B(5)

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WSP USA, INC.
VIRGINIA BEACH, Virginia
ROADWAY ENGINEER

Matchline Sta.31+00.00, See Sheet 2B(3)

POTENTIAL FUTURE DEVELOPMENT SITE
(2.7 ACRES)

BUS RD.CONSTR.℄
PERIMETER RD.CONSTR.℄
RAMP-A CONSTR.℄
RAMP-B CONSTR.℄
Cut/Fill Limits

POT 10+00.00
POT 30+00.00
POT 40+00.00
PC 40+82.49
PT 41+64.97
POT 50+00.00
POT 51+25.00
PT 42+25.93

N 15° 46' 00" E
S 74° 38' 24" E
N 15° 21' 36" E
S 74° 38' 24" E

Std.MS-1A Req'd.
Std.MS-2 Req'd.
Std.MS-2 Req'd.

PARKING GARAGE
SEE ARCHITECTURAL PLANS

RIVER ROCK WAY

Matchline Sta.15+50.00, See Sheet 2B(6)

KEY MAP

SCALE	PROJECT	SHEET NO.
0 25' 50'	PRGA-076-242	2B(5)

10-MAR-2020 12:39

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	VA.		PRGA-076-242	2B(6)

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WSP USA, INC.
VIRGINIA BEACH, Virginia
ROADWAY ENGINEER

KEY MAP

Matchline Sta.43+50.00, See Sheet 2B(4)

Matchline Sta.15+50.00, See Sheet 2B(5)

Matchline Sta.22+25.00, See Sheet 2B(7)

PERIMETER RD.CONSTR.℄

BUS RD.CONSTR.℄

RAMP-C CONSTR.℄

RAMP-D CONSTR.℄

CAR RD.CONSTR.℄

POTOMAC CONSTR.℄

Std.MS-2 Req'd.

Std.MS-1A Req'd.

Std.SI-3 Req'd.

POT 60+50.00

POT 60+00.00

POT 19+90.00

POT 47+08.15

PT 20+79.90

PT 45+09.41

PT 83+72.38

PC 83+10.89

PT 82+68.78

PC 17+58.63

PT 18+13.58

PC 70+72.53

PT 70+85.03

PC 71+05.03

PT 72+02.30

PC 21+03.60

PT 21+85.89

PC 18+26.52

S 74° 38' 24" E

N 15° 21' 36" E

S 43° 05' 48" E

S 80° 15' 46" E

S 19° 36' 34" E

N 20° 08' 53" W

S 75° 09' 17" E

PARKING GARAGE
SEE ARCHITECTURAL PLANS

Cut/Fill Limits

Asph Sidewalk

Concrete Curb

Concrete Gutter

Gravel

Grass

Electric Hand Hole

Television Pedestal

Television Hand Hole

CATV

15" RCP

18" RCP

10-MAR-2020 12:39

SCALE	PROJECT	SHEET NO.
0 25' 50'	PRGA-076-242	2B(6)

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PROJECT MANAGER DAGMAWIE SHIKUBYE (PWC-VDOT)
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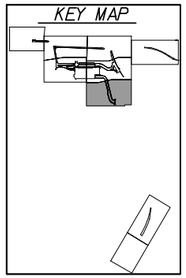
DESIGN BY CHRISTI FRAGALE, PE (WSP USA, INC.)
SUBSURFACE UTILITY BY, DATE MID-ATLANTIC UTILITY LOCATING, INC., AUGUST 2019

KEY MAP



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REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		PRGA-076-242	2B(7)

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WSP USA, INC.
VIRGINIA BEACH, Virginia
ROADWAY ENGINEER

Matchline Sta. 22+25.00, See Sheet 2B(6)

POTOMAC CENTER BLVD. RTE. 638

BRIDGE VIEW DR.

CAR RD. CONSTR. ℄

Cut/Fill Limits

Cut/Fill Limits

S 38° 30' 01" W

PC 25+19.51

PT 25+88.68

PT 26+50.00

L=26

61° 47' 37" E

Gas Marker Post
Gas Test Station
Stone Retaining Wall
Electric Hand Hole
Concrete Curb and Gutter
Asphalt Sidewalk
Grass
Grass Median
Landscaping
Sign
15" RCP
Concrete Curb
Concrete Curb and Gutter

SCALE 0 25' 50'

PROJECT	SHEET NO.
PRGA-076-242	2B(7)

10-MAR-2020 12:39

DESIGNED BY: M. DEPADUA
DRAWN BY: M. DEPADUA / J. RODRIGUEZ
CHECKED BY: R. STRACCAMORE
SUBMITTED BY: R. MORRIS

GENERAL NOTES

A. FIRE EXTINGUISHER AND FIRE EXTINGUISHER CABINETS:
1.LOCATE FIRE EXTINGUISHER CABINETS IN COMPLIANCE WITH ADA REQUIREMENTS AND MAINTAIN THE MAXIMUM 75'-0" TRAVEL DISTANCE AS REQUIRED BY NFPA 10 WITH EASY ACCESSIBILITY.

2.PROVIDE SURFACE MOUNTED FIRE EXTINGUISHER CABINETS WITH UL-RATED B:C, 15 LB CAP. PORTABLE FIRE EXTINGUISHER. FIRE EXTINGUISHER CABINET SHALL BE STEEL BAKE WITH ENAMEL OR POWDER COAT FINISH WITH BREAK GLASS STRIKE SYSTEM.

B.PARKING GARAGE SPACE COUNTER:
1.PROVIDE PARKING GARAGE SPACE COUNTER SYSTEM, SIGNS (AS INDICATED), CONTROLLING WAY FINDING BASED ON REAL-TIME OCCUPANCY AND COUNTING EACH TRANSITION POINT.

C.DUAL CHARGING STATION:
1.UNLESS OTHERWISE DIRECTED BY OWNER, CHARGING STATION SHALL BE CAPABLE OF CHARGING PAYMENT FROM USERS - BY THE HOUR, MONTHLY OR ANNUAL SUBSCRIPTION FEE.

D.CMU WALLS:
1. ALL INTERIOR PARTITIONS FOR SPACES SUCH AS ELECTRICAL, COMMUNICATION, SPRINKLER, FIRE PUMP, ELEVATOR MACHINE ROOMS SHALL BE 8" THICK TO EXTEND UP TO UNDERSIDE OF THE (DOUBLE TEE) DECK ABOVE.

FLOOR PLAN LEGEND

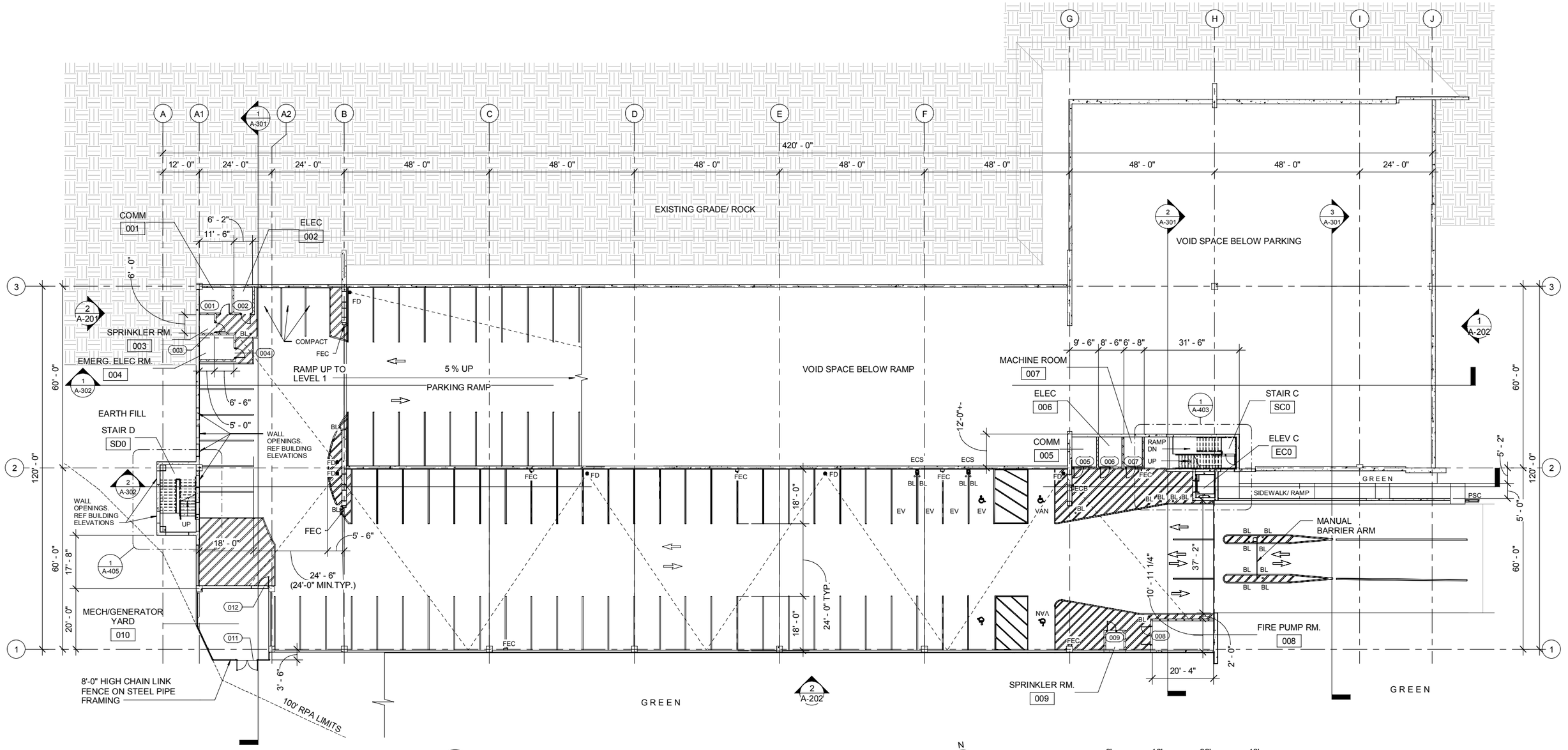
BL	6" DIAMETER PAINTED BOLLARD
ECB	EMERGENCY CALL BOX
ECS	ELECTRIC & HYBRID VEHICLE DUAL CHARGING STATION
EV	ELECTRIC VEHICLE PARKING STALL
FD	FLOOR DRAIN
FEC	FIRE EXTINGUISHER CABINET, FIRE EXTINGUISHER AND SIGNAGE ABOVE
FEV	FUEL EFFICIENT VEHICLE PARKING STALL
LLP	LED LIGHTING FIXTURE WITH OCCUPANCY SENSORS LIGHT POLE
MOBR	MANUAL OPERATED BARRIER ARM
PSC	PARKING GARAGE SPACE COUNTER
VAN	VAN ACCESSIBLE

PARKING STALL SCHEDULE

TIER/LEVEL	8'-6" STD	ADA CAR	ADA VAN	COMPACT	TOTAL	EV/ECS
GROUND	57	2	2	3	64	4
LEVEL 1	157	6	--	3	166	2
LEVEL 2	157	5	2	3	167	2
LEVEL 3	165	5	--	--	170	6
LEVEL 4	225	1	--	3	229	
LEVEL 5	226	1	--	3	230	
LEVEL 6	226	1	--	3	230	
LEVEL 7	141	--	--	3	144	
TOTAL					1,400	

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	00	PRGA -076- 242	A-101

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



1 GROUND LEVEL
1/16" = 1'-0"

N

0' 16' 32' 48'
SCALE: 1/16" = 1' - 0"

PROJECT	SHEET NO.
PRGA-076-242	A-101

01/22/20

DESIGNED BY: M. DEPADUA
DRAWN BY: M. DEPADUA / J. RODRIGUEZ
CHECKED BY: R. STRACCAMORE
SUBMITTED BY: R. MORRIS

GENERAL NOTES

A. FIRE EXTINGUISHER AND FIRE EXTINGUISHER CABINETS:
1.LOCATE FIRE EXTINGUISHER CABINETS IN COMPLIANCE WITH ADA REQUIREMENTS AND MAINTAIN THE MAXIMUM 75'-0" TRAVEL DISTANCE AS REQUIRED BY NFPA 10 WITH EASY ACCESSIBILITY.

2.PROVIDE SURFACE MOUNTED FIRE EXTINGUISHER CABINETS WITH UL-RATED B:C, 15 LB CAP. PORTABLE FIRE EXTINGUISHER. FIRE EXTINGUISHER CABINET SHALL BE STEEL BAKE WITH ENAMEL OR POWDER COAT FINISH WITH BREAK GLASS STRIKE SYSTEM.

B.PARKING GARAGE SPACE COUNTER:
1.PROVIDE PARKING GARAGE SPACE COUNTER SYSTEM, SIGNS (AS INDICATED), CONTROLLING WAY FINDING BASED ON REAL-TIME OCCUPANCY AND COUNTING EACH TRANSITION POINT.

C.DUAL CHARGING STATION:
1.UNLESS OTHERWISE DIRECTED BY OWNER, CHARGING STATION SHALL BE CAPABLE OF CHARGING PAYMENT FROM USERS - BY THE HOUR, MONTHLY OR ANNUAL SUBSCRIPTION FEE.

D.CMU WALLS:
1. ALL INTERIOR PARTITIONS FOR SPACES SUCH AS ELECTRICAL, COMMUNICATION, SPRINKLER, FIRE PUMP, ELEVATOR MACHINE ROOMS SHALL BE 8" THICK TO EXTEND UP TO UNDERSIDE OF THE (DOUBLE TEE) DECK ABOVE.

FLOOR PLAN LEGEND

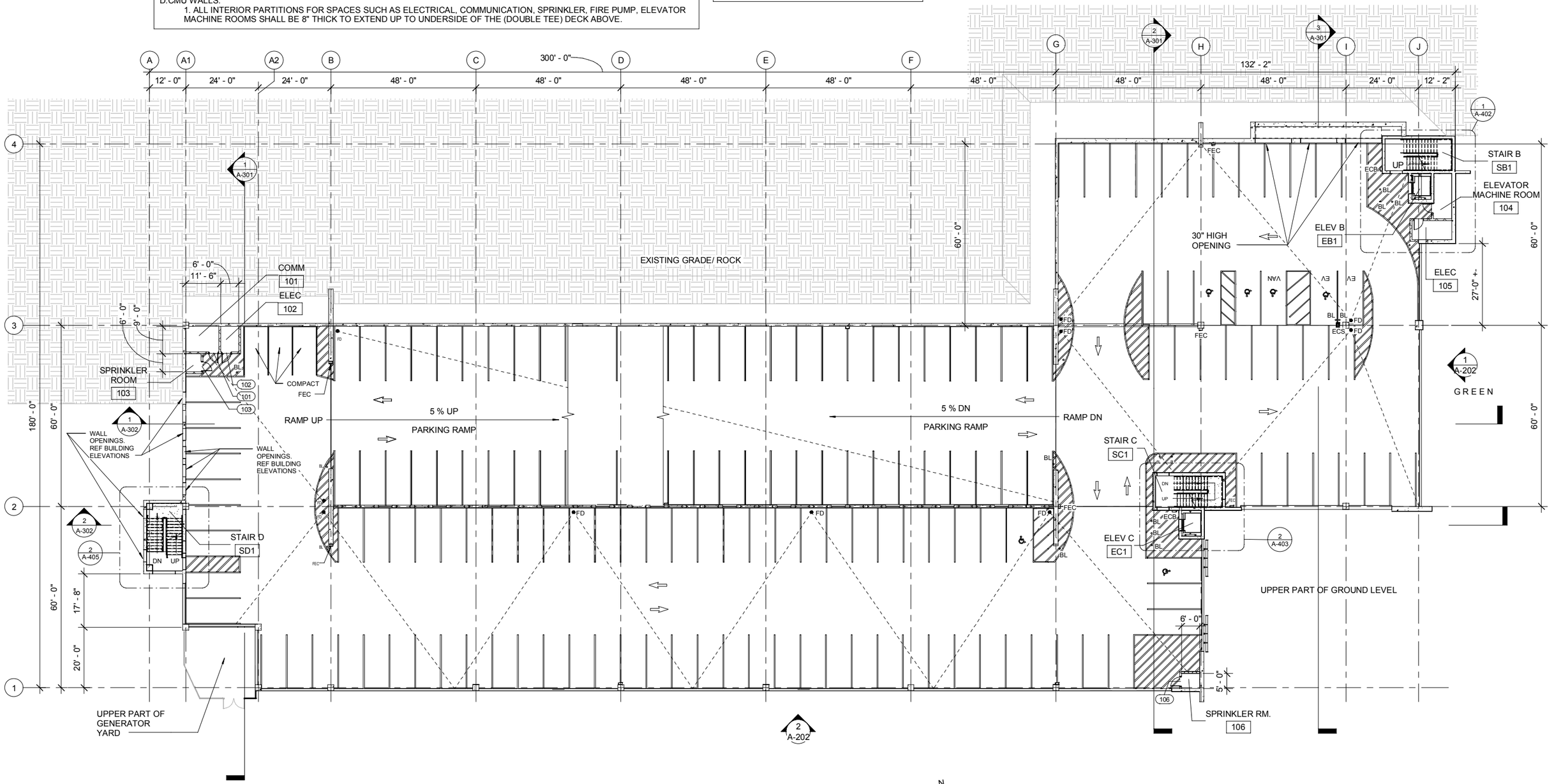
BL	6" DIAMETER PAINTED BOLLARD
ECB	EMERGENCY CALL BOX
ECS	ELECTRIC & HYBRID VEHICLE DUAL CHARGING STATION
EV	ELECTRIC VEHICLE PARKING STALL
FD	FLOOR DRAIN
FEC	FIRE EXTINGUISHER CABINET, FIRE EXTINGUISHER AND SIGNAGE ABOVE
FEV	FUEL EFFICIENT VEHICLE PARKING STALL
LLP	LED LIGHTING FIXTURE WITH OCCUPANCY SENSORS LIGHT POLE
MOBR	MANUAL OPERATED BARRIER ARM
PSC	PARKING GARAGE SPACE COUNTER
VAN	VAN ACCESSIBLE

PARKING STALL SCHEDULE

TIER/LEVEL	8'-6" STD	ADA CAR	ADA VAN	COMPACT	TOTAL	EV/ECS
GROUND	57	2	2	3	64	4
LEVEL 1	157	6	--	3	166	2
LEVEL 2	157	5	2	3	167	2
LEVEL 3	165	5	--	--	170	6
LEVEL 4	225	1	--	3	229	
LEVEL 5	226	1	--	3	230	
LEVEL 6	226	1	--	3	230	
LEVEL 7	141	--	--	3	144	
TOTAL					1,400	

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	00	PRGA -076- 242	A-102

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



1 LEVEL 1
1/16" = 1'-0"

N

0' 16' 32' 48'
SCALE: 1/16" = 1' - 0"

PROJECT	SHEET NO.
PRGA-076-242	A-102

11/11/19

DESIGNED BY:M. DEPADUA
DRAWN BY:M. DEPADUA / J. RODRIGUEZ
CHECKED BY:R. STRACCAMORE
SUBMITTED BY:R. MORRIS

GENERAL NOTES

A. FIRE EXTINGUISHER AND FIRE EXTINGUISHER CABINETS:
1.LOCATE FIRE EXTINGUISHER CABINETS IN COMPLIANCE WITH ADA REQUIREMENTS AND MAINTAIN THE MAXIMUM 75'-0" TRAVEL DISTANCE AS REQUIRED BY NFPA 10 WITH EASY ACCESSIBILITY.

2.PROVIDE SURFACE MOUNTED FIRE EXTINGUISHER CABINETS WITH UL-RATED B:C, 15 LB CAP. PORTABLE FIRE EXTINGUISHER. FIRE EXTINGUISHER CABINET SHALL BE STEEL BAKE WITH ENAMEL OR POWDER COAT FINISH WITH BREAK GLASS STRIKE SYSTEM.

B.PARKING GARAGE SPACE COUNTER:
1.PROVIDE PARKING GARAGE SPACE COUNTER SYSTEM, SIGNS (AS INDICATED), CONTROLLING WAY FINDING BASED ON REAL-TIME OCCUPANCY AND COUNTING EACH TRANSITION POINT.

C.DUAL CHARGING STATION:
1.UNLESS OTHERWISE DIRECTED BY OWNER, CHARGING STATION SHALL BE CAPABLE OF CHARGING PAYMENT FROM USERS - BY THE HOUR, MONTHLY OR ANNUAL SUBSCRIPTION FEE.

D.CMU WALLS:
1. ALL INTERIOR PARTITIONS FOR SPACES SUCH AS ELECTRICAL, COMMUNICATION, SPRINKLER, FIRE PUMP, ELEVATOR MACHINE ROOMS SHALL BE 8" THICK TO EXTEND UP TO UNDERSIDE OF THE (DOUBLE TEE) DECK ABOVE.

FLOOR PLAN LEGEND

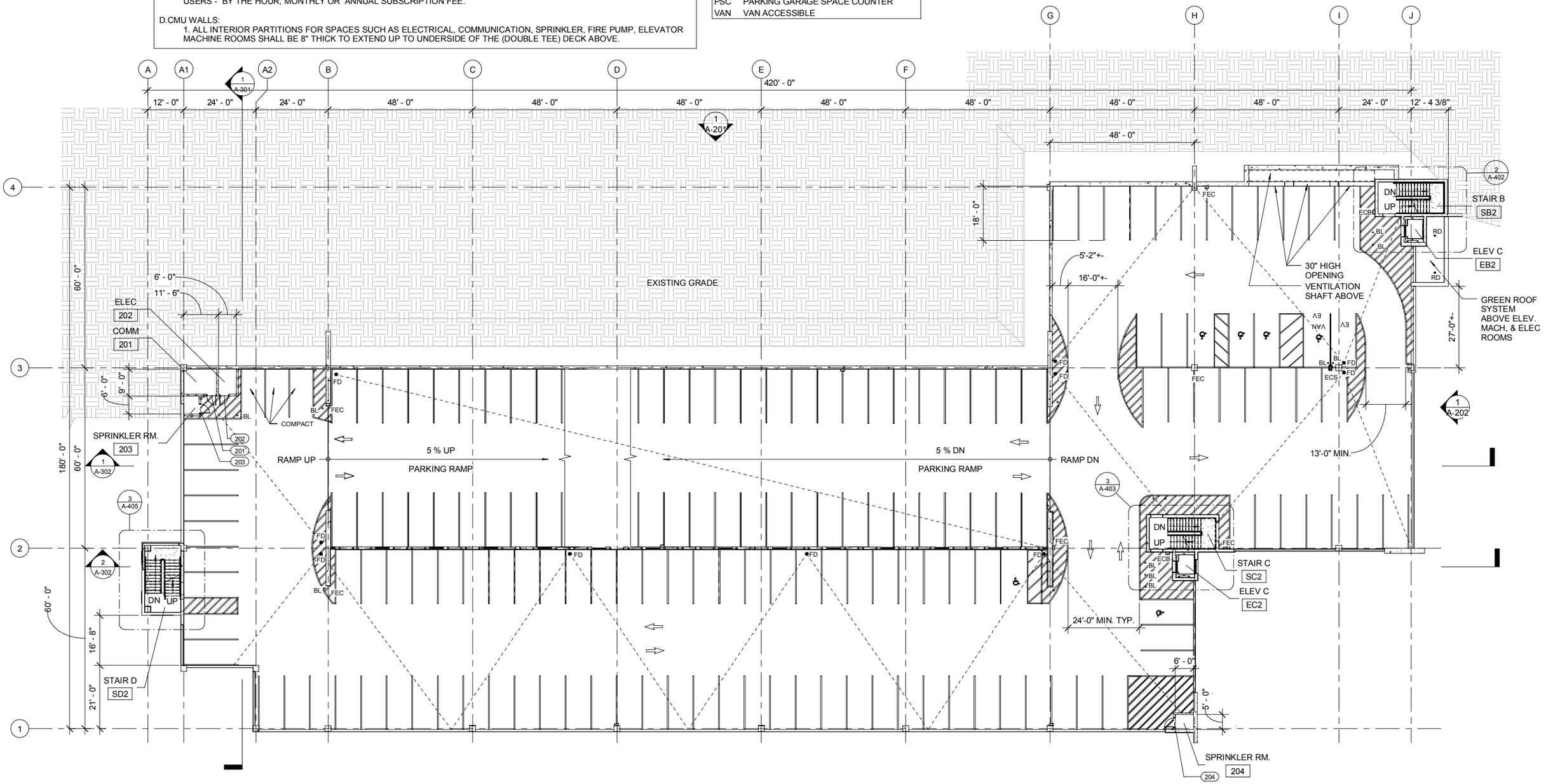
BL	6" DIAMETER PAINTED BOLLARD
ECB	EMERGENCY CALL BOX
ECS	ELECTRIC & HYBRID VEHICLE DUAL CHARGING STATION
EV	ELECTRIC VEHICLE PARKING STALL
FD	FLOOR DRAIN
FEC	FIRE EXTINGUISHER CABINET, FIRE EXTINGUISHER AND SIGNAGE ABOVE
FEV	FUEL EFFICIENT VEHICLE PARKING STALL
LLP	LED LIGHTING FIXTURE WITH OCCUPANCY SENSORS LIGHT POLE
MOBR	MANUAL OPERATED BARRIER ARM
PSC	PARKING GARAGE SPACE COUNTER
VAN	VAN ACCESSIBLE

PARKING STALL SCHEDULE

TIER/LEVEL	8'-6" STD	ADA CAR	ADA VAN	COMPACT	TOTAL	EV/ECS
GROUND	57	2	2	3	64	4
LEVEL 1	157	6	--	3	166	2
LEVEL 2	157	5	2	3	167	2
LEVEL 3	165	5	--	--	170	6
LEVEL 4	225	1	--	3	229	
LEVEL 5	226	1	--	3	230	
LEVEL 6	226	1	--	3	230	
LEVEL 7	141	--	--	3	144	
TOTAL					1,400	

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	00	PRGA -076- 242	A-103

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



1 LEVEL 2
1/16" = 1'-0"

N

0' 16' 32' 48'
SCALE: 1/16" = 1' - 0"

07/09/19

PROJECT	SHEET NO.
PRGA-076-242	A-103

DESIGNED BY: M. DEPADUA
DRAWN BY: M. DEPADUA / J. RODRIGUEZ
CHECKED BY: R. STRACCAMORE
SUBMITTED BY: R. MORRIS

GENERAL NOTES

A. FIRE EXTINGUISHER AND FIRE EXTINGUISHER CABINETS:
1.LOCATE FIRE EXTINGUISHER CABINETS IN COMPLIANCE WITH ADA REQUIREMENTS AND MAINTAIN THE MAXIMUM 75'-0" TRAVEL DISTANCE AS REQUIRED BY NFPA 10 WITH EASY ACCESSIBILITY.

2.PROVIDE SURFACE MOUNTED FIRE EXTINGUISHER CABINETS WITH UL-RATED B:C, 15 LB CAP. PORTABLE FIRE EXTINGUISHER. FIRE EXTINGUISHER CABINET SHALL BE STEEL BAKE WITH ENAMEL OR POWDER COAT FINISH WITH BREAK GLASS STRIKE SYSTEM.

B.PARKING GARAGE SPACE COUNTER:
1.PROVIDE PARKING GARAGE SPACE COUNTER SYSTEM, SIGNS (AS INDICATED), CONTROLLING WAY FINDING BASED ON REAL-TIME OCCUPANCY AND COUNTING EACH TRANSITION POINT.

C.DUAL CHARGING STATION:
1.UNLESS OTHERWISE DIRECTED BY OWNER, CHARGING STATION SHALL BE CAPABLE OF CHARGING PAYMENT FROM USERS - BY THE HOUR, MONTHLY OR ANNUAL SUBSCRIPTION FEE.

D.CMU WALLS:
1. ALL INTERIOR PARTITIONS FOR SPACES SUCH AS ELECTRICAL, COMMUNICATION, SPRINKLER, FIRE PUMP, ELEVATOR MACHINE ROOMS SHALL BE 8" THICK TO EXTEND UP TO UNDERSIDE OF THE (DOUBLE TEE) DECK ABOVE.

FLOOR PLAN LEGEND

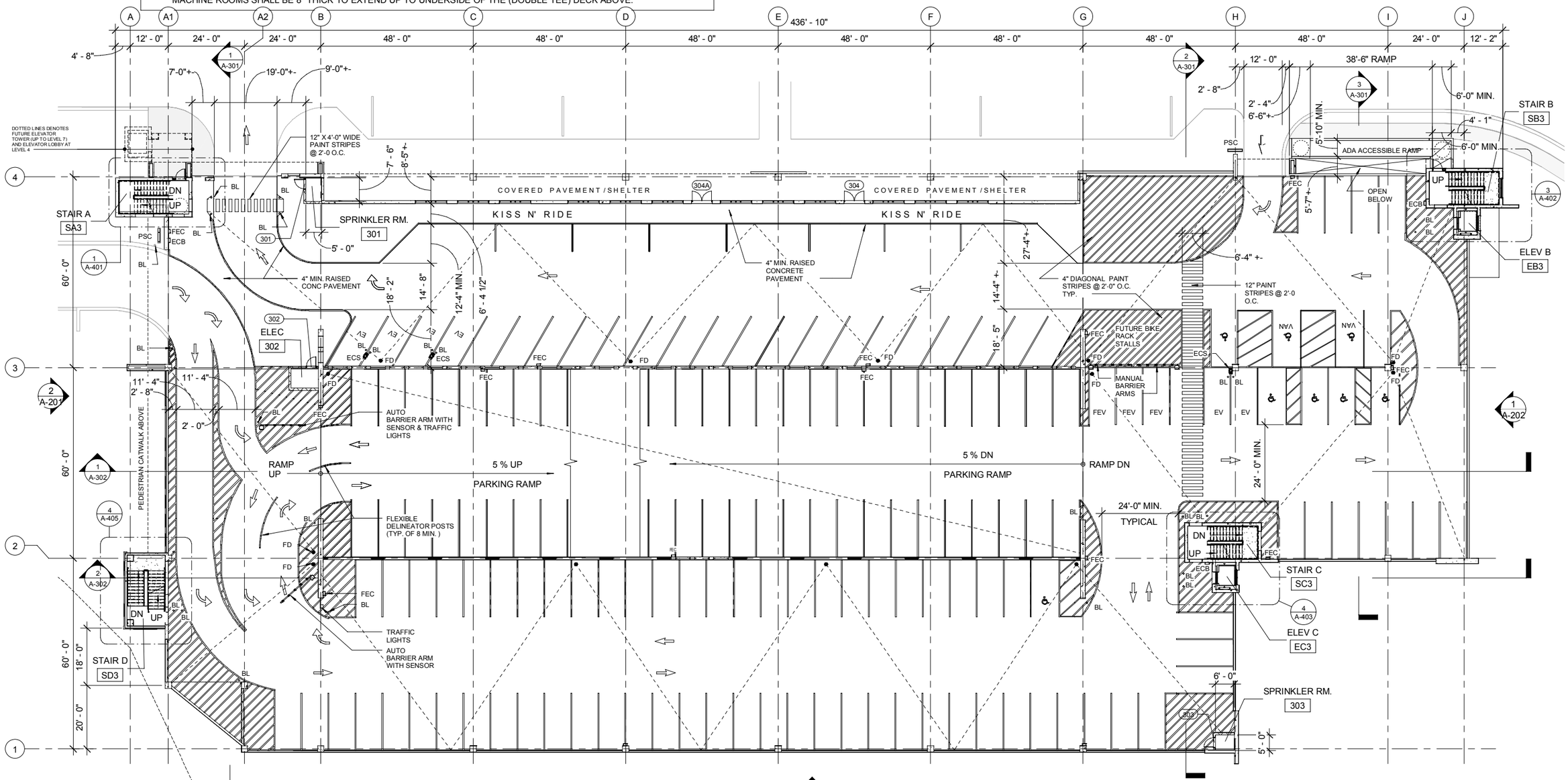
BL	6" DIAMETER PAINTED BOLLARD
ECB	EMERGENCY CALL BOX
ECS	ELECTRIC & HYBRID VEHICLE DUAL CHARGING STATION
EV	ELECTRIC VEHICLE PARKING STALL
FD	FLOOR DRAIN
FEC	FIRE EXTINGUISHER CABINET, FIRE EXTINGUISHER AND SIGNAGE ABOVE
FEV	FUEL EFFICIENT VEHICLE PARKING STALL
LLP	LED LIGHTING FIXTURE WITH OCCUPANCY SENSORS LIGHT POLE
MOBR	MANUAL OPERATED BARRIER ARM
PSC	PARKING GARAGE SPACE COUNTER
VAN	VAN ACCESSIBLE

PARKING STALL SCHEDULE

TIER/LEVEL	8'-6" STD	ADA CAR	ADA VAN	COMPACT	TOTAL	EV/ECS
GROUND	57	2	2	3	64	4
LEVEL 1	157	6	--	3	166	2
LEVEL 2	157	5	2	3	167	2
LEVEL 3	165	5	--	--	170	6
LEVEL 4	225	1	--	3	229	
LEVEL 5	226	1	--	3	230	
LEVEL 6	226	1	--	3	230	
LEVEL 7	141	--	--	3	144	
TOTAL					1,400	

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	00	PRGA -076- 242	A-104

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



PROJECT	SHEET NO.
PRGA-076-242	A-104

07/09/19

DESIGNED BY:M. DEPADUA
DRAWN BY:M. DEPADUA / J. RODRIGUEZ
CHECKED BY:R. STRACCAMORE
SUBMITTED BY:R. MORRIS

GENERAL NOTES

A. FIRE EXTINGUISHER AND FIRE EXTINGUISHER CABINETS:
1.LOCATE FIRE EXTINGUISHER CABINETS IN COMPLIANCE WITH ADA REQUIREMENTS AND MAINTAIN THE MAXIMUM 75'-0" TRAVEL DISTANCE AS REQUIRED BY NFPA 10 WITH EASY ACCESSIBILITY.

2.PROVIDE SURFACE MOUNTED FIRE EXTINGUISHER CABINETS WITH UL-RATED B:C, 15 LB CAP. PORTABLE FIRE EXTINGUISHER. FIRE EXTINGUISHER CABINET SHALL BE STEEL BAKE WITH ENAMEL OR POWDER COAT FINISH WITH BREAK GLASS STRIKE SYSTEM.

B.PARKING GARAGE SPACE COUNTER:
1.PROVIDE PARKING GARAGE SPACE COUNTER SYSTEM, SIGNS (AS INDICATED), CONTROLLING WAY FINDING BASED ON REAL-TIME OCCUPANCY AND COUNTING EACH TRANSITION POINT.

C.DUAL CHARGING STATION:
1.UNLESS OTHERWISE DIRECTED BY OWNER, CHARGING STATION SHALL BE CAPABLE OF CHARGING PAYMENT FROM USERS - BY THE HOUR, MONTHLY OR ANNUAL SUBSCRIPTION FEE.

D.CMU WALLS:
1. ALL INTERIOR PARTITIONS FOR SPACES SUCH AS ELECTRICAL, COMMUNICATION, SPRINKLER, FIRE PUMP, ELEVATOR MACHINE ROOMS SHALL BE 8" THICK TO EXTEND UP TO UNDERSIDE OF THE (DOUBLE TEE) DECK ABOVE.

FLOOR PLAN LEGEND

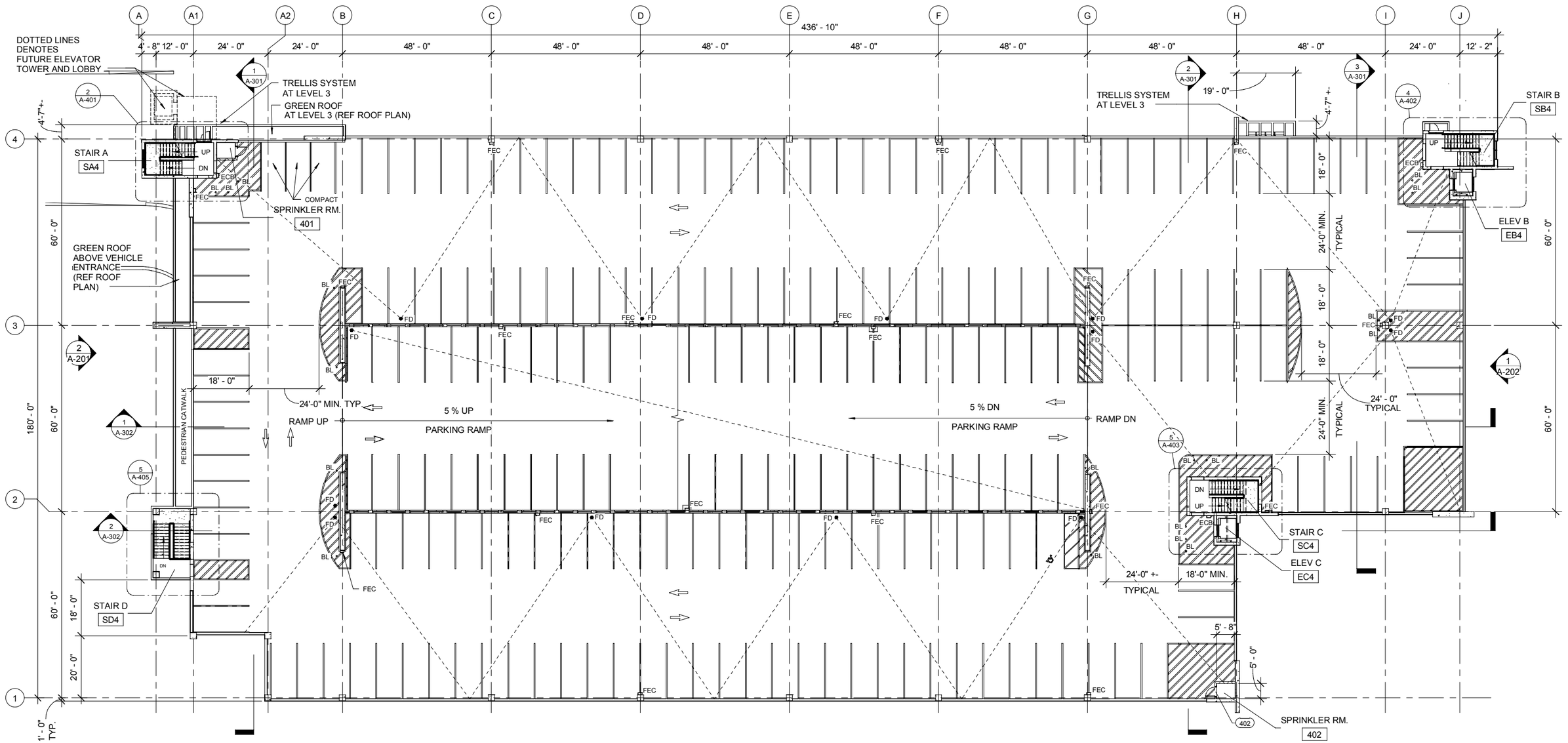
BL	6" DIAMETER PAINTED BOLLARD
ECB	EMERGENCY CALL BOX
ECS	ELECTRIC & HYBRID VEHICLE DUAL CHARGING STATION
EV	ELECTRIC VEHICLE PARKING STALL
FD	FLOOR DRAIN
FEC	FIRE EXTINGUISHER CABINET, FIRE EXTINGUISHER AND SIGNAGE ABOVE
FEV	FUEL EFFICIENT VEHICLE PARKING STALL
LLP	LED LIGHTING FIXTURE WITH OCCUPANCY SENSORS LIGHT POLE
MOBR	MANUAL OPERATED BARRIER ARM
PSC	PARKING GARAGE SPACE COUNTER
VAN	VAN ACCESSIBLE

PARKING STALL SCHEDULE

TIER/LEVEL	8'-6" STD	ADA CAR	ADA VAN	COMPACT	TOTAL	EV/ECS
GROUND	57	2	2	3	64	4
LEVEL 1	157	6	--	3	166	2
LEVEL 2	157	5	2	3	167	2
LEVEL 3	165	5	--	--	170	6
LEVEL 4	225	1	--	3	229	
LEVEL 5	226	1	--	3	230	
LEVEL 6	226	1	--	3	230	
LEVEL 7	141	--	--	3	144	
TOTAL					1,400	

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	00	PRGA -076- 242	A-105

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



1 LEVEL 4
1/16" = 1'-0"

N

0' 16' 32' 48'
SCALE: 1/16" = 1' - 0"

	PROJECT	SHEET NO.
	PRGA-076-242	A-105

07/09/19

DESIGNED BY:M. DEPADUA
DRAWN BY:M. DEPADUA / J. RODRIGUEZ
CHECKED BY:R. STRACCAMORE
SUBMITTED BY:R. MORRIS

GENERAL NOTES

A. FIRE EXTINGUISHER AND FIRE EXTINGUISHER CABINETS:
1.LOCATE FIRE EXTINGUISHER CABINETS IN COMPLIANCE WITH ADA REQUIREMENTS AND MAINTAIN THE MAXIMUM 75'-0" TRAVEL DISTANCE AS REQUIRED BY NFPA 10 WITH EASY ACCESSIBILITY.

2.PROVIDE SURFACE MOUNTED FIRE EXTINGUISHER CABINETS WITH UL-RATED B:C, 15 LB CAP. PORTABLE FIRE EXTINGUISHER. FIRE EXTINGUISHER CABINET SHALL BE STEEL BAKE WITH ENAMEL OR POWDER COAT FINISH WITH BREAK GLASS STRIKE SYSTEM.

B.PARKING GARAGE SPACE COUNTER:
1.PROVIDE PARKING GARAGE SPACE COUNTER SYSTEM, SIGNS (AS INDICATED), CONTROLLING WAY FINDING BASED ON REAL-TIME OCCUPANCY AND COUNTING EACH TRANSITION POINT.

C.DUAL CHARGING STATION:
1.UNLESS OTHERWISE DIRECTED BY OWNER, CHARGING STATION SHALL BE CAPABLE OF CHARGING PAYMENT FROM USERS - BY THE HOUR, MONTHLY OR ANNUAL SUBSCRIPTION FEE.

D.CMU WALLS:
1. ALL INTERIOR PARTITIONS FOR SPACES SUCH AS ELECTRICAL, COMMUNICATION, SPRINKLER, FIRE PUMP, ELEVATOR MACHINE ROOMS SHALL BE 8" THICK TO EXTEND UP TO UNDERSIDE OF THE (DOUBLE TEE) DECK ABOVE.

