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ENVIRONMENTAL

JOINT PERMIT APPLICATION
HARTLAND PHASE II
LOUDOUN COUNTY, VIRGINIA

TNT PROJECT NO.: 1460-F1

PREPARED FOR

TIMBER RIDGE AT HARLAND, LLC

AUGUST 27, 2020

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PROJECT NAME
17-SPGP-01 COMPLETE APPLICATION CHECKLIST

	Submission Requirements	Material Location
1	Completed and signed JPA with SPGP box checked	X
2	Any existing Corps project numbers and previous actions	APPENDIX I
3	The applicant's name, contact person, mailing address, telephone number, email address	JPA Section 1
4	The authorized agent's name, contact person, mailing address, telephone number, email address	JPA Section 1
5	Project location information: address, city/county	JPA Section 2
6	Water body or water bodies or receiving stream, as applicable	JPA Section 2
7	Latitude and longitude (to the nearest second) from a central location within the project limits	JPA Section 2
8	The hydrologic unit code (HUC) for the project area	JPA Section 2
9	The name of the project, narrative description of project purpose, and a description of the proposed activities in waters, including wetlands	JPA Section 3
10	Wetlands/Waters Impacts	JPA Section 8
11	All appropriate sections from the JPA, including signature pages: (a) Include Sections 1-9, and applicable Sections 10-27 for all General Permits (b) Check that all applicable requirements within individual sections (i.e. Appendices) of the JPA have been followed, such as road and utility crossing narratives	X
12	A detailed location map (e.g., a United States Geologic Survey topographic quadrangle map, ADC road map) of the project area, including the project boundary. The map should be of sufficient detail such that the site may be easily located for site inspection	PAGES 2-3
13	Project plan view. All plan view sketches should include, at a minimum, north arrow, scale, existing structures, existing contours, proposed contours (if available), limit of waters, including wetlands, direction of flow, ordinary high water line, impact limits, and location and dimension of all proposed structures in impact areas. In addition, cross-sectional or profile sketches with the above information may be required to detail impact areas and those impacts associated with the installation of structures.	APPENDIX VIII, IX & X
14	Check that all informational requirements for drawings, listed in Appendix D of the JPA, have been followed	
15	Large-sized impact map (at a scale no smaller than 1" = 200'); use matchlines if the entire site cannot fit on one sheet at this scale and provide a cover page showing how all sheets relate.	

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16	A description of the specific on-site measures considered and taken during project design and development both to avoid and minimize impacts to waters, including wetlands, to the maximum extent practicable. If applicable, submit alternative designs as well as an economic analysis	N/A
17	Endangered and threatened species information and related correspondence	APPENDIX II
18	Historic resources information and related correspondence, including a plan view depicting all historical resources located within the project boundaries.	APPENDIX III
19	A conceptual mitigation plan that adheres to the mitigation requirements and preference hierarch of the Corps-EPA Compensatory Mitigation for Losses of Aquatic Resources Rule dated April 10, 2008 (33 CFR 325 and 332; 40 CFR 230)	APPENDIX V
20	Applicants proposing compensation involving the purchase or use of mitigation banking or in-lieu fee credits shall include as their conceptual compensation plan: (a) The name of the proposed mitigation bank or in-lieu fee; (b) the HUC in which it is located; (c) the number of credit proposed to be purchases; (d) a letter of credit availability from the Sponsor (e) If applicable, a copy of the stream assessment report in the JPA	N/A
21	WETLANDS: Applicants proposing onsite/offsite permittee responsible mitigation shall include as their conceptual compensation plan (33 CFR 332.4(c)(2)-(14)) : (a) Objectives; (b) site selection; (c) site protection instruments; (d) baseline information; (e) credit determination methodology (f) mitigation work plan including water budget; (g) maintenance plan; (h) ecological performance standards; (i) monitoring requirements; (j) long-term management; (k) adaptive management plan; (l) financial assurances;	N/A

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22	WATERS: Applicants proposing onsite/offsite permittee responsible mitigation shall include as their conceptual compensation plan (33 CFR 332.4(c)(2)-(14)) : (a) Objectives; (b) site selection; (c) site protection instruments; (d) baseline information; (e) credit determination methodology (f) mitigation work plan including water budget; (g) maintenance plan; (h) ecological performance standards; (i) monitoring requirements; (j) long-term management; (k) adaptive management plan; (l) financial assurances; (m) planform geometry (n) channel form (o) watershed size (p) design discharge (q) riparian area plantings (r) a reference reach (s) completed Natural Channel Design Review Checklist (t) completed Selected Morphological Characteristics Form	N/A
23	A Corps confirmed delineation map that is approved for use with a permit application or confirmed jurisdictional determination map that includes the limits of all waters, including wetlands that are located within the project boundaries.	APPENDIX I
24	A written disclosure identifying all wetlands, open water, streams, and associated upland buffers within the proposed project or compensation areas that are under a deed restriction, conservation easement, restrictive covenant, or other land use protective instrument (protected areas). Such disclosure shall include the nature of the prohibited activities within the protected areas.	N/A

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WP4 - JPA CHECKLIST

9 VAC 25-690-60

	Submission Requirements	Material Location in JPA
1.	The applicant's name, mailing address, telephone number and, if applicable, fax number	Pg. 7
2.	The authorized agent's (if applicable) name, mailing address, telephone number, if applicable, fax number and email address	Pg. 7
3.	The existing VWP permit number (if applicable)	N/A
4.	The name of the project, narrative description of project purpose, and a description of the activity in surface waters	Pg. 9a-b
5.	The name of the water body or water bodies or receiving stream, as applicable	Pg. 8
6.	The hydrologic unit code (HUC) for the project area	Pg. 8
7.	The name of the city or county where the project is located	Pg. 8
8.	Latitude and longitude (to the nearest second) from a central location within the project limits	Pg. 8
9.	A detailed location map (e.g., a United States Geologic Survey topographic quadrangle map) of the project area, including the project boundary. The map shall be of sufficient detail such that the site may be easily located for site inspection	Appendix I
10.	(Reserved)	N/A
11.	Project plan view. Plan view sketches shall include, at a minimum, north arrow, scale, existing structures, existing contours, proposed contours (if available), limit of surface water areas, direction of flow, ordinary high water, impact limits, and location and dimension of all proposed structures in impact areas. In addition, cross-sectional or profile sketches with the above information may be required to detail impact areas.	Appendix IX
12.	Dredge material management plan (for dredging projects only) including plan and cross-section view drawings of the disposal or dewatering area, the dimensions and design of the proposed berm and spillway, and the capacity of the proposed disposal or dewatering site	N/A
13.	Surface water impact information (wetlands, streams, or open water) for both permanent and temporary impacts, including a description of the impact, the areal extent of the impact (areas of wetland in square feet and acres; area of stream, length of stream, and average width); the location (latitude and longitude at the center of the impact, or at the center of each impact for linear projects); and the types of surface waters impact (open water; wetlands according to the Cowardin classification or similar terminology; or perennial and non perennial for streams).	Pg.12A
14.	Functional values assessment for impacts to wetlands greater than one acre which shall consist of a summary of field observations of the existing wetland functions and values and an assessment of the impact that the project will have on these functions and values. The following parameters and functions shall be directly addressed: surrounding land uses and cover types; nutrient, sediment, and pollutant trapping; flood control and flood storage capacity; erosion control and shoreline stabilization; groundwater recharge and discharge; aquatic and wildlife habitat; and unique or critical habitats.	N/A
15.	A description of the specific on-site measures considered and taken during project design and development both to avoid and minimize impacts to surface waters to the maximum extent practicable.	Appendix IV

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WP4 - JPA CHECKLIST

9 VAC 25-690-60

Submission Requirements	Material Location in JPA
16. A conceptual plan for the intended compensation for unavoidable impacts, including:	Appendix V
a. For wetlands :A conceptual compensatory mitigation plan shall include:	N/A
(1) the goals and objectives in terms of replacement of wetland acreage and function;	N/A
(2) a detailed location map (e.g. a United States Geologic Survey topographic quadrangle map), including latitude and longitude (to the nearest second) at the center of the site;	N/A
(3) a description of the surrounding land use;	N/A
(4) a hydrologic analysis, including a draft water budget based on expected monthly inputs and outputs which will project water level elevations for a typical year, a dry year, and a wet year; groundwater elevation data, if available, or the proposed location of groundwater monitoring wells to collect these data;	N/A
(5) a map for existing surface water areas on the proposed site or sites, including wetland delineation confirmation for existing wetland areas;	N/A
(6) a conceptual grading plan;	N/A
(7) a conceptual planting scheme, including suggested plant species, zonation of each vegetation type proposed; and	N/A
(8) a description of existing soils including general information on topsoil and subsoil conditions, permeability, and the need for soil amendments.	N/A
b. For stream, the conceptual plan shall include:	N/A
(1) the goals and objectives in terms of water quality benefits and replacement of stream functions;	N/A
(2) a detailed location (e.g. a United States Geologic Survey topographic quadrangle map), including the latitude and longitude to the nearest second;	N/A
(3) the proposed stream segment restoration locations, including plan view and cross-section sketches;	N/A
(4) the stream deficiencies that need to be addressed;	N/A
(5) the proposed restoration measures to be employed, including channel measurements, proposed design flows and types of instream structures; and	N/A
(6) reference stream data, if available	N/A
c. Applicants proposing to compensate off-site, including purchase or use of mitigation bank credits, or contribution to an in-lieu fee fund shall submit an evaluation of the feasibility of on-site compensation. If on-site compensation is practicable, applicants shall provide documentation as to why the proposed off-site compensation is ecologically preferable. The evaluation shall include, but not be limited to, the following assessment criteria: water quality benefits, hydrologic source, hydrologic regime, watershed, surface water functions and values, vegetation type, soils, impact acreage, distance from impacts, timing of compensation versus impacts, acquisition, constructability, and cost.	Appendix V
d. Applicants proposing compensation involving contributions to in-lieu fee programs shall state such as the conceptual compensation plan. Written documentation of the willingness of the entity to accept the donation and documentation of how the amount of the contribution was calculated shall be submitted prior to issuance of this general permit authorization.	N/A
e. Applicants proposing compensation involving the purchase or use of mitigation banking credits shall include as their conceptual compensation plan:	Appendix V
(1) The name of the proposed mitigation bank and the HUC in which is located;	Appendix V
(2) The number of credits proposed to be purchased or used; and	Appendix V
(3) Certification from the bank owner of the availability of credits.	Appendix V

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WP4 - JPA CHECKLIST

9 VAC 25-690-60

	Submission Requirements	Material Location in JPA
17.	A delineation map must be provided of the geographic area of a delineated wetland for all wetlands on the site, in accordance with 9 VAC 25-210-45, including the wetlands data sheets. The delineation map shall also include the location of streams, open water, and the approximate limits of Chesapeake Bay Resources Protection Areas (RPAs), as other state or local requirements may apply if the project is located within an RPA. Wetland types shall be noted according to their Cowardin classification or similar terminology. A copy of the USACE delineation confirmation, or other correspondence from the USACE indicating their approval of the wetland boundary, shall be provided at the time of application, or if not available at that time, as soon as it becomes available during the VWP permit review.	Appendix I
18.	A copy of the FEMA flood insurance rate map or FEMA-approved local floodplain map for the project site.	Appendix VI
19.	The appropriate application processing fee for a VWP general permit in accordance with 9 VAC 25-20. The permit application fee for VWP permit authorizations is based on acres only. Therefore, impacts calculated using linear feet of stream bed must be converted to an acreage in order to calculate the total permit application fee.	X
20.	A written disclosure identifying all wetlands, open water, streams, and associated upland buffers within the proposed project or compensation areas that are under a deed restriction, conservation easement, restrictive covenant, or other land use protective instrument (protected areas). Such disclosure shall include the nature of the prohibited activities within the protected areas.	N/A
21.	The following certification: *"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."*	Pg.13
22.	The registration statement shall be signed in accordance with 9VAC25-210-100. If an agent is acting on behalf of an applicant, the applicant shall submit an authorization of the agent that includes the signatures of both the applicant and the agent.	Pg.13

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Single and Complete Worksheet

Please complete the below table to aid in the determination if the project is single and complete.

Project Name: Hartland Phase II JPA Number:	**YES**	**NO**
1. Does the project rely on the infrastructure (utilities, roadways) of an adjacent project?	X	
2. Does the economic viability of the project rely on future or existing development that will impact or had impacted surface waters?	X	
3. Does the project depend on the impacts authorized under another closely related permit?	X	
4. Is the project part of the zoning for a larger parcel?		X
5. Do other portions of the larger parcel have or require a Permit?	X	
6. Is the project related to another permitted project through proffers?		X
7. Is the project part of Phased Subdivision?	X	
8. Are the projects owned by the same owner/developer or partnership or other association of owners/developers?	X	
8a. If yes, when was the parcel purchased in relationship to other property. All parcels were purchased in 2019.		
If the project is related to another project, please provide the project's name(s) and permit number(s) (if applicable): Hartland Phase I; WP4-19-1583		
Other:		
Other:		
Can this project be considered single and complete from other related projects? No		
Do the impacts associated with this project need to be considered cumulative with the related projects? yes **If yes, what projects? Hartland Phase I**		

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Appendices

I	USACE Jurisdictional Determination Letters & Wetland Delineation Reports
II	Threatened and Endangered Species Information
III	Phase I & II Archaeological Reports
IV	Avoidance & Minimization Analysis
V	Conceptual Mitigation Plan
VI	FEMA Flood Insurance Map
VII	Cross Sectional Diagrams
VIII	8.5”x11” Drawings
IX	Overall Site Development Plan and Wetland Impacts Map
X	Bridge Crossing Documents

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FOR AGENCY USE ONLY	
	Notes:
JPA# 20-1641	

APPLICANTS

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 all that apply			
☐ Pre-Construction Notification (PCN) ☐ NWP # _____ ☐ RP # 05 (*For NWPs & RP 05 ONLY - No DEQ-VWP permit writer will be assigned*)	☑ SPGP	☐ DEQ Reapplication Existing permit number: _____	☐ Receiving federal funds Agency providing funding: _____
☐ Regional Permit 17 Checklist (RP-17)			

PREVIOUS ACTIONS RELATED TO THE PROPOSED WORK (Include all federal, state, and local pre application coordination, site visits, previous permits, or applications whether issued, withdrawn, or denied)

Historical information for past permit submittals can be found online with VMRC - https://webapps.mrc.virginia.gov/public/habitat/ - or VIMS - http://ccrm.vims.edu/perms/newpermits.html

Agency	Action / Activity	Permit/Project number, including any non-reporting Nationwide permits previously used (e.g., NWP 13)	Date of Action	If denied, give reason for denial
USACE	PJD	NAO-2019-00878	6/4/2019	
USACE	PJD	NAO-2019-00736	6/4/2019	

1. APPLICANT, AGENT, PROPERTY OWNER, AND CONTRACTOR INFORMATION
The applicant(s) is/are the legal entity to which the permit may be issued (see How to Apply at beginning of form). 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 also provide the company name that is registered with the State Corporation Commission (SCC), or indicate no registration with the SCC.

