

WETLAND & NATURAL RESOURCES REPORT For REVISED HUDSON LOGISTICS

CENTER PROJECT

43 Steele Road

Hudson, NH

September 9, 2022

Prepared By

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Table of Contents

1.0	Introduction1	
2.0	Wetland Resources1	
	2.1	Wetland Delineation1
	2.2	Wetland Descriptions
	2.3	Vernal Pools
3.0	Wetland Function and Value Assessment4	
	3.1	Methods4
	3.2	Identified Functions &Values6
4.0	Rare, Threatened, & Endangered Species12	
5.0	Relation to the Proposed Project	
	5.1	Section 334-36(C)(2)—Access Impacts
	5.2	Section 334-36(C)(4)—Lot Development Impacts
	5.3	Section 334-37(A)—General Conditional Use Permit Criteria
6.0	Conclusion	

Figures

USGS Locus Map Wetland Resource Overview 1952 Aerial Photo/Wetlands Overlay Wetland Evaluation Areas

Appendicies

Appendix A	Wetland Photos
Appendix B	Functional Assessment Worksheets
Appendix C	Wetland Delineation Data Forms
Appendix D	NHB Data Check Report

1.0 Introduction

The following report provides details on the wetland and other natural resources on the Green Meadow Golf Club property in connection with the proposed amendment to the Conditional Use Permit for the Hudson Logistics Center project (HLC) (the "Amended Project") which was originally approved on April 21, 2021 ("the Approved Project"). The primary purposes of this report are to document the wetland delineation process and provide detailed descriptions of the wetland resources on the property and an assessment of their functions and values. This report also includes a summary of the proposed wetland and buffer impacts in the context of avoidance, minimization, and compliance with Article IX of the Town of Hudson's Zoning Ordinance (the "Wetland Ordinance"). Limited information on Rare Threatened and Endangered species has been included in this report. More detailed information on wildlife and wildlife habitat in general can be found in the Wildlife Report¹ by Lucas Environmental which is available under separate cover.

2.0 Wetland Resources

2.1 Wetland Delineation

Although limited flagging along the access roads was completed in 2017, the majority of the wetland delineation depicted on the *Hudson Logistics Center* amended plans was conducted during the fall of 2019. All wetlands within the project area were flagged and reviewed by Brendan Quigley, NHCWS #249, utilizing the following standards:

- 1. US Army Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1 (Jan 1987) AND Regional Supplement to Corps of Engineers Wetland Delineation Manual; Northcentral and Northeast Region, Version 2.0, January 2012.
- 2. Field Indicators of Hydric Soils in the United States, Version 8.0, 2016 **AND (for disturbed sites)** New England Hydric Soils Technical Committee. 2017 Version 4, Field Indicators for Identifying Hydric Soils in New England. New England Interstate Water Pollution Control Commission, Lowell, MA.
- 3. National Wetland Plant List, Version 3.3 (2016).

¹ WILDLIFE HABITAT EVALUATION, 2022 UPDATE Hudson Logistics, Center Steele Road, Hudson,New Hampshire, Lucas Environmental, LLC, September 9, 2022

All flagging was surveyed by Hayner Swanson, Inc, either in 2017 or recently in 2019/2020. ACOE wetland delineation data forms were prepared by local request in late November and early December of 2020 and can be found in Appendix C.

2.2 Wetland Descriptions

The property has several extensive areas of wetlands in addition to the large areas of manicured lawn that dominate the property. Other than the relatively undisturbed bank of the Merrimack River, which defines the entire 5,000-foot (+/-) western boundary of the property, wetlands on this site are characterized by a long history of alteration that predates regulation of freshwater wetlands. Prior to construction of the golf course in the early 1950's, the property was largely cleared and actively managed for agriculture like most of the surrounding land. The most substantial changes occurred between 1952 and 1965 during which intensive aggregate extraction and alteration of the landscape was carried out to create the two 18-hole courses that exist at the site today. During this time, naturally occurring wetlands onsite underwent varying degrees of modification by clearing, filling, channelization, and excavation. Significant areas of upland, wetland, or uplands adjacent to wetlands were excavated to create water features for the golf course. Several of these excavations created isolated circular ponds, while others remain hydrologically connected and form a complex arrangement of wetlands, channels, and waterbodies in the eastern portion of the site. A figure depicting an overview of the wetlands on the property is included in the Figures Section. Also included is an overlay of the same wetlands on a 1952 aerial photo, clearly demonstrating the alterations carried out to create the golf course.

Based on drainage and connectivity, the resource areas on the site can be divided into four (4) main categories: the Merrimack River, the isolated ponds, northeast wetlands, and southeast wetlands.

Merrimack River

The Merrimack River lies along the entire western boundary of the site. All the wetlands and streams on the property, except for the isolated ponds drain to the river. The mostly steep wooded banks are relatively undisturbed and forested. One exception is where the golf course maintains access to seasonally deploy a pipe into the river for irrigation purposes. There are no vegetated wetlands associated with the river in this location. The Merrimack River has also been designated a Prime Wetland (without buffer) by the City of Nashua.

Isolated Ponds

There are four (4) isolated ponds on the site that were created as water features during construction of the golf course. These ponds are permanently flooded and isolated from each other and other wetlands. The ponds have a very narrow fringe of emergent or scrub-shrub wetland around their perimeters which is subject to regular, or at least periodic mowing.

Northeast Wetlands

This is a largely forested wetland system occupying the northeast corner of the property. This area contains several excavated ditches which have apparently been created to convey stormwater from a large detention pond and other drainage associated with development on Lowell Road. The entire wetland complex drains to a relatively undisturbed and unnamed perennial stream which flows north through a culvert under the Circumferential Highway/Sagamore Bridge Road. This stream reaches the Merrimack River approximately 1600-feet to the northwest of the site.

Southeast Wetlands

This is a more diverse system of forested, scrub-shrub, emergent, and open water wetlands directly or indirectly associated with Limit Brook which is a perennial tributary to the Merrimack River. The forested components of this system lie directly east and south of the Mercury Systems parcel and are associated with Limit Brook by way of several modified or created connections. Limit Brook flows onto the property in the southeast corner, makes a broad turn to the west, and leaves the site to the south. Limit Brook flows into the Merrimack Rover approximately 1.3 miles to the south just past the Massachusetts state line. The middle portion of the original flow path of the brook was extensively modified at the time the golf course was constructed to create several large water features. These ponds continue to carry the flow of the brook and physically connect other areas of wetland but no longer resemble a stream or natural wetland system. The emergent and scrub shrub wetlands associated with the stream where it enters and leaves the property, however, are relatively undisturbed and represent some of the more functionally intact and valuable wetlands on the property. The downstream portion of scrub-shrub and emergent wetland south of Steele Road also lies in the 100year floodplain of Limit Brook and is therefore a Priority Resource Area.

A more detailed description and functional assessment of these wetlands is provided in Section 3.

2.3 Vernal Pools

A vernal pool investigation was conducted in the spring of 2020. Wetland areas were investigated for the presence of suitable ponding and evidence of vernal pool breeding activity, primarily through counting of egg masses. The topography of the site and character of the wetlands did not suggest extensive vernal pool habitat. The permanently flooded ponds on the site support large populations of predatory frogs and likely fish populations. These types of areas are very rarely suitable for vernal pool breeding activity, and none were identified in these areas. Most of the forested and emergent wetlands on the site lack depressions with adequate depth and seasonal hydrology.

Only one area of vernal pool breeding was noted on the property, located in the north end of the forested wetland that crosses through the Mercury Systems property. Its location is

depicted on the Wetland Overview Figure and on the plans. Wood Frog chorusing was heard throughout the wetland, which was flooded on March 26, but no egg masses were found. A total of 14 wood frog egg masses were identified in a single area at the northern end of this wetland during a follow up survey on April 4, 2020.

The current flooding of this wetland is being maintained by a beaver dam at its outlet, so it is not clear that this entire forested wetland represents suitable stable habitat for vernal pool breeding. Without this impoundment the wetland would only be saturated, as can be seen in the 2012 photo that is used in the Wetland Resources Overview figure contained in the Figures Section. The area where egg masses were identified may in fact be the only location where a suitable pool exists without the beaver impoundment.

3.0 Wetland Function and Value Assessment

3.1 Methods

The wetland function and value assessment was conducted using the US Army Corps Highway Methodology guidelines. To facilitate the evaluation of the complex array of wetlands on the property they were broken up into eight (8) Evaluation Areas based on connectivity and classification. The extent of each evaluation area and corresponding reference number is depicted on the *Wetland Evaluation Areas* figure included in the Figures Section at the end of the narrative. The evaluation data forms (NHDES version) are included in Appendix C.

The US Army Corps Highway Methodology considers 13 categories of function or value within a particular wetland area:

- **Groundwater recharge/discharge:** This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area. Recharge should relate to the potential for the wetland to contribute water to an aquifer. Discharge should relate to the potential for the wetland to serve as an area where ground water can be discharged to the surface.
- **Floodflow Alteration:** This function considers the effectiveness of the wetland in reducing flood damage by attenuation of floodwaters for prolonged periods following precipitation events.
- **Fish and Shellfish Habitat:** This function considers the effectiveness of seasonal or permanent water bodies associated with the wetland in question for fish and shellfish habitat.
- Water Quality—Sediment/Toxicant/Pathogen Retention: This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland as a trap for sediments, toxicants or pathogens.
- Water Quality—Nutrient Removal/Retention/Transformation: This function relates to the effectiveness of the wetland to prevent adverse effects of excess

nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers or estuaries.

- **Production Export:** This function relates to the effectiveness of the wetland to produce food or usable products for human, or other living organisms.
- Sediment/Shoreline Stabilization: This function relates to the effectiveness of a wetland to stabilize stream banks and shorelines against erosion.
- Wildlife Habitat: This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge. Both resident and or migrating species must be considered.
- **Recreation:** This value considers the effectiveness of the wetland and associated watercourses to provide recreational opportunities such as canoeing, boating, fishing, hunting and other active or passive recreational activities. Consumptive opportunities consume or diminish the plants, animals or other resources that are intrinsic to the wetland, whereas non-consumptive opportunities do not.
- Educational/Scientific Value: This value considers the effectiveness of the wetland as a site for an "outdoor classroom" or as a location for scientific study or research.
- Uniqueness/Heritage: This value relates to the effectiveness of the wetland or its associated water bodies to produce certain special values. Special values may include such things as archeological sites, unusual aesthetic quality, historical events, or unique plants, animals, or geological features.
- Visual Quality/Aesthetics: This value relates to the visual and aesthetic qualities of the wetland.
- Threatened or Endangered Species Habitat: This value relates to the effectiveness of the wetland or associated water bodies to support threatened or endangered species

Functions are self-sustaining properties of wetlands, which exist in the absence of human involvement. Values refers to the benefits gained by human society from a given wetland or ecosystem and their inherit functions. Functions and values identified as "primary" have been determined to be significant features of the wetland being evaluated. This does not necessarily indicate the wetland supports these functions or values at a significant level in comparison to other wetlands in the region or even near the site.

The wetlands were also evaluated for "Ecological Integrity" utilizing Section 1 of the NH Method for the Evaluation of Freshwater Wetlands. Rather than relating to a single function or value, ecological integrity considers the overall health and completeness of the wetland system in the context of the larger ecosystem. The NH method also produces a numeric score for Ecological Integrity from 1 to 10. Generally, a wetland in an untouched area of wilderness would have the highest score of 10 while one in the middle of a busy city would have the lowest scores near 1. For consistency with the rest of the function and value assessment, Ecological Integrity was assessed using the same eight evaluation areas. It should be noted, however, that the broader concept of ecological is more difficult to apply to small portions of the same wetland system or to large rivers such as the Merrimack.

A discussion of each evaluation area and the associated functions and values is provided in the sections below.

3.2 Identified Functions & Values

Evaluation Area 1

This is the Merrimack River and its steep bank which forms the western boundary of the project site. This resource is classified as lower perennial riverine, with a permanently flooded, unconsolidated bottom $(R2UBH)^2$. The steep bank extending from the edge of the maintained golf course down to the river edge is forested with mature pine, oaks, and lesser amounts of birch and maple.

The Merrimack River is a major river in New Hampshire supporting numerous functions and values at a high level. *Wildlife habitat, Aesthetic and Recreational Value, Cultural Significance*, and *Shoreline Stabilization* are among the primary functions and values of the river in this area. Most relevant and significant for this property is likely the Shoreline Stabilization value. Rather than being supported by the river itself, this value is supported by the forested high bank between the high-water mark and the top of the bank at the level of the golf course. This area serves to stabilize the shoreline and contain peak flow during flood events.

The NH Method documentation notes the limitations of the process with respect to large river systems because of the multiple and wide-ranging set of variables that can affect these types of resources. The broader Ecological Integrity of the Merrimack River has certainly been diminished historically by intensive development in its watershed, dams, history of industrial use, and loss of floodplain. A more recent focus on such issues, particularly water quality, have resulted in meaningful improvements and the river remains an important ecological corridor in NH. At this location, the roughly 1-mile long naturally vegetated bank and lack of more intensive development indicates a relatively high Ecological Integrity (score of 6.3) compared to the other resources on this site and in the immediate area.

Evaluation Area 2

This evaluation area consists of a complex of wetlands occupying the northeast corner of the site. The predominant wetland type is forested wetland dominated by red maple with

² Cowardin, L. M., 1979. *Classification of Wetlands and Deepwater Habitats in the United States*. Washington, D.C.: U.S. Department of the Interior, Fish and Wildlife Service.

an understory of witch hazel, highbush blueberry, and nannyberry. Royal fern, cinnamon fern, and sensitive fern are common in the herbaceous layer. These wetlands are classified as deciduous, forested wetland, with saturated hydrology (PFO1B). A section of drainage ditch originating at the intersection of Lowell Road and the driveway for Parcel 234/4 (Mercury Systems) is included in this evaluation area.

Water flows into the wetland from the surrounding uplands and from stormwater discharges associated with the adjacent development, including a large detention basin and drainage ditch. Several excavated ditches in the wetland and at the edge of the existing golf course direct water to a small unnamed stream, which is depicted as perennial on the USGS map. Alterations and ditching in this area make the original path and extent of this stream unclear. Currently, a natural channel only exists within the wetland just south the highway before it flows off site through a culvert under the roadway. The stream ultimately drains to the Merrimack River approximately 1600' to the northwest of the site.

The Primary functions of the wetlands in Evaluation Area 2 include *Flood Flow Alteration, Sediment/Toxicant Retention,* and *Nutrient*

Removal/Retention/Transformation. These functions are derived from a combination of proximity to development and association with a stream that is a tributary to the Merrimack River. Significant runoff from adjacent developed areas is directed to these wetlands where there are numerous opportunities for sediment trapping and nutrient transformation before leaving the site. The constricted outlet and basin character of the lower portion of the wetland also provides some storage during periods of significant rainfall, and therefore these wetlands serve a Flood Flow Alteration function. These functions are somewhat diminished overall by the diches that have been excavated in the wetland and the wetlands position low in the watershed.

Wildlife Habitat and Production Export are also supported in the wetland but have not been considered primary functions. Wildlife Habitat and Production Export function is derived from the variety of hard and soft mast producing species as well as the welldeveloped multi-canopy character of the forested wetland. These functions are limited, however, by the proximity of development and transportation infrastructure on all sides of the wetland.

The Ecological Integrity of this wetland is very low (score of 2.7) due to proximate development including commercial development along Lowell Road, internal disturbance, and disrupted surface hydrology, including the long culvert which effectively separates it from the Merrimack River.

Evaluation Area 3

Evaluation Area 3 consists primarily of forested wetland located just south of Area 2 and shares many of the same characteristics with the lower part of Evaluation Area 2. It is a

red maple dominated swamp, with understory species including winterberry, highbush blueberry, royal fern, cinnamon fern, and skunk cabbage. The long-term hydrology of the wetland is likely saturated/seasonally flooded, but appears to be periodically flooded due to beaver activity at its southern end. The wetland has therefore been classified as, deciduous, forested, with a saturated and seasonally flooded hydrology that is influenced by beaver (PFO1Eb).

The wetland drains south through an excavated channel connecting it to Evaluation Area 5 and ultimately Limit Brook. Water levels in the channel vary seasonally, and with beaver activity, resembling a linear pond at higher water levels, and more of an emergent wetland in the middle of the summer. Given its narrow shape and limited water depth, even at high water, this area has been classified as a semi-permanently flooded excavated emergent wetland with a saturated scrub shrub edge (PEM2Fx/PSS1B). Emergent vegetation is dominated by a variety of sedges, rushes and wildflowers. Dominant species along its shrub edge include Silky dogwood, Meadowsweet, gray birch, and glossy buckthorn.

An area of hydric soils and wetland hydrology also extends from the forested portion of the wetland into the maintained turf of the adjacent golf course. This area has been evaluated separately as Evaluation Area 3.1 given its very different characteristics and function.

The primary functions of Evaluation Area 3 are Nutrient Attenuation, Flood Flow Alteration, and Wildlife Habitat. Because of its emergent and forested characteristics that occur between managed golf course turf and areas of ponded water, Nutrient Attenuation is an important function of this area. Excess nutrients in runoff are taken up and held as vegetation rather than entering areas of open water. The restricted outlet at the beginning of the narrow channel, even in the absence of the current beaver dam, increases retention time, supporting nutrient transformation. Heavy algae growth in the currently flooded wetland provides strong evidence that the wetland does carry out this function. This storage capacity created by the restricted outlet also supports Flood Flow Alteration function. Wildlife Habitat and Production Export are present in the form of numerous soft-mast producing species in the scrub-shrub stratum that are likely utilized by numerous songbirds and small mammals. The shallow pond-like character of the connecting ditch, as well as the flooded forested wetland are suitable to amphibians and turtles. Vernal pool breeding activity, though very modest, was in fact noted in the forested wetland during the spring of 2020. This is discussed further in the Vernal Pool section.

The Ecological Integrity of this wetland is very low (score of 3.5) due to proximate development, disturbance, and disrupted hydrology. It scored slightly higher than Evaluation Area 2, however, because less of the adjacent development consists of impervious surfaces and fewer invasive species are present.

Evaluation Area 3.1

The wetland being evaluated in this area consists of maintained lawn area extending between the forested wetland in Area 3 to one of the ponds in Area 5. Both hydric soils and signs of wetland hydrology were documented in this area, and although vegetation consists of golf course turf, this is an artificially maintained condition that would cease if mowing ended. This wetland has been designated as saturated wet meadow with a "farmed" modifier (PEM2Bf). This area may have represented the extent of wetland in this area predating large scale alteration of the landscape or could have developed due to these alterations and the new drainage patterns that it created.

Though technically qualifying as wetlands, these areas of maintained lawn hold very little, if any, functional wetland value. Other than intermittent ponding, there is no surface water, no wildlife habitat, or unique or interesting features. The primary function of this wetland is limited *Groundwater Discharge*. The Ecological Integrity of this wetland is the lowest of all areas evaluated with a score of just 2.2. The wetland consists entirely of a managed golf course turf but gains points for lack of impervious surface, roads, or modifications to its surface hydrology.

Evaluation Area 4

This area is located in the eastern portion of the project site just south of Evaluation Area 2 but separated by the access driveway for Parcel 234/4. Evaluation Area 4 consists of forested, Red Maple dominated wetland similar to that described in Evaluation Areas 2 and 3 but with stable saturated hydrology (PFO1B). The wetland drains south toward Limit Brook but is not directly associated with the waterway.

The Primary functions of the wetlands in Evaluation Area 4 include *Flood Flow Alteration, Sediment/Toxicant Retention, and Nutrient Removal/Retention/Transformation.* Wildlife Habitat and Production Export, and Groundwater Discharge are also supported but have not been considered primary functions of this area. The Ecological Integrity of this wetland is higher (score of 5.1) in comparison to most of the other areas evaluated due to the larger forested area in which it exists and less disturbed condition overall.

Evaluation Area 5

This evaluation area consists of wetlands associated with Limit Brook which is a perennial tributary to the Merrimack River. The stream enters the site from the east, first flowing through a complex of relatively natural emergent and scrub shrub wetlands bordered by areas of golf course turf. These wetlands are areas dominated by cattail, numerous sedges, rushes, silky dogwood, and arrow-wood. These wetlands are classified as PEM1E/PSS1E. The stream then flows into two interconnected ponds that were excavated during construction of the golf course as water features. Their water level is

maintained by a small dam located adjacent to Steele Road. These ponds are too small and shallow to be classified as lacustrine features, so they are classified under the Palustrine system as areas of Unconsolidated Bottom, in this case also excavated and impounded (PUBHxh). The ponds have fringe of scrub-shrub and emergent saturated wetlands (PEM2/PSS1E) but are otherwise surrounded by golf-course. Dominant species in the fringe wetland areas include speckled alder, purple loosestrife, reed canary grass, and numerous other meadow species such as goldenrods and asters.

The primary functions of the wetlands in Evaluation Area 5 are *Wildlife Habitat, Nutrient Attenuation, and Flood Flow Alteration.* The variety of wetland types present in this wetland complex, in association with a perennial stream and ponds, support a number of wildlife habitat functions. These range from the presence of numerous soft-mast producing species in the scrub-shrub stratum which provides foraging habitat for numerous songbirds and small mammals, to the ponds, typically suitable for warm water fish species, amphibians, and turtles. Though several barriers exist to free travel along the Limit Brook corridor it likely does provide access between the habitats on this site and a large utility right-of-way located to the south which extends to the Merrimack River.

Because of its association with a golf course turf and a perennial stream, Nutrient Attenuation is another important function of this area. Excess nutrients in runoff are taken up and held as vegetation rather than entering areas of open water. Additionally, the broad nature of the areas on either side of the stream provides floodwater storage during major rain events and during spring snowmelt. This wetland complex also has several secondary functions including Shoreline Stabilization and Production Export.

Despite the variable habitat and other aspects of the wetland that make it suitable for the functions described above, its Ecological Integrity is quite low with a score of 3.2. This is due to the extensive modification of surface hydrology and its surroundings which are comprised almost entirely of active golf course.

Evaluation Area 6

This area is the continued flow path of Limit Brook extending from the south side of Steele Road to the southeastern property boundary. It has been evaluated separately since these wetlands also lie within the 100-year floodplain of Limit Brook and therefore qualify as a Priority Resource Area. It consists of a shallow pond, an area of ditched wet meadow, and a more natural emergent and scrub-scrub shrub wetland extending to the southern property line. The excavated pond is similar to those in Area 5 but appears shallower and more likely to have vegetation in the water. It has therefore been classified as an area of Palustrine Aquatic Bed wetland (PABHxh). A narrow, ditched channel extends from a pipe at the downstream end of the pond through maintained turf. Dominant species in the fringe wetland around the pond and this ditched wet meadow are consistent with Area 5 although shrubs are largely absent, so they have been classified as saturated emergent (PEM2B). The final portion of wetland in the evaluation area is a largely natural emergent and scrub-scrub shrub wetland through which Limit Brook flows unimpeded off site to the south. This wetland is similar to the wetland in Area 4 where Limit Brook enters the site. It has numerous sedges, rushes, ferns, silky dogwood, and arrow-wood. This wetland is classified as PEM1E/PSS1E.

The primary functions of the wetlands in Evaluation Area 6 are, *Flood Flow Alteration*, *Nutrient Attenuation*, and *Wildlife Habitat*. This area lies within the mapped 100-year floodplain associated with Limit Brook, so the pond and wetland areas are clearly important flood storage areas. The pond, with its constricted outlet and narrow, densely vegetated swale, act as an effective water quality treatment feature. Together they can intercept and treat runoff from the expanse of managed turf surrounding them prior to releasing it to more natural wetlands downstream. These more natural areas hold the greater wildlife value, with numerous food sources, cover, and connectivity to off-site habitat areas. This wetland complex also supports Shoreline Stabilization and Production Export.

As with Area 5, the Ecological Integrity of this wetland is substantially impacted by the adjacent golf course and modified surface hydrology despite characteristics which clearly support several important wetland functions. The Ecological Integrity score of this wetland is 3.2.

Evaluation Area 7

This Evaluation Area consists of the 4 isolated excavated ponds located throughout the course. Like the ponds discussed in Areas 5 and 6, these ponds were excavated during construction of the golf course to create water features. Unlike the ponds along the course of Limit Brook however, these ponds are hydrologically isolated features. Only a very narrow fringe of emergent wetland exists around their nearly circular perimeters, which is subject to regular mowing. Species in this fringe wetland include purple loosestrife, reed canary grass, soft rush, and common meadow species such as asters and goldenrods. The ponds have been classified as permanently flooded unconsolidated bottom wetlands created by excavation (PUBHx).

The function and value of these ponds is limited by their small size, isolated hydrology, and setting surrounded by managed golf course turf. Their primary function is *Groundwater Recharge/Discharge*. A secondary function is very limited Wildlife Habitat for species such as eastern painted turtles, green frogs, mallards, and Canada geese which have been observed utilizing the ponds and their margins.

The isolated ponds received a low Ecological Integrity score of just 3.1. This is primarily due to their construction as golf course water features which by design are surrounded by an active golf course and subject to related regular maintenance.

Evaluation Area 8

This is a small, isolated depression located at the edge of a fairway in the southwest corner of the project site. This area may have been created or adapted to function as a detention pond as there are several pipes entering the area. Soil is sandy and it does not appear to hold water for significant periods of time but also does not have an obvious outlet. Vegetation, while sparse, includes sensitive fern, purple loosestrife, and various weedy species. This area may be classified as an intermittently flooded, excavated, wet meadow (PEM2Jx)

The primary functions of this wetland are *Groundwater Recharge* and *Sediment/Toxicant Retention*. Both these functions are derived from the fact that the area receives runoff from the surrounding golf course and it infiltrates it through a sandy substrate. This provides groundwater recharge and prevents sediment and from entering the Merrimack River which lies close by.

Though not a pond, this small wetland feature is a similarly constructed, though possibly specifically for the management of runoff. This area was included in the evaluation of the isolated ponds and received an Ecological Integrity score of 3.1 for the same reasons.

4.0 Rare, Threatened, & Endangered Species

A updated review request was submitted to New Hampshire Natural Heritage Bureau (NHB) for the presence of known species of concern on or near the site. The updated review lists one invertebrate species, one vertebrate species and two plant species. Respectively, these are Persius Dusky Wing (*Erynnis persius persius*), Eastern Box Turtle (*Terrapene carolina*), River Birch (Betula nigra), and Arrow-Head Rattlebox (*Crotalaria sagittalis*). Other than the omission of Wild Lupine (*Lupinus perennis ssp. Perennis*), which is associated with Persius Dusky Wing, these are the same species identified during review of the Approved Project. The NHB Data Check Report can be found in Appendix D.

During the initial review, surveys for Arrow-Head Rattlebox, and River Brich were conducted as requested by NHB. Arrow-Head Rattlebox was not observed during the surveys, which also concluded that there was no suitable habitat for this species within the impact area. NHB concurred with these results. A single occurrence of River Brich was identified on the banks of the Merrimack River and appropriately reported to NHB. Since the occurrence is located outside of any proposed impacts and within a proposed preservation area, NHB previously expressed no further concerns for this species. The updated review report indicates that unless plans change with respect to the protection of the River Brich, there is no need for further coordination on rare plant species.

During the review for the Approved Project a survey was also conducted for Wild Lupin, essentially as a proxy for the potential presence of Persius Dusky Wing, which has an obligated host relationship with the plant. No Wild Lupin was identified during that

survey and neither NHB nor NH Fish & Game (NHFG) expressed any further concerns about these two species. Following additional coordination with NHFG regarding Eastern Box Turtle and wildlife habitat more generally, NHFG indicated that they had no further comments on the previously Approved Project. The Amended Project includes all the same elements that contributed to this determination, including extensive preservation and restoration of existing golf course area, use of oversized crossing structures, and wildlife friendly stormwater management. More detail information of wildlife habitat can be found in the Wildlife Report.

5.0 Relation to the Proposed Project

This report is being submitted in connection with a revised proposal for the Hudson Logistics Center project which involves the redevelopment of the of the roughly 375-acre Green Meadow Golf Club property into a warehouse and distribution facility. The Approved Project consisted of three buildings, two new access driveways extending to the site from Lowell Road, and related site improvements. The Approved Project involved impacts within the Hudson Wetland Conservation Overlay District (the "District") totaling 233,869 SF (55,525 SF wetland and 178,344 SF Buffer) which were approved by way of a Conditional Use Permit from the Planning Board on April 21, 2021.

The Amended Project utilizes the same access roads but includes only a single building and requires 13% less impact within the District or 203,061 SF (50,332 wetland 152,729 buffer) at 13 discrete impact areas as shown on the Wetland Impact Plan.³ Over 95% of the total proposed impact within the District (Impact Areas A through H & 1, 2) is related to the two access driveways, one located centrally at the existing driveway for #267 Lowell Road (Green Meadow Drive), and a second located in the northwest corner of the property (Northern Access Road) (the "Access Impacts". Three additional impacts totaling 9,099 SF (Impact Areas 3, 4, 5) are necessary in the development area to install outfalls for stormwater management and are, as detailed below, primarily temporary in nature, do not include impervious surface, and will be restored (the "Lot Development Impacts").

The sections below provide a summary of the proposed impacts as they relate to the principles of avoidance and minimization and compliance with the Conditional Use Permit criteria contained within §334-36(C) and §334-37 of the Town's Wetland Ordinance.

³ Hudson Logistics Center, Wetland Impact Plan by Langan Engineering & Environmental Services. September 9, 2022

5.1 Section 334-36(C)(2)—Access Impacts

Section 334-36(C)(2) of the Wetland Ordinance permits the issuance of a Conditional Use Permit to construct streets, roads, and other access ways, including driveways, footpaths, bridges, and utilities if they are essential to the productive use of the land beyond the District, are located and constructed in such a way as to minimize the potential for detrimental impact to the District, and there are no viable alternatives available.

5.1.1 The Access Impacts are essential to the productive use of the land beyond the District & there are no viable alternatives.

Access to the Site is limited by the existence of the Merrimack River to the west, elevated highway infrastructure to the north, and by residential development to the south. The only possible access to the property is from Lowell Road east of the Site. However, wetlands extend along the entire eastern portion of the property, including along the only existing access at Steele Road which crosses Limit Brook three times. Steele Road would require significant improvements to serve as an access for the Amended Project (or likely any comparable development of the property) necessitating impacts to Limit Brook and its associated high value wetland. There are therefore no alternative options for access which do not incur impacts to wetlands.

More than one access is required for the Amended Project to efficiently and safely mange traffic and provide for adequate emergency access. Considering the Site contains more than 200 acres of contiguous upland which is well suited for development, this requirement is not unique to the Amended Project. Utilizing Steele Road as an access is not feasible due to the nature of impacts to high value wetlands and other concerns related to its route through a residential neighborhood and suitability of the intersection with Lowell Road.

The proposed Access Impacts associated with the two proposed access driveways are, therefore, the only viable option for accessing the Site and are therefore essential to the productive use of land on the site that lies beyond the District. The two driveways have been designed to minimize impacts to wetlands and wetland functions and values to the greatest extent possible, as described in the following sections.

5.1.2 The Access Impacts are located and constructed in such a way as to minimize the potential for detrimental impact to the District

Access has been located to avoid impacts to high value resource areas such as would be required to Limit Brook and its associated wetlands if Steele Road was used. The Northern Access Road and Green Meadow Drive have been designed to avoid and minimize impacts within the District to the maximum extent practicable.

First, both roads have been aligned to cross wetlands at their narrowest points. Green Meadow Drive utilizes a short portion of the existing driveway for #267 Lowell Road (Mercury Systems) over an existing easement to limit interference with the private driveway and parking areas for Mercury Systems. Green Meadow Drive then follows the existing developed Mercury Systems site as closely as possible while maintaining road width and configuration for safe line-of-site and turning radius. Impacts in this location are thereby minimized by locating impacts at the wetland edge along existing development, which avoids potentially greater impact to wetland function and values through segmentation. Steeper grading has also been incorporated along this section of the roadway to limit the extent of impact necessary for the road. Green Meadow Drive then utilizes uplands and is aligned to cross the narrowest point of the main wetland (Impact Area F), thus avoiding a much more substantial impact that would be incurred by crossing the main wetland just to the north.

At Impact Area F, a 27.75-foot wide by 4.3-foot high open bottom structure will be used. As discussed in greater detail in Lucas Environmental's Wildlife Habitat Evaluation, this structure meets openness guidelines for wildlife passage through stream crossings, even though they do not technically apply at this wetland crossing. This approach will facilitate maximum wildlife movement between wetlands to the north and the ponds associated with Limit Brook to the south. The use of wing walls at either end of the structure has also allowed the width of the crossing, and therefore impacts, to be further reduced. Additionally, sloped curbing will be used along appropriate stretches of Green Meadow Drive to facilitate wildlife crossing (particularly for turtle species) and prevent entrapment within vertical curbing should they happen to encounter the road rather than the crossing structure.

The Northern Access Road utilizes an existing easement along Sam's Club driveway (Walmart Boulevard) to gain access to the Property at the northeast comer. The road utilizes uplands and a straight alignment to the narrowest portion of the wetland where a single crossing is proposed (Impact Area 1). This crossing will utilize 11-foot high retaining walls for the length of the proposed impact to avoid additional impacts due to slope grading. Like the crossing on Green Meadow Drive, a very large 12-foot wide by 7.5-foot high open bottom structure is also proposed which meets stream crossing guidelines for openness and channel span. The crossing will therefore minimize any impacts to wildlife by providing for both terrestrial and aquatic wildlife passage and maximize connectivity within the stream corridor.

The proposed access and associated impacts are essential to the use of the land beyond the District and have been located and designed to minimize direct impact and other potential detrimental impacts within the District. The Amended Project therefore meets the specific conditional use permit criteria of Section 334-36(C)(2) of the Zoning Ordinance applying to the Access Impacts.

5.2 Section 334-36(C)(4)—Lot Development Impacts

Section 334-36(C)(4) of the Wetland Ordinance permits lot development impacts as conditional uses where the applicant can demonstrate that: a) the use will not significantly interfere with wetland functions and values, water quality, or wildlife habitat pursuant to the statement of purpose of the Zoning Ordinance, or, b) in the alternative, the use will impact wetlands functions and values; but, in the opinion of the Planning Board, such uses are not contrary to the public interest and will result in significant public benefit provided:

- Compensatory mitigation is provided such that those District functions and values to be impacted will be off set in whole, and
- The Applicant has demonstrated avoidance and minimization to the fullest extent practical

5.2.1 The proposed Lot Development Impacts will not significantly interfere with the wetland functions and values, water quality, or wildlife habitat of the wetlands involved

All proposed Lot Development Impacts for the Amended Project (Impact Areas 3, 4, & 5) consist of grading necessary to install 3 outfall pipes from stormwater treatments features. These impacts do not involve impervious surface and are temporary in nature except for approximately 200 square feet of rip rap that is required for stabilization of the discharge point at each location. Following construction, these areas will be seeded using appropriate native seed mix and be allowed to naturalize. Additionally, the proposed buffer associated with Impact Areas 4 and 5 is currently managed golf course turf. The buffer function in these areas will be enhanced by providing a naturally vegetated buffer where one currently does not exist. Considering the relatively small size of theses impact areas and the proposed restoration, the proposed Lot Development Impacts will not significantly interfere with the wetland functions and values of the wetlands involved.

The Lot Development Impacts will not interfere with water quality either. The proposed stormwater management system will capture and treat all runoff from the development and will be the primary protection against water quality degradation. The three Lot Development Impacts are all essentially temporary as they are associated with grading, involve no impervious surface, and will be naturally revegetated following construction. Approximately 39% of this impact will occur within Buffer areas that are currently maintained golf course turf. The post construction function of these Buffer areas will be enhanced by restoring them and allowing them to naturalize. Together with the restoration and naturalization of wetland Buffer outside of the proposed impact areas, water quality functions supported by the Buffer and wetlands will be greatly enhanced overall.

Finally, the Lot Development Impacts will not significantly interfere with wildlife, or wildlife habitat, primarily due to the existing condition of the buffer areas involved which are largely maintained golf course turf. The existing golf course does not support meaningful wildlife habitat and can only be improved by the naturalization of these areas following construction. A more detailed assessment of wildlife habitat in relation to the proposed project can be found in the Wildlife Report.

5.2.2 In the alternative, should the Conservation Commission or Planning Board determine that the Lot Development Impacts will significantly impact wetlands functions and values; but, in the opinion of the Planning Board, such uses are not contrary to the public interest and will result in significant public benefit provided: Compensatory mitigation is provided ...and...The Applicant has fully demonstrated avoidance and minimization to the extent it is practical.

As described above, the proposed Lot Development Impacts will not have a significant impact on wetland functions and values and will likely enhance function in these areas. Alternatively, the impacts also meet the criteria Section 334-36(C)(4) of the Wetland Ordinance because they have been minimized to the maximum extent practicable and will result in public benefit in the form of significant compensatory mitigation.

Avoidance and minimization of impacts for Lot Development is evident when considering the scope of the overall development and the fact that 1) lot development constitute less than 5% of all proposed impacts, 2) no structures or impervious surfaces are proposed within the District, 3) the impacts are for grading and largely temporary in nature, and 4) the impacts are required to install stormwater management outfalls at specific elevations in the buffer and therefore cannot be avoided.