FLOOR PLAN LEGEND

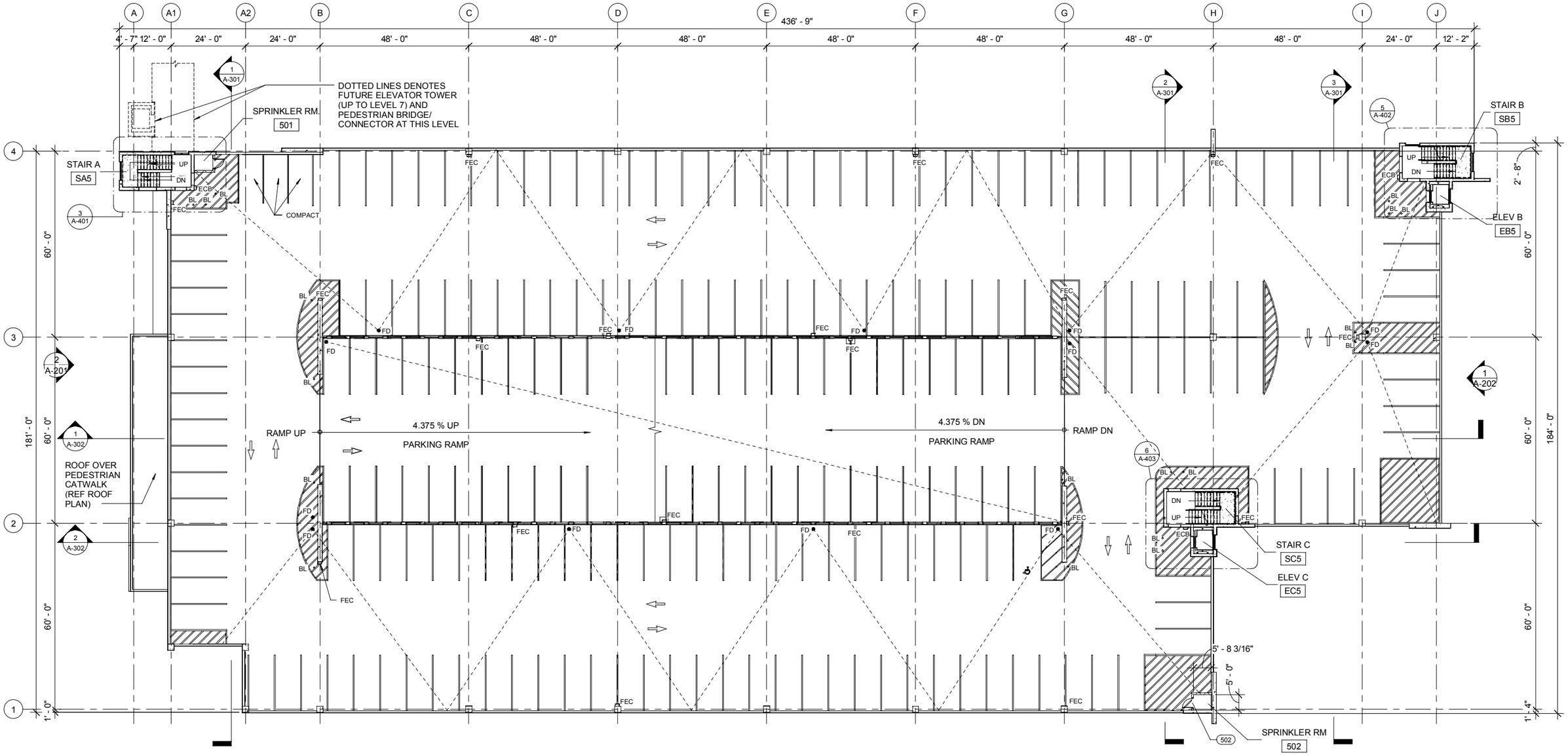
BL	6" DIAMETER PAINTED BOLLARD
ECB	EMERGENCY CALL BOX
ECS	ELECTRIC & HYBRID VEHICLE DUAL CHARGING STATION
EV	ELECTRIC VEHICLE PARKING STALL
FD	FLOOR DRAIN
FEC	FIRE EXTINGUISHER CABINET, FIRE EXTINGUISHER AND SIGNAGE ABOVE
FEV	FUEL EFFICIENT VEHICLE PARKING STALL
LLP	LED LIGHTING FIXTURE WITH OCCUPANCY SENSORS LIGHT POLE
MOBR	MANUAL OPERATED BARRIER ARM
PSC	PARKING GARAGE SPACE COUNTER
VAN	VAN ACCESSIBLE

PARKING STALL SCHEDULE

TIER/LEVEL	8'-6" STD	ADA CAR	ADA VAN	COMPACT	TOTAL	EV/ECS
GROUND	57	2	2	3	64	4
LEVEL 1	157	6	--	3	166	2
LEVEL 2	157	5	2	3	167	2
LEVEL 3	165	5	--	--	170	6
LEVEL 4	225	1	--	3	229	
LEVEL 5	226	1	--	3	230	
LEVEL 6	226	1	--	3	230	
LEVEL 7	141	--	--	3	144	
TOTAL					1,400	

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	00	PRGA -076- 242	A-106

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



1 LEVEL 5
1/16" = 1'-0"

N

0' 16' 32' 48'
SCALE: 1/16" = 1' - 0"

PROJECT	SHEET NO.
PRGA-076-242	A-106

11/27/19

DESIGNED BY: M. DEPADUA
DRAWN BY: M. DEPADUA / J. RODRIGUEZ
CHECKED BY: R. STRACCAMORE
SUBMITTED BY: R. MORRIS

GENERAL NOTES

A. FIRE EXTINGUISHER AND FIRE EXTINGUISHER CABINETS:
1.LOCATE FIRE EXTINGUISHER CABINETS IN COMPLIANCE WITH ADA REQUIREMENTS AND MAINTAIN THE MAXIMUM 75'-0" TRAVEL DISTANCE AS REQUIRED BY NFPA 10 WITH EASY ACCESSIBILITY.

2.PROVIDE SURFACE MOUNTED FIRE EXTINGUISHER CABINETS WITH UL-RATED B:C, 15 LB CAP. PORTABLE FIRE EXTINGUISHER. FIRE EXTINGUISHER CABINET SHALL BE STEEL BAKE WITH ENAMEL OR POWDER COAT FINISH WITH BREAK GLASS STRIKE SYSTEM.

B.PARKING GARAGE SPACE COUNTER:
1.PROVIDE PARKING GARAGE SPACE COUNTER SYSTEM, SIGNS (AS INDICATED), CONTROLLING WAY FINDING BASED ON REAL-TIME OCCUPANCY AND COUNTING EACH TRANSITION POINT.

C.DUAL CHARGING STATION:
1.UNLESS OTHERWISE DIRECTED BY OWNER, CHARGING STATION SHALL BE CAPABLE OF CHARGING PAYMENT FROM USERS - BY THE HOUR, MONTHLY OR ANNUAL SUBSCRIPTION FEE.

D.CMU WALLS:
1. ALL INTERIOR PARTITIONS FOR SPACES SUCH AS ELECTRICAL, COMMUNICATION, SPRINKLER, FIRE PUMP, ELEVATOR MACHINE ROOMS SHALL BE 8" THICK TO EXTEND UP TO UNDERSIDE OF THE (DOUBLE TEE) DECK ABOVE.

FLOOR PLAN LEGEND

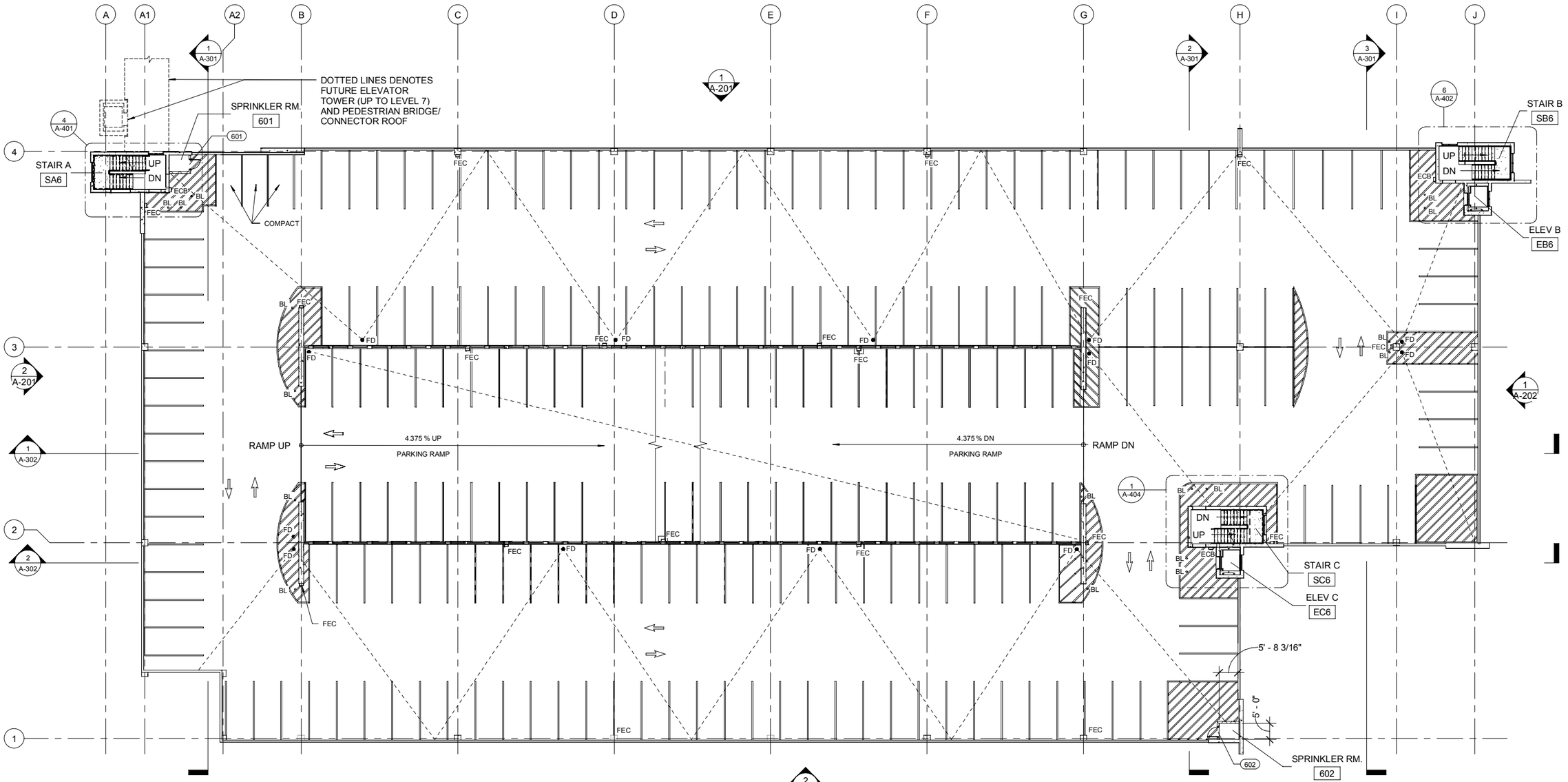
BL	6" DIAMETER PAINTED BOLLARD
ECB	EMERGENCY CALL BOX
ECS	ELECTRIC & HYBRID VEHICLE DUAL CHARGING STATION
EV	ELECTRIC VEHICLE PARKING STALL
FD	FLOOR DRAIN
FEC	FIRE EXTINGUISHER CABINET, FIRE EXTINGUISHER AND SIGNAGE ABOVE
FEV	FUEL EFFICIENT VEHICLE PARKING STALL
LLP	LED LIGHTING FIXTURE WITH OCCUPANCY SENSORS LIGHT POLE
MOBR	MANUAL OPERATED BARRIER ARM
PSC	PARKING GARAGE SPACE COUNTER
VAN	VAN ACCESSIBLE

PARKING STALL SCHEDULE

TIER/LEVEL	8'-6" STD	ADA CAR	ADA VAN	COMPACT	TOTAL	EV/ECS
GROUND	57	2	2	3	64	4
LEVEL 1	157	6	--	3	166	2
LEVEL 2	157	5	2	3	167	2
LEVEL 3	165	5	--	--	170	6
LEVEL 4	225	1	--	3	229	
LEVEL 5	226	1	--	3	230	
LEVEL 6	226	1	--	3	230	
LEVEL 7	141	--	--	3	144	
TOTAL					1,400	

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	00	PRGA -076- 242	A-107

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



1 LEVEL 6
1/16" = 1'-0"

N

0' 16' 32' 48'
SCALE: 1/16" = 1' - 0"

PROJECT	SHEET NO.
PRGA-076-242	A-107

11/27/19

DESIGNED BY:M. DEPADUA
DRAWN BY:M. DEPADUA / J. RODRIGUEZ
CHECKED BY:R. STRACCAMORE
SUBMITTED BY:R. MORRIS

GENERAL NOTES

A. FIRE EXTINGUISHER AND FIRE EXTINGUISHER CABINETS:
1.LOCATE FIRE EXTINGUISHER CABINETS IN COMPLIANCE WITH ADA REQUIREMENTS AND MAINTAIN THE MAXIMUM 75'-0" TRAVEL DISTANCE AS REQUIRED BY NFPA 10 WITH EASY ACCESSIBILITY.

2.PROVIDE SURFACE MOUNTED FIRE EXTINGUISHER CABINETS WITH UL-RATED B:C, 15 LB CAP. PORTABLE FIRE EXTINGUISHER. FIRE EXTINGUISHER CABINET SHALL BE STEEL BAKE WITH ENAMEL OR POWDER COAT FINISH WITH BREAK GLASS STRIKE SYSTEM.

B.PARKING GARAGE SPACE COUNTER:
1.PROVIDE PARKING GARAGE SPACE COUNTER SYSTEM, SIGNS (AS INDICATED), CONTROLLING WAY FINDING BASED ON REAL-TIME OCCUPANCY AND COUNTING EACH TRANSITION POINT.

C.DUAL CHARGING STATION:
1.UNLESS OTHERWISE DIRECTED BY OWNER, CHARGING STATION SHALL BE CAPABLE OF CHARGING PAYMENT FROM USERS - BY THE HOUR, MONTHLY OR ANNUAL SUBSCRIPTION FEE.

D.CMU WALLS:
1. ALL INTERIOR PARTITIONS FOR SPACES SUCH AS ELECTRICAL, COMMUNICATION, SPRINKLER, FIRE PUMP, ELEVATOR MACHINE ROOMS SHALL BE 8" THICK TO EXTEND UP TO UNDERSIDE OF THE (DOUBLE TEE) DECK ABOVE.

FLOOR PLAN LEGEND

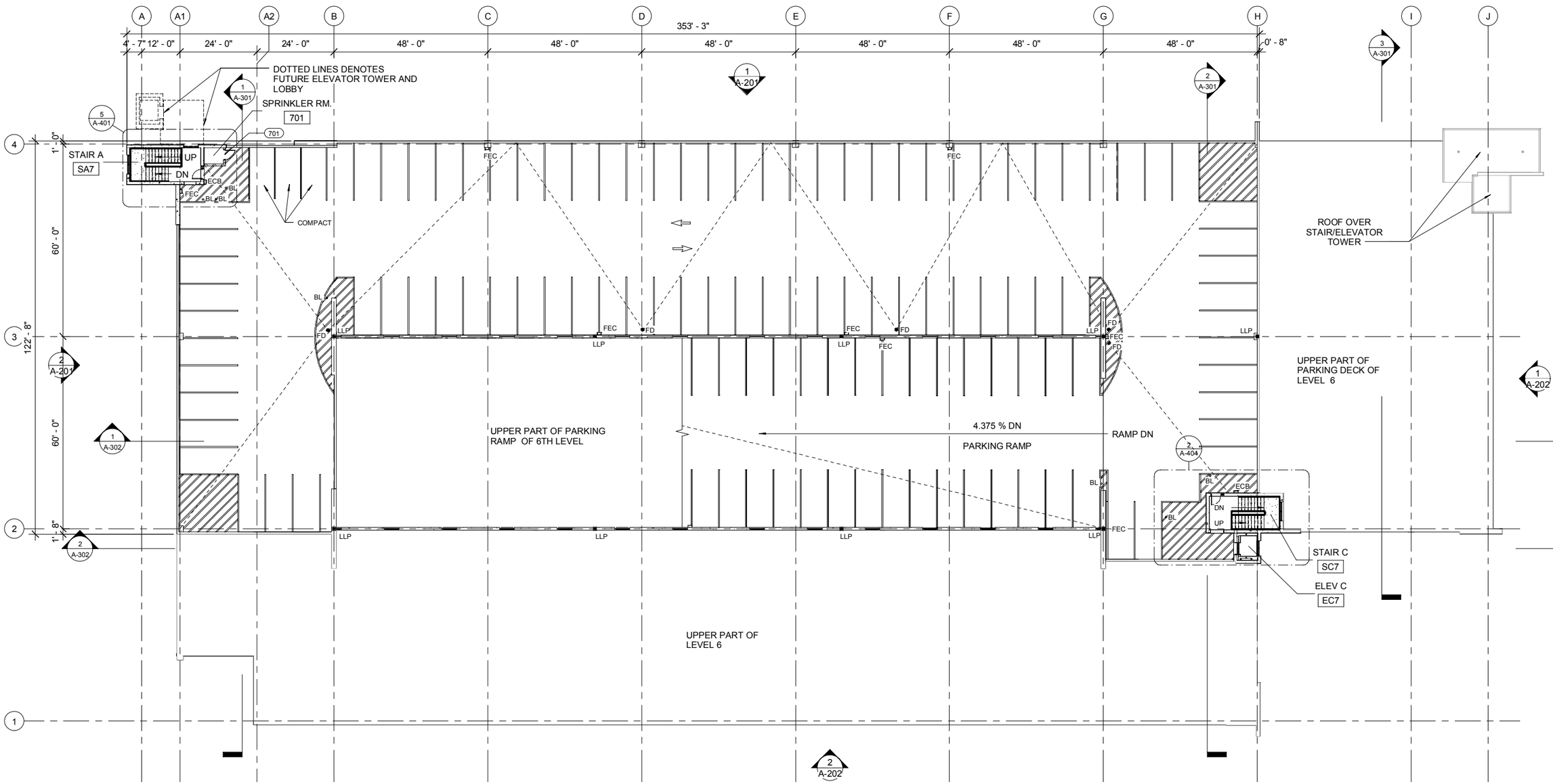
BL	6" DIAMETER PAINTED BOLLARD
ECB	EMERGENCY CALL BOX
ECS	ELECTRIC & HYBRID VEHICLE DUAL CHARGING STATION
EV	ELECTRIC VEHICLE PARKING STALL
FD	FLOOR DRAIN
FEC	FIRE EXTINGUISHER CABINET, FIRE EXTINGUISHER AND SIGNAGE ABOVE
FEV	FUEL EFFICIENT VEHICLE PARKING STALL
LLP	LED LIGHTING FIXTURE WITH OCCUPANCY SENSORS LIGHT POLE
MOBR	MANUAL OPERATED BARRIER ARM
PSC	PARKING GARAGE SPACE COUNTER
VAN	VAN ACCESSIBLE

PARKING STALL SCHEDULE

TIER/LEVEL	8'-6" STD	ADA CAR	ADA VAN	COMPACT	TOTAL	EV/ECS
GROUND	57	2	2	3	64	4
LEVEL 1	157	6	--	3	166	2
LEVEL 2	157	5	2	3	167	2
LEVEL 3	165	5	--	--	170	6
LEVEL 4	225	1	--	3	229	
LEVEL 5	226	1	--	3	230	
LEVEL 6	226	1	--	3	230	
LEVEL 7	141	--	--	3	144	
TOTAL					1,400	

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	00	PRGA -076- 242	A-108

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



2 LEVEL 7
1/16" = 1'-0"

N

0' 16' 32' 48'
SCALE: 1/16" = 1' - 0"

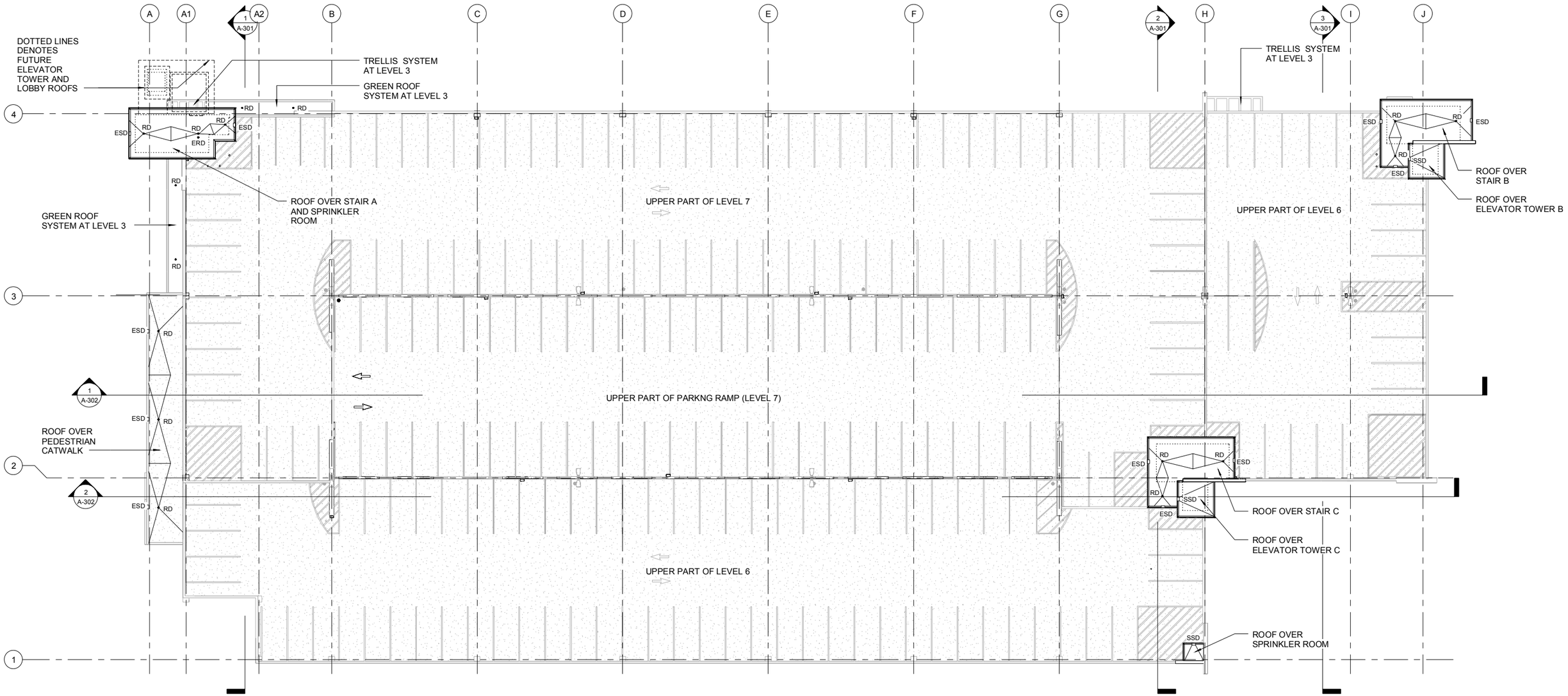
PROJECT	SHEET NO.
PRGA-076-242	A-108

07/09/19

DESIGNED BY: M. DEPADUA
DRAWN BY: M. DEPADUA / J. RODRIGUEZ
CHECKED BY: R. STRACCAMORE
SUBMITTED BY: R. MORRIS

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	00	PRGA -076- 242	A-109

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



1 ROOF PLAN
1/16" = 1'-0"

N

0' 16' 32' 48'
SCALE: 1/16" = 1' - 0"

02/25/20

	PROJECT	SHEET NO.
	PRGA-076-242	A-109

PRINCE WILLIAM COUNTY

Department of Transportation
Ricardo Canizales
Director of Transportation

December 19, 2019

Mrs. Brett Christina Glymph
Executive Director
Virginia Outdoor Foundation
39 Garrett St., Suite 200
Warrenton, VA 20186

Subject: Neabsco/Potomac Commuter Parking Garage
VDOT Project: PRGA-076-242, P101, C501; UPC 111485
Federal Project: STP-5A01 (907)
Prince William County DOT Project: 16C17004

Prince William County Department of Transportation is proposing to construct and operate a commuter parking garage with a capacity of approximately 1,400 vehicles, along with an adjacent transit center where commuters can access public transit buses and other ride-sharing services. The site is undeveloped and mostly covered by a canopy of wooded forest, except for a strip of grass turf on the east end of the property, which is used as a utility corridor. The approximately 17-acre property obtained by the county for this project is bordered by Opitz Boulevard (Route 642) to the north, River Rock Way to the west, and Potomac Center Boulevard and Bridge View Drive to the east and southeast, respectively.

A conceptual plan of the project is enclosed. The eight-level (seven floors viewed from the south side) parking garage would be sited on the southern end of the property, but north of an unnamed perenial stream running west to east along the southern end of the property. The bus transfer facility would be placed on the north side of the parking garage. Because the overall facility would be placed on the southern end of the property, approximately 2.7 acres of the property fronting Opitz Boulevard would be available for certain kinds of developments, such as office or hotel. Access to and from the proposed parking garage for commuters and transit buses would be provided via driveways from River Rock Way, Potomac Center Boulevard, and Bridge View Drive.

We ask for your assistance in helping us identify potential open space easement issues related to the construction and operation of the parking garage and transit center. Please provide us with any comments or concerns that your organization may have regarding impacts to resources or services under your jurisdiction or interest.

Any information you or your agency or organization provide will greatly assist us in complying with the National Environmental Policy Act.

PRINCE WILLIAM COUNTY

Department of Transportation
Ricardo Canizales
Director of Transportation

December 19, 2019

Mr. W. Keith Boyd
Assistant State Conservationist
U.S. Department of Agriculture, Natural Resources Conservation Service
203 Wimbledon Lane, Suite A
Smithfield VA 23430

Subject: Neabsco/Potomac Commuter Parking Garage
VDOT Project: PRGA-076-242, P101, C501; UPC 111485
Federal Project: STP-5A01 (907)
Prince William County DOT Project: 16C17004

Prince William County Department of Transportation is proposing to construct and operate a commuter parking garage with a capacity of approximately 1,400 vehicles, along with an adjacent transit center where commuters can access public transit buses and other ride-sharing services. The site is undeveloped and mostly covered by a canopy of wooded forest, except for a strip of grass turf on the east end of the property, which is used as a utility corridor. The approximately 17-acre property obtained by the county for this project is bordered by Opitz Boulevard (Route 642) to the north, River Rock Way to the west, and Potomac Center Boulevard and Bridge View Drive to the east and southeast, respectively.

A conceptual plan of the project is enclosed. The eight-level (seven floors viewed from the south side) parking garage would be sited on the southern end of the property, but north of an unnamed perenial stream running west to east along the southern end of the property. The bus transfer facility would be placed on the north side of the parking garage. Because the overall facility would be placed on the southern end of the property, approximately 2.7 acres of the property fronting Opitz Boulevard would be available for certain kinds of developments, such as office or hotel. Access to and from the proposed parking garage for commuters and transit buses would be provided via driveways from River Rock Way, Potomac Center Boulevard, and Bridge View Drive.

We ask for your assistance in helping us identify potential farmland or agricultural issues related to the construction and operation of the parking garage and transit center. Please provide us with any comments or concerns that your agency may have regarding impacts to resources or services under your jurisdiction or interest.

Any information you or your agency or organization provide will greatly assist us in complying with the National Environmental Policy Act.

Please submit your comments by January 17, 2020. Thank you in advance for your assistance. If you have any questions or require additional information please contact the project manager Dagmawie Shikurye, PE, at 703-792-5537, or by email at DSHikurye@pwcgov.org.

Sincerely,

Khattab Shammout, P.E., DBIA
Assistant Director of Transportation
Capital Design and Construction

Enclosures: Project Location Map
Concept Design Plan of Neabsco/Potomac Commuter Parking Garage

cc:
Barry M. Barnard, Chief, Prince William County Police Department
Christina M. Winn, Director, Prince William County Department of Economic Development
Rebecca Horner, Director, Prince William County Department of Planning and Zoning
Justin Patton, County Archaeologist, Prince William County Department of Planning and Zoning
Seth Hendler-Voss, Director, Prince William County Department of Parks and Recreation
Thomas Bruun, Director, Prince William County Department of Public Works
Timothy L. Keen, Chief, Prince William County Department of Fire and Rescue
Dr. Steven L. Walts, Superintendent, Prince William County Public Schools
Kathleen Holm, Assistant State Conservationist, U.S. Department of Agriculture, Natural Resources Conservation Service

-----Original Message-----
From: Schmidt, Alexandra - NRCS, Harrisonburg, VA [mailto:alexandra.schmidt@usda.gov]
Sent: Wednesday, January 8, 2020 4:03 PM
To: Fragale, Christi (DeSisto) <Christi.Fragale@wsp.com>
Cc: Morris, Robert A. <Robert.Morris@wsp.com>; Shikurye, Dagmawie D. <DShikurye@pwcgov.org>; Adam, Elnour M. <EMAdam@pwcgov.org>
Subject: RE: Neabsco/Potomac Commuter Parking Garage

Hello Christi,

Here is the AD1006 with Part II completed on our end if you would like to have a copy for your records as well. nothing substantial, just marking that your project is exempt.
Thank you very much, please have a great day!

Alexandra Schmidt
USDA-NRCS Soil Scientist
1934 Deyerle Avenue, Suite A
Harrisonburg, VA 22801

PRINCE WILLIAM COUNTY

Department of
Transportation
Ricardo Canizales
Director of Transportation

Ms. Julie Langan, State Historic Preservation Officer
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221

RE: Neabsco-Potomac Mills Commuter Parking Garage
Woodbridge, Prince William County, Virginia
Area of Potential Effects, Determinations of Eligibility, Effects Assessment Pursuant to Section 106 of the National Historic Preservation Act

Dear Ms. Langan:

Pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations (36 Code of Federal Regulations [CFR] Part 800), this letter is being transmitted to initiate the Section 106 consultation process for the subject project and to seek concurrence from the Virginia Department of Historic Resources (DHR) with the Area of Potential Effects (APE) delineation, eligibility determinations, and effects assessments pursuant to 36 CFR 800.

Project Information

Prince William County Department of Transportation (DOT) is proposing construction and operation of a new commuter parking garage and associated transit facility in Woodbridge, Virginia. The project will partially be financed with federal funds administered by the Federal Highway Administration who, along with the Virginia Department of Transportation, are the federal and state lead agencies. The project will be complying with the National Environmental Policy Act through a documented Categorical Exclusion.

The proposed site, which was recently purchased by the county, is located at 2501 Opitz Boulevard (see Exhibits 1 and 2). The parcel is undeveloped, and bounded by Opitz Boulevard to the north, River Rock Way to the west, Potomac Center Drive to the east, and Bridge View Drive to the southeast. The 17-acre site is heavily wooded, with approximately 1,600 feet of streams winding through the south and east ends of the property, a few relatively small areas of nontidal wetlands, and a Resource Protection Area (RPA) associated with the perennial stream running along the south end. The proposed development on this site would include a proposed 1,400-space parking garage and transit facility with anticipated new ingress/egress connections to River Rock Park Way, Potomac Center Boulevard and Bridge View Drive (Exhibit 3). Approximately 2.7 acres of the property fronting Opitz Boulevard would be available for certain kinds of future development, such as office or hotel, in accordance with the purchase agreement with the previous owner.

Area of Potential Effects

The Area of Potential Effects (APE), as defined in 36 CFR 800.16(d), is “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. The area of potential effects is

Yazawa, Jason A.

From:	Yazawa, Jason A.
Sent:	Tuesday, February 4, 2020 1:20 PM
To:	Virginia Field Office, FW5
Subject:	Project Review Request: Potomac-Neabsco Mills Commuter Garage, Prince William County, VA
Attachments:	Self Certification Letter_Potomac Commuter Garage_2020-02-04.pdf; Species List_ Virginia Field Office_Potomac Commuter Garage_2019-11-22.pdf; Map_NLEB Winter Habitats and Roost Trees.pdf; Potomac-Neabsco Mills Commuter Garage Field Survey Report_Final_2019-11-12.pdf; Map_Bald Eagle Concentration Areas.pdf; Map_Bald Eagle Nest and Buffer Locations.pdf; Species Conclusion Table_Potomac Commuter Garage_2020-02-04.pdf

Dear FWS Virginia Field Office,

On behalf of Prince William County Department of Transportation, I am submitting our request for project review in accordance with Section 7 of the Endangered Species Act for the subject project, which proposes to construct and operate a commuter parking garage with a capacity of 1,400 automobiles along with an associated transit center. The project site is on undeveloped property owned by the county bordered by Opitz Boulevard (Route 642) to the north, River Rock Way to the west, and Potomac Center Boulevard and Bridge View Drive to the east and southeast, respectively. The project may require funds administered by the Federal Highway Administration.

For this project review, I have enclosed the following documents in this email:

1. Self-certification letter dated February 4, 2020
2. Species list letter dated November 22, 2019
3. Map from the Virginia Department of Game and Inland Fisheries showing documented winter habitats and roost trees for the northern long-eared bat, and the location of the project.
4. Field survey report for Small Whorled Pogonia and Harperella, dated November 12, 2019
5. Map from the Fish and Wildlife Service Bald Eagle Map Tool showing Bald Eagle Concentration Areas and the location of the project.
6. Map from the Center for Conservation Biology showing Bald Eagle nest and buffer locations and the location of the project.
7. Species Conclusion Table for the Potomac-Neabsco Mills Commuter Garage Project, dated February 4, 2020.

Please let me know if you have any questions or require additional information.

Thank you,
Jason

Jason Yazawa, AICP
Supervising Environmental Planner

Phone: 202-661-5326
Mobile: 808-551-6946
Email: jason.yazawa@wsp.com

WSP USA
1015 Half Street SE

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Date: February 4, 2020

Self-Certification Letter

Project Name: Potomac-Neabsco Mills Commuter Garage, Prince William County, VA

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR § 17.40(o) [as determined through the Information, Planning, and Consultation System (IPaC) northern long-eared bat assisted determination key]; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat.

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the determinations described above for proposed and listed species and proposed and designated critical habitat. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,

Cindy Schulz
Field Supervisor
Virginia Ecological Services

Enclosures - project review package

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032
http://www.fws.gov/northeast/virginiafield/

In Reply Refer To: November 22, 2019
Consultation Code: 05E2VA00-2020-SLI-0776
Event Code: 05E2VA00-2020-E-02103
Project Name: Potomac-Neabsco Mills Commuter Garage

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). 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.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
(804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2020-SLI-0776

Event Code: 05E2VA00-2020-E-02103

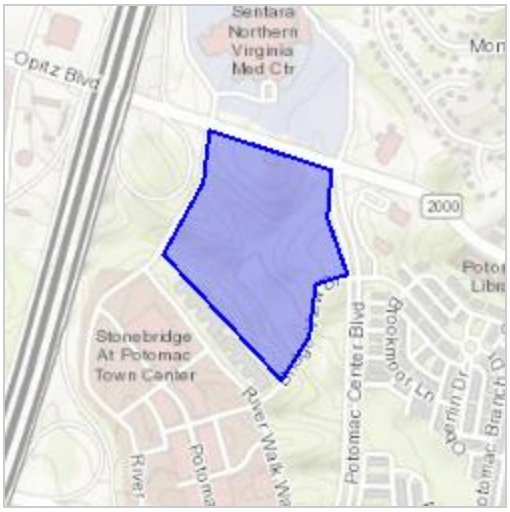
Project Name: Potomac-Neabsco Mills Commuter Garage

Project Type: TRANSPORTATION

Project Description: The proposed project involves the construction of a 1,400-space commuter parking garage, along with an associated bus transfer facility, within an undeveloped property bordered by Opitz Boulevard (Route 642) to the north, Potomac Center Boulevard to the east and River Rock Way to the west.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.63293851292428N77.28641817485295W



Counties: Prince William, VA

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Flowering Plants

NAME	STATUS
Harperella *Ptilimnium nodosum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3739	Endangered
Small Whorled Pogonia *Isotria medeoloides* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1890	Threatened

Critical habitats

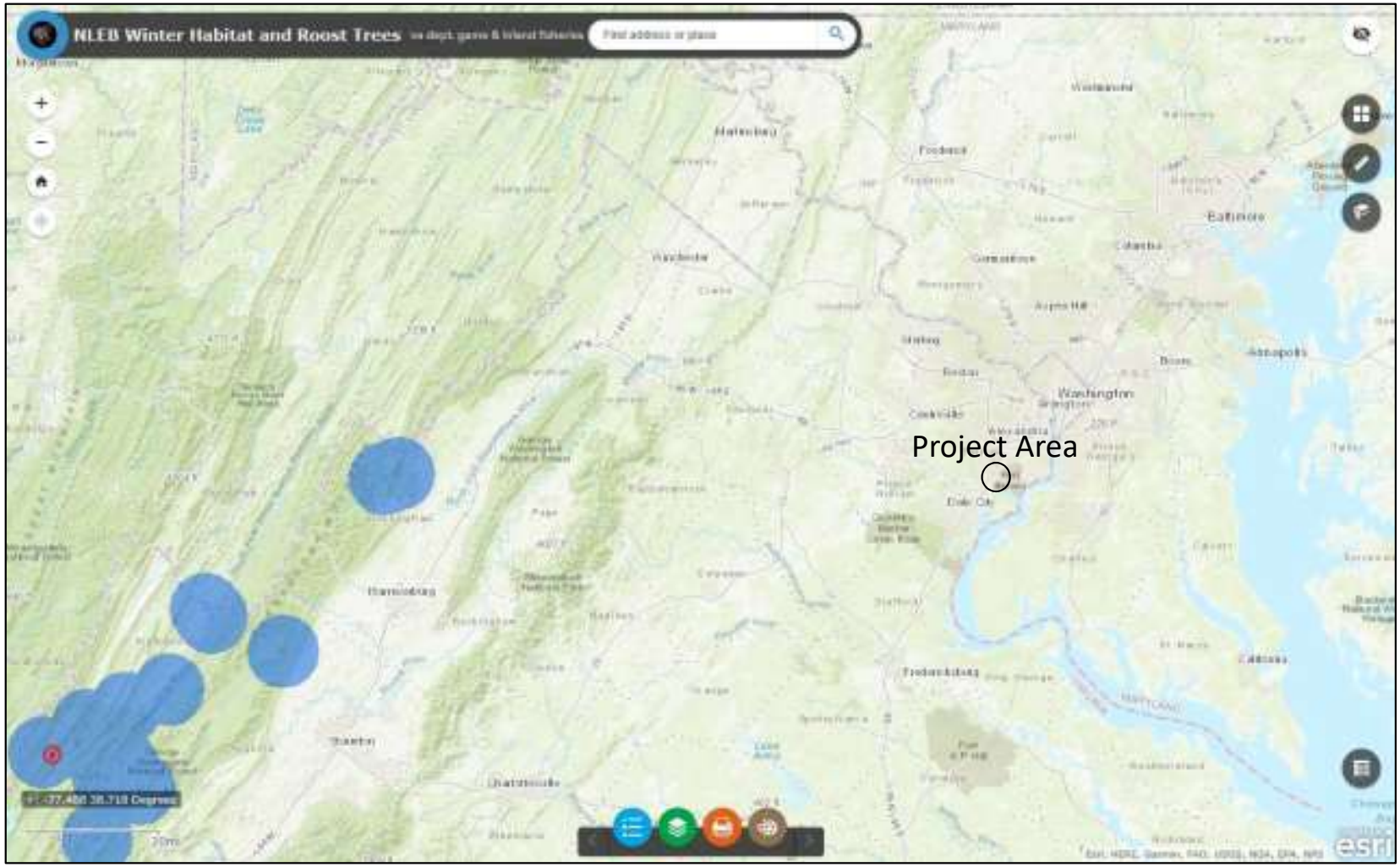
THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Source: Virginia Department of Game & Inland Fisheries
Northern Long-Eared Bat Winter Habitat & Roost Trees



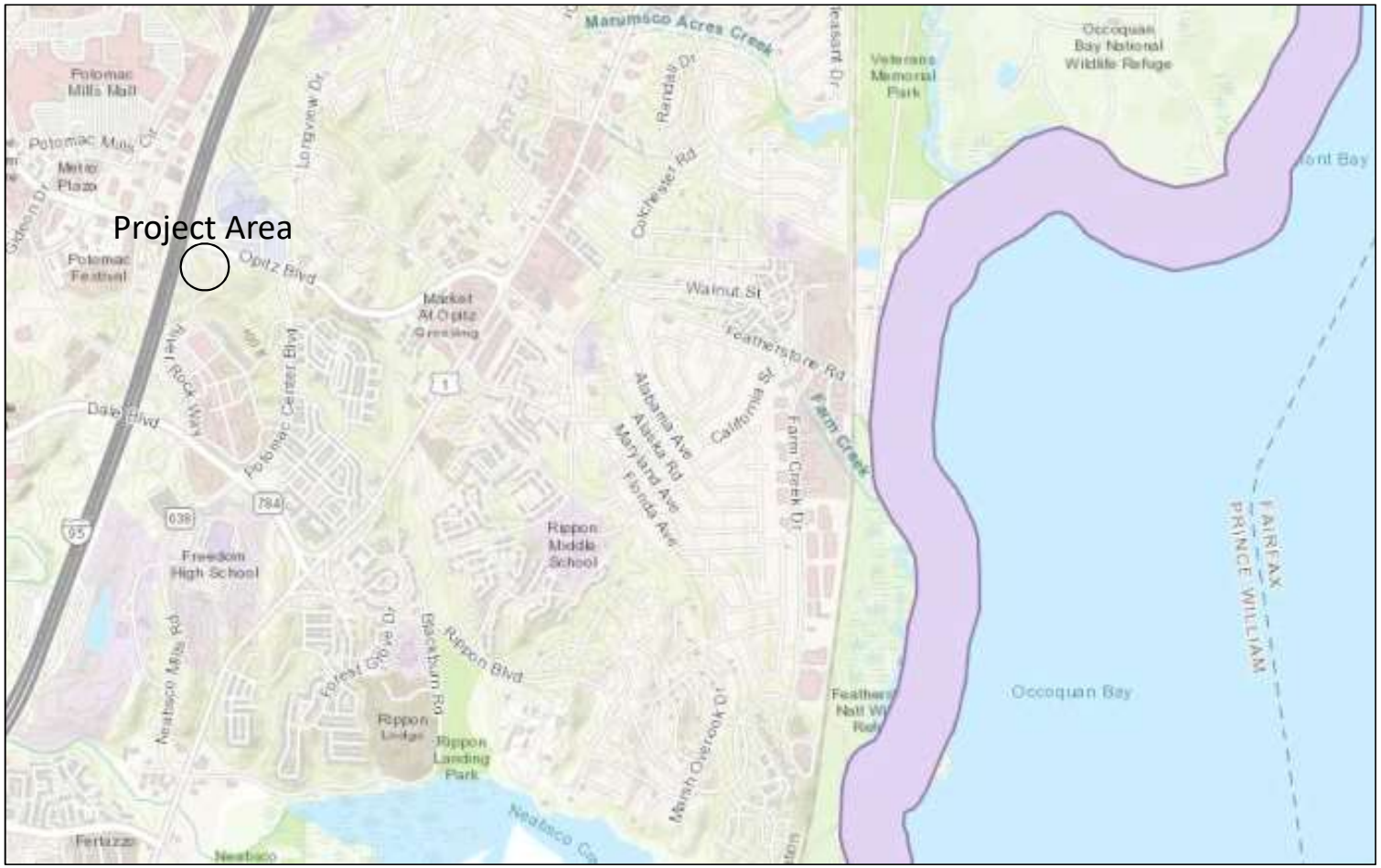
Potomac-Neabsco Mills Commuter Garage
Prince William County, Virginia

Field Survey for Small Whorled Pogonia (Isotria medeoloides) and Harperella (Ptilimnium [Harperella] nodosum)

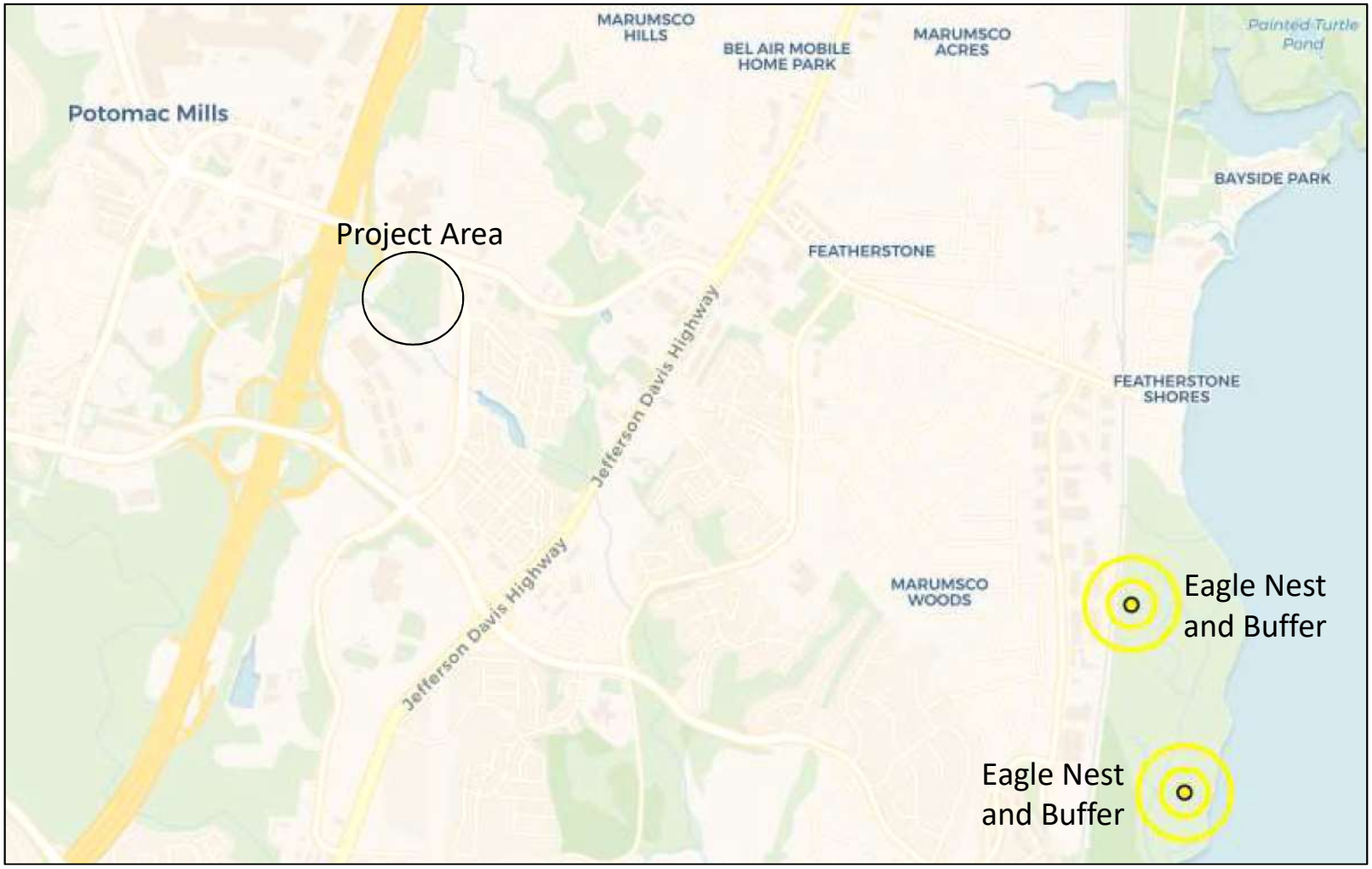
See Appendix D

Source: FWS Virginia Field Office Bald Eagle Map Tool

Bald Eagle Concentration Areas



Source: The Center for Conservation Biology
Bald Eagle Nest and Buffer Locations



Potomac-Neabsco Mills Commuter Garage
Prince William County, VA
Species Conclusion Table
February 4, 2020

Species/Resource Name	Conclusion	ESA Section 7 Determination	Note/Documentation
Northern long-eared bat	Suitable habitat present in project area. Project area not near documented winter habitat and roost trees (see enclosed map figure).	Not Likely to Adversely Affect	Tree clearing (est. 5.3 acres) required. Prince William County Dept. of Transportation determined that a time-of-year restriction is not necessary because the project site is far from any recorded roost tree or hibernacula.
Harperella	A survey of the project site found no populations, colonies, or individuals of harperella (see enclosed report).	No Effect	Survey was conducted in July and August 2019.
Small Whorled pogonia	A survey of the project site found no populations, colonies, or individuals of the small whorled pogonia (see enclosed report).	No Effect	Survey was conducted in July and August 2019.
Bald Eagle	Project unlikely to disturb nesting bald eagles (see enclosed map figure). Project area does not intersect with an eagle concentration area (see enclosed map figure).	No Eagle Act permit required	No nests within 660 feet and not within a concentration area.

influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." For archaeological resources the APE is limited to the anticipated Limits of Disturbance (LOD) for all project related soil disturbance. For the current project the LOD includes approximately 17 acres, which includes the proposed eight level garage and access roads (Exhibit 3). As part of an initial analysis, a qualified cultural resources specialist with WSP USA developed an APE that encompasses a 0.25-mile buffer extending out from the project LOD (Exhibit 4) to take into consideration potential visual effects on surrounding standing structures and other potential historic properties.