Legal Name(s) of Applicant(s)			Agent (if applicable)		
Timber Ridge at Hartland, LLC ATTN: Mark Trostle			TNT Environmental, Inc. ATTN: Sophie Swartzendruber		
Mailing address 131 Jericho Turnpike PH 1			Mailing address 4455 Brookfield Corporate Drive		
City Jericho	State NY	ZIP Code 11753	City Chantilly	State VA	ZIP Code 20151
Phone number w/area code 571-252-3979	Fax		Phone number w/area code 703-466-5123	Fax	
Mobile	E-mail MTrostle@willowsford.com		Mobile 703-483-0367	E-mail Sophie@tntenv.com	
State Corporation Commission Name and ID number (if applicable) S8038459			State Corporation Commission Name and 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: Sophie@tntenv.com & MTrostle@willowsford.com

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1. APPLICANT, AGENT, PROPERTY OWNER, AND CONTRACTOR INFORMATION (Continued)							
Property owner(s) legal name, if different from applicant				Contractor, if known			
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	E-mail			Mobile	E-mail		
State Corporation Commission Name and ID number (if applicable)				State Corporation Commission Name ID number (if applicable)			

2. 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. Include the drainage area if the SPGP box is checked on Page 7.)

Street Address (911 address if available)	City/County/ZIP Code
23651 Lenah Farm Lane	Leesburg, VA 20175
Subdivision	Lot/Block/Parcel #

Name of water body(ies) within project boundaries and drainage area (acres or square miles).
Tributary to Broad Run (0.13 square miles) & Lenah Run (2.38 square miles)

Tributary(ies) to: Broad Run - Lenah Run
Basin: Potomac River-Broad Run Sub-basin: Middle Potomac-Catoctin
(*Example: Basin: James River Sub-basin: Middle James River*)

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

Project type (check one)
x Single user (private, non-commercial, residential)
_____ Multi-user (community, commercial, industrial, government)
_____ Surface water withdrawal

Latitude and longitude at center of project site (decimal degrees): 38.965658 / -77.573934
(Example: 37.33164/-77.68200)

USGS topographic map name: Arcola, VA

8-digit USGS Hydrologic Unit Code (HUC) for your project site (See http://cfpub.epa.gov/surf/locate/index.cfm): 02070008
If known, indicate the 10-digit and 12-digit USGS HUCs (see http://consapps.dcr.virginia.gov/htdocs/maps/HUExplorer.htm) :
0207000809 020700080901

Name of your project (*Example: Water Creek driveway crossing*) Hartland Phase II

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

Total size of the project area (in acres): 105.2 acres

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2. PROJECT LOCATION INFORMATION (Continued)

Provide driving directions to your site, giving distances from the best and nearest visible landmarks or major intersections:

Take US-50 west towards Lenah Farm Lane in Dulles, VA. Take a right onto Lenah Farm Lane. Project site is located at the end of Lenah Farm Lane.

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

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

- The purpose and need 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, including the use of pilings (#, materials), vibratory hammers, explosives, and hydraulic dredging, when applicable, and *whether or not tree clearing will occur* (include the area in square feet and time of year).
- Include a description of alternatives considered and measures taken 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 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 9A-B for a detailed Project Description

Date of proposed commencement of work (MM/DD/YYYY) 1/11/2020	Date of proposed completion of work (MM/DD/YYYY) 1/12/2024
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.

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

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Project Description – Hartland Phase II

The project site consists of portions of seven (7) parcels of land totaling approximately 105.2-acres located west of Fleetwood Road, in Dulles Virginia. The project site is further identified by portions of Loudoun County GPIN #'s: 244-368-224, 245-26-5476, 285-30-4849, 284-28-7621, 285-48-7020, 285-39-5280, and 284-10-3552. The terrain of the project site consists of gently to moderately sloping topography and is within the Lenah Run and Broad Run drainage basins. Broad Run and an unnamed tributary of Broad Run bisect the northern study area. The southern study area is bound by Lenah Run to the south. The overall study area associated with Phase II consist of hardwood and softwood forest and agricultural fields. Several existing utility easements span the study area and are located adjacent to Broad Run and Lenah Run.

The purpose of the proposed project is the construction of a one hundred and thirty-five (135) lot residential subdivision, roadways, two bridge crossings, utilities, and stormwater management facilities necessary to serve the proposed usage. The residential subdivision is being proposed to meet the increased demand for low-density cluster developments within the transitional areas of Loudoun County.

The Waters of the U.S. and wetland boundaries were delineated by TNT Environmental Inc. in January and February 2019 (see Appendix I). The findings of this delineation were confirmed by the U.S. Army Corps of Engineers (USACE) during Jurisdictional Determinations (NAO-2019-00736 and NAO-2019-00878, dated June 4, 2019).

As shown on the FEMA Flood Insurance Rate Map included as Appendix VI (Map No. 51107CO355E, Map Revised February 17, 2017), Zone AE floodplains are located within the project site area.

An Overall Wetlands Impact Map has been included in Appendix IX and depicts the proposed site plan and jurisdictional wetlands and streams. Based on the proposed site plans provided by The Engineering Groupe and Urban, Ltd., 78-linear feet (0.01-acres) of perennial stream, 481-linear feet (0.06-acres) of intermittent stream, 153-linear feet (0.02-acres) of ephemeral stream, 0.68-acres (29,783-square feet) of palustrine forested wetland (PFO) and 0.05-acres (2,106-square feet) of palustrine emergent wetland (PEM) will be permanently impacted. In addition, 185-linear feet (0.07-acres) of perennial stream and 110-linear feet (0.03- acres) of intermittent stream will be temporarily impacted. These unavoidable impacts to jurisdictional Waters are necessary in order to accomplish project goals. The impacts will result from the construction of roadways, bridge crossings, a stormwater management facility and sanitary sewer and watermain line installations, all necessary to serve the proposed use.

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Practicable Alternatives

There are no practicable onsite alternatives to the proposed project. In order for the project purpose to be practicably achieved, the wetlands and streams must be impacted to allow for the construction of sanitary sewer lines and easements, and the construction of roadways and road crossings, which are essential to serve the proposed use. Additionally, because the amount of fill located in the jurisdictional 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 on streams, wetlands, and the aquatic community than the proposed project. The Applicant has considerable investment in the project in its current configuration and has taken great care to avoid any impacts to aquatic resources with the residential development footprint.

Avoidance and Minimization

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.

Due to the location and extent of streams and wetlands onsite, the permanent impacts to 78-linear feet (0.01-acres) of perennial stream, 481-linear feet (0.06-acres) of intermittent stream, 153-linear feet (0.02-acres) of ephemeral stream, 0.68-acres (29,783-square feet) of palustrine forested wetland (PFO) and 0.05-acres (2,106-square feet) of palustrine emergent wetland (PEM) proposed in this JPA are unavoidable. In addition, 185-linear feet (0.07-acres) of perennial stream and 110-linear feet (0.03- acres) of intermittent stream will be temporarily impacted. We believe that further avoidance and minimization is not practicable and that the proposed project is the Least Environmentally Damaging Practicable Alternative (LEDPA). Additional information regarding avoidance and minimization of impacts to jurisdictional wetlands and streams is provided in Appendix IV.

All pipes and culverts placed in streams will be countersunk at both inlet and outlet ends. Pipes that are 24” or less in diameter shall be countersunk 3” below the natural stream bottom. Pipes that are greater than 24” in diameter shall be countersunk 6” below the natural stream bottom.

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4. PROJECT COSTS

Approximate cost of the entire project, including materials and labor: $ 20,000,000

Approximate cost of only the portion of the project affecting state waters (channelward of mean low water in tidal areas and below ordinary high water mark in nontidal areas): $ 6,000,000

5. 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. Per Army Regulation (AR 25-51) outgoing correspondence must be addressed to a person or business.

Failure to provide this information may result in a delay in the processing of your application by VMRC.

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 _____No (attach copies of distributed forms)

6. 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 confirmed waters and wetlands delineation/jurisdictional determination. Include information when applicable regarding the location of the project in Endangered Species Act-designated or -critical habitats. Contact information for the U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, Virginia Dept. of Game and Inland Fisheries, and the Virginia Dept. of Conservation and Recreation-Division of Natural Heritage can be found on page 4 of this package.

Please see Appendix II for

7. 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 USACE 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 USACE, 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? X Yes ____ No _____ 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? X Yes ____ No _____ 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 X No ____ Uncertain

If Yes, please indicate which district: _____

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7. 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: Various - see Appendix III

Name of firm: Various - see Appendix III

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

Title of Cultural Resources Management (CRM) report: Various - see Appendix III

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

8. 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 17.

	Impact site number 1	Impact site number 2	Impact site number 3	Impact site number 4	Impact site number 5
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.				
Latitude / Longitude (in decimal degrees)					
Wetland/waters impact area (square feet / acres)					
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)					

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8. WETLANDS/WATERS IMPACT INFORMATION (Continued)					
Cowardin classification of impacted wetland/water or geomorphological classification of stream *Example wetland: PFO; Example stream: 'C' channel and if tidal, whether vegetated or non-vegetated wetlands per Section 28.2-1300 of the Code of Virginia*					
Average stream flow at site (flow rate under normal rainfall conditions in cubic feet per second) and method of deriving it (gage, estimate, etc.)					
Contributing drainage area in acres or square miles (*VMRC cannot complete review without this information*)					
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 https://law.lis.virginia.gov	Non-tidal waters class III & wetlands class VII				
For DEQ permitting purposes, also submit as part of this section a wetland and waters boundary delineation map – see (3) in 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.					

9. APPLICANT, AGENT, PROPERTY OWNER, AND CONTRACTOR CERTIFICATIONS

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, USACE, 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.

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SUMMARY OF WATERS OF THE U.S. IMPACTS																									
					PERMANENT IMPACTS										TEMPORARY IMPACTS									
Impact #	Impact Type	Impact Description	Average Stream Flow (cfs)	Drainage Area (Sq. Mi.)	PFO (SF)	PFO (AC.)	R3 (LF)	R3 (AC.)	R4 (LF)	R4 (AC.)	RE (LF)	RE (AC.)	PEM (SF)	PEM (AC.)	PEM (SF)	PEM (AC.)	R3 (LF)	R3 (AC.)	R4 (LF)	R4 (AC.)	POW (SF)	POW (AC.)	RE (SF)	RE (AC.)
Phase I Impacts																								
1	Sanitary Sewer Installation	F, NT, TE, PEM, V	< 1.0	~ 0.10	-	-	-	-	-	-	-	-	-	-	1,118	0.03	-	-	-	-	-	-	-	-
2	Fill/Grading for Road Construction	F, NT, PE, R4, RE, NV	< 1.0	< 0.10	-	-	-	-	38	0.01	193	0.05	-	-	-	-	-	-	-	-	-	-	-	-
3	Sanitary Sewer and Watermain Installation	F, NT, TE, RE, NV	< 1.0	< 0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	0.01
4	Sanitary Sewer Installation	F, NT, TE, R3 NV	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	-	-	-	-	20	0.01	-	-	-	-	-	-
5A	Fill/Grading for Road and Trail Construction	F, NT, PE, PEM, V	~ 1.0	> 0.10	2,092	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5B	Secondary Impact due to Fill/Grading for Road and Trail Construction	F, NT, PE, S, PEM, V	~ 1.0	> 0.10	3,466	0.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5C	Fill/Grading for Temporary Construction Access Road	F, NT, PE, PEM, V	~ 1.0	> 0.10	1,542	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Fill/Grading for Road Construction	NT, PE, R3, NV	~ 1.0	> 0.10	-	-	-	-	294	0.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Fill/Grading for Road Construction	NT, PE, R3, PFO, V, NV	~ 1.0	> 0.10	77	0.002	144	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Sanitary Sewer Installation	NT, TE, R3, NV	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	-	-	-	-	18	0.005	-	-	-	-	-	-
9	Water line Installation	NT, TE, R3, NV	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	-	-	-	-	27	0.01	-	-	-	-	-	-
10	Water line Installation	NT, TE, R3, NV	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	-	-	-	-	30	0.01	-	-	-	-	-	-
11	Water line Installation	NT, TE, R3, NV	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	-	-	-	-	20	0.01	-	-	-	-	-	-
12	Utility line Installation	NT, TE, R3, NV	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	-	-	-	-	16	0.003	-	-	-	-	-	-
13	Sodded Stormwater Channel Installation	NT, PE, R3, PFO, V, NV	~ 1.0	> 0.10	8	0.0002	24	0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	Stormwater Outfall and Level Spreader Installation	NT, PE, PEM, V	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	482	0.01	-	-	-	-	-	-	-	-	-	-
Total Phase I Impacts					**7,185**	**0.17**	**168**	**0.03**	**332**	**0.08**	**193**	**0.05**	**482**	**0.01**	**1,118**	**0.03**	**131**	**0.05**	**-**	**-**	**-**	**-**	**36**	**0.01**
Phase II Impacts																								
15	Bridge/Pier Construction, Water line Installation	F, NT, PE, TE, C, PFO, R3, V, NV	~ 1.0	> 0.10	14,252	0.33	78	0.01	-	-	-	-	-	-	-	-	31	0.02	-	-	-	-	-	-
16	Water line Installation	NT, TE, R3, NV	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	-	-	-	-	78	0.02	-	-	-	-	-	-
17	Grading Associated with Bridge Construction	F, NT, PE, S, PFO, V	~ 1.0	> 0.10	2,705	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Roadway Construction and associated grading/filling	F, NT, PE, PFO, V	~ 1.0	> 0.10	325	0.01	-	-	96	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	Installation of Stormwater Pond, associated outfall and roadway construction	F, NT, PE, R4, PFO, V, NV	~ 1.1	> 0.11	11,552	0.27			296	0.04									-	-	-	-		
20	Sanitary line Installation	NT, TE, R3, NV	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	-	-	-	-	35	0.010	-	-	-	-	-	-
21	Roadway Construction and associated grading/filling	F, NT, PE, PFO, PEM, V	~ 1.0	> 0.10	949	0.02	-	-	-	-	87	0.01	1,337	0.03	-	-	-	-	-	-	-	-	-	-
22	Pedestrian Bridge Installation	NT, TE, R4, NV	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	0.01	-	-	-	-
23	Sanitary line Installation	NT, TE, R4, NV	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	0.01	-	-	-	-
24	Sanitary line Installation	NT, TE, R4, NV	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	0.01	-	-	-	-
25	Water line Installation	NT, TE, R3, NV	~ 1.0	> 0.10	-	-	-	-	-	-	-	-	-	-	-	-	41	0.020	-	-	-	-	-	-
26	Grading and filling for roadway Construction and Stormwater outfall installation	F, NT, PE, R4, RE, PEM, V, NV	~ 1.0	> 0.10	-	-	-	-	89	0.01	66	0.01	769	0.02	-	-	-	-	-	-	-	-	-	-
Total Phase II Impacts					**29,783**	**0.68**	**78**	**0.01**	**481**	**0.06**	**153**	**0.02**	**2,106**	**0.05**	**-**	**-**	**185**	**0.07**	**110**	**0.03**	**-**	**-**	**-**	**-**
Grand Total					**36,968**	**0.86**	**246**	**0.04**	**813**	**0.14**	**346**	**0.07**	**2,588**	**0.06**	**1,118**	**0.03**	**316**	**0.12**	**110**	**0.03**	**0.00**	**0.00**	**36**	**0.01**