Mitigation consists of formal preservation, via conservation easement offered to the Town of Hudson, covering approximately 120 acres of land, nearly a third of the Property. Included in this area is the entire 250-foot Protected Shoreland along the Merrimack River as well as the majority of the land east of the development, including Limit Brook, its associated wetlands, and upland buffers. Extensive restoration of existing golf course in this conservation area will also be undertaken to restore wetland buffer and other sensitive ecological areas, many of which have been devoid of a natural buffer for upwards of 90 years. This will not only serve to advance inherent wetland function such as water quality and wildlife habitat but will also advance public benefits derived from a given wetland or ecosystem such as open space, aesthetics, and recreation. This will be particularly meaningful along the lower Merrimack River which has limited intact riparian area.

Additionally, the Amended Project will incorporate approximately 50 acres of additional natural buffer area between the proposed primary warehouse building and the southern property line.

The proposed preservation area alone is more than 500 times the proposed Lot Development Impacts and 30 times the preservation that would be required under the US Army Corps of Engineers Compensatory Mitigation Guidance at the relevant 20:1

The project therefore meets the specific conditional use permit criteria of Section 334-36(C)(4) of the Zoning Ordinance applying to the Lot Development Impacts.

5.3 Section 334-37(A)—General Conditional Use Permit Criteria

Section 334-37(A) of the Ordinance specifies the general criteria for conditional use permits applying to all impacts within the District. The relevant criteria are summarized below within the context of the proposed work.

5.3.1 §334-37(A)(1): The proposed activity minimizes degradation of land situated within the District and offsets potential adverse impacts to functions and values of wetlands, surface waters, and vernal pools.

The Amended Project has been carefully designed to limit the extent of wetland impacts and the effect the proposed impacts have on wetland functions and values. Through close coordination with the Conservation Commission during review of the Approved Project, impacts were reduced by over 20%. The Amended Project reduces impacts within the District by an additional 30,808 square feet or by an additional 13%.

The Amended Project completely avoids impacts to the most valuable wetlands with the greatest function and value and minimizes the footprint and potential adverse effects of the unavoidable impacts. As discussed above, the Access Roadways have been located to utilize uplands where possible and cross wetland areas at the narrowest points or at their edges to minimize impacts. The access roadways also incorporate structural measures such as retaining walls, steep grading, large open bottom crossing structures, and sloped curbing, to further reduce impacts and potential adverse effects on wildlife.

The vernal pool located in the forested wetland just east of the golf course will not be impacted. All project related disturbance in proximity to the vernal pool is located outside the District within the adjacent golf course which does not support habitat for vernal pool species. The manmade pond and surrounding maintained area immediately north of the pool will be returned to a natural condition through restoration landscaping which will improve habitat surrounding the pool.

Similar restoration of buffer areas currently consisting of golf course turf along Limit Brook, other wetlands in the eastern part of the site, and along the Merrimack River will serve to enhance wetland functions such as Wildlife Habitat, Water Quality Renovation, Flood Attenuation, and Aesthetics. The project also avoids any impact to the four manmade ponds on the golf course. Although these four ponds are not part of the District, avoiding impacts to these areas will allow them to naturalize, further offsetting potential adverse effects on wetland function and values

The Amended Project minimizes degradation of land within the District and preserved wetland function to the greatest extent possible and therefore satisfies Section 334-37(A)(l) of the Zoning Ordinance.

5.3.2 §334-37(A)(2): The proposed activity will have no significant negative environmental impact to abutting or downstream properties and/or hydrologically connected water and/or wetland resources.

The Amended Project avoids potential downstream impacts first by avoiding impacts to areas with the most potential for offsite effects. There are no impacts to Limit Brook, its associated wetland, or its 100-year Floodplain. The same is true of the Merrimack River, its associated floodplain, and its entire 250-foot protected shoreland. The functions and values most relevant to off-site effects that are supported in these areas, such as Flood Attenuation, Water Quality, and Aesthetics, will be preserved and advanced by the Amended Project through preservation and naturalization of these areas as described in previous sections.

The unavoidable impacts caused by Green Meadow Drive and the Northern Access Road that are necessary for access have been minimized to the greatest extent possible and designed to maintain and facilitate wildlife and hydrological connectivity. These improvements will have no potential for downstream impacts or effect on hydrological connectivity.

The modest remaining impacts for Lot Development (9,099 SF) are incurred by grading activity where no impervious surface is proposed. These impacts will also be restored following construction. The buffer impacts at Impact Areas 4 and 5, which constitute nearly 40% of these impacts (3,602 SF) occur within wetland buffer that is currently maintained golf course turf. Buffer function in these areas will be enhanced following restoration and naturalization of these areas. Considering the proposed extensive restoration of wetland buffer within the easement areas and elsewhere along the eastern side of the development, the project will result in a net improvement in buffer functions that serve to protect downstream water quality and off-site screening.

The Amended Project will also comply with the Town's recently revised Stormwater Management Regulations, and State of New Hampshire Alteration of Terrain Regulations. These two sets of regulations will ensure that the stormwater management system provides fully modern protections for water quality, rate of runoff, and infiltration. Stormwater management has also been designed to maintain the existing drainage patterns on the site to the maximum extent possible. Considering the avoidance and minimization of impacts, the proposed restoration and preservation of wetlands and riparian buffer, and the comprehensive stormwater management, the Project has been designed to have no negative environmental impact to abutting or downstream properties and/or hydrologically connected and/or wetland resources. The project therefore satisfies Section 334-37(A)(2) of the Zoning Ordinance.

5.3.3 §334-37(A)(3): The proposed activity or use cannot practicably be located otherwise on the site to eliminate or reduce impact to the Wetland Conservation Overlay District.

As described in detail within Section 5.1, there are no viable alternatives to the access roadways which have been designed to avoid and minimize impacts within the District to the maximum extent practicable. The remaining impacts within the District are associated with three areas of grading necessary to install outfalls for stormwater detention and treatment features (Impact Areas 3, 4, & 5). With the exception of a roughly 200 SF rip-rap splash pad located at the end of each pipe, these impacts are temporary and will be revegetated following construction. No impervious surface is proposed at these three impact areas.

These impacts are necessary because the three outfall pipes must be installed at specific elevations to function properly, specifically the lower elevations that lie in close proximity to the wetlands. The location and scope of these three impact areas is therefore dictated by existing grades and cannot be moved out of the District.

For these reasons there is no practicable alternative location for these impacts involving less impact within the District and the project therefore satisfies Section 334-37(A)(3) of the Zoning Ordinance.

5.3.4 §334-37(A)(4): The proposed activity incorporates the use of those Best Management Practices recommended by the New Hampshire Department of Environmental Services and/or other State agencies having jurisdiction.

The Amended Project was designed with the adjacent resources in mind with guidance from the Best Management Practice Techniques for Avoidance and Minimization manual prepared by USEPA, and NHDES. The project also includes comprehensive stormwater management for treatment and attenuation of runoff that has been designed in accordance with NH Alteration of Terrain program. A comprehensive construction phasing, erosion, and sedimentation control plan has been developed for the construction phase of the project to ensure maximum protection of the adjacent resource areas during construction. BMP's employed meet or exceed those specified in New Hampshire Stormwater Manual Volume 3: Erosion and Sediment Controls during Construction. As the proposed project incorporates the use of those BMPs recommended by the State, as referenced above, a reasonable conclusion is that Hillwood's proposal satisfies 334-37(A)(4) of the Zoning Ordinance.

6.0 Conclusion

The extensive resource areas associated with the property were identified, characterized, and assessed prior to advancing the design of the Amended Hudson Logistic Center Project. The Merrimack River occupies the entire western edge of the property and represents the predominant resource area associated with the site. Vegetated wetland is otherwise concentrated east of the developed golf courses and along Limit Brook. The remainder of property is largely free of wetland except for 4 manmade ponds.

The relative sensitivity and function of these resources was used to inform the design of the project which avoids impacts to the most valuable resources on the property and minimizes the extent and effect of unavoidable impacts. As detailed in section 5.0, this has been accomplished through general project layout and the inclusion of both structural measures and a mitigation proposal involving extensive restoration and preservation of degraded wetland buffer and riparian area. The project therefore limits degradation to the Hudson Wetlands Conservation Overlay District to the maximum extent practicable and includes measures which specifically address the criteria for a Conditional Use Permit under Condition Use Criteria and specifically complies with the criteria for Conditional Uses related to Access and Other Uses under Article IX of the Town of Hudson's Zoning Ordinance.

Figures









Appendix A

Wetland Photos



Impact Area 1



Impact Area 2



Impact Area 3



Impact Area 4 (buffer portion)



Impact Area 4 (wetland portion)



Impact Area 5



Impact Area A



Impact Area B



Impact Area C



Impact Area D



Impact Area E



Impact Area F



Impact Area F



Impact Area G


Impact Area H

Appendix B

Functional Assessment Worksheets





RSA/Rule: RSA 482-A / Env-Wt 311.03(b)(10); Env-Wt 311.10

APPLICANT LAST NAME, FIRST NAME, M.I.: Hillwood Enterprises, L.P.

As required by Env-Wt 311.03(b)(10), an application for a standard permit for minor and major projects must include a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10. This worksheet will help you compile data for the functional assessment needed to meet federal (US Army Corps of Engineers (USACE); if applicable) and NHDES requirements. Additional requirements are needed for projects in tidal area; please refer to the Coastal Area Worksheet for more information.

SECTION 1 - LOCATION (USACE HIGH	NAY METHODOLOGY)				
ADJACENT LAND USE: golf course					
CONTIGUOUS UNDEVELOPED BUFFER ZO	NE PRESENT? 🗌 Yes 🔀 No				
DISTANCE TO NEAREST ROADWAY OR OT	HER DEVELOPMENT (in feet): 50				
SECTION 2 - DELINEATION (USACE HI	GHWAY METHODOLOGY; Env-Wt 311.10)				
CERTIFIED WETLAND SCIENTIST (if in a non-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who prepared this assessment: Brendan Quigley, NHCWS #249					
DATE(S) OF SITE VISIT(S): 3/26/20 to 4/6/20	DELINEATION PER ENV-WT 406 COMPLETED? Xes No				
CONFIRM THAT THE EVALUATION IS BASI	ED ON:				
Office and					
Field examination.					
METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in field if "other"):					
🔀 USACE Highway Methodology.					
Other scientifically supported method	l (enter name/ title):				

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE (Reference #)	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	🛛 Yes 🔲 No		🔀 Yes 🔲 No	Major River
2	🛛 Yes 🗌 No	1,3,5,11	☐ Yes ⊠ No	
3	🛛 Yes 🗌 No	3,4,5	🔀 Yes 🔲 No	
4	Yes	8	🗌 Yes 🔀 No	This function is supported by wetlands associated with waterways, not necessarily the major river itself but storage is present due to high banks
5	🛛 Yes 🗌 No	4,7,17	🛛 Yes 🗌 No	Major River
6	🛛 Yes 🔲 No	1	☐ Yes ⊠ No	known ES associations, Nashua Prime Wetland
7	🛛 Yes 🔲 No	8,9	☐ Yes ⊠ No	applies to forested bank of river
8	🛛 Yes 🔲 No	1,2,3,4,5,6,10,11	🔀 Yes 🔲 No	major river, production and export is high
9	🛛 Yes 🔲 No	2,8,12	🔀 Yes 🗌 No	major river with many accessable viewing locations, important part of the landscape
10	🛛 Yes 🗌 No	1,2,10,16	☐ Yes ⊠ No	applies to vegetated bank of river only
11	Yes	1,3,6,8,12,14	🔀 Yes 🔲 No	Forested bank of the river is extremely important in maintaining channel stability
12	Yes	1,2,11,19,20,26,30	🛛 Yes 🗌 No	Major NH river with extensive historical, societal, and natural heritage associations
13	Yes	2,4,5,7,9,12	Yes	numerous boating, fishing, and viewing opportunities

14	

🛛 Yes

No

6,7,8,21

🛛 Yes 🗌 No habitat at this location is Riverine, river corridor provides connection to numerous other habitats

SECTION 5 - VERNAL POOL SUMMARY (Env-Wt 311.10)

Delineations of vernal pools shall be based on the characteristics listed in the definition of "vernal pool" in Env-Wt 104.44. To assist in the delineation, individuals may use either of the following references:

- Identifying and Documenting Vernal Pools in New Hampshire 3rd Ed., 2016, published by NHF&G; or
- The USACE *Vernal Pool Assessment* draft guidance dated 9-10-2013 and form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

All vernal pool ID numbers are to be displayed and located on the wetland delineation of the subject property.

"Important Notes" are to include documented reproductive and wildlife values, landscape context, and relationship to other vernal pools/wetlands.

Note: For projects seeking federal approval from the USACE, please attach a completed copy of The USACE "Vernal Pool Assessment" form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

VERNAL POOL ID NUMBER	DATE(S) OBSERVED	PRIMARY INDICATORS PRESENT (LIST)	SECONDARY INDICATORS PRESENT (LIST)	LENGTH OF HYDROPERIOD	IMPORTANT NOTES
1					
2					
3					
4					
5					
6					
7					

8	-							
SECTION 6 - S	TREAM RESO	URCES SUMN	IARY					
DESCRIPTION C	DESCRIPTION OF STREAM: Merrimack River STREAM TYPE (ROSGEN): F							
HAVE FISHERIES BEEN DOCUMENTED? DOES THE STRE Yes No						EM APPEAR STABLE?		
OTHER KEY ON	-SITE FUNCTIO	NS OF NOTE: se	ee Functions an	d Val	lues in section 4			
The following ta the evaluator u number are de	able can be used used to determining fined in Sectior	d to compile dat ine principal fu ו 4.	a on stream resonction and valu	ource e of e	es. "Important Notes' each stream. The fun	' are to include characteristics ctions and values reference		
FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RAT	ΓIONALE		PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES		
1	Yes				Yes No			
2	Yes				Yes No			
3	Yes				Yes No			
4	Yes				Yes No			
5	Yes				Yes No			
6	Yes				Yes No			
7	Yes				Yes No			
8	Yes				Yes No			
9	Yes No				Yes No			
10	Yes				Yes No			
11	Yes				Yes No			
12	Yes	I			Yes No			

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13	Yes		Yes No		
14	Yes		Yes No		
SECTION 7 - ATTACHMENTS (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)					
Wildlife and vegetation diversity/abundance list.					
Photograph of wetland attached.					
Wetland delineation plans showing wetlands, vernal pools, and streams in relation to the impact area and surrounding landscape. Wetland IDs, vernal pool IDs, and stream IDs must be indicated on the plans.					
For projects in tidal areas only: additional information required by Env-Wt 603.03/603.04 (please refer to the Coastal Area Worksheet for more information)					





RSA/Rule: RSA 482-A / Env-Wt 311.03(b)(10); Env-Wt 311.10

APPLICANT LAST NAME, FIRST NAME, M.I.: Hillwood Enterprises, L.P.

As required by Env-Wt 311.03(b)(10), an application for a standard permit for minor and major projects must include a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10. This worksheet will help you compile data for the functional assessment needed to meet federal (US Army Corps of Engineers (USACE); if applicable) and NHDES requirements. Additional requirements are needed for projects in tidal area; please refer to the Coastal Area Worksheet for more information.

SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)				
ADJACENT LAND USE: golf course, comerc	ial development			
CONTIGUOUS UNDEVELOPED BUFFER ZO	NE PRESENT? 🗌 Yes 🔀 No			
DISTANCE TO NEAREST ROADWAY OR OT	HER DEVELOPMENT (in feet): 50			
SECTION 2 - DELINEATION (USACE HI	GHWAY METHODOLOGY; Env-Wt 311.10)			
CERTIFIED WETLAND SCIENTIST (if in a non-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who prepared this assessment: Brendan Quigley, NHCWS #249				
DATE(S) OF SITE VISIT(S): 3/26/20 to 4/6/20	DELINEATION PER ENV-WT 406 COMPLETED? Xes No			
CONFIRM THAT THE EVALUATION IS BASE	ED ON:			
Office and				
Field examination.				
METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in field if "other"):				
🔀 USACE Highway Methodology.				
Other scientifically supported method	(enter name/ title):			

SECTION 3 - WETLAND RESOURCE SUMMARY (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)					
WETLAND ID: EA2	LOCATION: (LAT/ LONG) 42.724385/71.426943				
WETLAND AREA: ~16 ac.	DOMINANT WETLAND SYSTEMS PRESENT: Forested				
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND?	COWARDIN CLASS: PFO1B				
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM?	IS THE WETLAND PART OF:				
if not, where does the wetland lie in the drainage basin? low	IS THE WETLAND HUMAN-MADE?				
IS THE WETLAND IN A 100-YEAR FLOODPLAIN?	ARE VERNAL POOLS PRESENT? Yes No (If yes, complete the Vernal Pool Table)				
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? 🔀 Yes 🔲 No	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? Yes No				
PROPOSED WETLAND IMPACT TYPE: Impact Area 1 Fill/Stream Crossing	PROPOSED WETLAND IMPACT AREA: 9,125 SF/249 LF				
SECTION 4 - WETLANDS FUNCTIONS AND VALUES* (US	SACE HIGHWAY METHODOLOGY; Env-Wt 311.10)				
The following table can be used to compile data on wetlands in the "Functions/ Values" column refer to the following fun	s functions and values. The reference numbers indicated ctions and values:				
 Educational Potential (from USACE Highway Methodology: Educational/Scientific Value) Fish & Aquatic Life Habitat (from USACE Highway Methodology: Fish & Shellfish Habitat) Flood Storage (from USACE Highway Methodology: Floodflow Alteration) Groundwater Recharge (from USACE Highway Methodology: Groundwater Recharge/Discharge) Noteworthiness (from USACE Highway Methodology: Threatened or Endangered Species Habitat) Nutrient Trapping /Retention & Trapsformation (from USACE Highway Methodology: Nutrient removal) 					
 Production Export (Nutrient) (from USACE Highway N Scenic Quality (from USACE Highway Methodology: V Codiment Transition (from USACE Highway Methodology) 	 Production Export (Nutrient) (from USACE Highway Methodology) Scenic Quality (from USACE Highway Methodology: Visual Quality/Aesthetics) 				
 Sediment Trapping (from USACE Highway Methodology: Sediment / Toxicant Retention) Shoreline Anchoring (from USACE Highway Methodology: Sediment/Shoreline Stabilization) Uniqueness/Heritage (from USACE Highway Methodology) 					
 Wetland-based Recreation (from USACE Highway Me Wetland-dependent Wildlife Habitat (from USACE Highway Me 	thodology: Recreation) ghway Methodology: Wildlife Habitat)				
First, determine if a wetland is suitable for particular function and value ("Suitability" column) and indicate the rationale behind your determination ("Rationale" column). Please use the rationale reference numbers listed in Appendix A of USACE <i>The Highway Methodology Workbook Supplement</i> . Second, indicate which functions and values are principal (Principal Function/value?" column). As described in <i>The Highway Methodology Workbook Supplement</i> .					

"functions and values can be principal if they are an important physical component of a wetland ecosystem (function

only) and/or are considered of special value to society, from a local, regional, and/or national perspective".

NHDES-W-06-049

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE (Reference #)	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	☐ Yes ⊠ No		Yes No	extensive alteration, impacted by drainage, surounded by development
2	🗌 Yes 🔀 No		☐ Yes ⊠ No	disturbed wetland, no access
3	☐ Yes ⊠ No		Yes No	perennial status of sytream is questionable
4	Yes	4,5,6,7,8,9,11,13,15,18	🔀 Yes 🔲 No	constricted outlet and basin topo provide storage
5	Yes		Yes No	
6	☐ Yes ⊠ No		Yes No	no known ES, disturbed
7	Yes	3,4, 5, 6, 7, 8, 12,13	🛛 Yes 🔀 No	organic soils, retention, dense vegetation, comlpex flow path. -diminished by ditching and disturbance
8	Yes	1,2,8,12	☐ Yes ⊠ No	forested wetland with mast prodiucing trees and berry prodicing shrubs
9	🗌 Yes 🔀 No		Yes No	disturbed wetland with limited viewing oportunity
10	🛛 Yes 🗌 No	1,2,4,5,10,13,16	🛛 Yes 🗌 No	retention, dense vegetation, comlpex flow path. -diminished by ditching and disturbance
11	🛛 Yes 🔲 No	15	☐ Yes ⊠ No	dense vegetation stabuilizes stream durring minor flooding
12	☐ Yes ⊠ No		Yes No	disturbed wetland, common, no known heritage
13	☐ Yes ⊠ No		Yes No	

"Important Notes" are to include characteristics the evaluator used to determine the principal function and value of the wetland.

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14	🛛 Yes 🗌 No	10,11,19	Yes X No	some habitat provided by mix of canopy structire and food sources -limited by adjacnt development on all sids
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SECTION 5 - VERNAL POOL SUMMARY (Env-Wt 311.10)

Delineations of vernal pools shall be based on the characteristics listed in the definition of "vernal pool" in Env-Wt 104.44. To assist in the delineation, individuals may use either of the following references:

- Identifying and Documenting Vernal Pools in New Hampshire 3rd Ed., 2016, published by NHF&G; or
- The USACE *Vernal Pool Assessment* draft guidance dated 9-10-2013 and form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

All vernal pool ID numbers are to be displayed and located on the wetland delineation of the subject property.

"Important Notes" are to include documented reproductive and wildlife values, landscape context, and relationship to other vernal pools/wetlands.

Note: For projects seeking federal approval from the USACE, please attach a completed copy of The USACE "Vernal Pool Assessment" form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

VERNAL POOL ID NUMBER	DATE(S) OBSERVED	PRIMARY INDICATORS PRESENT (LIST)	SECONDARY INDICATORS PRESENT (LIST)	LENGTH OF HYDROPERIOD	IMPORTANT NOTES
1					
2					
3					
4					
5					
6					
7					

8						
SECTION 6 - S	TREAM RESO	URCES SUMN	IARY		·	
DESCRIPTION C	DF STREAM: Un	named Perreni	nial	STR	EAM TYPE (ROSGEN)	: E
HAVE FISHERIE	S BEEN DOCUN	IENTED?		DOES THE STREAM SYSTEM APPEAR STABLE?		
OTHER KEY ON	-SITE FUNCTIO	NS OF NOTE: st	tream asseed as	s part	of the wetland syste	em
The following ta the evaluator u number are de	able can be used used to determining fined in Sectior	d to compile dat ine principal fu ו 4.	a on stream resonction and valu	ource e of e	es. "Important Notes" each stream. The fun	' are to include characteristics ctions and values reference
FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RAT	TIONALE		PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	Yes				Yes No	
2	Yes				Yes No	
3	Yes				Yes No	
4	Yes				Yes No	
5	Yes				Yes No	
6	Ves No				Yes No	
7	Yes				Yes No	
8	Yes				Yes No	
9	Ves				Yes No	
10	Yes No				Yes No	
11	Yes No				Yes No	
12	Yes				Yes No	

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13	Yes		Yes No			
14	Yes		Yes No			
SECTION 7 - ATTACHMENTS (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)						
Wildlife and vegetation diversity/abundance list.						
Photograph of wetland attached.						
Wetland delineation plans showing wetlands, vernal pools, and streams in relation to the impact area and surrounding landscape. Wetland IDs, vernal pool IDs, and stream IDs must be indicated on the plans.						
For projects in tidal areas only: additional information required by Env-Wt 603.03/603.04 (please refer to the Coastal Area Worksheet for more information)						





RSA/Rule: RSA 482-A / Env-Wt 311.03(b)(10); Env-Wt 311.10

APPLICANT LAST NAME, FIRST NAME, M.I.: Hillwood Enterprises, L.P.

As required by Env-Wt 311.03(b)(10), an application for a standard permit for minor and major projects must include a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10. This worksheet will help you compile data for the functional assessment needed to meet federal (US Army Corps of Engineers (USACE); if applicable) and NHDES requirements. Additional requirements are needed for projects in tidal area; please refer to the Coastal Area Worksheet for more information.

SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)					
ADJACENT LAND USE: golf course					
CONTIGUOUS UNDEVELOPED BUFFER ZO	NE PRESENT? 🗌 Yes 🔀 No				
DISTANCE TO NEAREST ROADWAY OR OT	HER DEVELOPMENT (in feet): 0				
SECTION 2 - DELINEATION (USACE HI	GHWAY METHODOLOGY; Env-Wt 311.10)				
CERTIFIED WETLAND SCIENTIST (if in a nor prepared this assessment: Brendan Quigle	ו-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who ey, NHCWS #249				
DATE(S) OF SITE VISIT(S): 3/26/20 to 4/6/20	DELINEATION PER ENV-WT 406 COMPLETED? Xes No				
CONFIRM THAT THE EVALUATION IS BASI	ED ON:				
Office and					
Field examination.					
METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in field if "other"):					
🔀 USACE Highway Methodology.					
Other scientifically supported method	l (enter name/ title):				

SECTION 3 - WETLAND RESOURCE SUMMARY (USACE	HIGHWAY METHODOLOGY; Env-Wt 311.10)			
WETLAND ID: EA3	LOCATION: (LAT/ LONG) 42.720666/71.428526			
WETLAND AREA: ~7 ac.	DOMINANT WETLAND SYSTEMS PRESENT: Forested			
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND?	COWARDIN CLASS:			
none	PFO1Eb/PEM2Fx/PSS1B			
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM?	IS THE WETLAND PART OF:			
Yes 🛛 No	A wildlife corridor or A habitat island?			
if not, where does the wetland lie in the drainage basin?	IS THE WETLAND HUMAN-MADE?			
low	Yes No			
IS THE WETLAND IN A 100-YEAR FLOODPLAIN?	ARE VERNAL POOLS PRESENT?			
Yes 🔀 No	Yes 🔲 No (If yes, complete the Vernal Pool Table)			
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? Yes No	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? Yes No			
PROPOSED WETLAND IMPACT TYPE: Impact Area F Fill	PROPOSED WETLAND IMPACT AREA: 6,850 SF			
SECTION 4 - WETLANDS FUNCTIONS AND VALUES* (US	SACE HIGHWAY METHODOLOGY; Env-Wt 311.10)			
 The following table can be used to compile data on wetlands functions and values. The reference numbers indicated in the "Functions/ Values" column refer to the following functions and values: 1. Ecological Integrity (from RSA 482-A:2, XI) 2. Educational Potential (from USACE Highway Methodology: Educational/Scientific Value) 3. Fish & Aquatic Life Habitat (from USACE Highway Methodology: Fish & Shellfish Habitat) 4. Flood Storage (from USACE Highway Methodology: Floodflow Alteration) 5. Groundwater Recharge (from USACE Highway Methodology: Groundwater Recharge/Discharge) 6. Noteworthiness (from USACE Highway Methodology: Threatened or Endangered Species Habitat) 7. Nutrient Trapping/Retention & Transformation (from USACE Highway Methodology) 9. Scenic Quality (from USACE Highway Methodology: Visual Quality/Aesthetics) 10. Sediment Trapping (from USACE Highway Methodology: Sediment /Toxicant Retention) 11. Shoreline Anchoring (from USACE Highway Methodology: Sediment/Shoreline Stabilization) 12. Uniqueness/Heritage (from USACE Highway Methodology) 13. Wetland-based Recreation (from USACE Highway Methodology) 14. Wetland-dependent Wildlife Habitat (from USACE Highway Methodology: Recreation) 14. Wetland is suitable for particular function and value ("Suitability" column) and indicate the 				
rationale behind your determination ("Rationale" column). Please use the rationale reference numbers listed in Appendix A of USACE <i>The Highway Methodology Workbook Supplement</i> . Second, indicate which functions and values are principal (Principal Function/value?" column). As described in <i>The Highway Methodology Workbook Supplement</i> , "functions and values can be principal if they are an important physical component of a wetland ecosystem (function only) and/or are considered of special value to society, from a local, regional, and/or national perspective". "Important Notes" are to include characteristics the evaluator used to determine the principal function and value of the wetland.				

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE (Reference #)	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	☐ Yes ⊠ No		Yes No	extensive alteration, impacted by proximity of golf course
2	☐ Yes ⊠ No		☐ Yes ⊠ No	disturbed wetland
3	☐ Yes ⊠ No		Yes No	permanace of flooding in excavated section is questionble
4	🛛 Yes 🔲 No	4,5,6,7,8,9,11,13,15,18	🛛 Yes 🗌 No	constricted outlet and basin topo provide storage
5	🛛 Yes 🔲 No	10,13	☐ Yes ⊠ No	no apparent inlet, signs of discharge at north end
6	☐ Yes ⊠ No		☐ Yes ⊠ No	no known ES, disturbed
7	🛛 Yes 🔲 No	3,4, 5, 6, 7, 8, 12,13	🛛 Yes 🗌 No	heavy nurtrient input,organic soils, retention, dense vegetation, comlpex flow path.
8	🛛 Yes 🔲 No	1,2,8,12	☐ Yes ⊠ No	forested/and shrub wetland with berry producing shrubs, emergent with wildfower species
9	🗌 Yes 🔀 No		Yes No	disturbed wetland with limited viewing oportunity
10	🛛 Yes 🔲 No	1,2,4,5,10,13,16	☐ Yes ⊠ No	retention, dense vegetation, comlpex flow path, limited sources of sediment.
11	☐ Yes ⊠ No		Yes No	not directly assocuted with flowing water
12	☐ Yes ⊠ No		Yes No	disturbed wetland, common, no known heritage
13	☐ Yes ⊠ No		Yes No	none
14	Yes	8,9,10,11,19,20	Yes No	interconneted variety of wetland types including emergent, overland access to open water

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	course		

SECTION 5 - VERNAL POOL SUMMARY (Env-Wt 311.10)

Delineations of vernal pools shall be based on the characteristics listed in the definition of "vernal pool" in Env-Wt 104.44. To assist in the delineation, individuals may use either of the following references:

- Identifying and Documenting Vernal Pools in New Hampshire 3rd Ed., 2016, published by NHF&G; or
- The USACE *Vernal Pool Assessment* draft guidance dated 9-10-2013 and form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

All vernal pool ID numbers are to be displayed and located on the wetland delineation of the subject property.

"Important Notes" are to include documented reproductive and wildlife values, landscape context, and relationship to other vernal pools/wetlands.

Note: For projects seeking federal approval from the USACE, please attach a completed copy of The USACE "Vernal Pool Assessment" form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

VERNAL POOL ID NUMBER	DATE(S) OBSERVED	PRIMARY INDICATORS PRESENT (LIST)	SECONDARY INDICATORS PRESENT (LIST)	LENGTH OF HYDROPERIOD	IMPORTANT NOTES
1	3/26/20 4/4/20	Wood Frog 14 egg masses		unknown, currently imopunded by beaver	wetland is floodded by beaver activity, areial photos from past years indicate this is not permanent, area at north end where egg masses were foiund is likely the the vernal pool heavy nutrient and algea
2	-	-	-		
3					
4					
5					
6		-			

7									
8	-								
SECTION 6 - S	SECTION 6 - STREAM RESOURCES SUMMARY								
DESCRIPTION (OF STREAM:			STR	EAM TYPE (ROSGEN)	:			
HAVE FISHERIE	S BEEN DOCUN	/IENTED?		DOES THE STREAM SYSTEM APPEAR STABLE?					
OTHER KEY ON	I-SITE FUNCTIO	NS OF NOTE:							
The following table can be used to compile data on stream resources. "Important Notes" are to include characteristics the evaluator used to determine principal function and value of each stream. The functions and values reference number are defined in Section 4.						" are to include characteristics actions and values reference			
FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RAT	ΓΙΟΝΑLE		PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES			
1	Yes No				Yes No				
2	Yes No				Yes No				
3	Yes No				Yes No				
4	Yes No				Yes				
5	Yes No				Yes No				
6	Yes No				Yes No				
7	Yes No				Yes				
8	Yes No				Yes No				
9	Yes No				Yes No				
10	Yes No				Yes No				

11	Yes		Yes No				
12	Ves No		Yes No				
13	Yes		Yes No				
14	Yes		Yes No				
SECTION 7 - ATTACHMENTS (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)							
🛛 Wildlife and	Wildlife and vegetation diversity/abundance list.						
🛛 Photograph	Photograph of wetland attached.						
Wetland delineation plans showing wetlands, vernal pools, and streams in relation to the impact area and surrounding landscape. Wetland IDs, vernal pool IDs, and stream IDs must be indicated on the plans.							
For projects in tidal areas only: additional information required by Env-Wt 603.03/603.04 (please refer to the Coastal Area Worksheet for more information)							





RSA/Rule: RSA 482-A / Env-Wt 311.03(b)(10); Env-Wt 311.10

APPLICANT LAST NAME, FIRST NAME, M.I.: Hillwood Enterprises, L.P.

As required by Env-Wt 311.03(b)(10), an application for a standard permit for minor and major projects must include a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10. This worksheet will help you compile data for the functional assessment needed to meet federal (US Army Corps of Engineers (USACE); if applicable) and NHDES requirements. Additional requirements are needed for projects in tidal area; please refer to the Coastal Area Worksheet for more information.

SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)					
ADJACENT LAND USE: golf course					
CONTIGUOUS UNDEVELOPED BUFFER ZO	NE PRESENT? 🗌 Yes 🔀 No				
DISTANCE TO NEAREST ROADWAY OR OT	HER DEVELOPMENT (in feet): 0				
SECTION 2 - DELINEATION (USACE HI	GHWAY METHODOLOGY; Env-Wt 311.10)				
CERTIFIED WETLAND SCIENTIST (if in a nor prepared this assessment: Brendan Quigle	ו-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who ey, NHCWS #249				
DATE(S) OF SITE VISIT(S): 3/26/20 to 4/6/20	DELINEATION PER ENV-WT 406 COMPLETED? Xes No				
CONFIRM THAT THE EVALUATION IS BASI	ED ON:				
Office and					
Field examination.					
METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in field if "other"):					
🔀 USACE Highway Methodology.					
Other scientifically supported method	l (enter name/ title):				

SECTION 3 - WETLAND RESOURCE SUMMARY (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)						
WETLAND ID: EA3.1	LOCATION: (LAT/ LONG) 42.720666/71.428526					
WETLAND AREA: ~2 ac.	DOMINANT WETLAND SYSTEMS PRESENT: Maintained wet Lawn					
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND?	COWARDIN CLASS: PEM2BF					
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM?	IS THE WETLAND PART OF:					
if not, where does the wetland lie in the drainage basin? low	IS THE WETLAND HUMAN-MADE?					
IS THE WETLAND IN A 100-YEAR FLOODPLAIN?	ARE VERNAL POOLS PRESENT?					
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? Yes No	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? Yes No					
PROPOSED WETLAND IMPACT TYPE: Impact Area 3 & G-J Fill	PROPOSED WETLAND IMPACT AREA: 28,310 SF					
SECTION 4 - WETLANDS FUNCTIONS AND VALUES* (US	SACE HIGHWAY METHODOLOGY; Env-Wt 311.10)					
The following table can be used to compile data on wetlands functions and values. The reference numbers indicated in the "Functions/ Values" column refer to the following functions and values: 1. Ecological Integrity (from RSA 482-A:2, XI)						
2. Educational Potential (from USACE Highway Methodo	ology: Educational/Scientific Value)					
3. Fish & Aquatic Life Habitat (from USACE Highway Me	Fish & Aquatic Life Habitat (from USACE Highway Methodology: Fish & Shellfish Habitat)					
4. Flood Storage (from USACE Highway Methodology: Fl	Flood Storage (from USACE Highway Methodology: Floodflow Alteration)					
5. Groundwater Recharge (from USACE Highway Metho	Groundwater Recharge (from USACE Highway Methodology: Groundwater Recharge/Discharge)					
6. Noteworthiness (from USACE Highway Methodology:	Noteworthiness (from USACE Highway Methodology: Threatened or Endangered Species Habitat)					
7. Nutrient Trapping/Retention & Transformation (from	Nutrient Trapping/Retention & Transformation (from USACE Highway Methodology: Nutrient removal)					
8. Production Export (Nutrient) (from USACE Highway N	1ethodology)					
9. Scenic Quality (from USACE Highway Methodology: V	isual Quality/Aesthetics)					
10. Sediment Trapping (from USACE Highway Methodolo	gy: Sediment /Toxicant Retention)					
Shoreline Anchoring (from USACE Highway Methodology: Sediment/Shoreline Stabilization)						

- 12. Uniqueness/Heritage (from USACE Highway Methodology)
- 13. Wetland-based Recreation (from USACE Highway Methodology: Recreation)
- 14. Wetland-dependent Wildlife Habitat (from USACE Highway Methodology: Wildlife Habitat)

First, determine if a wetland is suitable for particular function and value ("Suitability" column) and indicate the rationale behind your determination ("Rationale" column). Please use the rationale reference numbers listed in Appendix A of USACE *The Highway Methodology Workbook Supplement*. Second, indicate which functions and values are principal (Principal Function/value?" column). As described in *The Highway Methodology Workbook Supplement*, "functions and values can be principal if they are an important physical component of a wetland ecosystem (function only) and/or are considered of special value to society, from a local, regional, and/or national perspective".