Identification Methods and Results

Potentially significant architectural and archeological resources were researched as a part of the cultural resources pre-screening effort. The preliminary screening assessments were performed by WSP's in-house supervising archeologist/cultural resources manager, Henry Ward, using the Virginia Cultural Resources Information System (V-CRIS) geospatial data portal, archaeological site/historic property files and other desktop resources (accessed during December 2019 and January 2020).

Identification of Historic Architectural Properties

The portion of Prince William County in direct vicinity to the current project APE is characterized by fairly dense suburban setting of commercial and residential development dating to the mid-late twentieth century. There are no previously recorded historic properties that fall within the defined APE, the closest resource being Pine Grove Church (076-5843). Identified as Unevaluated for the National Register of Historic Places (NRHP), the church is located approximately 2,967.01 feet west of the closed portion of the LOD. On the east side, the closest previously recorded resource is the Featherstone Shopping Center (076-5754) located approximately 2,652.0 feet to the east (also is listed as Unevaluated). There is only one evident structure within the APE as late as 1940, as evidenced by the United States Geological Survey (USGS) Quantico topographic map from that year (Exhibit 5). This single structure is located on the southwest perimeter of the APE, and was demolished by the subsequent construction of I-95. There are also no record of historic cemeteries or sites of significance to the Civil War in the direct vicinity.

Development to the north of the proposed garage began to accelerate in the 1960s, with the construction of a major regional hospital and the residential neighborhood of Marumsco Hills. While early clearing for what would become Potomac Hospital seems to have begun as early as 1963 (Exhibit 6), there is no direct evidence of the development of Marumsco Hills until approximately 1966, when the USGS Occoquan topographic mapping show the planned boundaries and roadway network for the neighborhood (Exhibit 7). The portion of the APE that extends to the west side of I-95 also included an area of commercial development, with the first building being constructed between approximately 1966 and 1977. Potomac Hospital (now Sentara Northern Virginia Medical Center) opening in 1972, and the extensive campus of hospital structures, access roadways and parking can still be seen under construction in an USGS aerial photograph from 1971. The planned construction of the adjacent suburban development was well underway by this point with the curvilinear roadways now lined with tightly-spaced residential homes. Throughout the early-mid twentieth century, the area to the east of I-95 and south of the Opitz Boulevard, which included the proposed project footprint, remained essentially undeveloped (Exhibit 8).

Based on completed archival and mapping research it appears that the significant development north of the current APE occurred in the mid-twentieth century: with major construction including 1) Marumsco Hills (between 1966-1971), 2) Potomac Hospital (between 1971-1977),

and 3) Commercial Structures west of I-95 (1966-1977). This would place the period of construction of all three facilities close to 1970, which would represent the current 50-year threshold relative to eligibility for the NRHP. While none of these architectural resources has been formally evaluated for the NRHP, given their relatively late period of construction and general lack of unique architectural character or historic association, none of these resources would seem likely to meet the criterion of eligibility for the NRHP. Consequently, a formal architectural survey effort for the current project would not appear to be warranted.

Identification of Archaeological Properties

A significant portion of the current project LOD appears to have been subjected to prior archaeological survey efforts. Although the V-CRIS database does not include mapping of the 2000 Phase I survey area coverage, archaeologists from URS Corporation identified three separate prehistoric archaeological sites in the southeast quadrant of the intersection of I-95 and Opitz Boulevard, including one that falls within the current LOD (Exhibit 9). 44PW1104 represented a small prehistoric camp site lacking diagnostic artifacts needed to accurately determine the period of occupation. The same survey effort also identified 44PW1103 (Prehistoric/Unknown) and 44PW1101 (Late Archaic and Late Woodland), which were located to the west of the current LOD. The investigators concluded that 44LD1104 did not meet the criterion of eligibility for the NRHP, and no additional investigations of were recommended. The eastern portion of the LOD also fell within the Phase I survey area for a 2001 survey (Cultural Resources Inc.) associated with a proposed gas pipeline, with no additional archaeological sites being identified.

Despite the relatively attractive environmental setting and the relative integrity of the existing landforms, it does not appear that the LOD for the current project has a significant potential to contain archaeological resources. Both portions of the LOD and the surrounding area have been the subject of prior archaeological survey efforts that identified three relatively ephemeral prehistoric archaeological sites. Based on these prior investigations, the current LOD would not appear to have sufficient potential for prehistoric or historic archaeological sites to justify additional investigations. A recent reconnaissance visit and evaluation by Justin Patton, Prince William County Archaeologist, did not observe any additional archaeological material associated with 44PW1104 and concluded that no additional studies were recommended for the current undertaking (March 25, 2019 memorandum - Attachment 1).

Assessment of Effects

As outlined above, Prince William County DOT has concluded that the proposed Potomac-Neabsco Mills Commuter Garage has a limited potential to affect archaeological or historic architectural resources listed on or eligible for the NRHP. Historic development in the area was extremely limited prior to the 1940s, with the construction development of the Potomac Garage, Marumsco Hill suburbs and Commercial Structures on the west side of I-95 starting in the late 1960s-70s. Given the lack of significant historic properties in the area, it appears appropriate to determine that the proposed project will result in No Historic Properties Affected for architectural resources. Based on prior archaeological investigations both within and adjacent to the current project LOD (including a recent Prince William County Archaeologist assessment), the project also will result in No Historic Properties Affected for archaeological resources.

Prince William County DOT seeks the concurrence of your office with the APE delineation, eligibility determinations, and effects assessments pursuant to 36 CFR 800. In the event your office disagrees with our findings and determinations, please notify us within 30 days.

Sincerely,

Khattab Shammout, PE, DBIA
Assistant Director of Transportation

cc:

Rebecca Horner, Director of Planning, Prince William County
Justin Patton, County Archaeologist, Prince William County
Elnour M Adam, CCM, PMP, Alternative Delivery Branch Chief, Prince William County
Dagmawie Shikurye, PE, CBO, Alternative Delivery Project Manager, Prince William County
Rebecca Jost, VDOT
John Simkins, Planning, Environment, Realty and Freight Team Leader, FHWA-VA

Enclosures: Exhibit 1 & 2 – Project Location
Exhibit 3 – Project conceptual Site plan
Exhibit 4 thru 9 - Project Area of Potential Effects and Limit of Disturbance

Attachment 1, Prince William County Archaeologist Memorandum (March 25, 2019)

The Virginia Department of Historic Resources concurs with the Prince William County Department of Transportation recommendations for APE delineation, eligibility determinations, and No Historic Properties Affected assessment for the Potomac-Neabsco Mills Commuter Garage project.

Ms. Julie V. Langan, Director
Virginia Department of Historic Resources
Virginia State Historic Preservation Officer

7 Feb 2020
Date

DHR # 2020.0025

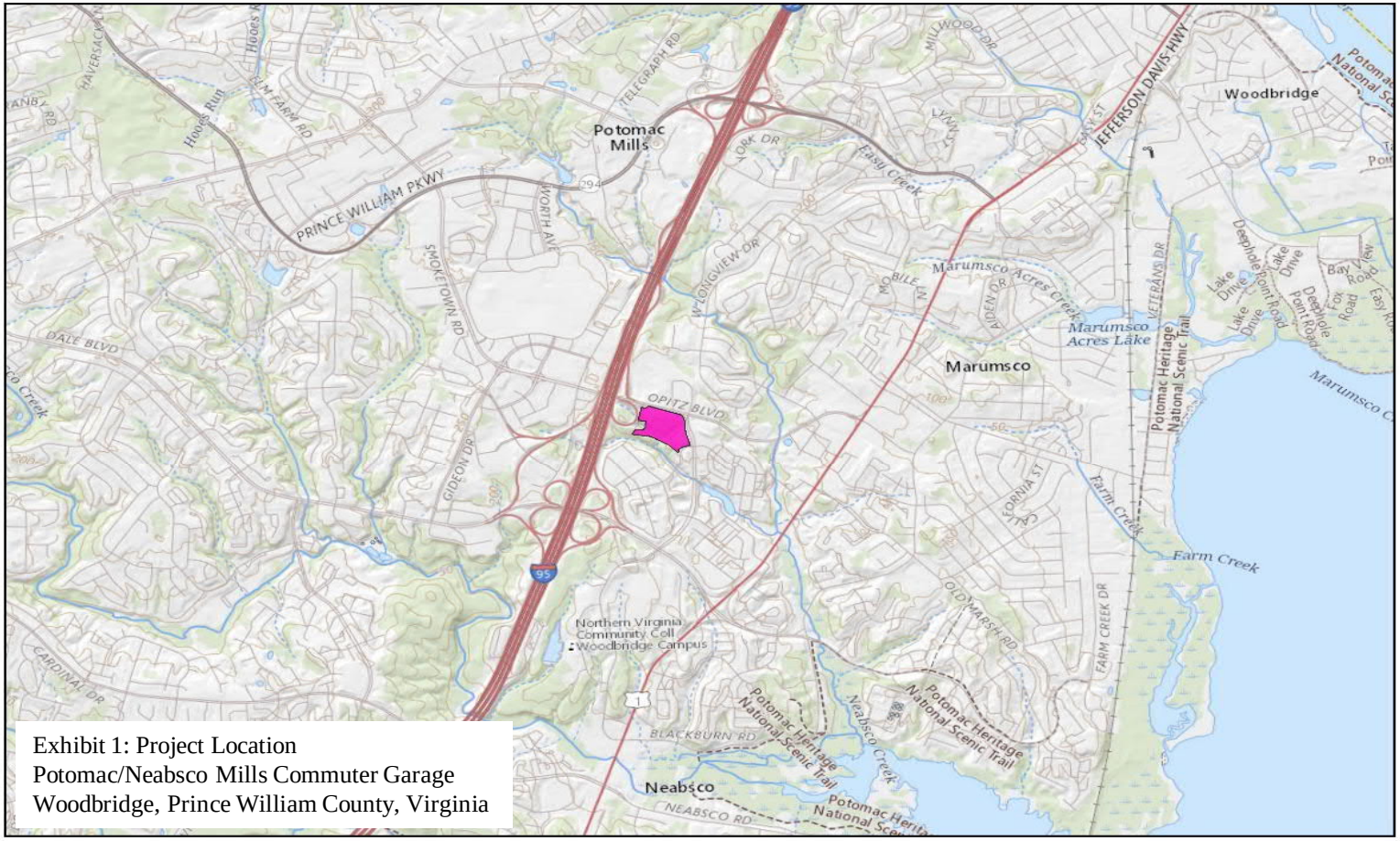


Exhibit 1: Project Location
Potomac/Neabsco Mills Commuter Garage
Woodbridge, Prince William County, Virginia

USGS The National Map

0 0.5 1 2 Miles

N

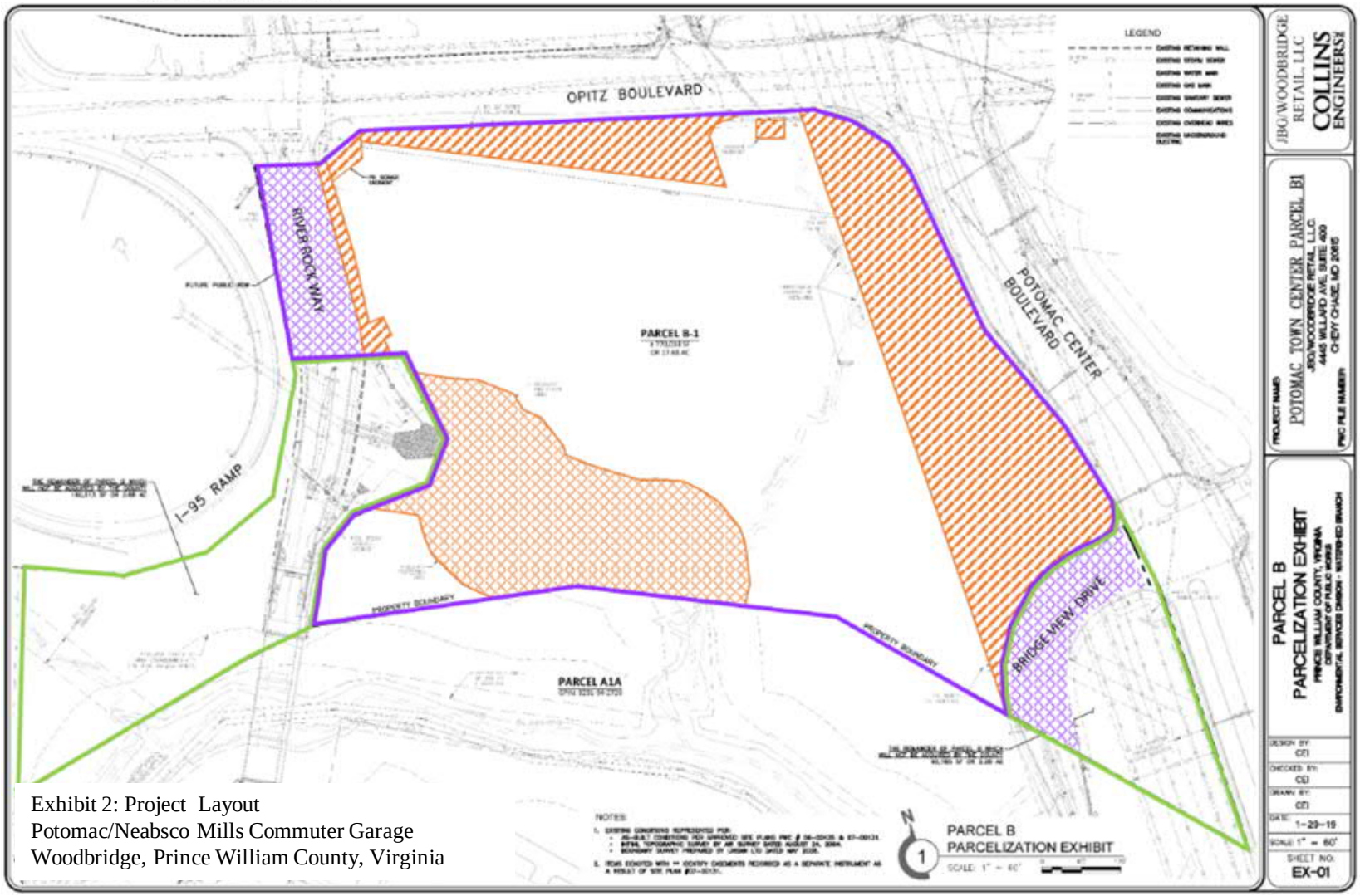


Exhibit 2: Project Layout
Potomac/Neabsco Mills Commuter Garage
Woodbridge, Prince William County, Virginia

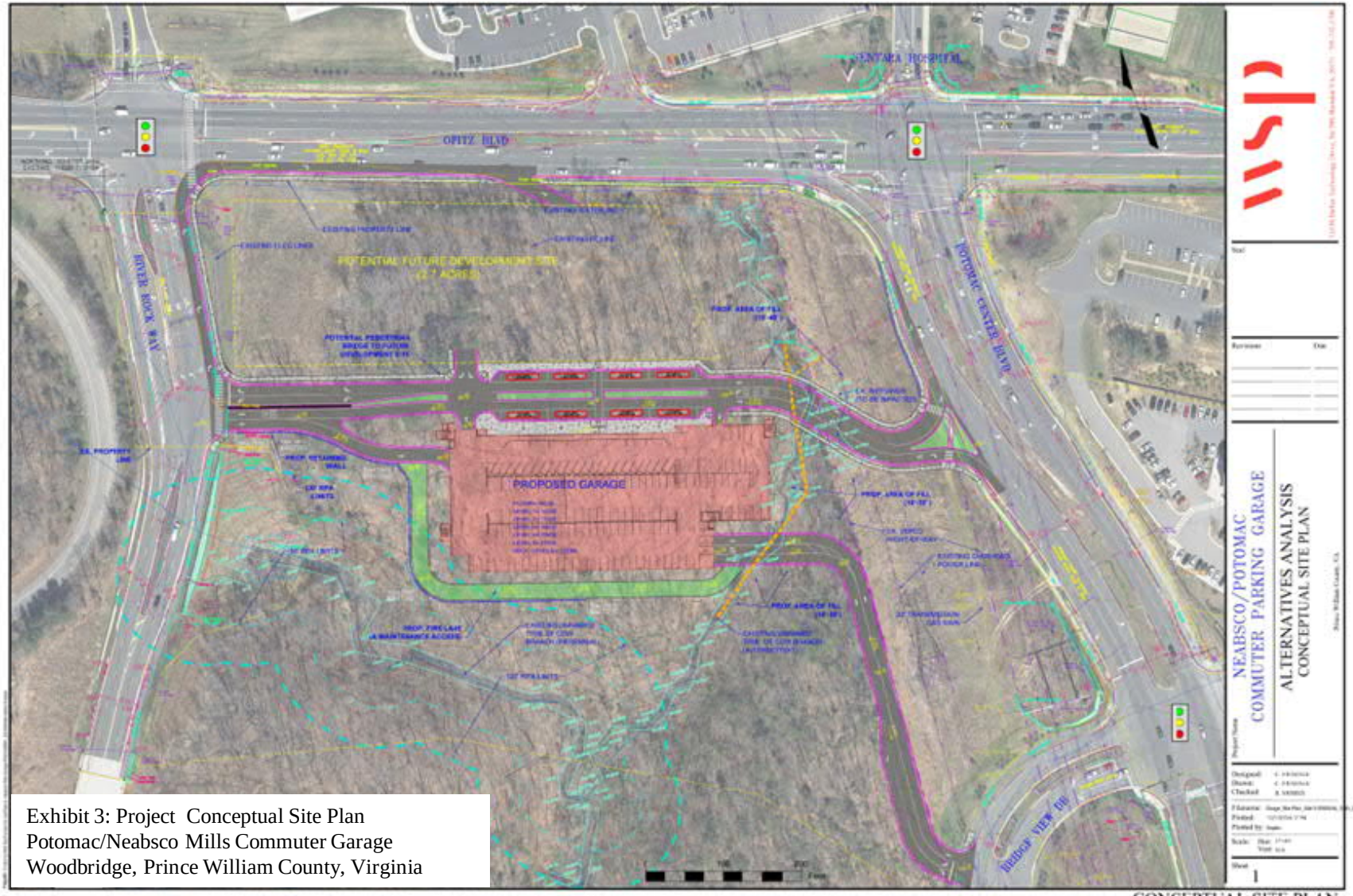


Exhibit 3: Project Conceptual Site Plan
Potomac/Neabsco Mills Commuter Garage
Woodbridge, Prince William County, Virginia

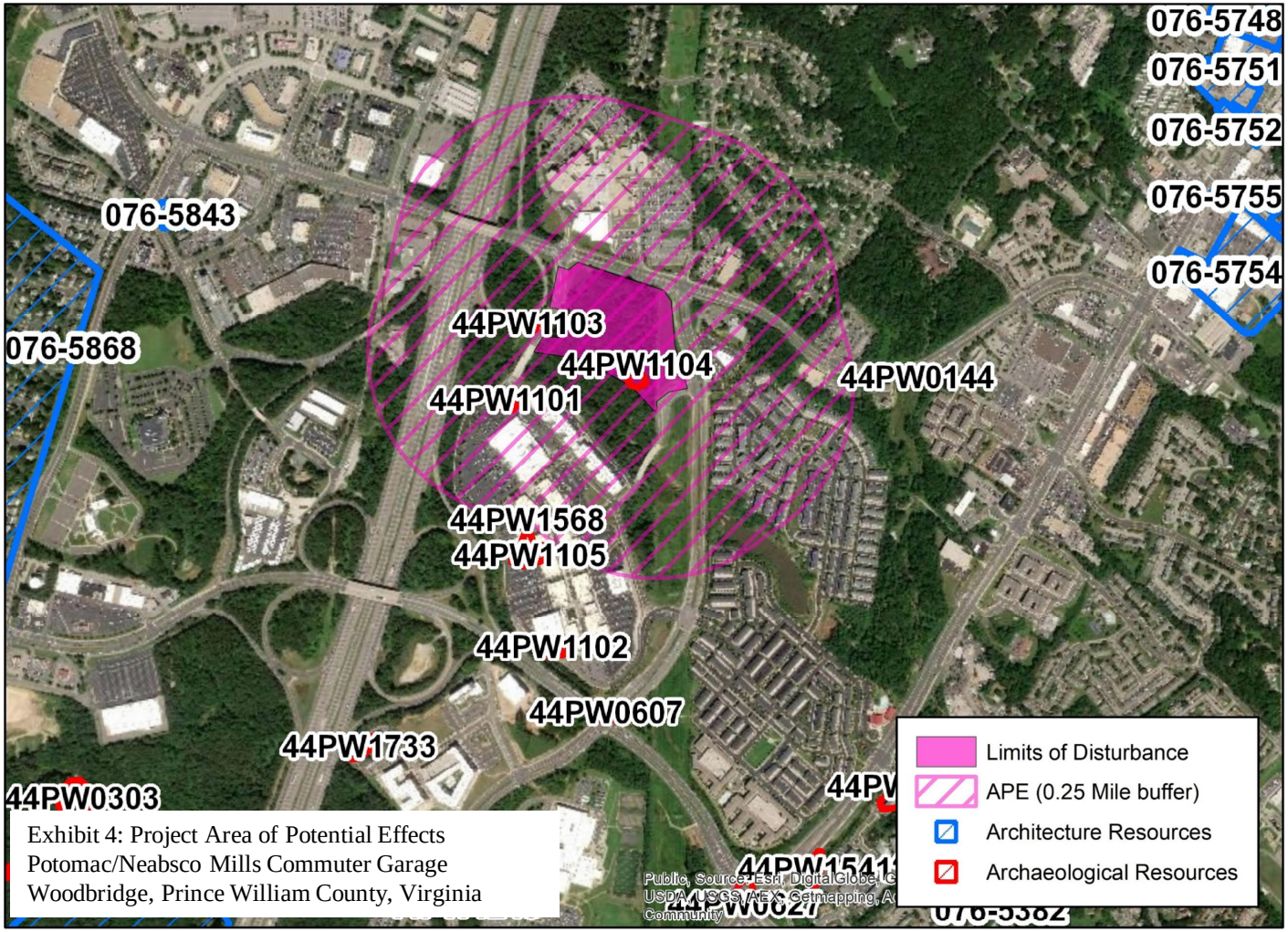


Exhibit 4: Project Area of Potential Effects
Potomac/Neabsco Mills Commuter Garage
Woodbridge, Prince William County, Virginia

V-CRIS 01/02/20

0 0.225 0.45 0.9 Miles

N

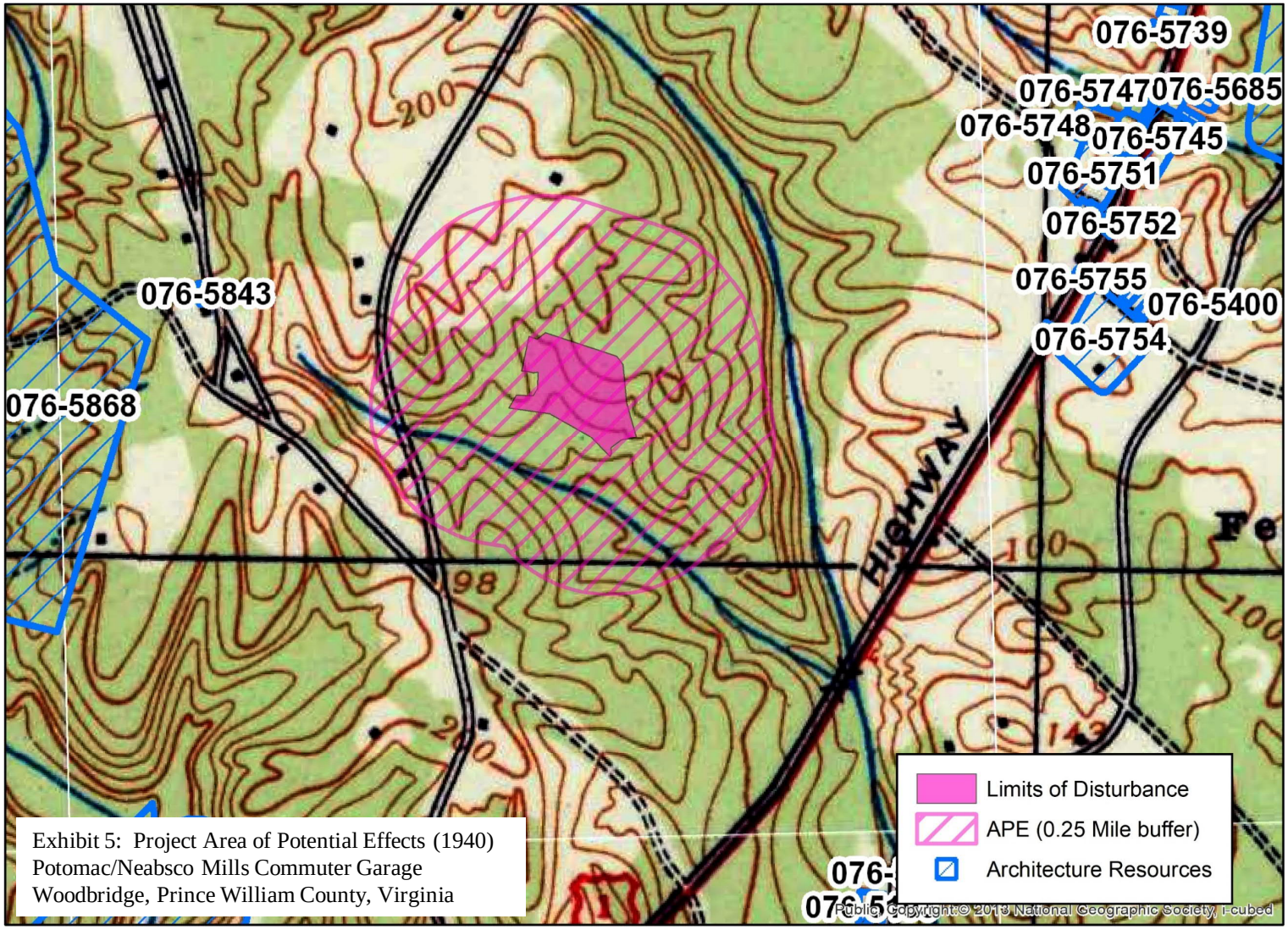


Exhibit 5: Project Area of Potential Effects (1940)
Potomac/Neabsco Mills Commuter Garage
Woodbridge, Prince William County, Virginia

V-CRIS 01/02/20 - 1940 USGS Occoquan Quadrangle

0 0.275 0.55 1.1 Miles

N

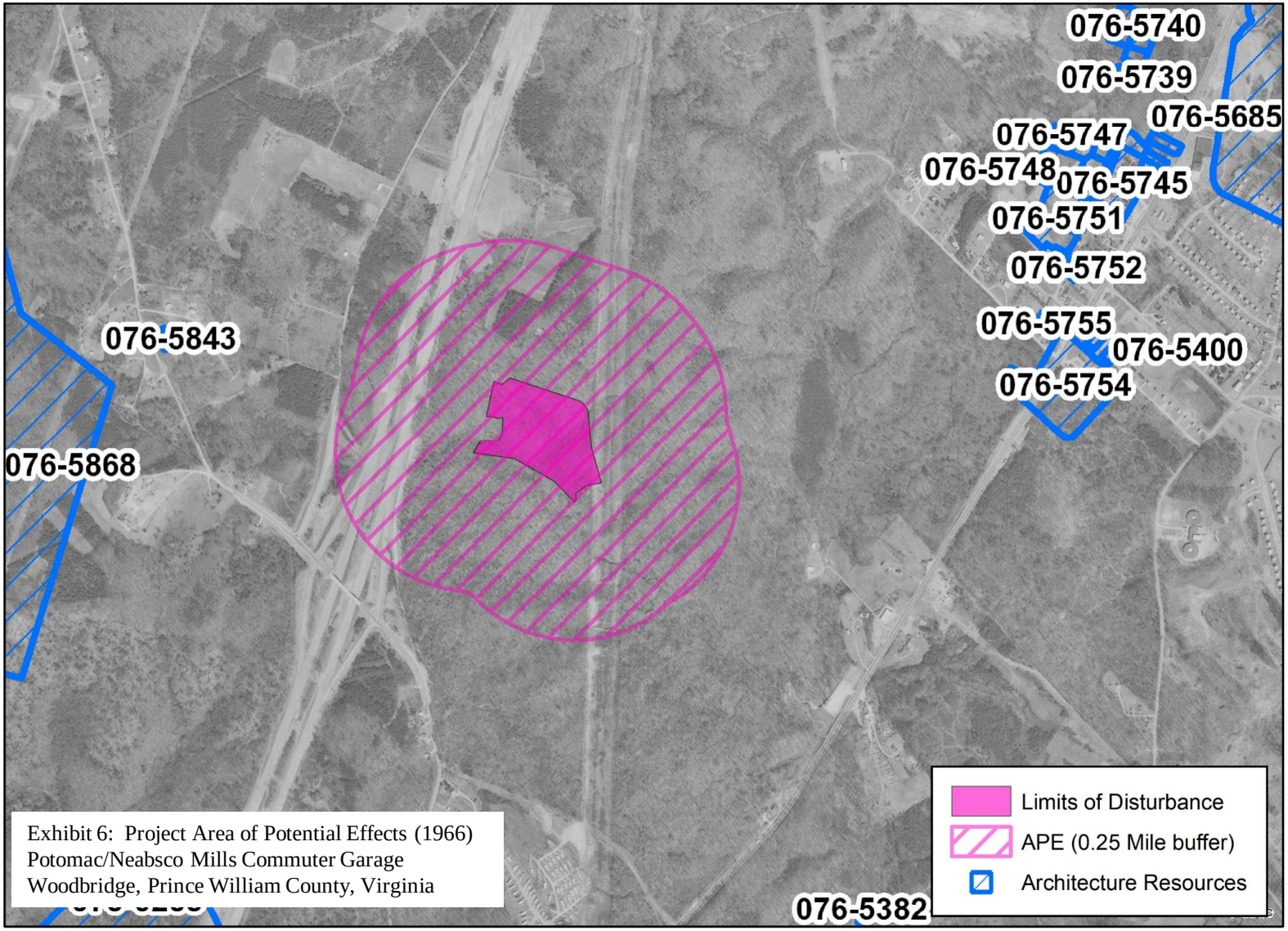


Exhibit 6: Project Area of Potential Effects (1966)
Potomac/Neabsco Mills Commuter Garage
Woodbridge, Prince William County, Virginia

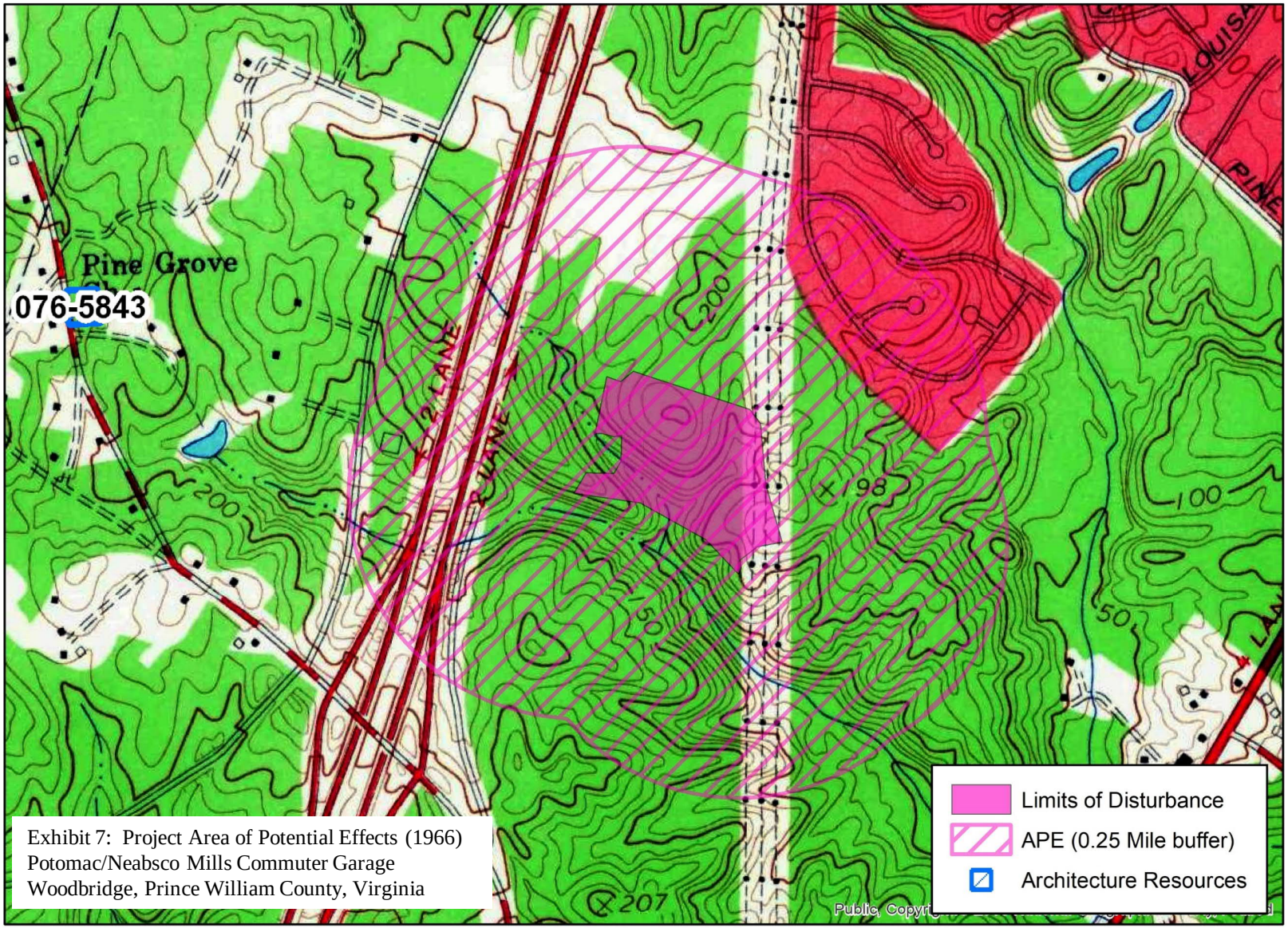


Exhibit 7: Project Area of Potential Effects (1966)
Potomac/Neabsco Mills Commuter Garage
Woodbridge, Prince William County, Virginia

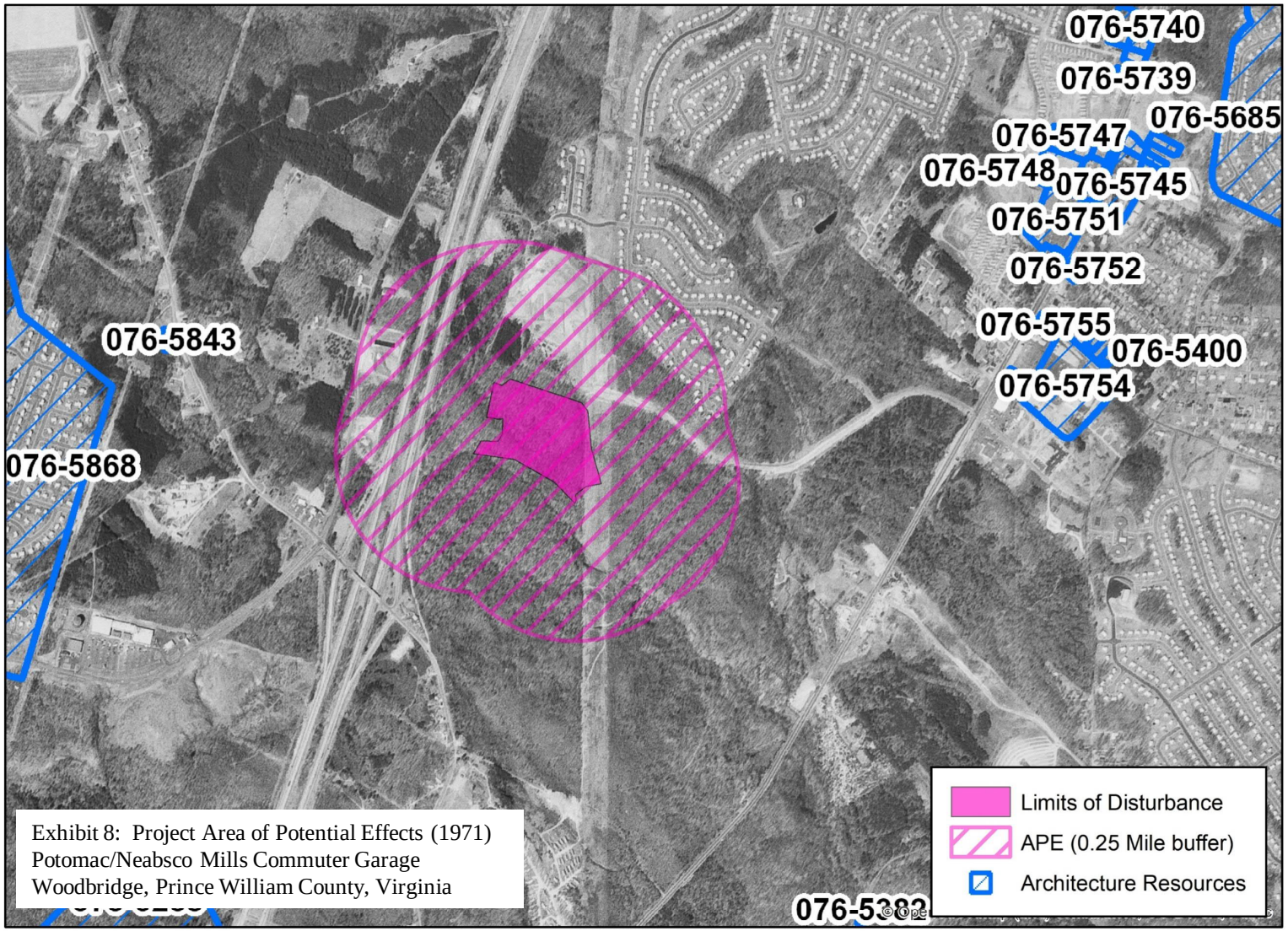


Exhibit 8: Project Area of Potential Effects (1971)
Potomac/Neabsco Mills Commuter Garage
Woodbridge, Prince William County, Virginia

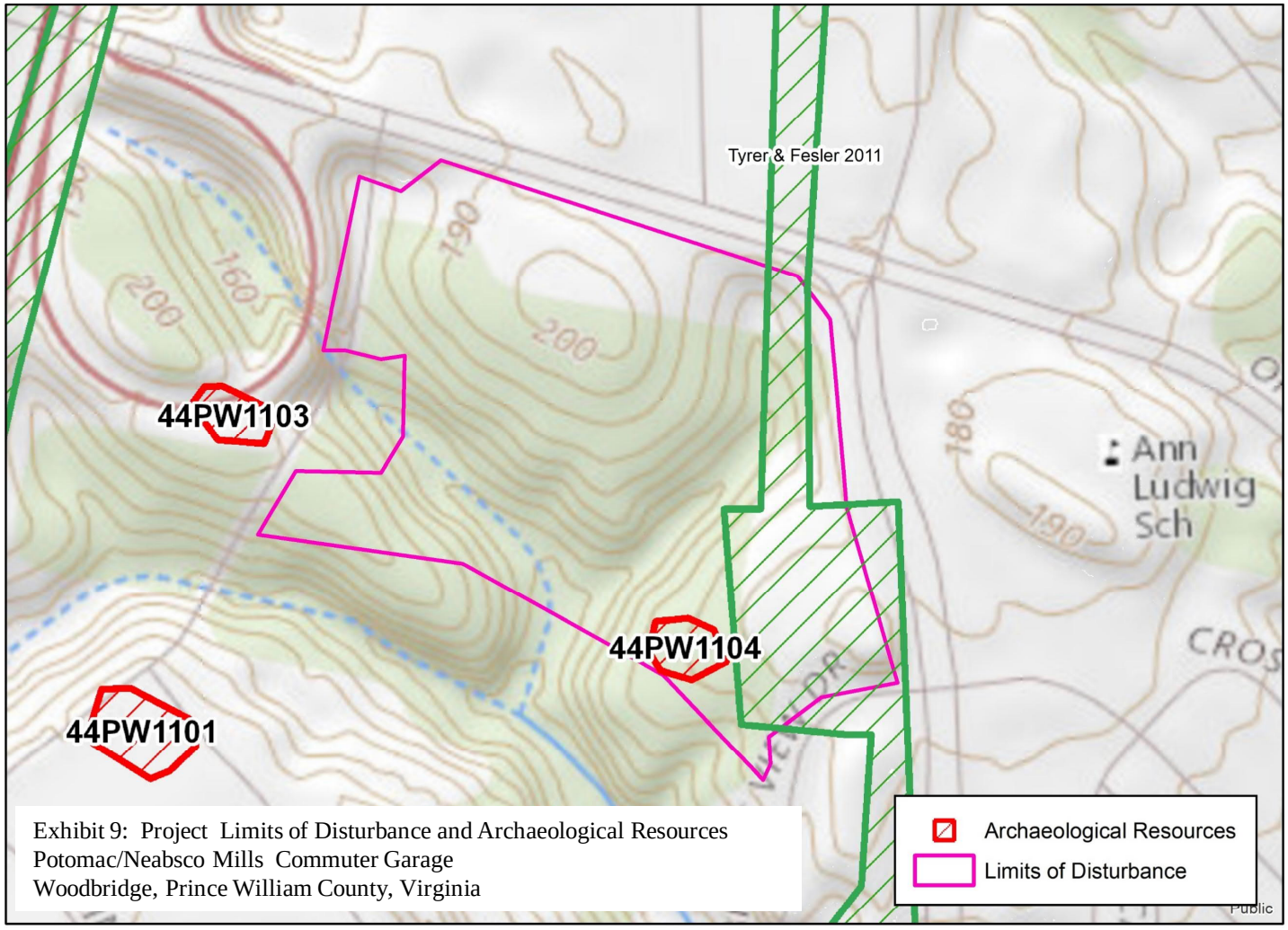


Exhibit 9: Project Limits of Disturbance and Archaeological Resources
Potomac/Neabsco Mills Commuter Garage
Woodbridge, Prince William County, Virginia

V-CRIS (Accessed 12/30/19)

0 0.04 0.08 0.16 Miles

N

COUNTY OF PRINCE WILLIAM

5 County Complex Court, Suite 210, Prince William, Virginia 22192-9201
(703) 792-7615 FAX (703) 792-4401 www.pwcgov.org

PLANNING OFFICE

Rebecca Horner, AICP, CZA
Director of Planning

INTEROFFICE MEMORANDUM

March 25, 2019

To: Ricardo Canizales
Director, Department of Transportation

From: Justin S. Patton
County Archaeologist

Subject: Cultural Resources Assessment
Commuter Parking Garage
GPIN: 8291-96-4033; 2501 Opitz Boulevard, Woodbridge, VA

I completed a cultural resources assessment and record check of the subject parcel. Historic maps and databases show no architectural sites or cemeteries on the parcel. However, databases show one archaeological site, 44PW1104, was found on the parcel during a Phase I cultural resources survey for the Potomac Town Center rezoning. This archaeology site was recommended not eligible for listing on the National Register of Historic Places, with the County concurring. Additionally, I completed a pedestrian reconnaissance survey on March 25, 2019 and did not observe any cultural resources.