F - Fill; NT - Nontidal; PE - Permanent; TE - Temporary; S - Secondary; C - Conversion; R3 - Perennial; R4 - Intermittent; RE - Ephemeral; PFO - Plustrine Forested; PEM - Palustrine Emergent; POW - Palustrine Open Waters; NV - Non-vegetated; V - Vegetated;

Total Phase II Permanent Impacts to Waters of the U.S. (Linear Feet):	**712**	**LF**
Total Phase II Permanent Impacts to Waters of the U.S. (Acreage):	**0.82**	**Acres**
Total Phase II Permanent Impacts to Waters of the U.S. (Square Feet):	**31,889**	**SF**
Total Phase II Temporary Impacts to Waters of the U.S. (Acreage):	**0.10**	**Acres**

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9. APPLICANT, AGENT, PROPERTY OWNER, AND CONTRACTOR CERTIFICATIONS (Continued)

Is/Are the Applicant(s) and Owner(s) the same? ☑ *Yes* ☐ *No*

Legal name & title of Applicant Timber Ridge at Hartland, LLC ATTN: Mark Trostle (Agent)	Second applicant's legal name & title, if applicable
Applicant's signature	Second applicant's signature
Date AUG. 5, 2020	Date
Property owner's legal name, if different from Applicant	Second property owner's legal name, if applicable
Property owner's signature, if different from Applicant	Second property owner's signature
Date	Date

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

I (we), Timber Ridge at Hartland, LLC (and) _____,
APPLICANT'S LEGAL 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 AUG. 5, 2020	Date
Agent's signature and title Environmental Project	Second agent's signature and title, if applicable
Date August 25,	Date

CONTRACTOR ACKNOWLEDGEMENT (IF APPLICABLE)

I (we), _____ (and) _____,
APPLICANT'S LEGAL 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	

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17. DREDGING, MINING, AND EXCAVATING (Continued)

For mining projects: On separate sheets of paper, explain the operation plans, including: 1) the frequency (e.g., every six weeks), duration (i.e., April through September), and volume (in cubic yards) to be removed per operation; 2) the temporary storage and handling methods of mined material, including the dimensions of the containment berm used for upland disposal of dredged material and the need (or no need) for a liner or impermeable material to prevent the leaching of any identified contaminants into ground water; 3) how equipment will access the mine site; and 4) verification that dredging: a) will not occur in water body segments that are currently on the effective Section 303(d) Total Maximum Daily Load (TMDL) priority list (available at http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/TMDL/TMDLDevelopment/TMDLProgramPriorities.aspx) or that have an approved TMDL; b) will not exacerbate any impairment; and c) will be consistent with any waste load allocation/limit/conditions imposed by an approved TMDL (see, "What's in my backyard" or subsequent spatial files at http://www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx to determine the extent of TMDL watersheds and impairment segments).

Have you applied for a permit from the Virginia Department of Mines, Minerals and Energy? _____Yes _____No If Yes:
Existing permit number:_____ Date permit issued: _____

Contributing drainage area: _____square miles	Average stream flow at site (flow rate under normal rainfall conditions): _____cfs

18. 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):

Loudoun County approved fill material will be used for roadway construction.

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):

The proposed fill is associated with constructing street networks and installing storm water pipes, which will serve the development.

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

Two 24" reinforced concrete pipes (RCPs), one 15" RCP, and a portion of rip-rap outfall.

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

19. 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.

For all projects proposing stream restoration provide a completed Natural Channel Design Review Checklist and Selected Morphological Characteristics form. These forms and the associated manual can be located at:
https://www.fws.gov/chesapeakebay/StreamReports/NCD%20Review%20Checklist/Natural%20Channel%20Design%20Checklist%20Doc%20V2%20Final%2011-4-11.pdf

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

Stream dimensions at impact site (length and average width in linear feet, and area in square feet):
L: _____(feet) AW:_____ (feet) Area:_____ (square feet)

Contributing drainage area: _____acres *or* _____square miles

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19. NONTIDAL STREAM CHANNEL MODIFICATIONS FOR RESTORATION OR ENHANCMENT, or TEMPORARY OR PERMANENT RELOCATIONS (Continued) 19. NONTIDAL STREAM CHANNEL MODIFICATIONS FOR RESTORATION OR ENHANCMENT, or TEMPORARY OR PERMANENT RELOCATIONS (Continued)19. NONTIDAL STREAM CHANNEL MODIFICATIONS FOR RESTORATION OR ENHANCMENT, or TEMPORARY OR PERMANENT RELOCATIONS (Continued)

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.):

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:

20. 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
☐ 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).

Will the proposed utility provide empty conduits for any additional utilities that may propose to co-locate at a later date? ____Yes x___ No.

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: N/A_____

Total number of electrical circuits: N/A_____

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20. UTILITY CROSSINGS (Continued)

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

Will permanent access roads be placed through wetlands/streams? ____Yes x____No
If yes, will the roads be (check one) ☐ at grade ☐ above grade?

Will the utility line through wetlands/waters be continually maintained (e.g. via mowing or herbicide)? x___Yes _____No
If maintained, what is the maximum width? 20_____feet

21. ROAD CROSSINGS

Have you conducted hydraulic studies to verify the adequacy of the culverts? x____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. Virginia Department of Environmental Quality (DEQ) requires pipes and culverts 24 inches or less in diameter to be countersunk three inches below the natural stream bed elevations, and pipes and culverts greater than 24 inches to be countersunk at least six inches below the natural stream bed elevations. Hydraulic capacity is determined based on the reduced capacity due to the countersunk position.

Will the culverts be countersunk below the stream bottom? x____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? 23.96 (North Bridge)____feet above OHW_____
For all bridges proposed over navigable waterways (including all tidal water bod 22.39 (South *uired 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), the sequence of construction events, and if bedrock conditions may be encountered. Include cross-sections and profile plans of the culvert crossings including wing walls or rip rap.

22. IMPOUNDMENTS, DAMS, AND STORMWATER MANAGEMENT FACILITIES

If the impoundment or dam is a component of a water withdrawal project, also complete Sections 24 through 26.

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 ___ No

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

What is the source of these materials? _____

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

Storage capacity* of impoundment: _____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: _____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)

See next page for Section 22 for Pond F-5

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20. UTILITY CROSSINGS (Continued)

Will there be an excess of excavated material? _____Yes _____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 _____No
If so, will the stockpiled material be placed on filter fabric or some other type of impervious surface? _____Yes _____No

Will permanent access roads be placed through wetlands/streams? ____Yes _____No
If yes, will the roads be (check one) ☐ at grade ☐ above grade?

Will the utility line through wetlands/waters be continually maintained (e.g. via mowing or herbicide)? ____Yes _____No
If maintained, what is the maximum width? _____feet

21. 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. Virginia Department of Environmental Quality (DEQ) requires pipes and culverts 24 inches or less in diameter to be countersunk three inches below the natural stream bed elevations, and pipes and culverts greater than 24 inches to be countersunk at least six inches below the natural stream bed elevations. Hydraulic capacity is determined based on the reduced capacity due to the countersunk position.

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), the sequence of construction events, and if bedrock conditions may be encountered. Include cross-sections and profile plans of the culvert crossings including wing walls or rip rap.

22. IMPOUNDMENTS, DAMS, AND STORMWATER MANAGEMENT FACILITIES

If the impoundment or dam is a component of a water withdrawal project, also complete Sections 24 through 26.

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.)? EARTH

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.

190' L x 85' W x 6.2' D Level 1 Wet Pond. 84" (7') Riser Structure with 36" Outlet pipe.

Storage capacity* of impoundment: 0.787 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: 0.255 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)

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22. IMPOUNDMENTS, DAMS, AND STORMWATER MANAGEMENT FACILITIES (Continued)

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

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

Does the proposed design include a vegetation management area per §10.1-609.2? X 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 and flood control facilities:

Design storm event: 10 year storm Retention time: 24 hours

Current average flow (flow rate under normal rainfall conditions): 49.94 cfs

Method used to derive average flow: TR-55

Proposed peak outflow for the design storm provided above: 31.81 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 x 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: 3.72 cfs

What is the drainage area upstream of the proposed impoundment? 0.024 square miles

How much of your proposed impoundment structure will be located on the stream bed? 4,907 square feet

What is the area of vegetated wetlands that will be excavated and/or back-flooded by the impoundment? 4,907 square feet

What is the *area and length* of streambed that will be excavated and/or back-flooded by the impoundment? 4,907 square feet
216 linear feet

Are fish ladders being proposed to accommodate the passage of fish? ___ Yes x No

23. 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? ___

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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? ____Yes X___No (See map on page 31) - 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 by surface flow and contiguous to tidal wetlands or water bodies with perennial flow,

   ____ Tidal shores,

   ____ Other lands considered by the local government to meet the provisions of subsection A of 9VAC25-830-80 and to be necessary to protect the quality of state waters (contact the local government for specific information),

   ____ A buffer area not less than 100 feet in width located adjacent to and landward of the components listed above, and along both sides of any water body with perennial flow.

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 Area Designation and Management Regulations is required. **The Chesapeake Bay Preservation Area Designation and Management Regulations** are enforced through locally adopted ordinances based on the Chesapeake Bay Preservation Act (CBPA) program. Compliance with state and local CBPA requirements mandates the submission of 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 DEQ, USACE, or the Local Wetlands Boards, are responsible for enforcing the CBPA 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 CBPA regulations nor does it guarantee that the local government will grant approval for encroachments into the RPA that may result from this project.**

Notes for all projects in RPAs

Development, redevelopment, construction, land disturbance, or placement of fill within the RPA features listed above requires the approval of the locality and may require an exception or variance from the local Bay Act ordinance. Please contact the appropriate local government to determine the types of development or land uses that are permitted within RPAs.

Pursuant to 9VAC25-830-110, *on-site delineation of the RPA is required for all projects in CBPAs*. 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 will be required by the locality 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 9VAC25-830-140 5 a (4) of the Virginia Administrative Code, shoreline erosion projects are a permitted modification to RPAs provided that the project is based on the "best technical advice" and complies with applicable permit conditions. In accordance with 9VAC25-830-140 1 of the Virginia Administrative Code, the locality will use the information provided in this Appendix, in the project drawings, in this permit application, and as required by the locality, to make a determination that:

1. Any proposed shoreline erosion control measure is 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 (9VAC25-830-140 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.

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APPENDIX I

WETLAND DELINEATION REPORT &
USACE JURISDICTIONAL DETERMINATION LETTER

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ENVIRONMENTAL

WETLAND DELINEATION REPORT
HARTLAND NORTH
LOUDOUN COUNTY, VIRGINIA

TNT PROJECT NO.: 1460-B

FOR

TIMBER RIDGE AT HARTLAND, LLC

APRIL 5, 2019

Received by VMRC September 3, 2020 /blh

April 5, 2019

Mr. Matthew D. Kroll, PE
Timber Ridge at Hartland, LLC
44095 Pipeline Plaza Suite 140
Ashburn, VA 20147

TNT Project Number: 1460-B

Reference: Wetland Delineation Report, Hartland North, Loudoun County, Virginia
Latitude: 38° 58' 02" N, Longitude: 77° 34' 33" W

Dear Mr. Kroll:

TNT Environmental, Inc. (TNT) is pleased to present this wetland delineation report for the above-referenced project in general accordance with TNT Proposal Number 2064 dated January 9, 2019. The wetlands and Waters of the U.S. identified during this investigation for the above-referenced project site were delineated by TNT based on the *Corps of Engineers' Wetlands Delineation Manual* (1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains & Piedmont Region* and represent those areas that are most likely considered jurisdictional by the U.S. Army Corps of Engineers (USACE). The delineation entails the gathering of appropriate field data according to the applicable USACE Manuals, field flagging and mapping of approximate wetland and stream boundaries located onsite, preparation of this final report, and a request to the USACE for boundary confirmation and jurisdictional determination of U. S. Waters, including wetlands, identified onsite. Based on the field investigation conducted in January and February 2019, there are potentially jurisdictional Waters of the U.S., including wetlands, located within the study area.