NHDES-W-06-049

the wetland.				
FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE (Reference #)	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	☐ Yes ⊠ No		Yes No	maintateined golf course turf, graded and modifired soil profile, no real wetland function or value in current condition.
2	🗌 Yes 🔀 No		Yes No	
3	☐ Yes ⊠ No		Yes No	
4	Yes		Yes No	
5	🛛 Yes 🗌 No	13	🛛 Yes 🗌 No	appears to be a groundwater seep area
6	☐ Yes ⊠ No		Yes No	
7	Yes		☐ Yes ⊠ No	
8	☐ Yes ⊠ No		Yes No	
9	☐ Yes ⊠ No		Yes No	
10	☐ Yes ⊠ No		Yes No	
11	Yes		Yes No	
12	Yes		Yes No	
13	☐ Yes ⊠ No		Yes No	

"Important Notes" are to include characteristics the evaluator used to determine the principal function and value of

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14	☐ Yes ⊠ No			Yes				
SECTION	5 - VERNAL F	POOL SUMMARY (E	inv-Wt 311.10)					
Delineation 104.44. To	Delineations of vernal pools shall be based on the characteristics listed in the definition of "vernal pool" in Env-Wt 104.44. To assist in the delineation, individuals may use either of the following references:							
 Identifying and Documenting Vernal Pools in New Hampshire 3rd Ed., 2016, published by NHF&G or The USACE Vernal Pool Assessment draft guidance dated 9-10-2013 and form dated 9-6-2016, Appendix L of the USACE New England District Compensatory Mitigation Guidance 								
All vernal p	ool ID numbe	ers are to be displaye	d and located on th	e wetland delineatio	on of the subject property.			
"Importan other vern	t Notes" are t al pools/wetla	o include documente ands.	ed reproductive and	wildlife values, land	Iscape context, and relationship to			
Note: For p Pool Asses <i>Guidance</i> .	orojects seeki sment" form	ng federal approval f dated 9-6-2016, App	rom the USACE, ple endix L of the USAC	ase attach a comple E New England Distr	ted copy of The USACE "Vernal rict Compensatory Mitigation			
VERNAL POOL ID NUMBER	DATE(S) OBSERVED	PRIMARY INDICATORS PRESENT (LIST)	SECONDARY INDICATORS PRESENT (LIST)	LENGTH OF HYDROPERIOD	IMPORTANT NOTES			
1		-		-				
2								
3				-				
4								
5								
6								
7								

8								
SECTION 6 - S	SECTION 6 - STREAM RESOURCES SUMMARY							
DESCRIPTION C	DESCRIPTION OF STREAM: STREAM TYPE (ROSGEN):							
HAVE FISHERIES BEEN DOCUMENTED? DOES THE STREAM SYSTEM APPEAR STABLE? Yes No						EM APPEAR STABLE?		
OTHER KEY ON	-SITE FUNCTIO	NS OF NOTE:						
The following ta the evaluator u number are de	able can be used used to determi fined in Sectior	l to compile dat ne principal fu 14.	a on stream resonction and value	ource e of e	es. "Important Notes" each stream. The fund	are to include characteristics ctions and values reference		
FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE			PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES		
1	Yes				Yes No			
2	Yes				Yes No			
3	Yes				Yes No			
4	Yes				Yes No			
5	Yes				Yes No			
6	Yes				Yes No			
7	Yes	I			Yes No			
8	Yes	I			Yes No			
9	Yes				Yes No			
10	Yes				Yes No			
11	Yes No	I			Yes No			
12	Yes	I			Yes No			

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13	Yes		Yes No		
14	Yes		Yes No		
SECTION 7 - ATTACHMENTS (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)					
Wildlife and vegetation diversity/abundance list.					
Photograph of wetland attached.					
Wetland delineation plans showing wetlands, vernal pools, and streams in relation to the impact area and surrounding landscape. Wetland IDs, vernal pool IDs, and stream IDs must be indicated on the plans.					
For projects in tidal areas only: additional information required by Env-Wt 603.03/603.04 (please refer to the Coastal Area Worksheet for more information)					





RSA/Rule: RSA 482-A / Env-Wt 311.03(b)(10); Env-Wt 311.10

APPLICANT LAST NAME, FIRST NAME, M.I.: Hillwood Enterprises, L.P.

As required by Env-Wt 311.03(b)(10), an application for a standard permit for minor and major projects must include a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10. This worksheet will help you compile data for the functional assessment needed to meet federal (US Army Corps of Engineers (USACE); if applicable) and NHDES requirements. Additional requirements are needed for projects in tidal area; please refer to the Coastal Area Worksheet for more information.

SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)						
ADJACENT LAND USE: golf course, comerc	ial development, residential					
CONTIGUOUS UNDEVELOPED BUFFER ZO	NE PRESENT? 🗌 Yes 🛛 No					
DISTANCE TO NEAREST ROADWAY OR OT	HER DEVELOPMENT (in feet): 0					
SECTION 2 - DELINEATION (USACE HI	SECTION 2 - DELINEATION (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)					
CERTIFIED WETLAND SCIENTIST (if in a non-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who prepared this assessment: Brendan Quigley, NHCWS #249						
DATE(S) OF SITE VISIT(S): 3/26/20 to 4/6/20	DELINEATION PER ENV-WT 406 COMPLETED? Xes No					
CONFIRM THAT THE EVALUATION IS BASI	ED ON:					
Office and	Office and					
Field examination.						
METHOD USED FOR FUNCTIONAL ASSESS	MENT (check one and fill in field if "other"):					
🔀 USACE Highway Methodology.						
Other scientifically supported method	(enter name/ title):					

SECTION 3 - WETLAND RESOURCE SUMMARY (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)				
WETLAND ID: EA4	LOCATION: (LAT/ LONG) 42.719680/71.424429			
WETLAND AREA: ~8 ac.	DOMINANT WETLAND SYSTEMS PRESENT: Forested			
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND?	COWARDIN CLASS: PFO1B			
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM?	IS THE WETLAND PART OF:			
low	Yes No			
IS THE WETLAND IN A 100-YEAR FLOODPLAIN?	ARE VERNAL POOLS PRESENT? Yes X No (If yes, complete the Vernal Pool Table)			
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? Yes No	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? Yes No			
PROPOSED WETLAND IMPACT TYPE: Impact Areas B-E Fill	PROPOSED WETLAND IMPACT AREA: 23,325			
SECTION 4 - WETLANDS FUNCTIONS AND VALUES* (US	SACE HIGHWAY METHODOLOGY; Env-Wt 311.10)			
 The following table can be used to compile data on wetlands in the "Functions/ Values" column refer to the following fun Ecological Integrity (from RSA 482-A:2, XI) Educational Potential (from USACE Highway Methodo Fish & Aquatic Life Habitat (from USACE Highway Methodology: Fl Groundwater Recharge (from USACE Highway Methodology: Fl Groundwater Recharge (from USACE Highway Methodology: 7. Nutrient Trapping/Retention & Transformation (from Production Export (Nutrient) (from USACE Highway Methodology: V Scenic Quality (from USACE Highway Methodology: V Sediment Trapping (from USACE Highway Methodology: V Shoreline Anchoring (from USACE Highway Methodology Uniqueness/Heritage (from USACE Highway Methodology Wetland-based Recreation (from USACE Highway Methodol Wetland-dependent Wildlife Habitat (from USACE Highway Methodol 	s functions and values. The reference numbers indicated ctions and values: blogy: Educational/Scientific Value) thodology: Fish & Shellfish Habitat) loodflow Alteration) dology: Groundwater Recharge/Discharge) Threatened or Endangered Species Habitat) USACE Highway Methodology: Nutrient removal) Aethodology) fisual Quality/Aesthetics) gy: Sediment /Toxicant Retention) logy: Sediment/Shoreline Stabilization) blogy) thodology: Recreation) ghway Methodology: Wildlife Habitat)			
First, determine if a wetland is suitable for particular function and value ("Suitability" column) and indicate the rationale behind your determination ("Rationale" column). Please use the rationale reference numbers listed in Appendix A of USACE <i>The Highway Methodology Workbook Supplement</i> . Second, indicate which functions and values are principal (Principal Function/value?" column). As described in <i>The Highway Methodology Workbook Supplement</i> , "functions and values can be principal if they are an important physical component of a wetland ecosystem (function only) and/or are considered of special value to society, from a local, regional, and/or national perspective". "Important Notes" are to include characteristics the evaluator used to determine the principal function and value of the wetland				

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE (Reference #)	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	Yes		Yes	Intact forested wetkland but adjacvnt to development and golf course
2	☐ Yes ⊠ No		☐ Yes ⊠ No	common forested wetland area
3	☐ Yes ⊠ No		Yes No	no surface water
4	🛛 Yes 🗌 No	5,6,7,9,13,15	🛛 Yes 🗌 No	restricted outlet flat topo and slow flow to Limit Brook
5	🛛 Yes 🔲 No	13	☐ Yes ⊠ No	signs of GW seep
6	☐ Yes ⊠ No		Yes	no known ES
7	🛛 Yes 🔲 No	3,4, 5, 6, 7, 12,13	🔀 Yes 🔲 No	organic soils, slopw difuse flow, constricted outlet
8	🛛 Yes 🔲 No	1,2,8,12	☐ Yes ⊠ No	forested wetland with mast prodiucing trees and berry producing shrubs
9	☐ Yes ⊠ No		Yes No	common forested wetland
10	🛛 Yes 🔲 No	1,2,3,4,5,9,10,13,14	🔀 Yes 🔲 No	organic soils, slopw difuse flow, constricted outlet
11	☐ Yes ⊠ No		Yes No	no surface directly associated surface water
12	☐ Yes ⊠ No		Yes No	common forested wetland no known heritage
13	☐ Yes ⊠ No		Yes No	
14	Yes	7,8,10	Yes	some habitat provided by forest but not wetland specific

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SECTION 5 - VERNAL POOL SUMMARY (Env-Wt 311.10)

Delineations of vernal pools shall be based on the characteristics listed in the definition of "vernal pool" in Env-Wt 104.44. To assist in the delineation, individuals may use either of the following references:

- Identifying and Documenting Vernal Pools in New Hampshire 3rd Ed., 2016, published by NHF&G; or
- The USACE *Vernal Pool Assessment* draft guidance dated 9-10-2013 and form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

All vernal pool ID numbers are to be displayed and located on the wetland delineation of the subject property.

"Important Notes" are to include documented reproductive and wildlife values, landscape context, and relationship to other vernal pools/wetlands.

Note: For projects seeking federal approval from the USACE, please attach a completed copy of The USACE "Vernal Pool Assessment" form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

VERNAL POOL ID NUMBER	DATE(S) OBSERVED	PRIMARY INDICATORS PRESENT (LIST)	SECONDARY INDICATORS PRESENT (LIST)	LENGTH OF HYDROPERIOD	IMPORTANT NOTES
1					
2					
3					
4					
5					
6					
7					
8					

SECTION 6 - STREAM RESOURCES SUMMARY					
DESCRIPTION OF STREAM: STREAM TYPE (ROSGEN):					
HAVE FISHERIE	S BEEN DOCUN	IENTED?	DOES THE STREAM SYSTEM APPEAR STABLE?		
OTHER KEY ON	-SITE FUNCTIO	NS OF NOTE:			
The following table can be used to compile data on stream resources. "Important Notes" are to include characteristics the evaluator used to determine principal function and value of each stream. The functions and values reference number are defined in Section 4.					
FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES	
1	Yes		Yes No		
2	Yes		Yes No		
3	Yes		Yes No		
4	Yes		Yes No		
5	Yes		Yes No		
6	Yes		Yes No		
7	Yes		Yes No		
8	Yes		Yes No		
9	Yes		Yes No		
10	Ves		Yes No		
11	Yes		Yes No		
12	Yes		Yes No		
13	Yes		Yes No		
14	Yes		Yes No		

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SECTION 7 - ATTACHMENTS (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)

Wildlife and vegetation diversity/abundance list.

Photograph of wetland attached.

Wetland delineation plans showing wetlands, vernal pools, and streams in relation to the impact area and surrounding landscape. Wetland IDs, vernal pool IDs, and stream IDs must be indicated on the plans.

For projects in tidal areas only: additional information required by Env-Wt 603.03/603.04 (please refer to the Coastal Area Worksheet for more information)





RSA/Rule: RSA 482-A / Env-Wt 311.03(b)(10); Env-Wt 311.10

APPLICANT LAST NAME, FIRST NAME, M.I.: Hillwood Enterprises, L.P.

As required by Env-Wt 311.03(b)(10), an application for a standard permit for minor and major projects must include a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10. This worksheet will help you compile data for the functional assessment needed to meet federal (US Army Corps of Engineers (USACE); if applicable) and NHDES requirements. Additional requirements are needed for projects in tidal area; please refer to the Coastal Area Worksheet for more information.

SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)					
ADJACENT LAND USE: golf course, residen	tial development				
CONTIGUOUS UNDEVELOPED BUFFER ZO	NE PRESENT? 🗌 Yes 🔀 No				
DISTANCE TO NEAREST ROADWAY OR OT	HER DEVELOPMENT (in feet): 0				
SECTION 2 - DELINEATION (USACE HIG	GHWAY METHODOLOGY; Env-Wt 311.10)				
CERTIFIED WETLAND SCIENTIST (if in a non-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who prepared this assessment: Brendan Quigley, NHCWS #249					
DATE(S) OF SITE VISIT(S): 3/26/20 to 4/6/20	DELINEATION PER ENV-WT 406 COMPLETED? Xes No				
CONFIRM THAT THE EVALUATION IS BASE	ED ON:				
Office and					
K Field examination.					
METHOD USED FOR FUNCTIONAL ASSESS	MENT (check one and fill in field if "other"):				
🔀 USACE Highway Methodology.					
Other scientifically supported method	(enter name/ title):				

SECTION 3 - WETLAND RESOURCE SUMMARY (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)				
WETLAND ID: EA5	LOCATION: (LAT/ LONG) 42.724385/71.426943			
WETLAND AREA: ~10 ac.	DOMINANT WETLAND SYSTEMS PRESENT: Emergent/Scrub-Shrub/Pond			
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND?	COWARDIN CLASS:			
-				
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM?	\square A wildlife corridor or \square A habitat island?			
Yes X No				
if not, where does the wetland lie in the drainage basin?	IS THE WETLAND HUMAN-MADE?			
	Yes No			
IS THE WETLAND IN A 100-YEAR FLOODPLAIN?	ARE VERNAL POOLS PRESENT?			
Yes 🛛 No	IIGHWAY METHODOLOGY; Env-Wt 311.10) LOCATION: (LAT/ LONG) 42.724385/71.426943 DOMINANT WETLAND SYSTEMS PRESENT: Emergent/Scrub-Shrub/Pond COWARDIN CLASS: PEM1E/PSS1E/PUBHxh IS THE WETLAND PART OF: A wildlife corridor or A habitat island? IS THE WETLAND HUMAN-MADE? Yes No ARE VERNAL POOLS PRESENT? Yes No ARE VERNAL POOLS PRESENT? Yes No (If yes, complete the Vernal Pool Table) ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? Yes ROPOSED WETLAND IMPACT AREA: ACE HIGHWAY METHODOLOGY; Env-Wt 311.10) functions and values. The reference numbers indicated trions and values. roogy: Educational/Scientific Value) chodology: Fish & Shellfish Habitat) oodflow Alteration) dology: Groundwater Recharge/Discharge) Threatened or Endangered Species Habitat) USACE Highway Methodology: Nutrient removal) lethodology) isual Quality/Aesthetics) gy: Sediment /Toxicant Retention) ogy: Sediment /Shoreline Stabilization) ology) thodology:			
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? Xes No	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? Yes No			
PROPOSED WETLAND IMPACT TYPE: NO IMPACTS	PROPOSED WETLAND IMPACT AREA:			
SECTION 4 - WETLANDS FUNCTIONS AND VALUES* (US	SACE HIGHWAY METHODOLOGY; Env-Wt 311.10)			
 Interfollowing table can be used to complie data on wethands functions and values. The reference numbers indicated in the "Functions/ Values" column refer to the following functions and values: Ecological Integrity (from RSA 482-A:2, XI) Educational Potential (from USACE Highway Methodology: Educational/Scientific Value) Fish & Aquatic Life Habitat (from USACE Highway Methodology: Fish & Shellfish Habitat) Flood Storage (from USACE Highway Methodology: Floodflow Alteration) Groundwater Recharge (from USACE Highway Methodology: Groundwater Recharge/Discharge) Noteworthiness (from USACE Highway Methodology: Threatened or Endangered Species Habitat) Nutrient Trapping/Retention & Transformation (from USACE Highway Methodology: Nutrient removal) Production Export (Nutrient) (from USACE Highway Methodology) 				
10 Sediment Trapping (from USACE Highway Methodology. V	gy: Sediment /Toxicant Retention)			
11. Shoreline Anchoring (from USACE Highway Methodol	logy: Sediment/Shoreline Stabilization)			
12. Uniqueness/Heritage (from USACE Highway Methodo	blogv)			
13. Wetland-based Recreation (from USACE Highway Me	thodology: Recreation)			
14. Wetland-dependent Wildlife Habitat (from USACE Hig	ghway Methodology: Wildlife Habitat)			
First, determine if a wetland is suitable for particular function and value ("Suitability" column) and indicate the rationale behind your determination ("Rationale" column). Please use the rationale reference numbers listed in Appendix A of USACE <i>The Highway Methodology Workbook Supplement</i> . Second, indicate which functions and values are principal (Principal Function/value?" column). As described in <i>The Highway Methodology Workbook Supplement</i> , "functions and values can be principal if they are an important physical component of a wetland ecosystem (function only) and/or are considered of special value to society, from a local, regional, and/or national perspective".				

NHDES-W-06-049

PRINCIPAL FUNCTIONS/ SUITABILITY RATIONALE FUNCTION/VALUE? **IMPORTANT NOTES** VALUES (Y/N) (Reference #) (Y/N)extensive alteration, impacted by 🛛 Yes Yes 1 excavation, impondment and adj] No 🖂 No development Yes Yes 2 altered wetland 🖂 No 🖂 No supported in Impounded areas 🖂 Yes Yes and possibly in Limit Brook 1,2,4,8,-11 3 No 🛛 No diminished by barriers to connecticvity desnse vegetated areas propvide 🔀 Yes some natiral floodplain, ponds 🔀 Yes 4 4,5,6,7,8,9,11,13,15,16,17,18] No No sprovide storage, comstrited outlet Yes Yes 5 🖂 No 🖂 No Yes Yes 6 no known ES, altered 🖂 No No deeper water areas, dense 🔀 Yes 🔀 Yes 7 2,4,5,6,8,11,13 vegetation,, constricted outlet, No No high nutrient area 🔀 Yes Yes berry producing shrubs, detritis, 1,2,8,11,12 8 🖂 No No transport by stream multiple wetland types able to be viewed, emergent and meadow 🖂 Yes Yes 9 1,2,4,9 🖂 No No vegetation, diminished by golf course landscape retention, deep water areas, 🔀 Yes 🔀 Yes 1,2,3,4,5,10,11,16 10 dense vegetation No No 🔀 Yes Yes dense vegetation stabilizes stream 15 11 No 🖂 No durring minor flooding Yes Yes altered wetland, no known 12 🖂 No No heritage

"Important Notes" are to include characteristics the evaluator used to determine the principal function and value of the wetland.

13	☐ Yes ⊠ No			Yes No	none			
14	🔀 Yes 🗌 No	6,7,8,11	,12,19,21	Yes	diversity of wetland types including pond and emergent connected by stream			
SECTION	5 - VERNAL P	OOL SUMMARY (E	inv-Wt 311.10)					
Delineation 104.44. To	Delineations of vernal pools shall be based on the characteristics listed in the definition of "vernal pool" in Env-Wt 104.44. To assist in the delineation, individuals may use either of the following references:							
• Ide • Th the	entifying and L e USACE Vern e USACE New	Documenting Vernal al Pool Assessment o England District Com	Pools in New Hamp Iraft guidance dated apensatory Mitigatio	<i>shire 3rd Ed.</i> , 2016, p 9-10-2013 and forr <i>on Guidance</i> .	oublished by NHF&G or n dated 9-6-2016, Appendix L of			
All vernal p "Important other vern	oool ID numbe t Notes" are to al pools/wetla	ers are to be displaye o include documente ands.	d and located on th d reproductive and	e wetland delineation wildlife values, land	on of the subject property. Iscape context, and relationship to			
Note: For p Pool Asses <i>Guidance</i> .	Note: For projects seeking federal approval from the USACE, please attach a completed copy of The USACE "Vernal Pool Assessment" form dated 9-6-2016, Appendix L of the USACE New England District <i>Compensatory Mitigation Guidance</i> .							
VERNAL POOL ID NUMBER	DATE(S) OBSERVED	PRIMARY INDICATORS PRESENT (LIST)	SECONDARY INDICATORS PRESENT (LIST)	LENGTH OF HYDROPERIOD	IMPORTANT NOTES			
1		-						
2								
3		-						
4								
5								
6								
7								
--	--	----------------	------------------	---------------------------------------	---------------------------------------	-----------------	--	--
8								
SECTION 6 - S	SECTION 6 - STREAM RESOURCES SUMMARY							
DESCRIPTION O	DF STREAM: Lin	nit Brook	S	STREAM TYPE (ROSGEN): E				
HAVE FISHERIE	S BEEN DOCUN	IENTED?	د [DOES THE STREAM SYSTEM APPEAR STABLE?				
OTHER KEY ON	-SITE FUNCTIO	NS OF NOTE: st	ream asseed as p	bart	of the wetland syste	em		
The following ta the evaluator u number are de	The following table can be used to compile data on stream resources. "Important Notes" are to include characteristics the evaluator used to determine principal function and value of each stream. The functions and values reference number are defined in Section 4.							
FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RAT	ΓΙΟΝΑLE		PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES		
1	Yes				Yes No			
2	Ves				Yes No			
3	Yes				Yes No			
4	Yes				Yes No			
5	Yes				Yes No			
6	Yes No				Yes No			
7	Yes				Yes No			
8	Yes				Yes No			
9	Yes	I			Yes No			
10	Yes No				Yes No			

11	Yes		Yes No			
12	Ves No		Yes No			
13	Yes		Yes No			
14	Yes		Yes No			
SECTION 7 - ATTACHMENTS (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)						
🛛 Wildlife and	l vegetation div	versity/abundance list.				
🛛 Photograph	Photograph of wetland attached.					
Wetland delineation plans showing wetlands, vernal pools, and streams in relation to the impact area and surrounding landscape. Wetland IDs, vernal pool IDs, and stream IDs must be indicated on the plans.						
For projects in tidal areas only: additional information required by Env-Wt 603.03/603.04 (please refer to the Coastal Area Worksheet for more information)						



WETLANDS FUNCTIONAL ASSESSMENT WORKSHEET Water Division/Land Resource Management Wetlands Bureau <u>Check the Status of your Application</u>



RSA/Rule: RSA 482-A / Env-Wt 311.03(b)(10); Env-Wt 311.10

APPLICANT LAST NAME, FIRST NAME, M.I.: Hillwood Enterprises, L.P.

As required by Env-Wt 311.03(b)(10), an application for a standard permit for minor and major projects must include a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10. This worksheet will help you compile data for the functional assessment needed to meet federal (US Army Corps of Engineers (USACE); if applicable) and NHDES requirements. Additional requirements are needed for projects in tidal area; please refer to the Coastal Area Worksheet for more information.

Both a desktop review and a field examination are needed to accurately determine surrounding land use, hydrology, hydroperiod, hydric soils, vegetation, structural complexity of wetland classes, hydrologic connections between wetlands or stream systems or wetland complex, position in the landscape, and physical characteristics of wetlands and associated surface waters. The results of the evaluation are to be used to select the location of the proposed project having the least impact to wetland functions and values (Env-Wt 311.10). This worksheet can be used in conjunction with the Written Narrative (NHDES-W-06-089) or Avoidance and Minimization Checklist (NHDES-W-06-050) to address Env-Wt 313.03 (Avoidance and Minimization). If more than one wetland/ stream resource is identified, multiple worksheets can be attached with the application. All wetland, vernal pools, and stream identification (ID) numbers are to be displayed and located on the wetlands delineation of the subject property.

SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)				
ADJACENT LAND USE: golf course				
CONTIGUOUS UNDEVELOPED BUFFER ZO	NE PRESENT? 🗌 Yes 🔀 No			
DISTANCE TO NEAREST ROADWAY OR OT	HER DEVELOPMENT (in feet): 0			
SECTION 2 - DELINEATION (USACE HI	GHWAY METHODOLOGY; Env-Wt 311.10)			
CERTIFIED WETLAND SCIENTIST (if in a nor prepared this assessment: Brendan Quigle	ו-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who ey, NHCWS #249			
DATE(S) OF SITE VISIT(S): 3/26/20 to 4/6/20	DELINEATION PER ENV-WT 406 COMPLETED? Xes No			
CONFIRM THAT THE EVALUATION IS BASI	ED ON:			
Office and				
Field examination.				
METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in field if "other"):				
🔀 USACE Highway Methodology.				
Other scientifically supported method	l (enter name/ title):			

SECTION 3 - WETLAND RESOURCE SUMMARY (USACE H	HIGHWAY METHODOLOGY; Env-Wt 311.10)			
WETLAND ID: EA6	LOCATION: (LAT/ LONG) 42.714301/71.425996			
WETLAND AREA: ~4 ac.	DOMINANT WETLAND SYSTEMS PRESENT: Emergent/Scrub-Shrub/Pond			
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND?	COWARDIN CLASS: PEM1E/PSS1E/PABHxh			
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM?	IS THE WETLAND PART OF:			
if not, where does the wetland lie in the drainage basin? low	IS THE WETLAND HUMAN-MADE?			
IS THE WETLAND IN A 100-YEAR FLOODPLAIN?	ARE VERNAL POOLS PRESENT? Yes No (If yes, complete the Vernal Pool Table)			
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? Yes No	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? Yes No			
PROPOSED WETLAND IMPACT TYPE: NO IMPACTS	PROPOSED WETLAND IMPACT AREA:			
SECTION 4 - WETLANDS FUNCTIONS AND VALUES* (US	ACE HIGHWAY METHODOLOGY; Env-Wt 311.10)			
 The following table can be used to compile data on wetlands functions and values. The reference numbers indicated in the "Functions/ Values" column refer to the following functions and values: Ecological Integrity (from RSA 482-A:2, XI) Educational Potential (from USACE Highway Methodology: Educational/Scientific Value) Fish & Aquatic Life Habitat (from USACE Highway Methodology: Fish & Shellfish Habitat) Flood Storage (from USACE Highway Methodology: Floodflow Alteration) Groundwater Recharge (from USACE Highway Methodology: Groundwater Recharge/Discharge) Noteworthiness (from USACE Highway Methodology: Threatened or Endangered Species Habitat) Nutrient Trapping/Retention & Transformation (from USACE Highway Methodology) Scenic Quality (from USACE Highway Methodology: Visual Quality/Aesthetics) Soreline Anchoring (from USACE Highway Methodology: Sediment /Toxicant Retention) Shoreline Anchoring (from USACE Highway Methodology: Sediment/Shoreline Stabilization) Uniqueness/Heritage (from USACE Highway Methodology: Sediment/Shoreline Stabilization) Wetland-based Recreation (from USACE Highway Methodology) 				
First, determine if a wetland is suitable for particular function and value ("Suitability" column) and indicate the rationale behind your determination ("Rationale" column). Please use the rationale reference numbers listed in Appendix A of USACE <i>The Highway Methodology Workbook Supplement</i> . Second, indicate which functions and values are principal (Principal Function/value?" column). As described in <i>The Highway Methodology Workbook Supplement</i> , "functions and values can be principal if they are an important physical component of a wetland ecosystem (function only) and/or are considered of special value to society, from a local. regional. and/or national perspective".				

NHDES-W-06-049

the wetland.				
FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE (Reference #)	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	Yes		☐ Yes ⊠ No	extensive alteration, impacted by excavation, impondment and adj development
2	🗌 Yes 🔀 No		☐ Yes ⊠ No	altered wetland
3	🛛 Yes 🗌 No	1,2,4,8,-11	☐ Yes ⊠ No	supported in Impounded areas and possibly in Limit Brook diminished by barriers to connecticvity
4	🛛 Yes 🔲 No	4,5,6,7,8,9,11,13,15,16,17,18	🛛 Yes 🗌 No	within 100 year floodplain
5	Yes 🔀 No		☐ Yes ⊠ No	
6	☐ Yes ⊠ No		Yes No	no known ES, altered
7	🛛 Yes 🗌 No	2,4,5,6,8,11,13	Xes No	deeper water areas, dense vegetation, constricted outlet, high nutrient area
8	🛛 Yes 🔲 No	1,2,8,11,12	☐ Yes ⊠ No	berry prodicing shrubs, detritis, transoport by stream
9	X Yes	1,2,4,9	☐ Yes ⊠ No	mutple wetkand types able to be viewed, emergent and meadow vegetation, diminished by golf course landscape
10	🔀 Yes 🔲 No	1,2,3,4,5,10,11,16	🛛 Yes 🗌 No	retention, deep water areas, dense vegetation
11	🛛 Yes 🗌 No	15	☐ Yes ⊠ No	dense vegetation stabuilizes stream durring minor flooding
12	☐ Yes ⊠ No		Yes No	altered wetland, no known heritage
13	Yes		Yes No	none

"Important Notes" are to include characteristics the evaluator used to determine the principal function and value of

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14

	- 1	
	_	

🛛 Yes

No

6,7,8,11,12,19,21

🗌 Yes 🔀 No diversity of wetland types including pond and emergent connected by stream

SECTION 5 - VERNAL POOL SUMMARY (Env-Wt 311.10)

Delineations of vernal pools shall be based on the characteristics listed in the definition of "vernal pool" in Env-Wt 104.44. To assist in the delineation, individuals may use either of the following references:

- Identifying and Documenting Vernal Pools in New Hampshire 3rd Ed., 2016, published by NHF&G; or
- The USACE *Vernal Pool Assessment* draft guidance dated 9-10-2013 and form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

All vernal pool ID numbers are to be displayed and located on the wetland delineation of the subject property.

"Important Notes" are to include documented reproductive and wildlife values, landscape context, and relationship to other vernal pools/wetlands.

Note: For projects seeking federal approval from the USACE, please attach a completed copy of The USACE "Vernal Pool Assessment" form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

VERNAL POOL ID NUMBER	DATE(S) OBSERVED	PRIMARY INDICATORS PRESENT (LIST)	SECONDARY INDICATORS PRESENT (LIST)	LENGTH OF HYDROPERIOD	IMPORTANT NOTES
1					
2					
3					
4					
5					
6					
7					

8						
SECTION 6 - S	TREAM RESO	URCES SUMN	IARY		·	
DESCRIPTION C	DF STREAM: Lin	nit Brook		STR	EAM TYPE (ROSGEN)	: E
HAVE FISHERIE	S BEEN DOCUN	1ENTED?			ES THE STREAM SYST Yes 🔲 No	EM APPEAR STABLE?
OTHER KEY ON	-SITE FUNCTIO	NS OF NOTE: st	ream assessed	as pa	art of the wetland sys	tem
The following ta the evaluator u number are de	able can be used used to determi fined in Sectior	l to compile dat ne principal fu n 4.	a on stream resonction and valu	ource e of e	es. "Important Notes" each stream. The fun	' are to include characteristics ctions and values reference
FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RAT	ΓΙΟΝΑLE		PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	Yes				Yes No	
2	Yes				Yes No	
3	Ves				Yes No	
4	Ves				Yes No	
5	Yes				Yes No	
6	Yes				Yes No	
7	Yes	I			Yes No	
8	Yes				Yes No	
9	Yes				Yes No	
10	Yes				Yes No	
11	Yes	I			Yes No	
12	Yes	I			Yes No	

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13	Yes		Yes No		
14	Yes		Yes No		
SECTION 7 - ATTACHMENTS (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)					
Wildlife and vegetation diversity/abundance list.					
Photograph of wetland attached.					
Wetland delineation plans showing wetlands, vernal pools, and streams in relation to the impact area and surrounding landscape. Wetland IDs, vernal pool IDs, and stream IDs must be indicated on the plans.					
For projects in tidal areas only: additional information required by Env-Wt 603.03/603.04 (please refer to the Coastal Area Worksheet for more information)					



WETLANDS FUNCTIONAL ASSESSMENT WORKSHEET Water Division/Land Resource Management Wetlands Bureau <u>Check the Status of your Application</u>



RSA/Rule: RSA 482-A / Env-Wt 311.03(b)(10); Env-Wt 311.10

APPLICANT LAST NAME, FIRST NAME, M.I.: Hillwood Enterprises, L.P.

As required by Env-Wt 311.03(b)(10), an application for a standard permit for minor and major projects must include a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10. This worksheet will help you compile data for the functional assessment needed to meet federal (US Army Corps of Engineers (USACE); if applicable) and NHDES requirements. Additional requirements are needed for projects in tidal area; please refer to the Coastal Area Worksheet for more information.

Both a desktop review and a field examination are needed to accurately determine surrounding land use, hydrology, hydroperiod, hydric soils, vegetation, structural complexity of wetland classes, hydrologic connections between wetlands or stream systems or wetland complex, position in the landscape, and physical characteristics of wetlands and associated surface waters. The results of the evaluation are to be used to select the location of the proposed project having the least impact to wetland functions and values (Env-Wt 311.10). This worksheet can be used in conjunction with the Written Narrative (NHDES-W-06-089) or Avoidance and Minimization Checklist (NHDES-W-06-050) to address Env-Wt 313.03 (Avoidance and Minimization). If more than one wetland/ stream resource is identified, multiple worksheets can be attached with the application. All wetland, vernal pools, and stream identification (ID) numbers are to be displayed and located on the wetlands delineation of the subject property.

SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)				
ADJACENT LAND USE: golf course				
CONTIGUOUS UNDEVELOPED BUFFER ZO	NE PRESENT? 🗌 Yes 🔀 No			
DISTANCE TO NEAREST ROADWAY OR OT	HER DEVELOPMENT (in feet): 0			
SECTION 2 - DELINEATION (USACE HI	GHWAY METHODOLOGY; Env-Wt 311.10)			
CERTIFIED WETLAND SCIENTIST (if in a nor prepared this assessment: Brendan Quigle	ו-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who ey, NHCWS #249			
DATE(S) OF SITE VISIT(S): 3/26/20 to 4/6/20	DELINEATION PER ENV-WT 406 COMPLETED? Xes No			
CONFIRM THAT THE EVALUATION IS BASI	ED ON:			
Office and				
Field examination.				
METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in field if "other"):				
🔀 USACE Highway Methodology.				
Other scientifically supported method	l (enter name/ title):			

WETLAND ID: EA7	LOCATION: (LAT/ LONG) multiple , see plans/				
WETLAND AREA: ~1.5 ac.	DOMINANT WETLAND SYSTEMS PRESENT: Manmade Pond				
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND?	COWARDIN CLASS:				
none	PUBHx				
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM?	IS THE WETLAND PART OF:				
Yes No	A wildlife corridor or 🔀 A habitat island?				
if not, where does the wetland lie in the drainage basin?	IS THE WETLAND HUMAN-MADE?				
	Yes No				
IS THE WETLAND IN A 100-YEAR FLOODPLAIN?	ARE VERNAL POOLS PRESENT?				
Yes 🔀 No	Yes 🔀 No (If yes, complete the Vernal Pool Table)				
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM?	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? Yes No				
PROPOSED WETLAND IMPACT TYPE: Impact Areas 4-6 Fill	PROPOSED WETLAND IMPACT AREA: 44,730 SF				
SECTION 4 - WETLANDS FUNCTIONS AND VALUES* (US	SACE HIGHWAY METHODOLOGY; Env-Wt 311.10)				
 The following table can be used to compile data on wetlands functions and values. The reference numbers indicated in the "Functions/ Values" column refer to the following functions and values: Ecological Integrity (from RSA 482-A:2, XI) Educational Potential (from USACE Highway Methodology: Educational/Scientific Value) Fish & Aquatic Life Habitat (from USACE Highway Methodology: Fish & Shellfish Habitat) Flood Storage (from USACE Highway Methodology: Floodflow Alteration) Groundwater Recharge (from USACE Highway Methodology: Groundwater Recharge/Discharge) Noteworthiness (from USACE Highway Methodology: Threatened or Endangered Species Habitat) Nutrient Trapping/Retention & Transformation (from USACE Highway Methodology: Nutrient removal) 					
9. Scenic Quality (from USACE Highway Methodology: V	'isual Quality/Aesthetics)				
10. Sediment Trapping (from USACE Highway Methodolo	gy: Sediment /Toxicant Retention)				
 Shoreline Anchoring (from USACE Highway Methodology: Sediment/Shoreline Stabilization) 					
11. Shoreline Anchoring (non USACE righway Methodol	2. Uniqueness/Heritage (from USACE Highway Methodology)				
 Shoreline Anchoring (from USACE Highway Methodol Uniqueness/Heritage (from USACE Highway Methodol 	ology)				
 Shoreline Anchoring (from USACE Highway Methodol Uniqueness/Heritage (from USACE Highway Methodol Wetland-based Recreation (from USACE Highway Methodol 	blogy) thodology: Recreation)				
 Shorenne Anchoring (Horn USACE Highway Methodol Uniqueness/Heritage (from USACE Highway Methodol Wetland-based Recreation (from USACE Highway Methodol Wetland-dependent Wildlife Habitat (from USACE Highway Methodol 	ology) thodology: Recreation) ghway Methodology: Wildlife Habitat)				

are principal (Principal Function/value?" column). As described in *The Highway Methodology Workbook Supplement*, "functions and values can be principal if they are an important physical component of a wetland ecosystem (function only) and/or are considered of special value to society, from a local, regional, and/or national perspective".