No additional studies are recommended.

Work: (540) 534-3053
Cell: (484) 479-4733

-----Original Message-----
From: Fragale, Christi (DeSisto) <Christi.Fragale@wsp.com>
Sent: Monday, January 6, 2020 1:46 PM
To: Schmidt, Alexandra - NRCS, Harrisonburg, VA <alexandra.schmidt@usda.gov>
Cc: Morris, Robert A. <Robert.Morris@wsp.com>; Shikurye, Dagmawie D. <DShikurye@pwcgov.org>; Adam, Elnour M. <EMAdam@pwcgov.org>
Subject: RE: Neabsco/Potomac Commuter Parking Garage

Alexandra,
Please see attached AD1006. Please let me know if you need anything else. Thanks!

Christi DeSisto Fragale, PE, PMP, LEED GA Project Manager / Lead Engineer Transportation & Infrastructure WSP USA
13530 Dulles Technology Drive
Suite 300
Herndon, VA 20171
Direct: 703.742.5710
Main: 703.742.5700

Email: christi.fragale@wsp.com

-----Original Message-----
From: Schmidt, Alexandra - NRCS, Harrisonburg, VA <alexandra.schmidt@usda.gov>
Sent: Monday, January 06, 2020 10:33 AM
To: Fragale, Christi (DeSisto) <Christi.Fragale@wsp.com>
Subject: RE: Neabsco/Potomac Commuter Parking Garage

Good morning Christi,

Thank you for sending me these documents. Now that I am sure of the project location, I can say that this project is exempt from the Farmland Protection Policy Act because it is in a designated urban area.
For my records, can you please complete sections I & III of this AD-1006? Please let me know if you have any questions and have a great day.

Respectfully,

Alexandra Schmidt
USDA-NRCS Soil Scientist
1934 Deyerle Avenue, Suite A
Harrisonburg, VA 22801
Work: (540) 534-3053
Cell: (484) 479-4733

-----Original Message-----
From: Fragale, Christi (DeSisto) <Christi.Fragale@wsp.com>
Sent: Friday, January 3, 2020 2:53 PM
To: Shikurye, Dagmawie D. <DShikurye@pwcgov.org>; Morris, Robert A. <Robert.Morris@wsp.com>
Cc: Adam, Elnour M. <EMAdam@pwcgov.org>; Schmidt, Alexandra - NRCS, Harrisonburg, VA <alexandra.schmidt@usda.gov>
Subject: RE: Neabsco/Potomac Commuter Parking Garage

Hello Alexandra,
Please see attached for the missing enclosures (Conceptual design plan and Location Map). I have also attached a kmz of the project location, but we do not have GIS shapefiles of the actual conceptual design at this time. Please let me know if you need anything else. Thanks!

Christi DeSisto Fragale, PE, PMP, LEED GA Project Manager / Lead Engineer Transportation & Infrastructure WSP USA
13530 Dulles Technology Drive
Suite 300
Herndon, VA 20171
Direct: 703.742.5710
Main: 703.742.5700

Email: christi.fragale@wsp.com

-----Original Message-----
From: Shikurye, Dagmawie D. <DShikurye@pwcgov.org>
Sent: Tuesday, December 31, 2019 8:16 AM
To: Morris, Robert A. <Robert.Morris@wsp.com>; Fragale, Christi (DeSisto) <Christi.Fragale@wsp.com>
Cc: Adam, Elnour M. <EMAdam@pwcgov.org>
Subject: FW: Neabsco/Potomac Commuter Parking Garage

Robert,
Please send Alexandra the missing enclosures and the requested forms. Thank you.

Cordially,

Dagmawie Shikurye, MSCE, PE (DC, MD, VA), CBO Alternative Delivery - Project Manager

Prince William County - Department of Transportation
5 County Complex Court, Suite 290
Prince William, VA 22192
Office: 703-792-5537
Cell: 571- 330 1789
https://gcc02.safelinks.protection.outlook.com/?url=www.pwcgov.org%2Ftransportation&data=02%7C01%7C%7C4d4793fab333478a96d908d792d9e5ba%7Ced5b36e701ee4ebc867ee03cfa0d4697%7C0%7C1%7C637139337050446586&sdata=K7VFFLRh5XSZb%2BIhCIfE1vhM%2BE86ca%2FdXkwotgZkw%2B4%3D&reserved=0

-----Original Message-----
From: Schmidt, Alexandra - NRCS, Harrisonburg, VA <alexandra.schmidt@usda.gov>
Sent: Tuesday, December 31, 2019 8:13 AM
To: Shikurye, Dagmawie D. <DShikurye@pwcgov.org>
Subject: Neabsco/Potomac Commuter Parking Garage

Good morning Mr. Shikurye,

Thank you for assisting me with the missing attachments. Once I have those, along with this AD-1006 with parts I & III completed, I will able to finish this request for you. If possible, can you please ask your consultant if they have GIS shapefiles for the project? That will greatly simplify the process on my end.

It may end up that this project is exempt from the Farmland Protection Policy Act due to being under urban land classification, but I like to have the AD-1006 completed for my records even if this is the case.
Please give me a call if you have any questions, and have a great New Years Eve!

Cheers,

Alexandra Schmidt
USDA-NRCS Soil Scientist
1934 Deyerle Avenue, Suite A
Harrisonburg, VA 22801
Work: (540) 534-3053
Cell: (484) 479-4733

-----Original Message-----
From: Holm, Kathy - NRCS, Harrisonburg, VA <kathy.holm@usda.gov>
Sent: Tuesday, December 31, 2019 6:55 AM
To: Schmidt, Alexandra - NRCS, Harrisonburg, VA <alexandra.schmidt@usda.gov>
Subject: FW: Scanned from a Xerox multifunction device

Hi Alexandra,
This should go to you regarding soils issues. As Keith said below the attachments didn't come with it, but you could contact the person who wrote it to ask for them. Thanks!

Kathy Holm, USDA-NRCS
Assistant State Conservationist (Field Operations) Harrisonburg Area Office
1934 Deyerle Avenue, Suite A
Harrisonburg, VA 22801
NEW! (540) 534-3044 (office)
(540) 250-1131 (work cell)
(540) 435-4643 (personal cell)

-----Original Message-----
From: Boyd, Keith - NRCS, Smithfield, VA <keith.boyd@usda.gov>
Sent: Monday, December 30, 2019 1:01 PM
To: Holm, Kathy - NRCS, Harrisonburg, VA <kathy.holm@usda.gov>
Cc: DSHikurye@pwcgov.org
Subject: FW: Scanned from a Xerox multifunction device

Kathy,

The attached came to me by mistake, so I'm forwarding it on to you. Also the letter says it has enclosures, but there none.

I hope you had a great Christmas.

Thanks

Keith Boyd
Assistant State Conservationist
Smithfield Area Office
203 Wimbledon Lane
Smithfield, VA 23430

Office: 757.279.3287

-----Original Message-----
From: keith.boyd@va.usda.gov <keith.boyd@va.usda.gov>
Sent: Monday, December 30, 2019 12:53 PM
To: Boyd, Keith - NRCS, Smithfield, VA <keith.boyd@usda.gov>
Subject: Scanned from a Xerox multifunction device

Please open the attached document. It was sent to you using a Xerox multifunction printer.

Attachment File Type: pdf, Multi-Page

Multifunction Printer Location:
Device Name: ASAVASMI7Q7856

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U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 1/6/20
Name Of Project Potomac-Neabsco Mills Parking Garage	Federal Agency Involved Federal Highway Administration
Proposed Land Use Commuter parking and transit facility	County And State Prince William County, VA
PART II *(To be completed by NRCS)*	Date Request Received By NRCS

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply -- do not complete additional parts of this form).*	Yes ☐	No ☑	Acres Irrigated	Average Farm Size
Major Crop*(s)*	Farmable Land In Govt. Jurisdiction Acres: %		Amount Of Farmland As Defined in FPPA Acres: %	
Name Of Land Evaluation System Used	Name Of Local Site Assessment System		Date Land Evaluation Returned By NRCS 1/8/20	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	5.3			
B. Total Acres To Be Converted Indirectly	2.7			
C. Total Acres In Site	8.0	0.0	0.0	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	0	0	0	0

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
TOTAL SITE ASSESSMENT POINTS	160	0	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	0	0	0	0
Total Site Assessment *(From Part VI above or a local site assessment)*	160	0	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	0	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

(See Instructions on reverse side)

This form was electronically produced by National Production Services Staff

Clear Form

Form AD-1006 (10-83)

From:	Virginia Field Office, FW5 <virginiafieldoffice@fws.gov>
Sent:	Tuesday, February 4, 2020 1:34 PM
To:	Yazawa, Jason A.
Subject:	Confirmation of Project Receipt Re: [EXTERNAL] Project Review Request: Potomac-Neabsco Mills Commuter Garage, Prince William County, VA

Thank you for submitting your online project package. If you have submitted a Review Request Letter, we will respond once the project has been reviewed. If you have submitted a Self-Certification Letter, you will typically not receive a response from us since the Self-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.

We have an updated project review process for bald eagle and northern long-eared bat. This also includes updates to template documents throughout the review process (Species Conclusion Table, Self-Certification Letter, Review Request Letter). Please be sure all project submissions follow the updated review process and use the updated templates.

See our website for additional information:
https://www.fws.gov/northeast/virginiafield/index.html

From:	Yazawa, Jason A.
Sent:	Monday, February 10, 2020 5:09 PM
To:	Virginia Field Office, FW5
Subject:	RE: Project Review Request: Potomac-Neabsco Mills Commuter Garage, Prince William County, VA
Attachments:	MA Verification Letter_ Northern Long-Eared Bat (NLEB) Consultation and 4(d) Rule Consistency 2020-02-10.pdf

Dear FWS Virginia Field Office,

Thank you for your email from Ms. Rachel Case. As requested, I have completed the determination key and have enclosed the verification letter.

Please let me know if you have any questions or require additional information.

Thanks,
Jason

Jason Yazawa, AICP
Supervising Environmental Planner

Phone: 202-661-5326
Mobile: 808-551-6946
Email: jason.yazawa@wsp.com

WSP USA
1015 Half Street SE
Suite 650
Washington, DC 20003

From: Case, Rachel L <rachel_case@fws.gov> On Behalf Of Virginia Field Office, FW5
Sent: Monday, February 10, 2020 3:47 PM
To: Yazawa, Jason A. <Jason.Yazawa@wsp.com>
Subject: Re: Project Review Request: Potomac-Neabsco Mills Commuter Garage, Prince William County, VA

Jason,

Thank you for your project submission. There is now an assisted determination key available in IPaC for the northern long-eared bat. Please complete this key and submit the verification letter generated upon completion for a complete project package.

Regards,
Rachel

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032
http://www.fws.gov/northeast/virginiafield/

In Reply Refer To: February 10, 2020
Consultation Code: 05E2VA00-2020-TA-0776
Event Code: 05E2VA00-2020-E-05331
Project Name: Potomac-Neabsco Mills Commuter Garage

Subject: Verification letter for the 'Potomac-Neabsco Mills Commuter Garage' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Jason Yazawa:

The U.S. Fish and Wildlife Service (Service) received on February 10, 2020 your effects determination for the 'Potomac-Neabsco Mills Commuter Garage' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with ESA Section 7(a)(2) only for the northern long-eared bat. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Harperella, *Ptilimnium nodosum* (Endangered)
- Small Whorled Pogonia, *Isotria medeoloides* (Threatened)

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

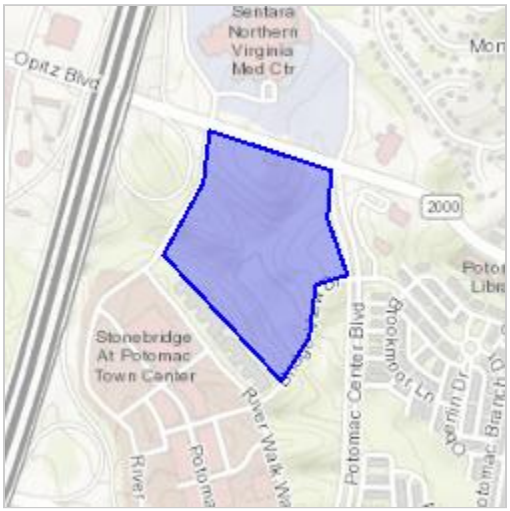
Potomac-Neabsco Mills Commuter Garage

2. Description

The following description was provided for the project 'Potomac-Neabsco Mills Commuter Garage':

> The proposed project involves the construction of a 1,400-space commuter parking garage, along with an associated bus transfer facility, within an undeveloped property bordered by Opitz Boulevard (Route 642) to the north, Potomac Center Boulevard to the east and River Rock Way to the west.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.63293851292428N77.28641817485295W



Determination Key Result

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   Yes

2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")

   No

3. Will your activity purposefully **Take** northern long-eared bats?

   No

4. Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

5. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

6. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

7. Will the action involve Tree Removal?

   Yes

8. Will the action only remove hazardous trees for the protection of human life or property?

   No

9. Will the action remove trees within 0.25 miles of a known northern long-eared bat hibernaculum at any time of year?

   No

10. Will the action remove a known occupied northern long-eared bat maternity roost tree or any trees within 150 feet of a known occupied maternity roost tree from June 1 through July 31?

    No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

5.3

2. If known, estimated acres of forest conversion from April 1 to October 31

0.1

3. If known, estimated acres of forest conversion from June 1 to July 31

0.1

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?
0

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032
http://www.fws.gov/northeast/virginiafield/

In Reply Refer To: September 03, 2020
Consultation Code: 05E2VA00-2020-SLI-0776
Event Code: 05E2VA00-2020-E-16582
Project Name: Potomac-Neabsco Mills Commuter Garage

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). 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.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
(804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2020-SLI-0776

Event Code: 05E2VA00-2020-E-16582

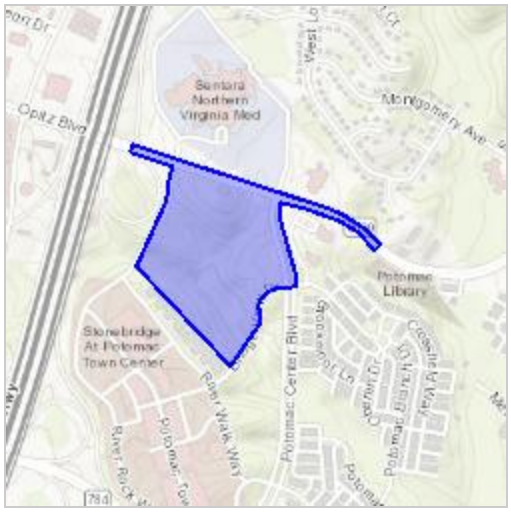
Project Name: Potomac-Neabsco Mills Commuter Garage

Project Type: TRANSPORTATION

Project Description: The proposed project involves the construction of a 1,400-space commuter parking garage, along with an associated bus transfer facility, within an undeveloped property bordered by Opitz Boulevard (Route 642) to the north, Potomac Center Boulevard to the east and River Rock Way to the west.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.633219264089945N77.28618558176584W



Counties: Prince William, VA

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Flowering Plants

NAME	STATUS
Harperella *Ptilimnium nodosum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3739	Endangered
Small Whorled Pogonia *Isotria medeoloides* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1890	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
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Phone: (804) 693-6694 Fax: (804) 693-9032
http://www.fws.gov/northeast/virginiafield/

In Reply Refer To: September 03, 2020
Consultation Code: 05E2VA00-2020-SLI-0776
Event Code: 05E2VA00-2020-E-16582
Project Name: Potomac-Neabsco Mills Commuter Garage

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

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6669 Short Lane
Gloucester, VA 23061-4410
(804) 693-6694

Project Summary

Consultation Code: 05E2VA00-2020-SLI-0776

Event Code: 05E2VA00-2020-E-16582

Project Name: Potomac-Neabsco Mills Commuter Garage

Project Type: TRANSPORTATION

Project Description: The proposed project involves the construction of a 1,400-space commuter parking garage, along with an associated bus transfer facility, within an undeveloped property bordered by Opitz Boulevard (Route 642) to the north, Potomac Center Boulevard to the east and River Rock Way to the west.

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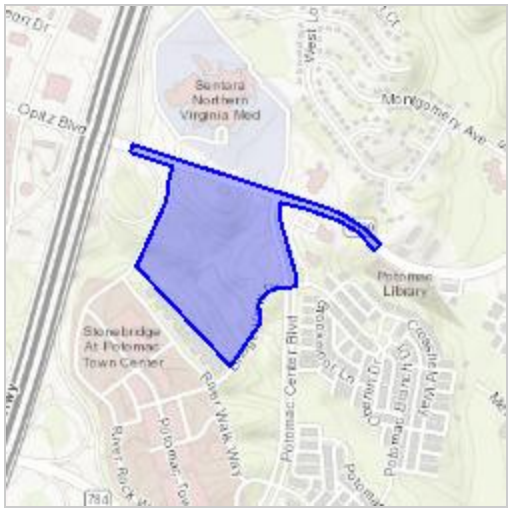

Counties: Prince William, VA

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Critical habitats

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USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

From: Shikurye, Dagmawie D. <DShikurye@pwcgov.org>
Sent: Tuesday, September 29, 2020 3:55 PM
To: Morris, Robert A. <Robert.Morris@wsp.com>
Cc: Fragale, Christi (DeSisto) <Christi.Fragale@wsp.com>
Subject: FW: Fire Marshal's Office Coordination Letter - Neabsco Potomac Commuter Parking Garage
Importance: High

Here is the response I received from the Fire Marshal's office. Thanks.

Cordially,

Dagmawie Shikurye, MSCE, PE, CBO
Engineering Manager
Design and Plan Development Branch

Prince William County
Department of Transportation
Office: 703-792-5537
Cell: 571- 330 1789

From: Smolsky, Matt <msmolsky@pwcgov.org>
Sent: Tuesday, September 29, 2020 3:13 PM
To: Shikurye, Dagmawie D. <DShikurye@pwcgov.org>
Cc: Loh, Lyndon <lloh@pwcgov.org>; Little, Ernest <ELittle@pwcgov.org>; Shammout, Khattab O. <KShammout@pwcgov.org>
Subject: RE: Fire Marshal's Office Coordination Letter - Neabsco Potomac Commuter Parking Garage
Importance: High

Dagmawie,

The proposed Neabsco-Potomac Commuter Parking Garage will have no impacts to resources or services of the Fire & Rescue System pending construction and maintenance according to the DCSM, Statewide Building and Fire Codes.

If you have any further questions feel free to contact me below.

Thanks, Matt

Matt Smolsky
Assistant Chief – Fire Marshal
T: 703.792.6800| M: 571.238.1213

msmolsky@pwcgov.org

Prince William County Government
Department of Fire and Rescue
1 County Complex Court, Prince William, VA 22192
www.pwcgov.org/fire | Twitter | Facebook

From: Shikurye, Dagmawie D. <DShikurye@pwcgov.org>
Sent: Thursday, September 17, 2020 3:44 PM
To: Smolsky, Matt <msmolsky@pwcgov.org>
Cc: Loh, Lyndon <lloh@pwcgov.org>; Little, Ernest <ELittle@pwcgov.org>; Shammout, Khattab O. <KShammout@pwcgov.org>
Subject: Fire Marshal's Office Coordination Letter - Neabsco Potomac Commuter Parking Garage

Good afternoon Chief Smolsky,
I hope all is well with you!

This is Dagmawie with Prince William County Department of Transportation. As you may know, our department is working with VDOT to build a 1,400 space commuter parking garage at 2501 Opitz Boulevard, Woodbridge VA (please refer to enclosed Project Location Map). We have been coordinating with Mr. Loh during the preliminary project development and during preliminary site plan review submission for this project (please see enclosed Concept Design Plan).
Consistent with the Federal Environmental regulation under community services, we are required to submit a concurrence from the Fire Marshal's office indicating that this project will not negatively affect or interfere with your services. Please let us know if you have any concerns regarding this project. If the project would have no impacts to resources or services under your jurisdiction, also please inform us in writing by October 02, 2020. Thank you.

Cordially,

Dagmawie Shikurye, MSCE, PE, CBO
Engineering Manager
Design and Plan Development Branch

Prince William County
Department of Transportation
Office: 703-792-5537
Cell: 571- 330 1789

From: Shirley M. Posey <POSEYSM@pwcs.edu>
Sent: Wednesday, October 14, 2020 3:54 PM
To: Shikurye, Dagmawie D. <DShikurye@pwcgov.org>
Cc: Heather B. Handschin <HandscHB@pwcs.edu>; Shammout, Khattab O. <KShammout@pwcgov.org>
Subject: Re: PWC Public Schools Environmental Coordination - Neabsco Potomac Commuter Garage Project

---

Mr. Shikurye,

Thank you for reaching out to the Office of Transportation Services regarding the Neabsco Potomac Commuter Garage Project. We have reviewed the documents you have provided and can affirm that bus services will not be impacted by this proposal.

Please feel free to contact me should you have any additional questions.

Thanks,
Shirley

Shirley M. Posey

Director, Office of Transportation Services

Prince William County Public Schools

571.402.3912

poseysm@pwcs.edu

From: Shikurye, Dagmawie D. <DShikurye@pwcgov.org>
Sent: Thursday, September 17, 2020 3:53 PM
To: Shirley M. Posey <POSEYSM@pwcs.edu>
Cc: Heather B. Handschin <HandscHB@pwcs.edu>; Shammout, Khattab O. <KShammout@pwcgov.org>
Subject: PWC Public Schools Environmental Coordination - Neabsco Potomac Commuter Garage Project

Good afternoon Ms. Posey,
I hope all is well with you!

This is Dagmawie with Prince William County Department of Transportation. As you may know, our department is working with VDOT to build a 1,400 space commuter parking garage at 2501 Opitz Boulevard, Woodbridge VA (please refer to enclosed Project Location Map) and a preliminary site plan for this project is included as an attachment to this email (please see enclosed Concept Design Plan).

Consistent with the Federal Environmental regulation under community services, we are required to submit a concurrence from the Prince William County Public Schools indicating that this project will not negatively affect or interfere with your school bus services. Please let us know if you have any concerns regarding this project. If the project would have no impacts to resources or services under your jurisdiction, also please inform us in writing by October 02, 2020. Thank you.

Cordially,

Dagmawie Shikurye, MSCE, PE, CBO
Engineering Manager
Design and Plan Development Branch

Prince William County
Department of Transportation
Office: 703-792-5537
Cell: 571- 330 1789

Source C

Wetlands and Streams Delineation Reports and Submissions

EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

October 8, 2019

Regulator of the Day
USACE, Fort Norfolk
803 Front Street
Norfolk, VA 23510
cenao-reg_rod@usace.army.mil
(757) 201-7652

RE: Request for Preliminary Jurisdictional Determination, Neabsco-Potomac Commuter Parking Garage, Prince William County, VA
REF: 3e Project 19-088

Dear USACE Regulator of the Day:

On behalf of our client, Prince William County Department of Transportation, EEE Consulting, Inc. (3e) acting as agent, is submitting the attached Request for Preliminary Jurisdictional Determination (PJD) package for the above-referenced project. Attached please find a signed Request for PJD, a PJD Form, a signed Pre-App form, and Wetland Delineation Report Site Information Summary Package with appendices (separate .pdf files). This PJD will likely be utilized for environmental compliance documentation and as a component of a future Joint Permit Application/ PCN for site development.

Should you or another assigned scientist have any questions, need additional information, wish to discuss the documents submitted, or desire to review the site, please contact me to arrange it at ebaldwin@eee-consulting.com/(804) 442-3330 ext. 216, or Project Manager Doug Fraser (dfraser@eee-consulting.com/ext 217. Once the request is processed, please return one fully executed signed copy of the PJD documents to 3e for our client's records.

Thank you for your assistance for this important municipal project.

Sincerely,
EEE CONSULTING, INC.

Elizabeth A.S. Baldwin

Doug Fraser

Elizabeth Baldwin
Environmental Scientist

Doug Fraser, PG
PM/Vice President

Copies:

Anna Lawston; USACE Warrenton Field Office, at anna.r.lawston@usace.army.mil
Robert A. Morris, PE, VP; WSP USA at robert.morris@wsp.com

Wetland Delineation Report Site Information Summary
Neabsco-Potomac Commuter Parking Garage
2501 Opitz Boulevard
Woodbridge, Virginia
Tax Parcel: 8291-96-6718 (17.6618Acres)
Prince William County, Virginia

Date
October 8, 2019

Latitude/ Longitude in Decimal Degrees using coordinate plane (NAD 1983)
38.634769 / -77.286841

Has a previous delineation or JD been performed? If so please provide USACE Project Number: None known, but older flagging with typical annotations for delineations is present.

Hydrologic Unit Code (HUC)
HUC 02070010

USGS Topographic Sheet
Occoquan, VA 7.5-minute quadrangle

Nearest Waterbody
Two unnamed tributaries to Neabsco Creek flow through the site. Locality mapping identified the streams as tributaries of Cow Branch.

Project Description
The proposed project involves the construction of a 1,400-space municipal commuter parking garage and a bus transfer facility to be operated by the Prince William County Department of Transportation (**Appendix A, Figure 1**). The main portion of the project area is an undeveloped parcel of land bordered by Opitz Boulevard to the north; Potomac Center Boulevard to the east; and River Rock Way to the west (**Figure 2** and **Figure 3**). The proposed project will also include new roadways from Potomac Center Boulevard and River Rock Way, which will provide access to the parking garage. A section of the project area extends eastwardly along Opitz Boulevard from its intersection at River Rock Way **(Figure 2 and Figure 3**).

The project has some federal funding.

Delineation Methods
The field delineation was completed following the methods prescribed in the 2012 U.S. Army Corps of Engineers Regional Supplement to the Manual: Eastern Mountains and Piedmont region and the USACE 1987 Wetland Delineation Manual in conjunction with applicable guidance documents in effect. The delineation followed the Routine Assessment Method. The 2016 USACE Plant List was used to establish and calculate hydrophytic vegetation status. Munsell soil color charts were used to determine soil and redox feature color characteristics per Manuals. Channels

were delineated on the basis of the presence of an ordinary high water mark per 33 CFR 328, Regulatory Guidance Letter 05-05 (Ordinary High Water Mark Identification).

A stream flow regime determination was completed on streams within the delineation area utilizing the Chesapeake Bay Local Assistance Board's revised 2010 *Determinations of Water Bodies with Perennial Flow* and implemented field techniques using the current Fairfax County Stormwater Planning Division's *Perennial Streams Field Identification Protocol*, May 2003, as well as the September 1, 2010 North Carolina Division of Water Quality's Methodology for Identification of Intermittent and Perennial Streams and Their Origins, Version 4.11.

The PJD request is made consistent with the May 30, 2007 USACE Jurisdictional Determination Form Instructional Guidebook and RGL 16-01 (Jurisdictional Determinations).

On-Site Investigation Date
Wetland boundary delineation, stream flow determinations and site data collection were initially completed on July 8-9, 2019. A second field verification to backcheck initial stream flow determinations and acquire supplemental observational data and photographs was completed on August 13, 2019.

Wetland Delineation Plan
The potential wetland and stream boundaries, data collection points, benchmarks and other features supporting the delineation were field surveyed by Ronald H. Gordon and Associates, LLC (Gordon) in July 2019. All features supporting the delineation are depicted on the two drawings by EEE Consulting, Inc. entitled "Potential Waters of the US Delineation Map" Figures 7-1 and 7-2, and dated August 9, 2019. Project graphics are presented in **Appendix A**.

Wetland Investigation Results

Stream Channels: Two non-tidal upper riverine stream channels (Stream 1/Stream A and Stream 2/Stream B) totaling approximately 1,617 linear feet having field indicators of an Ordinary High Water Mark (OHWM) and that meet the definition of tributary were identified, delineated and survey located within the delineation area. Stream 1 is a perennial channel (R3) and has a delineated length of approximately 708 linear feet. Stream 2 is an intermittent channel (R4) and has a delineated length of approximately 909 linear feet. The quantitative assessment scores and determinations using the two field stream assessment methods are presented in **Table 1**. Stream assessment forms are presented in **Appendix B**. Photos are presented in **Appendix D**.

Quantities of each stream, stream flow regime, Cowardin Classification, and total reach lengths are shown in Summary of Delineated Features (**Table 2)**.

Table 1. Stream Flow Determination Summary, Neabsco-Potomac Commuter Parking Garage

Stream Reach ID	Perennial Flow Determination Score		Field Determined Flow Regime
	Fairfax Method	NC Method	
Stream 1/Stream A	26	32.5	Perennial
Stream 2/Stream B	21.5	25.5	Intermittent

Note: Scores are believed to be lower than expected (suppressed) due to intense stormwater scouring and an observed lack of biological components in streams of the size/condition on site.

Wetlands: Three discrete non-tidal wetland areas (Wetland 1 (PEM), Wetland 2 (PEM), and Wetland 3 (PFO) were identified, delineated, and survey located (**Table 2**). These wetlands have a surface water and flow discharge connection to Stream 2. Data points were taken to document the apparent boundaries and all wetlands were photographed. A total of approximately 0.05 acres of potential non-tidal wetlands were identified within the 17.66-acre site during this investigation. Of the total potential wetlands, approximately 0.003 acres are palustrine forested (PFO) wetlands, and approximately 0.05 acres are palustrine emergent (PEM) wetlands. Wetland 1 is described by data point FDP 4, Wetland 2 by data point FDP 1, and Wetland 3 (a small PFO seep) by data point FDP 6 (**Appendix C**). Representative site photos of project uplands are provided in **Appendix D**.

Summary wetland delineation information and surveyed quantities are presented in **Table 2**.

Other Waters: One area (approximately 0.027 acres) identified and labelled on the delineation map as "man-induced feature" represents a landscape feature that resembles a potential palustrine emergent (PEM) wetland (as described by data point FDP 5). However, it has developed within an engineered upland landscape position and has formed recently by the partial occlusion or burial/blockage of designed toe-drains at the base of a retaining wall that crosses River Way (the roadway entrance to a shopping area featuring Wegman's). Depressions or swales that were created on dry land incidental to construction activities are not considered waters of the U.S. per *Federal Register* preamble commentary for 33 CFR 328.3 of Corps regulations. There is no supporting field evidence to show that developed drainage and seepage from this feature is entering any other waters of the U.S., and it is physically separated from the nearby stream by a thin strip of upland habitat (see Data Point FDP 7) and a designed upland stone riprap apron. Additionally, a past re-planting effort (see photographs) in the area proximal to the stream inlet pipe was established with upland species, suggesting the planting was designed with appropriate upland species and that wet soil conditions developed after this re-planting work (by others). 3e does not consider this "man-induced feature" a regulated water of the U.S. (subject to USACE concurrence).

A fenced-off BMP constructed in uplands is located on the north side of Opitz Boulevard in the eastern end of the delineation area. A deeply eroded roadside ditch feeds upland stormwater into this feature from Opitz Boulevard (see photographs and Figure 7-1, Notes 5 and 6, respectively). 3e does not consider these features to be regulated WOUS (subject to USACE concurrence).

Water bodies onsite identified as Section 10: None, not applicable (only nontidal waters are present).

Uplands: Approximately17.27 acres of the subject parcel were classified as uplands, as described by Data Sampling Points FDP2, FDP 3, FDP 6 (if verified as not a water of the US) and FDP 7. and provided in **Appendix C**. Representative site photos of project uplands are provided in **Appendix D**.

100-Year Floodplains
As depicted on the Federal Emergency Management Agency's (FEMA) on-line Flood Insurance Rate Map #51153C0218D, effective date 01/01/1995 the subject property does not lie within a 100 or 500 year regulatory floodplain (Appendix A).

National Wetlands Inventory/National Hydrographic Dataset Mapping
The on-line National Wetland Inventory Wetlands Mapper website imagery (**Appendix A**) identifies no wetlands within the subject property. Wetlands 1, 2, and 3 are not mapped by NWI. The National Hydrographic Dataset (NHD) layer identifies Stream 1, but not Stream 2 on the project site.

USDA Soil Survey
The on-line USDA/Natural Resource Conservation Service Web Soil Survey (**Appendix A**) identifies mapping units as Delanco fine sandy loam 0-4% slopes (16A), Dumfries sandy loam, 7-50% slopes (18C/18E), Lunt loam, 7-15% slopes (34C), the Neabsco and Quantico soils (2-15% slopes (42B/47C), Watt channery silt loam, 0-25% slopes (55D/55E) and Urban Land-Udorthents mapping unit, 0-7% slopes (54B) on the project site. None of these soil mapping units are found on the Virginia Hydric Soils List. Hydric soils associated with Wetlands 1, 2, and 3 occur on the site as hydric inclusions within the Watt Channery Silt Loam 25-50-% slopes mapping unit.

Notes:
All site observations were compiled during a period of statistically normal rainfall and non-drought conditions. There is evidence of a recent past (1-2 years) delineation of the site, as evidenced by old wetland flagging tape along apparent boundaries. A delineation may or may not have been filed with the USACE. Our client (representing the applicant) has no information regarding any past delineation work or reports.

Table 2. Potential Waters Table, Neabsco-Potomac Commuter Parking Garage, Prince William County, VA

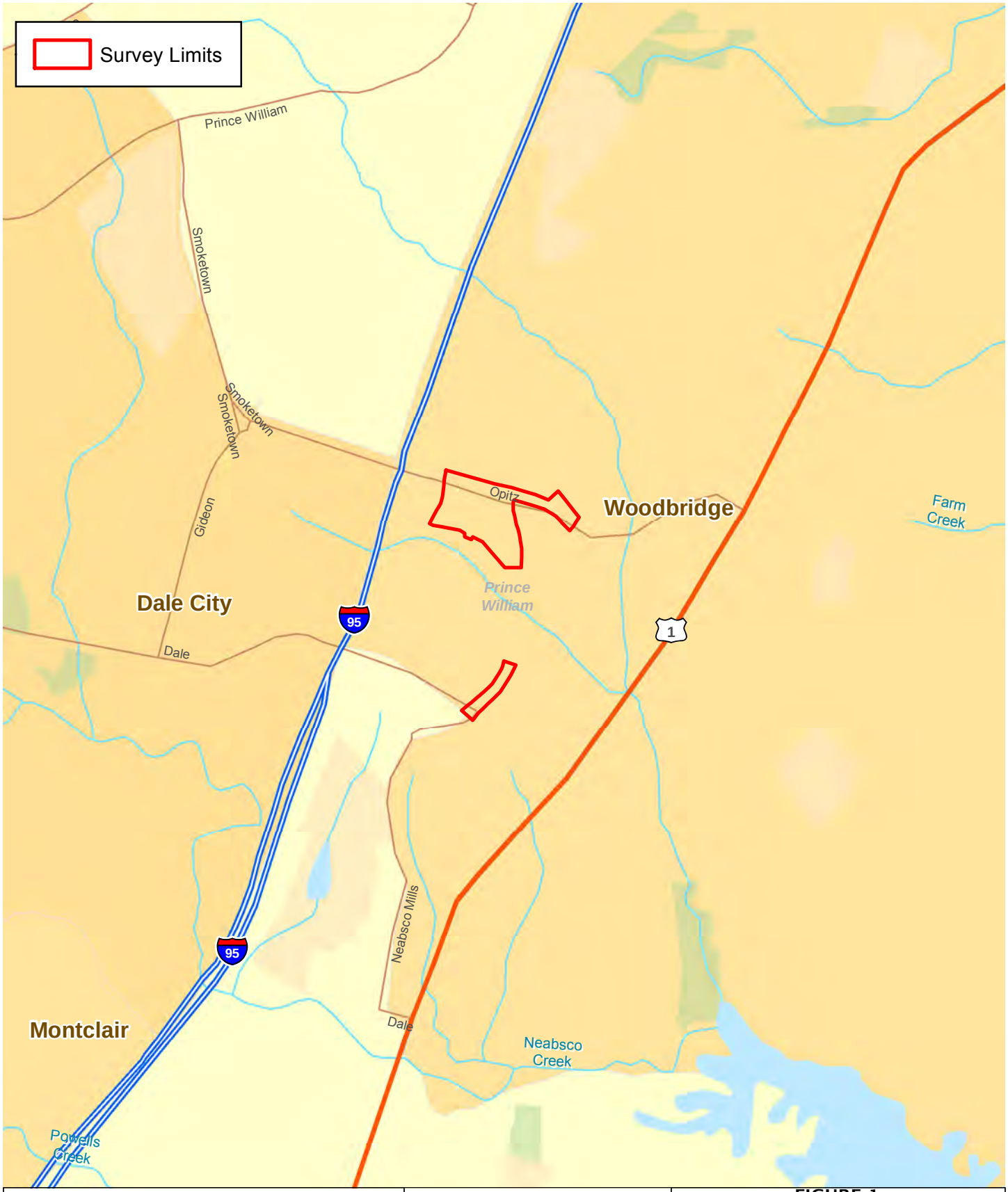
Waters ID	Latitude	Longitude	Quantity/Units Acres/Linear Feet	Type*	Aquatic Resource Authority
Wetlands					
Wetland 1	38.633802	-77.284957	0.04	PEM	Section 404/401
Wetland 2	38.63395	-77.2849	0.01	PEM	Section 404/401
Wetland 3	38.633664	-77.285172	0.003	PFO	Section 404/401
PFO TOTAL (Acres)			0.003		
PEM TOTAL (Acres)			0.05		
WETLAND TOTAL (Acres)			0.053		
Streams					
Stream 1	38.633518	-77.286956	708	R3	Section 404/401
Stream 2	38.633727	-77.285396	909	R4	Section 404/401
STREAMS TOTAL (Linear Feet)			1,617		
Other Waters					
Man Induced Feature	38.633999	-77.28775	0.03	N/A	N/A

Notes: Coordinates in centroid location in decimal degrees Note: All wetland acreages are rounded to the nearest 0.01 acre where possible.

Note: All feature status/boundaries and quantities summarized in **Table 2** have not been verified by any agency.