PROJECT SITE DESCRIPTION

The project site consists of portions of three (3) parcels of land totaling approximately 246 acres situated south and east of Quinn Meadow Court and west of Fleetwood Road in Loudoun County, Virginia (*Figure 1: Project Location Map*). The project site is further identified by portions of Loudoun County GPIN #'s: 244-368-224, 284-10-3552, and 284-28-7621. The terrain of the project site consists of gently to moderately sloping topography and is within the Lenah Run drainage basin (*Figure 2: USGS Topographic Map*). The study area is bound by an unnamed tributary of Broad Run to the south and Fleetwood Road to the east. The site primarily consists of hardwood and softwood forest, agricultural fields. Several existing utility easements span the study area and are located adjacent to the tributary to Broad Run and Broad Run.

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SECONDARY INFORMATION REVIEW

Secondary information entails the background research and review of recorded data and/or mapping associated with the project site. Resources reviewed include but are not limited to the following:

- U. S. Geological Survey (USGS) Topographic Map, Arcola Quadrangle, 2017
- U. S. Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI) Online Mapper, http://wetlands.fws.gov/mapper_tool.htm
- Natural Resources Conservation Service (NRCS), Electronic Field Office Technical Guide, Loudoun County Soils, www.nrcs.usda.gov/technical/efotg/
- Available aerial photography and GIS data

The USGS Arcola quadrangle map shows elevations of approximately 300 feet above mean sea level (MSL) in the southern portion of the site and approximately 330 to 350 feet above MSL in the northern portions. As shown on the USGS Map, the project site drains to Broad Run, located within the Middle Potomac-Catoctin watershed and identified as Hydrologic Unit Code (HUC) 02070008. The NWI map depicts riverine and freshwater pond wetland features within the project site boundaries.

The soil survey indicates that the site is underlain primarily by 5A – Rowland silt loam, 6A – Bowmansville silt loam, 14B – Manassas silt loam, 17B – Middleburg silt loam, 60C – Sycoline-Catlett complex, 62B – Sycoline-Kelly complex, 63A – Kelly silt loam, 64B/C – Legore loam, 67B/C– Jackland and Haymarket soils, 69A – Elbert silty clay loam, 71B – Panorama silt loam, 73B/C– Penn silt loam, 74B – Ashburn silt loam, 77C3/D3 – Nestoria channery silt loam, 78A – Dulles silt loam, and 79A – Albano silt loam. All soils are classified by the NRCS as hydric.

FIELD INVESTIGATION & METHODOLOGY

Fieldwork was conducted during January and February 2019 using the *Corps of Engineers' Wetlands Delineation Manual* (1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains & Piedmont Region*. The USACE Manual and associated Regional Supplement follow three parameters for the identification of wetlands: dominance of hydrophytic vegetation, presence of hydric soils, and hydrologic indicators. All three parameters must be present under normal conditions for an area to be considered a jurisdictional wetland in accordance with Section 404 of the Clean Water Act. Wetlands are then further classified according to the Cowardin System as described in *Classification of Wetlands and Deepwater Habitats of the United States* (1979).

The fieldwork was conducted to evaluate and characterize the soils, vegetation and hydrology, and establish the boundaries of wetlands or Waters of the U.S. located within the area of investigation. Wetland flags were placed in the field and sequentially numbered to provide an onsite record of the location of wetlands and other Waters subject to the jurisdiction of state and federal agencies. The data sheets used in this investigation are enclosed, along with the Delineation Map showing data point locations and approximate wetland and Waters boundaries. A summary of the attached data sheets

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is included below in Table 3. Additionally, a photographic log documenting site conditions encountered is enclosed.

FINDINGS

Based on our field reconnaissance, TNT has identified and located several wetlands and Waters of the U.S. onsite, including a portion of Broad Run. An unnamed tributary of Broad Run forms the southern boundary. In addition, several intermittent streams and one ephemeral stream channel were observed throughout the site. Wetlands identified on the project site are classified as palustrine emergent (PEM) and palustrine forested (PFO) wetlands. Dominant wetland vegetation is listed below in Table 1. The main source of hydrology for these wetlands include surface runoff, precipitation, and groundwater. The wetlands are underlain by 6A – Bowmansville silt loam and 79A –Albano silt loam soils.

Table 1 – Dominant Riparian Buffer and Wetland Vegetation

Common Name	Scientific Name	Wetland Indicator*
American Elm	*Ulmus americana*	FACW
Red Maple	*Acer rubrum*	FAC
Boxelder	*Acer negundo*	FAC
American Sycamore	*Platanus occidentalis*	FACW
Northern Spicebush	*Lindera benzoin*	FAC
Sedge	*Carex spp.*	FAC
Japanese Honeysuckle	*Lonicera japonica*	FACU
Soft Rush	*Juncus effuses*	FACW

** The indicator status of a species indicates the probability that the species will occur in a wetland, as follows: Obligate Upland (UPL, <1%), Facultative Upland (FACU, 1-33%), Facultative (FAC, 34-66%), Facultative Wetland (FACW, 67-99%), and Obligate Wetland (OBL, >99%) in accordance with the* National List of Plant Species that Occur in Wetlands: National Summary *(2012). NI means no wetland indicator is available.*

The upland areas of the site are dominated by hardwood and softwood forest and agricultural fields (listed in Table 2 below). The remaining uplands contain several utility easements, which are located adjacent to Broad Run and its tributary, and undeveloped land.

Table 2 – Dominant Upland Vegetation

Common Name	Scientific Name	Wetland Indicator
Virginia Pine	*Pinus virginiana*	UPL
Eastern Redcedar	*Juniperus virginiana*	FACU
White Oak	*Quercus alba*	FACU
Sedge	*Carex spp.*	FAC
Japanese Honeysuckle	*Lonicera japonica*	FACU
Maintained Grass	*Poa spp.*	UPL
Orchard Grass	*Dactylis glomerata*	FACU

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Table 3 – Data Points Summary

Data Point	Hydrology	Hydrophytic Vegetation	Hydric Soils	Classification
DP-1	No	No	Yes	Non-Wetlands
DP-2	No	No	No	Non-Wetlands
DP-3	Yes	No	No	Non-Wetlands
DP-4	Yes	Yes	Yes	PEM Wetland
DP-5	Yes	Yes	Yes	PEM Wetland
DP-6	Yes	Yes	Yes	PEM Wetland
DP-7	No	No	No	Non-Wetlands

**Refer to the enclosed data sheets for more information.*

REGULATORY DISCUSSION

The USACE - Norfolk District and the Virginia Department of Environmental Quality (DEQ) have implemented the State Programmatic General Permit (SPGP) program to streamline the permit process and avoid duplication of agency review. For those projects impacting less than 0.1-acres of non-tidal wetlands and less than 300 linear feet of stream bed a Nationwide permit from the USACE can be obtained for most projects. For those projects impacting greater than 0.1-acres of wetlands and 300-1,500 linear feet of stream bed, a General Permit can be obtained from DEQ. All SPGP permit applications are reviewed by the USACE but the permit authorization comes solely from DEQ. Notification of potential impacts should be filed with DEQ by completing the Joint Permit Application (JPA) form which is submitted to the Virginia Marine Resources Agency (VMRC) and DEQ. Upon receipt the VMRC distributes the JPA to the other resource agencies (USACE, VDEQ, etc.) for review and comment. Compensatory mitigation for unavoidable impacts to non-tidal Waters and wetlands will generally be provided at a ratio of 2:1 for forested wetlands, 1.5:1 for scrub/shrub wetlands, 1:1 for emergent wetlands, and a site-specific ratio based on the Unified Stream Methodology assessment for streams. Mitigation can include: the purchase or use of mitigation bank credits; wetland preservation; preservation of upland buffers; and in-lieu-fee contribution to the Virginia Aquatic Resources Trust Fund.

PROCEEDINGS

With your authorization, we will contact the USACE to schedule a field meeting to conduct a wetlands and Waters boundary confirmation and jurisdictional determination. This process takes an average of three to four weeks depending on the availability of USACE personnel. Once we have determined potential impacts we can assist you with permitting options and support to complete the process. In the interim, we recommend further review of state and federal agency records pertaining to Section 7 (Federal Endangered Species Act) and Section 106 (National Historic Preservation Act). These reviews will generally be required to verify compliance for either the Nationwide Permit (NWP) or General Permit conditions.

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TNT would like to thank you for the opportunity to provide you with this wetland delineation. We look forward to assisting you further with this project and other environmental concerns you may have. If you have any questions, please feel free to contact us at any time at (703) 466-5123.

Sincerely,

TNT ENVIRONMENTAL, INC.

Sophie Swartzendruber, ISA-CA, WPIT
Environmental Project Manager
Sophie@TNTenvironmentalinc.com

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

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APPENDIX I

VICINITY MAP &
USGS TOPOGRAPHIC MAP

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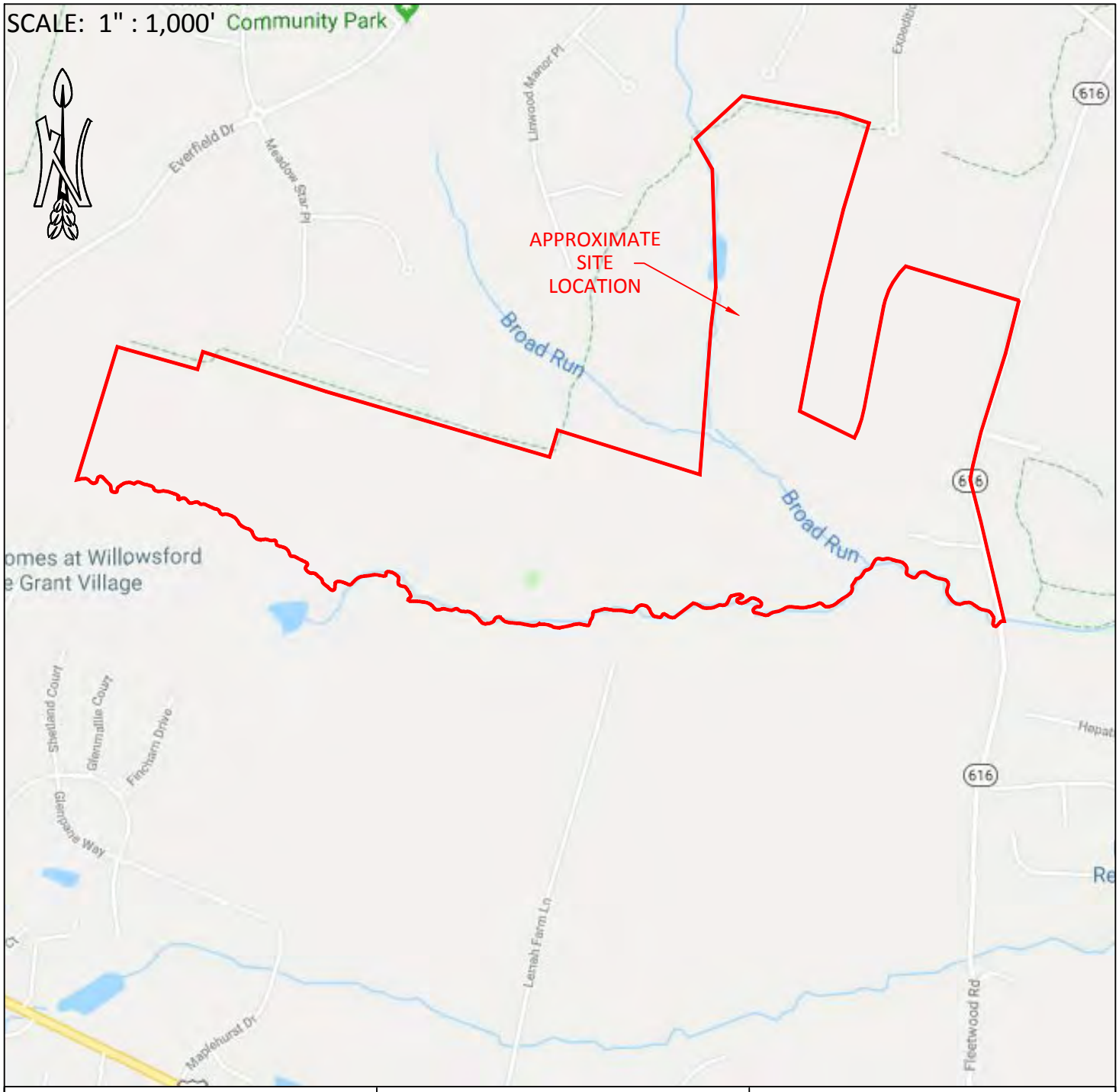

WETLAND DELINEATION HARTLAND NORTH LOUDOUN COUNTY, VA APRIL 2019	N:\Templates\TNT LOGO.jpg **13996 PARKEAST CIRCLE** **SUITE 101** **CHANTILLY, VIRGINIA** **20151**	**FIGURE 1** SITE LOCATION MAP SOURCE: GOOGLE MAPS TNT PROJECT NO: 1460-B