NHDES-W-06-049

the wetland.				
FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE (Reference #)	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	🗌 Yes 🔀 No		Yes No	Manmade ponds in a managed landscape of golf course
2	🗌 Yes 🔀 No		Yes No	golf course water features
3	Yes		Yes Xo	may support fish species but very low quality nutrinet rich, low Ox conditions
4	🗌 Yes 🔀 No		Yes No	no inlet or outlet
5	🛛 Yes 🗌 No	4,15	🛛 Yes 🗌 No	fluctuating wtaer leval, no inlow or outflow
6	☐ Yes ⊠ No		Yes No	golf course water features
7	☐ Yes ⊠ No		Yes No	no inlet
8	☐ Yes ⊠ No		Yes No	very small, maintained edges
9	☐ Yes ⊠ No		Yes No	golf course water features
10	☐ Yes ⊠ No		Yes No	no inlet or outlet
11	☐ Yes ⊠ No		Yes No	no flow or wave action
12	☐ Yes ⊠ No		Yes No	golf course water features
13	☐ Yes ⊠ No		Yes No	golf course water features

"Important Notes" are to include characteristics the evaluator used to determine the principal function and value of

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SECTION 5 - VERNAL POOL SUMMARY (Env-Wt 311.10)

Delineations of vernal pools shall be based on the characteristics listed in the definition of "vernal pool" in Env-Wt 104.44. To assist in the delineation, individuals may use either of the following references:

- Identifying and Documenting Vernal Pools in New Hampshire 3rd Ed., 2016, published by NHF&G; or
- The USACE *Vernal Pool Assessment* draft guidance dated 9-10-2013 and form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

All vernal pool ID numbers are to be displayed and located on the wetland delineation of the subject property.

"Important Notes" are to include documented reproductive and wildlife values, landscape context, and relationship to other vernal pools/wetlands.

Note: For projects seeking federal approval from the USACE, please attach a completed copy of The USACE "Vernal Pool Assessment" form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

VERNAL POOL ID NUMBER	DATE(S) OBSERVED	PRIMARY INDICATORS PRESENT (LIST)	SECONDARY INDICATORS PRESENT (LIST)	LENGTH OF HYDROPERIOD	IMPORTANT NOTES
1					
2					
3					
4					
5					
6					
7					

8								
SECTION 6 - S	TREAM RESO	URCES SUMN	IARY		·			
DESCRIPTION C	DESCRIPTION OF STREAM: STREAM TYPE (ROSGEN):							
HAVE FISHERIES BEEN DOCUMENTED? DOES THE STREAM SYSTEM APPEAR STABLE? Yes No								
OTHER KEY ON	-SITE FUNCTIO	NS OF NOTE:						
The following ta the evaluator u number are de	The following table can be used to compile data on stream resources. "Important Notes" are to include characteristics the evaluator used to determine principal function and value of each stream. The functions and values reference number are defined in Section 4.							
FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RAT	ΓΙΟΝΑLE		PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES		
1	Yes				Yes No			
2	Yes				Yes No			
3	Yes				Yes No			
4	Yes				Yes No			
5	Yes				Yes No			
6	Yes				Yes No			
7	Yes				Yes No			
8	Yes				Yes No			
9	Yes				Yes No			
10	Yes				Yes No			
11	Yes No				Yes No			
12	Yes				Yes No			

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13	Yes		Yes No		
14	Yes		Yes No		
SECTION 7 - ATTACHMENTS (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)					
Wildlife and vegetation diversity/abundance list.					
Photograph of wetland attached.					
Wetland delineation plans showing wetlands, vernal pools, and streams in relation to the impact area and surrounding landscape. Wetland IDs, vernal pool IDs, and stream IDs must be indicated on the plans.					
For projects in tidal areas only: additional information required by Env-Wt 603.03/603.04 (please refer to the Coastal Area Worksheet for more information)					



WETLANDS FUNCTIONAL ASSESSMENT WORKSHEET Water Division/Land Resource Management Wetlands Bureau <u>Check the Status of your Application</u>



RSA/Rule: RSA 482-A / Env-Wt 311.03(b)(10); Env-Wt 311.10

APPLICANT LAST NAME, FIRST NAME, M.I.: Hillwood Enterprises, L.P.

As required by Env-Wt 311.03(b)(10), an application for a standard permit for minor and major projects must include a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10. This worksheet will help you compile data for the functional assessment needed to meet federal (US Army Corps of Engineers (USACE); if applicable) and NHDES requirements. Additional requirements are needed for projects in tidal area; please refer to the Coastal Area Worksheet for more information.

Both a desktop review and a field examination are needed to accurately determine surrounding land use, hydrology, hydroperiod, hydric soils, vegetation, structural complexity of wetland classes, hydrologic connections between wetlands or stream systems or wetland complex, position in the landscape, and physical characteristics of wetlands and associated surface waters. The results of the evaluation are to be used to select the location of the proposed project having the least impact to wetland functions and values (Env-Wt 311.10). This worksheet can be used in conjunction with the Written Narrative (NHDES-W-06-089) or Avoidance and Minimization Checklist (NHDES-W-06-050) to address Env-Wt 313.03 (Avoidance and Minimization). If more than one wetland/ stream resource is identified, multiple worksheets can be attached with the application. All wetland, vernal pools, and stream identification (ID) numbers are to be displayed and located on the wetlands delineation of the subject property.

SECTION 1 - LOCATION (USACE HIGH	SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)				
ADJACENT LAND USE: golf course					
CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT? 🗌 Yes 🛛 No					
DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT (in feet): 0					
SECTION 2 - DELINEATION (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)					
CERTIFIED WETLAND SCIENTIST (if in a non-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who prepared this assessment: Brendan Quigley, NHCWS #249					
DATE(S) OF SITE VISIT(S): 3/26/20 to 4/6/20	DELINEATION PER ENV-WT 406 COMPLETED? Xes No				
CONFIRM THAT THE EVALUATION IS BASI	ED ON:				
Office and					
Field examination.					
METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in field if "other"):					
🔀 USACE Highway Methodology.					
Other scientifically supported method	l (enter name/ title):				

SECTION 3 - WETLAND RESOURCE SUMMARY (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)				
WETLAND ID: EA8	LOCATION: (LAT/ LONG) 42.71944/71435656			
WETLAND AREA: ~250 SF	DOMINANT WETLAND SYSTEMS PRESENT: Manmade basin			
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND?	COWARDIN CLASS:			
none	PEM2Jx			
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM?	IS THE WETLAND PART OF:			
Yes No	A wildlife corridor or A habitat island?			
if not, where does the wetland lie in the drainage basin?	IS THE WETLAND HUMAN-MADE?			
	🖂 Yes 🔲 No			
IS THE WETLAND IN A 100-YEAR FLOODPLAIN?	ARE VERNAL POOLS PRESENT?			
Yes 🖾 No	Yes 🛛 No (If yes, complete the Vernal Pool Table)			
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? Yes No	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? Yes No			
PROPOSED WETLAND IMPACT TYPE: NO IMPACT	PROPOSED WETLAND IMPACT AREA:			
SECTION 4 - WETLANDS FUNCTIONS AND VALUES* (US	ACE HIGHWAY METHODOLOGY; Env-Wt 311.10)			
 The following table can be used to compile data on wetlands functions and values. The reference numbers indicated in the "Functions/ Values" column refer to the following functions and values: Ecological Integrity (from RSA 482-A:2, XI) Educational Potential (from USACE Highway Methodology: Educational/Scientific Value) Fish & Aquatic Life Habitat (from USACE Highway Methodology: Fish & Shellfish Habitat) Flood Storage (from USACE Highway Methodology: Floodflow Alteration) Groundwater Recharge (from USACE Highway Methodology: Groundwater Recharge/Discharge) Noteworthiness (from USACE Highway Methodology: Threatened or Endangered Species Habitat) Nutrient Trapping/Retention & Transformation (from USACE Highway Methodology) Scenic Quality (from USACE Highway Methodology: Visual Quality/Aesthetics) Sediment Trapping (from USACE Highway Methodology: Sediment /Toxicant Retention) Shoreline Anchoring (from USACE Highway Methodology: Sediment /Toxicant Retention) Uniqueness/Heritage (from USACE Highway Methodology: Sediment/Shoreline Stabilization) Wetland-based Recreation (from USACE Highway Methodology) Wetland-dependent Wildlife Habitat (from USACE Highway Methodology: Sediment/Shoreline Stabilization) 				
First, determine if a wetland is suitable for particular function and value ("Suitability" column) and indicate the rationale behind your determination ("Rationale" column). Please use the rationale reference numbers listed in Appendix A of USACE <i>The Highway Methodology Workbook Supplement</i> . Second, indicate which functions and values are principal (Principal Function/value?" column). As described in <i>The Highway Methodology Workbook Supplement</i> , "functions and values can be principal if they are an important physical component of a wetland ecosystem (function only) and/or are considered of special value to society, from a local, regional, and/or national perspective".				

NHDES-W-06-049

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE (Reference #)	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	☐ Yes ⊠ No		Yes No	Manmade basin in a managed landscape of golf course
2	☐ Yes ⊠ No		Yes No	Manmade basin in a managed landscape of golf course
3	☐ Yes ⊠ No		Yes No	no water
4	☐ Yes ⊠ No		Yes No	no outlet
5	🛛 Yes 🗌 No	3	🔀 Yes 🔲 No	no outlet, drainage dorected to this area infiltrates
6	☐ Yes ⊠ No		Yes No	Manmade basin in a managed landscape of golf course
7	☐ Yes ⊠ No		Yes	no outlet
8	☐ Yes ⊠ No		Yes No	very small, maintained edges
9	☐ Yes ⊠ No		Yes No	Manmade basin in a managed landscape of golf course
10	Xes	1,2,17	🛛 Yes 🗌 No	drainage directed to this basin infittrates, no outlet, sediment is prevented from reaching river -very small, limited function
11	☐ Yes ⊠ No		Yes No	no flow or wave action
12	Yes		Yes No	Manmade basin in a managed landscape of golf course
13	☐ Yes ⊠ No		Yes No	Manmade basin in a managed landscape of golf course

"Important Notes" are to include characteristics the evaluator used to determine the principal function and value of the wetland.

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14	☐ Yes ⊠ No			Yes No	Manmade basin in a managed landscape of golf course				
SECTION	SECTION 5 - VERNAL POOL SUMMARY (Env-Wt 311.10)								
Delineations of vernal pools shall be based on the characteristics listed in the definition of "vernal pool" in Env-Wt 104.44. To assist in the delineation, individuals may use either of the following references:									
• Ide • Th the	 Identifying and Documenting Vernal Pools in New Hampshire 3rd Ed., 2016, published by NHF&G or The USACE Vernal Pool Assessment draft guidance dated 9-10-2013 and form dated 9-6-2016, Appendix L of the USACE New England District Compensatory Mitigation Guidance 								
All vernal p	ool ID numbe	ers are to be displaye	d and located on th	e wetland delineatio	on of the subject property.				
"Important other vern	t Notes" are to al pools/wetla	o include documente ands.	d reproductive and	wildlife values, land	lscape context, and relationship to				
Note: For p Pool Asses <i>Guidance</i> .	projects seeki sment" form	ng federal approval f dated 9-6-2016, App	rom the USACE, plea endix L of the USAC	ase attach a comple E New England Distr	ted copy of The USACE "Vernal ict Compensatory Mitigation				
VERNAL POOL ID NUMBER	NAL DL ID IDERPRIMARY INDICATORS PRESENT (LIST)SECONDARY INDICATORS INDICATORS PRESENT (LIST)LENGTH OF HYDROPERIODIMPORTANT NOTES								
1		-		-					
2									
3									
4									
5									
6									
7									

8								
SECTION 6 - S	TREAM RESO	URCES SUMN	IARY		·			
DESCRIPTION C	DESCRIPTION OF STREAM: STREAM TYPE (ROSGEN):							
HAVE FISHERIES BEEN DOCUMENTED? DOES THE STREAM SYSTEM APPEAR STABLE? Yes No								
OTHER KEY ON	-SITE FUNCTIO	NS OF NOTE:						
The following ta the evaluator u number are de	The following table can be used to compile data on stream resources. "Important Notes" are to include characteristics the evaluator used to determine principal function and value of each stream. The functions and values reference number are defined in Section 4.							
FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RAT	ΓΙΟΝΑLE		PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES		
1	Yes				Yes No			
2	Yes				Yes No			
3	Yes				Yes No			
4	Yes				Yes No			
5	Yes				Yes No			
6	Yes				Yes No			
7	Yes				Yes No			
8	Yes				Yes No			
9	Yes				Yes No			
10	Yes				Yes No			
11	Yes No				Yes No			
12	Yes				Yes No			

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13	Yes		Yes No		
14	Yes		Yes No		
SECTION 7 - ATTACHMENTS (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)					
Wildlife and vegetation diversity/abundance list.					
Photograph of wetland attached.					
Wetland delineation plans showing wetlands, vernal pools, and streams in relation to the impact area and surrounding landscape. Wetland IDs, vernal pool IDs, and stream IDs must be indicated on the plans.					
For projects in tidal areas only: additional information required by Env-Wt 603.03/603.04 (please refer to the Coastal Area Worksheet for more information)					

Wetland Name/Code: EA-

Evaluation Date: 12-5-2010Evaluator: BJQ

1 – ECOLOGICAL INTEGRITY

Evaluation Questions	Observations & Notes	Answers	Score
 Are there land uses in the wetland's watershed that could degrade water quality in the wetland? 		 a. Less than 5% of the watershed has land uses that could degrade water quality. b. 5-10% of the watershed has land uses that could degrade water quality. c. > 10% of the watershed has land uses that could degrade water quality. 	10 5 (1)
2. Is there evidence of fill in the wetland?		a. Less than 1 % b. From 1-3 % c. More than 3 %	10 5 1
3. What percentage of the wetland has been altered by agricultural activities?		(a) Less than 5 % b. From 5 to 25 % c. More than 25 %	10) 5 1
4. What percentage of the wetland has been adversely impacted by logging activity within the last 10 years?		(a.) Less than 1% b. From 1 to 10 % c. More than 10 %	10 5 1
5. How much human activity is taking place in the wetland (e.g. ATV use, trails, cars, dumping of brush and garbage, etc.)?		 a. Low: Few trails in use, little or no traffic, and little or no litter. b. Moderate: Some used trails, roads, litter c. High: Many trails, roads, and/or litter 	10 (5) 1
6. What percentage of the wetland is occupied by invasive plant species?		 a. None 5. 1-5% of the wetland has invasive species c. > 5% of the wetland has invasive species 	10 5 1
7. Are there roads, driveways and/or railroads crossing or adjacent to the wetland or come within 500 ft. of the wetland?		 a. No roads, driveways or railroads. within 500 ft. of, or in the wetland b. Roads, driveways, railroads are within 500 ft of the wetland c. Roads, driveways, railroads cross, or are adjacent to, the wetland 	10 5 1
8. How much human activity is taking place in the upland within 500 feet of the wetland edge?		 a. Less than 5% or no activity b. Human activity evident in up to 25% of the 500 ft zone c. Human activity evident in more than 25% of the 500 ft zone 	10 5 (1)
9. What is the percent of impervious surface within 500 feet of the wetland edge?	at this loc,	 a. Less than 3% impervious area within 500 ft of the wetland edge b. 3-10% impervious area within 500 ft of the wetland edge c. Greater than 10% impervious area within 500 ft of the wetland edge 	10 5 1
10. Is there a human-made structure that regulates the flow of water through the wetland?	None asser. with this location	 a. No human made structures present upstream of, or in the wetland. b. One or more human made structures present upstream of, or in the wetland but hydrologic modification is slight c. One or more human made structures present upstream of, or in the wetland that severely block or alter surface water hydrology 	10 5 1

AVERAGE SCORE FOR ECOLOGICAL INTEGRITY. (Add scores for each question and divide by 10)

Wetland Name/Code: FA-2_____ Evaluation Date: 1)-5-20___ Evaluator: BJR

1 – ECOLOGICAL INTEGRITY

	Evaluation Questions	Observations & Notes	Answers	Score
1.	Are there land uses in the wetland's watershed that could degrade water quality in the wetland?		 a. Less than 5% of the watershed has land uses that could degrade water quality. b. 5-10% of the watershed has land uses that could degrade water quality. > 10% of the watershed has land uses that could degrade water quality. 	10 5 (1)
2.	Is there evidence of fill in the wetland?		a. Less than 1 % b. From 1-3 % c. More than 3 %	10 5 (1)
3.	What percentage of the wetland has been altered by agricultural activities?	pleddles gdfcause	a. Less than 5 % From 5 to 25 % c. More than 25 %	
4.	What percentage of the wetland has been adversely impacted by logging activity within the last 10 years?		a. Less than 1% b. From 1 to 10 % c. More than 10 %	(10) 5 1
5.	How much human activity is taking place in the wetland (e.g. ATV use, trails, cars, dumping of brush and garbage, etc.)?		 a. Low: Few trails in use, little or no traffic, and little or no litter. (b) Moderate: Some used trails, roads, litter c. High: Many trails, roads, and/or litter 	10 5 1
6.	What percentage of the wetland is occupied by invasive plant species?		a. None (b. 1-5% of the wetland has invasive species (c. >> 5% of the wetland has invasive species	10 5 (1)
7.	Are there roads, driveways and/or railroads crossing or adjacent to the wetland or come within 500 ft. of the wetland?		 a. No roads, driveways or railroads. within 500 ft. of, or in the wetland b. Roads, driveways, railroads are within 500 ft of the wetland c. Roads, driveways, railroads cross, or are adjacent to, the wetland 	10 5 (1)
8.	How much human activity is taking place in the upland within 500 feet of the wetland edge?		 a. Less than 5% or no activity b. Human activity evident in up to 25% of the 500 ft zone c. Human activity evident in more than 25% of the 500 ft zone 	10 5 (1) -
9.	What is the percent of impervious surface within 500 feet of the wetland edge?		 a. Less than 3% impervious area within 500 ft of the wetland edge b. 3-10% impervious area within S00 ft of the wetland edge c. Greater than 10% impervious area within 500 ft of the wetland edge 	10 5 (1) -
10.	Is there a human-made structure that regulates the flow of water through the wetland?		 a. No human made structures present upstream of, or in the wetland. b. One or more human made structures present upstream of, or in the wetland but hydrologic modification is slight c. One or more human made structures present upstream of, or in the wetland that severely block or alter surface water hydrology 	10 5 (1)

2.7

AVERAGE SCORE FOR ECOLOGICAL INTEGRITY (Add scores for each question and divide by 10)

Wetland Name/Code: <u>EA-3</u> Evaluation Date: <u>12-5-20</u> Evaluator: <u>ISSR</u>

1 – ECOLOGICAL INTEGRITY

	Evaluation Questions	Observations & Notes	Answers	Score
1.	Are there land uses in the wetland's watershed that could degrade water quality in the wetland?		 a. Less than 5% of the watershed has land uses that could degrade water quality. b. 5-10% of the watershed has land uses that could degrade water quality. (C) > 10% of the watershed has land uses that could degrade water quality. 	10 5 1
2.	Is there evidence of fill in the wetland?		a. Less than 1 % b. From 1-3 % (C. More than 3 %	10 5 (1) ~
3.	What percentage of the wetland has been altered by agricultural activities?	Predating golf course	a. Less than 5 % b) From 5 to 25 % c. More than 25 %	10 © - 1
4.	What percentage of the wetland has been adversely impacted by logging activity within the last 10 years?		a. Less than 1% b. From 1 to 10 % c. More than 10 %	(10) ~ 5 1
5.	How much human activity is taking place in the wetland (e.g. ATV use, trails, cars, dumping of brush and garbage, etc.)?		 a. Low: Few trails in use, little or no traffic, and little or no litter. Moderate: Some used trails, roads, litter c. High: Many trails, roads, and/or litter 	10 (5) 1
6.	What percentage of the wetland is occupied by invasive plant species?		 a. None b >1-5% of the wetland has invasive species c. > 5% of the wetland has invasive species 	10 5 1
7.	Are there roads, driveways and/or railroads crossing or adjacent to the wetland or come within 500 ft. of the wetland?		 a. No roads, driveways or railroads. within 500 ft. of, or in the wetland b. Roads, driveways, railroads are within 500 ft of the wetland c. Roads, driveways, railroads cross, or are adjacent to, the wetland 	10 5
8.	How much human activity is taking place in the upland within 500 feet of the wetland edge?		 a. Less than 5% or no activity b. Human activity evident in up to 25% of the 500 ft zone c. Human activity evident in more than 25% of the 500 ft zone 	10 5 ① -
9.	What is the percent of impervious surface within 500 feet of the wetland edge?		 a. Less than 3% impervious area within 500 ft of the wetland edge 3-10% impervious area within 500 ft of the wetland edge c. Greater than 10% impervious area within 500 ft of the wetland edge 	10 (5)1
10.	Is there a human-made structure that regulates the flow of water through the wetland?		 a. No human made structures present upstream of, or in the wetland. b. One or more human made structures present upstream of, or in the wetland but hydrologic modification is slight One or more human made structures present upstream of, or in the wetland that severely block or alter surface water hydrology 	10 5 (5) 25

AVERAGE SCORE FOR ECOLOGICAL INTEGRITY (Add scores for each question and divide by 10)

3.5

Wetland Name/Code: EA-2. [Evaluation Date: 12-5-20 Evaluator: 35Q

-0 /

1 – ECOLOGICAL INTEGRITY

	Evaluation Questions	Observations & Notes	Answers	Score
1.	Are there land uses in the wetland's watershed that could degrade water quality in the wetland?	wetland is on Mainskined golf course turf	 a. Less than 5% of the watershed has land uses that could degrade water quality. b. 5-10% of the watershed has land uses that could degrade water quality. c. > 10% of the watershed has land uses that could degrade water quality. 	10 5 (1)
2.	Is there evidence of fill in the wetland?		a. Less than 1 % b. From 1-3 % C. More than 3 %	10 5 1
3.	What percentage of the wetland has been altered by agricultural activities?	exists golf course considered for this	a. Less than 5 % b. From 5 to 25 % C. More than 25 %	10 5 1
4.	What percentage of the wetland has been adversely impacted by logging activity within the last 10 years?	moury considered logging for this	a. Less than 1% b. From 1 to 10 % C More than 10 %	10 5 1
5.	How much human activity is taking place in the wetland (e.g. ATV use, trails, cars, dumping of brush and garbage, etc.)?	,	 a. Low: Few trails in use, little or no traffic, and little or no litter. b. Moderate: Some used trails, roads, litter C. High: Many trails, roads, and/or litter 	10 5 (1) =
6.	What percentage of the wetland is occupied by invasive plant species?	maintained turf	a. None b. 1-5% of the wetland has invasive species c. > 5% of the wetland has invasive species	10 5
7.	Are there roads, driveways and/or railroads crossing or adjacent to the wetland or come within 500 ft. of the wetland?		 a. No roads, driveways or railroads. within 500 ft. of, or in the wetland b Roads, driveways, railroads are within 500 ft of the wetland c. Roads, driveways, railroads cross, or are adjacent to, the wetland 	10
8.	How much human activity is taking place in the upland within 500 feet of the wetland edge?		 a. Less than 5% or no activity b. Human activity evident in up to 25% of the 500 ft zone C. Human activity evident in more than 25% of the 500 ft zone 	10 5 (1)
9.	What is the percent of impervious surface within 500 feet of the wetland edge?	-	 a. Less than 3% impervious area within 500 ft of the wetland edge b. 3-10% impervious area within 500 ft of the wetland edge c. Greater than 10% impervious area within 500 ft of the wetland edge 	10 (5) ~ 1
10	is there a human-made structure that regulates the flow of water through the wetland?		 a. No human made structures present upstream of, or in the wetland. b. One or more human made structures present upstream of, or in the wetland but hydrologic modification is slight c. One or more human made structures present upstream of, or in the wetland that severely block or alter surface water hydrology 	

AVERAGE SCORE FOR ECOLOGICAL INTEGRITY

(Add scores for each question and divide by 10)

Wetland Name/Code: EA - 4 Evaluation Date: 1) - 5 - 20 Evaluator: BSCP

5.1

1 – ECOLOGICAL INTEGRITY

	Evaluation Questions	Observations & Notes	Answers	Score
1.	Are there land uses in the wetland's watershed that could degrade water quality in the wetland?		 a. Less than 5% of the watershed has land uses that could degrade water quality. b. 5-10% of the watershed has land uses that could degrade water quality. c. > 10% of the watershed has land uses that could degrade water quality. 	10 5
2.	Is there evidence of fill in the wetland?		a. Less than 1 % From 1-3 % c. More than 3 %	10 (5) 1
3.	What percentage of the wetland has been altered by agricultural activities?		a. Less than 5 % b. From 5 to 25 % c. More than 25 %	10 5 1
4.	What percentage of the wetland has been adversely impacted by logging activity within the last 10 years?		a.Less than 1%b.From 1 to 10 %c.More than 10 %	10 5 1
5.	How much human activity is taking place in the wetland (e.g. ATV use, trails, cars, dumping of brush and garbage, etc.)?		 a. Low: Few trails in use, little or no traffic, and little or no litter. b. Moderate: Some used trails, roads, litter c. High: Many trails, roads, and/or litter 	10 (5) 1
6.	What percentage of the wetland is occupied by invasive plant species?		a. None B. 1-5% of the wetland has invasive species c. > 5% of the wetland has invasive species	10 5 1
7.	Are there roads, driveways and/or railroads crossing or adjacent to the wetland or come within 500 ft. of the wetland?		 a. No roads, driveways or railroads. within 500 ft. of, or in the wetland b. Roads, driveways, railroads are within 500 ft of the wetland c. Roads, driveways, railroads cross, or are adjacent to, the wetland 	10 (5) 1
8.	How much human activity is taking place in the upland within 500 feet of the wetland edge?		 a. Less than 5% or no activity Human activity evident in up to 25% of the 500 ft zone c. Human activity evident in more than 25% of the 500 ft zone 	10 (5) 1
9.	What is the percent of impervious surface within 500 feet of the wetland edge?		 Less than 3% impervious area within 500 ft of the wetland edge 3-10% impervious area within 500 ft of the wetland edge Greater than 10% impervious area within 500 ft of the wetland edge 	5 1
10.	Is there a human-made structure that regulates the flow of water through the wetland?		 a. No human made structures present upstream of, or in the wetland. b. One or more human made structures present upstream of, or in the wetland but hydrologic modification is slight c. One or more human made structures present upstream of, or in the wetland that severely block or alter surface water hydrology 	10 (5) 1

Wetland Name/Code: <u>EA-5</u> Evaluation Date: 12-5-20 Evaluator: 1858

1 – ECOLOGICAL INTEGRITY

	Evaluation Questions	Observations & Notes	Answers	Score
1.	Are there land uses in the wetland's watershed that could degrade water quality in the wetland?		 a. Less than 5% of the watershed has land uses that could degrade water quality. b. 5-10% of the watershed has land uses that could degrade water quality. c. > 10% of the watershed has land uses that could degrade water quality. 	10 5 (1)
2.	Is there evidence of fill in the wetland?		a. Less than 1 % From 1-3 % C. More than 3 %	10 (5) 1
3.	What percentage of the wetland has been altered by agricultural activities?	Existing golf course conditional for this	a. Less than 5 % b. From 5 to 25 % c. More than 25 %	
4.	What percentage of the wetland has been adversely impacted by logging activity within the last 10 years?		a. Less than 1% b. From 1 to 10 % c. More than 10 %	
5.	How much human activity is taking place in the wetland (e.g. ATV use, trails, cars, dumping of brush and garbage, etc.)?		 a. Low: Few trails in use, little or no traffic, and little or no litter. b. Moderate: Some used trails, roads, litter High: Many trails, roads, and/or litter 	10 5 -
6.	What percentage of the wetland is occupied by invasive plant species?		a. None b. 1-5% of the wetland has invasive species 5% of the wetland has invasive species	
7.	Are there roads, driveways and/or railroads crossing or adjacent to the wetland or come within 500 ft. of the wetland?		 a. No roads, driveways or railroads. within 500 ft. of, or in the wetland b. Roads, driveways, railroads are within 500 ft of the wetland c. Roads, driveways, railroads cross, or are adjacent to, the wetland 	10 5 (1) -
8.	How much human activity is taking place in the upland within 500 feet of the wetland edge?		 a. Less than 5% or no activity b. Human activity evident in up to 25% of the 500 ft zone C. Human activity evident in more than 25% of the 500 ft zone 	10 5 (1) ~
9.	What is the percent of impervious surface within 500 feet of the wetland edge?		 a. Less than 3% impervious area within 500 ft of the wetland edge b. 3-10% impervious area within 500 ft of the wetland edge c. Greater than 10% impervious area within 500 ft of the wetland edge 	10 5 1
10.	Is there a human-made structure that regulates the flow of water through the wetland?		 a. No human made structures present upstream of, or in the wetland. b. One or more human made structures present upstream of, or in the wetland but hydrologic modification is slight C. One or more human made structures present upstream of, or in the wetland that severely block or alter surface water hydrology 	

3.2

AVERAGE SCORE FOR ECOLOGICAL INTEGRITY (Add scores for each question and divide by 10)

Wetland Name/Code: EA-6 Evaluation Date: 12-5-10 Evaluator: BR

1 – ECOLOGICAL INTEGRITY

	Evaluation Questions	Observations & Notes	Answers	Score
1. Are wa qua	e there land uses in the wetland's tershed that could degrade water ality in the wetland?		 a. Less than 5% of the watershed has land uses that could degrade water quality. b. 5-10% of the watershed has land uses that could degrade water quality. c) > 10% of the watershed has land uses that could degrade water quality. 	10 5 (1) -
2. Ist	here evidence of fill in the wetland?		a. Less than 1 % From 1-3 % c. More than 3 %	10 (5) 1
3. Wh bee	at percentage of the wetland has n altered by agricultural activities?	Considered for this	a. Less than 5 % b. From 5 to 25 % T. More than 25 %	10 5 (7
4. Wh bee acti	at percentage of the wetland has n adversely impacted by logging vity within the last 10 years?		 a) Less than 1% b. From 1 to 10 % c. More than 10 % 	10 5 1
5. Hov pla tra gar	w much human activity is taking ce in the wetland (e.g. ATV use, ils, cars, dumping of brush and bage, etc.)?	~	 a. Low: Few trails in use, little or no traffic, and little or no litter. b. Moderate: Some used trails, roads, litter C: High: Many trails, roads, and/or litter 	10 5
6. Wh occ	at percentage of the wetland is upied by invasive plant species?		 a. None b. 1-5% of the wetland has invasive species c. > 5% of the wetland has invasive species 	10 5 1
7. Are rail we we	e there roads, driveways and/or roads crossing or adjacent to the tland or come within 500 ft. of the tland?		 a. No roads, driveways or railroads. within 500 ft. of, or in the wetland b. Roads, driveways, railroads are within 500 ft of the wetland c. Roads, driveways, railroads cross, or are adjacent to, the wetland 	10 5 ()
8. Ho [.] pla the	w much human activity is taking ce in the upland within 500 feet of wetland edge?		 a. Less than 5% or no activity b. Human activity evident in up to 25% of the 500 ft zone Human activity evident in more than 25% of the 500 ft zone 	10 5
9. Wł sur edg	at is the percent of impervious face within 500 feet of the wetland ge?		 a. Less than 3% impervious area within 500 ft of the wetland edge b. 3-10% impervious area within 500 ft of the wetland edge c. Greater than 10% impervious area within 500 ft of the wetland edge 	10 _ 4 5 1
10. Is rej the	there a human-made structure that gulates the flow of water through e wetland?		 a. No human made structures present upstream of, or in the wetland. b. One or more human made structures present upstream of, or in the wetland but hydrologic modification is slight c. One or more human made structures present upstream of, or in the wetland that severely block or alter surface water hydrology 	
AVERA (Add sc	GE SCORE FOR ECOLOGICAL INTEG ores for each question and divide by 10	RITY	3.2	<u> </u>

NH	METHOD	FOR	THE	EVALU	ATION	OF	FRESHWA	TER	WETL	ANDS	(revised	December,	201	15)
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Wetland Name/Code: EA-7+8 Evaluation Date: 12-5-20 Evaluator: STR (Manuade Pouls) 1-ECOLOGICAL INTEGRITY

	Evaluation Questions	Observations & Notes	Answers	Score
1.	Are there land uses in the wetland's watershed that could degrade water quality in the wetland?		 a. Less than 5% of the watershed has land uses that could degrade water quality. b. 5-10% of the watershed has land uses that could degrade water quality. c. 10% of the watershed has land uses that could degrade water quality. 	10 5 (j)
2.	Is there evidence of fill in the wetland?	itargly NA, some rikduy at cration	a. Less than 1 % 6. From 1-3 % c. More than 3 %	10 5 1
3.	What percentage of the wetland has been altered by agricultural activities?	bolf course	a. Less than 5 % b. From 5 to 25 % c. More than 25 %	10 5
4.	What percentage of the wetland has been adversely impacted by logging activity within the last 10 years?		 Less than 1% From 1 to 10 % More than 10 % 	(1) 5 1
5.	How much human activity is taking place in the wetland (e.g. ATV use, trails, cars, dumping of brush and garbage, etc.)?		 a. Low: Few trails in use, little or no traffic, and little or no litter. b. Moderate: Some used trails, roads, litter C. High: Many trails, roads, and/or litter 	10 5
6.	What percentage of the wetland is occupied by invasive plant species?		 a. None b. 1-5% of the wetland has invasive species C. > 5% of the wetland has invasive species 	10 5
7.	Are there roads, driveways and/or railroads crossing or adjacent to the wetland or come within 500 ft. of the wetland?		 a. No roads, driveways or railroads. within 500 ft. of, or in the wetland b. Roads, driveways, railroads are within 500 ft of the wetland c. Roads, driveways, railroads cross, or are adjacent to, the wetland 	10 5 (1)
8.	How much human activity is taking place in the upland within 500 feet of the wetland edge?		 a. Less than 5% or no activity b. Human activity evident in up to 25% of the 500 ft zone C. Human activity evident in more than 25% of the 500 ft zone 	10 5
9.	What is the percent of impervious surface within 500 feet of the wetland edge?		 Less than 3% impervious area within 500 ft of the wetland edge 3-10% impervious area within 500 ft of the wetland edge Greater than 10% impervious area within 500 ft of the wetland edge 	10 5 1
10	Is there a human-made structure that regulates the flow of water through the wetland?	isolated by destign	 a. No human made structures present upstream of, or in the wetland. b. One or more human made structures present upstream of, or in the wetland but hydrologic modification is slight c. One or more human made structures present upstream of, or in the wetland that severely block or alter surface water hydrology 	10 5

3. /

AVERAGE SCORE FOR ECOLOGICAL INTEGRITY

(Add scores for each question and divide by 10)

Appendix C

Wetland Delineation Data Forms



WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hudson Logistics Center	City/County: Hudson Sampling Date: 12/2/20
Applicant/Owner: Hillwood Development	State: NH Sampling Point: 1-1_UPL
Investigator(s): Brendan Quigley, Gove Environmental Services	Section, Township, Range:
Landform (hillside, terrace, etc.): Lower Merrimack River Valley	.ocal relief (concave, convex, none): convex Slope %:
Subregion (LRR or MLRA): LRR R Lat: see map	Long: Datum:
Soil Map Unit Name:	NWI classification: PFO1B
Are climatic / hydrologic conditions on the site typical for this time of ye	ar? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly of	disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally prof	olematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X If yes, optional Wetland Site ID: Impact Area 1				
Hydric Soil Present?	Yes	No X					
Wetland Hydrology Present?	Yes	No X					
Remarks: (Explain alternative procedures here or in a separate report.)							