APPENDIX A

Graphics



3e EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

N

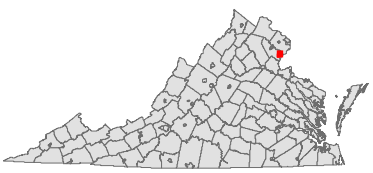


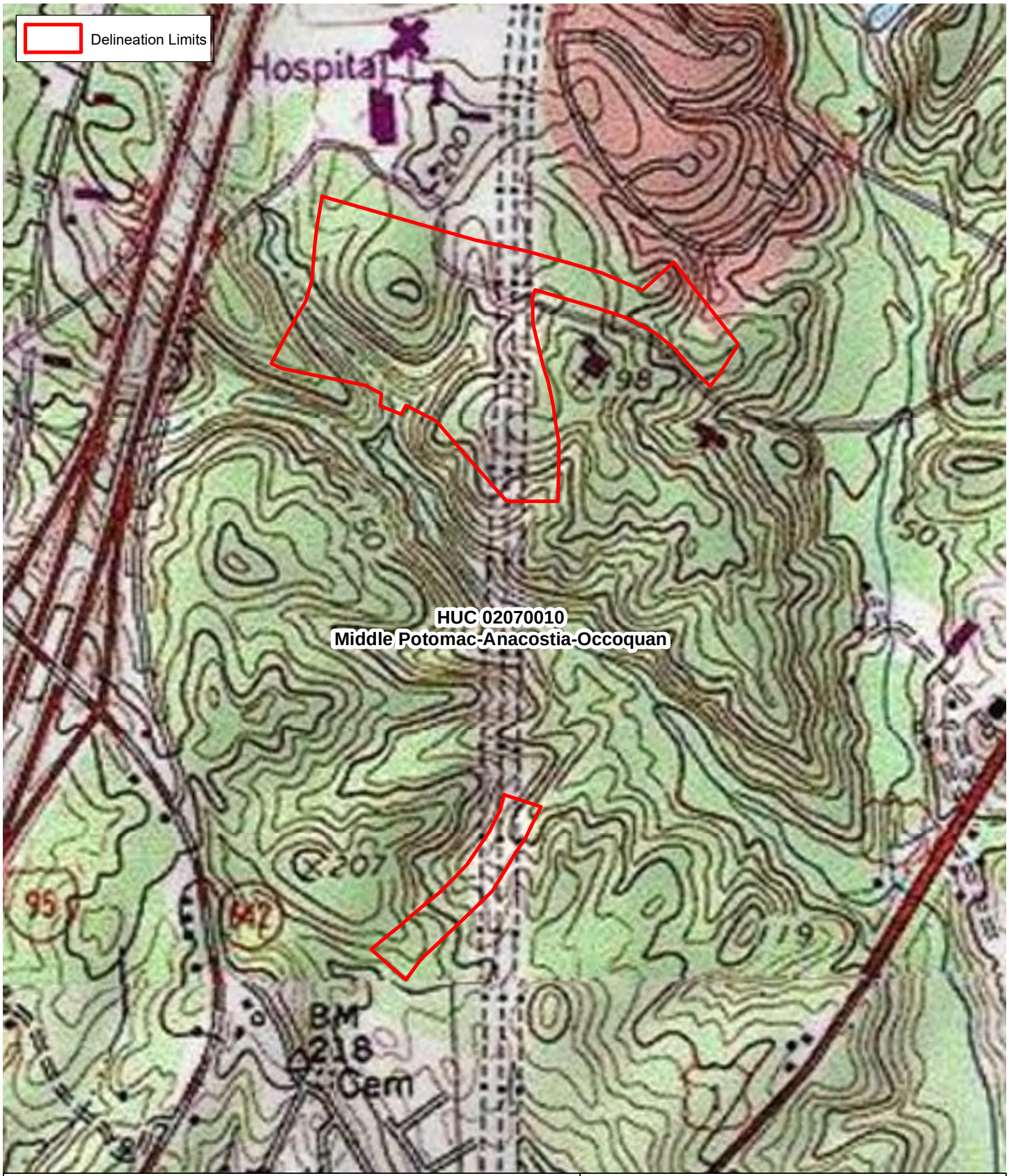
FIGURE 1
PROJECT LOCATION
Neabsco-Potomac Commuter Parking Garage

0 0.125 0.25 0.5 Miles

Prince William County, Virginia

Prepared by ZAK, 7-17-19
Sources: 2000 Census TIGER Line Data, ESRI
Projection: NAD 1983 StatePlane Virginia North FIPS 4501 Feet

Proj# 19-088



3e EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

N

Prepared by ZAK, 7-17-19
Sources: USGS Topo Quad Occoquan (o38077f3, 1998)
Projection: NAD 1983 StatePlane Virginia North FIPS 4501 Feet

Proj# 19-088

FIGURE 2
USGS TOPOGRAPHY

Neabsco-Potomac Commuter Parking Garage

0 670 1,340
Feet

Prince William County, Virginia

3e EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

N

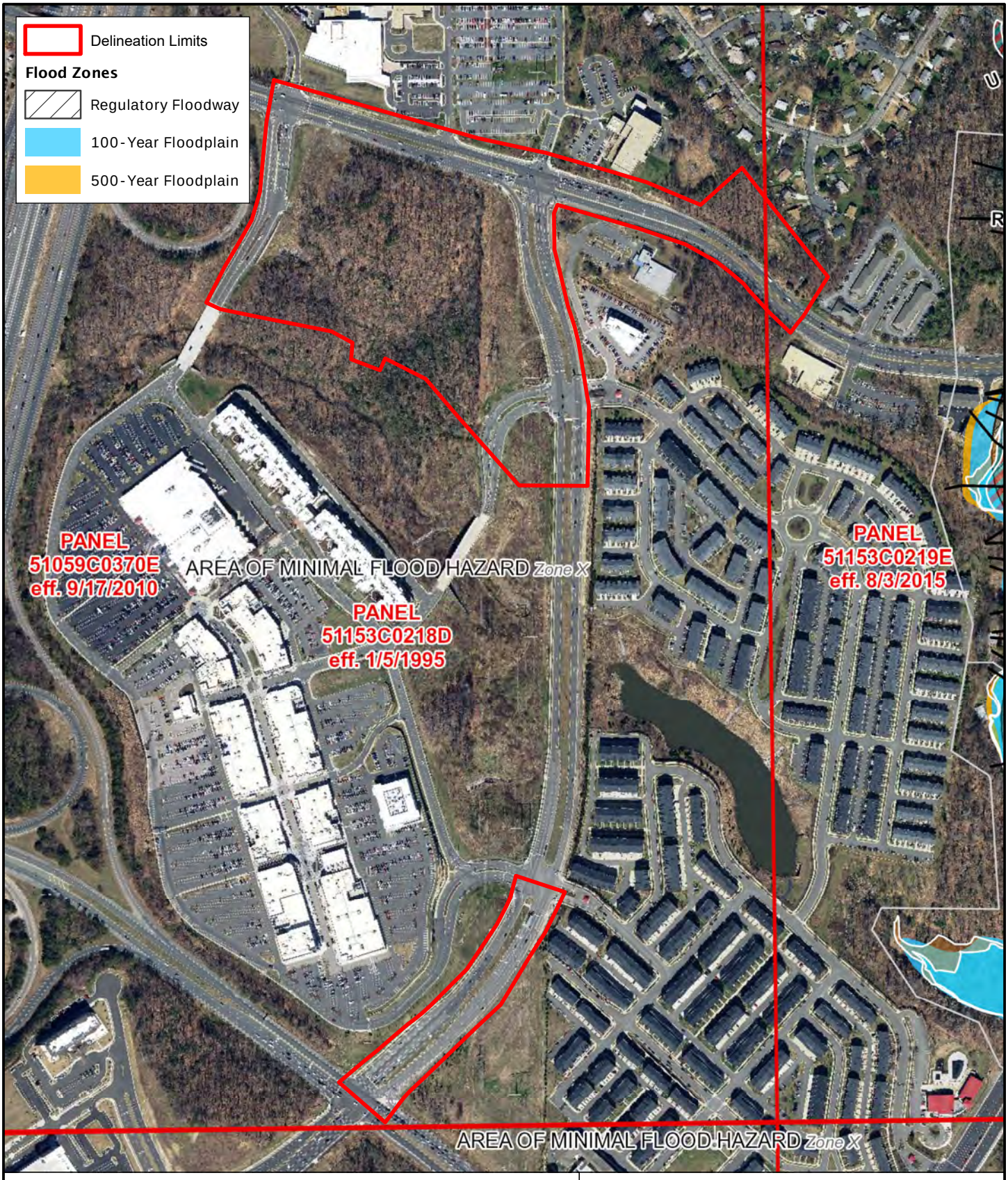
Prepared by ZAK, 7-17-19
Sources: 2017 VBMP Infrared Aerial Imagery
Projection: NAD 1983 StatePlane Virginia North FIPS 4501 Feet

19-047

FIGURE 3
AERIAL IMAGERY
Neabsco-Potomac Commuter Parking Garage

0 1,000
Feet

Prince William County, Virginia



3e EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

N

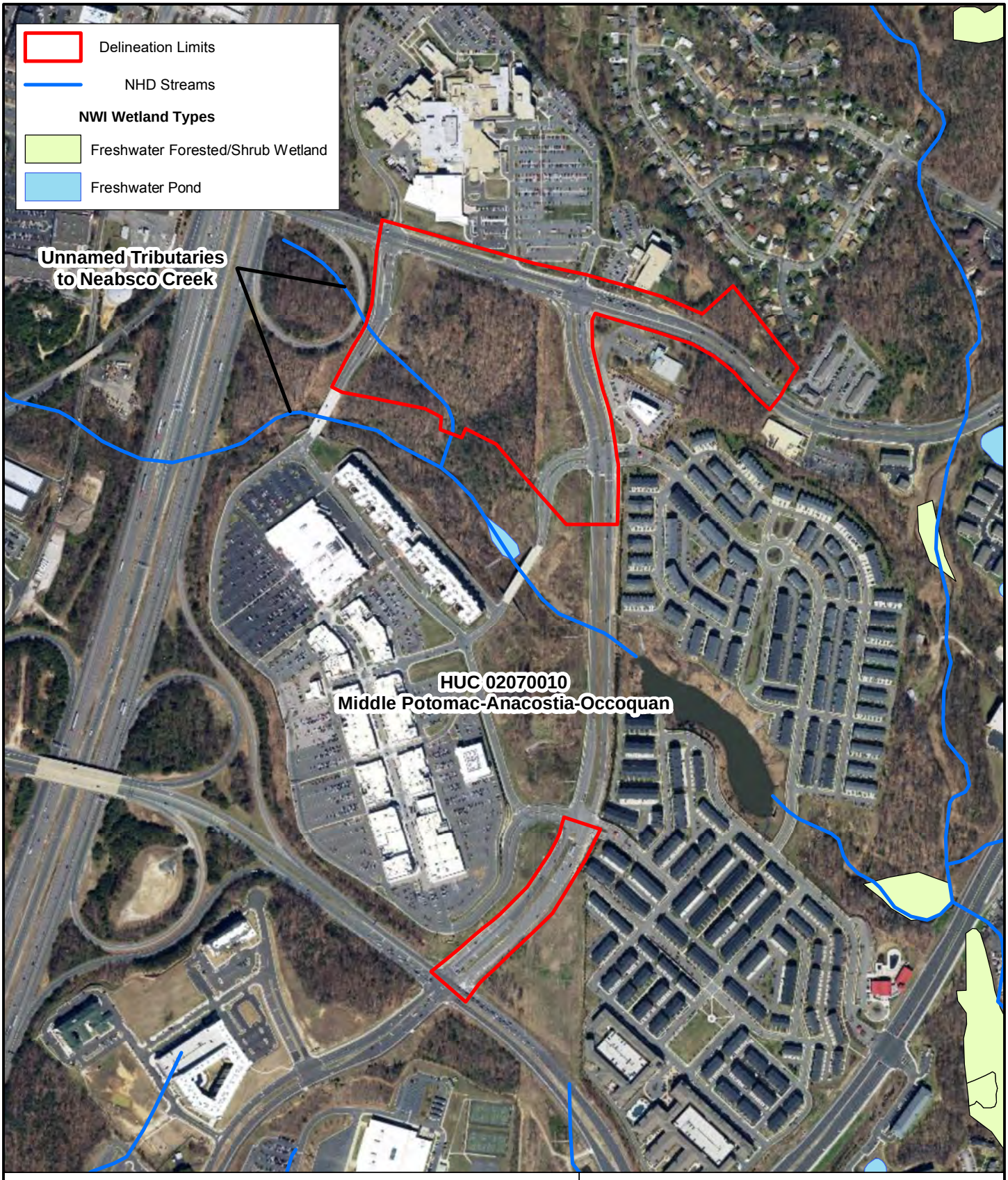
Prepared by ZAK, 7-17-19
Sources: 2017 VBMP Aerial Imagery; FEMA NFHL Flood database
Projection: NAD 1983 StatePlane Virginia North FIPS 4501 Feet

Proj# 19-088

FIGURE 4
FEMA FLOOD ZONES
Neabsco-Potomac
Commuter Parking Garage

0 500 1,000
Feet

Prince William County, Virginia



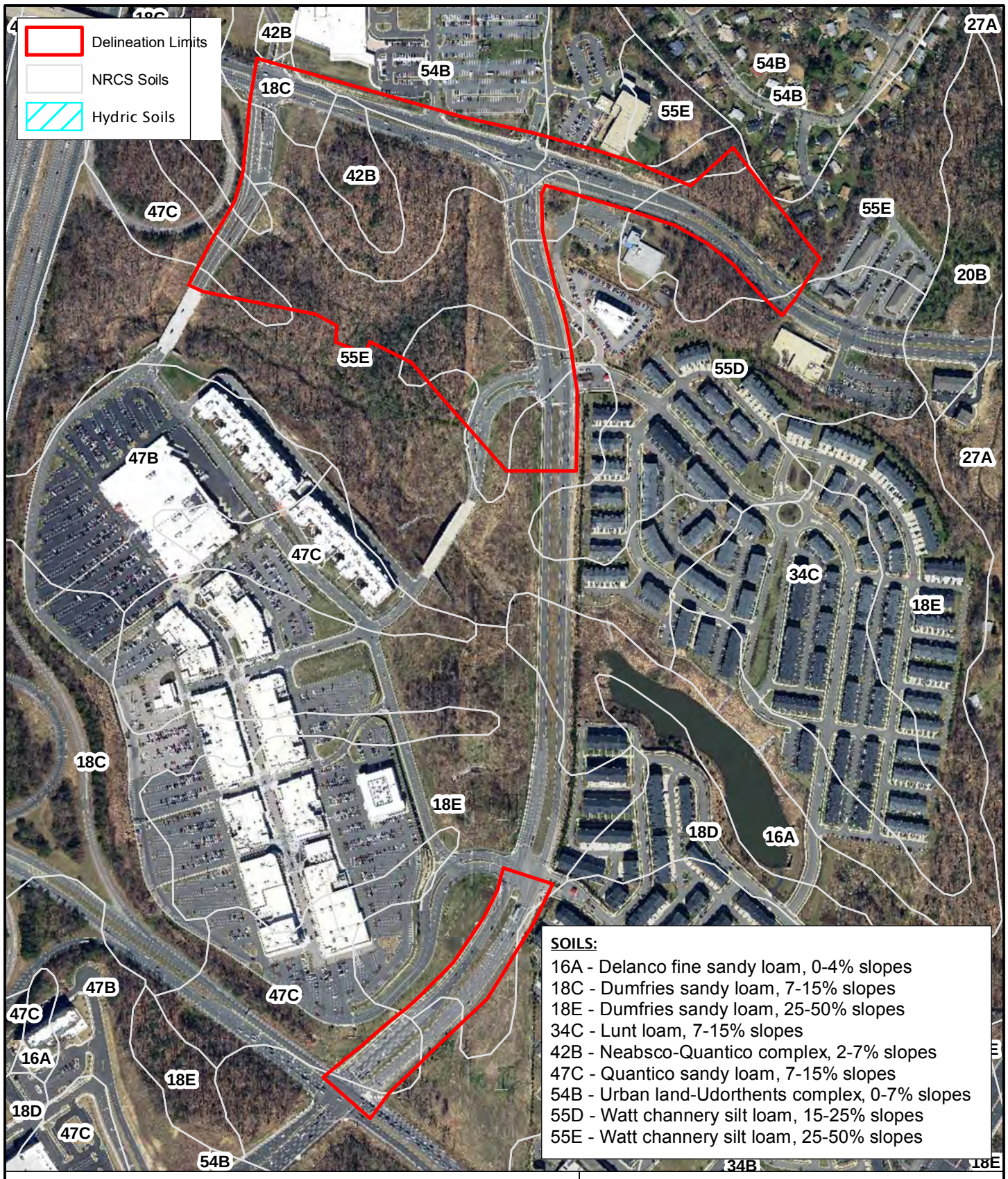
N

3e EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

Prepared by ZAK, 7-17-19
Sources: 2017 VBMP Aerial Imagery; FWS NWI Database, USGS National Hydrography Dataset
Projection: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
Proj# 19-088

FIGURE 5
NWI WETLAND AND NHD STREAMS
Neabsco-Potomac Commuter Parking Garage

0 1,340
Feet
Prince William County, Virginia



SOILS:

16A - Delanco fine sandy loam, 0-4% slopes
18C - Dumfries sandy loam, 7-15% slopes
18E - Dumfries sandy loam, 25-50% slopes
34C - Lunt loam, 7-15% slopes
42B - Neabsco-Quantico complex, 2-7% slopes
47C - Quantico sandy loam, 7-15% slopes
54B - Urban land-Udorthents complex, 0-7% slopes
55D - Watt channery silt loam, 15-25% slopes
55E - Watt channery silt loam, 25-50% slopes

N

3e EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

Prepared by ZAK, 7-17-19
Sources: 2017 VBMP Aerial Imagery; NRCS Soils
Projection: NAD 1983 StatePlane Virginia North FIPS 4501 Feet

Proj# 19-088

FIGURE 6
NRCS SOILS

Neabsco-Potomac Commuter Parking Garage

0 500 1,000
Feet

Prince William County, Virginia

NOTES:

1. The wetlands and other waters of the U.S. depicted on this map were delineated pursuant to the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual, the U.S. Army Corps of Engineers April 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region, Version 2.0, and applicable regulatory guidance. Field work was conducted by EEE environmental scientists E. Simulcik, R. Wright, T. Payne, and E. Baldwin on July 8-9, 2019.
2. Surveyed by Ronald H. Gordon & Associates, LLC.
3. This water of the U.S. (i.e., stream or wetland) originates outside of the study area, upslope.
4. This water of the U.S. (i.e., stream or wetland) continues outside of the study area, downslope.
5. A grassy BMP constructed in uplands (not considered WOUS).
6. An eroded ditch constucted in uplands (not considered WOUS).

Waters ID	Latitude	Longitude	Quantity/Units Acres/Linear Feet	Type
Wetlands				
Wetland 1	38.6338	-77.28496	0.038	PEM
Wetland 2	38.63395	-77.2849	0.011	PEM
Wetland 3	38.63366	-77.28517	0.003	PFO
PFO TOTAL (Acres)			0.003	
PEM TOTAL (Acres)			0.049	
WETLAND TOTAL (Acres)			0.052	
Streams				
Stream 1	38.63352	-77.28696	708	R3
Stream 2	38.63373	-77.2854	909	R4
STREAMS TOTAL (Linear Feet)			1617	
Other Waters				
Man Induced Feature	38.634	-77.28775	0.026871	N/A

3e EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

Prepared by EES, 2019-08-09
Sources: [Sources]
Projection: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
Proj# 19-088

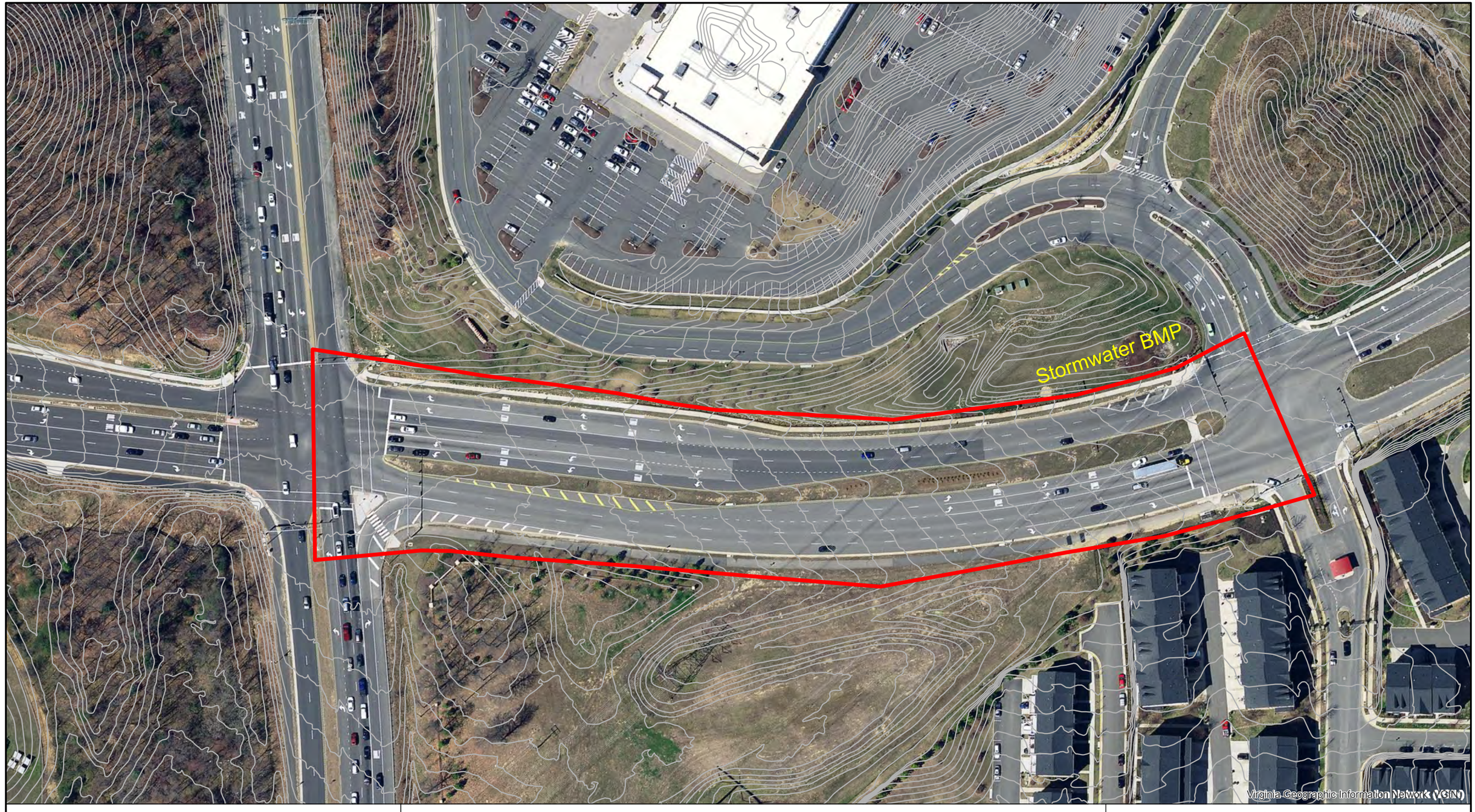
N

Limits of Delineation
Field Data Points (FDP)
2-ft Contours

Wetlands
Man Induced Feature
Palustrine Emergent (PEM)
Palustrine Forest (PFO)
Intermittent (R4) Stream
Perennial (R3) Stream

FIGURE 7
POTENTIAL WATERS OF THE U.S. DELINEATION MAP
PRINCE WILLIAM COUNTY PARKING GARAGE

0 200 400
Feet
Prince William, VA



3e EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

Prepared by EAB, 2018-11-29
Sources: [Sources]
Projection: NAD 1983 StatePlane Virginia North FIPS 4501 Feet

Proj# 18-090

Delineation Limits

2-ft Contours

NO POTENTIAL WOUS PRESENT

FIGURE 7-2
POTENTIAL WATERS OF THE U.S. DELINEATION MAP
Neabsco-Potomac Commuter Parking Garage

0 100 200
Feet
Prince William County, VA

APPENDIX B

Stream Assessment Forms

EEE Stream Evaluation Data Form

Project Name: Neabsco-Potomac Commuter Parking Garage
EEE Site: 19-088
Evaluator: 3e Consulting Inc. (RW, WJ, TP) Latitude,
Longitude: 38.632912, -77.286562

Field Location: STREAM S1/SA
Stream Reach ID: SAR 2, SA6- SA14
Date: 7/9//19
Stream Determination: Ephemeral / Intermittent / (Perennial)

Field Indicators:

I. Geomorphology	Absent	Weak	Moderate	Strong	NC	F
1) In-Channel Structure: ex. riffle-pool, step-pool, ripple-pool sequence (F-II.1/NC-3)	0	1	2	(3)	3	3
2) Particle size of stream substrate (F-II.2/NC-4)	0	1	2	(3)	3	3
3) Natural Levees (F-II.3)	0	(1)	2	3		1
4) Sinuosity of channel along thalweg (F-II.4/NC-2)	0	1	(2)	3	2	2
5) Active/Relic Floodplain (F-II.5/NC-5)	0	(1)	2	3	1	1
6) Braided Channel (F-II.6)	(0)	1	2	3		0
7) Recent Alluvial Deposits (F-II.7/NC-7)	0	1	(2)	3	2	2
8) Depositional Bars or Benches (F-II.8/NC-6)	0	1	(2)	3	2	2
9) Continuity of channel bed and bank (F-II.9/NC-1)	0	1	2	(3)	3	3
(Note: If bed and bank caused by artificial ditching, then score = 0)						
10) Second Order or Greater Channel (F-II.10/NC-11) *(Note: As indicated on Topo Map and/or Soils Map and/or In Field)*		Yes = (3)	No = 0		3	3
11) Head Cuts (NC-8)	(0)	1	2	3	0	
12) Grade Control (NC-9)	0	(0.5)	1	1.5	0.5	
13) Natural Valley (NC-10)	0	0.5	1	(1.5)	1.5	
			NCDWQ GEOMORPHOLOGY INDICATOR POINTS:		**21**	
			FAIRFAX GEOMORPHOLOGY INDICATOR POINTS:			**20**

II. Hydrology and Streamflow	Absent	Weak	Moderate	Strong	NC	F
1) High Groundwater Table, Seeps and Springs (F-I.2)	0	(1)	2	3		1
2) Leaflitter (F-I.3/NC-14)	(1.5)	1	0.5	0	1.5	1.5
3) Sediment on Plants or Debris (F-I.5/NC-15)	(0)	0.5	1	1.5	0	0
4) Organic Debris Lines or Piles (F-I.4/NC-16)	(0)	0.5	1	1.5	0	0
5) Iron Oxidizing Bacteria (NC-13)	0	(1)	2	3	1	
6) Presence of Baseflow (> 48 hrs after rainfall) (F-I.1/NC-12)	0	1	(2)	3	2	2
Date/Amount of Last Rainfall: 7/8/2019 3.34 inches	***Water Depth:***		Pool: 4	Riffle: 0.5		
(Note: If ditch, indicate in #9 above skip this step)						
8) Soil-based Evidence of a Seasonal High Water Table (NC-17)			Yes = (3.0)	No = 0	3	

Within 6 inches above the average elevation of riffles or other shallow zones in the thalweg. Soil layer must be at least 2 inches thick and have at least one indicator of seasonal high water table.

NCDWQ HYDROLOGY INDICATOR POINTS: **7.5**

FAIRFAX HYDROLOGY INDICATOR POINTS: **4.5**

III. Streambed Soils

	NC	F
1) Redoximorphic Features Present in Streambed* (F-III.1) Present = (0) Absent = 1.5		0
2) Chroma Of Streambed* (F-III.2) Gleyed = 3 Chroma 1 = 2 Chroma 2 = (1) Chroma > 2 = 0		1
TOTAL FAIRFAX STREAMBED SOIL POINTS:		**1**

**NOTE: The Fairfax County Field Identification Protocol (May 2003) defines the procedure for assessing streambed soils, however the Fairfax County stream assessment form uses the phrase "sides of channel or head cut". Therefore, on this form the phrase "sides of channel or headcut" has been replaced with the term "streambed".*

IV. Biology	Absent	**Weak**	**Moderate**	**Strong**	NC	F
1) Aquatic Mollusks (F-V.2/NC-21)	(0)	1	2	3	0	0
2) Fish (F-VI.1/NC-22)	(0)	0.5	1	1.5	0	0
3) Amphibians (F-VI.2/NC-24)	(0)	0.5	1	1.5	0	0
4a) Benthic Macroinvertebrates (F-V.1)	(0)	0.5	1	1.5		0
4b) Macrobenthos (NC-20) *Note diversity and abundance*	0	(1)	2	3	1	
5) Iron Oxidizing Bacteria/Fungus (F-IV.3)	0	(0.5)	1	1.5		0.5
6a) Periphyton/Green Algae (F-IV.2)	(0)	1	2	3		0
6b) Algae (NC-25)	(0)	0.5	1	1.5	0	
7) Fibrous Roots Present in Streambed (NC-18)	3	2	(1)	0	1	
8) Crayfish (NC-23)	(0)	0.5	1	1.5	0	
9a) Rooted AQUATIC Plants in Streambed (F-IV.1)	(0)	1	2	3		0
9b) Rooted UPLAND Plants in Streambed (NC-19)	(3)	2	1	0	3	

10)Wetland Plants in in Streambed Species are Mostly:	SAV	OBL	FACW	FAC	FACU/UPL/**NO PLANTS**			
(NC-26)*		1.5	0.75	0	(0)	**0**	
(F-IV.4)	3	1.5	1	0.5	(0)		**0**

** Note:If total absence of all plants in streambed as noted above skip this step unless SAV Present*

11) EPT Taxa (F-V.3)			Present=3	Absent=(0)		0
NCDWQ BIOLOGY INDICATOR POINTS:					**4**	
FAIRFAX BIOLOGY INDICATOR POINTS:						**0.5**

Vegetation Comments: None; vegetation in channel swept barren by scour and outcrop.

Benthics/Amphibians Found: earthworms, pillpug, scuds (in pools); very depauperate

TOTAL NCDWQ POINTS = **32.5**

(Based on current NCDWQ methodology and field trials, the stream is at least intermittent if ≥ 19 points or perennial if ≥ 30 points)

TOTAL FAIRFAX COUNTY POINTS = **26**

(Based on a Fairfax County pilot survey, and >10 years of implementation, the stream is perennial if ≥ 25 points.)

Decision Rationale: Based on method considerations and field assessment, this reach is _X_ perennial ___ intermittent ___ ephemeral This Channel is severely degraded by flashy stormwater events with observations over 2 days of extremes in hydrology. Scores indicate a possibility that the stream may dry up or have discontinuous flow during low-flow period. Additional obeservations during low flow period suggested to verify.

Sources*: North Carolina Division of Water Quality, Methodology for Identification of Intermittent and Perennial Streams and Their Origins. Version 4.11; September 1, 2010*

Fairfax County Stormwater Planning Division - Perennial Streams Field Identification Protocol, May 2003

EEE Stream Evaluation Data Form

Project Name: Neabsco-Potomac Commuter Parking Garage
EEE Site: 19-088
Evaluator: 3e Consulting, Inc. (RW, WJ, TP) Latitude,
Longitude: 38.63421, -77.28529

Field Location: STREAM S2/SB
Stream Reach ID: SAR 2, SB4-SB30 (below riprap)
Date: 7/9/19
Stream Determination: Ephemeral / (Intermittent) / Perennial

Field Indicators:

I. Geomorphology	**Absent**	**Weak**	**Moderate**	**Strong**	**NC**	**F**
1) In-Channel Structure: ex. riffle-pool, step-pool, ripple-pool sequence (F-II.1/NC-3)	0	1	2	(3)	3	3
2) Particle size of stream substrate (F-II.2/NC-4)	0	1	2	(3)	3	3
3) Natural Levees (F-II.3)	(0)	1	2	3		0
4) Sinuosity of channel along thalweg (F-II.4/NC-2)	0	1	(2)	3	2	2
5) Active/Relic Floodplain (F-II.5/NC-5)	(0)	1	2	3	0	0
6) Braided Channel (F-II.6)	(0)	1	2	3		0
7) Recent Alluvial Deposits (F-II.7/NC-7)	0	(1)	2	3	1	1
8) Depositional Bars or Benches (F-II.8/NC-6)	0	1	(2)	3	2	2
9) Continuity of channel bed and bank (F-II.9/NC-1)	0	1	2	(3)	3	3
(Note: If bed and bank caused by artificial ditching, then score = 0)						
10) Second Order or Greater Channel (F-II.10/NC-11) *(Note: As indicated on Topo Map and/or Soils Map and/or In Field)*		Yes = 3	No = (0)		0	0
11) Head Cuts (NC-8)	(0)	1	2	3	0	
12) Grade Control (NC-9)	(0)	0.5	1	1.5	0	
13) Natural Valley (NC-10)	0	0.5	1	(1.5)	1.5	
				NCDWQ GEOMORPHOLOGY INDICATOR POINTS:	**15.5**	
				FAIRFAX GEOMORPHOLOGY INDICATOR POINTS:		**14**

II. Hydrology and Streamflow	**Absent**	**Weak**	**Moderate**	**Strong**	**NC**	**F**
1) High Groundwater Table, Seeps and Springs (F-I.2)	0	1	(2)	3		2
2) Leaflitter (F-I.3/NC-14)	1.5	(1)	0.5	0	1	1
3) Sediment on Plants or Debris (F-I.5/NC-15)	(0)	0.5	1	1.5	0	0
4) Organic Debris Lines or Piles (F-I.4/NC-16)	0	(0.5)	1	1.5	0.5	0.5
5) Iron Oxidizing Bacteria (NC-13)	0	1	(2)	3	2	
6) Presence of Baseflow (> 48 hrs after rainfall) (F-I.1/NC-12)	0	(1)	2	3	1	1
Date/Amount of Last Rainfall: 7/8/19 3.34 inches	***Water Depth:***		Pool: 3	Riffle: 0.25		
(Note: If ditch, indicate in #9 above skip this step)						
8) Soil-based Evidence of a Seasonal High Water Table (NC-17)			Yes = (3.0)	No = 0	3	

Within 6 inches above the average elevation of riffles or other shallow zones in the thalweg. Soil layer must be at least 2 inches thick and have at least one indicator of seasonal high water table.

NCDWQ HYDROLOGY INDICATOR POINTS:	**7.5**	
FAIRFAX HYDROLOGY INDICATOR POINTS:		**4.5**

III. Streambed Soils

		NC	F
1) Redoximorphic Features Present in Streambed* (F-III.1)	Present = 0 Absent = 1.5		0
2) Chroma Of Streambed* (F-III.2)	Gleyed = 3 Chroma 1 = 2 Chroma 2 = 1 Chroma > 2 = 0		2
	TOTAL FAIRFAX STREAMBED SOIL POINTS:		**2**

**NOTE: The Fairfax County Field Identification Protocol (May 2003) defines the procedure for assessing streambed soils, however the Fairfax County stream assessment form uses the phrase "sides of channel or head cut". Therefore, on this form the phrase "sides of channel or headcut" has been replaced with the term "streambed".*

IV. Biology	Absent	**Weak**	**Moderate**	**Strong**	**NC**	**F**
1) Aquatic Mollusks (F-V.2/NC-21)	0	1	2	3	0	0
2) Fish (F-VI.1/NC-22)	0	0.5	1	1.5	0	0
3) Amphibians (F-VI.2/NC-24)	0	0.5	1	1.5	0	0
4a) Benthic Macroinvertebrates (F-V.1)	0	0.5	1	1.5		0
4b) Macrobenthos (NC-20) *Note diversity and abundance*	0	1	2	3	0	
5) Iron Oxidizing Bacteria/Fungus (F-IV.3)	0	0.5	1	1.5		1
6a) Periphyton/Green Algae (F-IV.2)	0	1	2	3		0
6b) Algae (NC-25)	0	0.5	1	1.5	0	
7) Fibrous Roots Present in Streambed (NC-18)	3	2	1	0	0	
8) Crayfish (NC-23)	0	0.5	1	1.5	0.5	
9a) Rooted AQUATIC Plants in Streambed (F-IV.1)	0	1	2	3		0
9b) Rooted UPLAND Plants in Streambed (NC-19)	3	2	1	0	2	

10)Wetland Plants in in Streambed	Species are Mostly:	SAV	OBL	FACW	FAC	FACU/UPL/**NO PLANTS**		
	(NC-26)*		1.5	0.75	0	0	**0**	
	(F-IV.4)	3	1.5	1	0.5	0		**0**

** Note:If total absence of all plants in streambed as noted above skip this step unless SAV Present*

11) EPT Taxa (F-V.3)	Present=3 Absent=0		0
	NCDWQ BIOLOGY INDICATOR POINTS:	**2.5**	
	FAIRFAX BIOLOGY INDICATOR POINTS:		**1**

Vegetation Comments: *Elymus virginicus, Celastrus orbiculatus* (1 each) depauperate and scoured barren.

Benthics/Amphibians Found: none observed; depauperate biologically; 1 adult crayfish observed in reach.

TOTAL NCDWQ POINTS = **25.5**

(Based on current NCDWQ methodology and field trials, the stream is at least intermittent if ≥ 19 points or perennial if ≥ 30 points)

TOTAL FAIRFAX COUNTY POINTS = **21.5**

(Based on a Fairfax County pilot survey, and >10 years of implementation, the stream is perennial if ≥ 25 points.)

Decision Rationale: Based on method considerations and field assessment, this reach is ___ perennial __X_ intermittent ___ ephemeral This channel is severely degraded by flashy periodic high flows and supplemented by weak groundwater impacts due to scouring, Scores and observations strongly sugggest that this channel is intermittent.

Sources*: North Carolina Division of Water Quality, Methodology for Identification of Intermittent and Perennial Streams and Their Origins. Version 4.11; September 1, 2010*

Fairfax County Stormwater Planning Division - Perennial Streams Field Identification Protocol, May 2003

APPENDIX C

Wetland Data Sheets

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Neabsco-Potomac Commuter Parking Garage City/County: Prince William Sampling Date: 07/08/2019

Applicant/Owner: Prince William County State: VA Sampling Point: FDP- 1

Investigator(s): EEE Consulting, Inc. (RW/EB/ES/TP) Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Slightly Concave Slope (%): 2-5

Subregion (LRR or MLRA): P136 Lat: 38.633846 Long: 77.284965 Datum: NAD83

Soil Map Unit Name: Watt channery silt loam 25 to 50% slope NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

All three mandatory technical parameters are met. Sample area is a wetland. FDP-1 corresponds to W2.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 0.25

Water Table Present? Yes X No _____ Depth (inches): 10

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 4

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sample area manifests multiple field indicators of wetland hydrology. Meets parameter.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: FDP- 1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0	= Total Cover	
Herb Stratum (Plot size: 30)			
1. *Onoclea sensibilis*	45	Y	FACW
2. *Athyrium asplenoides*	20	Y	FAC
3. *Elymus virginicus*	25	Y	FACW
4. *Eulalia viminea*	15	N	FAC
5. *Solidago graminifolia*	7	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	112	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	70	x 2 =	140
FAC species	42	x 3 =	126
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	112 (A)		266 (B)

Prevalence Index = B/A = 2.38

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Sample area meets both the dominance test and prevalence index test. Meets parameter.

SOIL

Sampling Point: FDP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 6	10YR4/3	60	none					disturbed silt loam w/ ruts
	7.5YR 4/4	40	7.5YR 5/6	2	C	PL	SiLo	disturbed; oxid. rhizospheres
6 to 12	10YR4/2	80						
	2.5Y4/2	18	10YR 5/6	2	C	PL		saturated
12 to 18	2.5Y 5/2	95	7.5YR 4/6	5	C	PL	SaLo	saturated

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): N/A

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Field indicators of the F3 Depleted Matrix Hydric Soil Indicator is present; meets parameter.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Neabsco-Potomac Commuter Parking Garage City/County: Prince William Sampling Date: 07/08/2019

Applicant/Owner: Prince William County State: VA Sampling Point: FDP- 2

Investigator(s): EEE Consulting, Inc. (RW/EB/ES/TP) Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Slightly Convex Slope (%): 2-5

Subregion (LRR or MLRA): P136 Lat: 38.633793 Long: 77.284856 Datum: NAD83

Soil Map Unit Name: Watt channery silt loam, 25 to 50% slope NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

All three mandatory technical parameters are not met. Sample area is not a wetland. FDP 2 corresponds to W2.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): >18

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sample area does not manifest field indicators of wetland hydrology. Does not meet parameter. Well drained slope.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: FDP- 2

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0	= Total Cover	
Herb Stratum (Plot size: 30)			
1. *Solidago gigantea*	25	Y	FACW
2. *Solidago altissima*	15	N	FACU
3. *Euthamia graminifolia*	20	Y	FAC
4. *Dichanthelium commutatum*	15	N	FACU
5. *Rubus pensylvanica*	20	Y	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95	= Total Cover	
Woody Vine Stratum (Plot size:)			
1. *None*			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	20	x 3 =	60
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	95 (A)		310 (B)

Prevalence Index = B/A = 3.26

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Sample area meets the dominance test but fails the prevalence index test. Meets parameter.

SOIL

Sampling Point: FDP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 4	10YR 4/4	70	None				SiLo	friable; moist
	10YR 4/3	30						
4 to 11	7.5YR 4/4	90	None				SiCLLo	
	10YR4/4	10						
11 to 18	7.5YR 5/4	100	None				CLLo	channers 5%

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): N/A

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

Field indicators of Hydric Soil Indicators is absent; does not meet parameter.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Neabsco-Potomac Commuter Parking Garage City/County: Prince William Sampling Date: 07/08/2019

Applicant/Owner: Prince William County State: VA Sampling Point: FDP- 3

Investigator(s): EEE Consulting, Inc. (RW/EB/ES/TP) Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Slightly Concave Slope (%): 2-5

Subregion (LRR or MLRA): P136 Lat: 38.633970 Long: 77.284894 Datum: NAD83

Soil Map Unit Name: Watt channery silt loam 25 to 50% slope NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** **Yes X** **No _____**
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

All three mandatory technical parameters are met. Sample area is a wetland. FDP-3 corresponds to W1.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes X No _____ Depth (inches): 9

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 4

Wetland Hydrology Present? **Yes X** **No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sample area manifests multiple field indicators of wetland hydrology. Meets parameter.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: FDP- 3

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0	= Total Cover	
Herb Stratum (Plot size: 30)			
1. *Scirpus polyphyllus*	40	Y	OBL
2. *Carex lurida*	40	Y	OBL
3. *Solidago rugosa*	10	N	FAC
4. *Euthamia graminifolia*	15	N	FAC
5. *Bidens aristosa*	5	N	FACW
6. *Dichanthelium commutatum*	20	Y	FACU
7.			
8.			
9.			
10.			
11.			
12.			
	130	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	5	x 2 =	10
FAC species	25	x 3 =	75
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	130 (A)		245 (B)

Prevalence Index = B/A = 1.88

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- [X] 2 - Dominance Test is >50%
- [X] 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes [X] No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Sample area meets both the dominance test and prevalence index test. Meets parameter.

SOIL

Sampling Point: FDP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 7	10YR4/3	60					SiLo	saturated at 4 inches
	10YR4/2	40	7.5YR 5/6	2	C	PL	SiLo	
7 to 15	10YR 4/2	80						
	2.5Y 4/2	15	7.5YR 4/6	5	C	PL	SiLo	heavy silt loam; saturated
15+	10YR 4/2	95	10YR 5/6	5	C	PL	SiLo	channers 5%; saturated

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): N/A

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Field indicators of the F3 Depleted Matrix Hydric Soil Indicator is present; meets parameter.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Neabsco-Potomac Commuter Parking Garage City/County: Prince William Sampling Date: 07/08/2019

Applicant/Owner: Prince William County State: VA Sampling Point: FDP- 4

Investigator(s): EEE Consulting, Inc. (RW/EB/ES/TP) Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Slightly Convex Slope (%): 2-5

Subregion (LRR or MLRA): P136 Lat: 38.633980 Long: 77.284849 Datum: NAD83

Soil Map Unit Name: Watt channery silt loam, 25 to 50% slope NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

All three mandatory technical parameters are not met. Sample area is not a wetland. Corresponds to W1.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): >18

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sample area does not manifest field indicators of wetland hydrology. Does not meet parameter. Well drained disturbed powerline.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: FDP- 4

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30)			
1. *Liriodendron tulipifera (sapling, dying)*	20	Y	FACU
2. *Juniperus virginiana (shrub, dying)*	20	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40	= Total Cover	
Herb Stratum (Plot size: 30)			
1. *Solidago rugosa*	25	Y	FAC
2. *Lespedeza cuneata*	20	Y	FACU
3. *Rubus pensylvanica*	40	Y	FACU
4. *Eupatorium serotina*	10	N	FAC
5. *Apocynum cannabinum*	15	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	110	= Total Cover	
Woody Vine Stratum (Plot size:)			
1. *None*			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	35	x 3 =	105
FACU species	115	x 4 =	460
UPL species	0	x 5 =	0
Column Totals:	150 (A)		565 (B)

Prevalence Index = B/A = 3.77

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Sample area does not meet the dominance test or prevalence index test. Does not meet parameter.

Powerline subjected to recent herbicide treatment.

SOIL

Sampling Point: FDP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 6	10YR 4/3	70	None				SiLo	friable; moist
	10YR 4/4	30						
6 to 11	10YR 4/4	85	None				SiLo	friable; moist
	10YR5/4	15						
11 to 18	10YR 5/4	80	None				SiLo	5% channers; moist
	7.5YR 4/4	20						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): N/A

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

Field indicators of Hydric Soil Indicators is absent; does not meet parameter.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Neabsco-Potomac Commuter Parking Garage City/County: Prince William Sampling Date: 07/08/2019

Applicant/Owner: Prince William County State: VA Sampling Point: FDP- 5

Investigator(s): EEE Consulting, Inc. (RW/EB/ES/TP) Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Slightly Convex Slope (%): 4-5%

Subregion (LRR or MLRA): P136 Lat: 38.63700 Long: 77.291684 Datum: NAD83

Soil Map Unit Name: Watt channery soil loam, 25 to 55% slope NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** **Yes X** **No _____**
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

All three mandatory technical parameters are not met. Sample area meets the parameters, but is considered a nonregulated remnant from construction activity/blocked engineered toeslope drain. Depressions or swales that were created on dry land incidental to construction activities are not considered jurisdictional waters of the U.S. per commentary for 33 CFR 328.3 of Corps regulations.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes X No _____ Depth (inches): 5 (perched)

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 0

Wetland Hydrology Present? **Yes X** **No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sample area manifests field indicators of natural wetland hydrology. Partially occluded outlet for slope drain is artificially creating the hydrology sustaining the otherwise upland drainage feature that is designed to afford positive subsurface drainage to stabilize an elevated retaining wall and fill.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: FDP- 5

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30)			
1. *Liquidambar styraciflua (planted)*	15	Y	FAC
2. *Platanus occidentalis (planted)*	10	N	FACW
3. *Ailanthus altissima*	5	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	30	= Total Cover	
Herb Stratum (Plot size: 30)			
1. *Typha latifolia*	80	Y	OBL
2. *Poa pratensis (planted for stabilization)*	20	Y	FACU
3. *Carex typhina*	5	N	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	105	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	10	x 2 =	20
FAC species	10	x 3 =	30
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	130 (A)		235 (B)

Prevalence Index = B/A = 1.81

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Sample area meets both the dominance test and prevalence index test. Meets parameter.

SOIL

Sampling Point: FDP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 9	10YR 5/4	30					SiLo	fill; saturated
	2.5Y 6/4	30					SiLo	5% channers and mixed cobbles
	10YR 4/3	18	7.5YR 4/6	2	C	PL	SiLo	oxidized rhizospheres
9 to 18	5Y4/2	40						mixed fill
	10YR 4/2	40	7.5YR 5/6	5	C	PL	SiCLLo	saturated but drying with depth
	10YR4/3	15						oxidized rhizospheres

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): N/A

Hydric Soil Present? Yes ___ No X

Remarks:

Field indicators of Hydric Soil Indicators is present. Meets parameter for fill material having prominent reducing soil indicators.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Neabsco-Potomac Commuter Parking Garage City/County: Prince William Sampling Date: 07/08/2019

Applicant/Owner: Prince William County State: VA Sampling Point: FDP- 6

Investigator(s): EEE Consulting, Inc. (RW/EB/ES/TP) Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 3

Subregion (LRR or MLRA): P136 Lat: 38.633648 Long: 77.285196 Datum: NAD83

Soil Map Unit Name: Watt channery silt loam 25 to 50% NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** **Yes** X **No** _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

All three mandatory technical parameters are met. Sample area is a wetland. FDP-6 corresponds to W3.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X Shallow Aquitard (D3)
- X Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 0
Water Table Present?	Yes X	No _____	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sample area manifests multiple field indicators of wetland hydrology. Meets parameter. A sparsely vegetated wooded hillside seep.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: FDP- 6

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Nyssa sylvatica*	25	Y	FAC
2. *Acer rubrum*	50	Y	FAC
3. *Ilex opaca*	10	N	FACU
4. *Fagus grandifolia*	20	Y	FACU
5.			
6.			
7.			
8.			
	105	= Total Cover	
Sapling/Shrub Stratum (Plot size: 20)			
1. *Ilex opaca*	10	N	FACU
2. *Acer rubrum*	25	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	35	= Total Cover	
Herb Stratum (Plot size: 10)			
1. *Acer rubrum (seedlings)*	20	Y	FAC
2. *Osmunda cinnamomea*	25	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	45	= Total Cover	
Woody Vine Stratum (Plot size: 10)			
1. *Smilax rotundifolia*	2	N	FAC
2.			
3.			
4.			
5.			
6.			
	2	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	122	x 3 =	366
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	187 (A)		576 (B)

Prevalence Index = B/A = 3.08

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Sample area meets the dominance test. Meets parameter.

