JOINT PERMIT APPLICATION
MIDWOOD
PRINCE WILLIAM COUNTY, VIRGINIA

TNT PROJECT NO.: 270

PREPARED FOR

VADATA, INC.

JUNE 23, 2016

TABLE OF CONTENTS

Appendices

I	USACE Jurisdictional Determination Letter & Wetland Delineation Report
II	Threatened and Endangered Species Information
III	Avoidance & Minimization Analysis
IV	Conceptual Mitigation Plan
V	FEMA Flood Insurance Map
VI	Cross Sectional Diagram
VII	8.5”x11” Drawings
VIII	Overall Site Development Plan and Wetland Impacts Map

PLEASE PRINT OR TYPE ALL ANSWERS. If a question does not apply to your project, please print N/A (not applicable) in the space provided. ***If additional space is needed, attach extra 8 ½ x 11 inch sheets of paper.***

CHECK ONE, if applicable:	Pre-Construction Notification (PCN) ☐ (*For Nationwide Permits ONLY*)	SPGP ☒

1. PROJECT LOCATION INFORMATION
(Attach a copy of a detailed map, such as a USGS topographic map or street map showing the site location and project boundary, so that it may be located for inspection. Include an arrow indicating the north direction.)

Street Address	City/County/Zipcode
John Marshall Highway (Route 55)	Haymarket / Prince William County
Subdivision	Lot/Block/Parcel #

Name of water body(ies) within project boundaries and drainage area (acres or square miles)
Unnamed tributary to North Fork Broad Run (Drainage Area ~22 Acres)

Tributary(ies) to: North Fork Broad Run
Basin: Potomac River Subbasin: Middle Potomac River
(*Example: Basin: James River Subbasin: Middle James River*)

Special Standards (based on DEQ Water Quality Standards 9VAC25-260 et seq.): _____

Project type (check one) _____ Single user (private, non-commercial, residential)
_X_ Multi-user (community, commercial, industrial, government)

Latitude and longitude at center of project site: 38 - 48 - 59N / 77 - 39 - 07W

USGS topographic map name: Thoroughfare Gap, VA

8- digit USGS Hydrologic Unit Code (HUC) for your project site (See http://cfpub.epa.gov/surf/locate/index.cfm): 02070010
If known, indicate the 10-digit and 12-digit USGS HUCs (see *http://dswcapps.dcr.virginia.gov/htdocs/maps/HUExplorer.htm* :
_____ _____

Name of your project (*Example: Water Creek driveway crossing*) Midwood

Is there an access road to the project? X Yes __ No. If yes, check all that apply: __ public X private X improved __ unimproved

Provide driving directions to your site, giving distances from the best and nearest visible landmarks or major intersections:
From the exit for Route 15 at Haymarket, VA, take Route 15 south, turn right (west) on John Marshall Highway (Route 55). THe project site is located approximately 2,000 feet west of the intersection of Route 15 and Route 55 on the left. An offsite private road, Charles Street, borders the site on the northern portion.

Does your project site cross boundaries of two or more localities (i.e. cities/counties/towns)? __ Yes X No
If so, name those localities:

FOR AGENCY USE ONLY	
	Notes:
JPA#	

2. APPLICANT, AGENT, PROPERTY OWNER, AND CONTRACTOR INFORMATION

The applicant(s) is/are the legal entity to which the permit may be issued. The applicant(s) can either be the property owner(s) or the person/people/company(ies) that intend(s) to undertake the activity. The agent is the person or company that is representing the applicant(s). If a company, please use the company name that is registered with the State Corporation Commission (SCC), or indicate no registration with the SCC.

Applicant(s) (For a company, use SCC-registered name)			Agent (if applicable) (For a company, use SCC-registered name)		
VADATA, Inc.			TNT Environmental, Inc. Attn: Lauren Duvall		
Mailing address 410 Terry Avenue, N			Mailing address 13996 Parkeast Circle, Suite 101		
City Seattle	State WA	Zip Code 98109	City Chantilly	State VA	Zip Code 20151
Phone number w/area code	Fax		Phone number w/area code 703-466-5123	Fax	
Mobile/pager	E-mail		Mobile/pager 571-271-8129	E-mail lauren@tntenvironmentalinc.com	
State Corporation Commission ID number (if applicable) F1395807			State Corporation Commission ID number (if applicable)		

Certain permits or permit authorizations may be provided via electronic mail. If the applicant wishes to receive their permit via electronic mail, please provide an e-mail address here: c/o jlim@jclconsultingllc.com & lauren@tntenvironmentalinc.com

Property owner(s), if different from applicant (For a company, use SCC-registered name)			Contractor, if known (For a company, use SCC-registered name)		
Mailing address			Mailing address		
City	State	Zip code	City	State	Zip code
Phone number w/area code	Fax		Phone number w/area code	Fax	
Mobile/pager	E-mail		Mobile/pager	E-mail	
State Corporation Commission ID number (if applicable)			State Corporation Commission ID number (if applicable)		

3. PROVIDE A DESCRIPTION OF THE PROJECT, PROJECT PRIMARY AND SECONDARY PURPOSES, PROJECT NEED, INTENDED USE, AND ALTERNATIVES CONSIDERED (Attach additional sheets if necessary)

- The purpose must include any new development or expansion of an existing land use and/or proposed future use of residual land
- Describe the physical alteration of surface waters
- Include a description of alternatives considered to avoid or minimize impacts to surface waters, including wetlands, to the maximum extent practicable. Include factors such as, but not limited to, alternative construction technologies, alternative project layout and design, alternative locations, local land use regulations, and existing infrastructure
- For utility crossings, include both alternative routes and alternative construction methodologies considered
- For major surface water withdrawals, public surface water supply withdrawals, or projects that will alter in-stream flows, include the water supply issues that form the basis of the proposed project.

Please refer to page 8A for a detailed Project Description.

Project Description – Midwood

The Midwood project site consists of one (1) parcel of land totaling approximately 38.50 acres that is located south of Route 55 (John Marshall Highway) in Haymarket, Virginia. The project site is further identified by physical address 15411 John Marshall Highway and is now or previously was a portion of Prince William County (County) GPIN 7298-41-5235. The terrain of the project site consists of gentle slopes and level areas and is within the Broad Run drainage basin. The project site is currently mostly wooded, undeveloped land with some open fields.

A. Purpose and Need

The purpose of the project is the construction of two (2) warehouse-type buildings that will be utilized as data center facilities to meet increased regional demand for data services. The project will also include utilities, access/driveways, and a stormwater management pond necessary to serve the data center facilities. The buildings and related infrastructure will be constructed in compliance with applicable site development plans, building codes, and site zoning requirements. The project site is located within a Planned Business District in which data centers are a by-right use, indicating that the County has determined that this location is appropriate for data center buildings and associated infrastructure.

The project is needed so that the Applicant's infrastructure can maintain secure and reliable network connectivity and cloud infrastructure to the Applicant's customers while keeping pace with growing customer demand. Demand for the Applicant's compute, storage, database, and other computational service offerings is extremely high and growing in this region. This growth is driven, in part, by a rapid increase in the number of companies, government agencies and academic institutions that are decreasing their ownership of data facilities and migrating to third-party cloud infrastructure because of technical complexities and the need for greater security and reliability. Cloud computing provides an opportunity for these entities to replace up-front capital infrastructure expenses with low variable costs that scale with their businesses. There are a significant number of regional tech companies, start-ups, government agencies and academic institutions whose need for data services from the Applicant grows annually. For example, the Applicant experienced year-over-year demand growth of 69% in 2013, 49% in 2014, and 70% in 2015, and projections are that this growth will continue.

B. Wetland Impacts

The Waters of the U.S. and wetland boundaries were delineated by Wetlands Studies and Solutions, Inc. (WSSI) in October 2005, and reconfirmed by a jurisdictional determination issued by the U.S. Army Corps of Engineers (USACE) dated March 9, 2011 (NAO-2006-01343-arl) (see Appendix I). Please note that this delineation includes additional land, west of the Midwood project site. This portion of land is not owned by this Applicant and is not part of the Applicant's project. This JD has also since expired. It is important to note that TNT conducted a wetland delineation in 2016 and submitted a new request for a jurisdictional determination on March 15, 2016; a response has not been received to-date regarding the status of this request.

As shown on the FEMA Flood Insurance Rate Map included as Appendix V (Map No. 51153C0059D, Map Effective Date: January 5, 1995), a floodplain is located along the southern boundary of the project site.

An Overall Wetlands Impact Map has been included in Appendix VIII and depicts the proposed site plan and jurisdictional wetlands and streams. Based on the proposed site plan, which has been modified from its original configuration to avoid and minimize impacts to the maximum extent practicable, 991 linear feet (6,674 square feet) of intermittent stream, and 0.10 acres (4,222 square feet) of palustrine forested wetland (PFO) will be permanently impacted. An additional 14 linear feet (103 square feet) of intermittent stream channel will be temporarily impacted for the installation of an 8" watermain. These unavoidable impacts to jurisdictional waters are necessary in order to accomplish the project purpose.

Practicable Alternatives

As described below**,** alternative sites for the project were evaluated based on geography, capital investment, facility sizes, utility requirements, real estate requirements, and telecommunications redundancy, among other factors.

The project site was selected based on a quantitative and qualitative analysis with regard to energy costs, water rates, permitting fees, construction expenses, tax rates, and labor quality/costs among other factors that are relevant and pertinent to the project objectives. A detailed evaluation identified the project site as the only practicable alternative for the project.

Site specific alternatives have been considered for this project, such as realignment and/or reconfiguration of the buildings, and changes have been made to the original layout to both avoid and minimize impacts. With these changes made, the Applicant believes there are no practicable onsite alternatives with less adverse effects on streams, wetlands, and the aquatic community than the project as now proposed. The Applicant has considerable investment in the project in its current configuration. Any other configuration is not technically or practically feasible to meet the project's purpose. The alternative configuration is included in Appendix III demonstrating the alternate layout disturbs 0.14 acre more wetland than the currently proposed configuration.

Avoidance and Minimization

The Applicant, land planners, and engineers have considered all reasonable methods of avoiding and minimizing impacts of the site to jurisdictional wetlands and streams. The Applicant has reduced the larger building's footprint by eliminating the material and equipment storage area thereby avoiding impact to 0.14 acres of forested wetland. The Applicant configured the proposed development plan so that approximately 676 linear feet of intermittent stream is being preserved onsite. Previous preliminary development plans called for additional wetland and stream impacts. For example, additional secondary impacts under the preliminary plans would have resulted in an additional 700 linear feet of intermittent stream impact; however, the proposed design has rerouted flow to the stream in order to mimic pre-construction flow and conditions and maintain downstream hydrology. Rotating the buildings, however, is not feasible because: 1) an alternate layout would disturb a greater amount of wetlands than the current configuration; 2) an alternate layout would not fit within the property line and conservation easement areas; and 3) the approved entrance location cannot be revised.

In addition, the Applicant will take steps to minimize the generation of stormwater onsite and lessen any impacts to streams. Because any increase in stormwater from the site has the potential to damage downstream properties, all offsite stormwater draining to the site will be diverted around the developed area. Additionally, during construction, stormwater from the developed area will be directed to and controlled by constructed erosion control measures; after construction, stormwater from the developed area will be directed to and controlled by the onsite stormwater management structures.

The Applicant believes that further avoidance and minimization of impact is not possible and that the current configuration of the proposed project is the Least Environmentally Damaging Practicable Alternative (LEDPA). Due to the location and extent of streams onsite, permanent impacts to 991 linear feet (6,674 square feet) of intermittent stream and 0.10 acres (4,222 square feet) of palustrine forested wetland (PFO), as well as a temporary impact to 14 linear feet (103 square feet) of intermittent stream are unavoidable. Additional information regarding avoidance and minimization of impacts to jurisdictional wetlands and streams is provided in Appendix III.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

3. PROVIDE A DESCRIPTION OF THE PROJECT (Continued)

Date of proposed commencement of work (MM/DD/YYYY)	Date of proposed completion of work (MM/DD/YYYY)
09/01/2016	12/31/2017
Are you submitting this application at the direction of any State, local, or Federal agency? _____Yes __X__No	Has any work commenced or has any portion of the project for which you are seeking a permit been completed? _____ Yes __X__ No

If you answered "yes" to either question above, give details stating when the work was completed and/or when it commenced, who performed the work, and which agency (if any) directed you to submit this application. In addition, you will need to clearly differentiate between completed work and proposed work on your project drawings.

N/A: The first phase of construction and development of Building 1 commenced; no impacts to Waters of the U.S. or wetlands were associated with this phase of development.

Are you aware of any unresolved violations of environmental law or litigation involving the property? _____Yes __X__No
(If yes, please explain)

4. PREVIOUS SITE VISITS AND/OR PERMITS RELATED TO THE PROPOSED WORK (Include all Federal, State, and Local pre-application coordination or previous permits)

Agency	Activity	Permit/Project number, and explanation of non-reporting Nationwide permits previously used	Action taken ** and Date of Action	If denied, give reason for denial
USACE	Jurisdictional Determination	NAO-2006-01343-arl	Issued 3/9/11	expired
USACE	Jurisdictional Determination	Requested	on 3/15/16	Pending: No response received to date

** Issued, denied, site visit

5. PROJECT COSTS

Approximate cost of the entire project, including materials and labor: $_____

Approximate cost of only the portion of the project affecting State waters (below mean low water in tidal areas and below ordinary high water mark in nontidal areas): $ _____

C:\WSSI-L\06000s\6795.10\GIS\ViewshedAnalysis\6795.10_A_APE_aerial.mxd

Direct Effects

Indirect Effects*

1 Mile Buffer from Direct Effects

*Based on visibility analysis using Digital Surface Model (DSM) produced from 2011 USGS/FEMA lidar point cloud data.
Imagery Source: National Agriculture Imagery Program (NAIP)

N
W E
S

0 1,600
Feet
Original Scale: 1 " = 1,600 '

Exhibit B
Area of Potential Effects
Summer 2014 Natural Color Imagery

Midwood Indirect APE Study

Thunderbird Archeology

WSSI #6795.10 - June 2016

6. PUBLIC NOTIFICATION (Attach additional sheets if necessary)

- Complete information for all property owners adjacent to the project site and across the waterway, if the waterway is less than 500 feet in width. If your project is located within a cove, you will need to provide names and mailing addresses for all property owners within the cove.
- If you own the adjacent lot, provide the requested information for the first adjacent parcel beyond your property line.

Property owner's name	Mailing address	City	State	Zip code

Name of newspaper having general circulation in the area of the project: _____
Address and phone number (including area code) of newspaper_____

Have adjacent property owners been notified with forms in Appendix A? _____Yes __x__No (attach copies of distributed forms)

7. THREATENED AND ENDANGERED SPECIES INFORMATION

Please provide any information concerning the potential for your project to impact state and/or federally threatened and endangered species (listed or proposed). Attach correspondence from agencies and/or reference materials that address potential impacts, such as database search results or your Corps' waters and wetlands delineation confirmation. Contact information for the Virginia Department of Game and Inland Fisheries and the Virginia Department of Conservation and Recreation, Division of Natural Heritage can be found on page 4 of this package.

Please refer to Appendix II for information.

8. HISTORIC RESOURCES INFORMATION

Note: Historic properties include but are not limited to archeological sites, battlefields, Civil War earthworks, graveyards, buildings, bridges, canals, etc. Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant.

Are any historic properties located within or adjacent to the project site? ____ Yes ____ No __x__ Uncertain
If Yes, please provide a map showing the location of the historic property within or adjacent to the project site.

Are there any buildings or structures 50 years old or older located on the project site? ____ Yes ____ No __x__ Uncertain
If Yes, please provide a map showing the location of these buildings or structures on the project site.

Is your project located within a historic district? ____ Yes ____ No __x__ Uncertain
If Yes, please indicate which district: _____

8. HISTORIC RESOURCES INFORMATION (Continued)

Has a survey to locate archeological sites and/or historic structures been carried out on the property?
__X__ Yes ___ No ___ Uncertain

If Yes, please provide the following information: Date of Survey: October 2013

Name of firm: Thunderbird Archaeology

Is there a report on file with the Virginia Department of Historic Resources? __X__ Yes ____ No ___Uncertain

Title of Cultural Resources Management (CRM) report: _____

Was any historic property located? ____ Yes ____ No __ Uncertain

9. WETLANDS, WATERS, AND DUNES/BEACHES IMPACT INFORMATION

Report each impact site in a separate column. If needed, attach additional sheets using a similar table format. Please ensure that the associated project drawings clearly depict the location and footprint of each numbered impact site. For dredging, mining, and excavating projects, use Section 18.