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) Water-Stained Leaves (B9) Drainage Patterns (B10) High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16) Saturation (A3) Marl Deposits (B15) Dry-Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)
Surface Water (A1)Water-Stained Leaves (B9)Drainage Patterns (B10)High Water Table (A2)Aquatic Fauna (B13)Moss Trim Lines (B16)Saturation (A3)Marl Deposits (B15)Dry-Season Water Table (C2)Water Marks (B1)Hydrogen Sulfide Odor (C1)Crayfish Burrows (C8)Sediment Deposits (B2)Oxidized Rhizospheres on Living Roots (C3)Saturation Visible on Aerial Imagery (C9)Drift Deposits (B3)Presence of Reduced Iron (C4)Stunted or Stressed Plants (D1)Algal Mat or Crust (B4)Recent Iron Reduction in Tilled Soils (C6)Geomorphic Position (D2)Iron Deposits (B5)Thin Muck Surface (C7)Shallow Aquitard (D3)Inundation Visible on Aerial Imagery (B7)Other (Explain in Remarks)Microtopographic Relief (D4)
High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16) Saturation (A3) Marl Deposits (B15) Dry-Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)
Saturation (A3) Marl Deposits (B15) Dry-Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)
Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)
Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)
Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)
Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8) FAC-Neutral Test (D5)
Field Observations:
Surface Water Present? Yes No X Depth (inches):
Water Table Present? Yes No X Depth (inches):
Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X
(includes capillary fringe)
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 1-1_UPL

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: <u>30'r</u>)	% Cover	Species?	Status	Dominance Test worksheet:
1. Pinus strobus	60	Yes	FACU	Number of Dominant Species
2. Quercus rubra	15	No	FACU	That Are OBL, FACW, or FAC:(A)
3. Acer rubrum 4.	15	No	FAC	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
5.				Percent of Dominant Species That Are OBL, FACW, or FAC:
7.				Prevalence Index worksheet:
	90	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15'r)				OBL species X 1 =0
1. Corylus cornuta	10	Yes	FACU	FACW species 5 x 2 = 10
2. Prunus serotina	10	Yes	FACU	FAC species 15 x 3 = 45
3				FACU species x 4 = 380
4.				UPL species x 5 =
5.				Column Totals: 115 (A) 435 (B)
6.				Prevalence Index = B/A = 3.78
7.				Hydrophytic Vegetation Indicators:
	20	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5'r)				2 - Dominance Test is >50%
1. Osmundastrum cinnamomeum	5	Yes	FACW	$3 - Prevalence Index is \le 3.0^1$
2.				4 - Morphological Adaptations ¹ (Provide supporting
3.				data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5.				
6.				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8.				
9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	5	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2				l
3		<u> </u>		Hydrophytic Vegetation
4		<u> </u>		Present? Yes No X
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa	rate sheet.)			

SOIL	
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Profile Desc	cription: (Describe	to the dep	oth needed to docu	ument t	he indica	ator or co	onfirm the absence of indicato	rs.)
Depth (inchoo)	Matrix	0/	Color (moiot)	x Featur	Turne ¹	1002	Touture	Domorko
(inches)	Color (moist)	<u> %</u>		70	Туре	LOC	Texture	Remarks
0-9	10yr 3/2	100					Sandy	
9-18	10yr 5/3	95	10yr 5/6	5	С	М	Sandy	
		·				·		
		·						
		·				·		
		·				·		
		·						
	oncentration D-Den	letion RM	-Reduced Matrix	19-Mas	ked Sand	Grains	² l ocation: Pl –Pore Li	ning M-Matrix
Hydric Soil	Indicators:			10-11183	Keu Gand		Indicators for Proble	matic Hydric Soils ³
Histosol	(A1)		Polvvalue Belo	w Surfa	ce (S8) (I	LRR R.	2 cm Muck (A10) (LRR K. L. MLRA 149B)
Histic Ep	pipedon (A2)		MLRA 149B	5)		,	Coast Prairie Redo	ox (A16) (LRR K, L, R)
Black Hi	istic (A3)		Thin Dark Surf	, ace (S9) (LRR R	, MLRA 1	149B) 5 cm Mucky Peat	or Peat (S3) (LRR K, L, R)
Hydroge	en Sulfide (A4)		High Chroma S	Sands (S	611) (LRF	R K, L)	Polyvalue Below S	Surface (S8) (LRR K, L)
Stratified	d Layers (A5)		Loamy Mucky	Mineral	(F1) (LRI	R K, L)	Thin Dark Surface	(S9) (LRR K, L)
Depleted	d Below Dark Surface	e (A11)	Loamy Gleyed	Matrix (F2)		Iron-Manganese M	lasses (F12) (LRR K, L, R)
Thick Da	ark Surface (A12)		Depleted Matri	x (F3)			Piedmont Floodpla	ain Soils (F19) (MLRA 149B)
Sandy M	lucky Mineral (S1)		Redox Dark Su	urface (F	-6)		Mesic Spodic (TA6	6) (MLRA 144A, 145, 149B)
Sandy G	Gleyed Matrix (S4)		Depleted Dark	Surface	e (F7)		Red Parent Materi	al (F21)
Sandy R	Redox (S5)		Redox Depres	sions (F	8)		Very Shallow Dark	Surface (F22)
Stripped	I Matrix (S6)		Marl (F10) (LR	R K, L)			Other (Explain in F	Remarks)
Dark Su	rface (S7)							
3								
Indicators of	f hydrophytic vegetal	tion and w	etland hydrology mu	ust be pi	resent, ur	iless dist	urbed or problematic.	
Tupo	Layer (if observed):							
Type.								
Depth (ii	nches):						Hydric Soil Present?	Yes <u>No X</u>
Remarks:								
This data for	m is revised from No	orthcentral	and Northeast Reg	ional Su		t Version	2.0 to include the NRCS Field Ir	ndicators of Hydric Soils,
		www.mcs.u	isua.gov/internet/F	SE_DOU		3/11/0514	2p2_031293.000x)	

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hudson Logistics Ce	enter		City/County: Hudson			Sampling Date:	12/2/20
Applicant/Owner: Hillwood De	velopment			State:	NH	Sampling Point:	1-1_WET
Investigator(s): Brendan Quigley,	Gove Environmental S	Services	Section, Town	ship, Range:			
Landform (hillside, terrace, etc.):	Lower Merrimack Riv	er Valley Local	relief (concave, convex,	none): concave		Slope	%:
Subregion (LRR or MLRA): LRR	R Lat:	see map	Long:			Datum:	
Soil Map Unit Name:				NWI classific	ation:	PFO1B	
Are climatic / hydrologic conditions	on the site typical for	this time of year?	Yes	No (I	lf no, ex	plain in Remarks	.)
Are Vegetation, Soil	, or Hydrology	significantly distu	bed? Are "Normal	I Circumstances'	" prese	nt? Yes X	No
Are Vegetation, Soil	, or Hydrology	naturally problem	atic? (If needed, e	explain any answ	vers in	Remarks.)	
SUMMARY OF FINDINGS	 Attach site map 	showing sam	pling point locatio	ons, transect	s, imp	portant featur	es, etc.
Hydrophytic Vegetation Present?	Yes X	No	Is the Sampled Area	a			
Hydric Soil Present?	Yes X	No	within a Wetland?	Yes	Х	No	
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetla	and Site ID: Im	pact Ar	rea 1	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:			Secondary Indicators (minimum of two required)		
Primary Indicators (minimum of one is require	Surface Soil Cracks (B6)				
Surface Water (A1)	Drainage Patterns (B10)				
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B16)		
X Saturation (A3)	Marl Deposits (B15)		Dry-Season Water Table (C2)		
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)		
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Ro	oots (C3)	Saturation Visible on Aerial Imagery (C9)		
Drift Deposits (B3)	Presence of Reduced Iron (C4)		Stunted or Stressed Plants (D1)		
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils	s (C6)	Geomorphic Position (D2)		
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D3)		
X Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)		Microtopographic Relief (D4)		
Sparsely Vegetated Concave Surface (B	8)		FAC-Neutral Test (D5)		
Field Observations:					
Surface Water Present? Yes	No X Depth (inches):				
Water Table Present? Yes X	No Depth (inches): 15				
Saturation Present? Yes X	No Depth (inches): 10	Wetlan	d Hydrology Present? Yes X No		
(includes capillary fringe)					
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, previous inspe	ctions), if a	available:		
Remarks:					

VEGETATION - Use scientific names of plants.

Sampling Point: 1-1_WET

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer rubrum	30	Yes	FAC	Number of Dominant Species
2.				That Are OBL, FACW, or FAC:3 (A)
3 4.				Total Number of Dominant Species Across All Strata: 5 (B)
5.				Porcent of Dominant Species
6				That Are OBL, FACW, or FAC: 60.0% (A/B)
7				Prevalence Index worksheet:
	30	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species <u>5</u> x 1 = <u>5</u>
1. Rubus allegheniensis	2	Yes	FACU	FACW species 20 x 2 = 40
2. Rubus idaeus	5	Yes	FACU	FAC species 60 x 3 = 180
3				FACU species 7 x 4 = 28
4				UPL species 0 x 5 = 0
5				Column Totals: 92 (A) 253 (B)
6				Prevalence Index = B/A = 2.75
7.				Hydrophytic Vegetation Indicators:
	7	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:)		•		X 2 - Dominance Test is >50%
1. Solidago rugosa	25	Yes	FAC	X 3 - Prevalence Index is ≤3.0 ¹
2 Lythrum salicaria	5	No	OBI	4 - Morphological Adaptations ¹ (Provide supporting
3 Impatiens canensis	20	Yes	FACW	data in Remarks or on a separate sheet)
Toyloodondron radicans	5	No		Problematic Hydrophytic Vegetation ¹ (Evaluin)
	5		FAC	
5				¹ Indicators of hydric soil and wetland hydrology must
6		·		be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	55	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines - All woody vines greater than 3 28 ft in
1.				height.
2.				
3.				Hydrophytic Manatalian
4.				Vegetation Present? Yes X No
		-Total Cover		
Pamarke: (Include photo numbers here or on a separ	ato shoot)			
	ate 311001.)			

SOIL	
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Depth	Matrix	-	Redo	x Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-9	2.5y 2.5/1	98					Sandy	high organic matter	
9-16	5y 5/2	98	10yr 4/6	2	С	M	Sandy		
						•			
						·			
¹ Type: C=C	oncentration, D=Dep	letion, RM	=Reduced Matrix, N	/IS=Mas	ked Sand	Grains.	² Location: PL=	=Pore Lining, M=Matrix.	
¹ Type: C=Concentration, D=Depletion, R Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) X Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) ³ Indicators of hydrophytic vegetation and the			 Reduced Matrix, MS=Masked Sand Grains. Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 14 High Chroma Sands (S11) (LRR K, L) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Marl (F10) (LRR K, L) 				Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149I) Mesic Spodic (TA6) (MLRA 144A, 145, 149E) Red Parent Material (F21) Very Shallow Dark Surface (F22) Other (Explain in Remarks)		
Type:	Layer (if observed):								
Depth (i	nches):						Hydric Soil Present	? Yes <u>X</u> No	
Remarks: This data for Version 7.0,	rm is revised from No 2015 Errata. (http://v	orthcentral vww.nrcs.i	and Northeast Reg usda.gov/Internet/F	ional Su SE_DOC	pplemen CUMENT	t Version S/nrcs142	2.0 to include the NRCS 2p2_051293.docx)	S Field Indicators of Hydric Soils,	
Project/Site: Hudson Logistics Center	City/County: Hudson Sampling Date: 12/2/20								
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Applicant/Owner: Hillwood Development	State: NH Sampling Point: 1-2_UPL								
Investigator(s): Brendan Quigley, Gove Environmental Services	Section, Township, Range:								
Landform (hillside, terrace, etc.): Lower Merrimack River Valley	.ocal relief (concave, convex, none): convex Slope %:								
Subregion (LRR or MLRA): LRR R Lat: see map	Long: Datum:								
Soil Map Unit Name:	NWI classification: PFO1B								
Are climatic / hydrologic conditions on the site typical for this time of ye	ar? Yes No (If no, explain in Remarks.)								
Are Vegetation, Soil, or Hydrologysignificantly of	disturbed? Are "Normal Circumstances" present? Yes X No								
Are Vegetation, Soil, or Hydrologynaturally prot	olematic? (If needed, explain any answers in Remarks.)								
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.								

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X If yes, optional Wetland Site ID: Impact Area 1
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	
Remarks: (Explain alternative procedures	here or in a se	eparate report.)	

Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) Water-Stained Leaves (B9) Drainage Patterns (B10) High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16) Saturation (A3) Marl Deposits (B15) Dry-Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)
Surface Water (A1)Water-Stained Leaves (B9)Drainage Patterns (B10)High Water Table (A2)Aquatic Fauna (B13)Moss Trim Lines (B16)Saturation (A3)Marl Deposits (B15)Dry-Season Water Table (C2)Water Marks (B1)Hydrogen Sulfide Odor (C1)Crayfish Burrows (C8)Sediment Deposits (B2)Oxidized Rhizospheres on Living Roots (C3)Saturation Visible on Aerial Imagery (C9)Drift Deposits (B3)Presence of Reduced Iron (C4)Stunted or Stressed Plants (D1)Algal Mat or Crust (B4)Recent Iron Reduction in Tilled Soils (C6)Geomorphic Position (D2)Iron Deposits (B5)Thin Muck Surface (C7)Shallow Aquitard (D3)Inundation Visible on Aerial Imagery (B7)Other (Explain in Remarks)Microtopographic Relief (D4)
High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16) Saturation (A3) Marl Deposits (B15) Dry-Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)
Saturation (A3) Marl Deposits (B15) Dry-Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)
Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)
Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)
Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)
Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8) FAC-Neutral Test (D5)
Field Observations:
Surface Water Present? Yes No X Depth (inches):
Water Table Present? Yes No X Depth (inches):
Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X
(includes capillary fringe)
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Remarks:

Sampling Point: 1-2_UPL

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size: <u>30'r</u>)	% Cover	Species?	Status	Dominance Test worksheet:
1. Betula populitolia	20	Yes	FAC	Number of Dominant Species
2. Quercus rubra	20	Yes	FACU	That Are OBL, FACW, or FAC:(A)
3. Prunus serotina		Yes	FACU	Total Number of Dominant
4. Populus tremuloides	15	Yes	FACU	Species Across All Strata: 8 (B)
5. Acer rubrum 6.	10	No	FAC	Percent of Dominant Species That Are OBL, FACW, or FAC: 12.5% (A/B)
7.				Prevalence Index worksheet:
	80	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15'r)				OBL species 0 x 1 = 0
1. Elaeagnus umbellata	10	Yes	UPL	FACW species $0 x 2 = 0$
2. Prunus serotina	15	Yes	FACU	FAC species $30 \times 3 = 90$
3.				FACU species 70 x 4 = 280
4.				UPL species $10 \times 5 = 50$
5.				Column Totals: 110 (A) 420 (B)
6				$\frac{1}{2} = \frac{1}{2} = \frac{1}$
7.				Hydrophytic Vegetation Indicators:
	25	-Total Cover		1 - Ranid Test for Hydronbytic Vegetation
Herb Stratum (Plot size: 5'r)				2 - Dominance Test is >50%
1	5	Vas		3 - Prevalence Index is <3.01
2		103		4 - Morphological Adaptations ¹ (Provide supporting
2				data in Remarks or on a separate sheet)
3				Problematic Hydrophytic Vegetation ¹ (Explain)
6				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sanling/shrub - Woody plants less than 3 in DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12.				Herb - All berbaceous (non-woody) plants, regardless
	5	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines All woody vines greater than 3.28 ft in
1. Vitis labrusca	5	Yes	FACU	height.
2.				
3.				Hydrophytic
4.				Present? Yes No X
	5	=Total Cover		
Remarks: (Include photo numbers here or on a sepa	rate sheet.)			1

Profile Desc	ription: (Describe	to the dep	oth needed to doc	ument t	he indica	tor or co	onfirm the absence of	indicators.)	
Depth	Matrix		Redo	x Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rer	narks
0-5	10yr 3/2	100					Sandy		
5-13	10yr 4/6	100					Sandy		
13-20	2.5y 5/4	100					Sandy		
		<u> </u>							
		·							
		lotion PM	-Poducod Matrix	AS-Mac	kod Sand	Grains	² Location: PL	-Poro Lining M-	Motrix
Hydric Soil I	ndicators:			vio=ivias	keu Sano	i Grains.	Indicators fo	r Problematic H	vdric Soils ³
Histosol	(A1)		Polyvalue Belo	ow Surfa	ce (S8) (RR R.	2 cm Muc	k (A10) (LRR K.	L. MLRA 149B)
Histic Ep	ipedon (A2)	•	MLRA 149B))		,	Coast Pra	airie Redox (A16)	(LRR K. L. R)
Black His	stic (A3)		Thin Dark Surf	, ace (S9)) (LRR R	MLRA 1	49B) 5 cm Muc	kv Peat or Peat (S3) (LRR K. L. R)
Hydroger	n Sulfide (A4)		High Chroma S	Sands (S	511) (LRF	R K. L)	Polyvalue	Below Surface (S8) (LRR K. L)
Stratified	Lavers (A5)	•	Loamy Mucky	Mineral	(F1) (LRI	R K. L)	Thin Dark	Surface (S9) (LF	R K. L)
Depleted	Below Dark Surface	e (A11)	Loamy Gleved	Matrix ((F2)	, _/	Iron-Man	panese Masses (F	=12) (LRR K. L. R)
Thick Da	rk Surface (A12)		Depleted Matri	ix (F3)	,		Piedmont	Floodplain Soils	(F19) (MLRA 149B
Sandy M	ucky Mineral (S1)		Redox Dark Su	urface (F	-6)		Mesic Sp	odic (TA6) (MLRA	A 144A, 145, 149B)
Sandy G	leved Matrix (S4)		Depleted Dark	Surface	e (F7)		Red Pare	nt Material (F21)	, -, -,
Sandy Re	edox (S5)	•	Redox Depres	sions (F	8)		Very Sha	llow Dark Surface	e (F22)
Stripped	Matrix (S6)	•	 Marl (F10) (LR	RK,L)	,		Other (Ex	plain in Remarks)
Dark Sur	face (S7)								
³ Indicators of	hydrophytic vegetat	ion and we	etland hydrology m	ust be pi	resent, ur	nless dist	urbed or problematic.		
Restrictive L	ayer (if observed):								
Туре:									
Depth (in	ches):						Hydric Soil Presen	t? Yes_	<u>No X</u>
Remarks:									
This data forr	m is revised from No	orthcentral	and Northeast Reg	ional Su	pplemen	Version	2.0 to include the NRC	S Field Indicators	of Hydric Soils,
Version 7.0, 2	2015 Errata. (http://v	www.nrcs.u	usda.gov/Internet/F	SE_DOO	CUMENT	S/nrcs14	2p2_051293.docx)		

Project/Site: Hudson Logistics Ce	enter		City/County: Hudson		Sampling Date: 12/2/20
Applicant/Owner: Hillwood De	velopment			State: NH	Sampling Point: 1-2_WET
Investigator(s): Brendan Quigley,	Gove Environmental S	Services	Section, Towns	hip, Range:	
Landform (hillside, terrace, etc.):	Lower Merrimack Riv	er Valley Local ı	relief (concave, convex, n	ione): concave	Slope %:
Subregion (LRR or MLRA): LRR	R Lat:	see map	Long:		Datum:
Soil Map Unit Name:				NWI classification	n: PFO1B
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 distur	bed? Are "Normal	Circumstances" pre	esent? Yes X No
Are Vegetation, Soil	, or Hydrology	naturally problema	tic? (If needed, ex	xplain any answers	in Remarks.)
SUMMARY OF FINDINGS -	 Attach site map 	showing sam	pling point locatior	ns, transects, i	mportant features, etc.
Hydrophytic Vegetation Present?	Yes X	No	Is the Sampled Area		
Hydric Soil Present?	Yes X	No	within a Wetland?	Yes X	No
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetlar	nd Site ID: Impact	Area 1

Remarks: (Explain alternative procedures here or in a separate report.)

Wetland Hydrology Indicators:			Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is require	Surface Soil Cracks (B6)		
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B16)
X Saturation (A3)	Marl Deposits (B15)		Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Ro	oots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)		Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils	s (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D3)
X Inundation Visible on Aerial Imagery (B7	7) Other (Explain in Remarks)		Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (E	FAC-Neutral Test (D5)		
Field Observations:			
Surface Water Present? Yes	No X Depth (inches):		
Water Table Present? Yes X	No Depth (inches): 15		
Saturation Present? Yes X	No Depth (inches): 10	Wetlan	d Hydrology Present? Yes X No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, previous inspe	ctions), if	available:
Remarks:			

Sampling Point: 1-2_WET

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Dominance Test worksheet:
1. Acer rubrum	25	Yes	FAC	Number of Dominant Species
2. Betula populifolia	5	No	FAC	That Are OBL, FACW, or FAC:4 (A)
3				Total Number of Dominant
4				Species Across All Strata: 5 (B)
5				Percent of Dominant Species
6			. <u> </u>	That Are OBL, FACW, or FAC: 80.0% (A/B)
7				Prevalence Index worksheet:
	30	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species 0 x 1 = 0
1. Frangula alnus	30	Yes	FAC	FACW species <u>5</u> x 2 = <u>10</u>
2. Betula populifolia	10	Yes	FAC	FAC species 70 x 3 = 210
3				FACU species <u>5</u> x 4 = <u>20</u>
4				UPL species x 5 =0
5				Column Totals: 80 (A) 240 (B)
6.				Prevalence Index = $B/A = 3.00$
7.				Hydrophytic Vegetation Indicators:
	40	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:)				X 2 - Dominance Test is >50%
1. Osmundastrum cinnamomeum	5	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹
2.				4 - Morphological Adaptations ¹ (Provide supporting
3.				data in Remarks or on a separate sheet)
4.		·		Problematic Hydrophytic Vegetation ¹ (Explain)
5		·		
6.				'Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8	_			Tree – Woody plants 3 in (7.6 cm) or more in
9.				diameter at breast height (DBH), regardless of height.
10.				Sapling/shrub Woody plants loss than 2 in DRH
11.				and greater than or equal to 3.28 ft (1 m) tall.
12.				Have All borbossous (non woody) plants, regardless
	5	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				
1. Vitis labrusca	5	Yes	FACU	woody vines – All woody vines greater than 3.28 ft in height.
2.		·		
3				Hydrophytic
4.		·		Vegetation Present? Yes X No
	5	=Total Cover	·	
Remarks: (Include photo numbers here or on a sena	rate sheet \			I

Depth	Matrix		Redo	ox Featur	res					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks			
0-8	2.5y 2.5/1	100					Sandy high organic matter			
8-15	5y 5/2	95	7.5yr 4/6	5	С	М	Sandy			
		·								
		·								
		·								
¹ Type: C-C		lotion PM	-Poducod Matrix		kod San		² l ocation: PL-Poro Lining M-Matrix			
Hydric Soil	Indicators:			vi3=ivia5	keu Sant	d Grains.	Indicators for Problematic Hydric Soils ³			
Histosol	(A1)		Polvvalue Belo	ow Surfa	ce (S8) (LRR R.	2 cm Muck (A10) (LRR K. L. MLRA 149B			
Histic Er	pipedon (A2)		MLRA 149E	3)		,	Coast Prairie Redox (A16) (LRR K. L. R)			
Black Hi	stic (A3)		Thin Dark Sur	-, face (S9) (LRR R	. MLRA 1	149B) 5 cm Mucky Peat or Peat (S3) (LRR K. L.			
Hvdroge	en Sulfide (A4)		High Chroma	Sands (S	511) (LRI	,	Polyvalue Below Surface (S8) (LRR K. L)			
Stratified			Loamy Mucky	Mineral	(F1) (LR	RKI)	Thin Dark Surface (S9) (LRR K L)			
V Doploto	d Balaw Dark Surfaa	o (A11)		Motrix ((E1) (ER) (E2)	κ κ, Ε)				
	Delow Dark Surface	e (ATT)	Loamy Gleyed Matrix (F2)				IIOII-Manganese Masses (F12) (LRR K, L			
	ark Sufface (A12)		Depleted Matr	1X (F3)	-0)		Pleamont Floodplain Solis (F19) (MLRA 1			
Sandy N	lucky Mineral (S1)		Redox Dark S	urface (F	-6)		Mesic Spodic (1A6) (MLRA 144A, 145, 14			
Sandy G	Bleyed Matrix (S4)		Depleted Dark	Surface	e (F7)		Red Parent Material (F21)			
Sandy R	tedox (S5)		Redox Depres	sions (F	8)		Very Shallow Dark Surface (F22)			
Stripped	Matrix (S6)		Marl (F10) (LF	RR K, L)			Other (Explain in Remarks)			
Dark Su	rface (S7)									
³ Indicators o	f hydrophytic vegeta	tion and w	etland hydrology m	ust be p	resent, ur	nless dist	turbed or problematic.			
Type:	∟ayer (ir observed):									
Depth (ii	nches):						Hydric Soil Present? Yes <u>X</u> No			
Remarks:										
This data for	m is revised from No	orthcentral	and Northeast Reg	jional Su	ıpplemen	t Version	2.0 to include the NRCS Field Indicators of Hydric Soils			
Version 7.0,	2015 Errata. (http://v	www.nrcs.u	usda.gov/Internet/F	SE_DO	CUMENT	S/nrcs14	12p2_051293.docx)			

Project/Site: Hudson Logistics Center	City/County: Hudson Sampling Date: 12/2/20
Applicant/Owner: Hillwood Development	State: NH Sampling Point: 2_UPL
Investigator(s): Brendan Quigley, Gove Environmental Services	Section, Township, Range:
Landform (hillside, terrace, etc.): Lower Merrimack River Valley Loc	cal relief (concave, convex, none): convex Slope %:
Subregion (LRR or MLRA): LRR R Lat: see map	Long: Datum:
Soil Map Unit Name:	NWI classification: PFO1B
Are climatic / hydrologic conditions on the site typical for this time of year	? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly dis	turbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally proble	matic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sa	ampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area
Hydric Soil Present?	Yes	No X	within a Wetland? Yes No X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID: Impact Area 2
Remarks: (Explain alternative procedu	res here or in a	separate report.)	

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)		
Primary Indicators (minimum of one is require	Surface Soil Cracks (B6)			
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)		
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)		
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)		
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)		
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	(C3) Saturation Visible on Aerial Imagery (C9)		
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)		
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C	C6) Geomorphic Position (D2)		
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)		
Sparsely Vegetated Concave Surface (B8	Sparsely Vegetated Concave Surface (B8)			
Field Observations:				
Surface Water Present? Yes	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):	Wetland Hydrology Present? Yes No X		
(includes capillary fringe)				
Describe Recorded Data (stream gauge, mon	itoring well, aerial photos, previous inspectio	ons), if available:		
Remarks:				

Sampling Point: 2_UPL

Tree Stratum (Plot size: 30'r)	Absolute % Cover	Dominant	Indicator Status	Dominance Test worksheet:
1 Pinus strobus	<u>15</u>	Ves	FACIL	Dominance rest worksheet.
	25	Ves	FACU	Number of Dominant Species
3 Acer rubrum	20	Vec	FAC	
		163		Total Number of Dominant
T				
6				Percent of Dominant Species
7				Prevalence Index worksheet:
	60	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15'r)				$\begin{array}{c c c c c c c c c c c c c c c c c c c $
1. Frangula alnus	10	Yes	FAC	FACW species $0 x^2 = 0$
2. Prunus serotina	5	Yes	FACU	FAC species 42 x 3 = 126
3. Acer rubrum	10	Yes	FAC	FACU species 45 x 4 = 180
4.				UPL species $0 \times 5 = 0$
5.				Column Totals: 87 (A) 306 (B)
6.				Prevalence Index = $B/A = 3.52$
7.				Hydrophytic Vegetation Indicators:
	25	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5'r)				2 - Dominance Test is >50%
1. Dryopteris intermedia	2	No	FAC	 3 - Prevalence Index is ≤3.0 ¹
2.				4 - Morphological Adaptations ¹ (Provide supporting
3.				data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5.				
6.				be present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8.				Tree Weady plants 2 in (7.6 cm) or more in
9.				diameter at breast height (DBH), regardless of height.
10.				Sanling/chrub - Woody plants less than 3 in DBH
11.				and greater than or equal to 3.28 ft (1 m) tall.
12.				Herb - All herbaceous (non-woody) plants, regardless
	2	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines - All woody vines greater than 3.28 ft in
1				height.
2				
3				Hydrophytic Vegetation
4				Present? Yes No X
	:	=Total Cover		
Remarks: (Include photo numbers here or on a sepa	arate sheet.)			

(inches) Color (moist) % Type! Loc ² Texture Remarks 0-12 10yr 3/2 100 Sandy Sandy Sulf	Color (moist) % Color (moist) 0-12 10yr 3/2 100 12-18 10yr 5/4 100	<u>% Type¹ Loc²</u>	Texture Remarks Sandy
0-12 10yr 3/2 100 Sandy 12-18 10yr 5/4 100 Sandy 12-19 10yr 5/4 100 Sandy Michael And	0-12 10yr 3/2 100 12-18 10yr 5/4 100		Sandy Sandy
12-18 10yr 5/4 100 Sandy Image: Sandy image: Sandy Sandy image: Sandy Sandy Redox (Sa) image: Sandy Sandy Redox (Sa) image: Sandy Redo	12-18 10yr 5/4 100		Sandy
Image: Solution of the second seco			
Image:			
*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: Indicators for Problematic Hydric Soils*: Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Hydrogen Sulfide (A2) MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR K, L) Polyvalue Below Surface (S3) (LRR K, L) Black Histic (A3) Thin Dark Surface (S9) (LRR K, L) Polyvalue Below Surface (S3) (LRR K, L) Depleted Below Dark Surface (A11) Loarny Mucky Mineral (F1) (LRR K, L) Polyvalue Below Surface (S3) (LRR K, L) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 1444, 145, 7) Sandy Redox (S5) Redox Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) Marl (F10) (LRR K, L) Other (Explain in Remarks) ************************************			
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¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Thick Dark Surface (A12) Depleted Matrix (F3) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Sandy Redox (S5) Redox Depressions (F8) Dark Surface (S7) Marl (F10) (LRR K, L) Stripped Matrix (S6) Marl (F10) (LRR K, L) Dark Surface (S7) Sandy Hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type:			
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¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) Indicators for Problematic Hydric Soils ³ : Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R Polyvalue Below Surface (S9) (LRR K, L) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L) Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, ' Sandy Redox (S5) Sandy Redox (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) Marl (F10) (LRR K, L) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type:			
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¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Muck (A10) (LRR K, L, R Coast Prairie Redox (A16) (LRR K, L, Polyvalue Below Surface (S9) (LRR K, L) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Thick Dark Surface (A12) Depleted Matrix (F2) Thick Dark Surface (A12) Depleted Dark Surface (F6) Mesic Spodic (TA6) (MLRA 1445, ' Red Parent Material (F21) Sandy Mucky Mineral (S1) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) The deserved): Type: Type: Type: Thin Dark Surface (S7)			·
Type: Clocation: PL=Pore Lining, M=Matrix. Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ : Histosol (A1) Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) Indicators for Problematic Hydric Soils ³ : Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Muck (A10) (LRR K, L, MLRA 149B) Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 144A, 145, ' Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) Marl (F10) (LRR K, L) Other (Explain in Remarks) Barlotators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.			21
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Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 144A, 145, * Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) Thin Remarks) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Trype:	Histosol (A1) Polvvalue Be	elow Surface (S8) (LRR R.	2 cm Muck (A10) (LRR K. L. MLRA 149B)
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Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 144A, 145, 45, 45) Sandy Mucky Mineral (S1) Redox Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) Thic observed): Type:	Black Histic (A3) Thin Dark St	urface (S9) (LRR R. MLRA 149	3B) 5 cm Mucky Peat or Peat (S3) (LRR K. L. R)
Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L) Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 4000) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) Type: Thin Dark Surface (F7)	Hvdroaen Sulfide (A4) High Chroma	Polyvalue Below Surface (S8) (LRR K. L)	
Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 7) Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Type: Type: Type: Type:	Stratified Lavers (A5)	x Mineral (F1) (LRR K. L)	Thin Dark Surface (S9) (LRR K. L)
Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, ' Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) Type: Type:	Depleted Below Dark Surface (A11)	ed Matrix (F2)	Iron-Manganese Masses (F12) (LRR K. L. R)
Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 7 Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) Image: Complexity of the present, unless disturbed or problematic. Restrictive Layer (if observed): Type:	Thick Dark Surface (A12) Depleted Ma	itrix (F3)	Piedmont Floodplain Soils (F19) (MLRA 149B
Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21) Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Dark Surface (S7) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type:	Sandy Mucky Mineral (S1) Redox Dark	Surface (F6)	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22) Stripped Matrix (S6) Marl (F10) (LRR K, L) Other (Explain in Remarks) Bark Surface (S7) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type:	Sandy Gleved Matrix (S4) Depleted Da	rk Surface (F7)	Red Parent Material (F21)
Control reduce (co) C	Sandy Redox (S5)	essions (F8)	Very Shallow Dark Surface (F22)
Oner (Explain in Kenlaiks)Oner (Explain in Kenlaiks)Oner (Explain in Kenlaiks)Oner (Explain in Kenlaiks)Oner (Explain in Kenlaiks)	Stripped Matrix (S6) Marl (E10) (I		Other (Explain in Remarks)
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type:	Dark Surface (S7)		
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type:			
Restrictive Layer (if observed): Type:	³ Indicators of hydrophytic vegetation and wetland hydrology	must be present, unless disturb	bed or problematic.
Туре:	Restrictive Layer (if observed):		
	Туре:		
Depth (inches): Hydric Soil Present? Yes	Depth (inches):		Hydric Soil Present? Yes No X
Remarks:			
This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soi	Remarks:		

Project/Site: Hudson	n Logistics	Center				City/Coun	ty: Hudson			Sampling Date:	12/2/20
Applicant/Owner:	Hillwood I	Development						State	: NH	Sampling Point:	2_WET
Investigator(s): Brendan Quigley, Gove Environmental Services Section, Township, Range:											
Landform (hillside, terrace, etc.): Lower Merrimack River Valley Local relief (concave, convex, none): swale								Slope	%:		
Subregion (LRR or MLRA): LRR R Lat: see map Long: Datum:											
Soil Map Unit Name:NWI classification: PFO1B											
Are climatic / hydrolog	gic conditio	ns on the site typica	al for t	this time of	f year?		Yes X	No	(If no,	explain in Remarks	s.)
Are Vegetation, Soil, or Hydrologysignificantly disturbed? Are "Normal Circumstances" present? Yes X No								No			
Are Vegetation, Soil, or Hydrologynaturally problematic? (If needed, explain any answers in Remarks.)											
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.										es, etc.	
Hydrophytic Vegetat	ion Present	? Yes	х	No		Is the S	ampled Area	a			
Hydric Soil Present?		Yes	Х	No		within a	a Wetland?	Ye	es X	No	
Wetland Hydrology F	Present?	Yes	Х	No	_	lf yes, o	ptional Wetla	and Site ID:	Impact /	Area 2	
Remarks: (Explain a	alternative p	procedures here or i	in a se	eparate re	port.)						