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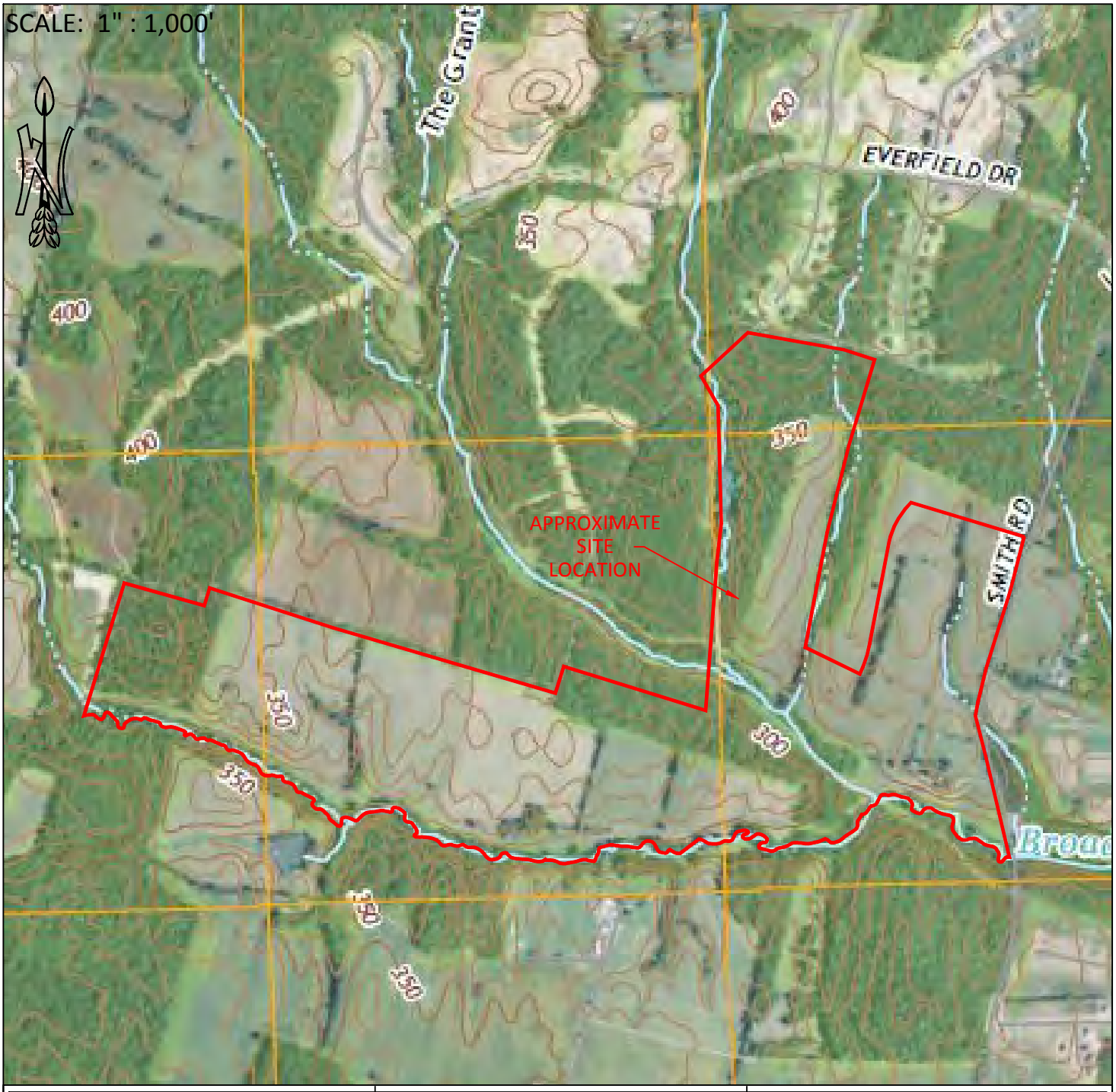

WETLAND DELINEATION HARTLAND NORTH LOUDOUN COUNTY, VA APRIL 2019	N:\Templates\TNT LOGO.jpg **13996 PARKEAST CIRCLE** **SUITE 101** **CHANTILLY, VIRGINIA** **20151**	**FIGURE 2** TOPOGRAPHIC MAP SOURCE: ARCOLA, VA USGS QUAD MAP (2017) TNT PROJECT NO: 1460-B

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APPENDIX II

NATIONAL WETLAND INVENTORY MAP &
NRCS SOILS MAP

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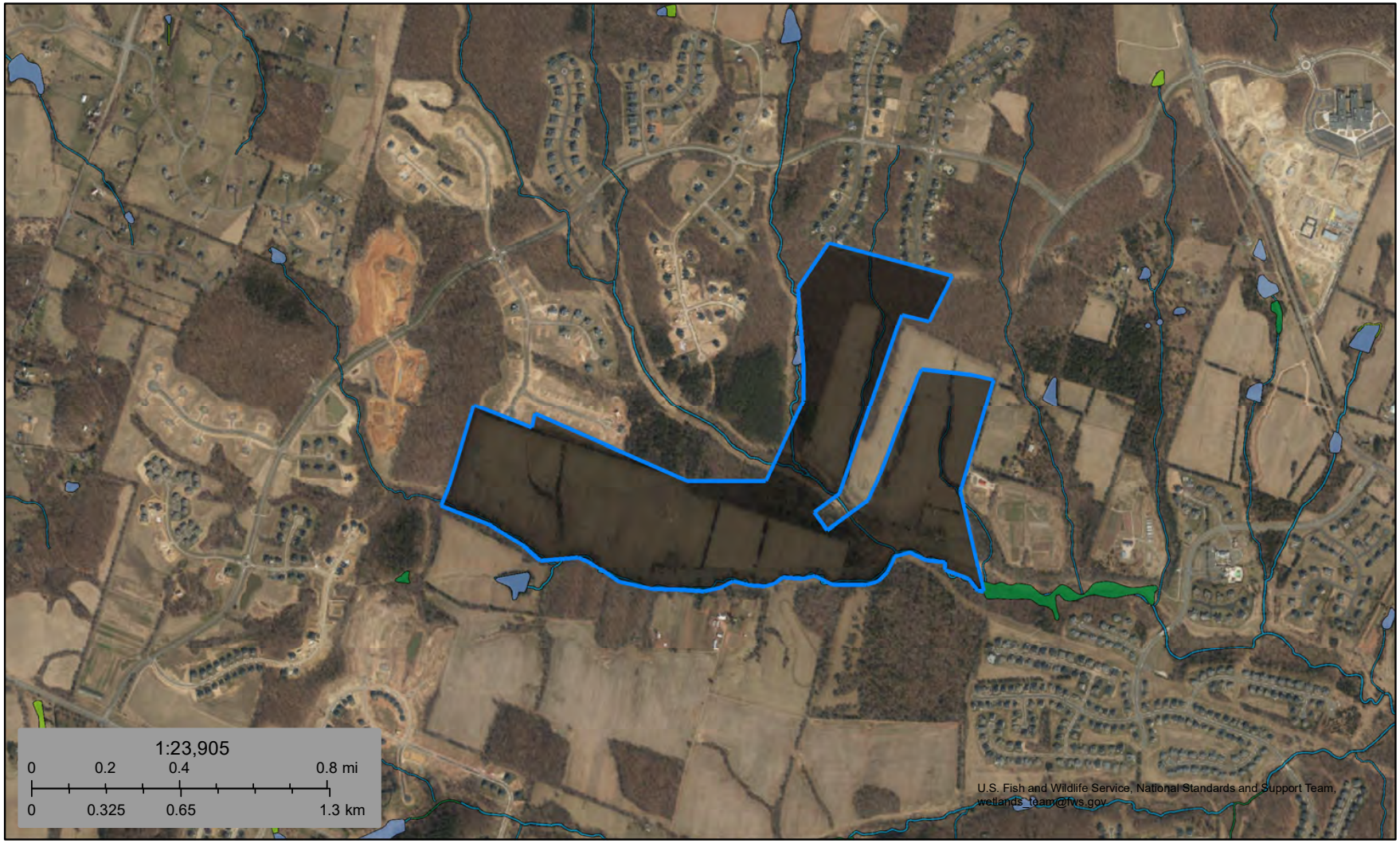
U.S. Fish and Wildlife Service
National Wetlands Inventory

Hartland North



April 3, 2019

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

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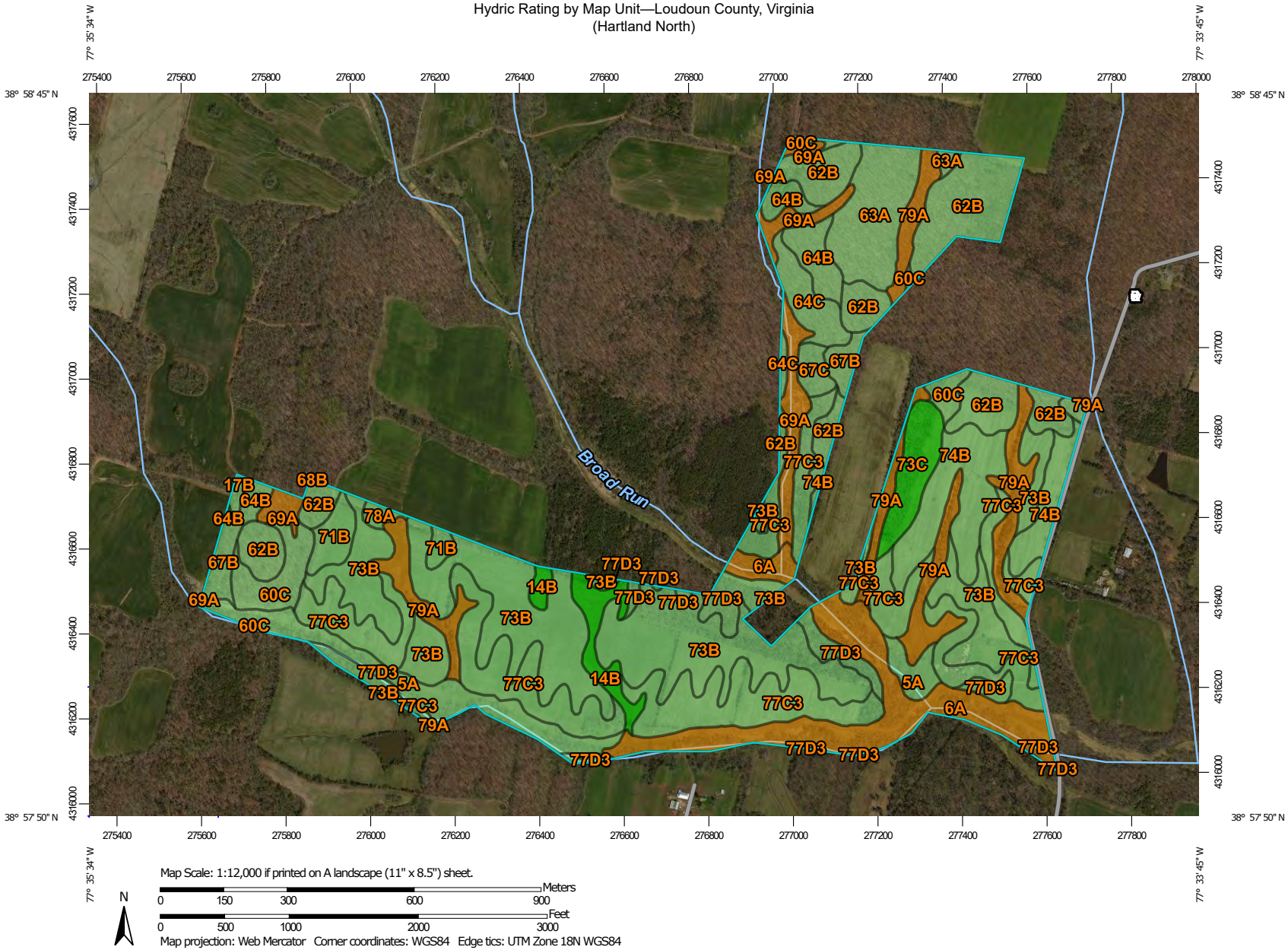
Hydric Rating by Map Unit—Loudoun County, Virginia
(Hartland North)



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MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines

- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points

- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

Soil Survey Area: Loudoun County, Virginia
Survey Area Data: Version 15, Aug 28, 2018

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

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

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Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
5A	Rowland silt loam, 0 to 2 percent slopes, occasionally flooded	7	14.6	4.8%
6A	Bowmansville silt loam, 0 to 2 percent slopes, occasionally flooded	85	24.6	8.1%
14B	Manassas silt loam, 2 to 7 percent slopes	0	5.8	1.9%
17B	Middleburg silt loam, 2 to 7 percent slopes	3	0.6	0.2%
60C	Sycoline-Catlett complex, 7 to 15 percent slopes	5	8.5	2.8%
62B	Sycoline-Kelly complex, 2 to 7 percent slopes	5	31.2	10.3%
63A	Kelly silt loam, 0 to 2 percent slopes	5	12.9	4.3%
64B	Legore loam, 2 to 7 percent slopes, very stony	5	6.9	2.3%
64C	Legore loam, 7 to 15 percent slopes, very stony	5	5.5	1.8%
67B	Jackland and Haymarket soils, 2 to 7 percent slopes	6	4.5	1.5%
67C	Jackland and Haymarket soils, 7 to 15 percent slopes	6	2.1	0.7%
68B	Jackland and Haymarket soils, 2 to 7 percent slopes, very stony	6	0.0	0.0%
69A	Elbert silty clay loam, 0 to 2 percent slopes, frequently flooded	90	9.5	3.1%
71B	Panorama silt loam, 2 to 7 percent slopes	5	4.3	1.4%
73B	Penn silt loam, 2 to 7 percent slopes	5	62.8	20.7%
73C	Penn silt loam, 7 to 15 percent slopes	0	6.4	2.1%
74B	Ashburn silt loam, 0 to 7 percent slopes	5	18.3	6.0%

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Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
77C3	Nestoria channery silt loam, 7 to 15 percent slopes, severely eroded	5	53.2	17.5%
77D3	Nestoria channery silt loam, 15 to 25 percent slopes, severely eroded	5	10.5	3.5%
78A	Dulles silt loam, 0 to 2 percent slopes	5	0.9	0.3%
79A	Albano silt loam, 0 to 2 percent slopes, frequently flooded	85	20.6	6.8%
Totals for Area of Interest			**303.7**	**100.0%**

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Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

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Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

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APPENDIX III

WETLAND DATA SHEETS

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WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Hartland North City/County: Loudoun Sampling Date 2 /4 /2019

Applicant/Owner: Timber Ridge at Hartland, LLC State: VA Sampling Point: DP-1

Investigator(s): TNT Environmental, Inc.: L. Duvall, T. Wilkins Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Upland swale Local relief (concave, convex, none): Concave Slope (%): ____

Subregion (LRR or MLRA): ____ Lat: 38°58'08" Long: 77°34'27" Datum: NAD 83

Soil Map Unit Name: Sycoline--Catlett complex NWI classification: ____

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:

Data point taken within uplands outside flag HB60.