	Impact site number 1	Impact site number 2	Impact site number 3
Impact description (use all that apply): F=fill EX=excavation S=Structure T=tidal NT=non-tidal TE=temporary PE=permanent PR=perennial IN=intermittent SB=subaqueous bottom DB=dune/beach IS=hydrologically isolated V=vegetated NV=non-vegetated MC=Mechanized Clearing of PFO (*Example: F, NT, PE, V)*	Please refer to the Impact Table on Page 12A.		
Wetland/waters impact area (square feet)			
Dune/beach impact area (square feet)			
Stream dimensions at impact site (length and average width in linear feet, and area in square feet)			
Volume of fill below Mean High Water or Ordinary High Water (cubic yards)			
Cowardin classification of impacted wetland/water or geomorphological classification of stream *Example wetland: PFO;* *Example stream: wide; bank eroding; braided channel;* *Example stream: 'C' channel*			
Average stream flow at site (flow rate under normal rainfall conditions in cubic feet per second)			
Contributing drainage area (acres or square miles)			

SUMMARY OF WATERS OF THE U.S. AND WETLAND IMPACTS

Impact #	Impact Type	Impact Description	Average Stream Flow (cfs)	Drainage Area (Sq. Mi.)	Permanent Impacts				Temporary Impacts	
					LF R4	SF R4	SF PFO	Ac.	LF R4	SF R4
1	Buildings and Infrastructure	F, NT, PE, NV, R4	< 1.0	~0.10	991	6,674	-	-	-	-
2	Buildings and Infrastructure	F, NT, PE, V, PFO	-	~0.05	-	-	2,704	0.06	-	-
3	Buildings and Infrastructure	F, NT, PE, V, PFO	-	~0.05	-	-	1,312	0.03	-	-
4	8" Watermain Crossing	S, NT, TE, R4, NV, CNV	-	~0.10	-	-	-	-	14	103
5	Grading	F, NT, PE, V, PFO	-	~0.10	-	-	206	0.005	-	-
Total					991	6,674	4,222	0.10	14	103

R4 - Intermittent Stream; F - Fill; S - Structure; EX - Excavation; NT - Nontidal; PE - Permanent; TE - Temporary; V - Vegetated; NV - Non-vegetated; PFO - Palustrine Forested

9. WETLANDS/WATERS IMPACT INFORMATION (Continued)			
DEQ classification of impacted resource(s): Estuarine Class II Non-tidal waters Class III Mountainous zone waters Class IV Stockable trout waters Class V Natural trout waters Class VI Wetlands Class VII			
For DEQ permitting purposes, also submit as part of this section a wetland and waters boundary delineation map[4] – see the Footnotes section in the form instructions.			
For DEQ permitting purposes, also submit as part of this section a written disclosure of all wetlands, open water, or streams that are located within the proposed project or compensation areas that are also under a deed restriction, conservation easement, restrictive covenant, or other land-use protective instrument.			

10. APPLICANT, AGENT, OWNER, AND CONTRACTOR CERTIFICATIONS

If the Applicant(s), Agent(s), Owner(s), or Contractor(s) is/are a company, please use the company name(s) that is/are registered with the State Corporation Commission (SCC).

READ ALL OF THE FOLLOWING CAREFULLY BEFORE SIGNING

PRIVACY ACT STATEMENT: The Department of the Army permit program is authorized by Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection Research and Sanctuaries Act of 1972. These laws require that individuals obtain permits that authorize structures and work in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters prior to undertaking the activity. Information provided in the Joint Permit Application will be used in the permit review process and is a matter of public record once the application is filed. Disclosure of the requested information is voluntary, but it may not be possible to evaluate the permit application or to issue a permit if the information requested is not provided.

CERTIFICATION: I am hereby applying for permits typically issued by the DEQ, VMRC, U.S. Army Corps of Engineers, and/or Local Wetlands Boards for the activities I have described herein. I agree to allow the duly authorized representatives of any regulatory or advisory agency to enter upon the premises of the project site at reasonable times to inspect and photograph site conditions, both in reviewing a proposal to issue a permit and after permit issuance to determine compliance with the permit.

In addition, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Is/Are the Applicant(s) and Owner(s) the same? x *Yes* ___ *No*

Applicant's name & title (printed or typed) Ian Wrightson - Vice President	Second applicant's name & title, if applicable (printed or typed)
Applicant's signature	Second applicant's signature
Date 6/24/16	Date
(Required for VMRC permit actions only) Property owner's name, if different from Applicant	*(Required for VMRC permit actions only)* Second property owner's name, if applicable
Owner's signature, if different from Applicant	Second owner's signature
Date	Date

10. APPLICANT, AGENT, OWNER, AND CONTRACTOR CERTIFICATIONS (Continued)
If the Applicant(s), Agent(s), Owner(s), or Contractor(s) is/are a company, please use the company name(s) that is/are registered with the State Corporation Commission (SCC).

CERTIFICATION OF AUTHORIZATION TO ALLOW AGENT(S) TO ACT ON APPLICANT'S(S') BEHALF (IF APPLICABLE)

I (we), VADATA, Inc. (and) _____,
APPLICANT'S NAME(S) – *complete the second blank if more than one Applicant*

hereby certify that I (we) have authorized TNT Environmental, Inc. (and) _____
AGENT'S NAME(S) – *complete the second blank if more than one Agent*

to act on my (our) behalf and take all actions necessary to the processing, issuance, and acceptance of this permit and any and all standard and special conditions attached. I (we) hereby certify that the information submitted in this application is true and accurate to the best of my (our) knowledge.

Applicant's signature	Second applicant's signature, if applicable
Date 6/24/16	Date
Agent's signature and title	Second agent's signature and title, if applicable
Date 6/27/16	Date

CONTRACTOR ACKNOWLEDGEMENT (IF APPLICABLE)

I (we), _____ (and) _____,
APPLICANT'S NAME(S) – *complete the second blank if more than one Applicant*

have contracted _____ (and) _____
CONTRACTOR'S NAME(S) – *complete the second blank if more than one Contractor*

to perform the work described in this Joint Permit Application, signed and dated _____.

I (we) will read and abide by all conditions as set forth in all Federal, State, and Local permits as required for this project. I (we) understand that failure to follow the conditions of the permits may constitute a violation of applicable Federal, State, and Local statutes and that we will be liable for any civil and/or criminal penalties imposed by these statutes.

In addition, I (we) agree to make available a copy of any permit to any regulatory representative visiting the project site to ensure permit compliance. If I (we) fail to provide the applicable permit upon request, I (we) understand that the representative will have the option of stopping our operation until it has been determined that we have a properly signed and executed permit and are in full compliance with all of the terms and conditions.

Contractor's name or name of firm (printed/typed)	Contractor's or firm's mailing address	
Contractor's signature and title	Contractor's license number	Date
Applicant's signature	Second applicant's signature, if applicable	
Date	Date	

END OF GENERAL INFORMATION

The following sections are activity-specific. Fill out only the sections that apply to your particular project.

19. FILL (not associated with backfilled shoreline structures) AND OTHER STRUCTURES (other than piers and boathouses) IN WETLANDS OR WATERS, OR ON DUNES/BEACHES

Source and composition of fill material (percentage sand, silt, clay, rock): onsite

Provide documentation (i.e. laboratory results or analytical reports) that *fill* material from *off-site* locations is free of toxics. If not free of toxics, provide documentation of proper disposal (i.e. bill of lading from commercial supplier or disposal site). Documentation is not necessary for fill material obtained from on-site areas.

Explain the purpose of the filling activity and the type of structure to be constructed over the filled area (if any):

In order to support the proposed buildings and associated infrastructure.

Describe any structure that will be placed in wetlands/waters or on a beach dune and its purpose:

Will the structure be placed on pilings? ____ Yes ____ No	Total area occupied by any structure. _____ Square Feet
How far will the structure be placed channelward from the back edge of the dune? _____feet	How far will the structure be placed channelward from the back edge of the beach? _____feet

20. NONTIDAL STREAM CHANNEL MODIFICATIONS FOR RESTORATION OR ENHANCMENT, or TEMPORARY OR PERMANENT RELOCATIONS

If proposed activities are being conducted for the purposes of compensatory mitigation, please attach separate sheets of paper providing all information required by the most recent version of the stream assessment methodology approved by the Norfolk District of the U.S. Army Corps of Engineers and the Virginia Department of Environmental Quality, in lieu of completing the questions below. Required information outlined by the methodology can be found at:
http://www.nao.usace.army.mil/Missions/Regulatory/UnifiedStreamMethodology.aspx *or*
http://www.deq.virginia.gov/Programs/Water/WetlandsStreams/Mitigation.aspx.

Has the stream restoration project been designed by a local, state, or federal agency? ____ Yes _____No. If yes, please include the name of the agency here: _____.

Is the agency also providing funding for this project? _____ Yes _____ No

Linear feet of stream impact: _____

Contributing drainage area: _____acres *or* _____square miles

Existing average stream flow at site (flow rate under normal rainfall conditions): _____cfs	Proposed average stream flow at site after modifications (flow rate under normal rainfall conditions): _____cfs

Explain, in detail, the method to be used to stabilize the banks:

Explain the composition of the existing stream bed (percent cobble, rock, sand, etc.):

20. NONTIDAL STREAM CHANNEL MODIFICATIONS (Continued)

Will low-flow channels be maintained in the modified stream channel? _____Yes _____No.
Describe how:

Will any structure(s) be placed in the stream to create riffles, pools, meanders, etc.? _____Yes _____No
If yes, please explain:

21. UTILITY CROSSINGS

Type of crossing: _____overhead _x___trenched _____directionally-drilled

Method of clearing corridor of vegetation (check all that apply): _____ mechanized land clearing that disturbs the soil surface
__x___ cutting vegetation above the soil surface

Describe the materials to be used in the installation of the utility line (including gravel bedding for trenched installations, bentonite slurries used during direction-drilling, etc.) and a sequence of events to detail how the installation will be accomplished (including methods used for in-stream and dry crossings).

The 8" watermain will be installed at the intermittent stream crossing through an open trench. Any flow will be rerouted around the temporary impact area. The area will be returned to its pre-construction contours and conditions and seeded/stabilized where needed.

For overhead crossings over navigable waterways (including all tidal waterways), please indicate the height of other overhead crossings or bridges over the waterway relative to mean high water, mean low water, or ordinary high water mark:

Nominal system voltage, if project involves power lines: _____

Will there be an excess of excavated material? _____Yes __x___No
If so, describe the method that will be undertaken to dispose of, and transport, the material to its permanent disposal location and give that location:

Will any excess material be stockpiled in wetlands? _____Yes _x___No
If so, will the stockpiled material be placed on filter fabric or some other type of impervious surface? _____Yes _____No

21. UTILITY CROSSINGS (Continued)

Will permanent access roads be placed through wetlands/streams? ____Yes __x__No
If yes, will the roads be _____at grade or _____above grade (check one)?

Will the utility line through wetlands/waters be continually maintained (e.g. via mowing or herbicide)? ____Yes __x__No

If maintained, what is the maximum width? _____feet

22. ROAD CROSSINGS

Have you conducted hydraulic studies to verify the adequacy of the culverts? _____Yes _____No
If so, please attach a copy of the hydraulic study/report.
Virginia Department of Transportation (VDOT) standards require that the backwater for a 100 year storm not exceed 1 foot for all road, culvert, and bridge projects within FEMA-designated floodplains.

Will the culverts be countersunk below the stream bottom? _____Yes _____No. If no, explain: _____
_____

If the project entails a bridged crossing and there are similar crossings in the area, what is the vertical distance above mean high water, mean low water, or ordinary high water mark of those similar structures? _____feet above _____
For all bridges proposed over navigable waterways (including all tidal water bodies), you will be required to contact the U.S. Coast Guard to determine if a permit is required of their agency.

On separate sheets of paper, describe the materials to be used, the method of construction (including the use of cofferdams), and the sequence of construction events. Include cross sections and profile plans of the culvert crossings including wing walls or rip rap.

23. PRIVATE AND COMMERCIAL AQUACULTURE ACTIVITIES

Please review VMRC regulations related to aquaculture activities if you are completing this section. An abbreviated application is available for certain private oyster gardening activities by a riparian owner. Also, separate information is required by the VMRC Fisheries Management Division for the review of commercial projects that may qualify for the Virginia Marine Resources Commission General Permit #4 FOR TEMPORARY PROTECTIVE ENCLOSURES FOR SHELLFISH. The VMRC aquaculture regulations can be found on the agency web page at: http://www.mrc.state.va.us/regulations/regindex.shtm.
Please see regulations 4 VAC 20-335-10 et seq., 4 VAC 20-336-10 et seq., and 4 VAC 20-1130-10 et seq.

Briefly describe your proposed aquaculture activity from the time of acquisition (seed, fingerlings, etc.) to time of harvest, and indicate which species you intend to culture. Attach additional sheets if needed.

Source of the animals/plants that you want to culture: _____
_____
Note: VMRC Regulation 4VAC 20-754 et seq. "Pertaining to the Importation of Fish, Shellfish or Crustacea" sets forth the requirements for importing organisms from out of state.

Describe below the number, type, and dimensions of the structures that will be used (e.g., 4' x 2' x 18" floats, 3' x 3' x 1' bottom cages, etc.) and the overall dimensions of the area to be occupied by the aquaculture structures (e.g., two 40-foot by 10-foot bottom plots).

23. PRIVATE AND COMMERCIAL AQUACULTURE ACTIVITIES (Continued)

Will the structures be affixed to an existing structure? ____Yes _____No
If so, describe the attachment below.

Will the structures be located on leased oyster planting ground? _____Yes _____No
If so, give the following information: _____lease number _____plat file number

24. IMPOUNDMENTS, DAMS, AND STORMWATER MANAGEMENT FACILITIES
If the impoundment or dam is a component of a water withdrawal project, also complete Sections 26 through 28.

Will the proposed impoundment, dam, or stormwater management facility be used for agricultural purposes (e.g., in the operation of a farm)? For DEQ permitting purposes, a farm is considered to be a property or operation that produces goods for market.
___ Yes _x_ No

What type of materials will be used in the construction (earth, concrete, rock, etc.)? onsite fill

What is the source of these materials? onsite

Provide the dimensions of proposed impoundment, dam, or stormwater management facility, including the height and width of all structures.

Storage capacity* of impoundment: 22.5 acre-feet *should be given for the normal pool of recreational or farm ponds, or design pool for stormwater management ponds or reservoirs (the elevation the pond will be at for the design storm, e.g., 10-year, 24-hour storm)	Surface area** of impoundment: 2.71 acres **should be given for the normal pool of recreational or farm ponds, or design pool for stormwater management ponds or reservoirs (the elevation the pond will be at for the design storm, e.g., 10-year, 24-hour storm)

Is the proposed project excluded from the Virginia Dam Safety Regulations? ___ Yes ___ No ___ Uncertain

If not excluded, does your proposed project comply with the Virginia Dam Safety Regulations? ___ Yes ___ No ___ Uncertain

Does the proposed design include a vegetation management area per §10.1-609.2? ___ Yes ___ No ___ Uncertain

If your answer to these questions is no or uncertain, you should contact the Virginia Department of Conservation and Recreation's Dam Safety Program at (804) 371-6095, or reference the regulations on the Web at http://www.dcr.virginia.gov/dam_safety_and_floodplains/index.shtml

For stormwater management facilities:
Design storm event: 2-year year storm
Retention time: 3.5 hours hours
Current average flow: 35.5 cfs (approx. existing flow at new outfall pipe location)
Proposed peak outflow for the design storm provided above: 21.63 cfs

Has the facility been designed as an Enhanced Extended Detention Basin or an Extended Detention Basin in accordance with the Minimum Standard 3.07 of the Virginia Stormwater Management Handbook, Volume I (published by the Virginia Department of Conservation and Recreation, 1999), or in accordance with the latest version of this handbook? _____Yes _____No

Will the impoundment structure be designed to pass a minimum flow at all times? _x_Yes _____No
If so, please give the minimum rate of flow: 35.5 cfs

What is the drainage area upstream of the proposed impoundment? _____square miles

How much of your proposed impoundment structure will be located on the stream bed? n/a square feet

What is the area of vegetated wetlands that will be excavated and/or backflooded by the impoundment? _____ square feet

What is the *area and length* of streambed that will be excavated and/or backflooded by the impoundment? _____ square feet
_____ linear feet

Are fish ladders being proposed to accommodate the passage of fish? _____Yes __x__No

25. OUTFALLS NOT ASSOCIATED WITH PROPOSED WATER WITHDRAWAL ACTIVITIES

Type and size of pipe(s): _____

Daily rate of discharge: _____mgd

If the discharge will be thermally-altered, provide the maximum temperature: _____

Contributing drainage area: _____square miles

Average daily stream flow at site:_____cfs

Have you received a Virginia Discharge Elimination System (VPDES) permit for the proposed project? ___ Yes ___ No.
If yes, please provide the VPDES permit number: _____.
If no, is there a permit action pending? ___ Yes ___ No. If pending, what is the facility name? _____.