Wetland Hydrology Indicators:			Secondary Indicators (minimum of two required)		
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Cracks (B6)		
Surface Water (A1)		X Drainage Patterns (B10)			
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B16)		
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water Table (C2)		
Water Marks (B1)	Crayfish Burrows (C8)				
Sediment Deposits (B2)	Saturation Visible on Aerial Imagery (C9)				
Drift Deposits (B3)	Presence of Reduced Iron (C4)		Stunted or Stressed Plants (D1)		
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil	s (C6)	Geomorphic Position (D2)		
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		Microtopographic Relief (D4)		
Sparsely Vegetated Concave Surface (B	8)		X FAC-Neutral Test (D5)		
Field Observations:					
Surface Water Present? Yes	No X Depth (inches):				
Water Table Present? Yes	No X Depth (inches):				
Saturation Present? Yes	No X Depth (inches):	Wetlan	d Hydrology Present? Yes X No		
(includes capillary fringe)					
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, previous inspe	ections), if a	available:		
Remarks:					

Sampling Point: 2_WET

Tree Stratum (Plot size: 10' x30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. 2.				Number of Dominant Species That Are OBL, FACW, or FAC:3(A)
3 4				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
5 6				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
7				Prevalence Index worksheet:
	:	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 10'x15')				OBL species 0 x 1 = 0
1. Acer rubrum	5	Yes	FAC	FACW species 5 x 2 = 10
2				FAC species 10 x 3 = 30
3				FACU species 0 x 4 = 0
4				UPL species 0 x 5 = 0
5.				Column Totals: 15 (A) 40 (B)
6.				Prevalence Index = $B/A = 2.67$
7.				Hydrophytic Vegetation Indicators:
	5 :	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5'r)				X 2 - Dominance Test is >50%
1. Osmundastrum cinnamomeum	5	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹
2. Dryopteris intermedia	5	Yes	FAC	4 - Morphological Adaptations ¹ (Provide supporting
3				data in Remarks or on a separate sheet)
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5				¹ Indicators of hydric soil and wetland hydrology must
7				Definitions of Vogetation Strate:
·				Definitions of Vegetation Strata.
9				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10 11				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
12	10 :	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in height.
2				
3				Hydrophytic
0				Vegetation Present? Ves X No
ч	:	=Total Cover		
Remarks: (Include photo numbers here or on a sepa narrow wetland area. Tree and shub plots adjusted to	arate sheet.) a wid of wetka	and (~10' wide)	

SOIL	
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Profile Des	cription: (Describe	to the de	pth needed to doc	ument t	he indica	ator or c	onfirm the absence of indi	cators.)	
Depth	 Matrix		Redo	x Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-8	10yr 2/1	98	7.5yR 3/3	2	С	М	Sandy	ox rhizo	
8-10	2.5y 4/1	98	7.5yr 3/3	2	С	М	Sandy		
10-15	2.5y 5/2	95	10yr 4/4	5	С	М	Sandy		
	· · · · · · · · · · · · · · · · · · ·								
	·								
	·								
¹ Type: C=C	oncentration, D=Dep	letion, RM	I=Reduced Matrix, N	//S=Mas	ked Sand	d Grains.	² Location: PL=Po	re Lining, M=Matrix	ζ.
Hydric Soil	Indicators:						Indicators for Pro	blematic Hydric S	3oils ³ :
Histosol	l (A1)		Polyvalue Belo	ow Surfa	ce (S8) (LRR R,	2 cm Muck (A	10) (LRR K, L, ML	RA 149B)
Histic E	pipedon (A2)		MLRA 149B	5)			Coast Prairie	Redox (A16) (LRR	K, L, R)
Black H	istic (A3)		Thin Dark Surf	ace (S9)) (LRR R	, MLRA [·]	149B) 5 cm Mucky F	eat or Peat (S3) (L	.RR K, L, R)
Hydroge	en Sulfide (A4)		High Chroma	Sands (S	511) (LRI	Κ Κ, L)		ow Surface (S8) (LI	RR K, L)
Stratifie	d Layers (A5)	- (Loamy Mucky	iviinerai	(F1) (LR	κκ, L)		race (59) (LRR K, 1	
X Deplete	d Below Dark Surface	e (A11)	Loamy Gleyed	Matrix (F2)			se Masses (F12) (L	$-\mathbf{R}\mathbf{R}\mathbf{K},\mathbf{L},\mathbf{R}$
	ark Surface (A12)		Depleted Math	IX (F3)			Pleamont Floo	(TAC) (MI DA 444A	(WILRA 149B)
	Mucky Mineral (S1)		Redox Dark Si	urrace (F	·6)			(1A6) (MLRA 144 A	λ, 145, 149B)
Sandy C	Bleyed Matrix (S4)		Depleted Dark	Surface	e (F7)		Red Parent M	aterial (F21)	
Sandy F	Redox (S5)		Redox Depres	sions (F	8)		Very Shallow	Dark Surface (F22)	1
Stripped	d Matrix (S6)		Marl (F10) (LR	(R K, L)			Other (Explain	i in Remarks)	
Dark Su	irface (S7)								
³ Indicators c	of hydrophytic vegetat	tion and w	etland hydrology m	ust be pr	resent, u	nless dist	urbed or problematic.		
Restrictive	Layer (if observed):								
Type: Depth (i	nches):						Hydric Soil Present?	Yes	No
Remarks:									
This data for	rm is revised from No	orthcentral	and Northeast Reg	ional Su	nnlemen	t Version	2.0 to include the NRCS Fig	eld Indicators of Hy	dric Soils
Version 7.0,	2015 Errata. (http://v	vww.nrcs.	usda.gov/Internet/F	SE_DOC	CUMENT	S/nrcs14	2p2_051293.docx)		ano c ono,

Project/Site: Hudson Logistics Center		City/County: Hudson	Sampling Date: 11/25/20							
Applicant/Owner: Hillwood Developm	ment	State:	NH Sampling Point: 3-UPL							
Investigator(s): Brendan Quigley, Gove Environmental Services Section, Township, Range:										
Landform (hillside, terrace, etc.): Lowe	er Merrimack River Valley Local r	elief (concave, convex, none): near fl	at Slope %:							
Subregion (LRR or MLRA): LRR R	Lat: see map	Long:	Datum:							
Soil Map Unit Name:		NWI classi	fication: PEM2Bf							
Are climatic / hydrologic conditions on the	e site typical for this time of year?	Yes X No	(If no, explain in Remarks.)							
Are Vegetation X, Soil , or H	Hydrologysignificantly disturb	ed? Are "Normal Circumstance	es" present? Yes <u>No X</u>							
Are Vegetation, Soil, or H	Hydrology naturally problema	tic? (If needed, explain any an	swers in Remarks.)							
SUMMARY OF FINDINGS – Atta	SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.									
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Area								
Hydric Soil Present?	Yes No X	within a Wetland? Yes	No X							
Wetland Hydrology Present?	Yes No X	If yes, optional Wetland Site ID:	Impact Area 3							
Remarks: (Explain alternative procedur Trasect is located in an area of maintair likley to support hydrophytic vegeation u	es here or in a separate report.) ned golf course turf and consists of a under normal circumstanses based o	cultivated sod forming grass, likley ker on appaeance of cultivated lawn and l	ntucky bluegrass. The area is not ack of signs of hydrology							
HYDROLOGY										

Wetland Hydrology Indicators:			Secondary Indicators (min	imum of two required)
Primary Indicators (minimum of one is	required; check all that apply)		Surface Soil Cracks (E	36)
Surface Water (A1)		Drainage Patterns (B1	0)	
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B16	i)
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water Ta	ble (C2)
Water Marks (B1)	Crayfish Burrows (C8)	Crayfish Burrows (C8)		
Sediment Deposits (B2)	Saturation Visible on A	Aerial Imagery (C9)		
Drift Deposits (B3)	Presence of Reduced Iron (C4)		Stunted or Stressed P	lants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil	s (C6)	Geomorphic Position ((D2)
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D3)	
Inundation Visible on Aerial Imager	ry (B7) Other (Explain in Remarks)		Microtopographic Reli	ef (D4)
Sparsely Vegetated Concave Surfa	ace (B8)		FAC-Neutral Test (D5))
Field Observations:				
Surface Water Present? Yes	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):	Wetlan	d Hydrology Present?	Yes No X
(includes capillary fringe)				
Describe Recorded Data (stream gauge	e, monitoring well, aerial photos, previous inspe	ections), if	available:	
Remarks:				

Sampling Point: 3-UPL

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. 2.				Number of Dominant Species That Are OBL, FACW, or FAC:(A)
3				Total Number of Dominant Species Across All Strata: (B)
5				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
7.				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species x1 =
1. <u> </u>				FACW species x 2 =
2.				FAC species x 3 =
3.				FACU species x 4 =
4.				UPL species x 5 =
5.				Column Totals: (A) (B)
6.				Prevalence Index = B/A =
7.				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:)				2 - Dominance Test is >50%
1. Maintained lawn (kentucky bluegrass)				3 - Prevalence Index is ≤3.0 ¹
2.				4 - Morphological Adaptations ¹ (Provide supporting
3				data in remarks of on a separate sheety
4				Problematic Hydrophytic Vegetation' (Explain)
5 6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10 11.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
12.		=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
<u>Woody Vine Stratum</u> (Plot size:) 1.				Woody vines – All woody vines greater than 3.28 ft in height.
2.				
3.				Hydrophytic Vogetation
4.				Present? Yes No X
		=Total Cover		
Remarks: (Include photo numbers here or on a separate see remarks in summary of findings	rate sheet.)			

Profile Desc	ription: (Describe	to the de	oth needed to doc	ument t	he indica	tor or c	onfirm the absence of indic	cators.)			
Depth	Matrix		Redo	x Featu	res						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rema	ırks		
0-10	10yr 3/2	100					Sandy				
10-16	2.5y 5/3	95	10yr 5/6	5	С	М	Sandy				
16-20	2.5y 6/3	95	10yr 5/6	5	С	М	Sandy				
		·									
<u> </u>		·									
		·									
		lotion PM	-Roduced Metrix	18-Maa	kod Sono		² Location: DL-Dor	olining M-M	otriv		
Hydric Soil I	ndicators:			vio=ivias	keu Sano	i Grains.	Indicators for Pro	blematic Hvdr	ric Soils ³ .		
Histosol	(A1)		Polyvalue Belo	ow Surfa	ce (S8) (I	LRR R.	2 cm Muck (A	10) (LRR K, L ,	MLRA 149B)		
Histic Ep	ipedon (A2)		 MLRA 149B	5)	()(Coast Prairie F	Redox (A16) (L	RR K, L, R)		
Black His	stic (A3)		Thin Dark Surf	ace (S9) (LRR R	MLRA	149B) 5 cm Mucky P	eat or Peat (S3	3) (LRR K, L, R)		
Hydroger	n Sulfide (A4)		High Chroma	Sands (S	511) (LRF	R K, L)	Polyvalue Belo	w Surface (S8)) (LRR K, L)		
Stratified	Layers (A5)		Loamy Mucky	Mineral	(F1) (LRI	R K, L)	Thin Dark Surf	ace (S9) (LRR	K, L)		
Depleted	Below Dark Surface	e (A11)	Loamy Gleyed	Matrix ((F2)		Iron-Manganes	se Masses (F12	2) (LRR K, L, R)		
Thick Da	rk Surface (A12)		Depleted Matri	ix (F3)			Piedmont Floodplain Soils (F19) (MLRA 149B)				
Sandy M	ucky Mineral (S1)		Redox Dark Si	urface (F	F6)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
Sandy G	leyed Matrix (S4)		Depleted Dark	Surface	e (F7)		Red Parent Material (F21)				
Stripped	edox (SS) Matrix (S6)		Marl (E10) (I R		0)		Very Shallow Dark Surface (F22)				
Dark Sur	face (S7)			, ∟)				in Komarks)			
³ Indicators of	hydrophytic vegeta	tion and w	etland hydrology m	ust be p	resent, ur	nless dist	turbed or problematic.				
Restrictive L	ayer (if observed):										
Туре:											
Depth (in	ches):						Hydric Soil Present?	Yes	<u>No X</u>		
Remarks:											
Soil has beer	disturbed by regrae	ding for co	nstruction of the go	If course	e						
I											

	in Northeentral and Northeast Region
Project/Site: Hudson Logistics Center	City/County: Hudson Sampling Date: 11/25/20
Applicant/Owner: Hillwood Development	State: NH Sampling Point: 3-WET
Investigator(s): Brendan Quigley, Gove Environmental Services	Section, Township, Range:
Landform (hillside, terrace, etc.): Lower Merrimack River Valley Local	relief (concave, convex, none): near flat Slope %:
Subregion (LRR or MLRA): LRR R Lat: see map	Long: Datum:
Soil Map Unit Name:	NWI classification: PEM2Bf
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)
Are Vegetation X , Soil , or Hydrology significantly distur	bed? Are "Normal Circumstances" present? Yes No X
Are Vegetation Soil or Hydrology naturally problema	tic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS Attach site man showing com	
SOMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important reatures, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Impact Area 3
Trasect is located in an area of maintained golf course turf and consists of likley to support hydrophytic vegeation under normal circumstanses based adjacnt non-maintained areas	cultivated sod forming grass, likley kentucky bluegrass. The area is very on observatuion of sod stressed by peristent ponding and vegetation in
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (E	39) Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8)
Sediment Deposits (B2) X Oxidized Rhizospheres of	on Living Roots (C3) X Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduced Irc	on (C4) X Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4) Recent Iron Reduction in	Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remark	KS) MICrotopographic Relief (D4)
Field Observations:	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes No X Depth (inches):	Wetland Hydrology Present? Yes X No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos. pre	vious inspections), if available:
	· · · · ·
Remarks:	

Sampling Point: 3-WET

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That Are OBL, FACW, or FAC:(A)
4.				Total Number of Dominant Species Across All Strata: (B)
5.				Percent of Dominant Species
6				That Are OBL, FACW, or FAC:(A/B)
7				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species x 1 =
1				FACW species x 2 =
2				FAC species x 3 =
3				FACU species x 4 =
4				UPL species x 5 =
5				Column Totals: (A) (B)
6				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
	:	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:)				2 - Dominance Test is >50%
1. Maintained lawn (kentucky bluegrass)				3 - Prevalence Index is ≤3.0 ¹
2.				4 - Morphological Adaptations ¹ (Provide supporting
3.				data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5.				
6.				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				
o				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH) regardless of height
10				danistor at breast neight (DDH), regaraless of height.
11				Sapling/shrub – Woody plants less than 3 in. DBH
10				and greater than of equal to 3.26 it (1 iii) tail.
12		=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3 28 ft in
1				height.
2.				
3.				Hydrophytic
4.				Present? Yes X No
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa	arate sheet.)			
see remarks in summatry of findings				

Profile Desc	ription: (Describe	to the dep	oth needed to doc	ument tl	he indica	ator or c	confirm the absence of indicators.)
(inches)	Color (moist)	%	Color (moist)	x realur		1 oc^2	Texture Remarks
				70	турс	100	
0-3	10yr 2/2	100					Sandy Oxidized mizopspheres
3-13	2.5y 2.5/1	100					Sandy high organic content
13-16	5y 5/1	90	2.5y 5/6	10	С	М	Sandy
		·					
		·					·
		<u> </u>					
1 T urney C C	D Den	lation DM					² l continu
Hydric Soil I	Indicators:	ielion, Rivi	=Reduced Matrix, N	vio=iviasi	keu Sano	u Grains.	Indicators for Problematic Hydric Soils ³
Histosol	(A1)		Polyvalue Belo	ow Surfa	ce (S8) (LRR R.	2 cm Muck (A10) (LRR K. L. MLRA 149B)
Histic Ep	pipedon (A2)		MLRA 149B	5)	() (,	Coast Prairie Redox (A16) (LRR K, L, R)
Black His	stic (A3)		Thin Dark Surf	, ace (S9)) (LRR R	, MLRA	149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, F
Hydroge	n Sulfide (A4)		High Chroma	Sands (S	611) (LR	R K, L)	Polyvalue Below Surface (S8) (LRR K, L)
Stratified	I Layers (A5)		Loamy Mucky	Mineral	(F1) (LR	R K, L)	Thin Dark Surface (S9) (LRR K, L)
Depleted	Below Dark Surface	e (A11)) Loamy Gleyed Matrix (F2)				Iron-Manganese Masses (F12) (LRR K, L,
Thick Da	ark Surface (A12)		Depleted Matrix (F3)				Piedmont Floodplain Soils (F19) (MLRA 14
Sandy M	lucky Mineral (S1)		Redox Dark Su	urface (F	6)		Mesic Spodic (TA6) (MLRA 144A, 145, 149
Sandy G	leyed Matrix (S4)		Depleted Dark	Surface	(F7)		Red Parent Material (F21)
Sandy R	edox (S5)		Redox Depres	sions (Fa	8)		Very Shallow Dark Surface (F22)
X Dark Sur	Matrix (56)		Mari (F10) (LR	(r r , l)			Other (Explain in Remarks)
³ Indicators of	f hydrophytic vegetat	tion and w	etland hydrology m	ust be pr	esent, u	nless dist	sturbed or problematic.
Restrictive L	_ayer (if observed):		, , , , , , , , , , , , , , , , , , , ,		,		
Type:							
Depth (ir	nches):						Hydric Soil Present? Yes X No
Remarks [.]	· .						
Soil has beer	n disturbed by regrad	ding for co	nstruction of the go	If course)		
		-	-				
1							

Project/Site: Hudson Logistics Center	City/County: Hudson Sampling Date: 12/2/20
Applicant/Owner: Hillwood Development	State: NH Sampling Point: B_UPL
Investigator(s): Brendan Quigley, Gove Environmental Services	Section, Township, Range:
Landform (hillside, terrace, etc.): Lower Merrimack River Valley Loo	al relief (concave, convex, none): convex Slope %:
Subregion (LRR or MLRA): LRR R Lat: see map	Long: Datum:
Soil Map Unit Name:	NWI classification: PFO1B
Are climatic / hydrologic conditions on the site typical for this time of year	? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly dis	turbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally proble	matic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sa	mpling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X If yes, optional Wetland Site ID: Impact Area B		
Hydric Soil Present?	Yes	No X			
Wetland Hydrology Present?	Yes	No X			
Remarks: (Explain alternative procedures here or in a separate report.)					

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is require	Surface Soil Cracks (B6)	
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	(C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C	C6) Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8	3)	FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes	No X Depth (inches):	
Water Table Present? Yes	No X Depth (inches):	
Saturation Present? Yes	No X Depth (inches):	Wetland Hydrology Present? Yes No X
(includes capillary fringe)		
Describe Recorded Data (stream gauge, mon	itoring well, aerial photos, previous inspectio	ons), if available:
Remarks:		

Sampling Point: B_UPL

Tree Stratum (Plot size:	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet
1 Pinus strobus	25	Yes	FACU	
2 Quercus rubra	25	Yes	FACU	Number of Dominant Species That Are OBL_EACW_or EAC: 1 (A)
3 Betula lenta	20	Ves	FACU	
4 Betula populifolia	10	<u> </u>	FAC	Total Number of Dominant
5 Acer rubrum	5	No	FAC	
6				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>12.5%</u> (A/B)
7				Prevalence Index worksheet:
	85	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species 0 x 1 = 0
1. Pinus strobus	5	Yes	FACU	FACW species 2 x 2 = 4
2. Prunus serotina	5	Yes	FACU	FAC species <u>17</u> x 3 = <u>51</u>
3. Frangula alnus	2	No	FAC	FACU species 82 x 4 = 328
4				UPL species x 5 =10
5				Column Totals: 103 (A) 393 (B)
6				Prevalence Index = B/A = 3.82
7				Hydrophytic Vegetation Indicators:
	12	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:)				2 - Dominance Test is >50%
1. Osmundastrum cinnamomeum	2	Yes	FACW	3 - Prevalence Index is ≤3.0 ¹
2. Carex pensylvanica	2	Yes	UPL	4 - Morphological Adaptations ¹ (Provide supporting
3. Pinus strobus	2	Yes	FACU	data in Remarks or on a separate sheet)
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5				¹ Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	6	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2				
3				Hydrophytic Vegetation
4				Present? Yes No X
		=Total Cover		
Remarks: (Include photo numbers here or on a separ	ate sheet.)			

L

(inchoo)	Matrix		Redox	x Featur	res			
(incries)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-5	10yr 2/1						Sandy	
5-11	10yr 3/2						Sandy	
11-17	10yr 4/4						Sandy	
						<u> </u>	·	
							·	
¹ Type: C=Conce	ntration, D=Depl	etion, RM	=Reduced Matrix, M	IS=Mas	ked Sanc	Grains.	² Location: PL=P	ore Lining, M=Matrix.
Hydric Soil India	ators:		Polyvalue Belo	w Surfa	co (S8) (I		Indicators for P	roblematic Hydric Soils":
Histic Enined	lon(A2)		MI RA 1498	w Sulla	ce (36) (I		Coast Prairie	$\mathbf{R} = \mathbf{A} \left(\mathbf{L} \mathbf{R} \mathbf{R} \mathbf{K} \mathbf{I} \mathbf{R} \mathbf{K} \mathbf{I} \mathbf{R} \mathbf{K} \mathbf{I} \mathbf{R} \mathbf{R} \mathbf{K} \mathbf{R} \mathbf{R} \mathbf{R} \mathbf{R} \mathbf{R} \mathbf{R} \mathbf{R} R$
Black Histic ((A2)		Thin Dark Surf) 200 (SD				Post or Post (S3) (I PP K I I
Hydrogen Su	Ifide (A4)		High Chroma S	ace (39 Sands (9) (LKK K, S11) (I RE	KI)	Polyvalue Be	$\frac{1}{1000} = \frac{1}{1000} = 1$
Tryutogen 3u	(A4)		Loamy Mucky	Minoral	(E1) (LRF	, , , ,	Thin Dark Su	
Depleted Bel	ow Dark Surface	(A11)	Loamy Gleved	Matrix ((F2)	、 ι、 ∟)	Iron-Mangan	ese Masses (F12) (I RR K. L.
Depicted Ber Thick Dark S	urface (A12)	, (, (, i, i))	Depleted Matri	x (F3)	12)		Piedmont Flo	odolain Soils (F19) (MI RA 14
Sandy Mucky	/ Mineral (S1)		Bedox Dark Si	irface (F	-6)		Mesic Spodi	; (TA6) (MI RA 144A, 145, 14 9
Sandy Gleve	d Matrix (S4)		Depleted Dark	Surface	e (F7)		Red Parent I	Material (F21)
Sandy Redox	((\$5)		Redox Depress	sions (F	8)		Verv Shallow	/ Dark Surface (F22)
Stripped Mat	rix (S6)		Marl (F10) (LR	R K . L)	0)		Other (Expla	in in Remarks)
Dark Surface	e (S7)		(11011 (1110) (111	, _/				in in ternance)
³ Indicators of hyd	rophytic vegetat	ion and w	etland hydrology mu	ust be p	resent, ur	nless distu	urbed or problematic.	
Restrictive Laye	r (if observed):							
Dopth (inchor	o).						Hudria Sail Bracant?	Vac Na V
Depth (inches	s).						Hydric Soll Present?	

Project/Site: Hudson Logistics Cen	ter	City/County: Hudson		Sampling Date: 12	2/2/20
Applicant/Owner: Hillwood Deve	elopment	St	ate: NH	Sampling Point:	B_WET
Investigator(s): Brendan Quigley, G	ove Environmental Services	Section, Township, Rar	ge:		
Landform (hillside, terrace, etc.):	_ower Merrimack River Valley	Local relief (concave, convex, none): co	ncave	Slope %	»:
Subregion (LRR or MLRA): LRR R	Lat: see map	Long:		Datum:	
Soil Map Unit Name:		NWI c	assification	n: PFO1B	
Are climatic / hydrologic conditions o	in the site typical for this time of	year? Yes No	(If no	, explain in Remarks.)	
Are Vegetation, Soil,	or Hydrologysignificantl	ly disturbed? Are "Normal Circums	tances" pre	esent? Yes X N	0
Are Vegetation, Soil,	or Hydrologynaturally p	roblematic? (If needed, explain ar	y answers	in Remarks.)	
SUMMARY OF FINDINGS -	Attach site map showing	g sampling point locations, trai	nsects, il	mportant feature	s, etc.
Hydrophytic Vegetation Present? Hydric Soil Present?	Yes X No Yes X No	Is the Sampled Area within a Wetland?	Yes X	No	

Hydric Soil Present?	Yes X No	within a Wetland? Yes X No				
Wetland Hydrology Present?	Yes X No	If yes, optional Wetland Site ID: Impact Area B				
Remarks: (Explain alternative procedures here or in a separate report.)						

Wetland Hydrology Indicators:	Secondary Indicators (minimu	um of two required)			
Primary Indicators (minimum of one is require		Surface Soil Cracks (B6)			
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patterns (B10)		
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B16)		
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water Table	(C2)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)		
Sediment Deposits (B2)	X Oxidized Rhizospheres on Living Ro	oots (C3)	Saturation Visible on Aer	ial Imagery (C9)	
Drift Deposits (B3)	Presence of Reduced Iron (C4)		Stunted or Stressed Plan	ts (D1)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soil	s (C6)	Geomorphic Position (D2	2)	
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)		Microtopographic Relief (D4)	
Sparsely Vegetated Concave Surface (B	8)		X FAC-Neutral Test (D5)		
Field Observations:					
Surface Water Present? Yes	No X Depth (inches):				
Water Table Dresent?	No X Dopth (inchos):				
Water rable Present? res					
Saturation Present? Yes	No X Depth (inches):	Wetlan	nd Hydrology Present?	Yes X No	
Saturation Present? Yes (includes capillary fringe)	No X Depth (inches):	Wetlan	nd Hydrology Present?	Yes X No	
Vale Table Present? Tes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, monocomplete)	No X Depth (inches):	Wetlan	nd Hydrology Present? available:	Yes <u>X</u> No	
Vale Flable Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, more	No X Depth (inches):	Wetlan ections), if	nd Hydrology Present? available:	Yes <u>X</u> No	
Valer Table Present? res Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, monopole	No X Depth (inches):	Wetlan ections), if	nd Hydrology Present? available:	Yes <u>X</u> No	
Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, monopole Remarks: Remarks:	No X Depth (inches):	Wetlan	nd Hydrology Present? available:	Yes <u>X</u> No	
Water Fable Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, monormality fringe) Remarks: Remarks:	No X Depth (inches):	Wetlan ections), if	nd Hydrology Present? available:	Yes <u>X</u> No	
Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, monormality fringe) Remarks: Remarks:	No X Depth (inches):	Wetlan ections), if	nd Hydrology Present? available:	Yes <u>X</u> No	
Water Table Present? Yes Saturation Present? Yes (includes capillary fringe)	No X Depth (inches):	Wetlan	nd Hydrology Present? available:	Yes <u>X</u> No	
Valer Fable Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, monormality) Remarks: Remarks:	No X Depth (inches):	Wetlan	nd Hydrology Present? available:	Yes <u>X</u> No	
Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, model Describe Recorded Data (stream gauge, model Remarks:	No X Depth (inches):	Wetlan	nd Hydrology Present? available:	Yes <u>X</u> No	
Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, model Remarks: Remarks:	No X Depth (inches):	Wetlan ections), if	nd Hydrology Present? available:	Yes <u>X</u> No	
Vale Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, model Remarks: Remarks:	No X Depth (inches):	Wetlan	nd Hydrology Present? available:	Yes <u>X</u> No	
Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, monormality fringe) Describe Recorded Data (stream gauge, monormality fringe) Remarks:	No X Depth (inches):	Wetlan	nd Hydrology Present? available:	Yes <u>X</u> No	

Sampling Point: B_WET

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Dominance Test worksheet:
1. Acer rubrum	45	Yes	FAC	Number of Dominant Species
2. Pinus strobus	5	No	FACU	That Are OBL, FACW, or FAC: <u>5</u> (A)
 <u>Betula lenta</u> 4. 	5	No	FACU	Total Number of Dominant Species Across All Strata: 5 (B)
5.				
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
7				Prevalence Index worksheet:
	55	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species 0 x 1 = 0
1. Frangula alnus	5	Yes	FAC	FACW species 7 x 2 = 14
2. Ilex verticillata	5	Yes	FACW	FAC species 60 x 3 = 180
3. Euonymus alatus	2	No	UPL	FACU species 14 x 4 = 56
4. Pinus strobus	2	No	FACU	UPL species 6 x 5 = 30
5.				Column Totals: 87 (A) 280 (B)
6.				Prevalence Index = $B/A = 3.22$
7.				Hydrophytic Vegetation Indicators:
	14	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:)				X 2 - Dominance Test is >50%
1. Osmundastrum cinnamomeum	2	No	FACW	3 - Prevalence Index is ≤3.0 ¹
2. Carex pensylvanica	2	No	UPI	4 - Morphological Adaptations ¹ (Provide supporting
3. Mitchella repens	2	No	FACU	data in Remarks or on a separate sheet)
4 Toxicodendron radicans		Yes	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
5 Dryonteris intermedia	5	Yes	FAC	
6. Brachvelvtrum aristosum	2	No	UPL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8.				
9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10.				Septime/shrub Woody plants loss than 2 in DPH
11.				and greater than or equal to 3.28 ft (1 m) tall.
12.				
	18	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2				
3				Hydrophytic Vegetation
4				Present? Yes X No
		=Total Cover		
Remarks: (Include photo numbers here or on a separ	ate sheet.)			•

Profile Desc	cription: (Describe	to the dep	oth needed to doc	ument t	he indica	ator or co	onfirm the absence of i	ndicators.)
Depth	Matrix		Redo	x Featur	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-9	10yr 2/1	98		. <u> </u>			Sandy	ox rhizo
9-12	10yr 4/1	98	7.5yr 3/3	2	С	М	Sandy	
12-18	2.5y 5/2	8	10yr 4/6	20	С	М	Sandy	
				·				
				. <u> </u>				
¹ Tvpe: C=C	oncentration. D=Dep	letion. RM	=Reduced Matrix.	MS=Mas	ked Sano	d Grains.	² Location: PL=	=Pore Lining, M=Matrix,
Hydric Soil	Indicators:	,	,				Indicators for	Problematic Hydric Soils ³ :
Histosol	(A1)		Polyvalue Belo	ow Surfa	ce (S8) (LRR R,	2 cm Mucł	(A10) (LRR K, L, MLRA 149B)
Histic Ep	pipedon (A2)		MLRA 149E	3)			Coast Prai	irie Redox (A16) (LRR K, L, R)
Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)							vy Peat or Peat (S3) (LRR K, L, R)	
Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L)							Below Surface (S8) (LRR K, L)	
Stratified Layers (A5) Loamy Mucky Mineral (F1) (LRR K, L) Thin Dark Surface (S9) (LRR K, L)							Surface (S9) (LRR K, L)	
X Depleted Below Dark Surface (A11) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L							anese Masses (F12) (LRR K, L, R)	
Thick Dark Surface (A12) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA							Floodplain Soils (F19) (MLRA 149B)	
Sandy Mucky Mineral (S1) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145,							odic (TA6) (MLRA 144A, 145, 149B)	
Sandy Gleyed Matrix (S4) Depleted Dark Surface (F7) Red Parent Material (F21)							nt Material (F21)	
Sandy Redox (S5) Redox Depressions (F8) Very Shallow Dark Surface (F22)						ow Dark Surface (F22)		
Stripped Matrix (S6)Marl (F10) (LRR K, L)Other (Explain in Remarks)						blain in Remarks)		
Dark Su	nace (S7)							
³ Indicators o	f hydrophytic vegetat	tion and w	etland hydrology m	ust be pi	resent, u	nless dist	urbed or problematic.	
Restrictive	Layer (if observed):							
lype:								
Depth (ii	nches):						Hydric Soil Present	? Yes <u>X</u> No
Remarks:		with a surface l					0.0 to be dealer the NDOG	
Version 7.0.	2015 Errata, (http://w	vww.nrcs.u	usda.gov/Internet/F	SF DO	DUMENT	S/nrcs14	2.0 to include the NRCS 2p2 051293.docx)	5 Field Indicators of Hydric Solis,
			<u>j</u>				1,	

Project/Site: Hudson Logistics Center	City/County: Hudson Sampling Date: 12/2/20
Applicant/Owner: Hillwood Development	State: NH Sampling Point: B2_UPL
Investigator(s): Brendan Quigley, Gove Environmental Services	Section, Township, Range:
Landform (hillside, terrace, etc.): Lower Merrimack River Valley Lower Merrimack River Valley	ocal relief (concave, convex, none): convex Slope %:
Subregion (LRR or MLRA): LRR R Lat: see map	Long: Datum:
Soil Map Unit Name:	NWI classification: PFO1B
Are climatic / hydrologic conditions on the site typical for this time of year	ar? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly d	isturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally prob	lematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing s	sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area
Hydric Soil Present?	Yes	No X	within a Wetland? Yes No X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID: Impact Area B
Remarks: (Explain alternative procedures	here or in a s	eparate report.)	·

Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) Water-Stained Leaves (B9) Drainage Patterns (B10) High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16) Saturation (A3) Marl Deposits (B15) Dry-Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)						
Surface Water (A1)Water-Stained Leaves (B9)Drainage Patterns (B10)High Water Table (A2)Aquatic Fauna (B13)Moss Trim Lines (B16)Saturation (A3)Marl Deposits (B15)Dry-Season Water Table (C2)Water Marks (B1)Hydrogen Sulfide Odor (C1)Crayfish Burrows (C8)Sediment Deposits (B2)Oxidized Rhizospheres on Living Roots (C3)Saturation Visible on Aerial Imagery (C9)Drift Deposits (B3)Presence of Reduced Iron (C4)Stunted or Stressed Plants (D1)Algal Mat or Crust (B4)Recent Iron Reduction in Tilled Soils (C6)Geomorphic Position (D2)Iron Deposits (B5)Thin Muck Surface (C7)Shallow Aquitard (D3)Inundation Visible on Aerial Imagery (B7)Other (Explain in Remarks)Microtopographic Relief (D4)						
High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16) Saturation (A3) Marl Deposits (B15) Dry-Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)						
Saturation (A3) Marl Deposits (B15) Dry-Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)						
Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)						
Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)						
Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)						
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)						
Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3)						
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)						
Sparsely Vegetated Concave Surface (B8) FAC-Neutral Test (D5)						
Field Observations:						
Surface Water Present? Yes No X Depth (inches):						
Water Table Present? Yes No X Depth (inches):						
Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X						
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:						
Remarks:						

Sampling Point: B2_UPL

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Pinus strobus	65	Yes	FACU	
2. Betula lenta	10	No	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
3 Acer rubrum	5	No	FAC	
4				Total Number of Dominant Species Across All Strata: 5 (B)
5				Percent of Dominant Species
7				Provolonce Index worksheet:
<i>I</i>	80	-Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				$\begin{array}{c c} \hline & & \\ \hline & & \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\$
1. Quercus rubra	5	Yes	FACU	FACW species 5 x 2 = 10
2. Prunus serotina	2	Yes	FACU	FAC species 7 x 3 = 21
3.				FACU species 82 x 4 = 328
4.				UPL species 0 x 5 = 0
5.				Column Totals: 94 (A) 359 (B)
6.				Prevalence Index = $B/A = 3.82$
7.				Hydrophytic Vegetation Indicators:
	7	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:)				2 - Dominance Test is >50%
1. Osmundastrum cinnamomeum	5	Yes	FACW	3 - Prevalence Index is ≤3.0 ¹
2. Dryopteris intermedia	2	Yes	FAC	4 - Morphological Adaptations ¹ (Provide supporting
3.				data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5.				
6.				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8.				Tree – Woody plants 3 in (7.6 cm) or more in
9.				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12.	7	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				
, 1.				Woody vines – All woody vines greater than 3.28 ft in height.
2.				
3.				Hydrophytic
4.				Vegetation Present? Yes No X
		=Total Cover		
Remarks: (Include photo numbers here or on a separ	ate sheet.)			
	···· · · · ,			

L

Depth	Matrix		Redo	x Featur	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-5	10yr 2/1						Sandy	
5-9	10yr 3/2						Sandy	
9-17	10yr 4/4						Sandy	
						·		
·						·		
·						·		
						·		
¹ Type: C=Con	centration, D=Deple	tion. RM	=Reduced Matrix. N	/S=Mas	ked Sand	Grains	2 l ocation: PI =P	ore Lining, M=Matrix
Hydric Soil In	dicators:					oranio.	Indicators for Pr	oblematic Hydric Soils ³ :
Histosol (A Histic Epip Black Histi Hydrogen Stratified L Depleted E Thick Dark Sandy Muc Sandy Gle Sandy Rec Stripped M Dark Surfa	A1) pedon (A2) ic (A3) Sulfide (A4) Layers (A5) Below Dark Surface & Surface (A12) cky Mineral (S1) eyed Matrix (S4) dox (S5) Matrix (S6) mace (S7) Advisor Supervisor Supervis	(A11) on and w	Polyvalue Belo MLRA 149B Thin Dark Surf High Chroma S Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark Su Depleted Dark Redox Deprese Marl (F10) (LR	w Surfa) ace (S9 Sands (S Mineral Matrix (x (F3) urface (F Surface sions (F R K, L) ust be p	ce (S8) (L) (LRR R, S11) (LRR (F1) (LRF (F1) (LRF F2) 56) 56) 56) 8) resent, un	RR R, MLRA 1 K, L) K, L)	49B) 2 cm Muck (/ Coast Prairie Polyvalue Be Thin Dark Su Iron-Mangan Piedmont Flo Mesic Spodio Red Parent M Very Shallow Other (Explai	A10) (LRR K, L, MLRA 149B) Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) low Surface (S8) (LRR K, L) rface (S9) (LRR K, L) ese Masses (F12) (LRR K, L, R) odplain Soils (F19) (MLRA 149E c (TA6) (MLRA 144A, 145, 149B Material (F21) Dark Surface (F22) n in Remarks)
Restrictive La	yer (if observed):							
Type: Depth (inc	hes).						Hydric Soil Present?	Yes No X
Remarks:							.,	
This data form Version 7.0, 20	is revised from Nort 015 Errata. (http://wv	hcentral w.nrcs.ι	and Northeast Reg usda.gov/Internet/F	ional Su SE_DOC	pplement CUMENTS	Version S/nrcs142	2.0 to include the NRCS F 2p2_051293.docx)	ield Indicators of Hydric Soils,

Project/Site: Hudson Logistics Center	City/County: Hudson Sampling Date: 12/2/20
Applicant/Owner: Hillwood Development	State: NH Sampling Point: C_UPL
Investigator(s): Brendan Quigley, Gove Environmental Services	Section, Township, Range:
Landform (hillside, terrace, etc.): Lower Merrimack River Valley Loca	I relief (concave, convex, none): <u>convex</u> Slope %:
Subregion (LRR or MLRA): LRR R Lat: see map	Long: Datum:
Soil Map Unit Name:	NWI classification: PFO1B
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly distu	urbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally problem	natic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sar	npling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X If yes, optional Wetland Site ID: Impact Area C
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	
Remarks: (Explain alternative procedu	ires here or in a	separate report.)	