SOIL

Sampling Point: FDP-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 to 2	2.5Y5/1	100	None				LoMuck	Organic lense
2 to 7	10YR 4/3	100	10YR 5/6	2	C	PL	SaLo	saturated sandy topsoil
7 to 13	2.5Y4/2	80	10YR 4/6					
	5Y 5/1	18	10YR 4/6	2	C	PL	FSaLo	saturated
13 to 18	5Y5/1	95	7.5YR 5/6	5	RM	M	LoFSa	saturated

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): N/A

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Field indicators of the F3 Depleted Matrix Hydric Soil Indicator is present; meets parameter.

Soil mapping is not accurate; sample better matches the Kinkora soil series.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Neabsco-Potomac Commuter Parking Garage City/County: Prince William Sampling Date: 08/13/2019

Applicant/Owner: Prince William County State: VA Sampling Point: FDP- 7

Investigator(s): EEE Consulting, Inc. (RW/EB/ES/TP) Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Slightly Convex Slope (%): 4-5%

Subregion (LRR or MLRA): P136 Lat: 38.63700 Long: 77.291684 Datum: NAD83

Soil Map Unit Name: Watt channery soil loam, 25 to 55% slope NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

All three mandatory technical parameters are not met. Sample area meets no parameters and a thin strip of uplands exists between the feature labeled as 'toedrain seep" is not connected by surface flow to the downslope perennial stream. Downslope of this upland strip is engineered riprap apron which also separates the man induced seep from the stream.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 15

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sample area manifests field indicators of a terminated seepage slope where the seepage creating the upslope wetland-like feature naturally ceases to manifest in the upper soil profile. Local plant community has adjusted to a clearly upland regime. Fails FAC-neutral test. No drainage patterns evident, and soil moisture is too deep to affect the surface soil layers.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: FDP- 7U

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. *None*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 X 10 ft)			
1. *Liriodendron tulipifera*	5	N	FACU
2. *Ailanthus altissima*	1	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	6	= Total Cover	
Herb Stratum (Plot size: 10 x 10 ft)			
1. *Lespedeza cuneata*	20	Y	FACU
2. *Festuca arundinacea (K-31 ecotype)*	20	Y	FACU
3. *Solidago altissima*	30	Y	FACU
4. *Eulalia viminea*	10	N	FAC
5. *Agrostis alba*	7	N	FACW
6. *Polygonum perfoliatum*	2	N	FAC
7.			
8.			
9.			
10.			
11.			
12.			
	89	= Total Cover	
Woody Vine Stratum (Plot size: 10 x 10 ft)			
1. *Vitis vulpina*	5	N	FACU
2.			
3.			
4.			
5.			
6.			
	5	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	7	x 2 =	14
FAC species	12	x 3 =	36
FACU species	81	x 4 =	324
UPL species	0	x 5 =	0
Column Totals:	100 (A)		374 (B)

Prevalence Index = B/A = 3.74

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Sample area does not meet both the dominance and prevalence index tests. Fails parameter.

SOIL

Sampling Point: FDP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 9	10YR 5/4	80					SiLo	fill; saturated
	10YR4/4	20					SiLo	5% mixed cobbles
								mixed fill
9 to 15	10YR 5/6	90						
	10YR 4/6	10					CLLo	moist; fill materials
15+								refused on compacted subgrade

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: gravelly subgrade

Depth (inches): 15

Hydric Soil Present? **Yes** ____ **No** X

Remarks:

Field indicators of Hydric Soil Indicators is absent. Does not meet parameter for fill material having prominent reducing soil indicators.

APPENDIX D

Photographs

Appendix B
SITE PHOTOGRAPHS

Photo 1: View of Potomac Center Boulevard, SB Lane.

Photo 2: View of Potomac Center Boulevard at S terminus of delineation area.

Photo 3: Stormwater dry detention basin at Bridge View Way intersection w Potomac Center Boulevard. Upland area.

Photo 4: Upland pipe network draining Stonebridge development and stormwater facility in Photo 3.

Appendix B
SITE PHOTOGRAPHS

Photo 5: Powerline easement on site, W of Potomac Center Boulevard. All upland areas.

Photo 6: Sloped road edge of Potomac Center Boulevard.

Photo 7: Typical upland road edge on W side of Potomac Center Boulevard.

Photo 8: Typical upland road edge on W side of Potomac Center Boulevard from median view.

Appendix B
SITE PHOTOGRAPHS

Photo 9: Data Points FDP 1, 2, 3, and 4, PEM wetlands in powerline border.

Photo 10: Upslope view of FDPs 2 and FDP 4. Upland scrub in powerline.

Photo 11: FDP 4 PFO Wetland 3 wooded seep.

Photo 12: Stream 1/Stream A pipe inlet at riprap apron. Retaining wall in background.

Appendix B
SITE PHOTOGRAPHS

Photo 13: FDP 5 in man induced feature with upland planting tubes.

Photo 14: Upslope view of man-induced feature and FDP 5. Retaining wall in background.

Photo 15: Representative upland hardwood forest in the central portion of the site on gentle slopes.

Photo 16: Representative upland hardwood forest in the southern portion of the site.

Appendix B
SITE PHOTOGRAPHS

Photo 17: Stream 1/Stream A in mid-reach. Strong flow during storm event. Scored perennial.

Photo 18: Stream 1/Stream A in upper reach. Strong flow during storm event. Scored perennial.

Photo 19: Stream 1/Stream A at lower reach following storm event. Scored perennial.

Photo 20: Stream 1/Stream A at confluence with Stream 2/Stream B. Scored perennial above and below this juncture.

Appendix B
SITE PHOTOGRAPHS

Photo 17: Lower reach of Stream 2/Stream B. Scored intermittent. Highly scoured/incised.

Photo 18: Upper reach of Stream 2/Stream B. Scored intermittent. Highly scoured/incised.

Photo 19: Mid-reach of Stream 2/Stream B. Scored intermittent. Highly scoured/incised.

Photo 20: Stream 2/Stream B at buried channel by riprap. Scored intermittent.

Appendix B
SITE PHOTOGRAPHS

Photo 21: South side of Opitz Blvd. viewing upslope to west. Disturbed upland roadside.

Photo 22: : North side of Opitz Blvd. viewing downslope to east. Grass/concrete lined swale.

Photo 23: deeply incised upland roadside toeslope ditch, N. side of Opitz Blvd at E end of project.

Photo 24: Grassy BMP at end of roadside upland ditch on N side of Opitz Blvd. BMPs constructed in uplands are not considered WOUS.

Appendix 1 - REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD)

To: Norfolk District

- I am requesting a JD on property located at: 2501 Opitz Blvd., Woodbridge VA (Street Address)
  City/Township/Parish: _____ County: Pr. William State: _____
  Acreage of Parcel/Review Area for JD: 17.6618 Acres
  Section: _____ Township: _____ Range: _____
  Latitude (decimal degrees): 38.634769 N Longitude (decimal degrees): 77.286841 W
  (For linear projects, please include the center point of the proposed alignment.)
- Please attach a survey/plat map and vicinity map identifying location and review area for the JD.
- ☐ I currently own this property. ☐ I plan to purchase this property.
  ☑ I am an agent/consultant acting on behalf of the requestor.
  ☐ Other (please explain): _____
- Reason for request: (check as many as applicable)
  ☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.
  ☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.
  ☑ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
  ☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.
  ☐ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.
  ☑ A Corps JD is required in order to obtain my local/state authorization.
  ☐ I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
  ☐ I believe that the site may be comprised entirely of dry land.
  ☐ Other: _____
- Type of determination being requested:
  ☐ I am requesting an approved JD.
  ☑ I am requesting a preliminary JD.
  ☐ I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.
  ☐ I am unclear as to which JD I would like to request and require additional information to inform my decision.

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

*Signature: Robert A S Wright Date: September 24, 2019

- Typed or printed name: Robert Wright, Sr Env Sci. (AGENT)

Company name: EEE Consulting, Inc.

Address: 8525 Bell Creek Road
Mechanicsville, VA 23116

Daytime phone no.: 804.442.3330 x 215

Email address: rwright@eee-consultiong.com

*Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.
Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.
Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.
Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: September 24, 2019

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:
Robert Wright, Sr. Env. Scientist, 3e Consulting, Inc. 8525 Bell Cr Rd., Mechanicsville VA 23116

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:
Northern VA Field Office (No file # Known)

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: Virginia County/parish/borough: Pr. William City:

Center coordinates of site (lat/long in degree decimal format): 38.634769 N / -77.286841 W

Lat.: xx.xxx° Long.: yy.yyy°

Universal Transverse Mercator:

Name of nearest waterbody: Tributary to Neabsco Creek

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☑ Field Determination. Date(s): July 8-9 and Aug 13, 2019

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)
W1	38.6338	77.28496	0.038 AC	PEM	Section 404
W2	38.63395	77.2849	0.011 AC	PEM	Section 404
W3	38.63366	77.28517	0.003 AC	PFO	Section 404
Str 1/A	38.63352	77.28696	708 LF	R3	Section 404
Str 2/B	38.63373	77.2854	909 LF	R4	Section 404
Other	38.63400	77.28775	0.027 AC	Not WOUS	33 CFR 328

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 PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- [x] Maps, plans, plots or plat submitted by or on behalf of the PJD requestor: Map: Fig 7 attached.
- [x] 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.
- [x] U.S. Geological Survey map(s). Cite scale & quad name: 1;2000 Occoquan VA
- [x] Natural Resources Conservation Service Soil Survey. Citation: Web Soil Survey
- [x] National wetlands inventory map(s). Cite name: National Wetlands Mapper
- [ ] State/local wetland inventory map(s): _____.
- [x] FEMA/FIRM maps: Fig 4
- [ ] 100-year Floodplain Elevation is: ____. (National Geodetic Vertical Datum of 1929)
- [x] Photographs:
  - [ ] Aerial (Name & Date): Fig 3.
  - or [x] Other (Name & Date): Appendix D
- [ ] Previous determination(s). File no. and date of response letter: _____.
- [x] Other information (please specify): Streams were delineated by unknown parties in past

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.

Robert A Wright (Agent) 9/24/2019

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 requestor to return signed PJD forms. If the requestor 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.

NOTES:

1. The wetlands and other waters of the U.S. depicted on this map were delineated pursuant to the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual, the U.S. Army Corps of Engineers April 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region, Version 2.0, and applicable regulatory guidance. Field work was conducted by EEE environmental scientists E. Simulcik, R. Wright, T. Payne, and E. Baldwin on July 8-9, 2019.
2. Surveyed by Gordon and Associates
3. This water of the U.S. (i.e., stream or wetland) originates outside of the study area, upslope.
4. This water of the U.S. (i.e., stream or wetland) continues outside of the study area, downslope.
5. Not a waters of the U.S. per 33CFR328.3 and 1986 USACE Regulations (see AJD form).
6. An eroded ditch constructed in uplands (not considered WOUS).

Waters ID	Latitude	Longitude	Quantity/Units Acres/Linear Feet	Type	Authority
Wetlands					
Wetland 1	38.633802	-77.284957	0.04	PEM	Section 404/401
Wetland 2	38.63395	-77.2849	0.011	PEM	Section 404/401
Wetland 3	38.633664	-77.285172	0.003	PFO	Section 404/401
PFO TOTAL (Acres)			0.003		
PEM TOTAL (Acres)			0.05		
WETLAND TOTAL (Acres)			0.053		
Streams					
Stream 1	38.633518	-77.286956	708	R3	Section 404/401/RPW
Stream 2	38.633727	-77.285396	909	R4	Section 404/401/Non-RPW
STREAMS TOTAL (Linear Feet)			1617		
Other					
Feature 1 (Construction Remnant)	38.633999	-77.28775	0.03	Not WOUS	1986 USACE Regulations
Feature 2 (BMP)	38.634022	-77.281116	0.09	Not WOUS	33 CFR 328.2 1986 USACE Regulations
TOTAL			0.12		

*Determinations subject to USACE verification. Coordinates in centroid location in decimal degrees

3e EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

Prepared by EES, December 16, 2019

Sources: Virginia Geographic Information Network (VGIN) Projection: NAD 1983 StatePlane Virginia North FIPS 4501 Feet

Proj# 19-088

N

Limits of Delineation

Field Data Points (FDP)

2-ft Contours

Waters

Palustrine Emergent (PEM)

Palustrine Forest (PFO)

Intermittent (R4) Stream

Perennial (R3) Stream

Other

Feature 1

Feature 2

FIGURE 7-1

REVISED WATERS OF THE U.S. DELINEATION MAP

NEABSCO-POTOMAC COMMUTER PARKING GARAGE

0 200 400

Feet

Prince William, VA

NOTES:

1. The wetlands and other waters of the U.S. depicted on this map were delineated pursuant to the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual, the U.S. Army Corps of Engineers April 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region, Version 2.0, and applicable regulatory guidance. Field work was conducted by EEE environmental scientists E. Simulcik, R. Wright, T. Payne, and E. Baldwin on July 8-9, 2019.
2. Surveyed by Gordon and Associates
3. This water of the U.S. (i.e., stream or wetland) originates outside of the study area, upslope.
4. This water of the U.S. (i.e., stream or wetland) continues outside of the study area, downslope.
5. Not a waters of the U.S. per 33CFR328.3 and 1986 USACE Regulations (see AJD form).
6. An eroded ditch constructed in uplands (not considered WOUS).

Waters ID	Latitude	Longitude	Quantity/Units Acres/Linear Feet	Type	Authority
Wetlands					
Wetland 1	38.633802	-77.284957	0.04	PEM	Section 404/401
Wetland 2	38.63395	-77.2849	0.011	PEM	Section 404/401
Wetland 3	38.633664	-77.285172	0.003	PFO	Section 404/401
PFO TOTAL (Acres)			0.003		
PEM TOTAL (Acres)			0.05		
WETLAND TOTAL (Acres)			0.053		
Streams					
Stream 1	38.633518	-77.286956	708	R3	Section 404/401/RPW
Stream 2	38.633727	-77.285396	909	R4	Section 404/401/Non-RPW
STREAMS TOTAL (Linear Feet)			1617		
Other					
Feature 1 (Construction Remnant)	38.633999	-77.28775	0.03	Not WOUS	1986 USACE Regulations
Feature 2 (BMP)	38.634022	-77.281116	0.09	Not WOUS	33 CFR 328.2 1986 USACE Regulations
TOTAL			0.12		

*Determinations subject to USACE verification. Coordinates in centroid location in decimal degrees

3e EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

Prepared by EES, December 16, 2019

Sources: Virginia Geographic Information Network (VGIN) Projection: NAD 1983 StatePlane Virginia North FIPS 4501 Feet

Proj# 19-088

N

Limits of Delineation

Field Data Points (FDP)

2-ft Contours

Waters

Palustrine Emergent (PEM)

Palustrine Forest (PFO)

Intermittent (R4) Stream

Perennial (R3) Stream

Other

Feature 1

Feature 2

FIGURE 7-1

REVISED WATERS OF THE U.S. DELINEATION MAP

NEABSCO-POTOMAC COMMUTER PARKING GARAGE

0 200 400

Feet

Prince William, VA

Source D

Field Survey Report for Small Whorled Pogonia and Harperella

Source E

Air Quality Memo

AIR QUALITY MEMO

NEABSCO/POTOMAC COMMUTER PARKING GARAGE
Prince William County, Virginia

Prepared for:

Prince William County, Virginia
Department of Transportation

Prepared by:

WSP

August 2020

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Table of Contents

List of Exhibits

Executive Summary

Prince William County Department of Transportation is proposing to construct a 1,400-space commuter parking garage at 2501 Opitz Boulevard, Woodbridge, Virginia. The current plans for the site include building a commuter parking garage, kiss and ride area, slug lane area and bus bays. The site is located in Woodbridge, bounded by Opitz Boulevard to the north, River Rock Way to the west and southwest, Potomac Center Boulevard to the east, and Bridge View Drive to the southeast. Proposed access to the commuter parking garage is via full access driveways on River Rock Way and Bridge View Drive; and a right-in/right-out driveway on Potomac Center Boulevard. The study area includes nine signalized intersections, and three proposed unsignalized site driveways at River Rock Way, Bridge View Drive and Potomac Center Boulevard. A total of nine key signalized intersections were evaluated as part of this study.

The proposed improvements were assessed for potential air quality impacts and conformity consistent with all applicable air quality regulations and guidance. All models, methods and assumptions applied in modeling and analyses were made consistent with those provided or specified in the Virginia Department of Transportation (VDOT) Resource Document[1]. The assessment indicates that the project would meet all applicable federal and state transportation conformity regulatory requirements as well as air quality guidance under the National Environmental Policy Act (NEPA) for all nine signalized intersections evaluated. As such, the project will not cause or contribute to a new violation of the national ambient air quality standards (NAAQS) established by the US Environmental Protection Agency (US EPA). Additional detail on the analyses conducted for this project is provided below.

Carbon Monoxide (CO): As the project is located in a region that is attainment of the CO NAAQS, only NEPA applies. EPA project-level ("hot-spot") transportation conformity requirements do not apply. All the Intersections potentially affected by the project were determined to meet the applicable criteria specified in the 2016 Programmatic Agreement (PA) between the Federal Highway Administration (FHWA) and VDOT, except for one intersection. The Opitz Boulevard and River Rock Way intersection has a road grade higher than 2% (with a grade of 2.5%), and is thus not covered by the 2016 PA. However, this intersection was covered by the 2009 FHWA-VDOT PA, included by reference in the 2016 PA. Thus, the nine intersections evaluated do not require project-specific CO modeling for purposes of NEPA. For the programmatic agreement, extensive modeling using "worst-case" input parameters was conducted for various typical project types, configurations, and operating conditions in order to identify thresholds for traffic volumes, number of lanes, skew angles etc. that, if not exceeded for a specific project, would indicate that it would not be expected to significantly impact air quality or cause or contribute to a violation of the CO NAAQS.

[1] In 2016, in order to facilitate and streamline the preparation of project-level air quality analyses, and maintain high quality standards for modeling and documentation, the Department created a new resource for modeling. Titled the "Resource Document", it includes a general reference document as well as an associated online data repository (DR) for all modeling inputs needed for project-level air quality analyses in Virginia. The VDOT Resource Document and DR address in a comprehensive fashion the models, methods and assumptions (including data and data sources as well as protocols) needed for the preparation of air quality analyses for transportation projects by or on behalf of the Department. The latest version of the VDOT Resource Document and DR along with air quality-related programmatic agreements are available on or via the Department website (http://www.virginiadot.org/projects/environmental_air_section.asp).

Overall, the results indicate that, even with assuming worst-case traffic volumes and other worst-case modeling inputs, ambient levels of CO at the nine intersections studied in the vicinity of the project are expected to decline significantly over time and remain below both the one-hour and the eight-hour NAAQS.

In general, emissions and ambient concentrations drop significantly over time (through the project opening and design years) due to more stringent fuel quality standards along with continued fleet turnover to vehicles designed to meet more stringent emission standards. The project, therefore, is not expected to cause or contribute to a violation of the CO NAAQS at the intersections. As such, the project will not have an impact with regards to CO.

Mobile Source Air Toxics (MSATs)
An MSAT analysis is not required, as the project involves a Categorical Exclusion (CE).

Project Status in the Regional Transportation Plan and Program: Federal conformity requirements, including specifically 40 CFR 93.114[2] and 40 CFR 93.115[3], apply as the area in which the project is located is nonattainment for the 2015 ozone NAAQS. Accordingly, there must be a currently conforming transportation plan and program at the time of project approval, and the project must come from a conforming plan and program (or otherwise meet criteria specified in 40 CFR 93.109(b))[5].

1.0 Project Description

Prince William County Department of Transportation is proposing to construct a commuter parking garage. The site is largely undeveloped and wooded, with a creek bisecting the site. The current plans for the site include building a 1,400-space commuter parking garage, kiss and ride area, slug lane area and bus bays. The site is located in Woodbridge, bounded by Opitz Boulevard to the north, River Rock Way to the west and southwest, Potomac Center Boulevard to the east, and Bridge View Drive to the southeast. This study includes the analysis of nine signalized intersections listed below. Exhibit 1-1 provides a study area map. These intersections were identified in the project's traffic study as those that may potentially be affected by the operation of the commuter parking garage.

1. Opitz Boulevard/Smoketown Road and Gideon Drive
2. Opitz Boulevard and Potomac Mills Road
3. Opitz Road and Telegraph Road
4. Opitz Boulevard and River Rock Way
5. Opitz Boulevard and Potomac Center Boulevard
6. Potomac Center Boulevard and Bridge View Drive
7. Potomac Center Boulevard and River Rock Way/Sheffield Hill Way
8. Dale Boulevard and Neabsco Mills Road
9. Dale Boulevard and Gideon Drive

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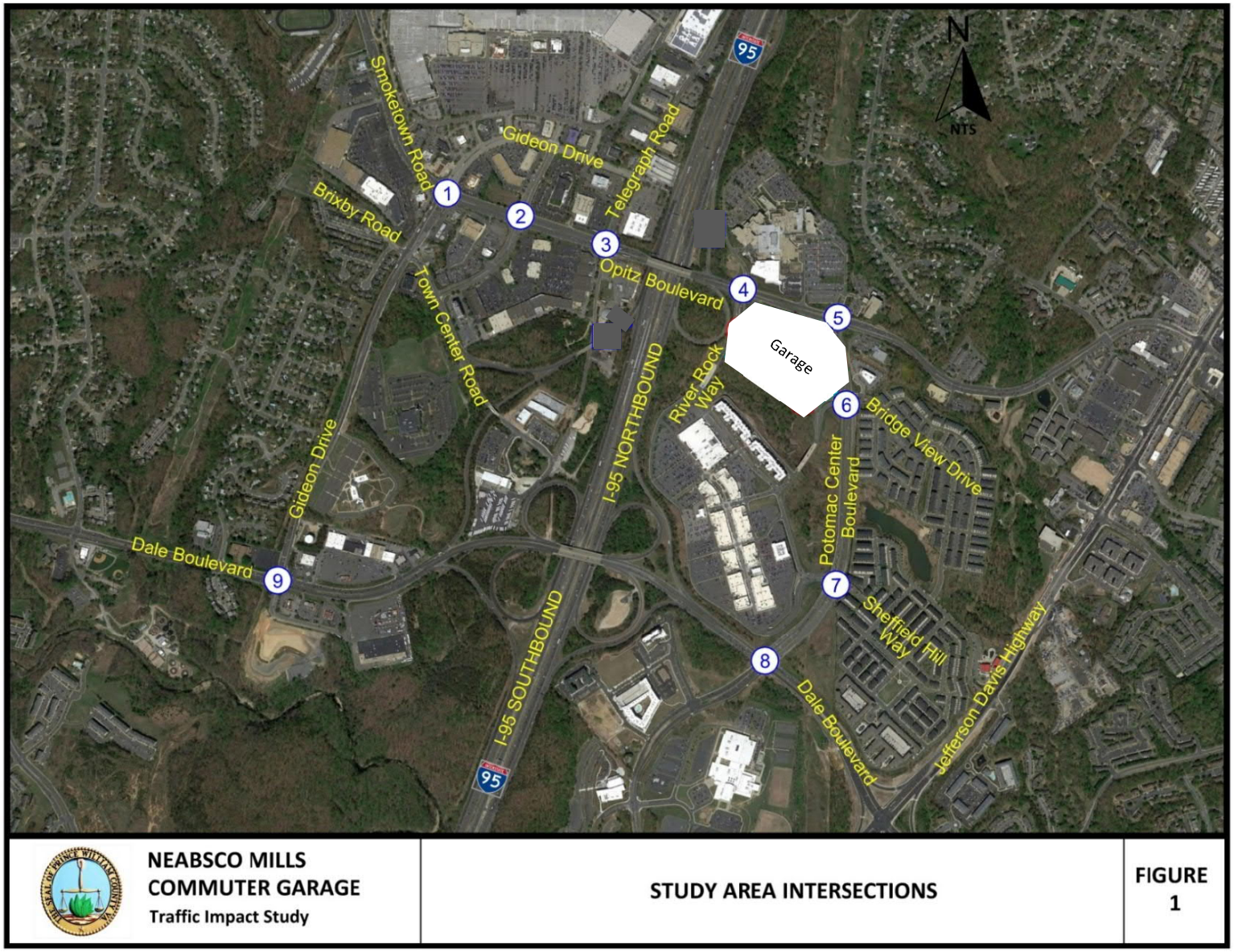
2 See: https://www.gpo.gov/fdsys/pkg/CFR-2014-title40-vol20/xml/CFR-2014-title40-vol20-sec93-114.xml
3 See: https://www.gpo.gov/fdsys/pkg/CFR-2014-title40-vol20/xml/CFR-2014-title40-vol20-sec93-115.xml
5 See: https://www.gpo.gov/fdsys/pkg/CFR-2014-title40-vol20/xml/CFR-2014-title40-vol20-sec93-109.xml

Exhibit 1-1: Project Study Area



2.0 Regulatory Requirements and Guidance

2.1 National Environmental Policy Act of 1969 (NEPA)

Federal requirements for air quality analyses for transportation projects derive from the National Environmental Policy Act (NEPA) and, where applicable, the federal transportation conformity rule (40 CFR Parts 51 and 93). NEPA guidance for air quality analyses for transportation projects may be found on or via the Federal Highway Administration (FHWA) website for planning and the environment[6].

2.1.1 FHWA Guidance for Implementing NEPA for Air Quality

For purposes of NEPA, general guidance for project-level air quality analyses is provided in the FHWA 1987 Technical Advisory 6640.8A, "Guidance for Preparing and Processing Environmental and Section 4(f) Documents"[7]. That guidance focuses on carbon monoxide. FHWA provides separate guidance for mobile source air toxics (MSATs)[8,9], including responses to "Frequently Asked Questions" (FAQs)[10].

2.1.2 Programmatic Agreements

In order to streamline the preparation of project-level air quality analyses conducted for purposes of NEPA, VDOT has implemented several programmatic agreements with FHWA. Copies of current agreements are available on the VDOT website[11].

2.1.2.1 Project-Level Air Quality Analyses for Carbon Monoxide

In 2016, FHWA and VDOT executed the "Programmatic Agreement for Project-Level Air Quality Analyses for Carbon Monoxide" (2016 FHWA-VDOT PA, or 2016 PA), updating the prior (2009) PA. It specifies technical criteria for determining whether project-specific modeling for carbon monoxide will be needed and was developed based on templates originally created in the 2015 NCHRP study "Programmatic Agreements for Project-Level Air Quality Analyses"[12]. As the NCHRP template did not include skewed intersections, the 2016 FHWA-VDOT PA incorporates by reference the thresholds that were established for skewed intersections in the 2009 FHWA-VDOT PA. It is noteworthy that the 2015 NCHRP study report specifically acknowledged that its national-level templates were modeled on the 2009 FHWA-VDOT PA[13].

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6 See: http://www.fhwa.dot.gov/environment/index.cfm

7 See: https://www.environment.fhwa.dot.gov/projdev/impTA6640.asp

8 FHWA, "*INFORMATION: Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents*", October 18, 2016. See: http://www.fhwa.dot.gov/environment/air_quality/air_toxics/

9 See: http://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/

10 See: https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/moves_msat_faq.cfm

11 See: http://www.virginiadot.org/projects/environmental_air_section.asp

12 ICF International, Zamurs and Associates LLC, and Volpe Transportation Systems Center, "Programmatic Agreements for Project-Level Air Quality Analyses", NCHRP 25-25 (78), 2015. http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3311

13 *Ibid*, page x.

The 2009 FHWA-VDOT "Project-Level Carbon Monoxide Air Quality Studies Agreement"[14] (2009 PA) was based on the results of extensive modeling of worst-case analyses, which are presented in a separate Technical Support Document[15]. The 2009 PA incorporated new technical criteria and thresholds (based on the worst-case modeling results) and represented a major update to prior agreements executed in 2004[16] and 2000[17].

2.1.2.2 Agreement for Updating Air Studies When New Planning Assumptions Become Available

On October 28, 2004, FHWA and VDOT executed a letter agreement defining "Procedures for Updating Air Studies When New Planning Assumptions Become Available" (2004 Update Procedures)[18]. It provides guidance on when updated air quality studies are needed. Under this agreement, updates for air quality analyses may be required for projects for which a re-evaluation of the overall environmental document is being initiated to meet NEPA requirements and/or for projects for which changes may be needed for key modeling inputs for the air studies (such as design year and associated traffic forecasts).

As referenced above, the FHWA-VDOT Air Quality Agreement also limited the need for updates for CO studies to those for which "substantive changes" to modeling inputs are made, consistent with the related and more general protocol (applicable to all pollutants) that was specified in the 2016 VDOT Resource Document (see Section 4.1).

2.1.2.3 No-Build Analysis Agreement for Air and Noise Studies

On May 22, 2009, FHWA and VDOT executed a "No-Build Analysis Agreement for Air and Noise Studies" (2009 No-Build Agreement)[19]. With regard to air quality, the 2009 No-Build Agreement only addresses CO. It requires:

> …for transportation projects within the Commonwealth of Virginia that require a carbon monoxide (CO) air study under the current Project-Level CO Air Quality Studies Agreement in effect between VDOT and FHWA, the following will govern the need for analysis of the interim and design year no-build alternatives in CO air studies:
>
> A. Any project that qualifies for a Categorical Exclusion (CE) will be exempt from analysis of the no-build alternatives, although VDOT may choose to analyze the no-build alternatives if they determine it appropriate;

---

[14] "*Project-Level Carbon Monoxide Air Quality Studies Agreement*", FHWA-VDOT letter agreement executed

[15] "*FHWA-VDOT Agreement On Project-Level Carbon Monoxide Air Quality Studies - Technical Support Document*", February 2009

[16] FHWA-VDOT, "*Project Level Air Quality Studies Agreement*", letter dated August 4, 2004 from FHWA to VDOT.

[17] FHWA-VDOT, "*VDOT request to raise the ADT threshold at which quantitative project-level carbon monoxide analyses are conducted*", letter dated August 7, 2000

[18] FHWA, "*Procedures for Updating Air Studies When New Planning Assumptions Become Available*", letter dated October 28, 2004 from FHWA to VDOT.

[19] FHWA-VDOT, "*No-Build Analysis Agreement for Air and Noise Studies*", letter agreement dated May 22, 2009.

B. Any project that qualifies for an Environmental Assessment (EA) will generally be exempt from analysis of the no-build alternatives, although VDOT may choose to analyze the no-build alternatives if they determine it appropriate;
C. Any project that qualifies for an Environmental Impact Statement (EIS) will require analysis of the no-build alternative; …

2.1.3 FHWA Categorical Finding for Carbon Monoxide

The federal transportation conformity rule at 40 CFR 93.123(a)(3) provides an option for the US Department of Transportation (US DOT), in consultation with EPA, to make a categorical hot-spot finding for CO based on appropriate modeling. In February 2014, the FHWA implemented a new categorical finding for CO, which they developed in consultation and cooperation with EPA. The FHWA updated the finding in 2017[20]. In concept, the FHWA categorical finding serves effectively the same purpose for conformity purposes as a programmatic agreement does for NEPA. Note, under the terms of the 2016 FHWA-VDOT PA previously referenced and/or the VDOT Resource Document (via the protocol stated in Sections 3.22 & 4.2.3), and although Virginia no longer has a maintenance area for CO, the federal categorical finding for CO may still be applied for NEPA purposes at the discretion of VDOT.

3.0 Ambient Air Quality

3.1 National Ambient Air Quality Standards (NAAQS)

Exhibit 3-1 presents the National Ambient Air Quality Standards (NAAQS) established by the EPA for criteria air pollutants, namely: carbon monoxide (CO), sulfur dioxide (SO_2), ozone (O_3), particulate matter (PM), nitrogen dioxide (NO_2), and lead (Pb). There are two types of NAAQS—primary and secondary: "Primary standards provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings."[21]

Areas that have never been designated by EPA as nonattainment for one or more of the NAAQS are classified as attainment areas, while areas that do not meet one or more of the NAAQS may be designated by EPA as nonattainment areas for that or those criteria pollutants. Areas that have failed to meet the NAAQS in the past but have since re-attained them may be re-designated as attainment (maintenance) areas, which are commonly referred to as maintenance areas.

[20] See: https://www.fhwa.dot.gov/environment/air_quality/conformity/policy_and_guidance/cmcf_2017/index.cfm
[21] From the preamble to the EPA NAAQS table: https://www.epa.gov/criteria-air-pollutants/naaqs-table

Exhibit 3-1: National Ambient Air Quality Standards (US EPA Tabulation)

Pollutant		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide		Primary	8-hour	9 ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
Lead		Primary and secondary	Rolling 3-month average	0.15 µg/m^3 (1)	Not to be exceeded
Nitrogen Dioxide		Primary	1-hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Primary and secondary	Annual	53 ppb (2)	Annual Mean
Ozone		Primary and secondary	8-hour	0.070 ppm (3)	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particulate Matter	$PM_{2.5}$	Primary	Annual	12 µg/m^3	Annual mean, averaged over 3 years
		Secondary	Annual	15 µg/m^3	Annual mean, averaged over 3 years
		Primary and secondary	24-hour	35 µg/m^3	98th percentile, averaged over 3 years
	PM_{10}	Primary and secondary	24-hour	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide		Primary	1-hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

Source: Excerpted from: https://www.epa.gov/criteria-air-pollutants/naaqs-table, accessed 5/31/2019.

Footnotes:
(1) Final rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 year, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
(2) The official level of the annual NO_2 standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.
(3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O_3 standards additionally remain in effect in some areas. Revocation of the previous (2008) O_3 standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.
(4) The previous SO_2 standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which implementation plans providing for attainment of the current (2010) standard have not been submitted and approved and which is designated nonattainment under the previous SO_2 standards or is not meeting the requirements of a State Implementation Plan (SIP) call under the previous SO_2 standards (40 CFR 50.4(3)). A SIP call is a USEPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.

3.2 Air Quality Attainment Status of Project Area

The EPA Green Book[22] lists non-attainment, maintenance, and attainment areas across the nation. It lists the jurisdictions within the area in which the project is located as being in attainment for all of the NAAQS except ozone.

[22] EPA Green Book: https://www3.epa.gov/airquality/greenbook/faq.html

3.3 Air Quality Data and Trends

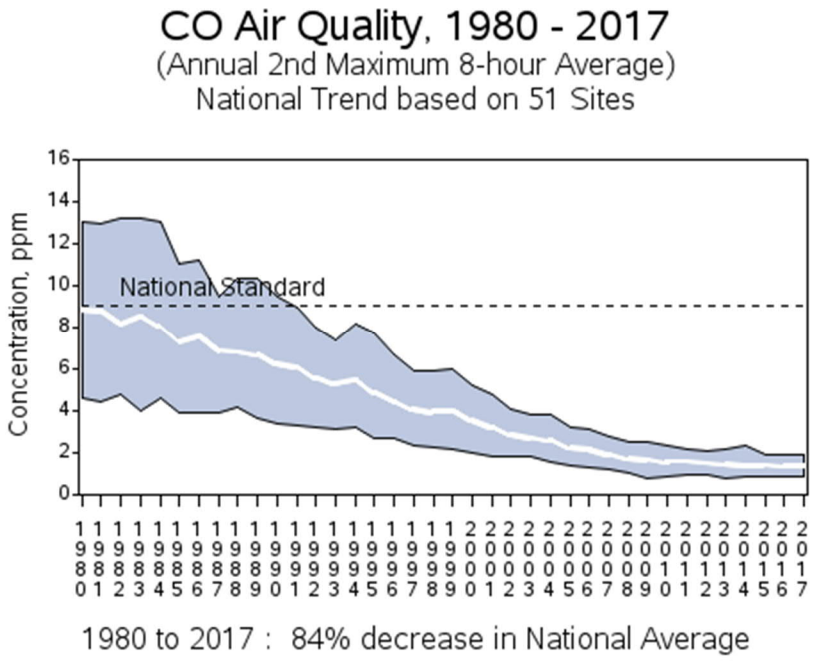
3.3.1 Carbon Monoxide (CO)

As shown in Exhibit 3-2, and due primarily to the implementation of more stringent vehicle emission and fuel quality standards, the national trend in ambient concentrations of CO is and has been downward for decades. The national trend is reflected in the relatively very low ambient CO concentrations observed in Virginia, as summarized in Exhibits 3-3 and 3-4. Currently, all values in Virginia are well under the one- and eight-hour NAAQS for CO.

3.3.2 Other Criteria Pollutants

The Virginia Department of Environmental Quality issues an annual report summarizing air quality monitoring data for the previous year and updating long-term trend data for certain criteria pollutants tabulated in Exhibit 3-1. Exhibits 3-2 through 3-7 are excerpts from that report, showing ambient air quality trends by pollutant over the previous decade. The trend lines are generally flat or downward, reflecting the benefit of emission reduction measures or programs implemented for both mobile sources (e.g., more stringent emission and fuel quality standards) and stationary sources (industry etc.). For these figures, pollutants are measured in parts per million (ppm) or parts per billion (ppb).

Exhibit 3-2: Nationwide Long-Term Trend in Ambient CO Concentrations



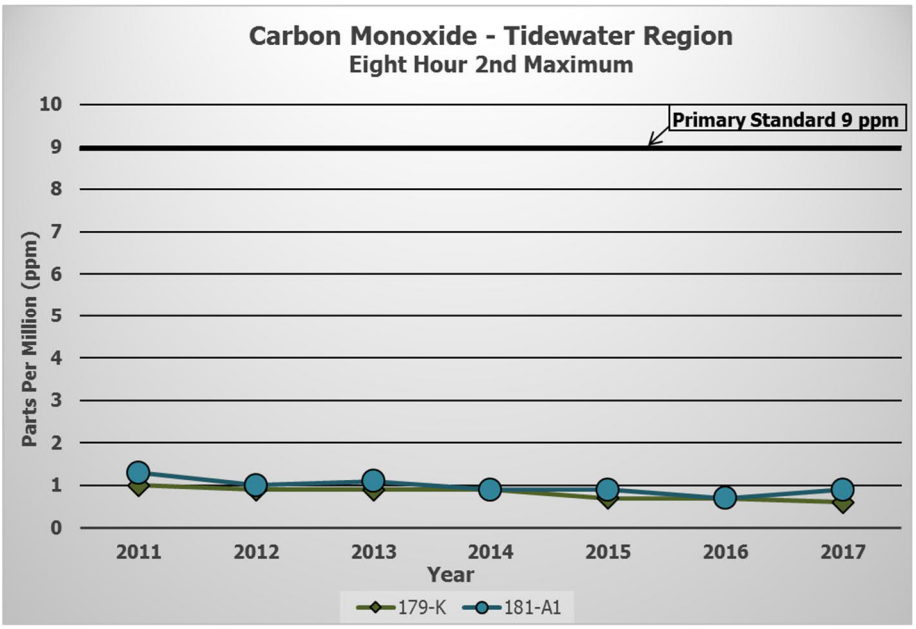
Source: https://www.epa.gov/air-trends/carbon-monoxide-trends, accessed February 12, 2019.

Exhibit 3-3: Ambient Concentrations of Carbon Monoxide in Virginia

Site	2017			
	1-Hour Avg. (ppm)		8-Hour Avg. (ppm)	
	1st Max.	2nd Max.	1st Max.	2nd Max.
(19-A6) Roanoke Co.	1.2	1.0	.8	.7
(72-M) Henrico Co.	1.2	1.1	.9	.8
(158-X) Richmond	1.7	1.5	1.3	1.1
(179-K) Hampton	.9	.8	.6	.6
(181-A1) Norfolk	1.7	1.7	1.3	.9
(46-C2) Fairfax Co.	1.5	1.5	1.1	1.1
(47-T) Arlington Co.	2.1	2.0	1.6	1.2

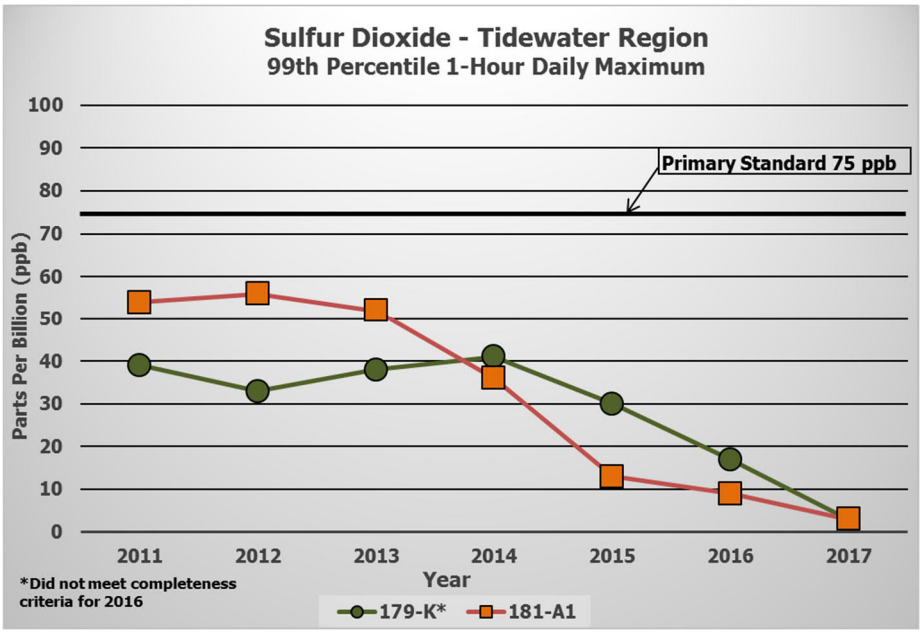
Source: Virginia Department of Environmental Quality, "Virginia Ambient Air Monitoring 2017 Data Report", November 2018. See: http://www.deq.virginia.gov/Programs/Air/AirMonitoring/Publications.aspx

Exhibit 3-4: Trend in Ambient CO Concentrations



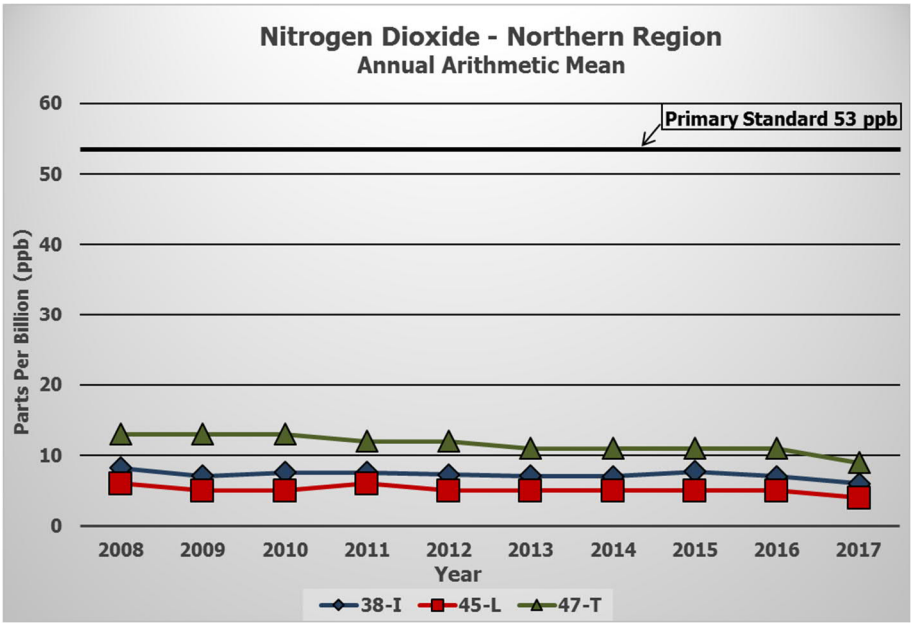
Source: Virginia Department of Environmental Quality, "Virginia Ambient Air Monitoring 2017 Data Report", November 2018. See: http://www.deq.virginia.gov/Programs/Air/AirMonitoring/Publications.aspx

Exhibit 3-5: Trend for 1-hour Sulfur Dioxide (PPM) – Tidewater Region



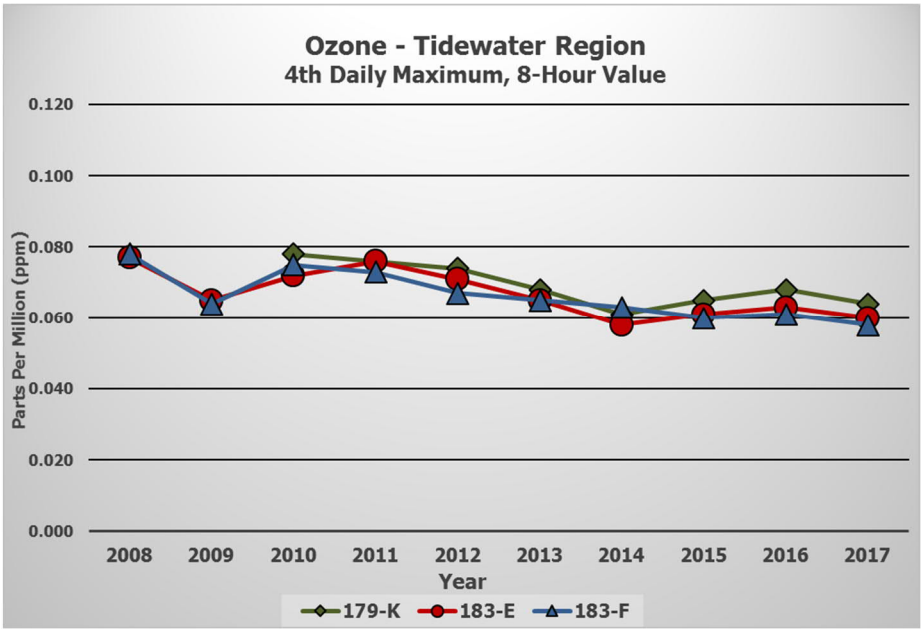
Source: Virginia Department of Environmental Quality, "Virginia Ambient Air Monitoring 2017 Data Report", November 2018. See: http://www.deq.virginia.gov/Programs/Air/AirMonitoring/Publications.aspx

Exhibit 3-6: Trend for Annual Nitrogen Dioxide (PPM) – Tidewater Region



Source: Virginia Department of Environmental Quality, "Virginia Ambient Air Monitoring 2017 Data Report", November 2018. See: http://www.deq.virginia.gov/Programs/Air/AirMonitoring/Publications.aspx

Exhibit 3-7: Trend for 8-hour Ozone (PPM) – Tidewater Region



Source: Virginia Department of Environmental Quality, "Virginia Ambient Air Monitoring 2017 Data Report", November 2018. See: http://www.deq.virginia.gov/Programs/Air/AirMonitoring/Publications.aspx

4.0 Project Assessment

4.1 Application of the VDOT Resource Document

In 2016, the "VDOT Resource Document" was created with associated online data repository to facilitate and streamline the preparation of project-level air quality analyses for purposes of NEPA and conformity[23]. Inter-agency consultation was conducted with FHWA Division and Headquarters and other agencies (including EPA) before the Resource Document was finalized. The Resource Document was updated in 2018 to address changes in applicable regulation and guidance.