The following sections are typically related to surface water withdrawal activities; Federal Energy Regulatory Commission license projects; or impacts likely to require instream flow limits. Examples of such projects include, but are not limited to, reservoirs, irrigation projects, power generation facilities, and public water supply facilities that may or may not have associated features, such as dams, intake pipes, outfall structures, berms, etc.

If completing these sections, enter "N/A" in any section that does not apply to the project.

26. INTAKES, OUTFALLS, AND WATER CONTROL STRUCTURES (INCLUDING ALL PROPOSED WATER WITHDRAWAL ACTIVITIES)

For intakes:
- Type and size of pipe(s): _____
- Type and size of pump(s): _____
- Daily rate of withdrawal: _____mgd
- Velocity of withdrawal: _____fps
- Screen mesh size:_____inches / _____mm
  - If other sizing units, please specify:_____
- Contributing drainage area at withdrawal point(s): _____square miles
- Average daily stream flow at withdrawal point(s):_____cfs
- Average annual stream flow at withdrawal point(s): _____cfs
- Latitude and longitude of withdrawal point(s) (degrees, minutes, seconds): _____

For outfalls:
- Type and size of pipe(s): _____
- Daily rate of discharge: _____mgd
- If the discharge will be thermally-altered, provide the maximum temperature: _____
- Contributing drainage area at discharge point(s): _____square miles
- Average daily stream flow at discharge point(s):_____cfs
- Latitude and longitude of discharge point(s) (degrees, minutes, seconds): _____

For intakes and dams, use the table below to provide the median monthly stream flows in cubic feet per second (cfs) at the water intake or dam site (not at the stream gage; if there is not a gage at the intake or dam site, you will need to interpolate flows to the intake or dam site based upon the most closely related watershed in which there is an operational stream gage monitored by the United States Geologic Survey (USGS)). Median flow is the value at which half of the measurements are above and half of the measurements are below. Median is also sometimes referred to as the '50% exceedence flow'. The median flow generally must be calculated from USGS historical data. Please do not provide *mean (average)* flow.

Month	Median flow (cfs)	Month	Median flow (cfs)
January		July	
February		August	
March		September	
April		October	
May		November	
June		December	

APPENDIX C

Chesapeake Bay Preservation Act Information

Please answer the following questions to determine if your project is subject to the requirements of the Bay Act Regulations:

1. Is your project located within Tidewater Virginia? _X_Yes ____No (See map on next page)
   - If the answer is "no", the Bay Act requirements do not apply; if "yes", then please continue to question #2.

2. Please indicate if the project proposes to impact any of the following Resource Protection Area (RPA) features:

   ____ tidal wetlands,

   ____ nontidal wetlands connected and contiguous to tidal wetlands or water bodies with perennial flow,

   ____ tidal shoreline,

   ____ water body with perennial flow (stream, river, creek, etc.)

   ____ 100-foot buffer area landward of any of the above features.

   ____ "other lands" as designated by the locality (contact the local government for specific information)

If the answer to question #1 was "yes" and any of the features listed under question #2 will be impacted, compliance with the Chesapeake Bay Preservation Act ("Bay Act") and Regulations is required. To achieve compliance with the Bay Act, the applicant may be required to submit a Water Quality Impact Assessment (WQIA) for the review and approval of the local government. Contact the appropriate local government office to determine if a WQIA is required for the proposed activity(ies).

The individual localities, not the Local Wetlands Boards, are responsible for enforcing Bay Act requirements and, therefore, local permits for land disturbance are not issued through this JPA process. **Approval of this wetlands permit does not constitute compliance with the Bay Act regulations nor does it guarantee that the local government will issue land-disturbing permits for this project**. The requirements of the Bay Act may affect the ultimate design and construction of projects. In order to ensure that these requirements are considered early in the permitting process, and to avoid unnecessary and costly delays, applicants should contact their local government as early in the process as possible. Individual localities may request information regarding existing vegetation within the RPA as well as a description and site drawings of any proposed land disturbance, construction, or vegetation clearing. Locality staff charged with ensuring compliance with the Bay Act will then evaluate project proposals and advise their Local Wetlands Boards or other appropriate parties of applicable Bay Act issues.

Notes for all projects in RPAs

1. Development, construction, land disturbance, or placement of fill within RPA features requires a review from the locality and may require an exception or variance from the local Bay Act program or zoning ordinance. Please contact the appropriate local government to determine the types of development or land uses that are permitted within RPAs.
2. Pursuant to § 9VAC 10-20-105, on-site delineation of the RPA is required for all projects in CBPA localities. Because USGS maps are not always indicative of actual "in-field" conditions, they may not be used to determine the site-specific boundaries of the RPA.

Notes for shoreline erosion control projects in RPAs

Re-establishment of woody vegetation in the buffer may be required to mitigate for the removal or disturbance of buffer vegetation associated with your proposed project. Please contact the local government to determine the mitigation requirements for impacts to the 100-foot RPA buffer.

Pursuant to § 9VAC 10-20-130.5.a(4), § 9VAC 10-20-130.1, and § 9VAC 10-20-120 of the Virginia Administrative Code, the locality will use the information provided in this Appendix and in the project drawings, along with other information in this permit application, to make a determination that:

1. Any proposed shoreline erosion control measures are necessary and consistent with the nature of the erosion occurring on the site, and the measures have employed the "best available technical advice"
2. Indigenous vegetation will be preserved to the maximum extent practicable
3. Proposed land disturbance has been minimized
4. Appropriate mitigation plantings will provide the required water quality functions of the buffer (§ 9VAC 10-20-130.3)
5. The project is consistent with the locality's comprehensive plan
6. Access to the project will be provided with the minimum disturbance necessary.

APPENDIX I

WETLAND DELINEATION REPORT &
USACE JURISDICTIONAL DETERMINATION LETTER

ENVIRONMENTAL

February 18, 2016

Mr. Johnny Lim
JCL Consulting, LLC
4460 Brookfield Corporate Drive
Suite K
Chantilly, Virginia 20151

TNT Project #: 270-A

Reference: Wetland Reconfirmation Letter, Midwood, Prince William County, Virginia

Dear Mr. Lim,

At your request and in general accordance with TNT Environmental, Inc. (TNT) proposal number 787, dated February 1, 2016, TNT conducted a site reconnaissance on the above-referenced project site to evaluate the site in order to acquire a valid jurisdictional determination.

The Midwood project site consists of three parcels of land totaling approximately 61.6 acres and located south of Route 55 (John Marshall Highway) in Haymarket, Virginia. The project site is further identified by physical address 15411 John Marshall Highway and Prince William County GPINs: 7298-42-4228, 7298-41-5235, and 7298-32-9522. The terrain of the project site consists of gentle slopes and level areas and is within the Broad Run drainage basin. The project site is currently mostly wooded, undeveloped land with some open fields.

The Waters of the U.S. and wetland boundaries were delineated by Wetlands Studies and Solutions, Inc. (WSSI) in October 2005, and reconfirmed during a jurisdictional determination (JD) with the U.S. Army Corps of Engineers (USACE) dated March 9, 2011 (NAO-2006-01343-arl). The current JD will expire on March 9, 2016. Please note that this former delineation includes additional land, west of the Midwood project site. This portion of land is now owned by others and is not part of this evaluation.

TNT conducted a pedestrian survey of the project site on Friday, February 12, 2016. As shown on the enclosed wetland delineation map and based on the site survey, the majority of wetlands and Waters of the U.S. onsite appear to be unchanged since the former wetland delineation. It is important to note that an isolated feature in the south-central portion of the site was formerly mapped as a Palustrine Forested Wetland (PFO); however, during TNT's field assessment, this area did not exhibit hydric soils or a dominance of hydrophytic vegetation. Further, this feature does not and formerly was not mapped as having a significant nexus to any other jurisdictional features. It is important to note that no data points within this area were included in the previous wetland delineation.

Please refer to the enclosed Wetland Delineation Map showing the potentially jurisdictional wetlands and Waters of the U.S., per TNT's reconnaissance. TNT collected data points within and outside wetland areas to characterize these features and define their boundaries. These data points and photographs are enclosed with this letter. Data Points from the previous wetland delineation by WSSI were collected using the 1987 Manual and the Eastern Mountains and Piedmont Regional Supplement and should be referred to for those additional wetlands that remain unchanged. The findings on the enclosed Wetland Delineation Map shall be considered preliminary until approved through a Jurisdictional Determination.

We appreciate the opportunity to work with you on this project. If you have any questions, please feel free to contact us at any time at (703) 466-5123.

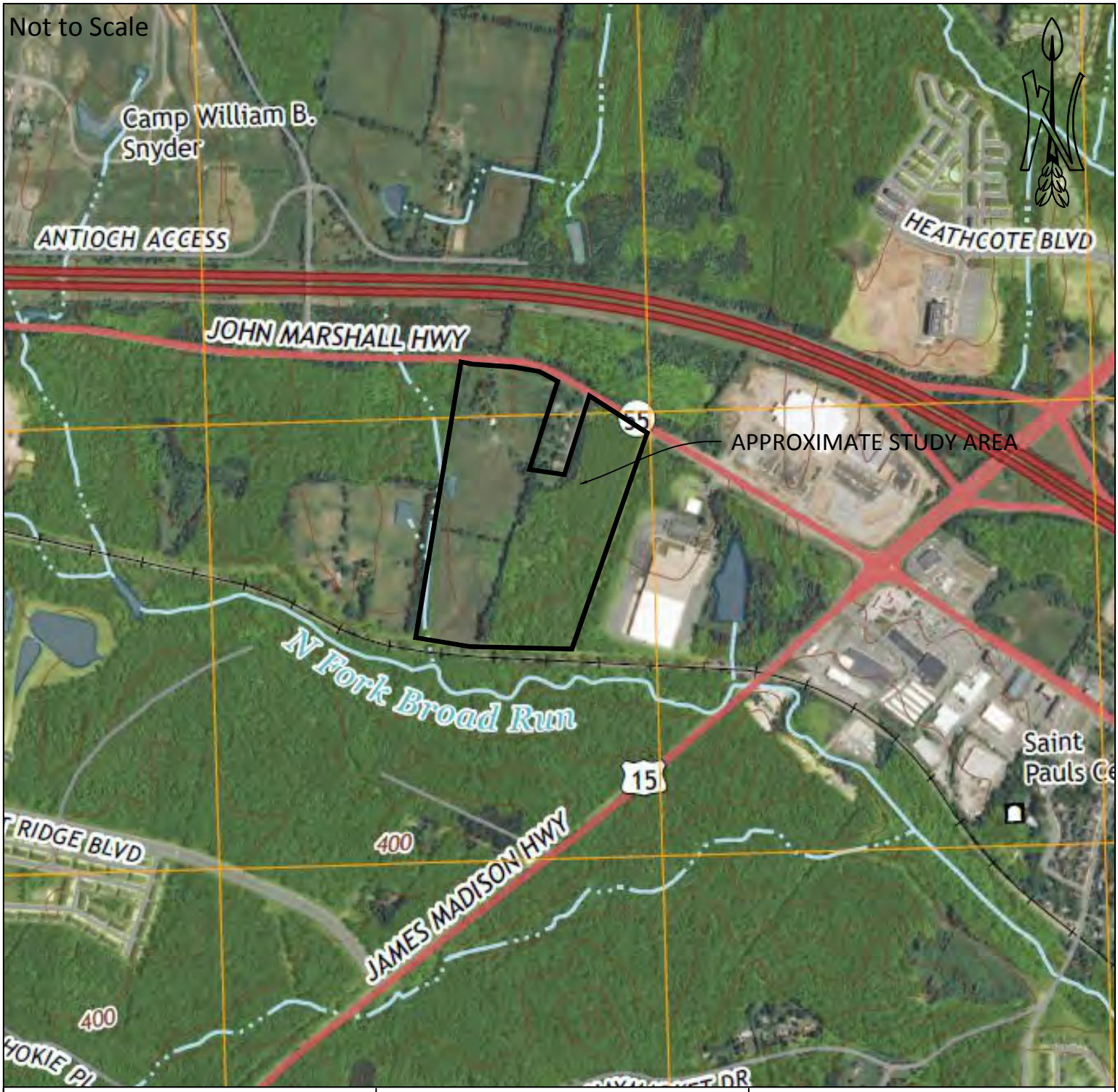
Sincerely,

TNT ENVIRONMENTAL, INC.

Lauren A. Duvall, PWD, PWS, ISA-CA
Senior Wetland Scientist
Lauren@TNTenvironmentalinc.com

Avi M. Sareen, PWD, PWS, ISA-CA
Principal/President
Avi@TNTenvironmentalinc.com

Enclosures:
TNT Wetland Delineation Data Sheets
Photographs
Wetland Delineation Map (February 18, 2016)
Wetland Delineation Map (September 2005, revised March 22, 2006)



WETLAND RECONFIRMATION MIDWOOD PROPERTY PRINCE WILLIAM COUNTY, VA MARCH 2016	ENVIRONMENTAL **13996 PARKEAST CIRCLE SUITE 101 CHANTILLY, VIRGINIA 20151**	**FIGURE 1** USGS TOPOGRAPHIC MAP THOROUGHFARE GAP, VA QUADRANGLE MAP (2013) TNT PROJECT NO: 270-A

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Midwood Property City/County: Prince William County Sampling Date: 2-12-16

Applicant/Owner: JCL Consulting, LLC State: VA Sampling Point: DP-1

Investigator(s): L. Duvall, S. Swartzendruber Section, Township, Range: _____

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

Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: 5C (Arcola-Nestoria) NWI classification: n/a

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

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ 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 Hydric Soil Present? ☒ Yes ☐ No Wetland Hydrology Present? ☒ Yes ☐ No	**Is the Sampled Area within a Wetland? ☒ Yes ☐ No**

Remarks:
Palustrine Forested (PFO) Wetland

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 Depth (inches): srfc Water Table Present? ☒ Yes ☐ No Depth (inches): 6" Saturation Present? (includes capillary fringe) ☒ Yes ☐ No Depth (inches): srfc	**Wetland Hydrology Present? ☒ Yes ☐ No**

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

Remarks:
Wetland Hydrology observed.

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

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus palustris	15	Y	FACW
2. Fraxinus pennsylvanica	10	Y	FACW
3. Juniperus virginiana	10	Y	FACU
4.			
5.			
6.			
7.			
	35	= Total Cover	
Sapling Stratum (Plot size: 15')			
1. Fraxinus pennsylvanica	5	Y	FACW
2. Quercus palustris	5	Y	FACW
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Shrub Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10')			
1. Lonicera japonica	20	N	FAC
2. Microstegium vimenium	40	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1. Toxicodendron radicans	5	Y	FAC
2.			
3.			
4.			
5.			
	5	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 86% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

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 Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? ☒Yes ☐No

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation dominates the vicinity.

SOIL

Sampling Point: DP-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	7.5YR 4/3	100					siltloam	
1-18	7.5YR 4/2	90	5YR 4/6	10			siltclay	

[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)**

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)**
- ☐ Red Parent Material (TF2)
- ☐ 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: _____

Depth (inches): _____

Hydric Soil Present? ☒ **Yes** ☐ **No**

Remarks:

Hydric soils observed.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Midwood Property City/County: Prince William County Sampling Date: 2-12-16

Applicant/Owner: JCL Consulting, LLC State: VA Sampling Point: DP-2

Investigator(s): L. Duvall, S. Swartzendruber Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): convex Slope (%): 5

Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: 4B (Arcola Silt Loam) NWI classification: n/a

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

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ 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 Hydric Soil Present? ☐ Yes ☒ No Wetland Hydrology Present? ☐ Yes ☒ No	**Is the Sampled Area within a Wetland?** ☐ **Yes** ☒ **No**

Remarks:
Upland Data Point.

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 Depth (inches): - Water Table Present? ☐ Yes ☒ No Depth (inches): >18" Saturation Present? (includes capillary fringe) ☐ Yes ☒ No Depth (inches): >18"	**Wetland Hydrology Present?** ☐ **Yes** ☒ **No**

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

Remarks:
No indicators of wetland hydrology observed.