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is requir	ed; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B	8)	FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes	No X Depth (inches):	
Water Table Present? Yes	No X Depth (inches):	
Saturation Present? Yes	No X Depth (inches): Wetla	and Hydrology Present? Yes No X
(includes capillary fringe)		
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, previous inspections),	if available:
Remarks:		

Sampling Point: C_UPL

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u> (Plot size:)	% Cover	Species?	Status	Dominance Test worksheet:
1. Pinus strobus	40	Yes	FACU	Number of Dominant Species
2. Quercus rubra	10	No	FACU	That Are OBL, FACW, or FAC:(A)
3. <u>Betula lenta</u>	20	Yes	FACU	Total Number of Dominant
4. Acer rubrum	2	No	FAC	Species Across All Strata:4 (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: 25.0% (A/B)
7				Prevalence Index worksheet:
	72	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species 0 x 1 = 0
1. Crataegus crus-galli	5	Yes	FAC	FACW species 2 x 2 = 4
2				FAC species 7 x 3 = 21
3				FACU species 70 x 4 = 280
4				UPL species 20 x 5 = 100
5.				Column Totals: 99 (A) 405 (B)
6.				Prevalence Index = $B/A = 4.09$
7.		·		Hydrophytic Vegetation Indicators:
	5	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:				2 - Dominance Test is >50%
1 Osmundastrum cinnamomeum	2	No	FACW	$3 = \text{Prevalence Index is } \le 3 \text{ 0}^1$
Donnetoodtio punctilopulo	20	Voo		4 - Morphological Adaptations ¹ (Provide supporting
	20	165	UFL	data in Remarks or on a separate sheet)
3				
4.		·		Problematic Hydrophytic Vegetation (Explain)
5		·		¹ Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
7		. <u> </u>		Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10		<u></u>		Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	22	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines - All woody vines greater than 3 28 ft in
1.				height.
2.				
3.				Hydrophytic Venetation
4.		·		Present? Yes No X
		=Total Cover		
Remarks: (Include photo numbers here or on a sena	arate sheet)			

Depth Ma	atrix	Redo	x Featu	res		,
(inches) Color (mo	ist) %	Color (moist)	%	Type ¹	Loc ²	Texture Remarks
0-2 10yr 2/1	<u> </u>					Sandy
2-6 10yr 4/4	<u> </u>					Sandy
6-13 10yr 5/4	<u> </u>					Sandy
¹ Type: C=Concentration, D	=Depletion, RM	1=Reduced Matrix, N	/IS=Mas	ked Sand	d Grains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:				aa (CO) (Indicators for Problematic Hydric Soils ³ :
Histosol (A1)			w Suna	ce (58) (LKK K,	2 cm Muck (A10) (LRR K, L, MLRA 1498
Histic Epipedon (A2)		WILKA 1490) 			140P) 5 or Music Post of Post (S2) (LRR K, L, K)
Black Histic (A3)			ace (59			149B) 5 cm Mucky Peat of Peat (S3) (LRR K, L
Hydrogen Sulfide (A4)		High Chroma	Sands (S	511) (LRI	(K, L)	Polyvalue Below Sufface (S8) (LRR K, L)
Stratified Layers (A5)		Loamy Mucky	Mineral	(F1) (LR ∣	Κ, L)	Thin Dark Surface (S9) (LRR K, L)
Depleted Below Dark S	Surface (A11)	Loamy Gleyed	Matrix ((F2)		Iron-Manganese Masses (F12) (LRR K, L
Thick Dark Surface (A1	2)	Depleted Matri	x (F3)			Piedmont Floodplain Soils (F19) (MLRA 1
Sandy Mucky Mineral (S1)	Redox Dark Su	urface (F	-6)		Mesic Spodic (TA6) (MLRA 144A, 145, 1 4
Sandy Gleyed Matrix (S	64)	Depleted Dark	Surface	e (F7)		Red Parent Material (F21)
Sandy Redox (S5)		Redox Depres	sions (F	8)		Very Shallow Dark Surface (F22)
Stripped Matrix (S6)		Marl (F10) (LR	R K, L)			Other (Explain in Remarks)
Dark Surface (S7)						
³ Indicators of hydrophytic v	egetation and w	vetland hydrology mu	ust be p	resent, ur	nless dist	turbed or problematic.
Restrictive Layer (if obser	ved):					
Туре:						
Depth (inches):						Hydric Soil Present? Yes No X
Remarks:						-
This data form is revised from	om Northcentra	and Northeast Reg	ional Su	ıpplemen	t Version	2.0 to include the NRCS Field Indicators of Hydric Soils
Version 7.0, 2015 Errata. (r	http://www.nrcs.	usda.gov/Internet/F	SE_DOG	JUMENT	S/nrcs14	f2p2_051293.docx)

Project/Site: Hudson	Logistics Ce	nter	City/County: Hudson Sampling Date: 12/2						12/2/20		
Applicant/Owner:	Hillwood Dev	velopment						State	NH	Sampling Point	C_WET
Investigator(s): Brend	lan Quigley, (Gove Environme	ntal S	Services		Section	n, Town	ship, Range:			
Landform (hillside, terr	ace, etc.):	Lower Merrimac	k Riv	er Valley	Local relief (c	oncave, c	convex,	none): <u>conca</u>	ave	Slope	%:
Subregion (LRR or ML	.RA): <u>LRR</u>	R	Lat:	see map		L	ong:			Datum:	
Soil Map Unit Name:								NWI class	ification	: PFO1B	
Are climatic / hydrolog	ic conditions	on the site typica	al for	this time of	f year?	Yes	Х	No	(If no,	explain in Remarks	5.)
Are Vegetation	, Soil	, or Hydrology		significant	tly disturbed?	Are '	"Normal	Circumstand	ces" pres	sent? Yes X	No
Are Vegetation	, Soil	, or Hydrology		naturally p	problematic?	(lf ne	eeded, e	explain any a	nswers i	n Remarks.)	
SUMMARY OF FI	NDINGS -	- Attach site	map	showin	g sampling	point lo	ocatio	ns, transe	ects, in	nportant featur	es, etc.
Hydrophytic Vegetatio	on Present?	Yes	х	No	ls th	e Sampl	ed Area	1			
Hydric Soil Present?		Yes	Х	No	with	in a Wet	land?	Ye	s <u>X</u>	No	
Wetland Hydrology P	resent?	Yes	Х	No	If ye	s, optiona	al Wetla	nd Site ID:	Impact	Area C	_
Remarks: (Explain al	Iternative pro	cedures here or i	in a s	eparate rep	port.)						

Wetland Hydrology Indica	tors:				Secondary Indicators (minimum of two required)		
Primary Indicators (minimu	<u>n of one is requir</u>	ed; check all	that apply)		Surface Soil Cracks (B6)		
Surface Water (A1)		Water-	Stained Leaves (B9)		Drainage Patterns (B10)		
High Water Table (A2)		Aquati	c Fauna (B13)		Moss Trim Lines (B16)		
Saturation (A3)		Marl D	eposits (B15)		Dry-Season Water Table (C2)		
Water Marks (B1)		Hydrog	gen Sulfide Odor (C1)		Crayfish Burrows (C8)		
Sediment Deposits (B2)	X Oxidize	ed Rhizospheres on Living R	oots (C3)	Saturation Visible on Aerial Imagery (C9)		
Drift Deposits (B3)		Preser	nce of Reduced Iron (C4)		Stunted or Stressed Plants (D1)		
Algal Mat or Crust (B4)		Recen	t Iron Reduction in Tilled Soil	s (C6)	X Geomorphic Position (D2)		
Iron Deposits (B5)		Thin M	luck Surface (C7)		Shallow Aquitard (D3)		
Inundation Visible on A	erial Imagery (B7) Other	(Explain in Remarks)		Microtopographic Relief (D4)		
Sparsely Vegetated Co	ncave Surface (B	88)			FAC-Neutral Test (D5)		
Field Observations:							
Surface Water Present?	Yes	No X	Depth (inches):				
Water Table Present?	Yes	No X	Depth (inches):				
Saturation Present?	Yes	No X	Depth (inches):	Wetlar	nd Hydrology Present? Yes X No		
(includes capillary fringe)							
Describe Recorded Data (s	ream gauge, mo	nitoring well,	aerial photos, previous inspe	ections), if	available:		
Pemarks:							
Remarks.							

Sampling Point: C_WET

Tree Stratum (Plot size: width of wet)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer rubrum	20	Yes	FAC	
2.				Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
3.				
4.				Total Number of Dominant Species Across All Strata: 3 (B)
5.				(=)
6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)
7.				Prevalence Index worksheet:
	20	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: width of wet)				OBL species 0 $x 1 = 0$
1.				FACW species 5 $x 2 = 10$
2.				FAC species $20 \times 3 = 60$
3.				FACU species 5 $x 4 = 20$
4.				UPL species $0 \times 5 = 0$
5.				Column Totals: 30 (A) 90 (B)
6.				Prevalence Index = $B/A = 3.00$
7.				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5'r)				X 2 - Dominance Test is >50%
1. Osmundastrum cinnamomeum	5	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹
2. Gaultheria procumbens	5	Yes	FACU	4 - Morphological Adaptations ¹ (Provide supporting
3.				data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5.				
6.				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8.				
9.				diameter at breast height (DBH), regardless of height.
10.				Oralia afekarak - Weederster terretiker Olio DDU
11.				and greater than or equal to 3.28 ft (1 m) tall.
12.				
	10	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				We during All we during suctor than 2.20 ft is
1.				height.
2.				
3.				Hydrophytic Vogetation
4.				Present? Yes X No
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa	rate sheet.)			
narrow wetland area. Tree and shub plots adjusted to	wid of wetka	and (~15' wide))	

SOIL	
------	--

Profile Desc	ription: (Describe	to the dep	oth needed to doc	ument t	he indica	tor or co	onfirm the absence of ind	icators.)	
Depth	Matrix		Redo	x Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-8	10yr 2/1	100					Sandy	ox rhizo	
8-10	10yr 4/1	98	7.5yr 3/3	2	С	М	Sandy		
10-15	2.5y 5/2	95	10yr 5/6	5	С	М	Sandy		
·									
		·							
¹ Type: C=Co	oncentration, D=Dep	letion, RM	=Reduced Matrix, N	/IS=Mas	ked Sand	l Grains.	² Location: PL=Po	ore Lining, M=Matrix.	
Hydric Soil I	Indicators:						Indicators for Pr	oblematic Hydric Soils ³ :	
Histosol	(A1)		Polyvalue Belo	ow Surfa	ce (S8) (I	LRR R,	2 cm Muck (A	A10) (LRR K, L, MLRA 149B)	
Histic Ep	oipedon (A2)		MLRA 149B	5)			Coast Prairie	Redox (A16) (LRR K, L, R)	
Black His	stic (A3)		Thin Dark Surf	ace (S9) (LRR R	MLRA 1	5 cm Mucky	Peat or Peat (S3) (LRR K, L, R)	
Hydroge	n Sulfide (A4)		High Chroma S	Sands (S	611) (LRF	R K, L)	Polyvalue Below Surface (S8) (LRR K, L)		
Stratified	d Layers (A5)		Loamy Mucky	Mineral	(F1) (LRI	R K, L)	Thin Dark Su	rface (S9) (LRR K, L)	
X Depleted	d Below Dark Surface	e (A11)	Loamy Gleyed	Matrix (F2)		Iron-Mangane	ese Masses (F12) (LRR K, L, R)	
Thick Da	ark Surface (A12)		Depleted Matri	x (F3)			Piedmont Flo	odplain Soils (F19) (MLRA 149B)	
Sandy M	lucky Mineral (S1)		Redox Dark Su	urface (F	-6)		Mesic Spodic	(1A6) (MLRA 144A, 145, 149B)	
Sandy G	bleyed Matrix (S4)		Depleted Dark	Surrace	e (F7)			Naterial (F21)	
Sandy R	edox (SS)		Mart (E10) (LB		8)		Very Snallow	Dark Sufface (F22)	
Supped	rfaaa (87)		IMAII (F 10) (LK	κ κ, L)				n in Remarks)	
³ Indicators of	f hydrophytic yegetat	tion and w	etland bydrology m	ust he n	recent ur	loce diet	urbed or problematic		
Restrictive I	aver (if observed):		cliand hydrology m		icsent, u	1033 0130			
Type:									
Depth (ir	nches):						Hydric Soil Present?	Yes <u>X</u> No	
Remarks:							1		
This data for	m is revised from No	orthcentral	and Northeast Reg	ional Su	pplemen	Version	2.0 to include the NRCS F	ield Indicators of Hydric Soils,	
Version 7.0,	2015 Errata. (http://w	www.nrcs.u	usda.gov/Internet/F	SE_DOO	CUMENT	S/nrcs14	2p2_051293.docx)		

Project/Site: Hudson Logistics Center	City/County: Hudson Sampling Date: 12/2/20
Applicant/Owner: Hillwood Development	State: NH Sampling Point: D-C_UP
Investigator(s): Brendan Quigley, Gove Environmental Services	Section, Township, Range:
Landform (hillside, terrace, etc.): Lower Merrimack River Valley	Local relief (concave, convex, none): <u>convex</u> Slope %:
Subregion (LRR or MLRA): LRR R Lat: see map	Long: Datum:
Soil Map Unit Name:	NWI classification: PFO1B
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly	disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally prof	blematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area
Wetland Hydrology Present?	Yes		If yes, optional Wetland Site ID: Impact Area C & D
Demonstrative (Excelsion alternative analysis		a a manage ta managet)	

Remarks: (Explain alternative procedures here or in a separate report.)

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)				
Primary Indicators (minimum of one i	s required; check all that apply)	Surface Soil Cracks (B6)				
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)				
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)				
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)				
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8)				
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)				
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)				
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)				
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)				
Inundation Visible on Aerial Imag	Jery (B7) Other (Explain in Remarks)	Microtopographic Relief (D4)				
Sparsely Vegetated Concave Su	rface (B8)	FAC-Neutral Test (D5)				
Field Observations:						
Surface Water Present? Yes	No X Depth (inches):					
Water Table Present? Yes	No X Depth (inches):					
Saturation Present? Yes	No X Depth (inches): Wetla	nd Hydrology Present? Yes No X				
(includes capillary fringe)						
Describe Recorded Data (stream gau	ige, monitoring well, aerial photos, previous inspections), if	available:				
Remarks:						
Remarks:						
Remarks:						
Remarks:						
Remarks:						
Remarks:						
Remarks:						
Remarks:						
Remarks:						

Sampling Point: D-C_UPL

	Absolute	Dominant	Indicator	Dominance Test worksheet:			
<u>Tree Stratum</u> (Plot size: <u>15 x30</u>)	% Cover	Species?	Status				
1. Pinus strobus	20	Yes	FACU	Number of Dominant Species			
2. Quercus rubra	20	Yes	FACU	That Are OBL, FACW, or FAC:(A)			
3. Betula lenta 4.	10	Yes	FACU	Total Number of Dominant Species Across All Strata: 5 (B)			
5		·		Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)			
7				Prevalence Index worksheet:			
	50	=Total Cover		Total % Cover of: Multiply by:			
Sapling/Shrub Stratum (Plot size: 15'x15')				OBL species 0 x 1 = 0			
1. <u>Betula lenta</u>	10	Yes	FACU	FACW species 2 x 2 = 4			
2. Acer rubrum	5	Yes	FAC	FAC species 5 x 3 = 15			
3. Pinus strobus	2	No	FACU	FACU species 62 x 4 = 248			
4.				UPL species 0 x 5 = 0			
5.				Column Totals: 69 (A) 267 (B)			
6.				Prevalence Index = $B/A = 3.87$			
7.				Hydrophytic Vegetation Indicators:			
	17	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation			
Herb Stratum (Plot size: 5'r)				2 - Dominance Test is >50%			
1 Osmundastrum cinnamomeum	2	No	FACW	3 - Prevalence Index is <3.01			
2			17.077	4 - Morphological Adaptations ¹ (Provide supporting			
2		·		data in Remarks or on a separate sheet)			
		·		Problematic Undranduntic Magatation ¹ (Evaluin)			
4							
5		·		¹ Indicators of hydric soil and wetland hydrology must			
o		·		De present, unless disturbed of problematic.			
/		·		Definitions of vegetation Strata:			
8 9				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
10 11		·		Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.			
12.				Herb – All herbaceous (non-woody) plants, regardless			
	2	=Total Cover		of size, and woody plants less than 3.28 ft tall.			
Woody Vine Stratum (Plot size:) 1.				Woody vines – All woody vines greater than 3.28 ft in height.			
2.							
3.				Hydrophytic Venetation			
4.				Present? Yes No X			
		=Total Cover					
Remarks: (Include photo numbers bere or on a sepa	rate sheet)						
tree and shrub lots adjusyted to the width of narrow u	pland area ~	-15'					

SOIL	
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Profile Desc	ription: (Describe	to the dep	oth needed to doc	ument t	he indica	tor or co	onfirm the absence of ind	licators.)	
Depth	Matrix		Redo	x Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type'	Loc ²	Texture	Remarks	
0-4	10yr 2/1	100					Sandy		
4-14	7.5yr 2.5/2	100					Sandy		
14-230	10yr 4/3	90	10yr 3/6	10			Sandy		
		· ·							
		· ·							
		· ·							
		· ·							
1									
'Type: C=Co	oncentration, D=Dep	letion, RM	=Reduced Matrix, N	//S=Mas	ked Sand	Grains.	² Location: PL=P	ore Lining, M=Matrix.	
Hydric Soil I	ndicators:			<u> </u>	(00) (Indicators for P	oblematic Hydric Soils":	
Histosol	(A1)		Polyvalue Belo	ow Surfa	ce (S8) (I	LKK K,	2 cm Muck (A10) (LRR K, L, MLRA 149B)		
Histic Ep	ipedon (A2)		WILRA 149B	6) Sana (CO)					
	$\operatorname{Stic}(A3)$	•		ace (59) Sondo (5			149B) 5 cm Mucky	Peat of Peat (S3) (LRR K, L, R)	
				Sanus (c Minorol)) (LR (E1) (L B)	(K, L)	Polyvalue Be		
Stratilieu	Below Dark Surface	o (A11)		Matrix ((F1) (LKI (F2)	Υ Ν, Ε)	Inin Dark St	$(\mathbf{L}\mathbf{R}\mathbf{R}\mathbf{R},\mathbf{L})$	
Depleted	rk Surface (A12)	e (ATT)	Loany Gleyeu	iviatrix (iv (E3)	12)			odplain Soils (F19) (MI PA 1/9R)	
Sandy M	ucky Mineral (S1)		Bedox Dark Si	urface (F	-6)		Mesic Spodic	(TA6) (MI RA 144A 145 149B)	
Sandy G	leved Matrix (S4)	•	Depleted Dark	Surface	e (F7)		Red Parent N	Material (F21)	
Sandy Bedox (S5)			Bedox Depressions (F8)				Very Shallow Dark Surface (F22)		
Stripped Matrix (S6)			Marl (F10) (LR	R K, L)	- /		Other (Explain in Remarks)		
Dark Sur	face (S7)	•		. ,				,	
³ Indicators of	hydrophytic vegetat	tion and we	etland hydrology m	ust be pi	resent, ur	less dist	urbed or problematic.		
Restrictive L	ayer (if observed):								
Туре:									
Depth (in	iches):						Hydric Soil Present?	Yes No X	
Remarks:									
This data forr	m is revised from No	orthcentral	and Northeast Reg	ional Su	pplemen	t Version	2.0 to include the NRCS F	ield Indicators of Hydric Soils,	
Version 7.0, 2	2015 Errata. (http://v	www.nrcs.u	usda.gov/Internet/F	SE_DOO	CUMENT	S/nrcs14	2p2_051293.docx)		
Project/Site: Hudson Logistics Ce	enter	City/County: Hudson Sampling Date: 12/2/20							
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Applicant/Owner: Hillwood De	velopment	Sta	te: <u>NH</u>	Sampling Point: D_WET					
Investigator(s): Brendan Quigley,	Gove Environmental Services	Section, Township, Rang	je:						
Landform (hillside, terrace, etc.):	Lower Merrimack River Valley	Local relief (concave, convex, none): <u>co</u>	ncave	Slope %:					
Subregion (LRR or MLRA): LRR	R Lat: see map	Long:		Datum:					
Soil Map Unit Name:		NWI cla	ssification	: PFO1B					
Are climatic / hydrologic conditions	on the site typical for this time of y	ear? Yes <u>X</u> No	(If no,	explain in Remarks.)					
Are Vegetation, Soil	, or Hydrologysignificantly	disturbed? Are "Normal Circumsta	ances" pre	sent? Yes X No					
Are Vegetation, Soil	, or Hydrologynaturally pro	blematic? (If needed, explain any	answers i	in Remarks.)					
SUMMARY OF FINDINGS -	 Attach site map showing 	sampling point locations, tran	sects, ir	nportant features, etc.					
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area							
Hydric Soil Present?	Yes X No	within a Wetland?	res <u>X</u>	No					
Wetland Hydrology Present?	Yes X No	If yes, optional Wetland Site ID	Impact	Area D					
Remarks: (Explain alternative pro	cedures here or in a separate repo	rt.)							

HYDROLOGY

Wetland Hydrology Indicators:			Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is require	Surface Soil Cracks (B6)		
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patterns (B10)
X High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B16)
X Saturation (A3)	Marl Deposits (B15)		Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living R	oots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)		Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soi	ls (C6)	X Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8	8)		X FAC-Neutral Test (D5)
Field Observations:			
Surface Water Present? Yes	No X Depth (inches):		
Water Table Present? Yes X	No Depth (inches): 8		
Saturation Present? Yes X	No Depth (inches): 0	Wetlan	d Hydrology Present? Yes X No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, mon	nitoring well, aerial photos, previous insp	ections), if	available:
Remarks:			

Sampling Point: D_WET

Tree Stratum (Plot size: 30'r)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Acer rubrum</u> 2.	20	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
3				Total Number of Dominant Species Across All Strata: 4 (B)
5				Percent of Dominant Species
7				Prevalence Index worksheet:
··	20	-Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15'r)	20			$\frac{1}{\text{OBL species}} 5 \qquad x 1 = 5$
1. Vaccinium corymbosum	5	Yes	FACW	FACW species 20 x 2 = 40
2.				FAC species 20 x 3 = 60
3.				FACU species $0 x 4 = 0$
4				$\frac{1}{1}$
5				$\frac{1}{2} = \frac{1}{2} = \frac{1}$
				$\frac{1}{100} = \frac{1}{100} = \frac{1}$
0				Hudronhutia Vacatatian Indiaatara
/				Hydrophytic vegetation indicators:
	5	= I otal Cover		1 - Rapid Test for Hydrophytic Vegetation
<u>Herb Stratum</u> (Plot size: <u>5'r</u>)				X 2 - Dominance Test is >50%
1. Impatiens capensis	15	Yes	FACW	X 3 - Prevalence Index is ≤3.0'
2. Symplocarpus foetidus	5	Yes	OBL	4 - Morphological Adaptations ¹ (Provide supporting
3. UKN carex	2	No		data in Remarks or on a separate sheet)
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5				¹ Indicators of hydric soil and wetland hydrology must
6.				be present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in (7.6 cm) or more in
9.				diameter at breast height (DBH), regardless of height.
10.				Continue Alexandre Manada land than 2 in DDU
11				and greater than or equal to 3.28 ft (1 m) tall.
12	22	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2				Hedrowled's
3				Hydropnytic Vegetation
4				Present? Yes X No
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa	arate sheet.)			

Profile Desc	ription: (Describe	to the de	pth needed to docu	ument ti	he indica	tor or co	onfirm the absence	of indicators.)
Depth	Matrix		Redo	x Featur	res			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-20	2 5v 2 5/1	100					Muck	ox rhizo
	2.09 2.07 1						Mdolt	OX THEO
		otion RM			kod Sono		² Logation:	
	ncentration, D=Depi	ellon, Riv		/iS=ivias	keu Sano	Grains.	Location. I	PL=Pore Lining, M=Matrix.
Y Histosol			Polyaduo Bolo		co (S9) (I			
	(AI) inodon (A2)			w Suna \	Ce (30) (I			
Block His	(A2)		Thin Dark Surf) 200 (SQ)		MIDA	Cuast F	lucky Post or Post (S2) (IPP K I P)
Black The	Suc (AS) $Sulfide (AA)$		High Chroma	ace (39) Sande (9) (LKK K) S11) (I P E		149B) 5 CII M	ue Below Surface (S8) (I PP K I)
Tryurogen			Loamy Mucky	Minoral	(E1) (LNI	, , , , ,	T Olyvan Thin Da	ark Surface (SQ) (LRR K , L)
Oralined	Below Dark Surface	(A11)	Loamy Gleved	Matrix ((I I) (EIXI (E2)	、 ∩, ∟)	Iron-Ma	
	rk Surface (A12)	; (ATT)	Loany Oleyeu	v (E3)	(1 2)		Niedmo	anganese masses (112) (ERR R, E, R)
Sandy M	ucky Mineral (S1)		Depleted Math	x (1 3) urface (E	-6)		Nesic S	Spodic (TA6) (ML BA 144A 145 149B)
Sandy M	loved Matrix (S4)		Redox Dark St	Surface	0) (F7)		Red Pa	
Sandy B	adox (S5)		Beday Depress	sions (Fi	8)		Verv St	hallow Dark Surface (F22)
Oandy R	Matrix (S6)		Marl (E10) (I R		0)		Other (I	Explain in Remarks)
Dark Sur	face (S7)			IX IX, E)				
³ Indicators of	hydrophytic vegetat	ion and w	etland hydrology mu	ist he ni	resent ur	nless dist	urbed or problematic	
Restrictive I	aver (if observed):		citana nyarology ma					-
Type								
Denth (in	ab a a \ .						Ukudain Chil Danad	
Depth (in	cnes).						Hydric Soll Prese	
Remarks:								
This data form	n is revised from No	rthcentral	and Northeast Reg	ional Su		Version	2.0 to include the NR	RCS Field Indicators of Hydric Soils,
	2015 Enala. (http://w	///////////////////////////////////////				3/11/0514	2p2_051295.000x)	

Project/Site: Hudson Logistics Center	City/County: Hudson Sampling Date: 12/2/20						
Applicant/Owner: Hillwood Development	State: NH Sampling Point: D_UPL						
Investigator(s): Brendan Quigley, Gove Environmental Services Section, Township, Range:							
Landform (hillside, terrace, etc.): Lower Merrimack River Valley Loo	al relief (concave, convex, none): convex Slope %:						
Subregion (LRR or MLRA): LRR R Lat: see map	Long: Datum:						
Soil Map Unit Name:	NWI classification: PFO1B						
Are climatic / hydrologic conditions on the site typical for this time of year	? Yes No (If no, explain in Remarks.)						
Are Vegetation, Soil, or Hydrologysignificantly dis	turbed? Are "Normal Circumstances" present? Yes X No						
Are Vegetation, Soil, or Hydrologynaturally proble	matic? (If needed, explain any answers in Remarks.)						
SUMMARY OF FINDINGS – Attach site map showing sa	mpling point locations, transects, important features, etc.						

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X If yes, optional Wetland Site ID: Impact Area D
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	
Remarks: (Explain alternative procedures I	nere or in a se	eparate report.)	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is requi	Surface Soil Cracks (B6)	
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots	s (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C	C6) Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7	7) Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (E	38)	FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes	No X Depth (inches):	
Water Table Present? Yes	No X Depth (inches):	
	Wetten ditteductors Duccess (O	
Saturation Present? Yes	No X Depth (Inches):	wetland Hydrology Present? Yes No X
(includes capillary fringe)	No <u>X</u> Depth (inches):	wetland Hydrology Present ? Yes No X
(includes capillary fringe) Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, previous inspectic	ons), if available:
(includes capillary fringe) Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, previous inspection	ons), if available:
(includes capillary fringe) Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, previous inspection	ons), if available:
Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, model) Remarks:	no <u>X</u> Depth (inches):	ons), if available:
Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, model) Remarks:	nitoring well, aerial photos, previous inspectic	ons), if available:
Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, model) Remarks:	no <u>X</u> Depth (inches):	ons), if available:
Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, model) Remarks:	nitoring well, aerial photos, previous inspectio	ons), if available:
Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, model) Remarks:	nitoring well, aerial photos, previous inspection	ons), if available:
Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, model) Remarks:	nitoring well, aerial photos, previous inspectio	ons), if available:
Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, model) Remarks:	nitoring well, aerial photos, previous inspectio	ons), if available:
Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, model) Remarks:	no <u>x</u> Depth (inches):	ons), if available:
Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, model) Remarks:	no <u>x</u> Depth (inches):	wetiand Hydrology Present ? Yes <u>No X</u>

Sampling Point: D_UPL

Tree Stratum (Plot size:	Absolute % Cover	Dominant	Indicator	Dominance Test worksheet
1 Pinus strobus	30	Vos	FACU	Dominance rest worksheet.
2.		103	1400	Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
3. Betula lenta	20	Yes	FACU	Total Number of Dominant
4. Betula populifolia	10	No	FAC	Species Across All Strata: 5 (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: 20.0% (A/B)
7				Prevalence Index worksheet:
	60	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species x 1 =
1. Euonymus alatus	5	Yes	UPL	FACW species x 2 =
2. Acer rubrum	5	Yes	FAC	FAC species x 3 =
3				FACU species x 4 =
4				UPL species x 5 =
5				Column Totals: (A) (B)
6				Prevalence Index = B/A =
7.				Hydrophytic Vegetation Indicators:
	10	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:)				2 - Dominance Test is >50%
1. Dennstaedtia punctilobula	20	Yes	UPL	3 - Prevalence Index is ≤3.0 ¹
2 Osmundastrum cinnamomeum		No	FACW	4 - Morphological Adaptations ¹ (Provide supporting
3 Pinus strobus	2	No	FACU	data in Remarks or on a separate sheet)
A	Z	110	TAGO	Droblemetic Hydrophytic Vegetation ¹ (Evaluin)
4				
5				¹ Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
<i>1.</i>				Definitions of vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				dameter at breast neight (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
12		·		and greater than of equal to 3.20 it (1 iii) tail.
12.		Tatal Causer		Herb – All herbaceous (non-woody) plants, regardless
		= I otal Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2		. <u> </u>		Hydrophytic
3				Vegetation
4				Present? Yes <u>No X</u>
		=Total Cover		
Remarks: (Include photo numbers here or on a separ	ate sheet.)			

Profile Desc	cription: (Describe t	o the de	pth needed to docu	ument t	ne indica	tor or co	nfirm the absence of indica	tors.)
Depth	Matrix		Redo:	x Featur	es Tran 1	1 2	Tartura	Descenter
		%	Color (moist)	<u>%</u>	Туре	LOC	Sendu	Remarks
0-3	10yr 2/1					·	Sandy	
3-4	10yr 3/3					·	Sandy	
4-12	10yr 4/6					·	Sandy	
						<u> </u>	·	
						:		
						<u> </u>	·	
						<u> </u>		
						<u> </u>	·	
¹ Type: C=C	oncentration, D=Depl	etion, RN	I=Reduced Matrix, N	IS=Mas	ked Sanc	Grains.	² Location: PL=Pore	Lining, M=Matrix.
Histosol Histosol Histic Ep Black Hi Hydroge Stratified Depleted Thick Da Sandy M Sandy R Sandy R Stripped Dark Su	(A1) pipedon (A2) istic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surface ark Surface (A12) Mucky Mineral (S1) Bleyed Matrix (S4) Redox (S5) I Matrix (S6) rface (S7) f hydrophytic vegetati	(A11) on and w	Polyvalue Belo MLRA 149B Thin Dark Surf High Chroma S Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark Su Depleted Dark Redox Depress Marl (F10) (LR	w Surfa) ace (S9) Sands (S Mineral Matrix (x (F3) urface (F Surface sions (F R K, L) ust be pr	ce (S8) (I (LRR R, 511) (LRF (F1) (LRF F2) (F7) (F7) B)	RR R, MLRA 1 K, L) K, L)	2 cm Muck (A10 Coast Prairie Re 5 cm Mucky Pea Polyvalue Below Thin Dark Surfac Iron-Manganese Piedmont Floodg Mesic Spodic (T Red Parent Mate Very Shallow Da Other (Explain in	(All All All All All All All All All All
Type:	Layer (il observed).							
Depth (ii	nches):						Hydric Soil Present?	Yes <u>No X</u>
Remarks: This data for Version 7.0,	m is revised from Noi 2015 Errata. (http://w	thcentra ww.nrcs.	l and Northeast Reg usda.gov/Internet/FS	ional Su SE_DOC	pplement CUMENT	: Version S/nrcs142	2.0 to include the NRCS Field 2p2_051293.docx)	I Indicators of Hydric Soils,

Project/Site: Hudson Logistics Center	City/County: Hudson Sampling Date: 11/25/20
Applicant/Owner: Hillwood Development	State: NH Sampling Point: F1-UPL
Investigator(s): Brendan Quigley, Gove Environmental Services	Section, Township, Range:
Landform (hillside, terrace, etc.): Lower Merrimack River Valley	Local relief (concave, convex, none): near flat Slope %:
Subregion (LRR or MLRA): LRR R Lat: see map	Long: Datum:
Soil Map Unit Name:	NWI classification: PEM2Bf
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes X No (If no, explain in Remarks.)
Are Vegetation X, Soil , or Hydrology significantl	y disturbed? Are "Normal Circumstances" present? Yes No _X
Are Vegetation , Soil , or Hydrology naturally p	roblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hvdrophytic Vegetation Present? Yes No X	Is the Sampled Area
Hydric Soil Present? Yes No X	within a Wetland? Yes No X
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Impact Area F
HYDROLOGY	
Watland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required: check all that apply	() Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Lu	eaves (B9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (E	Moss Trim Lines (B16)
Saturation (A3) Marl Deposits (B	15) Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide	e Odor (C1) Crayfish Burrows (C8)
Sediment Deposits (B2) X Oxidized Rhizos	oheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Red	uced Iron (C4) Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4) Recent Iron Red	uction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5)	Ce (C7) Shallow Aquitard (D3)
Inundation visible on Aerial Imagery (B7)Other (Explain In	EAC-Neutral Test (D5)
Eicld Observations:	
FIELO ODServations. Surface Water Present? Yes No X Depth (i	inchas).
Water Table Present? Yes X No Depth (i	inches): 16
Saturation Present? Yes No Depth (i	nches): Wetland Hydrology Present? Yes X No
(includes capillary fringe)	

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

Remarks:

(includes capillary fringe)

Sampling Point: F1-UPL

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 2.				Number of Dominant Species That Are OBL, FACW, or FAC: (A)
3.				Total Number of Dominant
4				Species Across All Strata: (B)
5				Percent of Dominant Species
o				Provolonce Index worksheet:
···		-Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:				OBL species x1 =
<u></u> , (,), 1.				FACW species x 2 =
2.				FAC species x 3 =
3.				FACU species x 4 =
4.				UPL species x 5 =
5.				Column Totals: (A) (B)
6.				Prevalence Index = B/A =
7.				Hydrophytic Vegetation Indicators:
	:	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:)				2 - Dominance Test is >50%
1. Maintained lawn (kentucky bluegrass)				3 - Prevalence Index is ≤3.0 ¹
2				4 - Morphological Adaptations ¹ (Provide supporting
3				data in Remarks or on a separate sheet)
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5				¹ Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12	:	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2				
3				Hydrophytic Vegetation
4				Present? Yes <u>No X</u>
	:	=Total Cover		
Remarks: (Include photo numbers here or on a separate see remarks in summary of findings	rate sheet.)			