With regard to this project, the models, methods/protocols and assumptions as specified or referenced in the VDOT Resource Document were applied without change or without substantive change as defined in that document.

[23] See: http://www.virginiadot.org/projects/environmental_air_section.asp

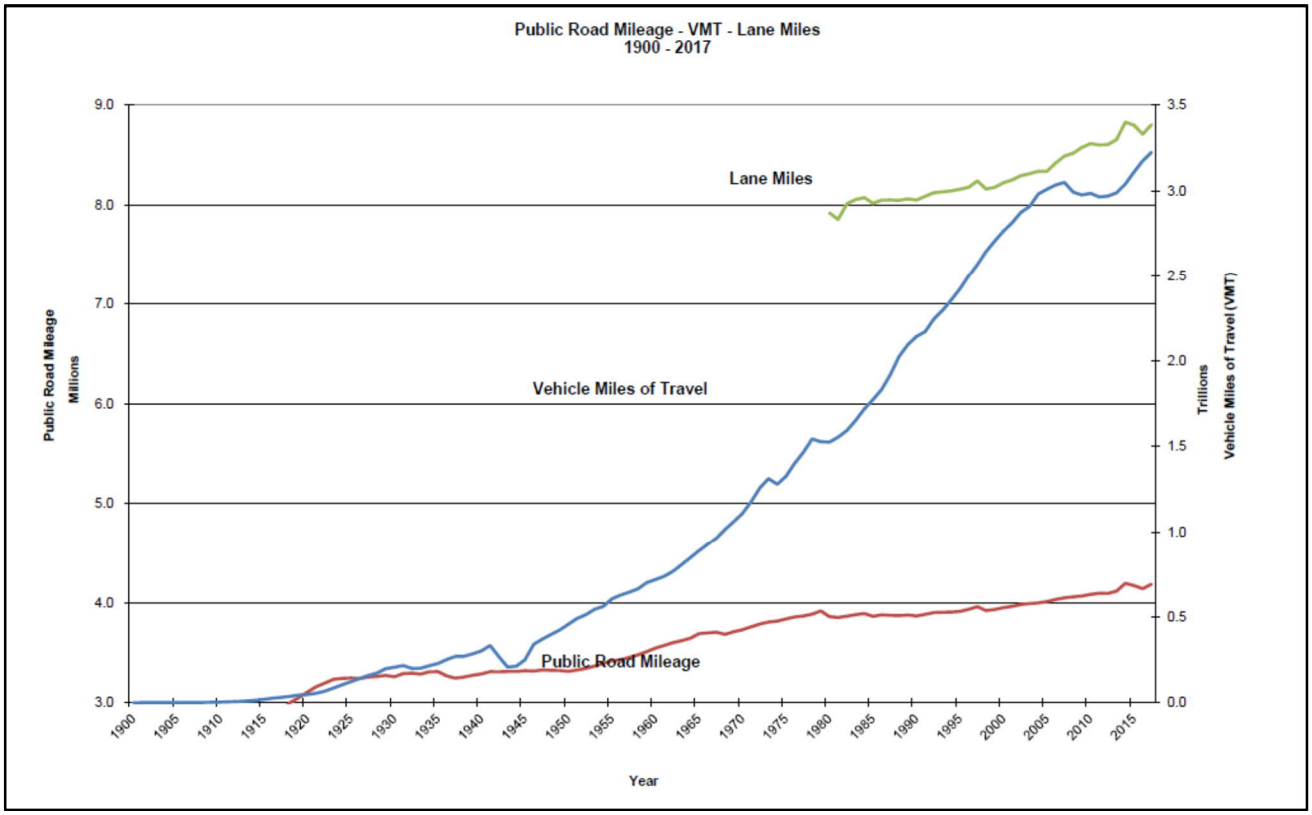
4.2 Carbon Monoxide Assessment

4.2.1 Background

As presented previously (Section 3.3), ambient concentrations of CO both nationally and locally have decreased over the long term to levels well below the applicable NAAQS. This has occurred primarily as a result of improved emission control technology, despite long-term increases in VMT. That is, the reduced levels of CO are the result of continued fleet turnover to new vehicles constructed to ever more stringent emission standards along with implementation of more stringent fuel quality standards.

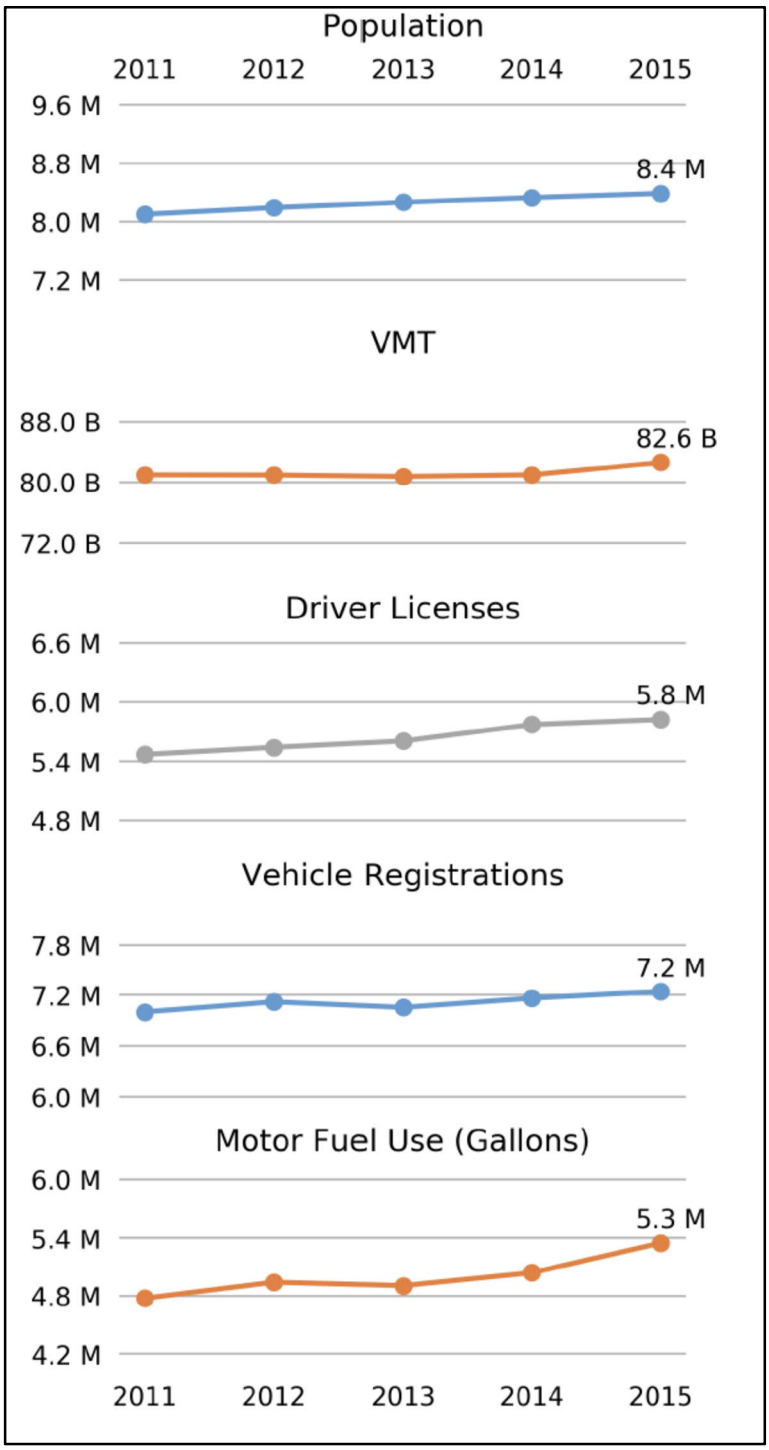
Exhibit 4-1 and Exhibit 4-2 present, respectively, the long-term trends in vehicle-miles-traveled (VMT) at the national level (public road) and recent trends in VMT and related statistics for Virginia. At the national level, VMT has increased significantly over the past several decades, with local trends generally reflecting the national trends. Exhibit 4-3 presents the increasingly more stringent new vehicle exhaust emission standards for CO as introduced by the US EPA over the past few decades, which have served to offset the growth in VMT.

Exhibit 4-1: Public Road Mileage, Lane-Miles and Vehicle Miles Traveled (VMT)



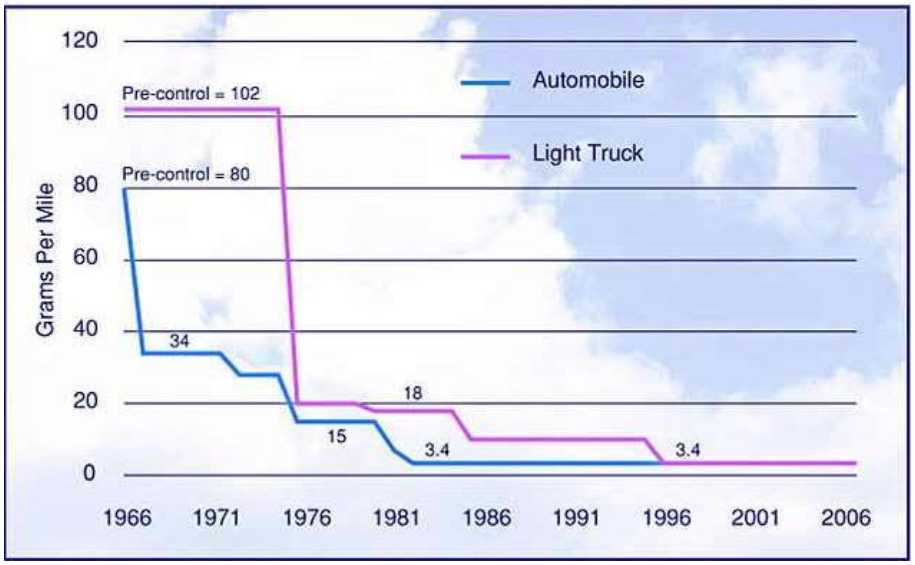
Source: FHWA Office of Highway Policy Information web site, accessed 2/12/2019.
See: https://www.fhwa.dot.gov/policyinformation/statistics/2017/vmt421c.cfm

Exhibit 4-2: Recent Trends in VMT and Related Statistics for Virginia



Source: FHWA Office of Highway Policy Information web site, accessed 2/13/2019.
https://www.fhwa.dot.gov/policyinformation/statistics/abstracts/2015/virginia_2015.pdf

Exhibit 4-3: Federal Emission Standards for CO for New Automobiles and Light Trucks



Source: U.S. Department of Energy, Office of Energy Efficiency and Renewal Energy. Transportation Energy Data Book: Edition 24, ORNL-6973. December 2004.

4.2.2 Level of Analysis Determination

The project meets the criteria for application of the 2016 FHWA-VDOT PA for all the signalized intersections analyzed in this report, except for the Opitz Boulevard and River Rock Way intersection. This intersection has a road grade higher than the 2% road grade limits in the 2016 PA (with a grade of 2.5%), and is thus not covered by the 2016 PA. The 2009 FHWA-VDOT PA, included by reference within the 2016 PA, was therefore used to evaluate the Opitz Boulevard and River Rock Way intersection. For this intersection, the skew angle is 90-degrees and the approach with the highest ADT (eastbound approach) is equal to 21,730. This ADT value is less than the limit specified in the 2009 PA of 59,000 ADT (skew angle of 60 degrees of higher). Thus, the Opitz Boulevard and River Rock Way intersection screened out based on the 2009 PA.

Exhibits 4-4 and 4-5 provide a summary of data applied for the screening. The project includes intersections with six approach lanes on each leg of the intersection, with a grade of 2% or less and forecast speeds not less than 15 mph. The Background CO values are the recommended values listed in Appendix H of the Resource Document.

4.2.3 CO Qualitative Analysis

This study includes nine signalized intersections. Out of the nine intersections analyzed, eight screened out under the 2016 PA and the remaining intersection screened out under the 2009 PA, which included by reference in the 2016 PA.

Exhibit 4-4: Intersections Build Alternative Carbon Monoxide Screening

Map ID	study area intersections	Major Street	Cross Street	Intersection Data - Build Alternative Carbon Monoxide Screening					2029 Build + Improvements					2016 Programmatic Agreement					2009 Programmatic Agreement			
				Skew Angle	Approach Lanes	Departure Lanes	Approach Speed at the Intersection	Lowest Posted Speed Limit	Vehicles Per Hour Per Lane	ADT	LOS AM(PM)	Delay (s) AM(PM)	Approach Speed (mph)	Skewed Intersection (Yes/No))	Grade - 2% or Less (Yes/No)	Approach Speed Greater than 15 mph (Yes/No)	Maximum Approach Lanes at the Intersection = < 6 (Yes/No)	Screen Out with 2016 PA?	ADT Less than 59,000 (Skew Angle ≥ 60 deg.)?	ADT Less than 39,000 (Skew Angle ≥ 45, <60 deg.)?	ADT Less than 49,000 (Skew Angle ≥30, <45 deg.)?	Screen Out with 2009 PA?
1	Opitz Boulevard/Smoketown Road and Gideon Drive	Opitz Boulevard/ Smoketown Road	Gideon Drive	90										No	Yes	Yes	Yes	Yes	Yes	N/A	N/A	Yes
	Northbound Approach				5	3	50	45	259	12,965	C (D)	22.7 (54.5)	50									
	Southbound Approach				4	2	35	30	181	7,247	C (E)	34.2 (60.9)	35									
	Eastbound Approach				4	3	50	45	496	19,833	B (F)	17.1 (204.8)	50									
	Westbound Approach				5	3	50	45	340	16,986	C (C)	25.6 (31.7)	50									
2	Opitz Boulevard and Potomac Mills Road	Opitz Boulevard	Potomac Mills Road	90										No	Yes	Yes	Yes	Yes	Yes	N/A	N/A	Yes
	Northbound Approach				4	2	35	30	182	7,292	B (C)	14.4 (33.9)	35									
	Southbound Approach				4	2	35	30	70	2,782	D (E)	44.6 (59.1)	35									
	Eastbound Approach				4	3	50	45	369	14,768	A (C)	9.1 (23.2)	50									
	Westbound Approach				5	3	50	45	363	18,142	A (B)	9.4 (14.9)	50									
3	Opitz Road and Telegraph Road	Opitz Boulevard	Telegraph Road	90										No	Yes	Yes	Yes	Yes	Yes	N/A	N/A	Yes
	Northbound Approach				1	1	40	35	85	854	C (E)	27.7 (59.8)	40									
	Southbound Approach				3	1	40	35	327	9,809	D (F)	38.6 (105.7)	40									
	Eastbound Approach				5	3	50	45	393	19,656	A (E)	8.8 (73.5)	50									
	Westbound Approach				4	4	50	45	558	22,317	A (E)	10.1 (62.9)	50									
4	Opitz Boulevard and River Rock Way	Opitz Boulevard	River Rock Way	90										No	No	Yes	Yes	No	Yes	N/A	N/A	Yes
	Northbound Approach				4	1	30	25	161	6,455	D (E)	42.6 (67.1)	30									
	Southbound Approach				2	2	20	15	70	7,858	E (F)	58.1 (82.5)	20									
	Eastbound Approach				3	2	50	45	724	21,730	C (B)	29.1 (15.4)	50									
	Westbound Approach				4	3	50	45	504	20,173	F (D)	80.6 (44.3)	50									

Map ID	study area intersections	Major Street	Cross Street	Intersection Data - Build Alternative Carbon Monoxide Screening					2029 Build + Improvements					2016 Programmatic Agreement					2009 Programmatic Agreement			
				Skew Angle	Approach Lanes	Departure Lanes	Approach Speed at the Intersection	Lowest Posted Speed Limit	Vehicles Per Hour Per Lane	ADT	LOS AM(PM)	Delay (s) AM(PM)	Approach Speed (mph)	Skewed Intersection (Yes/No))	Grade - 2% or Less (Yes/No)	Approach Speed Greater than 15 mph (Yes/No)	Maximum Approach Lanes at the Intersection = < 6 (Yes/No)	Screen Out with 2016 PA?	ADT Less than 59,000 (Skew Angle ≥ 60 deg.)?	ADT Less than 39,000 (Skew Angle ≥ 45, <60 deg.)?	ADT Less than 49,000 (Skew Angle ≥30, <45 deg.)?	Screen Out with 2009 PA?
5	Opitz Boulevard and Potomac Center Boulevard	Opitz Boulevard	Potomac Center Boulevard	60+										No	Yes	Yes	Yes	Yes	Yes	N/A	N/A	Yes
	Northbound Approach				4	1	50	45	354	14,175	D (D)	41.5 (46.8)	50									
	Southbound Approach				2	3	20	15	112	2,245	E (F)	68.4 (84.0)	20									
	Eastbound Approach				3	2	50	45	621	18,628	F (C)	84.3 (24.9)	50									
	Westbound Approach				5	2	50	45	314	15,718	F (F)	247.3 (147.2)	50									
6	Potomac Center Boulevard and Bridge View Drive	Potomac Center Boulevard	Bridge View Drive	90										No	Yes	Yes	Yes	Yes	Yes	N/A	N/A	Yes
	Northbound Approach				4	2	50	45	345	13,808	C (C)	26.6 (32.6)	50									
	Southbound Approach				4	2	50	45	317	12,693	B (C)	12.3 (22.0)	50									
	Eastbound Approach				3	2	30	25	117	3,523	C (C)	33.2 (28.6)	30									
	Westbound Approach				2	2	20	15	102	2,037	B (C)	18.8 (29.3)	20									
7	Potomac Center Boulevard and River Rock Way/Sheffield Hill Way	Potomac Center Boulevard	River Rock Way/ Sheffield Hill Way	90										No	Yes	Yes	Yes	Yes	Yes	N/A	N/A	Yes
	Northbound Approach				5	2	50	45	338	16,897	D (E)	42.8 (64.3)	50									
	Southbound Approach				4	2	50	45	271	10,845	D (F)	35.9 (112.4)	50									
	Eastbound Approach				3	2	30	25	263	7,883	C (E)	27.5 (55.1)	30									
	Westbound Approach				2	2	20	15	175	3,501	C (D)	34.7 (50.6)	20									
8	Dale Boulevard and Neabsco Mills Road	Dale Boulevard	Neabsco Mills Road /Potomac Center Boulevard	90										No	Yes	Yes	Yes	Yes	Yes	N/A	N/A	Yes
	Northbound Approach				5	2	50	45	176	8,781	F (E)	140.8 (70.2)	50									
	Southbound Approach				6	3	45	40	284	17,057	F (F)	115.8 (135.1)	45									
	Eastbound Approach				5	2	50	45	618	30,897	F (F)	111.1 (89.4)	50									
	Westbound Approach				3	2	50	45	775	23,246	E (D)	62.4 (53.1)	50									

Map ID	study area intersections	Major Street	Cross Street	Intersection Data - Build Alternative Carbon Monoxide Screening					2029 Build + Improvements					2016 Programmatic Agreement					2009 Programmatic Agreement			
				Skew Angle	Approach Lanes	Departure Lanes	Approach Speed at the Intersection	Lowest Posted Speed Limit	Vehicles Per Hour Per Lane	ADT	LOS AM(PM)	Delay (s) AM(PM)	Approach Speed (mph)	Skewed Intersection (Yes/No))	Grade - 2% or Less (Yes/No)	Approach Speed Greater than 15 mph (Yes/No)	Maximum Approach Lanes at the Intersection = < 6 (Yes/No)	Screen Out with 2016 PA?	ADT Less than 59,000 (Skew Angle ≥ 60 deg.)?	ADT Less than 39,000 (Skew Angle ≥ 45, <60 deg.)?	ADT Less than 49,000 (Skew Angle ≥30, <45 deg.)?	Screen Out with 2009 PA?
9	Dale Boulevard and Gideon Drive	Dale Boulevard	Gideon Drive	90										No	Yes	Yes	Yes	Yes	Yes	N/A	N/A	Yes
	Northbound Approach				3	2	30	25	50	1,513	E (F)	74.8 (98.4)	30									
	Southbound Approach				4	2	50	45	520	20,806	D (F)	49.5 (226.5)	50									
	Eastbound Approach				4	3	50	45	680	27,213	E (F)	58.6 (152.1)	50									
	Westbound Approach				4	2	50	45	555	22,213	C (D)	31.4 (42.2)	50									

Notes: N/A – Not applicable

All nine intersections were evaluated further per the PA screening methodology. For a project with intersections with six approach lanes on each leg of the intersection, with a grade of 2% or less and forecast speeds not less than 15 mph, Table 2 of the 2016 PA shows a worst-case contribution of 6.5 ppm for the one-hour CO standard based on national-level modeling; this approach has also been applied to the intersection that screens out with the 2009 PA. Adding a local background concentration, as specified in the Resource Document, and adding a recommended persistence factor of 0.77 to the eight-hour concentration, will result in the values shown in Exhibit 4-5 for the worst-case one-hour and eight-hour CO concentrations. Based on the results, concentrations for comparison to one-hour and eight-hour NAAQS at all nine signalized intersections would be below the NAAQS.

The project is consistent with (and does not exceed) the project types and conditions listed in the agreement between FHWA and VDOT for streamlining the project-level air quality analysis process for carbon monoxide. Modeling using "worst-case" parameters has been conducted for these project types and conditions. It has been determined that projects such as this one would not significantly impact air quality and would not cause or contribute to a new violation, increase the frequency or severity of an existing violation, or delay timely attainment of the NAAQS for CO at the intersections presented in Exhibit 4-5.

4.2.4 Construction Emissions

Construction of this project would cause only temporary increases in emissions. A quantitative assessment of construction emissions is not required as the project location is not in an area subject to project-level conformity requirements for CO. Additionally, even if conformity did apply, the primary criterion for conducting construction emission analyses for conformity purposes (five years, per 40 CFR 93.123(c)(5))[24] would not be expected to be exceeded for the construction of this project.

4.3 Mobile Source Air Toxic (MSAT) Assessment

FHWA most recently updated its guidance for the assessment of MSATs in the NEPA process for highway projects in 2016[25]. The updated guidance states that "EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers or contributors and non-cancer hazard contributors from the 2011 National Air Toxics Assessment (NATA)[26]. These are 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter." It also specifies three possible categories or tiers of analysis, namely, 1) projects with no meaningful potential MSAT effects or exempt projects (for which MSAT analyses are not required), 2) projects with low potential MSAT effects (requiring only qualitative analyses), and 3) projects with higher potential MSAT effects (requiring quantitative analyses).

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[24] See: https://www.gpo.gov/fdsys/pkg/CFR-2014-title40-vol20/xml/CFR-2014-title40-vol20-sec93-123.xml

[25] FHWA, "*INFORMATION: Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents*", October 18, 2016. See: http://www.fhwa.dot.gov/environment/air_quality/air_toxics/

[26] See: https://www.epa.gov/national-air-toxics-assessment

Exhibit 4-5: Intersections Build Alternative Carbon Monoxide Qualitative Analysis

Map ID	study area intersections	2016 FHWA-VDOT PA - Table 2 (One-hour CO concentrations - Project Contribution)	Local Background Concentration (One-Hour) (as specified by or in association with the VDOT Resource Document) * NOVA Region	Local Background Concentration (8-Hour) (as specified by or in association with the VDOT Resource Document) * NOVA Region	Local Persistence Factor (as specified by or in association with the VDOT Resource Document) ^	Worst Case One-hour concentration (ppm)	Worst Case Eight-hour concentration (ppm)	One-Hour comparison if less than the applicable NAAQS (Yes/No)	8-Hour comparison if less than the applicable NAAQS (Yes/No)	If both concentrations are less than the applicable NAAQS, then the project is covered by the PA. The eight-hour NAAQS is typically the limiting value
1	Opitz Boulevard/Smoketown Road and Gideon Drive	5.2	1.6	1.4	0.77	6.8	5.4	Yes	Yes	Yes
2	Opitz Boulevard and Potomac Mills Road	5.2	1.6	1.4	0.77	6.8	5.4	Yes	Yes	Yes
3	Opitz Road and Telegraph Road	5.2	1.6	1.4	0.77	6.8	5.4	Yes	Yes	Yes
4	Opitz Boulevard and River Rock Way	5.2	1.6	1.4	0.77	6.8	5.4	Yes	Yes	Yes
5	Opitz Boulevard and Potomac Center Boulevard	5.2	1.6	1.4	0.77	6.8	5.4	Yes	Yes	Yes
6	Potomac Center Boulevard and Bridge View Drive	5.2	1.6	1.4	0.77	6.8	5.4	Yes	Yes	Yes
7	Potomac Center Boulevard and River Rock Way/Sheffield Hill Way	5.2	1.6	1.4	0.77	6.8	5.4	Yes	Yes	Yes
8	Dale Boulevard and Neabsco Mills Road	5.2	1.6	1.4	0.77	6.8	5.4	Yes	Yes	Yes
9	Dale Boulevard and Gideon Drive	5.2	1.6	1.4	0.77	6.8	5.4	Yes	Yes	Yes

Notes: * NOVA - Region

^ Overall Average persistence factor for the State

As this project involves a CE, and therefore under FHWA guidance may be categorized as a Tier 1 project for which no meaningful MSAT effects would be expected, neither a qualitative nor a quantitative analysis is needed. In addition, this project has been determined to generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special MSAT concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in MSAT impacts of the project from that of the no-build alternative.

Moreover, EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. As noted in the referenced FHWA MSAT guidance, based on regulations now in effect, an analysis of national trends with EPA's MOVES2014 model forecasts a combined reduction of over 90 percent in the total annual emissions rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 45 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

5.0 Conclusions

The proposed improvements were assessed for potential air quality impacts and compliance with applicable air quality regulations and requirements. All models, methods/protocols and assumptions applied in modeling and analyses were made consistent with those provided or specified in the VDOT Resource Document. The assessment indicates that the project is consistent with (and does not exceed) the project types and conditions listed in the 2016 and 2009 agreements between the Federal Highway Administration and the Virginia Department of Transportation for streamlining the project-level air quality analysis process for carbon monoxide. Modeling using "worst-case" parameters has been conducted for these project types and conditions. It has been determined that projects such as this one would not significantly impact air quality and would not cause or contribute to a new violation, increase the frequency or severity of an existing violation, or delay timely attainment of the National Ambient Air Quality Standard for carbon monoxide at all nine signalized intersections evaluated.

Source F

Traffic Noise Screening Analysis

TRAFFIC NOISE SCREENING ANALYSIS

Neabsco/Potomac Commuter Parking Garage
Prince William County, Virginia

UPC 111485

Prepared for:

Prince William County
Virginia Department of Transportation

Submitted by:

October 2020

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Project Description

This Traffic Noise Screening Analysis documents preliminary noise evaluations for the proposed Neabsco/Potomac Commuter Parking Garage in Prince William County, Virginia. This screening analysis was completed in accordance with the Federal Highway Administration (FHWA) regulations contained in 23 CFR 772, Virginia Department of Transportation (VDOT) State Noise Abatement Policy (SNAP), and the VDOT Highway Traffic Noise Impact Analysis Guidance Manual (manual) Section 6.1.2 (Screening Analysis).

Prince William County Department of Transportation is proposing to construct a 1,400-space commuter parking garage at 2501 Opitz Boulevard, Woodbridge, Virginia. The current plans for the site include building a commuter parking garage, kiss and ride area, slug lane area and bus bays. The proposed project build-out year is 2023. The layout for the site also includes 2.7 acres of land to the north of the garage for future development. Exact land use and build-out date for the future development was not known when this analysis was conducted; therefore, this analysis does not include a noise assessment associated with this potential development area.

The site is in Woodbridge, bounded by Opitz Boulevard to the north, River Rock Way to the west and southwest, Potomac Center Boulevard to the east, and Bridge View Drive to the southeast. Proposed access to the commuter parking garage is via full access driveways on River Rock Way and Bridge View Drive; and a right-in/right-out driveway on Potomac Center Boulevard.

In addition to signal optimization at intersections surrounding the project site, the following roadway changes would be made to facilitate access to and from the commuter parking garage and transit center:

- River Rock Way, south of Opitz Boulevard: (1) extend the existing southbound left turn lane into the project site up to Opitz Boulevard, creating two southbound receiving lanes; and (2) change the northbound lane configuration to two left-turn lanes, one shared left-through lane and one right-turn lane, which would increase the total number of lanes from three to four.
- Opitz Boulevard, west of River Rock Way: extend the northbound Interstate 95 (I-95) ramp lane to the intersection, creating a third westbound lane.
- Opitz Boulevard between River Rock Way and Potomac Center Boulevard: (1) extend the westbound left-turn lane to River Rock Way from 255 feet to 400 feet; and (2) extend the eastbound right-turn lane to Potomac Center Boulevard across the entire block.
- Opitz Boulevard, east of Potomac Center Boulevard: extend the westbound dual left-turn lanes from 415 feet to 1000 feet.
- Potomac Center Boulevard, south of Opitz Boulevard: (1) extend the northbound dual left-turn lane back to Bridge View Drive; and (2) provide a third southbound receiving lane.
- Bridge View Drive and River Rock Way, both west of Potomac Center Boulevard: change the eastbound middle through-only lane to a shared left-through lane.

Regulations and Criteria

The SNAP has adopted the Noise Abatement Criteria (NAC) that have been established by FHWA (23 CFR 772) for determining traffic noise impacts for a variety of activity categories. The NAC, as shown in Table 1, represents the upper limit of acceptable traffic noise conditions. The NAC applies to areas having regular human use and where lowered noise levels are desired. They do not apply to the entire tract of land on which the activity is based, but only to that portion where the activity takes place. The NAC are given in terms of the hourly, A-weighted, equivalent sound level in decibels (dBA).

A noise sensitive receptor is impacted by traffic noise if either of the following two conditions are met:

- The VDOT SNAP defines an approach level to be used when determining a traffic noise impact. The "Approach" level has been defined by VDOT as 1 dB(A) less than the Noise Abatement Criteria for Activity Categories A to E.
- The predicted traffic noise levels are substantially higher than the existing noise levels. VDOT defines a substantial noise increase to have occurred when the predicted highway traffic noise levels exceed existing noise levels by 10 dB(A) or more for all noise sensitive exterior activity categories.

Table 1: FHWA Noise Abatement Criteria

Activity Category[1]	$L_{eq}(h)$[2]	Evaluation Location	Activity Description
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67	Exterior	Residential
C	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F
F	–		Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	–		Undeveloped lands that are not permitted (without building permits)

[1]Leq is the value or level of a steady, non-fluctuating sound energy that represents the same sound energy as the actual time-varying sound evaluated over the same time-period.
[2]Includes undeveloped lands permitted for activity categories B, C, and E.
Source: 23 CFR Part 772

Existing Conditions

A desktop review (Google Earth) of the project area was completed to identify areas of frequent human use, which were then assessed in this noise analysis. The project area is typically defined as 500 feet from the proposed edge of pavement. Project improvements and noise sensitive sites are found on Figure 1.

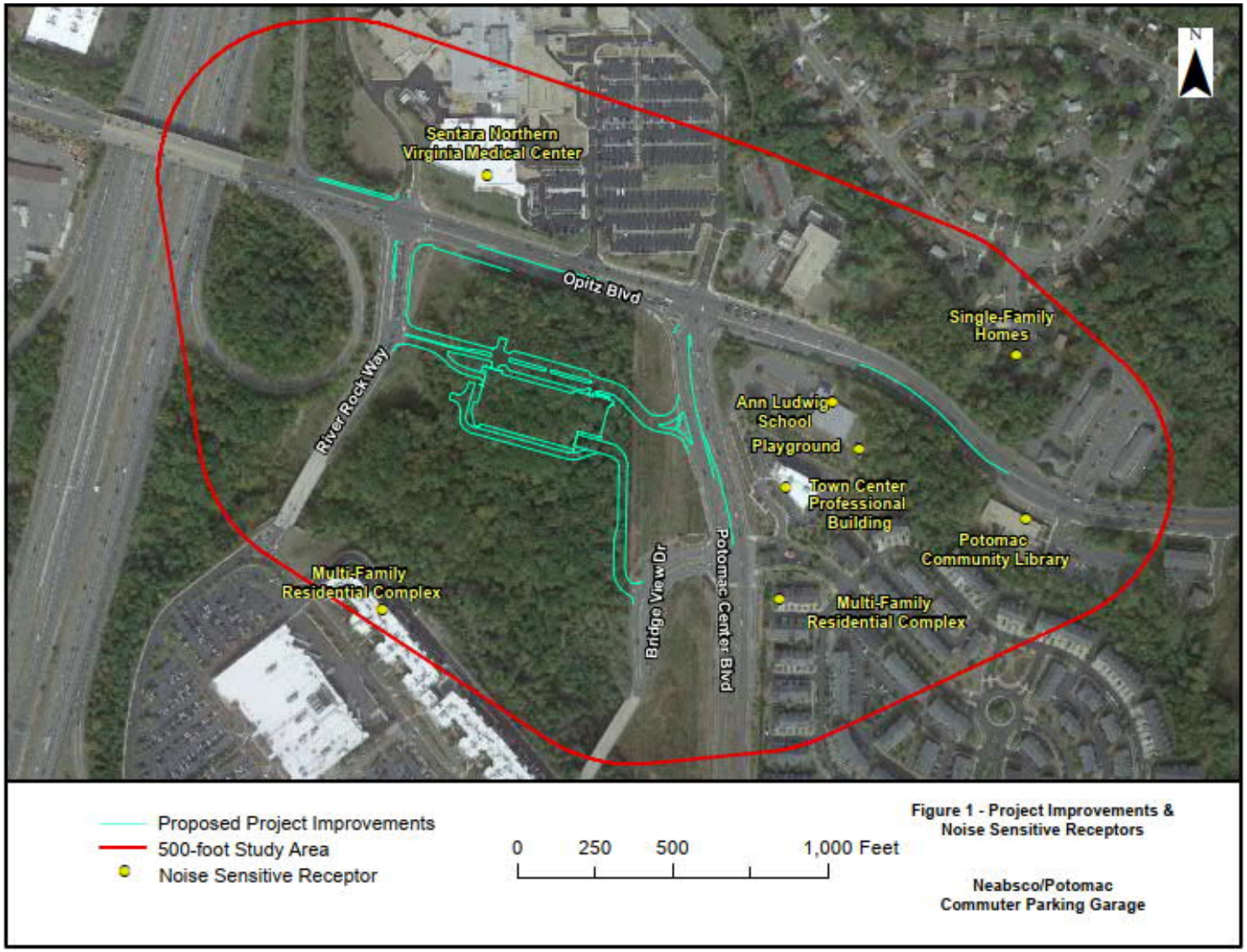
The following sensitive sites were identified within the 500-foot study area:

- A multi-family residential complex (Category B) is approximately 200 feet east of River Rock Way.
- Ann Ludwig School building (Category D) is approximately 90 feet south of Opitz Boulevard and 290 feet east of Potomac Center Boulevard. An outdoor playground part of Ann Ludwig School (Category C) is approximately 400 feet east of Potomac Center Boulevard and 230 feet south of Optiz Boulevard.
- The Town Center Professional Building, a medical building with no outdoor use (Category D), is approximately 140 feet east of Potomac Center Boulevard.
- A group of single-family homes (Category B) is approximately 180 feet north of Optiz Boulevard
- Sentara Northern Virginia Medical Center (Category D) is approximately 140 feet north of Opitz Boulevard. There are no outdoor uses.
- A multi-family residential complex (Category B) is approximately 60 feet east of Potomac Center Boulevard.
- Potomac Community Library (Category D) is approximately 55 feet south of Opitz Boulevard. There are no outdoor uses.

The other land uses within the project study area include commercial land uses with no outdoor space. Furthermore, undeveloped land that is permitted for development is considered noise sensitive and included in traffic noise assessments if a building permit for an individual lot or site is approved prior to the Date of Public Knowledge for the project. Building permit records, using the online Prince William County Building Development Division[1], were searched and no approved building permits were found within the project study area.

[1] https://www.pwcgov.org/government/dept/development/bd/Pages/default.aspx

Figure 1: Project Improvements & Noise Sensitive Receptors



Traffic Noise Screening Analysis

A simplified traffic noise screening analysis was conducted by computing noise levels at various distances from the edge of the project roadways and developing noise contours. The traffic noise impact thresholds for FHWA NAC "B" and "E" land uses, respectively, are 66 and 71 dB(A). This is the estimated maximum extent a noise impact would occur for exterior first-floor noise sensitive land uses. The noise contour distance is from the proposed edge of the nearest travel lane.

Version 2.5 of the FHWA Traffic Noise Model (TNM) was used to model existing and build roadways in the PM peak-hour for this screening analysis. Roadways and ground zones along River Rock Way, Potomac Center Boulevard, and Optiz Boulevard were modeled in TNM. Receivers were placed in an array spaced 25 feet apart and up to 200 feet from the edge of pavement, perpendicular to the three modeled roadways, to determine noise contours. In order to predict worst-case traffic noise conditions, no terrain lines, buildings, or other TNM objects that would obstruct noise were included in the model. Non-ground level receptors would experience lower noise levels because the receiver array was placed at the same elevation as the roadway, therefore minimizing the distance from noise source to receiver. Traffic volumes and traffic speeds were derived from the *Neabsco/Potomac Commuter Parking Garage Traffic Impact Analysis* (May 2020). Figure 2 shows a plan view of the build TNM model.

Figure 2: Plan View of Build TNM Model

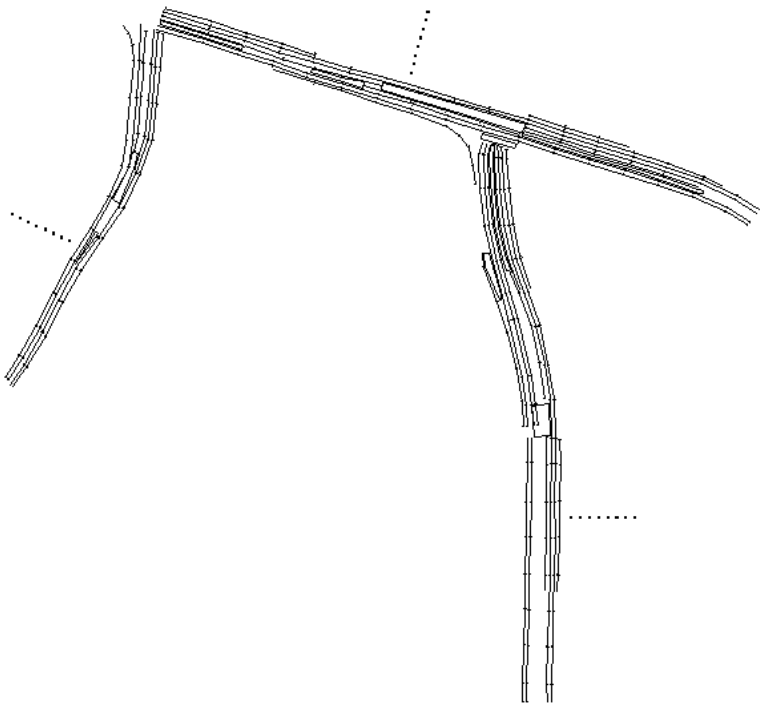


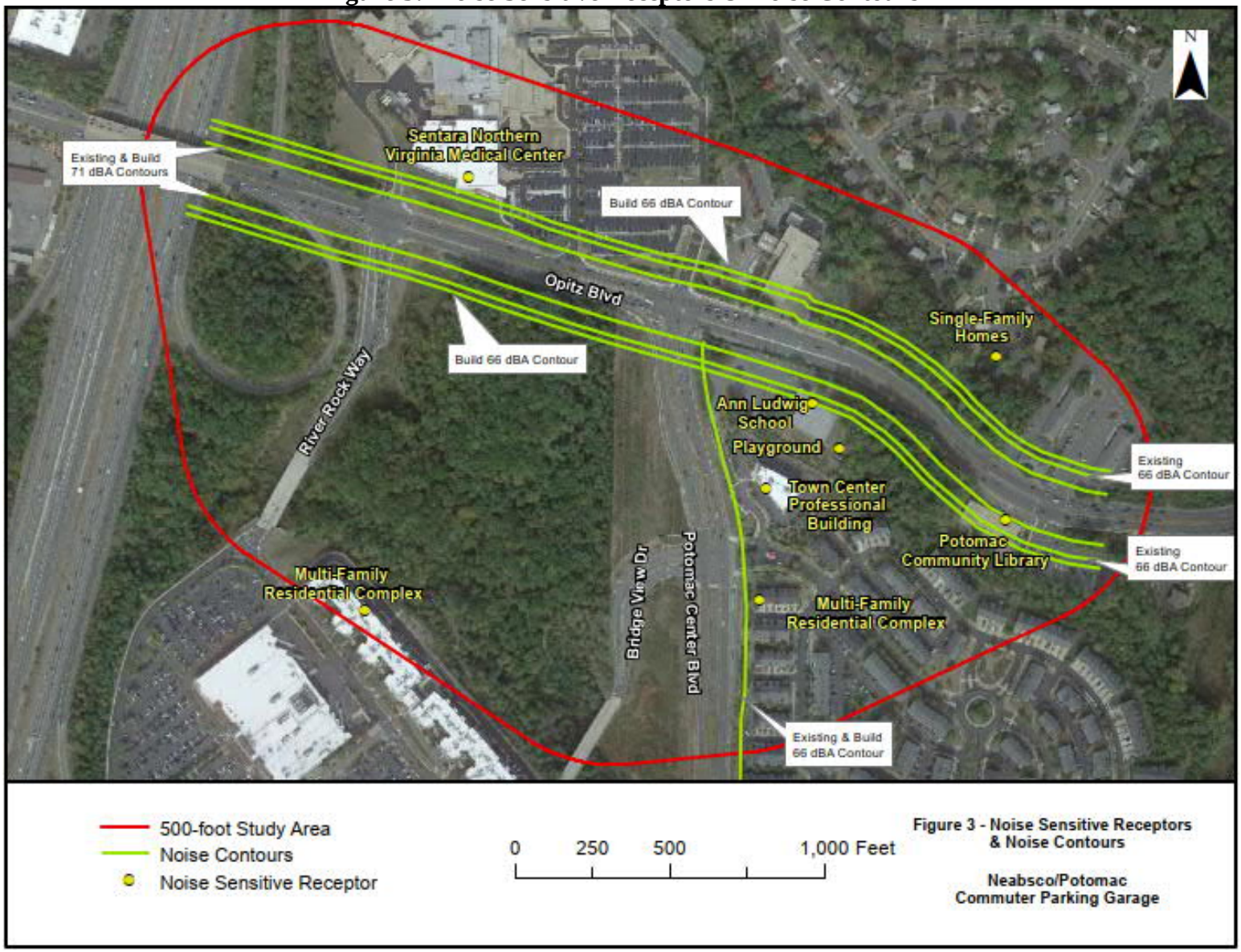
Table 2 shows the approximate distance to the noise level contours of each sensitive receptor, and Figure 3 shows the location of the 66 dB(A) and 71 dB(A) contours, respective to the modeled roadways in TNM.