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: DP-2

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Juniperus virginiana	25	Y	FACU
2. Fraxinus pennsylvanica	5	N	FACW
3. Pinus virginiana	5	N	FACU
4.			
5.			
6.			
7.			
	35	= Total Cover	
Sapling Stratum (Plot size: 15')			
1. Fraxinus pennsylvanica	5	Y	FACW
2. Juniperus virginiana	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Shrub Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10')			
1. Lonicera japonica	20	Y	FAC
2. Microstegium vimenium	10	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1. Toxicodendron radicans	5	Y	FAC
2.			
3.			
4.			
5.			
	5	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

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 Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? ☒Yes ☐No

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation dominates the vicinity.

SOIL

Sampling Point: DP-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	7.5YR 4/3	100					siltloam	

[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)**

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)**
- ☐ Red Parent Material (TF2)
- ☐ 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: _____

Depth (inches): _____

Hydric Soil Present? ☐ **Yes** ☒ **No**

Remarks:

Hydric soils not observed.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Midwood Property City/County: Prince William County Sampling Date: 2-12-16

Applicant/Owner: JCL Consulting, LLC State: VA Sampling Point: DP-3

Investigator(s): L. Duvall, S. Swartzendruber Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: 4B (Arcola Silt Loam) NWI classification: n/a

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

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ 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 Hydric Soil Present? ☐ Yes ☒ No Wetland Hydrology Present? ☐ Yes ☒ No	**Is the Sampled Area within a Wetland?** ☐ **Yes** ☒ **No**

Remarks:
Upland Data Point.

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 Depth (inches): - Water Table Present? ☐ Yes ☒ No Depth (inches): >18" Saturation Present? (includes capillary fringe) ☐ Yes ☒ No Depth (inches): >18"	**Wetland Hydrology Present?** ☐ **Yes** ☒ **No**

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

Remarks:
No indicators of wetland hydrology observed.

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

Tree Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Juniperus virginiana	15	Y	FACU
2. Fraxinus pennsylvanica	5	N	FACW
3. Pinus virginiana	5	N	FACU
4.			
5.			
6.			
7.			
	35	= Total Cover	
Sapling Stratum (Plot size: 15')			
1. Fraxinus pennsylvanica	5	Y	FACW
2. Juniperus virginiana	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Shrub Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10')			
1. Lonicera japonica	5	N	FAC
2. Microstegium vimenium	40	Y	FAC
3. Smilax rotundifolia	15	Y	FAC
4. Rubus allegheniensis	15	Y	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1. Toxicodendron radicans	5	Y	FAC
2.			
3.			
4.			
5.			
	5	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

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 Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? ☒Yes ☐No

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation dominates the vicinity.

SOIL

Sampling Point: DP-3

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	5YR 3/3	100					silt clay	
4-18	5YR 4/4	100					silt clay	

[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)**

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)**
- ☐ Red Parent Material (TF2)
- ☐ 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: _____

Depth (inches): _____

Hydric Soil Present? ☐ **Yes** ☒ **No**

Remarks:

Hydric soils not observed.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Midwood Property City/County: Prince William County Sampling Date: 2-12-16

Applicant/Owner: JCL Consulting, LLC State: VA Sampling Point: DP-4

Investigator(s): L. Duvall, S. Swartzendruber Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: 4B (Arcola Silt Loam) NWI classification: n/a

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

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ 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	**Is the Sampled Area within a Wetland?** ☐ **Yes** ☒ **No**
Hydric Soil Present?	☐ Yes	☒ No	
Wetland Hydrology Present?	☒ Yes	☐ No	

Remarks:
Upland Data Point.

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	Depth (inches): -
Water Table Present?	☒ Yes	☐ No	Depth (inches): 6"
Saturation Present? (includes capillary fringe)	☐ Yes	☒ No	Depth (inches): >18"

Wetland Hydrology Present? ☒ **Yes** ☐ **No**

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

Remarks:
High water table observed.

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

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 15')			
1. Juniperus virginiana	15	Y	FACU
2. Pinus virginiana	60	Y	FACU
3.			
4.			
5.			
6.			
7.			
	75	= Total Cover	
Sapling Stratum (Plot size: 15')			
1. Fraxinus pennsylvanica	2	N	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	2	= Total Cover	
Shrub Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10')			
1. Microstegium vimenium	50	Y	FAC
2. Lonicera japonica	25	Y	FAC
3. Smilax rotundifollia	5	N	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
		= 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: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	0 x 1 = 0
FACW species	2 x 2 = 4
FAC species	80 x 3 = 240
FACU species	75 x 4 = 300
UPL species	0 x 5 = 0
Column Totals:	157 (A) 544 (B)

Prevalence Index = B/A = 3.46

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 Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? ☐**Yes** ☒**No**

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation does not dominate the vicinity.

SOIL

Sampling Point: DP-4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	5YR 3/3	100					silt clay	
6-18	5YR 4/4	100					silt clay	

[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)**

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)**
- ☐ Red Parent Material (TF2)
- ☐ 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: _____

Depth (inches): _____

Hydric Soil Present? ☐ **Yes** ☒ **No**

Remarks:

Hydric soils not observed.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Midwood Property City/County: Prince William County Sampling Date: 2-12-16

Applicant/Owner: JCL Consulting, LLC State: VA Sampling Point: DP-5

Investigator(s): L. Duvall, S. Swartzendruber Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: 4B (Arcola Silt Loam) NWI classification: n/a

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

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? ☒ Yes ☐ 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	**Is the Sampled Area within a Wetland?** ☐ **Yes** ☒ **No**
Hydric Soil Present?	☐ Yes	☒ No	
Wetland Hydrology Present?	☒ Yes	☐ No	

Remarks:
Upland Swale Data Point.

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	Depth (inches): 0-3"
Water Table Present?	☒ Yes	☐ No	Depth (inches): 3"
Saturation Present? (includes capillary fringe)	☒ Yes	☐ No	Depth (inches): srfce

Wetland Hydrology Present? ☒ **Yes** ☐ **No**

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

Remarks:
High water table observed.

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

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 15')			
1. Juniperus virginiana	15	Y	FACU
2. Pinus virginiana	60	Y	FACU
3.			
4.			
5.			
6.			
7.			
	75	= Total Cover	
Sapling Stratum (Plot size: 15')			
1. Fraxinus pennsylvanica	2	N	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	2	= Total Cover	
Shrub Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 10')			
1. Microstegium vimenium	10	Y	FAC
2. Lonicera japonica	10	Y	FAC
3. Smilax rotundifollia	2	N	FAC
4. Rubus allgheniensis	2	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	24	= Total Cover	
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
		= 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: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	0 x 1 = 0
FACW species	2 x 2 = 4
FAC species	22 x 3 = 66
FACU species	77 x 4 = 308
UPL species	0 x 5 = 0
Column Totals:	101 (A) 378 (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 Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? ☐**Yes** ☒**No**

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation does not dominate the vicinity.

SOIL

Sampling Point: DP-5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	5YR 3/3	100					silt clay	
4-18	5YR 4/4	100					silt clay	

[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)**

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)**
- ☐ Red Parent Material (TF2)
- ☐ 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: _____

Depth (inches): _____

Hydric Soil Present? ☐ **Yes** ☒ **No**

Remarks:

Hydric soils not observed.

Photograph 1: View to the northeast showing the boundary of the forested wetland on the eastern portion of the site, near Data Point DP-1.

Photograph 2: View to the south showing the forested wetland located on the eastern portion of the site, near Data Point DP-1.

Photograph 3: Upstream view of the stream located along the eastern portion of the site.

Photograph 4: View to the east showing the linear forested wetland located east of the sanitary sewer easement on the eastern portion of the site.

Photograph 5: View to the north showing the forest stand from the sanitary sewer easement along the southern portion of the site.

Photograph 6: View to the south showing the area where Data Point DP-3 was collected.

Photograph 7: View to the northwest showing the location where Data Point DP-4 was collected.

Photograph 8: View to the north showing the location where Data Point DP-5 was collected.

LEGEND

- STUDY AREA
- SURVEYED WATERS OF THE U.S. (WOUS)
- SURVEYED PALUSTRINE FORESTED (PFO) WETLAND
- SURVEYED PALUSTRINE EMERGENT (PEM) WETLAND
- SURVEYED PALUSTRINE OPEN WATERS (POW)
- APPROXIMATE TNT DATA POINT LOCATIONS (DP-#)

NOTES:

1. A FORMER WETLAND DELINEATION WAS CONDUCTED ONSITE AND A SUBSEQUENT USACE JURISDICTIONAL DETERMINATION FROM THE U.S. ARMY CORPS OF ENGINEERS WAS ISSUED ON MARCH 9, 2011 (NAO-2006-01343-arl). THIS JD EXPIRES MARCH 9, 2016.
2. THE FINDINGS OF THIS WETLAND DELINEATION SHOULD BE CONSIDERED PRELIMINARY UNTIL APPROVED THROUGH A JURISDICTIONAL DETERMINATION WITH THE U.S. ARMY CORPS OF ENGINEERS (USACE).

Wetlands and Waters of the U.S.	Total
Palustrine Forested Wetlands (PFO)	19,076 SF (0.44 Ac.)
Palustrine Emergent Wetlands (PEM)	6,870 SF (0.16 Ac.)
Palustrine Open Waters (POW)	11,410 SF (0.26 Ac.)
Waters of the U.S.	2,661 LF

PALUSTRINE EMERGENT WETLAND (PEM) 3,547 SF (0.08 ACRES)

PALUSTRINE OPEN WATERS (POW) 11,410 SF (0.26 ACRES)

WATERS OF THE U.S. (WOUS) 51 LF (199 SF)

WATERS OF THE U.S. EXTEND FROM OFFSITE

PALUSTRINE FORESTED (PFO) WETLAND 253 SF (0.01 ACRES)

WATERS OF THE U.S. (WOUS) 126 LF (841 SF)

PALUSTRINE FORESTED (PFO) WETLAND 1,052 SF (0.02 ACRES)

WATERS OF THE U.S. EXTEND FROM OFFSITE

PALUSTRINE FORESTED (PFO) WETLAND 2,704 SF (0.06 ACRES)

WATERS OF THE U.S. (WOUS) 1,542 LF (9,479 SF)

PALUSTRINE FORESTED (PFO) WETLAND 1,312 SF (0.03 ACRES)

UPLAND ISLAND

PALUSTRINE FORESTED (PFO) WETLAND 11,823 SF (0.27 ACRES)

MATCHLINE

MATCHLINE

SCALE (IN FEET)
30 60
60 0

ENVIRONMENTAL
13996 Parkeast Circle, Suite 101
Chantilly, VA 20151
PH: 703-466-5123 WWW.TNTENVIRONMENTALINC.COM

MIDWOOD PROPERTY
PRINCE WILLIAM COUNTY

SURVEYED WETLANDS & WATERS OF THE U.S. MAP

REVISIONS

DATE	COMMENTS

SHEET 1 OF 2

SCALE: 1":60'

PROJECT DATE: 2-19-16

DRAFT: LAD | CHECK: AMS

FILE NUMBER: 270-A

MATCHLINE

MATCHLINE

PALUSTRINE FORESTED (PFO) WETLAND
338 SF (0.008 ACRES)

PALUSTRINE FORESTED (PFO) WETLAND
2,293 SF (0.05 ACRES)

PALUSTRINE FORESTED (PFO) WETLAND
121 SF (0.003 ACRES)

WATERS OF THE U.S. (WOUS)
942 LF (6,442 SF)

PALUSTRINE EMERGENT (PEM) WETLAND
3,323 SF (0.08 ACRES)

PALUSTRINE FORESTED (PFO) WETLAND
232 SF (0.005 ACRES)

WATERS OF THE U.S. (WOUS) FLOW OFFSITE

MIDWOOD, LLC
D.B. 2633 PG. 1094
GPIN: 7298-41-0671
#15500 JOHN MARSHALL HIGHWAY
E OF C = 0.03'
PREVIOUS DEEDS
D.B. 2624 PG. 1145
D.B. 1855 PG. 208
D.B. 1824 PG. 1925
D.B. 1633 PG. 434
D.B. 1196 PG. 1421
ZONING: PBD

MIDWOOD CENTER, LLC
D.B. 2903 PG. 495
E OF C = 0.00'
GPIN: 7298-41-7450
#15411 JOHN MARSHALL HIGHWAY
PREVIOUS DEEDS
D.B. 1801 PG. 652
D.B. 1710 PG. 14
D.B. 1441 PG. 411
D.B. 303 PG. 464
ZONING: PBD

PARCEL ONE
HMS IV PORTION OF
LANDBAY 3
SOUTH MARKET, LLC
INSTRUMENT 200912300123124
ZONING: A-1
USE: VACANT

DP-3
DP-4
DP-5

LEGEND

- STUDY AREA
- SURVEYED WATERS OF THE U.S. (WOUS)
- SURVEYED PALUSTRINE FORESTED (PFO) WETLAND
- SURVEYED PALUSTRINE EMERGENT (PEM) WETLAND
- SURVEYED PALUSTRINE OPEN WATERS (POW)
- DP-# APPROXIMATE TNT DATA POINT LOCATIONS

Wetlands and Waters of the U.S.	Total
Palustrine Forested Wetlands (PFO)	19,076 SF (0.44 Ac.)
Palustrine Emergent Wetlands (PEM)	6,870 SF (0.16 Ac.)
Palustrine Open Waters (POW)	11,410 SF (0.26 Ac.)
Waters of the U.S.	2,661 LF

NOTES:

1. A FORMER WETLAND DELINEATION WAS CONDUCTED ONSITE AND A SUBSEQUENT USACE JURISDICTIONAL DETERMINATION FROM THE U.S. ARMY CORPS OF ENGINEERS WAS ISSUED ON MARCH 9, 2011 (NAO-2006-01343-arl). THIS JD EXPIRES MARCH 9, 2016.
2. THE FINDINGS OF THIS WETLAND DELINEATION SHOULD BE CONSIDERED PRELIMINARY UNTIL APPROVED THROUGH A JURISDICTIONAL DETERMINATION WITH THE U.S. ARMY CORPS OF ENGINEERS (USACE).

SCALE (IN FEET)
30 60
60 0

ENVIRONMENTAL
13996 Parkeast Circle, Suite 101
Chantilly, VA 20151
PH: 703-466-5123 WWW.TNTENVIRONMENTALINC.COM

MIDWOOD PROPERTY
PRINCE WILLIAM COUNTY

SURVEYED WETLANDS & WATERS OF THE U.S. MAP

REVISIONS

DATE	COMMENTS

SHEET 2 OF 2

SCALE: 1":60'

PROJECT DATE: 2-19-16

DRAFT: LAD | CHECK: AMS

FILE NUMBER: 270-A

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT CORPS OF ENGINEERS
FORT NORFOLK 803 FRONT STREET
NORFOLK VIRGINIA 23510-1096

March 9, 2011

Northern Virginia Regulatory Section
NAO-2006-01343-arl (North Fork Broad Run)

Landservices, Inc
Attn: Eugene Siegel
10432 Balls Ford Road, Suite 300
Manassas, Virginia 20109

Dear Mr. Siegel:

This letter is in regard to your request for an approved jurisdictional determination for waters of the U.S. (including wetlands) on the property known as the Midwood project site. The approximately 120 acre project site is located south of Route 55, west of Route 15 and north of the Southern Railroad in Prince William County, Virginia.

An on-site jurisdictional determination has found waters and wetlands regulated under Section 10 of the Rivers and Harbors Act (33 U.S.C. 403) and/or Section 404 of the Clean Water Act (33 U.S.C. 1344) on the project site listed above. Non-tidal headwater wetlands; non-tidal adjacent wetlands and non-tidal streams have been identified on the site. This letter shall serve to confirm the wetlands and waters delineation by Wetland Studies and Solutions, Inc., as surveyed and shown on the map titled, "Waters of the U.S. Delineation – Midwood", dated September, 2005 with a final revision date of March 22, 2006.

Our basis for this determination is the application of the Corps' 1987 Wetland Delineation Manual, Eastern Mountains and Piedmont Regional Supplement and the positive indicators of wetland hydrology, hydric soils, and hydrophytic vegetation. The wetland is a water of the United States and is part of a tributary system to interstate waters (33 CFR 328.3(a)). These waters meet the Corps' definition of waters of the United States, are part of a tributary system to interstate waters (33 CFR 328.3 (a)) and have an ordinary high water mark (or high tide line).

Any mechanized landclearing that disturbs the soil surface, such as with a bulldozer and/or root rake, and/or any structure, fill or excavation in the [wetlands and/or streams and/or ditches and/or ponds] on this site may require a Department of the Army permit and possibly authorization by state and local authorities. Your proposed work may require a Virginia Water Protection Permit from the Virginia Department of Environmental Quality (DEQ) and/or a permit from the Virginia Marine Resources Commission (VMRC). Please obtain all required permits before starting work in the delineated waters/wetland areas.