It should be noted that atypically high levels of precipitation have occurred in 2019. Palmer Drought Index Value: +4.00 and above (extremely moist)

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):
Saturation Present? (includes capillary fringe)	Yes ☐	No ☑	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

One second wetland hydrology indicator observed at this data point.

Based on precipitation data collected from the Washington Dulles Weather Station (NOAA), the area was 27.24 inches above normal from January 2018 through February 2019.

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

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50% of total cover: ___ 20% of total cover: ___		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' Radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
50% of total cover: ___ 20% of total cover: ___		= Total Cover	
Herb Stratum (Plot size: 5' Radius)			
1. *Poa spp.*	90	☑	UPL
2. *Setaria pumila*	10	☐	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
50% of total cover: 50 20% of total cover: 20	100	= Total Cover	
Woody Vine Stratum (Plot size: 30' Radius)			
1.			
2.			
3.			
4.			
5.			
6.			
50% of total cover: ___ 20% of total cover: ___		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

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

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

Definitions of Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☑

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

Nomenclature and indicators from The National Wetland Plant List 2016 (V3.3); Species listed as NI or NO have been applied an indicator status assigned to the species in nearest adjacent region or are otherwise assumed as upland (UPL) for use in the Dominance Test Calculation. Hydrophytic vegetation does not dominate the vicinity.

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SOIL Sampling Point: DP-1

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

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1	70	5YR 4/6	30	C	M	Silty Clay Loam	
8-12	10YR 5/1	60	10YR 5/8	40	C	M	Silty Clay Loam	

[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 Suface (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)
- ☐ Piedmont Floodplain Soils (F19)**(MLRA 148)**
- ☐ Red Parent Material (F21)**(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (Inches): _____

Hydric Soil Present? Yes ☑ **No** ☐

Remarks:

Hydric soil present at this data point.

Received by VMRC September 3, 2020 /blh

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Hartland North City/County: Loudoun Sampling Date 2 /4 /2019

Applicant/Owner: Timber Ridge at Hartland, LLC State: VA Sampling Point: DP-2

Investigator(s): TNT Environmental, Inc.: L. Duvall, T. Wilkins Section, Township, Range: N/A

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

Subregion (LRR or MLRA): ____ Lat: 38°58'08" Long: 77°34'27" Datum: NAD 83

Soil Map Unit Name: Bowmansville silt loam NWI classification: ____

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:

Data point taken within uplands in a gas easement at flag HL1.

It should be noted that atypically high levels of precipitation have occurred in 2019. Palmer Drought Index Value: +4.00 and above (extremely moist)

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):
Saturation Present? (includes capillary fringe)	Yes ☐	No ☑	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

One secondary wetland hydrology indicator observed at this data point.

Based on precipitation data collected from the Washington Dulles Weather Station (NOAA), the area was 27.24 inches above normal from January 2018 through February 2019.

Received by VMRC September 3, 2020 /blh

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

Sampling Point: DP-2

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50% of total cover: ____ 20% of total cover: ____		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15' Radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
50% of total cover: ____ 20% of total cover: ____		= Total Cover	

Herb Stratum (Plot size: 5' Radius)			
1. *Poa spp.*	90	☑	UPL
2. *Setaria pumila*	5	☐	FAC
3. *Carex spp.*	5	☐	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
50% of total cover: 50 20% of total cover: 20	100	= Total Cover	

Woody Vine Stratum (Plot size: 30' Radius)			
1.			
2.			
3.			
4.			
5.			
6.			
50% of total cover: ____ 20% of total cover: ____		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

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

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

Definitions of Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☑

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

Nomenclature and indicators from The National Wetland Plant List 2016 (V3.3); Species listed as NI or NO have been applied an indicator status assigned to the species in nearest adjacent region or are otherwise assumed as upland (UPL) for use in the Dominance Test Calculation. Hydrophytic vegetation not dominant at this data point.

Received by VMRC September 3, 2020 /blh

SOIL Sampling Point: DP-2

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

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	5YR 5/4	100					Silty Clay	Gravel

[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 Suface (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)
- ☐ Piedmont Floodplain Soils (F19)**(MLRA 148)**
- ☐ Red Parent Material (F21)**(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock

Depth (Inches): 4

Hydric Soil Present? Yes ☐ **No** ☑

Remarks:

Hydric soil not present at this data point.

Received by VMRC September 3, 2020 /blh

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Hartland North City/County: Loudoun Sampling Date 2 /8 /2019

Applicant/Owner: Timber Ridge at Hartland, LLC State: VA Sampling Point: DP-3

Investigator(s): TNT Environmental, Inc. - J. Moore Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Upland swale Local relief (concave, convex, none): Concave Slope (%): ____

Subregion (LRR or MLRA): ____ Lat: 38°58'08" Long: 77°34'27" Datum: NAD 83

Soil Map Unit Name: Dulles silt loam NWI classification: ____

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:

Data point taken within uplands at flag HW7.

It should be noted that atypically high levels of precipitation have occurred in 2019. Palmer Drought Index Value: +4.00 and above (extremely moist)

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): 2
Water Table Present?	Yes ☑	No ☐	Depth (inches): Surface
Saturation Present? (includes capillary fringe)	Yes ☑	No ☐	Depth (inches): Surface

Wetland Hydrology Present? Yes ☑ No ☐

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

Remarks:

Wetland hydrology present at this data point.

Based on precipitation data collected from the Washington Dulles Weather Station (NOAA), the area was 27.24 inches above normal from January 2018 through February 2019.

Received by VMRC September 3, 2020 /blh

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

Sampling Point: DP-3

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50% of total cover: ____ 20% of total cover: ____		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15' Radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
50% of total cover: ____ 20% of total cover: ____		= Total Cover	

Herb Stratum (Plot size: 5' Radius)			
1. *Dactylis glomerata*	70	☑	FACU
2. *Carex spp.*	20	☑	FAC
3. *Juncus effusus*	10	☐	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
50% of total cover: 50 20% of total cover: 20	100	= Total Cover	

Woody Vine Stratum (Plot size: 30' Radius)			
1.			
2.			
3.			
4.			
5.			
6.			
50% of total cover: ____ 20% of total cover: ____		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	20	x 3 =	60
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	100 (A)		360 (B)

Prevalence Index = B/A = 3.60

Hydrophytic Vegetation Indicators:

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

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

Definitions of Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☑

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

Nomenclature and indicators from The National Wetland Plant List 2016 (V3.3); Species listed as NI or NO have been applied an indicator status assigned to the species in nearest adjacent region or are otherwise assumed as upland (UPL) for use in the Dominance Test Calculation. Hydrophytic vegetation not dominant at this data point.

Received by VMRC September 3, 2020 /blh

SOIL Sampling Point: DP-3

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

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/4	95	7.5YR 5/8	5	C	M	Silt Loam	

[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 Suface (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)
- ☐ Piedmont Floodplain Soils (F19)**(MLRA 148)**
- ☐ Red Parent Material (F21)**(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (Inches): _____

Hydric Soil Present? Yes ☐ **No** ☑

Remarks:

Hydric soil not present at this data point.

Received by VMRC September 3, 2020 /blh

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Hartland North City/County: Loudoun Sampling Date 2 /8 /2019

Applicant/Owner: Timber Ridge at Hartland, LLC State: VA Sampling Point: DP-4

Investigator(s): TNT Environmental, Inc. - J. Moore Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): PEM Swale Local relief (concave, convex, none): Concave Slope (%): ____

Subregion (LRR or MLRA): ____ Lat: 38°58'08" Long: 77°34'27" Datum: NAD 83

Soil Map Unit Name: Albano silt loam NWI classification: ____

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:

Data point taken within PEM wetlands at flag HW3.

It should be noted that atypically high levels of precipitation have occurred in 2019. Palmer Drought Index Value: +4.00 and above (extremely moist)

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): 2
Water Table Present?	Yes ☑	No ☐	Depth (inches): Surface
Saturation Present? (includes capillary fringe)	Yes ☑	No ☐	Depth (inches): Surface

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

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

Remarks:

Wetland hydrology present at this data point.

Based on precipitation data collected from the Washington Dulles Weather Station (NOAA), the area was 27.24 inches above normal from January 2018 through February 2019.

Received by VMRC September 3, 2020 /blh

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

Sampling Point: DP-4

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50% of total cover: ____ 20% of total cover: ____		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15' Radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
50% of total cover: ____ 20% of total cover: ____		= Total Cover	

Herb Stratum (Plot size: 5' Radius)			
1. *Carex spp.*	75	☑	FAC
2. *Juncus effusus*	15	☐	FACW
3. *Dactylis glomerata*	8	☐	FACU
4. *Arthraxon hispidus*	5	☐	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
50% of total cover: 51.5 20% of total cover: 20.6	103	= Total Cover	

Woody Vine Stratum (Plot size: 30' Radius)			
1.			
2.			
3.			
4.			
5.			
6.			
50% of total cover: ____ 20% of total cover: ____		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (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 Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

Nomenclature and indicators from The National Wetland Plant List 2016 (V3.3); Species listed as NI or NO have been applied an indicator status assigned to the species in nearest adjacent region or are otherwise assumed as upland (UPL) for use in the Dominance Test Calculation. Hydrophytic vegetation dominant at this data point.

Received by VMRC September 3, 2020 /blh

SOIL Sampling Point: DP-4

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

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 5/2	90	7.5YR 5/8	5	C	M	Silt Loam	

[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 Suface (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)
- ☐ Piedmont Floodplain Soils (F19)**(MLRA 148)**
- ☐ Red Parent Material (F21)**(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type:

Depth (Inches):

Hydric Soil Present? Yes ☑ **No** ☐

Remarks:

5% iron manganese masses in matrix. Hydric soil present at this data point.

Received by VMRC September 3, 2020 /blh

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Hartland North City/County: Loudoun Sampling Date 2 /8 /2019

Applicant/Owner: Timber Ridge at Hartland, LLC State: VA Sampling Point: DP-5

Investigator(s): TNT Environmental, Inc. - J. Moore Section, Township, Range: N/A

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

Subregion (LRR or MLRA): ____ Lat: 38°58'08" Long: 77°34'27" Datum: NAD 83

Soil Map Unit Name: Albano silt loam NWI classification: ____

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:

Data point taken within PEM wetlands at flag HX8.

It should be noted that atypically high levels of precipitation have occurred in 2019. Palmer Drought Index Value: +4.00 and above (extremely moist)

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): 4
Saturation Present? (includes capillary fringe)	Yes ☑	No ☐	Depth (inches): 0.5

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

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

Remarks:

Wetland hydrology present at this data point.

Based on precipitation data collected from the Washington Dulles Weather Station (NOAA), the area was 27.24 inches above normal from January 2018 through February 2019.

Received by VMRC September 3, 2020 /blh

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

Sampling Point: DP-5

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50% of total cover: ____ 20% of total cover: ____		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15' Radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
50% of total cover: ____ 20% of total cover: ____		= Total Cover	

Herb Stratum (Plot size: 5' Radius)			
1. *Dactylis glomerata*	40	☑	FACU
2. *Carex spp.*	30	☑	FAC
3. *Juncus effusus*	20	☑	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
50% of total cover: 45 20% of total cover: 18	90	= Total Cover	

Woody Vine Stratum (Plot size: 30' Radius)			
1.			
2.			
3.			
4.			
5.			
6.			
50% of total cover: ____ 20% of total cover: ____		= Total Cover	

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (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 Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

Nomenclature and indicators from The National Wetland Plant List 2016 (V3.3); Species listed as NI or NO have been applied an indicator status assigned to the species in nearest adjacent region or are otherwise assumed as upland (UPL) for use in the Dominance Test Calculation. Hydrophytic vegetation dominant at this data point.

Received by VMRC September 3, 2020 /blh

SOIL Sampling Point: DP-5

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

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 4/4	95	7.5YR 5/8	5	C	M	Silty Clay Loam	

[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 Suface (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)
- ☐ Piedmont Floodplain Soils (F19)**(MLRA 148)**
- ☑ Red Parent Material (F21)**(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type:

Depth (Inches):

Hydric Soil Present? Yes ☑ **No** ☐

Remarks:

Hydric soil present at this data point.

Received by VMRC September 3, 2020 /blh

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Hartland North City/County: Loudoun Sampling Date 2 /4 /2019

Applicant/Owner: Timber Ridge at Hartland, LLC State: VA Sampling Point: DP-6

Investigator(s): TNT Environmental, Inc.: L. Duvall, T. Wilkins Section, Township, Range: N/A

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

Subregion (LRR or MLRA): ____ Lat: 38°58'08" Long: 77°34'27" Datum: NAD 83

Soil Map Unit Name: Bowmansville silt loam NWI classification: ____

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:

PEM wetland Data Point 8 taken at wetland flag HA1.