Table 2: Noise Contour Distances

Location	Distance to Noise Level Contour (feet)			
	66 dB(A)		71 dB(A)	
	Existing	Build	Existing	Build
River Rock Way	N/A	N/A	N/A	N/A
Potomac Center Blvd	50	50	N/A	N/A
Optiz Blvd	100	125	50	50

N/A because the noise contour is less than 25 feet away from the proposed edge of pavement. No noise sensitive land uses are this close to the edge of pavement.

Figure 3: Noise Sensitive Receptors & Noise Contours



Conclusion

As shown in Figure 3, most noise sensitive receptors are located outside of the noise contours and would therefore not experience noise impacts. Potomac Community Library (Category D), which does not have an outside use, is within the 66 dBA build contour and on the edge of the 71 dBA build contour. The Ann Ludwig School building (Category D), which also does not have an outside use (the outdoor playground is analyzed separately, as it is farther back from the roadway), is within the 66 dBA build contour. These Category D noise receptors require the use of a building noise reduction factor to calculate the interior noise level. A masonry building type with a single glazed window condition equates to a 25-dBA noise reduction[2]. When the building noise reduction factor is applied to either the 66 or 71 dBA contour, the resulting interior noise level is equivalent to 41 or 46 dBA, respectively. Both of these noise levels are below the 52 dBA Category D threshold and, therefore, these two Category D sites would not experience noise impacts.

This project is not anticipated to result in overall noise levels approaching or exceeding applicable NAC levels at any noise sensitive receptors. As such, this project is not considered to result in noise impacts that would require consideration of abatement.

References

CFR, Chapter 1, Subchapter H, Part 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise*, July 2011.

Highway Traffic Noise: Analysis and Abatement Guidance, U.S. Department of Transportation, Federal Highway Administration, December 2011.

Highway Traffic Noise Impact Analysis Guidance Manual, Virginia Department of Transportation, July 2018.

State Noise Abatement Policy, Commonwealth of Virginia, July 2015.

[2] FHWA-PD-96-046, Measurement of Highway Related Noise, Final Report, May 1996.

Source G

Phase I Environmental Site Assessment

Source H

Interagency Meetings Summaries

Neabsco / Potomac Commuter Parking Garage: NEPA & DB Support
Meeting Minutes – 7/17/2019 Kick-off Meeting

Job Title	Neabsco / Potomac Commuter Parking Garage
Project Number	Federal # STP-5A01(907) State Project# PRGA-076-242 UPC:111485 WSP #185719H
Meeting Date, Time	**July 17, 2019 – 1:30 PM**
Meeting Location	5 County Complex Court PWC- Conference Room 202 A/B
Subject	**Project Kick-off Meeting**
Attendees	See attached sign-in sheet
Distribution	Attendees

Meeting Purpose:
Initial meeting with PWC, VDOT and WSP to kick-off the task order, introduce the team members, discuss scope, schedule and the upcoming design activities. See attached agenda.

Discussion	Action items
→ INTRODUCTION → Attendees (see attached sign-in sheet) introduced themselves. ▪ Rick Canizales – PWC Director ▪ Mary Ankers – PWC DOT ▪ Alicia Hart – PWC Public Works ▪ Amir Salahshoor – VDOT Local Assistance ▪ Perrin Palistrant – OmniRide ▪ Mario Depadua – WSP Architecture ▪ Kevin Pontiff – WSP Architecture ▪ Aleksandra Tuliszka – VDOT ▪ Stephanie Pomeroy – PWC DOT ▪ Keranda Swinton – PWC DOT ▪ Ines Flores – PWC DOT ▪ Sanora Lewis – PWC DOT ▪ Donna Rubino – PWC BDD ▪ Shana N. Terry – PWC Purchasing ▪ Andrew Negvesky – PWC B&G ▪ John Flemming – PWC DOT ▪ Mohammad Ayyoubi – PWC DOT ▪ Meika Daus – PWC Planning ▪ Saif R. Qargha – VDOT LAP Coordinator ▪ Seth Hendler-Voss – PWC DPRT ▪ Heidi Mitter – VDOT Transportation Planning ▪ Betsy Godfrey – WSP Geotech ▪ Christopher Leonard – WSP Drainage/SWM ▪ Christi Fragale – WSP Civil / Roadway ▪ Khattab Shammout – PWC DOT ▪ Robert Morris – WSP Project Manager ▪ Matt Villard – PWC Public Works ▪ Elnour Adam – PWC DOT Project Manager ▪ Angel Tao – VDOT	•
• **PROJECT BACKGROUND** → The Director introduced the project and background information ▪ Site was originally designed by developer as a garage and baseball field ▪ BOS recently purchased the parcel ▪ This will be PWC DOT's first parking structure. ▪ Garage will be County owned and maintained.	

Discussion	Action items

- $37M budget (Smartscale and federal funds)
- It will be a commuter garage that is free to the public
- There will be no time restrictions or use restrictions. Open to all but it will be primarily for commuter use.
- Original scope included 7-story garage with 1400 spaces. The height/footprint will be optimized but the parking spaces must remain at 1400.

→ VDOT LAP
- Will be a Tier II project.
- Need to be aware of the dashboard
- PWC and VDOT will work parallel to expedite reviews by Central Office
- Scoping Phase will be closed after RFQ (30% plans and all VDOT comments have been addressed).
- If design-builder changes the design PWC will not have to re-open scoping.
- VDOT will review the roadway and drainage for areas within their ROW; PWC will be responsible for reviewing the structure and surrounding site development.
- VDOT LAP suggested a second meeting with them to review the process; if necessary

- **PROJECT SCOPE**

→ WSP went through the meeting agenda and power point presentation
- Agenda as well as Power Point are attached to these meeting minutes for reference.
- WSP Team goal is to refine the design within the site taking into account the constraints, but keep the design flexible enough to allow for potential design builder innovation.

- **STATUS UPDATES**

→ Environmental Updates:
- The field survey was performed for the endangered Small whorled pogonia and harperella habitats; none were encountered.
- Wetlands were encountered and have been flagged for pick up by the survey crews.

→ Survey Updates:
- Aerial imagery was flown with a separate task order in order to complete before trees blossomed in April 2019
- Field crews are currently surveying the garage parcel since we have access to this property
- Parcels for additional roadway improvements may be delayed due to change in the Code / VDOT Survey Manual regarding site notices
- Survey should be complete in early September

→ Traffic data collection will not begin until the fall (after school is back in session)
→ Geotechnical field work will begin after preferred alternative for garage location is chosen

- **ALTERNATIVES ANALYSIS (DRAFT)**

→ WSP provided “sneak peak” at 3 alternatives that are currently being developed. These alternatives will be presented at a formal alternatives analysis meeting in the upcoming months.

<u>Original Layout (Southern end of site) Highlights</u>
- Potential for future development / shared use of garage with another facility
- Closer to Resource Protection Area (RPA); steeper slopes
- Likely more rock blasting required
- Partially underground so will require additional HVAC, fire suppression, etc
- Less visibility from Opitz Blvd (garage will not appear as tall)
- Provides a larger area for adjacent economic development

Discussion	Action items

- Stipulations in the purchase agreement will not allow for PWC to sell this portion of the site for commercial use. Can be a public use, hotel or office.

Option A (NW Corner of Site) Highlights

- Utilizes flatter area of site.
- Garage will be above grade; avoid rock
- Already partially cleared
- Farther away from RPA
- More visibile from Opitz Blvd
- Limits adjacent development

Option B (Perpendicular orientation to Opitz Blvd) Highlights

- Similar key points to Option A
- Kiss N' Ride adjacent to Opitz Blvd
- Bus parking below structure extensions could provide cover for pedestrians

- **QUESTION & ANSWER**

→ What type of material is preferred for the building?
- Best materials within the budget.
- WSP will prepare sample materials and approximate costs.

- **WSP** to provide sample materials and approx. costs to PWC

→ Are there height restrictions on the building?
- Zoning code limits certain buildings to 45ft. The garage will be exempt but if the design can limit the height to 45ft that could help expedite reviews.
- WSP mentioned that we are currently looking at designs for lower structures with larger footprint; more cost effective.

→ Amenities?
- Technology to show available parking spaces
- Charging Stations
- No Toilets
- Elevators (per ADA requirements)

→ How many bus bays does OmniRide hope to include?
- 6 bays would be ideal since it will service both local and commuter buses. Bays can be separate (ie 3 and 3) if necessary.
- Bays can just be long single bays rather than sawtooth if that saves space.
- Bus Shelters / Canopies for waiting pedestrians

→ Should PH be held before RFQ? Perhaps only for NEPA?
- Public information meeting will be held before RFQ; PH will be held after award in case the design builder revises the design (avoid multiple PHs)
- PWC will discuss with VDOT and provide update to schedule, if necessary

→ Can RFQ be skipped and go straight to RFP?
- A 2 step DB procurement is preferred but PWC will discuss
- It is OK if contract award schedule slips a little since current schedule has award in December 2020; have a few months of float before start of construction season

→ Are there green space requirements? This will be additional maintenance.
- PWC mentioned that we will only be developing a portion of the parcel therefore a few acres will remain wooded and additional greenspace should not be required.
- The portion we are not touching is currently wooded and should not require much maintenance.

→ Maintenance?
- Maintenance money for garage will come from general fund

Discussion	Action items
▪ PWC is responsible to maintain the recently purchased parcel; there were some funds set aside from the purchase that can be utilized for maintenance while the project is under design ▪ Should be minimal since site is currently wooded ▪ PWC is not responsible for maintenance of existing bridge. → Will pedestrian improvements be included with the roadway/traffic improvements? ▪ A pedestrian walkway is currently being designed by PWC to increase connectivity from the Library to corner of Opitz Blvd and Potomac Center Blvd ▪ Additional improvements may also be included → Will wayfinding signage be provided for the garage? ▪ Signs can be proposed. ▪ It will not be included in the 30% design plans but can be a provision in the RFP documents. → Will updated traffic analysis include future proposed improvements to I-95? ▪ NB ramps from I-95 to Opitz Blvd may be constructed after this project as part of the 95 Express Lanes Project ▪ VDOT will provide concept sketches • **ACTION ITEM SUMMARY** → WSP Team to complete topographical survey → WSP Team to prepare 3 design alternatives → WSP Team to provide kickoff meeting minutes, power point slides, and FTP link to the Site Analysis & Selection Report for review by meeting attendees.	• **VDOT** to provide concept drawings for I-95 NB ramps

Minutes prepared by: C. Fragale Reviewed by: R. Morris

Date issued: 7/23/19

These minutes reflect the recorder's understanding of the discussions at the meeting. The minutes shall initially be considered as draft, open to comments for a period of five business days beyond the date of initial issuance. If no comments are received within five days, these minutes shall be considered final.

Neabsco / Potomac Commuter Parking Garage: NEPA & DB Support
Meeting Minutes – 8/30/2019 Alternatives Analysis-Stakeholder Meeting #1

Job Title	Neabsco / Potomac Commuter Parking Garage
Project Number	Federal # STP-5A01(907) State Project# PRGA-076-242 UPC:111485 WSP #185719H
Meeting Date, Time	**August 30, 2019 – 9:00 AM**
Meeting Location	5 County Complex Court PWC- Conference Room 202 A/B
Subject	**Alternatives Analysis – Stakeholder Meeting #1**
Attendees	See attached sign-in sheet
Distribution	Attendees

Meeting Purpose:
Meeting with Project Stakeholders, PWC, VDOT and WSP to review the alternatives analysis for three options within the Potomac Town Center Parcel at Opitz Boulevard. See attached agenda.

Discussion	Action items
→ INTRODUCTION → Attendees (see attached sign-in sheet) introduced themselves. ▪ Rick Canizales – PWC Director ▪ Dagmawie Shikurye – PWC DOT Project Manager ▪ Elnour Adam – PWC DOT ▪ Khattab Shammout – PWC DOT ▪ Adam Manne – PWC Finance ▪ Keishla Perez – PWC Finance ▪ Seth Hendler-Voss – PWC DPRT ▪ Marc Aveni – PWC Public Works – Environmental Services ▪ Raj Bidari – PWC Public Works - Stormwater ▪ Matt Villareale – PWC Public Works – Assistant Director ▪ Mary Ankers – PWC DOT ▪ Perrin Palistrant – OmniRide ▪ Paolo Belita – PWC DOT ▪ Michael EL-Hage – PWC Public Works ▪ Stephen D. Kindy – VDOT CO APD ▪ Meika Daus – PWC Planning ▪ Rebecca Horner – PWC Planning ▪ Donna Rubino – PWC Building Development Division ▪ Ademola Awofisayo - PWC Building Development Division ▪ Mark Blakely – PWC DOT ▪ Saif R. Qargha – VDOT LAP Coordinator ▪ Heather Diez – PWC DOT ▪ Mario Depadua – WSP Architecture ▪ Betsy Godfrey – WSP Geotech ▪ Christi Fragale – WSP Civil / Roadway ▪ Jason Yazawa- WSP Environmental ▪ Robert Morris – WSP Project Manager	•
• **OVERVIEW** → WSP went through the meeting agenda and power point presentation ▪ Agenda as well as Power Point are attached to these meeting minutes for reference. → WSP presented three options for the garage placement within the site and associated alternatives analysis showing the pros and cons for each option ▪ Pro / Con list is attached to these meeting minutes for reference	

Discussion	Action items

- **SITE DESCRIPTION / BACKGROUND**
  - → WSP reviewed the existing conditions for the Potomac Town Center Site that was recently purchased by PWC
    - 17.7 acre site includes RPA areas and powerline easements which limit developable areas

- **ALTERNATIVES ANALYSIS – GENERAL**
  - → Ingress/Egress and circulation for all 3 options was based on preliminary traffic data obtained during our site selection analysis report last year. WSP will be obtaining new counts and updating synchro files now that school is back in session. The goal of this meeting is to choose a preferred garage location on the site and then we will look into adapting it taking into account the latest traffic models.
  - → Travel times in the original report were based on the concept that the majority of traffic will exit the garage onto River Rock way and turn left onto Opitz Blvd for easy access to I95 NB. It was also assumed that buses will follow this basic traffic pattern. For the alternatives presented today we have maintained this assumption in order to maintain consistency among the three options for comparison purposes.
  - → All options current show right-in / right-out access from Potomac Town Center Blvd. WSP will investigate the feasibility of this from a traffic standpoint once new traffic data is received. If this is not feasible than an option to provide access to Bridge View Drive will be explored.
  - → All options show access to River Rock Way at the existing curb cut that was constructed by the developer when the site was originally planned to be developed as a ballpark. This entrance was already approved previously by VDOT.
  - → All options show two entry/exit points from the garage at the first-floor elevation. Each consists of 1 entry, 1 exit, 1 reversible lane.
  - → Preliminary results from the wetland site reconnaissance conducted by 3e Consulting (July 2019)
    - Channel running east – west on site is perennial with 100' RPA buffer
    - Channel running north – south on site is intermittent with no RPA buffer
    - Small area of wetlands that will be impacted by access road on the eastern side of site.

- **ALTERNATIVES ANALYSIS – ORIGINAL CONCEPT**
  - → Garage situated such that building is outside the 100' RPA limits. Access roadway is outside the 50' RPA limits. Pedestrian facilities and retaining walls encroach into 50' RPA.
    - It is assumed that the access road will be conditionally exempt as a "public road" and therefore (per DCSM Section 740.04B) will only require WQIA for the encroachment.
    - If the building is shifted to be within the 100' RPA it will require board review / approval in addition to the WQIA.
    - If the building is shifted to be within the 50' RPA is will also require approval from the CBPA board in addition to the items above
  - → Garage layout takes into account the existing topography of the site
    - Footprint expands as the levels go up to minimize rock excavation / earthwork
    - From Opitz Blvd visually only appears 3 levels high; from the rear it is 7 levels
  - → Main differentiating factor is that this option leaves ~2.5 acres for potential future development
    - The 3rd level of the garage structure could potentially tie directly into the future development
  - → Bus loop / Kiss n' Ride are one-way traffic flowing from east to west along the southern side of the garage
  - → T-Intersection on western side of site may create queueing issue. 2-lanes were merged into one lane (buses and cars) to help alleviate potential safety issues at this intersection.

Discussion	Action items

- **ALTERNATIVES ANALYSIS – OPTION A**
  - → Garage situated in the northwest quadrant of the site such that it avoids steep slopes
  - → This option allows space to optimize the circulation within the site without impacting RPA. Potential for two-way traffic (if necessary)
  - → Largest footprint but only 6 levels

- **ALTERNATIVES ANALYSIS – OPTION B**
  - → Garage is situated in the middle of the site and rotated perpendicular to Opitz Blvd
  - → Bus loop / Kiss n' Ride are one-way traffic running east to west along the northern side of the garage.
  - → Limits of the proposed improvements are constricted by the bus turning radii
  - → Has separate areas for both local and non-local buses
  - → Smallest footprint but highest total structure; 7 levels
  - → Assuming traffic remains running from east to west this would allow for only right turns around the loop and avoid conflict points / queueing

- **GEOTECHNICAL CONSIDERATIONS**
  - → WSP produced preliminary geotechnical profiles (based on borings from 2016 CTI report by the developer) for each option in order to quantify the amount of excavation (including rock) required for each option.

- **COST COMPARISONS**
  - → Focused the comparison on the big ticket items that would differentiate between the options. Items that would be similar between options were not included at this time.
    - Parking Structure Elements
    - Soil Bearing Capacity / Foundations
    - Earthwork for garage footprint and the site (including rock excavation)
    - Retaining Walls
  - → Original Option was approximately $2.5M more than the other options (see power point presentation, attached for cost breakdown)

- **PRO & CON COMPARISONS**
  - → WSP reviewed the pro / con list (attached to these minutes)

- **QUESTION / DISCUSSION**
  - → The Director mentioned it is the County's priority not to consume the entire parcel, if possible
  - → PWC should take into account the cost to purchase (or to sell to a developer) the 2.5 acres that is set aside as part of Original Option
    - Reserve frontage along Opitz Blvd / prime real estate
    - If possible, do not reduce this developable area; less than 2.5 acres will not be easily developed
    - It was mentioned that the County should talk with a developer to see what would make this property the most marketable
  - → Original Option: The proposed garage should be able to be adapted to connect directly into another structure.
    - Should take into account additional parking that would be required as part of a future development and additional access roads.
    - A surface lot could potentially be constructed within the powerline easement on the east side of the site (but would require significant fill of existing intermittent

Discussion	Action items

channel) or a seamless parking garage addition to the north end side of the proposed garage.

- → Original Option: Developable area could be an office space. This is in line with the future plan for this area.
  - Sales agreement with developer limits the uses for this parcel. Cannot be commercial retail space (only ancillary retail is allowed). Cannot be jail, landfill, homeless shelter, etc.
  - Could potentially also be developed into a hotel
  - It was also mentioned that a hospital is not intended to be developed on this parcel
- → Original Option: Has the most impacts to RPA. Would need to be coordinated with PWC Public Works / Stormwater to determine if the garage structure can be shifted into the RPA buffer (and if so, by how much?). This would potentially allow for the access road to be moved to the north of the garage and ideally service not only the garage but also a future development.
- → OmniRide rep would prefer to have a separate bus lane with two-way traffic.
  - Larger commuter buses are 45' long (design current shows only 40' buses)
- → Stakeholders expressed concern about traffic impacts and queue lengths.
  - WSP will analyze and model traffic patterns once new data is obtained.

- **ACTION ITEM SUMMARY**
  - → WSP Team to provide meeting minutes, power point presentation, and FTP link to download PDFs of the options presented (site plans & architectural renderings) for review by meeting attendees.
  - → PWC to confirm preferred alternative
  - → PWC to hold a "master plan" meeting to determine feasibility of developable area reserved as part of Original Option. Allowable encroachment into RPA will also be discussed.
  - → WSP to proceed with traffic analysis

Minutes prepared by: C. Fragale Reviewed by: R. Morris

Date issued: 9/4/19

These minutes reflect the recorder's understanding of the discussions at the meeting. The minutes shall initially be considered as draft, open to comments for a period of five business days beyond the date of initial issuance. If no comments are received within five days, these minutes shall be considered final.

Evergreen Mill Road Widening
Meeting Minutes – 2019-09-18 SWM Coordination & Strategy Meeting

Job Title	Neabsco / Potomac Commuter Parking Garage – NEPA & DB Support
Project Number	Federal #: STP-5A01(907) State Project #: PRGA-076-242 UPC: 111485 WSP #: 185719H
Meeting Date, Time	**September 18, 2019, 10:30 am**
Meeting Location	5 County Complex Court PWC – Conference Room 204
Subject	**SWM Coordination & Strategy Meeting**
Attendees	See attached sign-in sheet.
Distribution	Attendees

Meeting Purpose:
A meeting was held to discuss the overall stormwater management strategy for the Neabsco / Potomac Commuter Parking Garage Project. Towards the end of the meeting, discussion shifted to preparations for the upcoming environmental meeting on 2019-10-04.

Discussion	Action items

→ Attendees from PWC and WSP (see attached sign-in sheet) introduced themselves.

- Dagmawie Shikurye – PWC DOT Project Manager
- Elnour Adam – PWC DOT Alternative Delivery
- Mary Ankers – PWC DOT
- Khattab Shammout – PWC DOT
- Mark Blakely – PWC DOT
- Raj Bidari - PWC PW
- Michael El-Hage – PWC PW
- Robert Morris – WSP Project Manager
- Christi Fragale – WSP Civil / Roadway
- Robert Cade – WSP SWM / Drainage Lead
- Chris Leonard – WSP SWM / Drainage

→ Robert Morris introduced the project, noting that WSP had shown an on-site detention pond during the site selection phase. After the preliminary report was prepared, PWC DOT mentioned that there was a downstream regional pond near Site 5 that could potentially be used to satisfy SWM requirements. WSP has now explored this option.

- **REGIONAL POND (SWM FOR MAIN SITE) – OUTFALL #1**

→ Downstream regional facility was designed in 2004 which anticipated that the garage parcel would be developed to a CN of 92, equating to a commercial development.
  - The plans for this regional pond have been attached to these minutes for reference.

→ WSP to include the pond as-built plans in the ultimate SWM report and label as “for information only”. A detailed narrative will be included.

→ Since this is an existing regional pond, the DEQ approval mentioned in DCSM 721.06 does not apply.

→ Channel analysis between the project site and the regional pond will be per Part IIC, since that is was used to design the regional pond. Raj mentioned that we should not mix and match criteria.
  - Show that the existing channel is adequate for the 2-year velocity and 10-year capacity.
  - Basic channel calculations are sufficient for this analysis. A more intensive analysis, such as with HEC-RAS, is not necessary.
  - Condition of existing channel must be field verified with photographs and surveyed cross sections.

→ If existing channel is found to be inadequate, then would need either channel restoration or on-site detention.

Discussion	Action items
→ The water quality treatment provided by the regional pond is similarly sufficient to cover the site. It was approved for and constructed under the applicable criteria at the time.	
• **POND RETROFIT (SWM FOR OPITZ WIDENING) – OUTFALL #2** → The widening of westbound Opitz Boulevard at the intersection with Potomac Center Boulevard does not drain to the regional pond, and so will need separate stormwater management. → As this area is not covered by a regional facility, it is subject to the full Part IIB requirements. → Drains to existing pond on the hospital property. The pond receives runoff from this portion of Opitz Boulevard and a portion of the Anne Ludwig School property. → Retrofitting the existing pond could require upgrading to meet Part IIB criteria. ▪ Might not be necessary if retrofit only for quantity, but claim no quality credit. PWC to deliberate internally. ▪ In this case, water quality would be met with nutrient credits. → Potential to avoid impacting the existing pond by constructing a separate detention facility upstream, nearer to the actual widening. → PWC will work out final maintenance responsibility internally.	**WSP**: Pull as-built plans and evaluate existing pond. **PWC**: Provide final decision on what criteria would govern a pond retrofit.
• **GENERAL SWM DISCUSSION** → As the drainage area to the channel downstream of the main site is greater than 100 acres, that channel will require a floodplain study, per DSCM 730.05. → SWM report will need to feature a "very good narrative", including references to plan numbers and specific design criteria of the existing ponds. → The entire project, main site and roadway improvements, are in a single HUC. → The contractor will likely be responsible for acquiring the general construction permit, as they will have leeway to modify the design.	
• **ENVIRONMENTAL** → The meeting environmental criteria meeting was recently rescheduled to October 4th. → Encroachment into the 100 foot RPA, except for "public roads and their appurtenant structures", requires an exception from the PWC director of Public Works. → Encroachment into the 50 foot RPA additionally requires approval from the Chesapeake Bay Preservation Area Review Board, following a public hearing. → The benefits of allowing the garage itself in the RPA are to: ▪ Maximize the remaining developable area. ▪ Allow the access road to serve both the garage and any future development. → Consider changing the access floors for a relocated garage. → Relocated garage would need to be largely redesigned. → Current concept shows encroachment into both the 50 foot and 100 foot RPA. → Discussion of offering mitigation elsewhere to allow RPA encroachment. ▪ The RPA is an offset from the stream, so compensatory mitigation doesn't apply like it would for wetlands. ▪ Could play into the "reasonable and adequate conditions" portion of the exception.	**WSP**: Prepare exhibit showing the garage encroachment into RPA and the access road in between the garage and future development.

Minutes prepared by: C. Leonard

Date issued: 2019-09-20

These minutes reflect the recorder's understanding of the discussions at the meeting. The minutes shall initially be considered as draft, open to comments for a period of five business days beyond the date of initial issuance. If no comments are received within five days, these minutes shall be considered final.

Neabsco / Potomac Commuter Parking Garage: NEPA & DB Support
Meeting Minutes – 10/04/2019 Stakeholder Meeting #2

Job Title	Neabsco / Potomac Commuter Parking Garage – NEPA & DB Support
Project Number	Federal # STP-5A01(907) State Project# PRGA-076-242 UPC:111485 WSP #185719H
Meeting Date, Time	October 4, 2019 - 9:00 am
Meeting Location	5 County Complex Court PWC- Conference Room 202 A/B
Subject	**Stakeholder Coordination Meeting #2**
Attendees	See attached sign-in sheet
Distribution	Attendees

Meeting Purpose:
Meeting with Project Stakeholders, PWC, and WSP to review the updated design concept, review environmental conditions and discuss future development concepts. See attached agenda.

Discussion	Action items
→ INTRODUCTION → Attendees (see attached sign-in sheet) introduced themselves. ▪ Rick Canizales – PWC Director ▪ Dagmawie Shikurye – PWC DOT Project Manager ▪ Elnour Adam – PWC DOT ▪ Khattab Shammout – PWC DOT ▪ Marc Aveni – PWC Public Works – Environmental Services ▪ Clay Morris – PWC Public Works – Environmental Services ▪ Raj Bidari – PWC Public Works - Stormwater ▪ Mary Ankers – PWC DOT ▪ Donna Rubino – PWC Building Development Division ▪ Christi Fragale – WSP Civil / Roadway ▪ Robert Morris – WSP Project Manager	
• **OVERVIEW** → WSP went through the meeting agenda and power point presentation ▪ Agenda as well as Power Point are attached to these meeting minutes. → WSP presented an updated design concept for the garage placement within the site and associated location of the circulation road between the garage and the future development area that is reserved in the northern portion of the parcel. • **UPDATED CONCEPT** → WSP reviewed the existing conditions for the Potomac Town Center Site and the original design concept, including the placement of the access road to the south of the parking garage. → WSP presented the updated design concept, with the access road moved to the north of the parking garage. At this location, the road could serve to provide access to the future development site along Opitz Boulevard. → WSP presented the updated Kiss & Ride concept. This area will be located within the garage on the 3rd level. This will allow users to drop off people adjacent to bus drop off areas. → Two options were presented for providing a dedicated access into the garage, away from the bus, slug, and kiss & ride traffic. Option A provides a connection from Potomac Center Boulevard, and Option B provides a longer connection from Bridge View Drive at the existing curb cut. Option B was developed to provide more queueing length along the access road and prevent the possibility of traffic backing up into the adjacent roadways.	

Discussion	Action items

PWC is concerned that the curb cut on Bridge View Drive is very close to adjacent intersection with Potomac Center Boulevard and that any spillbacks from people entering the access road could create traffic problems. WSP will model this area as part of the traffic impact analysis.

- **ENVIRONMENTAL CONDITIONS**
  - → The existing environmental constraints were presented and include the following: Resource Protection Area (and associated offsets), two streams, cultural resources, and the potential for endangered species.
  - → WSP was looking for feedback on allowable impacts and any associated mitigation for impacting any of these constraints.
  - → From the previous work, the preliminary results from the wetland site reconnaissance conducted by 3e Consulting (July 2019) were summarized again.
    - Channel running east – west on site is perennial with 100' RPA buffer
    - Channel running north – south on site is intermittent with no RPA buffer
    - Small area of wetlands that will be impacted by access road on the eastern side of site.
  - → PWC Public Works-Environmental Services stated that this project should strive for consistency with the requirements that are imposed on typical development projects in the County. The use of innovative Best Management Practices (BMPs) is encouraged.
  - → WSP asked about the RPA buffer and what impacts would be allowed. PWC stated that the parking garage structure should not be within the RPA limits. WSP will need to move the garage to eliminate the small impact at the SE corner.
  - → PWC stated that it would be acceptable to have other design features impact the RPA buffer, but those impacts will have to be mitigated. An example of this is the fire lane to be constructed around the proposed garage. If a portion of it will need to be within the RPA buffer, PWC will be looking for something to be done to offset this. WSP suggested the use of pervious pavement/pavers on the fire lane. This should be acceptable.
  - → PWC asked about innovative BMPs in other portions of the project. Ideas such as rain gardens and a green roof on the garage were discussed. These ideas will be looked at by the design team, with budget constraints in mind. PWC liked the idea of including these in the project.
  - → Based on the initial environmental work, it is not anticipated that cultural resources are present on the parcel, or any endangered species (plant or animal).

- **FUTURE DEVELOPMENT CONCEPTS**
  - → The decision has been made to reserve the northern portion of the parcel for a future development site. No specific uses were decided, other than the land use restrictions identified in the purchase agreement between the County and JBG Smith.

- **ACTION ITEM SUMMARY**
  - → WSP Team to provide meeting minutes, power point presentation, and FTP link to download PDFs of the options presented (site plans & architectural renderings) for review by meeting attendees.
  - → Complete Traffic Analysis, including modeling new access road option at Bridge View Drive.
  - → Submit Draft Jurisdictional Determination
  - → Continue to Refine Design based on feedback from Stakeholders
  - → Geotechnical Field Work
  - → Prepare NEPA Document and Preliminary Plans
  - → PWC wants an updated cost estimate prepared for the preferred alternative

Minutes prepared by: R. Morris

Date issued: 10/7/19

Neabsco / Potomac Commuter Parking Garage: NEPA & DB Support
Meeting Minutes – 11/12/2019 Stakeholder Meeting #3

Job Title	Neabsco / Potomac Commuter Parking Garage – NEPA & DB Support
Project Number	Federal # STP-5A01(907) State Project# PRGA-076-242 UPC:111485 WSP #185719H
Meeting Date, Time	November 12, 2019 - 10:00 am
Meeting Location	5 County Complex Court PWC- Conference Room 202 A/B
Subject	**Stakeholder Coordination Meeting #3**
Attendees	See attached sign-in sheet
Distribution	Attendees

Meeting Purpose:

Meeting with Project Stakeholders, PWC, and WSP to review the updated design concept, review traffic analysis results and nearby road network improvements. See attached agenda.

Discussion	Action items

- INTRODUCTION
- Attendees (see attached sign-in sheet) introduced themselves (need to update list).
  - Rick Canizales – PWC Director
  - Dagmawie Shikurye – PWC DOT Project Manager
  - Elnour Adam – PWC DOT
  - Khattab Shammout – PWC DOT
  - Clay Morris – PWC Public Works – Environmental Services
  - Raj Bidari – PWC Public Works - Stormwater
  - Mary Ankers – PWC DOT
  - Christi Fragale – WSP Civil / Roadway
  - Ravi Raut – WSP Traffic Engineer
  - Robert Morris – WSP Project Manager

- **OVERVIEW**
  - WSP went through the meeting agenda and power point presentation and they are attached to these meeting minutes.
  - WSP presented an update on the design concept development and summarized the results of the traffic analysis, including the recommended improvements at adjacent roadways and intersections.

- **UPDATED DESIGN CONCEPT**
  - WSP reviewed the current design concept for the garage and associated site plan, including access roads, bus stops, kiss & ride, slug lines, and grading.
  - As a result of Stakeholder Meeting #2, the access road from Bridge View Drive was advanced in the current concept. The traffic modelling at the intersection of Bridge View Drive and Potomac Center Boulevard was discussed. It is not expected that a new signal will be needed at the access road connection, but if one is installed, the signal should be coordinated with the adjacent signal at Potomac Center Boulevard. Further analysis will be done to determine if a signal is warranted. The AM period is not a concern since traffic will be entering the access road; the PM period needs further investigation for left turns from the access road.
  - WSP presented some perspective view renderings of the garage to the group, showing the concept of "stepping" the garage footprint into the existing terrain. The access road used by buses, slugs, and kiss & ride traffic will access the garage on the 3rd level, while the main access for commuters will be on the 1st level of the garage from the south.
  - WSP presented floorplans for the garage, showing the varying footprints for the first 4 levels of the garage due to the "stepped" design to minimize excavation on the site.

Discussion

Action items

- An updated floor plan for the 3rd Level was reviewed, with accommodations for kiss & ride traffic, slug lines and general parking. PWC would like to see access to the kiss & ride provided from Potomac Center Boulevard. This would require a new entry point on the eastern end of the garage. There was some discussion of placing the slug line and its drop off area outside the garage. WSP will need to look into this further.

- **TRAFFIC ANALYSIS RESULTS**
  - The initial results of the traffic impact analysis were presented to the group.
  - The existing conditions that were included in the analysis included:
    1) Two existing curb cuts on River Rock Way and Bridge View Drive, and one proposed curb cut on Potomac Center Boulevard will be utilized as access points to the commuter parking garage;
    2) River Rock Way and Bridge View Drive are proposed to have full access;
    3) Potomac Center Boulevard is proposed to have a partial right-in/right-out access;
    4) All three access points will be stop controlled.
  - A summary of AM and PM Peak Hour Overall Delays are as follows:

Study Intersections	Existing 2018		No-Build 2023		Build 2023		No-Build 2029		Build 2029		Build+Improvements 2029	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1. Opitz Blvd/ Smoketown Road & Gideon Drive	20.3	58.1	20.6	77.0	21.3	78.5	21.5	97.4	21.1	100.5	21.4	95.4
2. Opitz Blvd & Potomac Mills Road	10.1	21.0	10.3	22.6	9.8	22.6	10.4	24.8	9.8	32.4	10.4	24.2
3. Opitz Blvd & Telegraph Road	11.3	45.5	11.7	53.1	11.1	67.2	12.4	66.9	11.7	78.7	12.0	74.8
4. Opitz Blvd & River Rock Way/Sentara Hospital Entrance II	29.6	26.1	41.6	30.2	54.4	39.7	58.4	41.2	63.2	50.2	56.8	37.1
5. Opitz Blvd & Potomac Center Blvd/Sentara Hospital Ent.	54.4	53.5	72.2	71.9	109.2	61.0	115.0	106.0	135.8	107.6	126.3	74.9
6. Potomac Center Blvd & Bridge View Drive	23.9	26.0	74.9	28.7	126.2	34.5	229.0	35.8	196.9	56.4	22.6	26.8
7.Potomac Center Blvd & River Rock Way/Sheffield Hill Way	30.6	32.1	33.6	34.1	47.4	65.6	88.6	69.5	98.6	98.5	39.6	75.7
8. Dale Blvd & Potomac Center Blvd /Neabsco Mills Rd	44.1	51.3	58.7	63.8	69.7	88.7	119.3	107.0	130.6	103.2	95.8	89.8
9. Dale Boulevard & Gideon Drive	42.5	90.9	47.1	105.8	48.9	100.7	56.0	117.9	68.7	130.2	49.4	131.1
10. River Rock Way & Site Driveway 1	--	--	--	--	2.9	7.4	--	--	6.9	21.6	2.8	6.0
11. Bridge View Drive & Site Driveway 2	--	--	--	--	2.1	13.6	--	--	3.4	62.2	1.6	3.4
12. Potomac Center Boulevard & Site Driveway 3	--	--	--	--	46.3	16.7	--	--	57.2	23.9	6.1	7.4

- **NEARBY ROAD NETWORK IMPROVEMENTS**
  - Upon review of the anticipated delays and in order to mitigate these traffic impacts of the proposed parking garage, the following improvements are proposed:
    - Opitz Boulevard and Telegraph Road – Split optimization during the PM peak hour.
    - Opitz Boulevard and River Rock Way/Medical Center Entrance – Cycle length optimization for both AM and PM peak hour. Add two southbound receiving lanes. Change northbound approach lane configuration to two left-turn lanes, one shared left-through lane, and one right turn lane. Add three westbound receiving lanes. Increase westbound left storage lane from 255 ft to 400 ft.
    - Opitz Boulevard and Potomac Center Boulevard/Sentara Hospital Entrance – Cycle length optimization for both AM and PM peak hour. Increase southbound left storage lane from 390 ft to 650 ft. Add three southbound receiving lanes.
    - Potomac Center Boulevard and Bridge View Drive – Add a right-turn overlap phase for the eastbound and westbound approaches. Change eastbound approach lane configuration to one left-turn lane, one shared left-through lane, and one right-turn lane.

Discussion	Action items

- Potomac Center Boulevard and River Rock Way/Sheffield Hill Way – Split optimization for both AM and PM peak hour. Change eastbound approach lane configuration to one left-turn lane, one shared through-right lane, and one right-turn lane.
- Opitz Boulevard and Potomac Center Boulevard/Neabsco Mills Road – Split optimization for both AM and PM peak hour. Increase southbound left storage lane from 390 ft to 650 ft. Add three southbound receiving lanes.

→ Final selection of the proposed improvements will be determined not only by traffic analysis, but also environmental analysis, architectural analysis, geotechnical analysis, structural foundation analysis, maintenance, economic impact, cost estimates, and other considerations.

- **ACTION ITEM SUMMARY**

→ WSP Team to provide meeting minutes, power point presentation, and FTP link to download PDFs of the options presented (site plans & architectural renderings) for review by meeting attendees.
→ Complete Traffic Report
→ Advance Updated Concept forward into more detailed design
→ Complete Environmental Studies
→ Public Information Meeting in December
→ Geotechnical Field Work
→ Prepare NEPA Document and Preliminary Plans

Minutes prepared by: R. Morris

Date issued: 11/13/19

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Neabsco / Potomac Commuter Parking Garage: NEPA & DB Support
Meeting Minutes – 1/15/2020 Coordination Meeting with Dominion Energy

Job Title	Neabsco / Potomac Commuter Parking Garage – NEPA & DB Support
Project Number	Federal # STP-5A01(907) State Project# PRGA-076-242 UPC:111485 WSP #185719H
Meeting Date, Time	January 15, 2019 - 9:30 am
Meeting Location	5 County Complex Court PWC- Conference Room 204
Subject	**Coordination Meeting with Dominion Energy**
Attendees	Dagmawie Shikurye – PWC DOT Project Manager Elnour Adam – PWC DOT Khattab Shammout – PWC DOT Mary Ankers – PWC DOT Dan Maslen - Dominion Energy Robert Morris – WSP Project Manager
Distribution	Attendees

Meeting Purpose:
Meeting of PWC and WSP with Dominion Energy to discuss gas pipeline along Potomac Center Boulevard and coordinate improvements associated with the garage project.

Discussion	Action items

OVERVIEW

- → WSP and PWC presented an overview of the project, and described the improvements planned along Potomac Center in close proximity to the gas pipeline owned by Dominion Energy. There is currently a turn lane and sidewalk that will be within the current easement.
- → This is a design-build project. PWC will include documentation for this pipeline in the Request for Proposal, including the Right-of-Way Agreement.

- **DOMINION ENERGY GAS PIPELINE**
  - → Dominion Energy reviewed the existing information for this pipe line:
    1) 20-inch Natural Gas high pressure pipeline
    2) Greater than 1000 lb of pressure
    3) Approximately 4-feet of cover for the pipeline
    4) Pipeline goes deeper under Opitz Boulevard and the Hospital
  - → This pipeline has a permit in place with VDOT, and a utility agreement would need to be executed with Dominion Energy for any work to be performed within the easement.
  - → This pipeline is federally regulated to not have any parallel encroachments within the easement.
  - → Construction Supervision is required by Dominion Energy when any work is occurring near their pipeline.
  - → Dominion will review the project plans for any work in the easement.
- **DESIGN COORDINATION AND DISCUSSION**
  - → Dominion Energy would prefer that PWC remove the turn lane and sidewalk from within their existing easement. WSP responded that Potomac Center Boulevard is currently within the easement. While that is the current condition, Dominion Energy would require relocation of the pipeline if any new parallel encroachments were proposed. This would be extremely expensive.
  - → WSP stated that the existing Right-of-Way Agreement has language in Exhibit C, Page 10 that sidewalks are an acceptable construction activity within the easement and that approval “shall not be unreasonably withheld”. Dominion Energy agreed to review the agreement for this language.
  - → Perpendicular encroachments of the easement are permitted, so our access road entrance crossing their pipeline will be acceptable. WSP does not anticipate much excavation to be required to install the entrance, so it should just require coordination.

Discussion	Action items

- → WSP will look at adjusting the turn lane location to remain within the existing pavement limits so that the project is not expanding the encroachment within the easement. The needed width for the turn lane will be taken out of the existing median of Potomac Center Boulevard, which is outside the easement limits.
- → Dominion Energy agreed to look for as-built information in order to confirm the exact horizontal and vertical location of the pipeline. This will be needed as the garage project moves into final design.

- **ACTION ITEM SUMMARY**
  - → WSP Team to revise the design and location of the right turn lane to fit within the existing pavement limits of Potomac Center Boulevard, as it relates to the easement.
  - → Dominion Energy will research the as-built information for their pipeline.
  - → Dominion Energy will review the existing Right-of-Way Agreement.

Minutes prepared by: R. Morris

Date issued: 11/13/19