This letter contains an approved jurisdictional determination for your subject site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 33 1. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the North Atlantic Division Office at the following address:

United States Army Corps of Engineers
North Atlantic Division
ATTN: Michael Vissichelli, Regulatory Appeals Review Officer
Building 301, General Lee Avenue
Fort Hamilton Military Community
Brooklyn, NY 11252

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 C.F.R. part 33 1.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by May 9, 2011. It is not necessary to submit an RFA form to the Division office if you do not object to the determination in this letter.

This jurisdictional determination is valid for a period of five years from the date of this letter. If you have any questions, please contact Ms. Anna Lawston in the Warrenton Field Office at PO Box 911, Warrenton, Virginia 20188, at (540) 937-4197 or anna.r.lawston@usace.army.mil. For and on behalf of, Nicholas L. Konchuba, Chief, Northern Virginia Regulatory Section;

Sincerely,

Anna R. Lawston
Project Manager
Northern Virginia Regulatory Section

Enclosure

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Landservices, Inc	File Number: NAO-2006-01343	Date: March 9, 2011

Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:
United States Army Corps of Engineers
Norfolk District – Regulatory
The Warrenton Field Office
Anna Lawston
PO Box 911
Warrenton, Virginia 20188

If you only have questions regarding the appeal process you may also contact:
United States Army Corps of Engineers
North Atlantic Division
ATTN: Michael Vissichelli, Regulatory Appeals Review Officer
Building 301, General Lee Avenue
Fort Hamilton Military Community
Brooklyn, NY 11252
(718) 765-7163

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

	Date:	Telephone number:
_____ Signature of appellant or agent.		

APPENDIX II

THREATENED AND ENDANGERED SPECIES INFORMATION

Observation Records

38,48,59.0 -77,39,07.0
is **the Search Point**

Show Position Rings
(•) Yes ( ) No
1/4 mile and 1/16 mile at the **Search Point**

Show Search Area
(•) Yes ( ) No
2 Search distance miles radius

Search Point is at map center

Base Map Choices
Topography

Map Overlay Choices
Current List: Position, Search, BBA, SppObs

Map Overlay Legend

Position Rings 1/4 mile and 1/16 mile at the Search Point

2 mile radius Search Area

Data Observation Site

back

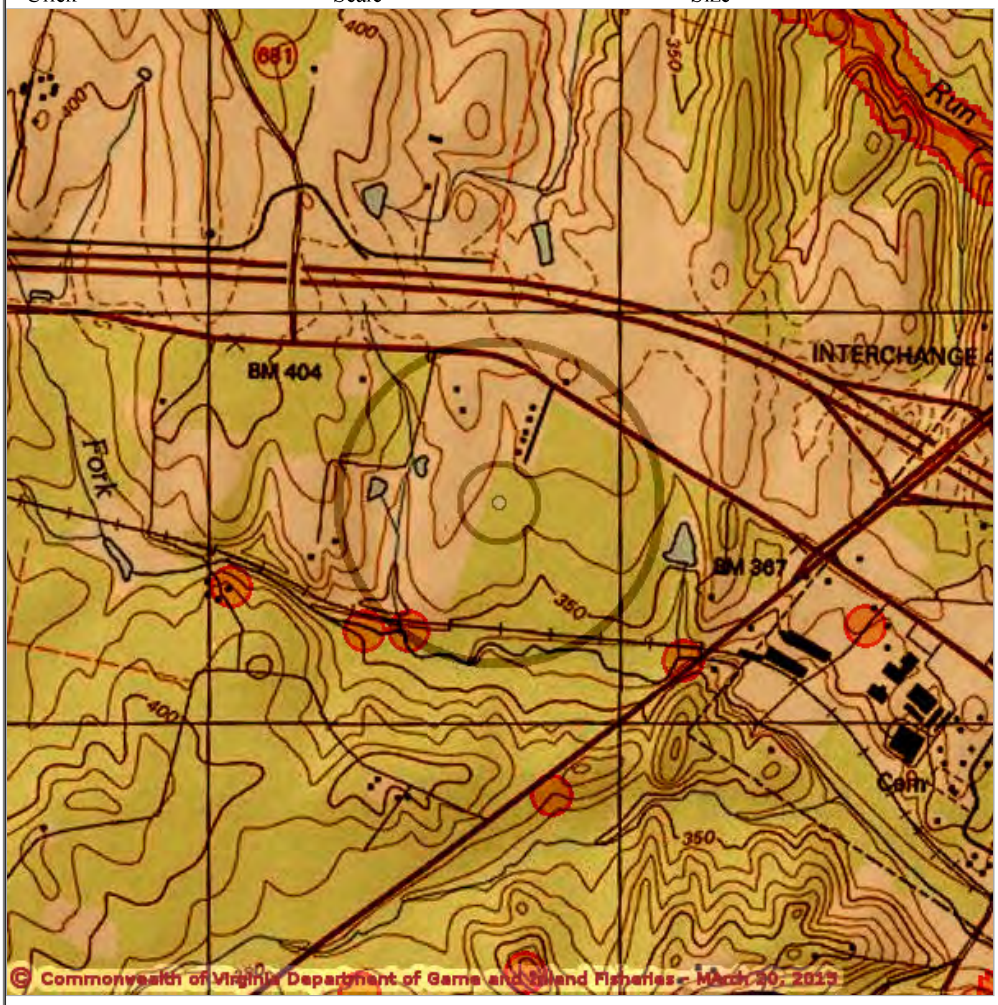
Refresh Browser Page

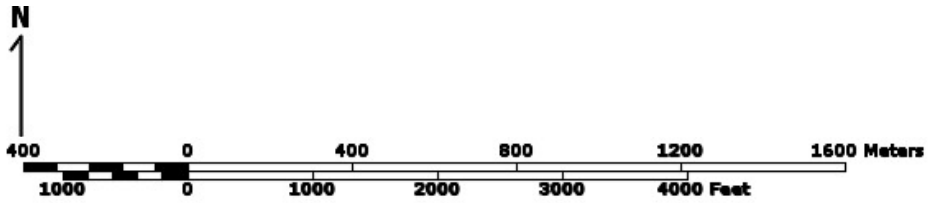
Map Click Pan Id M

Map Scale In Zoom Out

Screen Size Small Size Big

Help





Point of Search 38,48,59.0 -77,39,07.0
Map Location 38,48,59.0 -77,39,07.0

Select **Coordinate System:**
(•) Degrees,Minutes,Seconds Latitude - Longitude
( ) Decimal Degrees Latitude - Longitude
( ) Meters UTM NAD83 East North Zone
( ) Meters UTM NAD27 East North Zone

Base Map source: USGS 1:24,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 268555 and top 4300943. Pixel size is 4 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 2400 meters east to west by 2400 meters north to south for a total of 5.7 square kilometers. The

map display represents 7875 feet east to west by 7875 feet north to south for a total of 2.2 square miles.

Topographic maps and Black and white aerial photography for year 1990+-
are from the United States Department of the Interior, United States Geological Survey.
Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.
Shaded topographic maps are from TOPO! ©2006 National Geographic
http://www.national.geographic.com/topo
All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2015-03-20 08:59:21 (qa/qc December 5, 2012 8:04 - tn=638158.0 dist=3218 I)
$poi=38.8163889 -77.6519444

VaFWIS Search Report Compiled on 3/20/2015, 8:57:22 AM

Help

Known or likely to occur within a **2 mile radius around point 38,48,59.0 77,39,07.0** in **153 Prince William County, VA**

View Map of Site Location

553 Known or Likely Species ordered by Status Concern for Conservation (displaying first 27) (27 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
010032	FESE	II	Sturgeon, Atlantic	Acipenser oxyrinchus		BOVA
060006	SE	II	Floater, brook	Alasmidonta varicosa	Potential	BOVA,Habitat,HU6
030062	ST	I	Turtle, wood	Glyptemys insculpta	Potential	Habitat,HU6
040096	ST	I	Falcon, peregrine	Falco peregrinus		BOVA
040129	ST	I	Sandpiper, upland	Bartramia longicauda		BOVA
040293	ST	I	Shrike, loggerhead	Lanius ludovicianus		BOVA
040379	ST	I	Sparrow, Henslow's	Ammodramus henslowii	Potential	BOVA,BBA
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
050022	FP		Bat, northern long-eared	Myotis septentrionalis		BOVA
010038	FC	IV	Alewife	Alosa pseudoharengus		BOVA
010045	FC		Herring, blueback	Alosa aestivalis		BOVA
100248	FS	I	Fritillary, regal	Speyeria idalia idalia		BOVA,HU6
040093	FS	II	Eagle, bald	Haliaeetus leucocephalus		BOVA,HU6
060029	FS	III	Lance, yellow	Elliptio lanceolata		BOVA
030063	CC	III	Turtle, spotted	Clemmys guttata		BOVA
030012	CC	IV	Rattlesnake, timber	Crotalus horridus		BOVA,HU6
010077		I	Shiner, bridle	Notropis bifrenatus		BOVA
040372		I	Crossbill, red	Loxia curvirostra		BOVA
			Sapsucker, yellow-			

040225		I	bellied	Sphyrapicus varius		BOVA
040319		I	Warbler, black-throated green	Dendroica virens		BOVA
040306		I	Warbler, golden-winged	Vermivora chrysoptera		BOVA
040052		II	Duck, American black	Anas rubripes	Potential	BOVA,BBA,HU6
040036		II	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040213		II	Owl, northern saw-whet	Aegolius acadicus		BOVA,HU6
040105		II	Rail, king	Rallus elegans		BOVA
040320		II	Warbler, cerulean	Dendroica cerulea		BOVA,HU6
040266		II	Wren, winter	Troglodytes troglodytes		BOVA

To view **All 553 species** View 553

* FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; FS=Federal Species of Concern; CC=Collection Concern

** I=VA Wildlife Action Plan - Tier I - Critical Conservation Need;
II=VA Wildlife Action Plan - Tier II - Very High Conservation Need;
III=VA Wildlife Action Plan - Tier III - High Conservation Need;
IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

View Map of All Query Results from All Observation Tables

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams

N/A

Impediments to Fish Passage

N/A

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters

N/A

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Species Observations (29 records - displaying first 20)

View Map of All Query Results
Species Observations

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE*	Highest Tier**	
61345	SppObs	Mar 25 1991	Kay Briggs	1		III	Yes
7624	SppObs	Sep 4 1994	PHILIP H. STEVENSON	2		IV	Yes
5989	SppObs	Jun 4 1994	Stevenson, P. H.	1		IV	Yes
5988	SppObs	Jun 3 1994	Stevenson, P. H.	4		IV	Yes
5987	SppObs	May 25 1994	Stevenson, P. H.	2		IV	Yes
61380	SppObs	Mar 28 1994	Kay Briggs	1		IV	Yes
425357	SppObs	Nov 16 2007	VCU - INSTAR	3			Yes
317183	SppObs	Dec 9 2006	Caryl Buck	3			Yes
425373	SppObs	Sep 23 2005	VCU - INSTAR	11			Yes
425355	SppObs	Aug 18 2005	VCU - INSTAR	4			Yes

300638	SppObs	Jun 24 2001	ROGER B. CLAPP	1			Yes
300636	SppObs	Jun 24 2001	ROGER B. CLAPP	1			Yes
300637	SppObs	Jun 24 2001	ROGER B. CLAPP	1			Yes
58737	SppObs	Apr 25 1998	JOHN WHITE	3			Yes
51559	SppObs	May 12 1996	Roger B. Clapp, USNM	1			Yes
61417	SppObs	Mar 15 1996	Kay Briggs	1			Yes
51536	SppObs	Jul 15 1995	Roger B. Clapp, USNM	1			Yes
16354	SppObs	Oct 9 1981	R. E. WATSON	2			Yes
337227	SppObs	Jan 1 1981	REW-B-WATSON	2			Yes
18287	SppObs	Jan 1 1900		1			Yes

Displayed 20 Species Observations

Selected 29 Observations View all 29 Species Observations

Habitat Predicted for Aquatic WAP Tier I & II Species (2 Reaches)

View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species

Stream Name	Tier Species						View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name					
(20700102)	SE	060006	SE	II	Floater, brook	Alasmidonta varicosa	Yes
Little Bull Run (20700102)	ST	030062	ST	I	Turtle, wood	Glyptemys insculpta	Yes

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Virginia Breeding Bird Atlas Blocks (6 records)

View Map of All Query Results
Virginia Breeding Bird Atlas Blocks

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species			View Map
		Different Species	Highest TE*	Highest Tier**	
50193	Gainesville, CW	48		IV	Yes
50191	Gainesville, NW	36		IV	Yes
49194	Thoroughfare Gap, CE	49		IV	Yes
49193	Thoroughfare Gap, CW	80		IV	Yes
49192	Thoroughfare Gap, NE	68		II	Yes
49196	Thoroughfare Gap, SE	70	ST	I	Yes

Public Holdings:

N/A

Summary of BOVA Species Associated with Cities and Counties of the Commonwealth of Virginia:

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
153	Prince William	483	FESE	I

USGS 7.5' Quadrangles:
Thoroughfare Gap
Gainesville

USGS NRCS Watersheds in Virginia:

N/A

USGS National 6th Order Watersheds Summary of Wildlife Action Plan Tier I, II, III, and IV Species:

HU6 Code	USGS 6th Order Hydrologic Unit	Different Species	Highest TE	Highest Tier
PL32	Broad Run-Catletts Branch	58	FSSE	I
PL43	Little Bull Run	58	FSSE	I

Compiled on 3/20/2015, 8:57:22 AM I638158.0 report=all searchType= R dist= 3218 poi= 38,48,59.0 77,39,07.0

PixelSize=64; Anadromous=0.030156; BBA=0.076311; BECAR=0.027532; Bats=0.027037; Buffer=0.166904; County=0.106752; HU6=0.104219; Impediments=0.030014; Init=0.220067; PublicLands=0.043423; Quad=0.064048; SppObs=0.407265; TEWaters=0.0342; TierReaches=0.0772; TierTerrestrial=0.059538; Total=1.668096; Trout=0.031879; huva=0.042989

APPENDIX III

AVOIDANCE & MINIMIZATION ANALYSIS

Avoidance and Minimization Analysis

The Applicant proposes to construct two warehouse-type buildings utilized by data center facilities and their associated equipment in Prince William County, Virginia. The development will include warehouse buildings, associated utilities and infrastructure including access/driveways, and a stormwater management pond.

Pursuant to the *Memorandum of Agreement between the Environmental Protection Agency and Department of the Army Concerning the Determination of Mitigation under the Clean Water Act Section 404(b)(1) Guidelines* and the Virginia Water Protection Permit regulations (9 VAC 25-210-90.C and 9 VAC 25-210-115), applicants for state permits to impact waters of the State must demonstrate that impacts to these waters have been avoided and minimized to the maximum extent practicable. Under the Section 404 (b)(1) Guidelines (40 CFR §§ 230.1-230.80) for non-water dependent uses, the applicant must demonstrate that the proposed project is the Least Environmentally Damaging Practicable Alternative (LEDPA) by demonstrating that all "appropriate and practicable" steps to avoid and minimize impacts on the project site have been taken.

The concept of practicability is an important component of the impact avoidance, minimization, and mitigation requirements of the U.S. Environmental Protection Agency (EPA), U.S. Army Corps of Engineers (COE), and Virginia Department of Environmental Quality (DEQ). The term "practicable" appears numerous times in the Virginia Water Protection Permit regulations, EPA's Section 404(b)(1) Guidelines, an the *Memorandum of Agreement between the Environmental Protection Agency and Department of the Army Concerning the Determination of Mitigation under the Clean Water Act Section 404 (b)(1) Guidelines.* This term is defined identically in the Virginia Water Protection Permit regulation (9 VAC 25-210-10) and EPA's Section 404 (b)(1) Guidelines (40 CFR §§ 230.1-230.80) as "available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." The COE's wetlands regulations (33 CFR §§ 320-331) also recognized economic issues as one of the criteria to be considered in determining whether the COE should issue a permit, and these regulations state that the practicability of alternatives to accomplish the objective of the proposed project must be considered in permit decisions (33 CFR § 320.4(a)(1)). Thus, economic interests and the purpose of a proposed project may be taken into account when analyzing project alternatives and determining the Least Environmentally Damaging Practicable Alternative (LEDPA).