Profile Desc	ription: (Describe	to the de	oth needed to docu	ument t	he indica	ator or c	onfirm the absence of indicators.)
Depth	Matrix		Redo	x Featu	res		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks
0-4	10yr 2/2	100					Sandy oxidized rhizoshperes
4-5	2.5y 5/2	95	2.5y 5/6	5	С	М	Sandy
5-13	2.5y 6/3	95	2.5y 5/6	5	С	М	Sandy
							· ·
17 0.0							
Type: C=Cc	ncentration, D=Depl	letion, RIV	=Reduced Matrix, N	/IS=Mas	ked Sand	Grains.	. *Location: PL=Pore Lining, M=Matrix.
Histosol	ndicators:		Polyaciuo Bolo		co (S9) (a cm Muck (A10) (LPR K L MLPA 140P)
Histosof	(AT) inodon (A2)			w Sulla	ice (30) (i		Coact Brairia Boday (A16) (LRR K, L, MERA 149D)
Black His	tic (A3)		Thin Dark Surf) 200 (50		MIDA	149B) 5 cm Mucky Peat or Peat (S3) (I BP K I P)
	SUC(AS)			ace (39 Sondo (8) (LKK K 211) /I DI		Dehardue Belew Surface (SS) (LRR K, L, K)
				Minaral	(LR	\mathbf{x} \mathbf{x} \mathbf{x} \mathbf{x} \mathbf{x}	This Dark Surface (S0) (LRR R, L)
Stratified	Layers (A5)	(Loamy Mucky	Matrice		Κ Κ, L)	Thin Dark Surface (S9) (LRR K, L)
Depleted	Below Dark Surface	e (A11)	Loamy Gleyed	Matrix ((F2)		Iron-Manganese Masses (F12) (LRR K, L, R)
	rk Sufface (A12)		Depleted Matri	x (F3)	-0)		
Sandy M	ucky Mineral (S1)		Redox Dark St	Inface (F	-6)		Mesic Spodic (1A6) (MLRA 144A, 145, 149B
Sandy G	leyed Matrix (S4)		Depleted Dark	Surface	e (F7)		Red Parent Material (F21)
Sandy R	edox (S5)		Redox Depres		8)		Very Shallow Dark Surface (F22)
Stripped	Matrix (S6)		Marl (F10) (LR	R K, L)			Other (Explain in Remarks)
Dark Sur	face (S7)						
³ Indicators of	hydrophytic vegetat	ion and w	etland hydrology mu	ust be p	resent, ur	nless dis	turbed or problematic.
Restrictive L	ayer (if observed):						
Depth (in	ches):						Hvdric Soil Present? Yes No X
Remarks:							
Soil has beer	disturbed by regrac	ding for co	nstruction of the go	If course	e		

Project/Site: Hude	son Logistics C	enter		City/Cou	nty: Hudson			Sampling Date:	11/25/20
Applicant/Owner:	Hillwood De	evelopment				State:	NH	Sampling Point:	F1-WET
Investigator(s): Bre	endan Quigley,	Gove Environmenta	al Services		Section, Town	ship, Range:			
Landform (hillside,	terrace, etc.):	Lower Merrimack	River Valley	Local relief (con	cave, convex,	none): <u>near fla</u>	ıt	Slope	%:
Subregion (LRR or	MLRA): LRR	R L	at: see map		Long:			Datum:	
Soil Map Unit Name	e:					NWI classifi	ication:	PEM2Bf	
Are climatic / hydro	logic conditions	on the site typical	for this time of	year?	Yes X	No	(lf no, e	explain in Remarks	.)
Are Vegetation	<, Soil	, or Hydrology	significantly	y disturbed?	Are "Normal	Circumstance	s" prese	ent? Yes X	No
Are Vegetation	, Soil	, or Hydrology	naturally pr	oblematic?	(If needed, e	explain any ans	swers in	Remarks.)	
SUMMARY OF	FINDINGS	– Attach site m	ap showing	g sampling po	oint locatio	ns, transec	ts, im	portant featur	es, etc.
Hydrophytic Veget	ation Present?	Yes	X No	Is the	Sampled Area	I			
Hydric Soil Presen	nt?	Yes	X No	within	a Wetland?	Yes	Х	No X	
Wetland Hydrolog	y Present?	Yes	X No	If yes,	optional Wetla	nd Site ID: Ir	mpact A	vrea F	
Remarks: (Explair Trasect is located normal circumstan	n alternative pro at the edge of t ises	ocedures here or in he maintained golf	a separate rep course. Gtrour	ort.) ndcover cosists of	f turf but tyrees	s and sshuibs a	ayt the e	edge of the plot rep	present

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is require	Surface Soil Cracks (B6)	
Surface Water (A1)	Drainage Patterns (B10)	
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	X Oxidized Rhizospheres on Living Ro	ots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B	8)	X FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes	No X Depth (inches):	
Water Table Present? Yes X	No Depth (inches): 16	
Saturation Present? Yes	No Depth (inches):	Wetland Hydrology Present? Yes X No
(includes capillary fringe)		
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, previous inspec	ctions), if available:
Remarks:		

Sampling Point: F1-WET

•				
Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer rubrum	15	Yes	FAC	Number of Demission Operation
2. Frangula alnus	20	Yes	FAC	That Are OBL, FACW, or FAC: 2 (A)
3. Cornus amomum	5	No	FACW	Tatal Number of Deminent
4. Lyonia ligustrina	5	No	FACW	Species Across All Strata: 2 (B)
5. Spiraea latifolia	2	No	FACW	Baraant of Deminant Crassics
6.				That Are OBL, FACW, or FAC: 100.0% (A/B)
7.				Prevalence Index worksheet:
	47	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species 0 x 1 = 0
1.				FACW species 12 x 2 = 24
2.				FAC species 35 x 3 = 105
3.				FACU species $0 x 4 = 0$
4.				UPL species $0 \times 5 = 0$
5.				Column Totals: 47 (A) 129 (B)
6.				Prevalence Index = $B/A = 2.74$
7.				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:)				X 2 - Dominance Test is >50%
1. Maintained lawn (kentucky bluegrass)				X 3 - Prevalence Index is $\leq 3.0^1$
2.				4 - Morphological Adaptations ¹ (Provide supporting
3.				data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5.				
6.				Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in, DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All berbaceous (non-woody) plants, regardless
		=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3 28 ft in
1				height.
2				
3				Hydrophytic Vegetation
4.				Present? Yes X No X
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa	rate sheet.)			1
plot is located at the edge of the maintained golf cour	se. Shrub a	nd tree layers	represent nor	mal circumstances while herbacouse layer is maintained
lawn				

Profile Desc	ription: (Describe	to the de	oth needed to doc	ument t	he indica	ator or co	confirm the absence of indicators.)		
Depth	Matrix		Redo	x Featur	res				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks		
0-3	10yr 2/1	100					Sandy oxidized rhizoshperes		
3-13	5v 6/2	95	2.5v 5/6	5	С	М	Sandy		
			2.09 0/0						
					·				
		·			·				
					. <u> </u>				
		·							
		·			·				
		·							
	ncontration D-Don	lotion PM	-Poducod Matrix	AS-Mac		d Graine	² Location: PL-Poro Lining M-Matrix		
Hydric Soil I	ndicators:			vio=ivias	skeu San	d Grains.	Indicators for Problematic Hydric Soils ³		
Histosol	(Δ1)		Polyvalue Belg	w Surfa	(82) (2 cm Muck (A10) (I RR K I MI RA 149R)		
Histic En	inedon (A2)		MI RA 1498		(00) (LIXIX IX,	Coast Prairie Redox (A16) (LRR K R)		
Black His	stic (A3)		Thin Dark Surf	') iace (S9		MIRA	149B) 5 cm Mucky Peat or Peat (S3) (I RR K, I, R)		
Hydroger	n Sulfide (A4)		High Chroma	Sands (S	511) (LRI	R K. L)	Polyvalue Below Surface (S8) (LRR K. L)		
Stratified	Lavers (A5)		Loamv Muckv	Mineral	(F1) (LR	R K. L)	Thin Dark Surface (S9) (LRR K. L)		
X Depleted	Below Dark Surface	e (A11)	Loamy Gleved	Matrix ((F2)	, _,	Iron-Manganese Masses (F12) (LRR K. L. R)		
Thick Da	rk Surface (A12)	- ()	Depleted Matr	ix (F3)			Piedmont Floodplain Soils (F19) (MLRA 149B)		
Sandy M	ucky Mineral (S1)		Redox Dark S	urface (F	-6)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
Sandy G	leyed Matrix (S4)		Depleted Dark	Surface	, (F7)		Red Parent Material (F21)		
X Sandy Re	edox (S5)		Redox Depres	sions (F	8)		Very Shallow Dark Surface (F22)		
Stripped	Matrix (S6)		Marl (F10) (LR	R K, L)			Other (Explain in Remarks)		
Dark Sur	face (S7)						—		
³ Indicators of	hydrophytic vegetat	tion and w	etland hydrology m	ust be p	resent, u	nless dist	sturbed or problematic.		
Restrictive L	ayer (if observed):								
Туре:									
Depth (in	ches):						Hydric Soil Present? Yes X No X		
Pomarka:	·								
Soil has been	disturbed by regra	dina for co	nstruction of the ao	lf course	÷				
	i alotalooa oy logia	ag .o. oo			-				

				0
Project/Site: Hudson Logistics Center		City/County: Hudsor	1	Sampling Date: 11/25/20
Applicant/Owner: Hillwood Development			State: NH	Sampling Point: G-UPL
Investigator(s): Brendan Quigley, Gove Enviror	mental Services	Section, To	wnship, Range:	
Landform (hillside, terrace, etc.): Lower Merri	mack River Valley Local r	elief (concave, conve	x, none): near flat	Slope %:
Subregion (LRR or MLRA): LRR R	Lat: see map	Long:		Datum:
Soil Map Unit Name:			NWI classification	: PEM2Bf
Are climatic / hydrologic conditions on the site to	voical for this time of year?	Yes X	No (If no	explain in Remarks)
Are Vegetation X Soil or Hydrolo	av significantly disturb	ed? Are "Norm	(ii no,	sent? Yes No X
Are Vegetation, Soil, or Hydrolo				
	gynaturally problema		a, explain any answers i	n Remarks.)
SUMMARY OF FINDINGS – Attach s	ite map showing sam	pling point locat	ions, transects, in	nportant features, etc.
Hydrophytic Vegetation Present?	íes No X	Is the Sampled A	rea	
Hydric Soil Present?	ies No X	within a Wetland	Yes	No X
Wetland Hydrology Present?		If yes optional We	tland Site ID: Impact	Area G
			<u></u>	
Remarks: (Explain alternative procedures here	or in a separate report.)			
Trasect is located in an area of maintained gold	course turf and consists of o	cultivated sod forming	grass, likley kentucky l	bluegrass. The area is not
likley to support hydrophytic vegeation under n	ormal circumstanses based of	on appaeance of culti	vated lawn and lack of s	signs of hydrology
			O	(
Wetland Hydrology Indicators:	habaak all that apply)		Secondary Indicators ((minimum of two required)
Surface Water (A1)	Water-Stained Leaves (F	20)	Drainage Patterns	(B10)
High Water Table (A2)	Aquatic Fauna (B13)	55)	Moss Trim Lines ((B16)
Saturation (A3)	Marl Deposits (B15)		Dry-Season Wate	r Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows	(C8)
Sediment Deposits (B2)	X Oxidized Rhizospheres o	n Living Roots (C3)	Saturation Visible	on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iro	n (C4)	Stunted or Stresse	ed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Posit	ion (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aguitard ((D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remark	(S)	Microtopographic	Relief (D4)
Sparsely Vegetated Concave Surface (B8)		,	FAC-Neutral Test	(D5)
Field Observations:				
Surface Water Present? Yes	No X Depth (inches):			

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

NoXDepth (inches):NoDepth (inches):

Remarks:

Water Table Present?

Saturation Present?

Yes

Yes

Yes X No

Wetland Hydrology Present?

Sampling Point: G-UPL

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. 2.				Number of Dominant Species That Are OBL, FACW, or FAC:(A)
3				Total Number of Dominant
4				Species Across All Strata: (B)
5				Percent of Dominant Species
7.				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species x 1 =
1.				FACW species x 2 =
2.				FAC species x 3 =
3.				FACU species x 4 =
4.				UPL species x 5 =
5.				Column Totals: (A) (B)
6.				Prevalence Index = B/A =
7.				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:)				2 - Dominance Test is >50%
1. Maintained lawn (kentucky bluegrass)				3 - Prevalence Index is ≤3.0 ¹
2				4 - Morphological Adaptations ¹ (Provide supporting
3				data in Remarks or on a separate sheet)
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5				¹ Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	:	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2				l hulaan hudio
3				Vegetation
4				Present? Yes <u>No X</u>
	:	=Total Cover		
Remarks: (Include photo numbers here or on a sepa see remarks in summary of findings	arate sheet.)			

Profile Desc	ription: (Describe	to the de	oth needed to doc	ument t	he indica	ator or co	onfirm the absence of indicators.)
Depth	Matrix		Redo	x Featu	res		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks
0-5	10yr 2/2	100					Sandy oxidized rhizoshperes
5-13	2.5y 5/3	95	10yr 5/6	5	С	М	Sandy
					·		
					·		
					·		
					·		
¹ Type: C=Co	oncentration, D=Dep	letion, RN	=Reduced Matrix, N	/IS=Mas	ked Sand	d Grains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators:						Indicators for Problematic Hydric Soils ³ :
Histosol	(A1)		Polyvalue Belo	w Surfa	ace (S8) (I	LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Ep	ipedon (A2)		MLRA 149B)			Coast Prairie Redox (A16) (LRR K, L, R)
Black His	stic (A3)		I hin Dark Surf	ace (S9) (LRR R	, MLRA 1	149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
Hydrogel	h Suilide (A4)		High Chroma s	Sands (3 Minoral	511) (LRI (E1) (LRI	K K, L)	This Dark Surface (S8) (LRR K, L)
	Below Dark Surface	- (Δ11)	Loamy Gleved	Matrix	(F1) (LKI (F2)	Υ Ν, Ε)	Iron-Mandanese Masses (E12) (LRR K L R)
Thick Da	rk Surface (A12)	= (ATT)	Depleted Matri	x (F3)	(1 2)		Piedmont Floodplain Soils (F19) (MI RA 149F
Sandy M	ucky Mineral (S1)		Redox Dark Su	urface (F	=6)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy G	leved Matrix (S4)		Depleted Dark	Surface	e (F7)		Red Parent Material (F21)
Sandy R	edox (S5)		Redox Depres	sions (F	8)		Very Shallow Dark Surface (F22)
Stripped	Matrix (S6)		Marl (F10) (LR	R K, L)			Other (Explain in Remarks)
Dark Sur	face (S7)						
³ Indicators of	hydrophytic vegetat	ion and w	etland hydrology mu	ust be p	resent, ur	nless dist	turbed or problematic.
Restrictive L	ayer (if observed):						
Туре:							
Depth (in	iches):						Hydric Soil Present? Yes No X
Remarks:							
Soil has been	n disturbed by regrac	ding for co	nstruction of the go	If course	е		

Project/Site: Hudson Logistics Center		City/County: Hudson		Sampling Date: 11/25/20
Applicant/Owner: Hillwood Development			State: NH	Sampling Point: G-WET
Investigator(s): Brendan Quigley, Gove Envir	ronmental Services	Section, Tov	wnship, Range:	
Landform (hillside, terrace, etc.): Lower Me	errimack River Valley Local r	elief (concave, conve	x. none): shallow swale	Slope %:
Subregion (I RR or MI RA): I RR R	Lat: see map	Lona:	,	Datum:
Soil Man Unit Name	Lut. 000 map	==g.	NWI classification:	
Are climatic / hydrologic conditions on the site	typical for this time of year?	Yes X	No (If no. e	evolain in Remarks.)
Are Vegetation X Soil or Hydro	significantly disturb	Are "Norm	(ii iii), c	ont? Vee No X
Are Vegetation <u>A</u> , soil <u>, or Hydro</u>				
				Remarks.)
SUMMARY OF FINDINGS – Attach	site map showing samp	pling point locat	ions, transects, im	portant features, etc.
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Ar	ea	
Hydric Soil Present?	Yes X No	within a Wetland?	Yes X	No
Wetland Hydrology Present?	Yes X No	If yes, optional We	tland Site ID: Impact A	Area G
likley to support hydrophytic vegeation under adjacnt non-maintained areas	normal circumstanses based o	on observatuion of soo	stressed by peristent p	onding and vegetation in
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (r	ninimum of two required)
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Cracks	s (B6)
Surface Water (A1)	Water-Stained Leaves (B	9)	Drainage Patterns	(B10)
X High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	316)
Saturation (A3)	Marl Deposits (B15)	~~	Dry-Season Water	Table (C2)
Water Marks (B1)		J1)	Crayfish Burrows (C	J8)
Drift Deposits (B3)		In Living roots (03)	X Saturation visible C	n Aeriai imagery (Us) d Plante (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Positic	רים) רומונא (ח2)
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard ([)3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remark	(S)	Microtopographic F	Relief (D4)
Sparsely Vegetated Concave Surface (B	i8)	,	FAC-Neutral Test (D5)
Field Observations:				
Surface Water Present? Yes	No Depth (inches):			
Water Table Present? Yes X	No Depth (inches):	12		
Saturation Present? Yes	No Depth (inches):	Wetland	d Hydrology Present?	Yes X No
(includes capillary fringe)				
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, prev	vious inspections), if a	available:	
Remarks:				

Sampling Point: G-WET

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 2				Number of Dominant Species That Are OBL, FACW, or FAC:(A)
3				Total Number of Dominant Species Across All Strata: (B)
5.				Percent of Dominant Species
6				That Are OBL, FACW, or FAC:(A/B)
7				Prevalence Index worksheet:
		=Total Cover		Total % Cover of:Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species x1 = FACIAL species x2
1				FACW species <u>x</u> 2 =
2.	·			FAC species X 3 =
3		. <u> </u>		FACU species x 4 =
4.				UPL species x 5 =
5				Column Totals: (A)(B)
6				Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:)				2 - Dominance Test is >50%
1. Maintained lawn (kentucky bluegrass)				3 - Prevalence Index is ≤3.0 ¹
2				4 - Morphological Adaptations ¹ (Provide supporting
3				data in Remarks of on a separate sheet)
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5				¹ Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	:	=Total Cover		of size, and woody plants less than 3.28 ft tall.
<u>woody vine Stratum</u> (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
·				neight.
2				Hydrophytic
3				Vegetation
4				Present? Yes <u>X</u> No
	:	= I otal Cover		
Remarks: (Include photo numbers here or on a sepa see remarks in summatry of findings	arate sheet.)			
, <u>-</u> -				

Profile Desc	ription: (Describe	to the dep	oth needed to doc	ument t	he indica	ator or c	confirm the absence of indicators.)			
Depth	Matrix		Redo	x Featur	es					
(inches)	Color (moist)	%	Color (moist)	%	Type'	Loc ²	Texture Remarks			
0-5	10yr 2/2	95	7.5yr 3/4	5	С	Μ	Sandy oxidized rhizopspheres			
5-12	2.5y 5/2	60	2.5y 5/6	10	С	Μ	Sandy includes arrea of mixed 2.5y4/2			
12-18	10yr 2/1	100					Muck buried organic			
		. <u> </u>								
		·								
¹ Type: C=Co	oncentration, D=Dep	letion, RM	=Reduced Matrix, N	MS=Mas	ked Sand	d Grains.	. ² Location: PL=Pore Lining, M=Matrix.			
Hydric Soil I	ndicators:						Indicators for Problematic Hydric Soils ³ :			
Histosol	(A1)		Polyvalue Belo	ow Surfa	ce (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)			
Histic Ep	vipedon (A2)		MLRA 1498	B)			Coast Prairie Redox (A16) (LRR K, L, R)			
Black His	stic (A3)		Thin Dark Sur	face (S9) (LRR R	, MLRA	149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, F			
Hydroge	n Sulfide (A4)		High Chroma	Sands (S	611) (LR I	R K, L)	Polyvalue Below Surface (S8) (LRR K, L)			
Stratified	I Layers (A5)		Loamy Mucky	Mineral	(F1) (LR	R K, L)	Thin Dark Surface (S9) (LRR K, L)			
X Depleted	Below Dark Surface	e (A11)	Loamv Gleved	Matrix (F2)		Iron-Manganese Masses (F12) (LRR K. L. R)			
Thick Da	rk Surface (A12)	- ()	Depleted Matr	ix (F3)	,		Piedmont Floodplain Soils (F19) (MI RA 149B)			
Sandy M	lucky Mineral (S1)		Bedox Dark Si	urface (F	-6)		Mesic Spodic (TA6) (MLRA 1445 1498)			
Sandy M	locky Milleral (S1)		Depleted Dark		(E7)		Mesic Spoalc (TA6) (MLRA 144A, 145, 149B)			
Sandy G					; (F <i>1)</i>		Red Parent Material (F21)			
	edox (55)		Redox Depres		8)		Very Shallow Dark Surface (F22)			
Stripped	Matrix (S6)		Marl (F10) (LF	RR K, L)			Other (Explain in Remarks)			
Dark Sur	face (S7)									
³ Indicators of Restrictive I	hydrophytic vegetat	tion and w	etland hydrology m	ust be p	resent, u	nless dis	turbed or problematic.			
Type:	,									
Depth (ir	nches):						Hydric Soil Present? Yes X No			
Remarks:	- Patrick and the second		(
Soll has beel	h disturbed by regrad	aing for co	nstruction of the go	off course	9					

Project/Site: Hudson Logisti	cs Center		City/County: Hudson		Sampling Date: 11/25/20
Applicant/Owner: Hillwoo	od Development			State: NH	Sampling Point: H-UPL
Investigator(s): Brendan Qui	gley, Gove Environme	ntal Services	Section, Towns	hip, Range:	
Landform (hillside, terrace, et	c.): Lower Merrimad	k River Valley Local r	elief (concave, convex, r	ione): near flat	Slope %:
Subregion (LRR or MLRA):	LRR R	Lat: see map	Long:		Datum:
Soil Map Unit Name:				NWI classification:	PEM2Bf
Are climatic / hydrologic cond	itions on the site typica	al for this time of year?	Yes X	No (If no, o	explain in Remarks.)
Are Vegetation X, Soil	, or Hydrology	significantly disturb	ed? Are "Normal	Circumstances" pres	ent? Yes <u>No X</u>
Are Vegetation, Soil	, or Hydrology	naturally problema	ic? (If needed, e	xplain any answers ir	n Remarks.)
SUMMARY OF FINDIN	GS – Attach site	map showing sam	oling point location	ns, transects, im	portant features, etc.
Hydrophytic Vegetation Pres Hydric Soil Present?	ent? Yes Yes	No X	Is the Sampled Area within a Wetland?	Yes	No X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetlar	nd Site ID: Impact	Area H
Remarks: (Explain alternativ Trasect is located in an area likley to support hydrophytic	re procedures here or of maintained golf couvegeation under norm	in a separate report.) urse turf and consists of o al circumstanses based o	ultivated sod forming gra n appaeance of cultivate	ass, likley kentucky b ed lawn and lack of s	luegrass. The area is not igns of hydrology
HYDROLOGY					

Wetland Hydrology Indicat	ors:				Secondary Indicators (min	imum of two	required)
Primary Indicators (minimum	n of one is requi	red; check all	that apply)		Surface Soil Cracks (I	36)	
Surface Water (A1)		Water-	Stained Leaves (B9)		Drainage Patterns (B1	0)	
High Water Table (A2)		Aquati	c Fauna (B13)		Moss Trim Lines (B16	i)	
Saturation (A3)		Marl D	eposits (B15)		Dry-Season Water Ta	ble (C2)	
Water Marks (B1)		Hydrog	gen Sulfide Odor (C1)		Crayfish Burrows (C8))	
Sediment Deposits (B2)		X Oxidize	ed Rhizospheres on Living R	oots (C3)	Saturation Visible on A	Aerial Image	ry (C9)
Drift Deposits (B3)		Preser	nce of Reduced Iron (C4)		Stunted or Stressed F	Plants (D1)	
Algal Mat or Crust (B4)		Recen	t Iron Reduction in Tilled Sol	ls (C6)	Geomorphic Position	(D2)	
Iron Deposits (B5)		Thin M	luck Surface (C7)		Shallow Aquitard (D3)		
Inundation Visible on Ae	rial Imagery (B7) Other	(Explain in Remarks)		Microtopographic Reli	ef (D4)	
Sparsely Vegetated Con	cave Surface (E	38)			FAC-Neutral Test (D5)	
Field Observations:							
Surface Water Present?	Yes	No	Depth (inches):				
Water Table Present?	Yes	No X	Depth (inches):				
Saturation Present?	Yes	No	Depth (inches):	Wetlan	nd Hydrology Present?	Yes	No X
(includes capillary fringe)							
Describe Recorded Data (str	eam gauge, mo	nitoring well,	aerial photos, previous insp	ections), if	available:		
Remarks:							

Sampling Point: H-UPL

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. 2.				Number of Dominant Species That Are OBL, FACW, or FAC:(A)
3 4				Total Number of Dominant Species Across All Strata:(B)
5. 6.				Percent of Dominant Species That Are OBL, FACW, or FAC:(A/B)
7				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species x 1 =
1				FACW species x 2 =
2				FAC species x 3 =
3.				FACU species x 4 =
4.				UPL species x 5 =
5.				Column Totals: (A) (B)
6.				Prevalence Index = B/A =
7.				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:)				2 - Dominance Test is >50%
1. Maintained lawn (kentucky bluegrass)				$3 - Prevalence Index is \leq 30^{1}$
2				4 - Morphological Adaptations ¹ (Provide supporting
3	······································			data in Remarks or on a separate sheet)
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5				
6				¹ Indicators of hydric soil and wetland hydrology must
7				Definitions of Vegetation Strata:
8				Deminions of Vegetation offata.
9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10.				
11.				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb - All herbaceous (non-woody) plants, regardless
	;	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2				Hedro de Ale
3				Vegetation
4				Present? Yes No X
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa see remarks in summary of findings	arate sheet.)			

Profile Desc	ription: (Describe	to the dep	oth needed to doc	ument t	he indica	ator or co	confirm the absence of indicators.)
Depth	Matrix		Redo	x Featu	res		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks
0-3	10yr 3/3						Sandy
3-13	2.5v 5/3	95	10vr 5/6	5	С	М	Sandy
<u> </u>							
¹ Type: C=Co	ncentration, D=Depl	etion, RM	=Reduced Matrix, N	/IS=Mas	ked Sand	d Grains.	. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators:		Debaselus Deb	0 (Indicators for Problematic Hydric Soils":
Histosol	(A1) inodon (A2)			w Suna	ice (58) (I	LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black His	stic (A3)		Thin Dark Surf) ace (S9		MIRA	149B) 5 cm Mucky Peat or Peat (S3) (I RR K I R)
Hydroger	n Sulfide (A4)		High Chroma S	Sands (S	511) (LRF	R K. L)	Polyvalue Below Surface (S8) (LRR K, L)
Stratified	Layers (A5)		Loamy Mucky	Mineral	(F1) (LR	R K, L)	Thin Dark Surface (S9) (LRR K, L)
Depleted	Below Dark Surface	e (A11)	Loamy Gleyed	Matrix ((F2)	. ,	Iron-Manganese Masses (F12) (LRR K, L, R)
Thick Da	rk Surface (A12)		Depleted Matri	x (F3)			Piedmont Floodplain Soils (F19) (MLRA 1498
Sandy M	ucky Mineral (S1)		Redox Dark Su	urface (F	-6)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy G	leyed Matrix (S4)		Depleted Dark	Surface	e (F7)		Red Parent Material (F21)
Sandy Re	edox (S5)		Redox Depres	sions (F	8)		Very Shallow Dark Surface (F22)
Stripped	Matrix (S6)		Marl (F10) (LR	R K, L)			Other (Explain in Remarks)
Dark Sur	face (S7)						
³ Indicators of	hydrophytic vegetat	ion and w	etland bydrology m	uet ha n	recent ur	aloss dist	turbed or problematic
Restrictive L	aver (if observed):		eliand hydrology m	usi be p	resent, u	11033 0131	
Type:							
Depth (in	ches):						Hydric Soil Present? Yes No X
Demorke:							
Soil has beer	disturbed by regrac	lina for co	nstruction of the ao	If course	9		
		3					

Project/Site: Hudson Logistics Center	City/County: Hudson Sampling Date: 11/25/20
Applicant/Owner: Hillwood Development	State: NH Sampling Point: H-WE
Investigator(s): Brendan Quigley, Gove Environmental Serv	ices Section, Township, Range:
Landform (hillside, terrace, etc.): Lower Merrimack River	/alley Local relief (concave, convex, none): near flat Slope %:
Subregion (LRR or MLRA): LRR R Lat: set	e map Long: Datum:
Soil Map Unit Name:	NWI classification: PEM2Bf
Are climatic / hydrologic conditions on the site typical for this	time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation X, Soil, or Hydrology sic	nificantly disturbed? Are "Normal Circumstances" present? Yes No X
Are Vegetation . Soil . or Hydrology na	urally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map sl	nowing sampling point locations, transects, important features, etc
Hydrophytic Vegetation Present? Yes X	In the Sampled Area
Hydric Soil Present? Yes X	lo within a Wetland? Yes X No
Wetland Hydrology Present? Yes X	Io If yes, optional Wetland Site ID: Impact Area H
likley to support hydrophytic vegeation under normal circum adjacnt non-maintained areas	stanses based on observatuion of sod stressed by peristent ponding and vegetation in
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all th	at apply) Surface Soil Cracks (B6)
Surface Water (A1) Water-St	ained Leaves (B9) Drainage Patterns (B10)
X High Water Table (A2) Aquatic F	Fauna (B13) Moss Trim Lines (B16)
Saturation (A3)Marl Dep	osits (B15) Dry-Season Water Table (C2)
Water Marks (B1) Hydroger	n Sulfide Odor (C1) Crayfish Burrows (C8)
Sediment Deposits (B2) X Oxidized	Rhizospheres on Living Roots (C3) X Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence	e of Reduced Iron (C4) X Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4) Recent Ir	on Reduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5)	k Surrace (C7) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)Other (E)	(plain in Remarks) Microtopographic Relier (D4)
Sparsely vegetated Concave Sufface (Bo)	
Field Observations:	Donth (inchoo):
Water Table Present? Yes Yes No	Depth (inches):
Saturation Present? Yes No	Depth (inches):
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, ar	erial photos, previous inspections), if available:
	· · · · · //
Remarks:	

Sampling Point: H-WET

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. 2.				Number of Dominant Species That Are OBL, FACW, or FAC:(A)
3				Total Number of Dominant Species Across All Strata: (B)
5 6.				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
7.				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species x 1 =
1.				FACW species x 2 =
2.				FAC species x 3 =
3.				FACU species x 4 =
4.				UPL species x 5 =
5				Column Totals: (A) (B)
6				Prevalence Index - B/A -
7				Hydrophytic Vogetation Indicators:
<i>I</i>				Denid Test for Undershutin Verstation
Light Charter (Dist size)	=			Persingence Test in Ford
Herb Stratum (Plot size:)				2 - Dominance Test is >50%
1. Maintained lawn (kentucky bluegrass)				$3 - Prevalence index is \leq 3.0$
2				4 - Morphological Adaptations" (Provide supporting
3				
4				Problematic Hydrophytic Vegetation' (Explain)
5				¹ Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All berbaceous (non-woody) plants, regardless
	[_]	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
·				neight.
2		. <u> </u>		Hydrophytic
3				Vegetation
4.				Present? Yes <u>×</u> No
	=	=Total Cover		
Remarks: (Include photo numbers here or on a sepa see remarks in summatry of findings	rate sheet.)			

Profile Desc	cription: (Describe	to the de	pth needed to doc	ument t	he indica	ator or c	confirm the absence of indicators.)
Depth	Matrix		Redo	x Featur	es		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks
0-3	10yr 3/2						Sandy oxidized rhizopspheres
3-5	2.5y 5/2	90	2.5y 5/6	10	С	М	Sandy
5-12	2.5y 4/2	95	10yr 4/6	5	С	М	Sandy
12-16	2.5y 6/2	90	2.5y 5/6	10	С	М	Sandy
		·					
		·					
		·					
		·					
¹ Type: C=Co	oncentration, D=Dep	letion, RM	Reduced Matrix, N	MS=Mas	ked Sand	d Grains.	. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:						Indicators for Problematic Hydric Soils ³ :
Histosol	(A1)		Polyvalue Belo	ow Surfa	ce (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B
Histic Ep	oipedon (A2)		MLRA 149B	B)			Coast Prairie Redox (A16) (LRR K, L, R)
Black Hi	stic (A3)		Thin Dark Surf	face (S9) (LRR R	, MLRA [·]	149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L,
Hydroge	n Sulfide (A4)		High Chroma	Sands (S	611) (LR I	R K, L)	Polyvalue Below Surface (S8) (LRR K, L)
Stratified	d Layers (A5)		Loamy Mucky	Mineral	(F1) (LR	R K, L)	Thin Dark Surface (S9) (LRR K, L)
X Depleted	d Below Dark Surface	e (A11)	Loamy Gleyed	l Matrix (F2)		Iron-Manganese Masses (F12) (LRR K, L
Thick Da	ark Surface (A12)		Depleted Matri	ix (F3)			Piedmont Floodplain Soils (F19) (MLRA 1
Sandy M	lucky Mineral (S1)		Redox Dark S	urface (F	-6)		Mesic Spodic (TA6) (MLRA 144A, 145, 14
Sandy G	Bleyed Matrix (S4)		Depleted Dark	Surface	e (F7)		Red Parent Material (F21)
X Sandy R	Redox (S5)		Redox Depres	sions (F	8)		Very Shallow Dark Surface (F22)
Stripped	Matrix (S6)		Marl (F10) (LR	RR K, L)			Other (Explain in Remarks)
Dark Su	rface (S7)						
³ Indicators of	f hydrophytic vegeta	tion and w	etland hydrology m	ust be pi	resent, u	nless dist	sturbed or problematic.
Restrictive I	Layer (if observed):		, , , , , , , , , , , , , , , , , , , ,		,		
Type:							
Depth (ir	nches):						Hydric Soil Present? Yes X No
Remarks:							
Soil has beer	n disturbed by regrae	ding for co	nstruction of the go	olf course	e		

Appendix D

NHB Data Check Report

Memo			NH Natural Heritage Bureau NHB DataCheck Results Letter
Please nc Maps anc	ote: portions of this document are co d NHB record pages are confidential	nfidential. l and should be r	edacted from public documents.
To:	Luke Hurley, Gove Environmental Servic 8 Continental Drive Exeter, NH 03833	ces, Inc.	
From: Date: Re: Permits:	NHB Review, NH Natural Heritage Bure 7/19/2022 (valid until 07/19/2023) Review by NH Natural Heritage Bureau MUNICIPAL POR - hudson, NHDES - <i>i</i> USEPA - Stornwater Pollution Preventic	au Alteration of Terrair m	ا Permit, NHDES - Wetland Standard Dredge & Fill - Major, USACE - General Permi
::	NHB ID: NHB22-2375 Description: This review request is be 0672) involving the rede will involve construction revised project will utiliz courses. All environmer NHFG Review	Town: Hudson sing submitted for a velopment of the G vologine buildin, se the same access l ntal commitments of	Location: 43 Steele Road re-design of the previously approved Hudson Logistics Center project (see NHB20- ceen Meadow Golf Club into a warehouse and distribution facility. The revised projec g rather than three and will involve less wetland impact than the original project. The ocations and same general area, located entirely within the footprint of the existing go it the original approved project are anticipated to remain unchanged.
As request	ed, I have searched our database for records	s of rare species and	exemplary natural communities, with the following results.
Comments	NHB: NHB is providing this for inforn surveys were performed for Arrowhea Lamb dated October 29th 2020, the Ri project. If plans change in the future p F&G: Please refer to NHFG consultati	national purposes. Id rattlebox and th iver birch record a clease coordinate w ion requirements h	Based on email communication with Amy Lamb dated July 15th-July 30th, 2020 e species was not found on site. Based on the email communication with Amy long the Merrimack river adjacent to the golf course will not be impacted by the ith NHB. elow.
Invertebr ² Persius Du	ate Species isky Wing (<i>Erynnis persius persius</i>)*	State ¹ Federal E –	Notes Contact the NH Fish & Game Dept (see below).
Plant spec	ties	State ¹ Federal	Notes
Departmen Division of (603) 271-2	tt of Natural and Cultural Resources f Forests and Lands 2014 fax: 271-6488		DNCR/NHJ 172 Pembroke Rc Concord, NH 0330

Memo	NH	l Natural Heritage Bureau DataCheck Results Letter
Please note: portions of this document are con Maps and NHB record pages are confidential <i>z</i>	dential. nd should be redacted from public documents.	
arrow-head rattlebox (<i>Crotalaria sagittalis</i>)* river birch (<i>Betula nigra</i>)	 E The population could be deleteriously affect hydrology of its habitat, by increased sedime nutrients/pollutants in stormwater runoff. 	ed by any project activities that alter the entation, and by increased
Vertebrate species Eastern Box Turtle (<i>Terrapene carolina</i>)	tate ¹ Federal Notes E Contact the NH Fish & Game Dept (see belo	.(wc
¹ Codes: "E" = Endangered, "T" = Threatened, "SC" = Special been added to the official state list. An asterisk (*) indicates the <i>For all animal reviews, refer to 'IMPORTANT: NHFG</i>	Concern, "" = an exemplary natural community, or a rare species trative the most recent report for that occurrence was more than 20 years ago onsultation' section below.	teked by NH Natural Heritage that has not yet 50.
Disclaimer: A negative result (no record in our database based on information gathered by qualified biologists ar for certain species. An on-site survey would provide be	does not mean that a sensitive species is not present. Our data I reported to our office. However, many areas have never been er information on what species and communities are indeed pre	can only tell you of known occurrences, t surveyed, or have only been surveyed esent.
IMPORTANT: NHFG Consultation		
If this NHB Datacheck letter DOES NOT include <u>ANY</u> Fish and Game Department pursuant to Fis 1004 is requ	vildlife species records, then, based on the information submitte ed.	ed, no further consultation with the NH
If this NHB Datacheck letter includes a record for a thre Department under Fis 1004 may be required. To review <u>https://wildlife.state.nh.us/wildlife/environmental-reviev</u> <u>NHFGreview@wildlife.nh.gov</u> or can be sent by mail, a the subject line.	tened (T) or endangered (E) wildlife species, consultation with the Fis 1000 rules (effective February 3, 2022), please go to <u>html</u> . All requests for consultation and submittals should be set d must include the NHB Datacheck results letter number a	the New Hampshire Fish and Game ant via email to nd "Fis 1004 consultation request" in
If the NHB DataCheck response letter does not include Concern), consultation under Fis 1004 is not required; h Game is highly recommended or may be required for ce (e.g., <i>statutory permit by notification, permit by rule, pe</i> <i>authorization by rule</i>), coordination with NH Fish & Ga recommended you contact the applicable permitting age Fish and Game is requested, please email: Kim Tuttle <u>fu</u> results letter number and "review request" in the email s	threatened or endangered wildlife species but includes other wi wever, some species are protected under other state laws or rule ain permits. While some permitting processes are exempt from <i>mit by notification, routine roadway registration, docking struc</i> and <i>may still be required under the rules governing those specific</i> <i>cy. For projects <u>not</u> requiring consultation under Fis 1004, but <i>ntuttle@wildlife.nh.gov</i> with a copy to <u>NHFGreview@wildlife.</u> <i>bject line.</i></i>	ildlife species (e.g., Species of Special les, so coordination with NH Fish & a required consultation under Fis 1004 <i>sture registration, or conditional</i> c permitting processes, and it is t where additional coordination with NH sinh.gov, and include the NHB Datacheck
Department of Natural and Cultural Resources Division of Forests and Lands (603) 271-2214 fax: 271-6488		DNCR/NHB 172 Pembroke Rd. Concord, NH 03301

Memo

Maps and NHB record pages are confidential and should be redacted from public documents. Please note: portions of this document are confidential.

Contact NH Fish & Game at (603) 271-0467 with questions.

DNCR/NHB 172 Pembroke Rd. Concord, NH 03301

Department of Natural and Cultural Resources Division of Forests and Lands (603) 271-2214 fax: 271-6488