It should be noted that atypically high levels of precipitation have occurred in 2019. Palmer Drought Index Value: +4.00 and above (extremely moist)

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"
Water Table Present?	Yes ☑	No ☐	Depth (inches): SURF
Saturation Present? (includes capillary fringe)	Yes ☑	No ☐	Depth (inches): SURF

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

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

Remarks:

Wetland hydrology observed in the vicinity.

Based on precipitation data collected from the Washington Dulles Weather Station (NOAA), the area was 27.24 inches above normal from January 2018 through February 2019.

Received by VMRC September 3, 2020 /blh

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: DP-6

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50% of total cover: ___ 20% of total cover: ___		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' Radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
50% of total cover: ___ 20% of total cover: ___		= Total Cover	
Herb Stratum (Plot size: 5' Radius)			
1. *Carex spp.*	100	☑	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
50% of total cover: 50 20% of total cover: 20	100	= Total Cover	
Woody Vine Stratum (Plot size: 30' Radius)			
1.			
2.			
3.			
4.			
5.			
6.			
50% of total cover: ___ 20% of total cover: ___		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (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 Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☑ No ☐

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

Nomenclature and indicators from The National Wetland Plant List 2016 (V3.3); Species listed as NI or NO have been applied an indicator status assigned to the species in nearest adjacent region or are otherwise assumed as upland (UPL) for use in the Dominance Test Calculation. Hydrophytic vegetation dominant at this data point.

Received by VMRC September 3, 2020 /blh

SOIL Sampling Point: DP-6

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

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 4/4	90	7.5YR 5/6	10	C		Silt Loam	Iron Manganese observ

[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 Suface (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)
- ☐ Piedmont Floodplain Soils (F19)**(MLRA 148)**
- ☑ Red Parent Material (F21)**(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (Inches): _____

Hydric Soil Present? Yes ☑ **No** ☐

Remarks:

Hydric soil observed in the vicinity.

Received by VMRC September 3, 2020 /blh

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Hartland North City/County: Loudoun Sampling Date 2 /4 /2019

Applicant/Owner: Timber Ridge at Hartland, LLC State: VA Sampling Point: DP-7

Investigator(s): TNT Environmental, Inc.: L. Duvall, T. Wilkins Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): None Slope (%): ____

Subregion (LRR or MLRA): ____ Lat: 38°58'08" Long: 77°34'27" Datum: NAD 83

Soil Map Unit Name: Rowland silt loam NWI classification: ____

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 9 taken outside wetland flag HA2.

It should be noted that atypically high levels of precipitation have occurred in 2019. Palmer Drought Index Value: +4.00 and above (extremely moist)

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:
Wetland hydrology does not dominate the vicinity.

Based on precipitation data collected from the Washington Dulles Weather Station (NOAA), the area was 27.24 inches above normal from January 2018 through February 2019.

Received by VMRC September 3, 2020 /blh

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

Sampling Point: DP-7

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
50% of total cover: ____ 20% of total cover: ____		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15' Radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
50% of total cover: ____ 20% of total cover: ____		= Total Cover	

Herb Stratum (Plot size: 5' Radius)			
1. *Poa spp.*	90	☑	UPL
2. *Setaria pumila*	2	☐	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
50% of total cover: 46 20% of total cover: 18.4	92	= Total Cover	

Woody Vine Stratum (Plot size: 30' Radius)			
1.			
2.			
3.			
4.			
5.			
6.			
50% of total cover: ____ 20% of total cover: ____		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:			Multiply by:
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	2	x 3 =	6
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	2 (A)		6 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

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

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

Definitions of Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☑

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

Nomenclature and indicators from The National Wetland Plant List 2016 (V3.3); Species listed as NI or NO have been applied an indicator status assigned to the species in nearest adjacent region or are otherwise assumed as upland (UPL) for use in the Dominance Test Calculation. Hydrophytic vegetation does not dominate the vicinity.

Received by VMRC September 3, 2020 /blh

SOIL Sampling Point: DP-7

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

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 3/3	100					Silt Loam	
6+								rock

[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 Suface (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)
- ☐ Piedmont Floodplain Soils (F19)**(MLRA 148)**
- ☐ Red Parent Material (F21)**(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: rock

Depth (Inches): 6"+

Hydric Soil Present? Yes ☐ **No** ☑

Remarks:

Upland soil dominates the vicinity.

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APPENDIX IV

PHOTOGRAPHS

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Photograph 1: View to the north showing Data Point 1 taken within uplands at flag HB-59.

Photograph 2: View to the west showing Data Point 2 taken within uplands in a sanitary easement at flag HD-1.

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Photograph 3: View to the south showing Data Point 3, taken within upland swale above flag HW-7.

Photograph 4: View to the south showing Data Point 4, taken within PEM swale at flag HW-3.

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Photograph 5: View to the southwest showing Data Point 5, taken within PEM at flag HX-8.

Photograph 6: View to the east showing Data Point 6 taken within PEM wetlands at flag HA-1.

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Photograph 7: View to the northeast showing Data Point 7 taken within uplands outside flag HA-1.

Photograph 8: View to the west showing the PFO wetlands at flag HA-52.

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Photograph 9: View to the north showing the PFO wetlands located at flag HM-10.

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APPENDIX V

WETLANDS AND WATERS OF THE U.S.
DELINEATION MAP

Received by VMRC September 3, 2020 /blh

WETLAND AND WATERS OF THE U.S.	TOTAL
PERENNIAL WATERS OF THE U.S. (R3)	16,339 LINEAR FEET (290,808 SF)
INTERMITTENT WATERS OF THE U.S. (R4)	3,200 LINEAR FEET (26,246 SF)
PALUSTRINE FORESTED WETLANDS (PFO)	158,384 SF (3.64 AC.)
PALUSTRINE EMERGENT WETLANDS (PEM)	53,085 SF (1.22 AC.)

LEGEND

- PERENNIAL WATERS OF THE U.S. (R3)
- INTERMITTENT WATERS OF THE U.S. (R4)
- PALUSTRINE FORESTED (PFO) WETLAND
- PALUSTRINE EMERGENT (PEM) WETLAND
- OFFSITE PERENNIAL WATERS OF THE U.S. (R3)
- OFFSITE INTERMITTENT WATERS OF THE U.S. (R4)
- OFFSITE PALUSTRINE FORESTED (PFO) WETLAND
- OFFSITE PALUSTRINE EMERGENT (PEM) WETLAND
- APPROX. DATAPOINT LOCATION
- STUDY AREA

NOTES:

1. THE WETLAND DELINEATION WAS CONDUCTED BY TNT ENVIRONMENTAL, INC. (TNT) IN JANUARY AND FEBRUARY 2019. EXISTING CONDITION, TOPOGRAPHY AND WETLAND FLAGS WERE SURVEYED BY URBAN, LTD, 2019.

2. THE WETLAND AND OTHER WATERS OF THE U.S. BOUNDARIES DEPICTED HEREON ARE PRELIMINARY UNTIL CONFIRMED DURING A JURISDICTIONAL DETERMINATION WITH THE US ARMY CORPS OF ENGINEERS (USACE).

3. THIS DELINEATION WAS PERFORMED PURSUANT TO THE *CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL*, TECHNICAL REPORT Y-87-1 (1987 MANUAL) AND SUBSEQUENT GUIDANCE AND MODIFICATION BY THE *REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL:EASTERN MOUNTAINS AND PIEDMONT REGION* (VERSION 2.0) DATED APRIL 2012. THE ROUTINE ON-SITE WETLAND DETERMINATION METHOD FOR SITES GREATER THAN 5 ACRES WAS USED FOR THIS SITE, WITH MULTIPLE TRANSECTS PERFORMED AS DEPICTED ON THIS MAP.

FLAGS HG3/HH1

WATERS OF THE U.S. (R3) CONTINUE OFFSITE TO THE NORTH AT FLAGS HG1/HF1

PALUSTRINE FORESTED (PFO) WETLAND 4,401-SF (0.10 ACRES)

WATERS OF THE U.S. (R3) 2,937-LF (0.75 ACRES)

EXISTING HEADCUT AT FLAGS HJ18/HI20

OFFSITE WATERS OF THE U.S. (RE)

FLAGS HG30/HJ1

OFFSITE PALUSTRINE FORESTED (PFO) WETLAND

PALUSTRINE EMERGENT (PEM) WETLAND 3,184-SF (0.07 ACRES)

PALUSTRINE FORESTED (PFO) WETLAND 14,467-SF (0.33 ACRES)

FLAG IG1

FLAG IH1

OFFSITE PALUSTRINE EMERGENT (PEM) WETLAND

DP-1

FLAG HB59

FLAG HA62

PALUSTRINE FORESTED (PFO) WETLAND 23,275-SF (0.53 ACRES)

FLAGS IH38/II1

WATERS OF THE U.S. (R3) 2,904-LF (0.78 ACRES)

FLAG I26

FLAG HL66

FLAGS I45/IA13

WATERS OF THE U.S. (R4) 842-LF (0.17 ACRES)

MATCHLINE - SEE SHEET 2

MATCHLINE - SEE SHEET 1

PALUSTRINE EMERGENT (PEM) WETLAND

INTERMITTENT WATERS OF THE U.S.

MATCHLINE - SEE SHEET 1

MATCHLINE - SEE SHEET 3

SHEET 2

SHEET 3

SCALE (IN FEET)

60 120

120 0

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HARTLAND NORTH

LOUDOUN COUNTY

SURVEYED WETLANDS & WATERS OF THE U.S. MAP

REVISIONS

DATE	COMMENTS

SHEET 1 OF 3

SCALE: 1" = 120'

PROJECT DATE: 4/5/19

DRAFT: SSS

CHECK: AMS

FILE NUMBER: 1460-B

Received by VMRC September 3, 2020 /blh

WETLAND AND WATERS OF THE U.S.	TOTAL
PERENNIAL WATERS OF THE U.S. (R3)	16,339 LINEAR FEET (290,808 SF)
INTERMITTENT WATERS OF THE U.S. (R4)	3,200 LINEAR FEET (26,246 SF)
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PALUSTRINE EMERGENT WETLANDS (PEM)	53,085 SF (1.22 AC.)

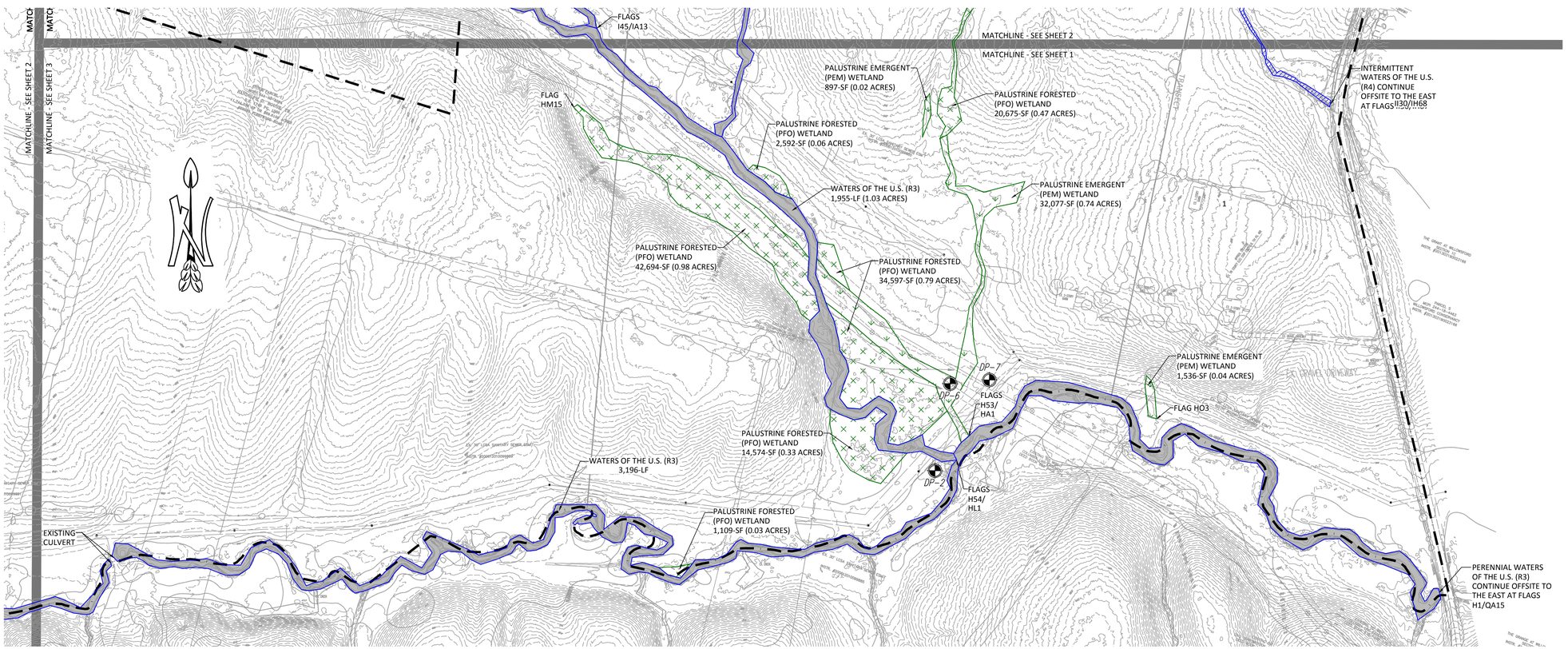
NOTES:
1. THE WETLAND DELINEATION WAS CONDUCTED BY TNT ENVIRONMENTAL, INC. (TNT) IN JANUARY AND FEBRUARY 2019. EXISTING CONDITION, TOPOGRAPHY AND WETLAND FLAGS WERE SURVEYED BY URBAN, LTD, 2019.

2. THE WETLAND AND OTHER WATERS OF THE U.S. BOUNDARIES DEPICTED HEREON ARE PRELIMINARY UNTIL CONFIRMED DURING A JURISDICTIONAL DETERMINATION WITH THE US ARMY CORPS OF ENGINEERS (USACE).