Analysis of Practicable Onsite Alternatives

In order for the project purpose to be practicably achieved, the wetlands and streams must be impacted to allow for the construction of the buildings, driveways, utilities, and stormwater management pond necessary to serve the proposed usage. Given the location of the project site and because the amount of fill located in jurisdictional wetlands and Waters has been limited to the minimum necessary to accomplish these requirements, there is no practicable alternative that will allow for the construction of this development within the project boundary with less adverse effects of streams, wetlands, and the aquatic community than the proposed project. Adjacent parcels within the same area are either insufficient to accommodate project needs or would result in a greater adverse effect on streams, wetlands, and the aquatic communities. Additionally, rotation of the current proposed buildings' position results in

additional impacts to wetlands and other Waters onsite. The Applicant has done considerable re-designing and shifting to avoid impacts to the eastern wetland and stream systems. Further, secondary impacts have been avoided by redesigning the stormwater pond's outfall to provide hydrology to the stream at Impact #1.

The buildings are user-specific buildings and the footprint of the buildings are minimized as much as possible for the proposed equipment. Any decrease in the building footprint would make the site infeasible for the Applicant. All three buildings have been minimized to the smallest size possible for the user; please refer to the previous site plans enclosed in this Appendix.

The building sizes and development plan have been significantly reduced (to the extent practicable for allowing the project to meet its goals) since the previous application submission, and the development now avoids impacts to the eastern wetland and stream system onsite, preserving 11,823 square feet (0.27 acres) of palustrine forested wetlands and 551 linear feet of stream channel.

The stormwater management pond cannot be moved or redesigned without impacting additional wetlands along the eastern side of the property. The use of smaller, multiple ponds would increase the limits of disturbance along with increasing the amount of wetland impacts. The culvert along the eastern property line allows water to bypass the site that drains into the existing wetland in that area. Therefore, there are no practicable onsite alternatives for the proposed location of the project.

Based on the proposed development plan, 551 linear feet of intermittent stream are being preserved onsite in addition to 11,823 square feet (0.27 acres) of forested wetlands. Previous preliminary development plans called for additional wetland and stream impacts (please refer to the enclosed Site Plans in this Appendix); however these plans were discarded based on their encroachment into wetlands and waters of the U.S. For example, additional secondary impacts would have resulted in an additional 700 linear feet of intermittent stream impact; however, the proposed design has rerouted flow to the stream in order to mimic pre-construction flow and conditions and maintain downstream hydrology. The proposed development has also been reduced to avoid 6,154 square feet of palustrine forested wetland (0.14 acres) which were formerly proposed; this avoidance was accomplished by minimizing the building to the minimal footprint necessary for the user. The Applicant has also looked at rotating the buildings 90 degrees, which resulted in impacts to the eastern wetland/stream system that is now being preserved by the proposed site plan.

The Applicant, land planners and engineers have worked to avoid and minimize impacts on the site to the maximum extent practicable. The layout of the proposed development was placed in the only location feasible to suit the proposed usage. Due to the size of the project area and development constraints, no alternatives exist for the planned development.

Discussion of Proposed Wetland/Waters of the U.S. Impacts

The proposed impacts consist of general site grading for the construction of the proposed roadway, utilities, and stormwater management facility outfall necessary to serve the proposed

usage. There are five (5) impact areas consisting of four (4) permanent and one (1) temporary impact, as described below.

Impact #1, which is permanent, will result from filling 991 linear feet (6,674 square feet) of intermittent stream (R4) associated with the construction of the buildings and associated infrastructure. The permanent impacts proposed in this area due to the grading and placement of fill material and the central location of the stream onsite. This impact is necessary in order to accomplish project goals.

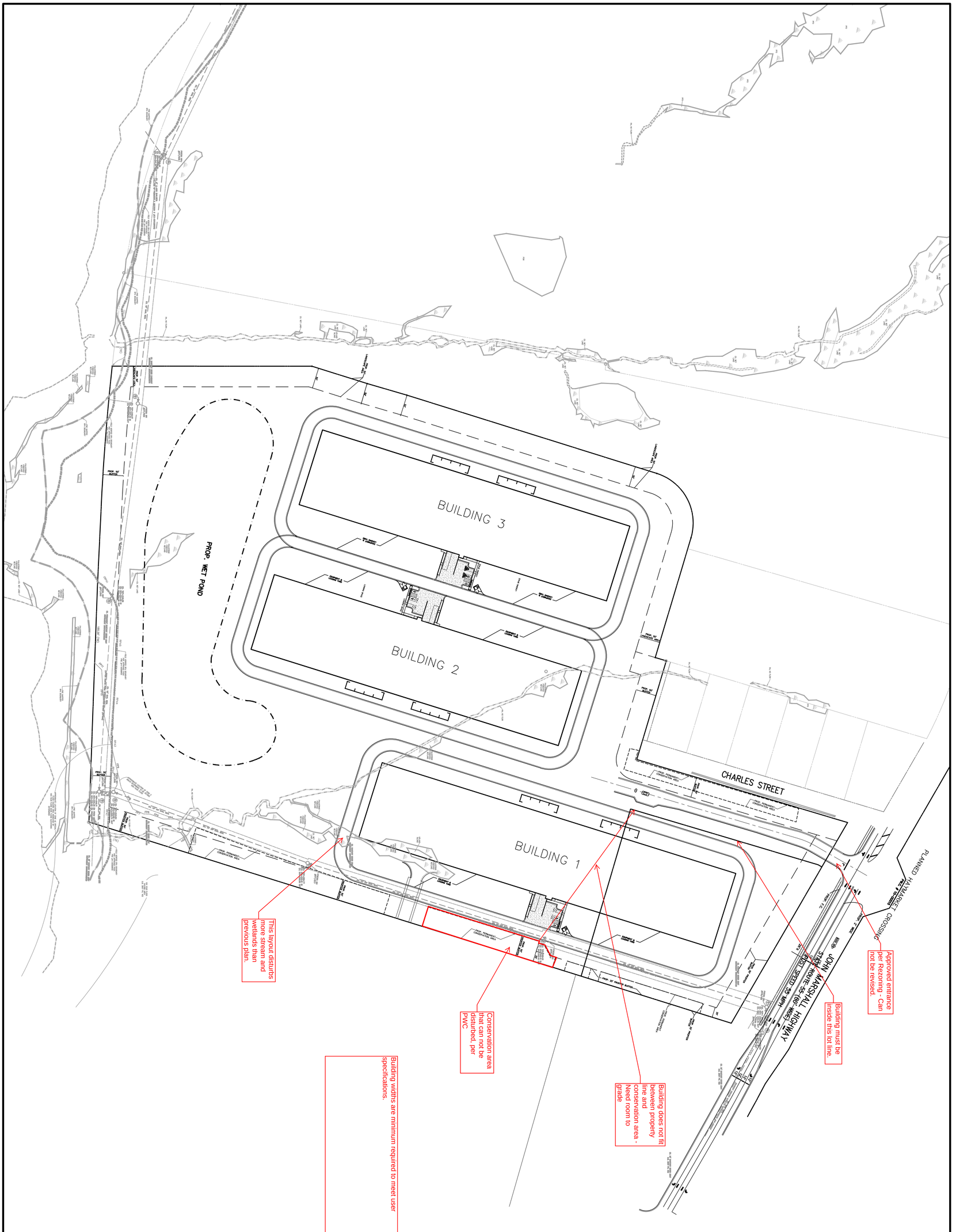
Impact #2, which is permanent, will result from filling 2,704 square feet (0.06 acre) of palustrine forested wetland (PFO) associated with the construction of the buildings and associated infrastructure. The permanent impacts proposed in this area due to the grading and placement of fill material and the central location of the stream onsite. This impact is necessary in order to accomplish project goals.

Impact #3, which is permanent, will result from filling 1,312 square feet (0.03 acre) of palustrine forested wetland (PFO) associated with the construction of the buildings and associated infrastructure. The permanent impacts proposed in this area due to the grading and placement of fill material and the central location of the stream onsite. This impact is necessary in order to accomplish project goals.

Impact #4, which is temporary, will result from the installation of a water main required to serve the proposed development. This utility is being installed at the request of Prince William County. This impact will result in the temporary disturbance to 14 linear feet (103 square feet) of intermittent stream. This impact is necessary in order to accomplish project goals. These areas will be excavated to the necessary depth for utility installation and then returned to pre-construction contours.

Impacts #5, which is permanent, will result from filling 206 square feet (0.005 acre) of palustrine forested wetland (PFO). The permanent impacts proposed in this area due to the grading and placement of fill material. This impact is necessary in order to accomplish project goals.

Due to the location and extent of streams onsite, the permanent impacts to 991 linear feet (6,674 square feet) of intermittent stream and 0.10-acres (4,222 square feet) of palustrine forested wetland (PFO), and temporary impacts to 14 linear feet (103 square feet) of intermittent stream proposed in this JPA are unavoidable.



SITE PLAN

IAD 63- MIDWOOD CENTER I
EXHIBIT "C"

GAINESVILLE MAGISTERIAL DISTRICT PRINCE WILLIAM COUNTY, VIRGINIA

PLAN STATUS	DATE	DESCRIPTION
04.23.14 ISSUE TO CLIENT		
05.21.14 REVISE LOT		
06.20.14 REVISE LOT AREA		
11.17.14 ISSUE TO CLIENT		

JCL DESIGN | JCL DRAWN | JCL CHKD

SCALE H: 1" = 100' V:

JOB No. 0021-A-001

DATE APRIL 2014

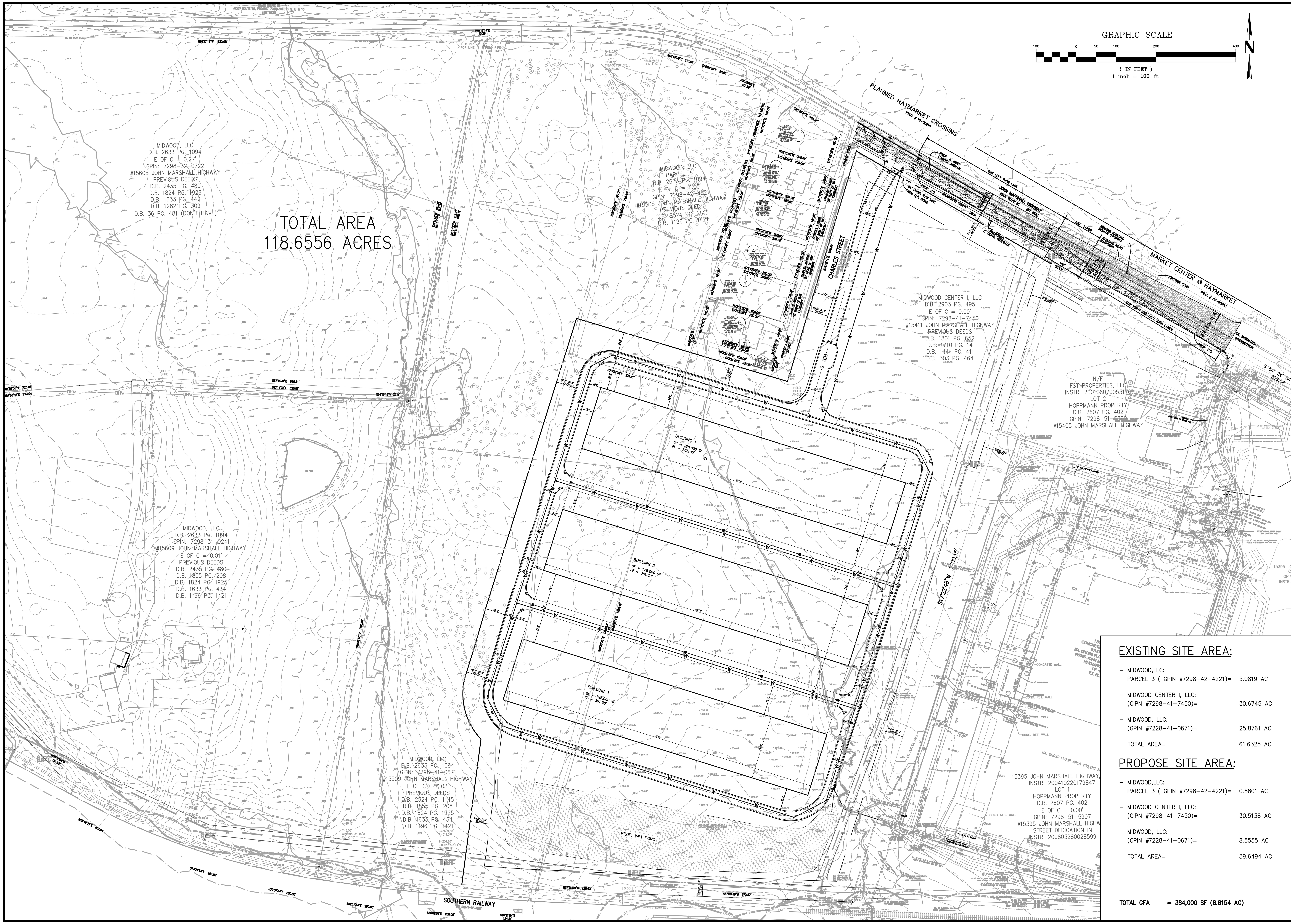
FILE No. 0021-A-001

SHEET 1 OF 1

JCL CONSULTING, LLC
4460 Brookfield Corporate Dr.
Suite K
Chantilly, Virginia 20151
Phone: (703) 488-9877
www.jclconsultingllc.com

JCL CONSULTING, LLC

Cad file name: \\JCLSERVER\Projects\0021-IAD 64-Midwood (next to IAD 55)\Engineering\EXHIBIT\DEQ Exhibit\0021-A-001-DEQ Exhibit.dwg



EXISTING SITE AREA:

- MIDWOOD,LLC: PARCEL 3 (GPIN #7298-42-4221)=	5.0819 AC
- MIDWOOD CENTER I, LLC: (GIPN #7298-41-7450)=	30.6745 AC
- MIDWOOD, LLC: (GPIN #7228-41-0671)=	25.8761 AC
TOTAL AREA=	61.6325 AC

PROPOSE SITE AREA:

- MIDWOOD,LLC: PARCEL 3 (GPIN #7298-42-4221)=	0.5801 AC
- MIDWOOD CENTER I, LLC: (GIPN #7298-41-7450)=	30.5138 AC
- MIDWOOD, LLC: (GPIN #7228-41-0671)=	8.5555 AC
TOTAL AREA=	39.6494 AC

TOTAL GFA = 384,000 SF (8.8154 AC)

JCL CONSULTING, LLC

JCL CONSULTING, LLC
4433 Brookfield Corporate Dr.
Suite B
Chantilly, Virginia 20151
Phone: (703) 488-9877
www.jclconsultingllc.com

SITE PLAN

HAYMARKET EXHIBIT "B"

GAINESVILLE MAGISTERIAL DISTRICT PRINCE WILLIAM COUNTY, VIRGINIA

PLAN STATUS	
04.23.14	ISSUE TO CLIENT
DATE	DESCRIPTION

JCL DESIGN	JCL DRAWN	JCL CHKD
SCALE	H: 1"= 100' V:	
JOB No.	0021-A-001	
DATE	APRIL, 2014	
FILE No.	0021-A-001	
SHEET	1 OF 1	

Cad file name: \\JCLSERVER\Projects\0021-IAD 63-Midwood (next to IAD 55)\Engineering\EXHIBIT\0021-A-001-EXHIBIT-B.dwg

APPENDIX IV

CONCEPTUAL MITIGATION PLAN

Conceptual Mitigation Plan

The Applicant proposes to make payment to a U.S. Army Corps of Engineers and Virginia Department of Environmental Quality approved wetland mitigation bank to compensate for the impacts to 0.10 acres of palustrine forested (PFO) wetland impacts as shown below:

Wetland Compensation Requirements

Cowardin Classification	Impact (Acres)	Compensation Ratio	Compensation Requirement (credits)
PFO	0.10	2:1	0.20
Total	**0.10**		**0.20**

In addition to wetland impacts, the proposed project will result in permanent impacts to 991 linear feet of intermittent stream. An additional 14 linear feet of intermittent stream will be temporarily impacted for the installation of an 8" watermain; due to the temporary nature of this impact, mitigation is not warranted. Permanent impacts will be mitigated with the purchase of credits from an approved stream bank as shown below:

Stream Compensation Requirements

Cowardin Classification	Impact (Linear feet)	Reach Condition Index (from USM Forms, attached)	Compensation Requirement (credits)
R4	991	1.08	1,070
Total	**991**		**1,070**

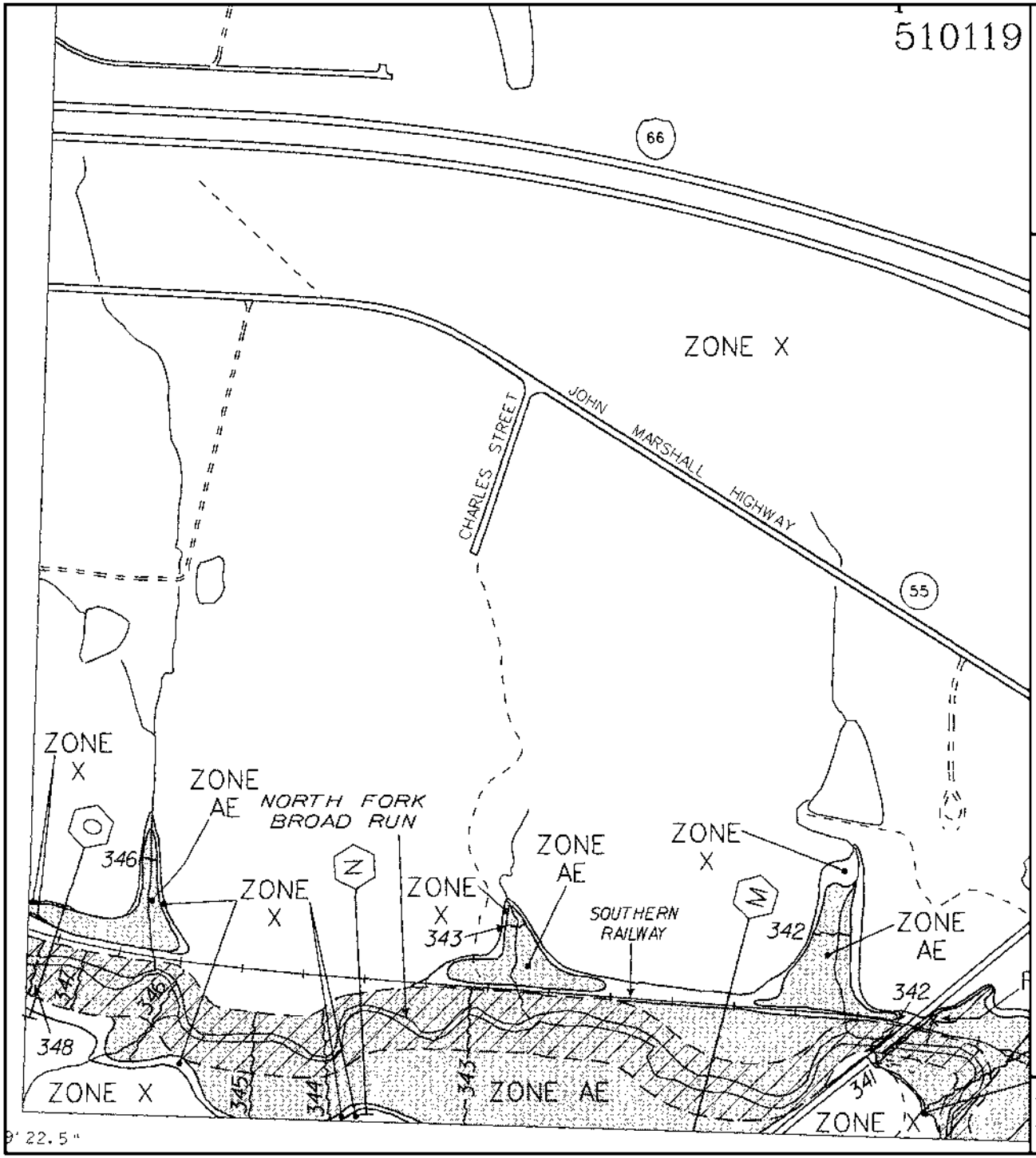
The Applicant proposes to compensate for the permanent impacts though the purchase of 1,070 credits from a U.S. Army Corps of Engineers and Virginia Department of Environmental Quality approved stream mitigation bank prior to the commencement of construction to offset the loss of 991 linear feet of intermittent stream.

It is the opinion of TNT that there will be no net loss of functions and values and the proposed mitigation will fully compensate for the impacts to wetlands and waters of the U.S. proposed in this JPA.

APPENDIX V

FEMA FLOOD INSURANCE MAP

510119



APPROXIMATE SCALE

500 0 500 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

PRINCE WILLIAM COUNTY, VIRGINIA AND INCORPORATED AREAS

PANEL 59 OF 330

(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS

COMMUNITY	NUMBER	PANEL	SUFFIX
HAYMARKET, TOWN OF	510119	0059	D
UNINCORPORATED AREAS	510119	0059	D

Notice to User: The MAP NUMBER shown below should be used when placing map orders; the COMMUNITY NUMBER shown above should be used on insurance applications for the subject community.

MAP NUMBER
5115300059 D

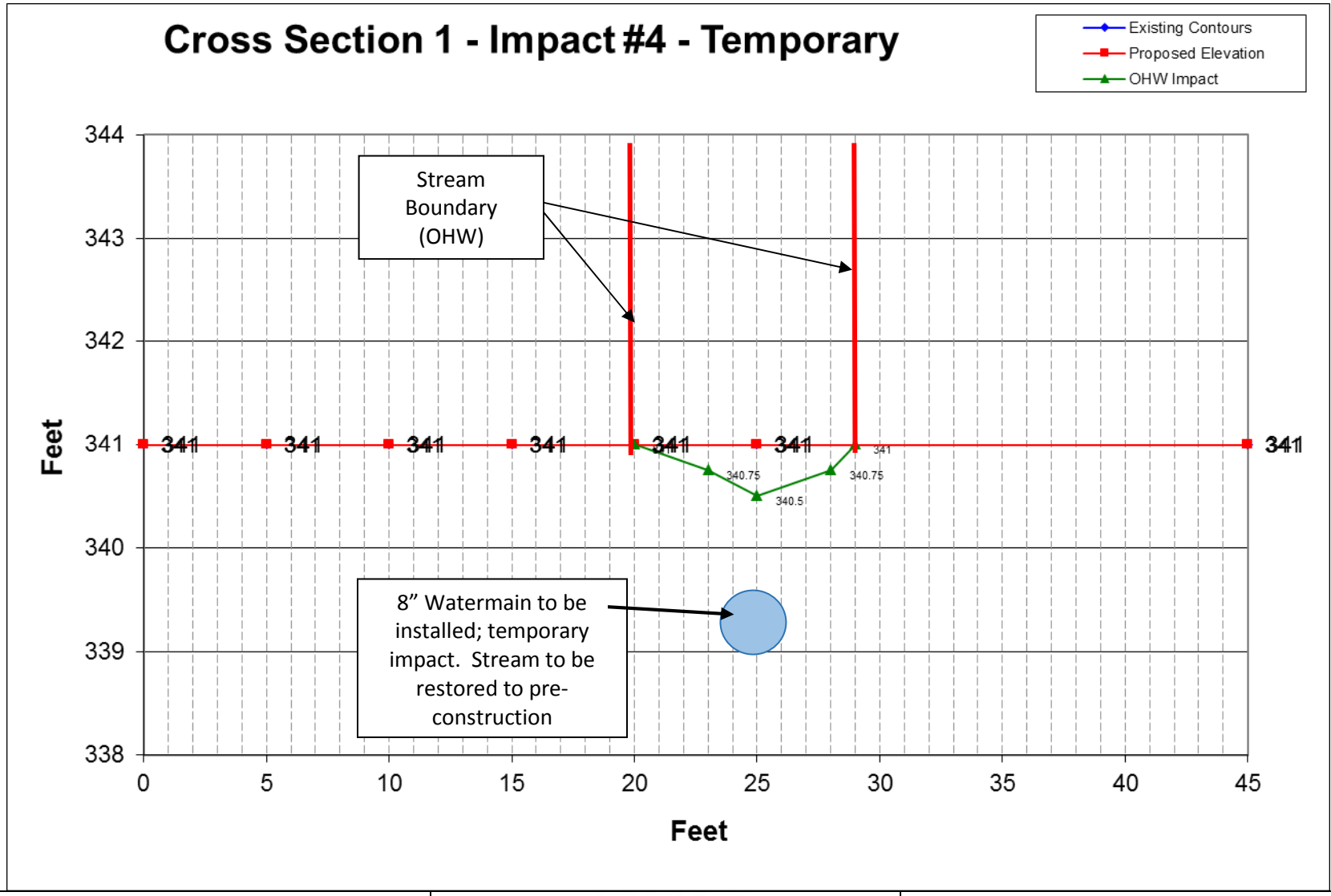
EFFECTIVE DATE:
JANUARY 5, 1995

Federal Emergency Management Agency

9' 22.5"

APPENDIX VI

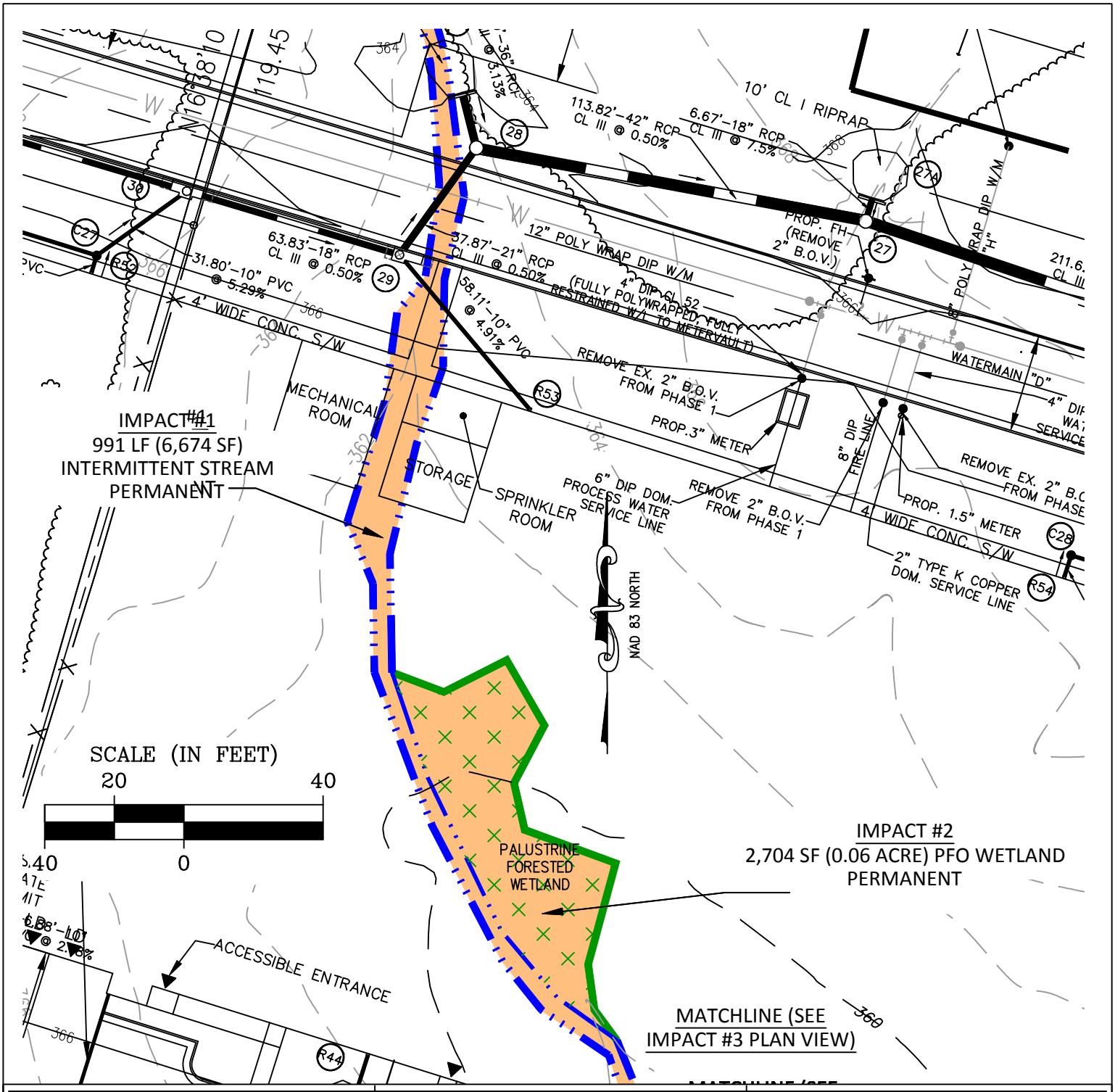
CROSS SECTIONAL DIAGRAMS



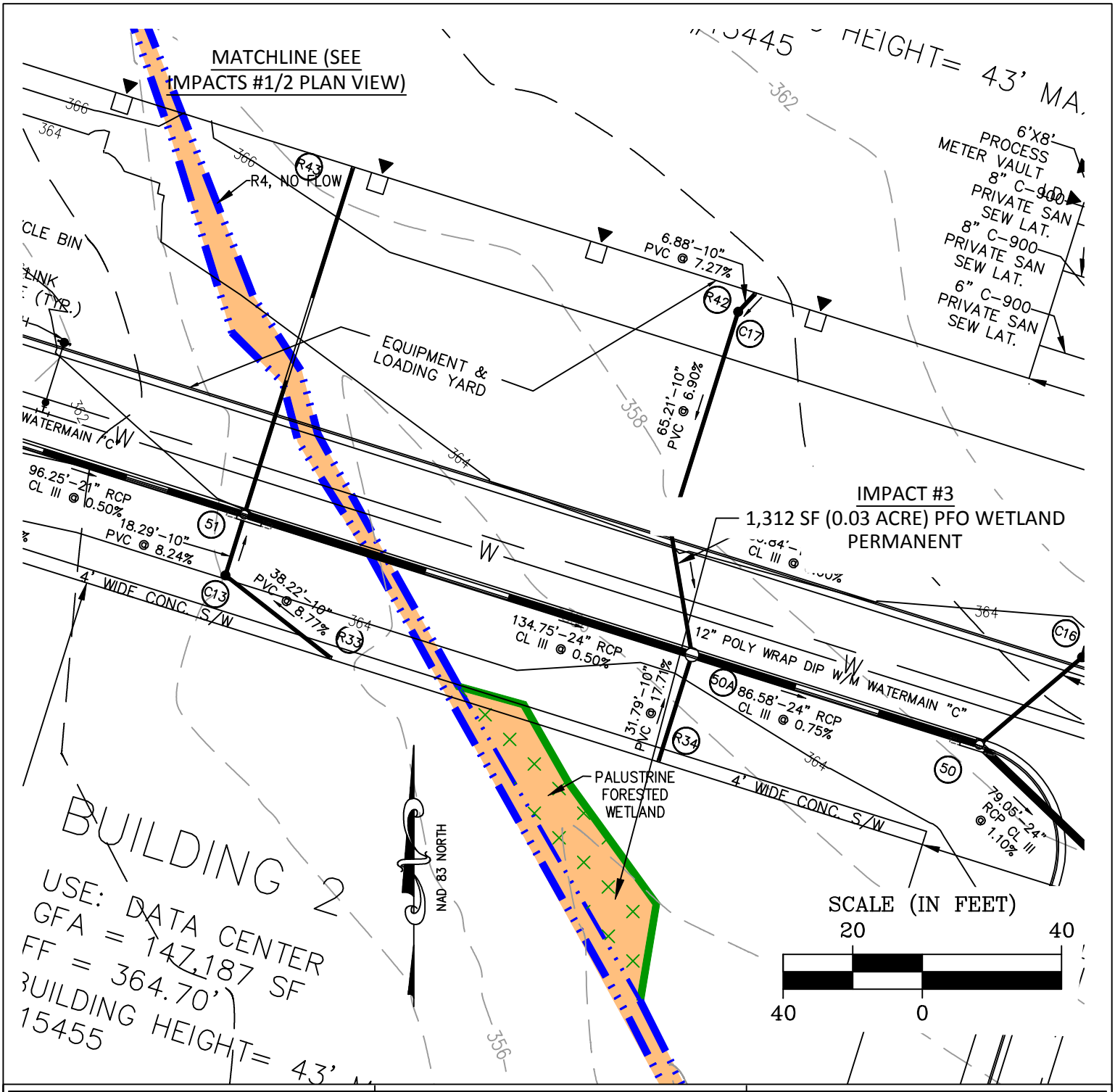
Midwood **Prince William County, Virginia** **June 2016**	ENVIRONMENTAL **13996 PARKEAST CIRCLE, SUITE 101** **CHANTILLY, VA 20151**	**Appendix VI** **Cross Section A –A' – Impact #4** **Wetland Impact Map** **TNT Project NO.: 270-B**