3. THIS DELINEATION WAS PERFORMED PURSUANT TO THE *CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL*, TECHNICAL REPORT Y-87-1 (1987 MANUAL) AND SUBSEQUENT GUIDANCE AND MODIFICATION BY THE *REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL:EASTERN MOUNTAINS AND PIEDMONT REGION* (VERSION 2.0) DATED APRIL 2012. THE ROUTINE ON-SITE WETLAND DETERMINATION METHOD FOR SITES GREATER THAN 5 ACRES WAS USED FOR THIS SITE, WITH MULTIPLE TRANSECTS PERFORMED AS DEPICTED ON THIS MAP.

LEGEND

- PERENNIAL WATERS OF THE U.S. (R3)
- INTERMITTENT WATERS OF THE U.S. (R4)
- PALUSTRINE FORESTED (PFO) WETLAND
- PALUSTRINE EMERGENT (PEM) WETLAND
- OFFSITE PERENNIAL WATERS OF THE U.S. (R3)
- OFFSITE INTERMITTENT WATERS OF THE U.S. (R4)
- OFFSITE PALUSTRINE FORESTED (PFO) WETLAND
- OFFSITE PALUSTRINE EMERGENT (PEM) WETLAND
- APPROX. DATAPOINT LOCATION
- STUDY AREA



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HARTLAND NORTH

LOUDOUN COUNTY

SURVEYED WETLANDS & WATERS OF THE U.S. MAP

REVISIONS

DATE	COMMENTS

SHEET 2 OF 3

SCALE: 1" = 120'

PROJECT DATE: 4/5/19

DRAFT: SSS | CHECK: AMS

FILE NUMBER: 1460-B

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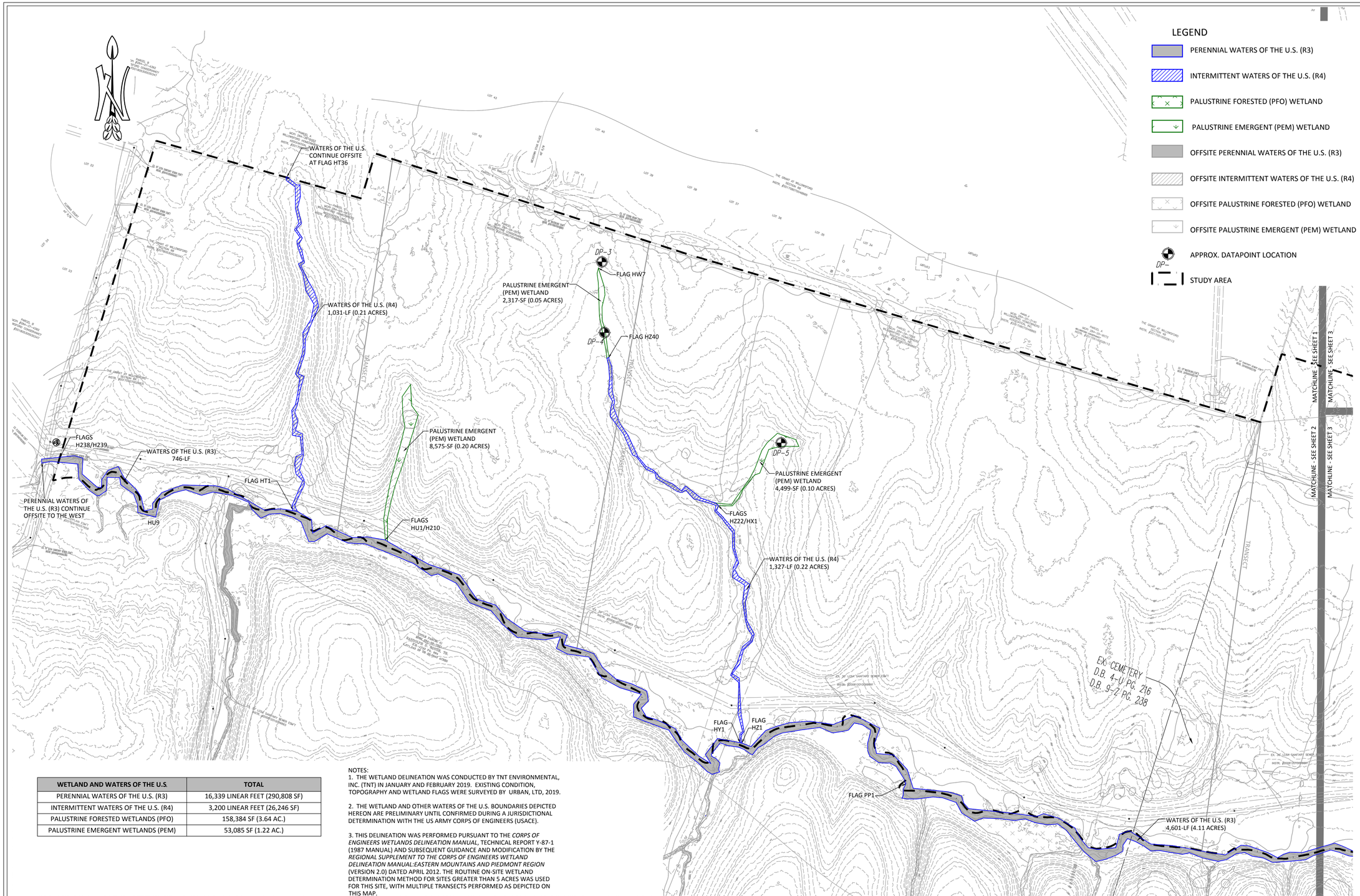

WETLAND AND WATERS OF THE U.S.	TOTAL
PERENNIAL WATERS OF THE U.S. (R3)	16,339 LINEAR FEET (290,808 SF)
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PALUSTRINE EMERGENT WETLANDS (PEM)	53,085 SF (1.22 AC.)

NOTES:

1. THE WETLAND DELINEATION WAS CONDUCTED BY TNT ENVIRONMENTAL, INC. (TNT) IN JANUARY AND FEBRUARY 2019. EXISTING CONDITION, TOPOGRAPHY AND WETLAND FLAGS WERE SURVEYED BY URBAN, LTD, 2019.

2. THE WETLAND AND OTHER WATERS OF THE U.S. BOUNDARIES DEPICTED HEREON ARE PRELIMINARY UNTIL CONFIRMED DURING A JURISDICTIONAL DETERMINATION WITH THE US ARMY CORPS OF ENGINEERS (USACE).

3. THIS DELINEATION WAS PERFORMED PURSUANT TO THE *CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL*, TECHNICAL REPORT Y-87-1 (1987 MANUAL) AND SUBSEQUENT GUIDANCE AND MODIFICATION BY THE *REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL:EASTERN MOUNTAINS AND PIEDMONT REGION* (VERSION 2.0) DATED APRIL 2012. THE ROUTINE ON-SITE WETLAND DETERMINATION METHOD FOR SITES GREATER THAN 5 ACRES WAS USED FOR THIS SITE, WITH MULTIPLE TRANSECTS PERFORMED AS DEPICTED ON THIS MAP.

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ENVIRONMENTAL

HARTLAND NORTH

LOUDOUN COUNTY

SURVEYED WETLANDS & WATERS OF THE U.S. MAP

REVISIONS

DATE	COMMENTS

SHEET 3 OF 3

SCALE: 1" = 120'

PROJECT DATE: 4/5/19

DRAFT: SSS | CHECK: AMS

FILE NUMBER: 1460-B

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PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION:

A. COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): June 4, 2019

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:

Mr. Matthew D. Kroll
Timber Ridge at Hartland LLC
44095 Pipeline Plaza, Suite 140
Ashburn, Virginia 20147

C. DISTRICT OFFICE: Norfolk District (CENAO-WRR) FILE NUMBER: NAO-2019-00735-rhs

FILE NAME: Hartland North

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

State: VIRGINIA County/parish/borough: Loudoun City: n/a

Center coordinates of site:

Latitude: 38.968968° N Longitude: -77.576289° W

Universal Transverse Mercator: n/a

Name of nearest waterbody: Lenah Run

Identify (estimate) amount of waters in the review area:

Non-wetland waters: ± 19,539 linear feet

Cowardin Class: R3, R4

Stream Flow: n/a

Wetlands: ± 4.86 acres

Cowardin Class: PFO, PEM

Name of any water bodies on the site that have been identified as Section 10 waters: Tidal: n/a

Non-Tidal: n/a

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination Date:
☒ Field Determination Date: May 9, 2019

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an

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official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

3. This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA:

Data reviewed for preliminary JD (check all that apply) - checked items should be included in case file and, where checked and requested, appropriately reference sources below.

☒Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:

☒Data sheets prepared/submitted by or on behalf of the applicant/consultant.

☐Office concurs with data sheets/delineation report.

☐Office does not concur with data sheets/delineation report.

☐Data sheets prepared by the Corps:

☐Corps navigable waters' study:

☐U.S. Geological Survey Hydrologic Atlas:

☐USGS NHD data.

☐USGS 8 and 12 digit HUC maps.

☒U.S. Geological Survey map(s). Cite scale & quad name: Arcola

☒USDA Natural Resources Conservation Service Soil Survey.

Citation:

☒National wetlands inventory map(s). Cite name:

☐State/Local wetland inventory map(s):

☐FEMA/FIRM maps:

☐100-year Floodplain Elevation: (National Geodetic Vertical Datum of 1929)

☐ Photographs: ☐Aerial (Name & Date):

Or ☐Other (Name & Date):

☐Previous determination(s):

File no. and date of response letter:

☐Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature Regulatory Project Manager (REQUIRED)	Signature of person requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)
June 4, 2019 Date	Date

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

Reply to Attention of

June 4, 2019

Northern Virginia Regulatory Section
NAO-2019-00735 (Lenah Run)

Mr. Matthew D. Kroll, PE
Timber Ridge at Hartland LLC
44095 Pipeline Plaza, Suite 140
Ashburn, Virginia 20147

Dear Mr. Kroll:

This letter is in reference to a request, on your behalf from TNT Environmental Inc., for a delineation confirmation and jurisdictional determination for waters of the U.S. (including wetlands) for an approximately 246-acre study area on three (3) parcels (PINs: 244368224, 284103552 and 284287621) west of Fleetwood Road (Route 616) and southeast of Quinn Meadow Court in Loudoun County, Virginia. The project is called Hartland North.

The enclosed exhibit in three (3) sheets entitled "Surveyed Wetlands & Waters of the U.S. Map, Hartland North, Loudoun County" dated April 5, 2019, provides the locations of waters and/or wetlands on the properties listed above. The basis for this delineation includes application of the Corps' 1987 Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont and the positive indicators of wetland hydrology, hydric soils, and hydrophytic vegetation and the presence of an ordinary high water mark.

Discharges of dredged or fill material, including those associated with mechanized land clearing, into waters and/or wetlands on this site may require a Department of the Army permit and authorization by state and local authorities including a Virginia Water Protection Permit from the Virginia Department of Environmental Quality (DEQ), a permit from the Virginia Marine Resources Commission (VMRC) and/or a permit from your local wetlands board. This letter is a confirmation of the Corps preliminary jurisdiction for the waters and/or wetlands on the subject property and does not authorize any work in these areas. Please obtain all required permits before starting work in the delineated waters/wetland areas.

This is a preliminary jurisdictional determination and is therefore not a legally binding determination regarding whether Corps jurisdiction applies to the waters or wetlands in question. Accordingly, you may either consent to jurisdiction as set out in this preliminary jurisdictional determination and the attachments hereto if you agree with the determination, or you may request and obtain an approved jurisdictional determination. This preliminary jurisdictional determination and associated wetland delineation map may be submitted with a permit application.

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Enclosed is a copy of the “Preliminary Jurisdictional Determination Form”. Please review the document, sign, and return a copy within 30 days of receipt and keep one for your records. This delineation of waters and/or wetlands is valid for a period of five years from the date of this letter unless new information warrants revision prior to the expiration date.

If you have any questions, please contact me at ron.h.stouffer@usace.army.mil or 757-201-7124.

Sincerely,

Ronald H. Stouffer, Jr.
Environmental Scientist
Northern Virginia Regulatory Section

Enclosures

cc: TNT Environmental Inc.

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DEPARTMENT OF THE ARMY
NORFOLK DISTRICT CORPS OF ENGINEERS
FORT NORFOLK 803 FRONT STREET
NORFOLK VIRGINIA 23510-1094

REPLY TO ATTENTION OF

JUNE 4, 2019

Supplemental Preapplication Information

Project Number: NAO-2019-00735
Applicant: Timber Ridge at Hartland LLC
Project Location: Loudoun County

1. A search of the Virginia Department of Historic Resources data revealed the following:

   ☐ No known historic properties are located on the property.

   ☒ Known architectural resources are located on the property:

   ☒ Known archaeological resources are located on the property:

   ☒ Known historic resources are located in the vicinity of the property

NOTE:

1) *The information above is for planning purposes only. In many cases, the property has not been surveyed for historic resources. Undiscovered historic resources may be located on the subject property or adjacent properties and this supplemental information is not intended to satisfy the Corps' requirements under Section 106 of the National Historic Preservation Act (NHPA).*
2) *Prospective permittees should be aware that Section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant.*

2. A search of the data supplied by the U.S. Fish & Wildlife Service, the Virginia Department of Conservation and Recreation and the Virginia Department of Game and Inland Fisheries revealed the following:

   ☐ No known populations of threatened or endangered species are located on or within the vicinity of the subject property.

   ☒ The following federally-listed species may occur within the vicinity of the subject property:
   Northern Long-eared Bat (*Myotis septentrionalis*)

   ☐ The following state-listed (or other) species may occur within the vicinity of the subject property

   ☐ Known listed species may occur in the vicinity of the subject property:

Please note this information is being provided to you based on the preliminary data you submitted to the Corps relative to project boundaries and project plans. Consequently, these findings and recommendations are subject to change if the project scope changes or new information becomes available and the accuracy of the data.

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