APPENDIX VII

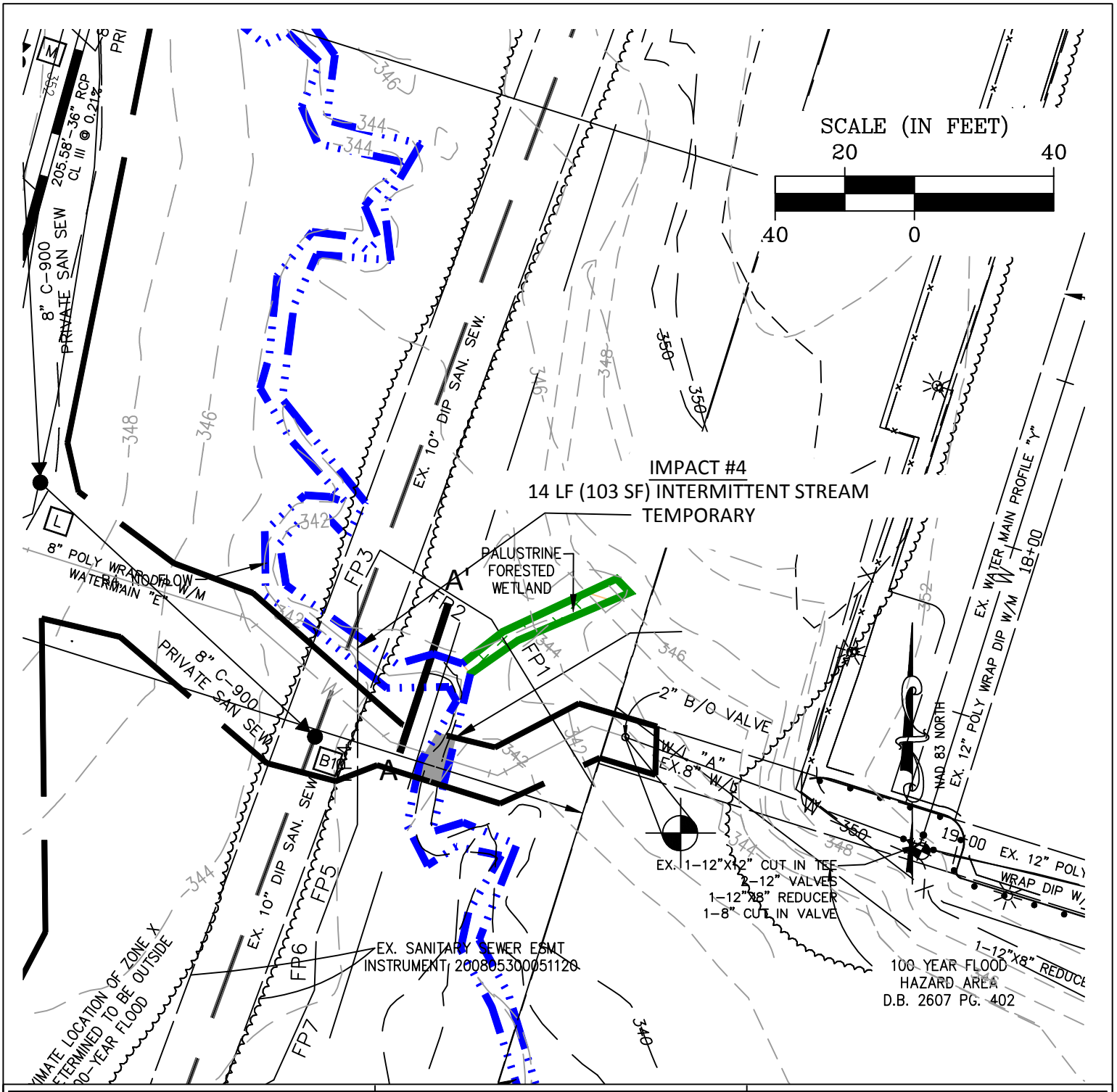
8.5 X 11” DRAWINGS



JOINT PERMIT APPLICATION MIDWOOD PRINCE WILLIAM COUNTY, VA JUNE 2016	ENVIRONMENTAL **13996 PARKEAST CIRCLE** **SUITE 101** **CHANTILLY, VIRGINIA** **20151**	**PLAN VIEW** IMPACTS #1 AND #2 R4 AND PFO WETLANDS TNT PROJECT NO: 270



JOINT PERMIT APPLICATION MIDWOOD PRINCE WILLIAM COUNTY, VA JUNE 2016	ENVIRONMENTAL **13996 PARKEAST CIRCLE** **SUITE 101** **CHANTILLY, VIRGINIA** **20151**	**PLAN VIEW** IMPACT #3 R4 AND PFO WETLANDS TNT PROJECT NO: 270



JOINT PERMIT APPLICATION

MIDWOOD

PRINCE WILLIAM COUNTY, VA

JUNE 2016

ENVIRONMENTAL

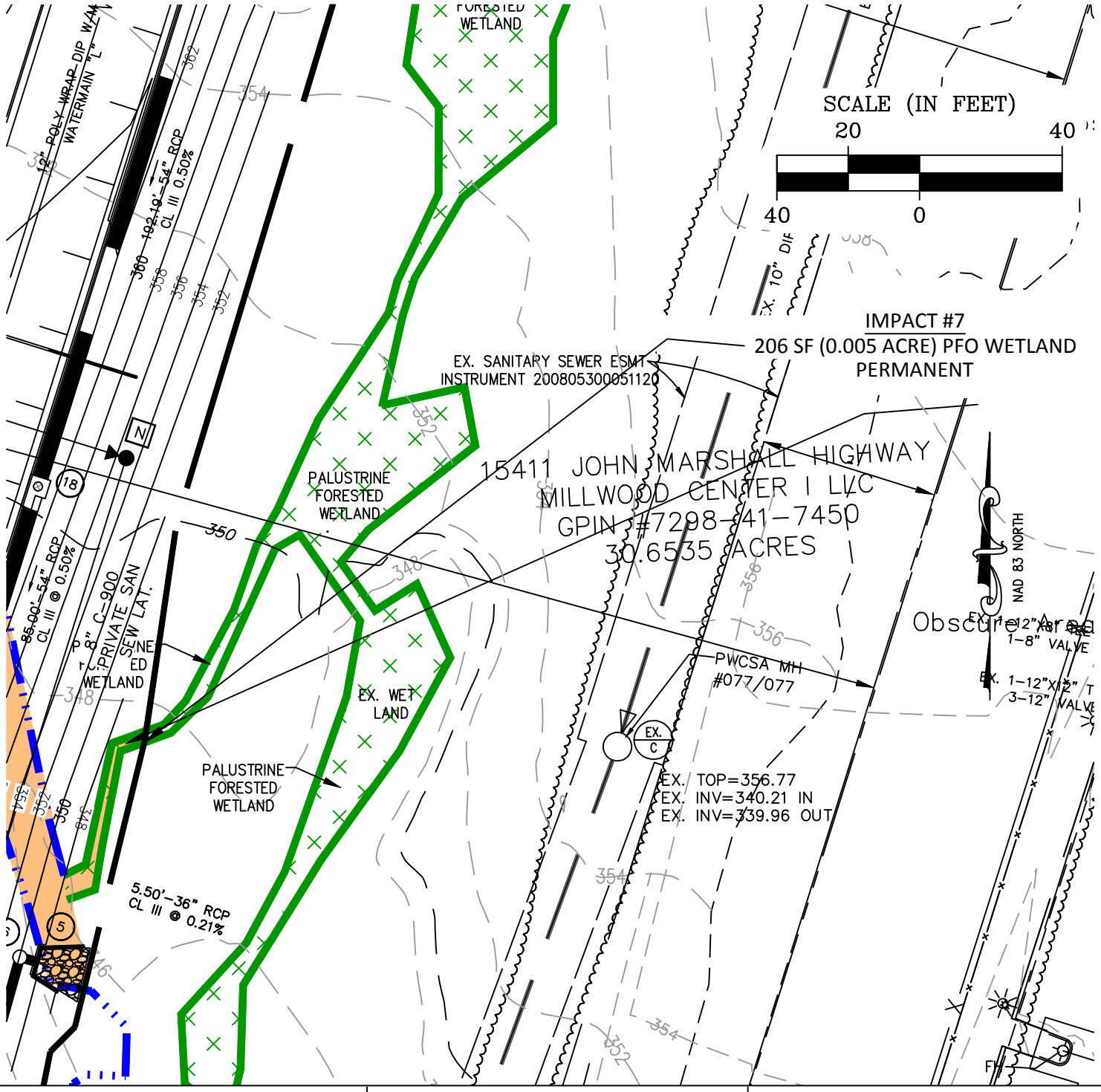
13996 PARKEAST CIRCLE
SUITE 101
CHANTILLY, VIRGINIA
20151

PLAN VIEW

IMPACT #4

R4 (TEMPORARY)

TNT PROJECT NO: 270



JOINT PERMIT APPLICATION MIDWOOD PRINCE WILLIAM COUNTY, VA JUNE 2016	ENVIRONMENTAL **13996 PARKEAST CIRCLE** **SUITE 101** **CHANTILLY, VIRGINIA** **20151**	**PLAN VIEW** IMPACT #5 PFO WETLAND TNT PROJECT NO: 270

APPENDIX VIII

OVERALL SITE DEVELOPMENT PLAN AND WETLAND IMPACT MAP

LEGEND

- LIMITS OF DISTURBANCE
- SURVEYED INTERMITTENT STREAM CHANNEL (R4)
- SURVEYED PALUSTRINE FORESTED (PFO) WETLAND
- PERMANENT OR CONVERSION IMPACTS
- TEMPORARY IMPACT

NOTES:

A WETLAND DELINEATION WAS CONDUCTED ONSITE AND A SUBSEQUENT USACE JURISDICTIONAL DETERMINATION FROM THE U.S. ARMY CORPS OF ENGINEERS WAS ISSUED ON MARCH 9, 2011 (NAO-2006-01343-arl). THIS JD HAS SINCE EXPIRED. TNT CONDUCTED A WETLAND DELINEATION ON THE SITE IN MARCH 2016; A CURRENT JURISDICTIONAL DETERMINATION WAS REQUESTED AND IS CURRENTLY PENDING.

ENVIRONMENTAL
13996 Parkeast Circle, Suite 101
Chantilly, VA 20151
PH: 703-466-5123 WWW.TNTENVIRONMENTALINC.COM

MIDWOOD PROPERTY

PRINCE WILLIAM COUNTY

OVERALL WETLAND & WATERS IMPACT MAP

REVISIONS

DATE	COMMENTS

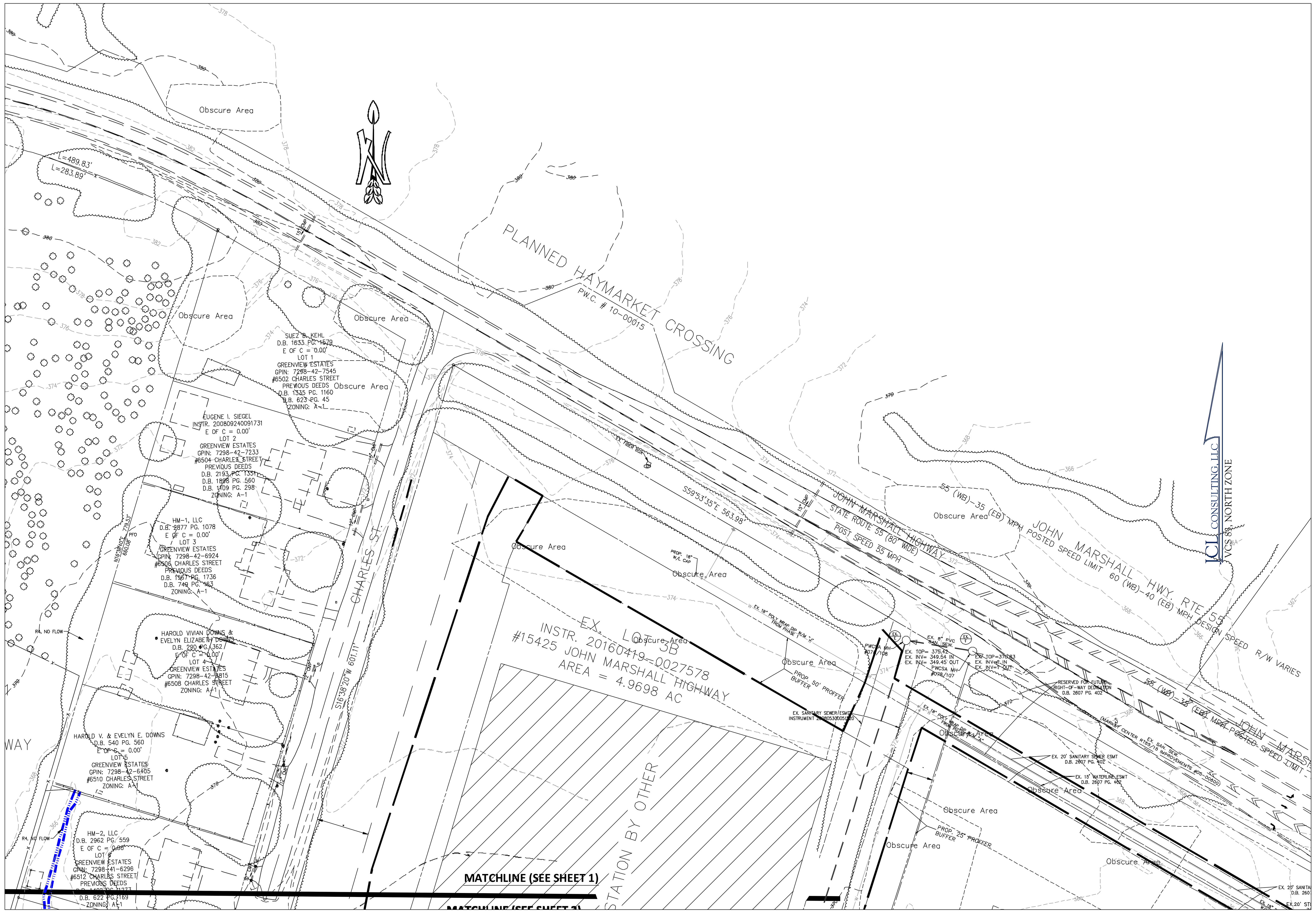
SHEET 1 OF 2

SCALE: 1"=60'

PROJECT DATE: 6/23/16

DRAFT: LAD CHECK: AMS

FILE NUMBER: 270



SCALE (IN FEET)
30 60
60 0

LEGEND

- LIMITS OF DISTURBANCE
- SURVEYED INTERMITTENT STREAM CHANNEL (R4)
- SURVEYED PALUSTRINE FORESTED (PFO) WETLAND
- PERMANENT OR CONVERSION IMPACTS
- TEMPORARY IMPACT

NOTES:

A WETLAND DELINEATION WAS CONDUCTED ONSITE AND A SUBSEQUENT USACE JURISDICTIONAL DETERMINATION FROM THE U.S. ARMY CORPS OF ENGINEERS WAS ISSUED ON MARCH 9, 2011 (NAO-2006-01343-arl). THIS JD HAS SINCE EXPIRED. TNT CONDUCTED A WETLAND DELINEATION ON THE SITE IN MARCH 2016; A CURRENT JURISDICTIONAL DETERMINATION WAS REQUESTED AND IS CURRENTLY PENDING.

SUMMARY OF WATERS OF THE U.S. AND WETLAND IMPACTS

Impact #	Impact Type	Impact Description	Average Stream Flow (cfs)	Drainage Area (Sq. Mi.)	Permanent Impacts				Temporary Impacts	
					LF R4	SF R4	SF PFO	Ac.	LF R4	SF R4
1	Buildings and Infrastructure	F, NT, PE, NV, R4	< 1.0	~0.10	991	6,674	-	-	-	-
2	Buildings and Infrastructure	F, NT, PE, V, PFO	-	~0.05	-	-	2,704	0.06	-	-
3	Buildings and Infrastructure	F, NT, PE, V, PFO	-	~0.05	-	-	1,312	0.03	-	-
4	8" Watermain Crossing	S, NT, TE, R4, NV, CNV	-	~0.10	-	-	-	-	14	103
5	Grading	F, NT, PE, V, PFO	-	~0.10	-	-	206	0.005	-	-
Total					991	6,674	4,222	0.10	14	103

R4 - Intermittent Stream; F - Fill; S - Structure; EX - Excavation; NT - Nontidal; PE - Permanent; TE - Temporary; V - Vegetated; NV - Non-vegetated; PFO - Palustrine Forested

ENVIRONMENTAL
13996 Parkeast Circle, Suite 101
Chantilly, VA 20151
PH: 703-466-5123 WWW.TNTENVIRONMENTALINC.COM

MIDWOOD PROPERTY
PRINCE WILLIAM COUNTY

OVERALL WETLAND & WATERS IMPACT MAP

REVISIONS	
DATE	COMMENTS

SHEET 2 OF 2

SCALE: 1":60'

PROJECT DATE: 6/23/16

DRAFT: LAD CHECK: AMS

FILE NUMBER: 270