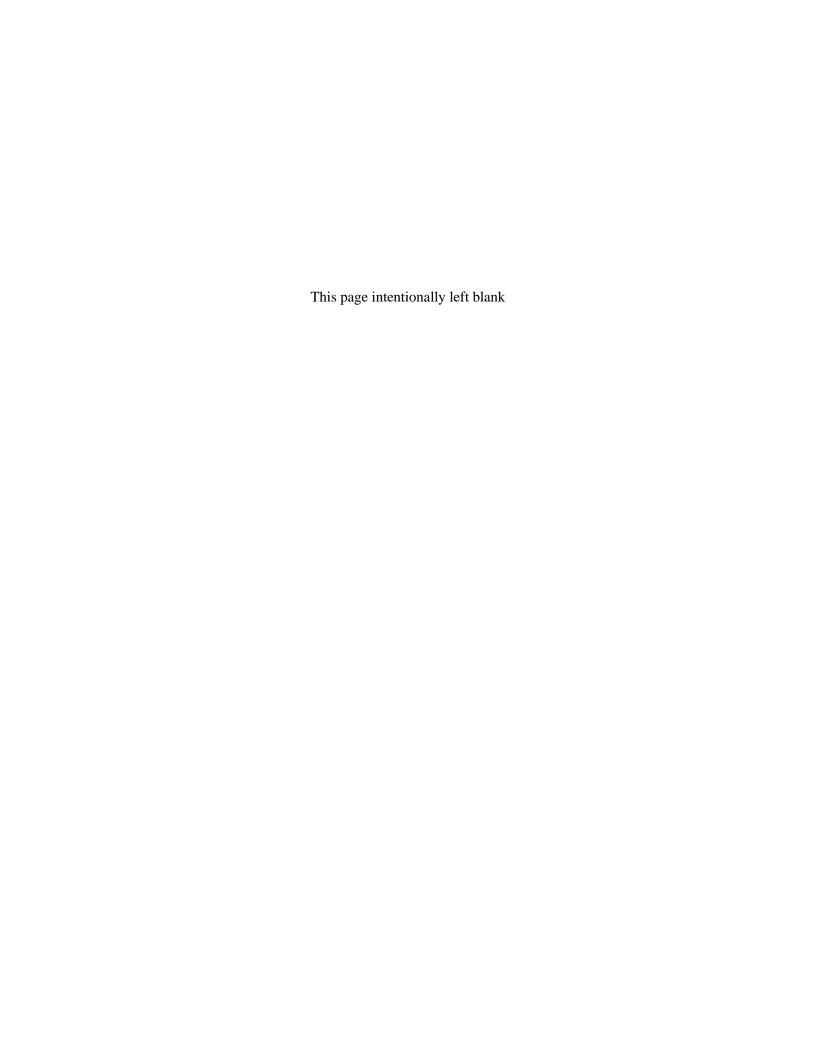
Clean Water Act Section 401 Water Quality Certification
Northeast Energy Direct Project
Attachment K, Attachment B
Inventory of Vernal Pools

Attachment K-Attachment B

Inventory of Vernal Pools

This Appendix was formatted in its entirety as part of the Final FERC 7(c) Application, filed on November 20, 2015 (PF-14-22-000), Environmental Reports, Volume I; therefore, appendix references and page numbers contained within this document are not consistent with this permit application.

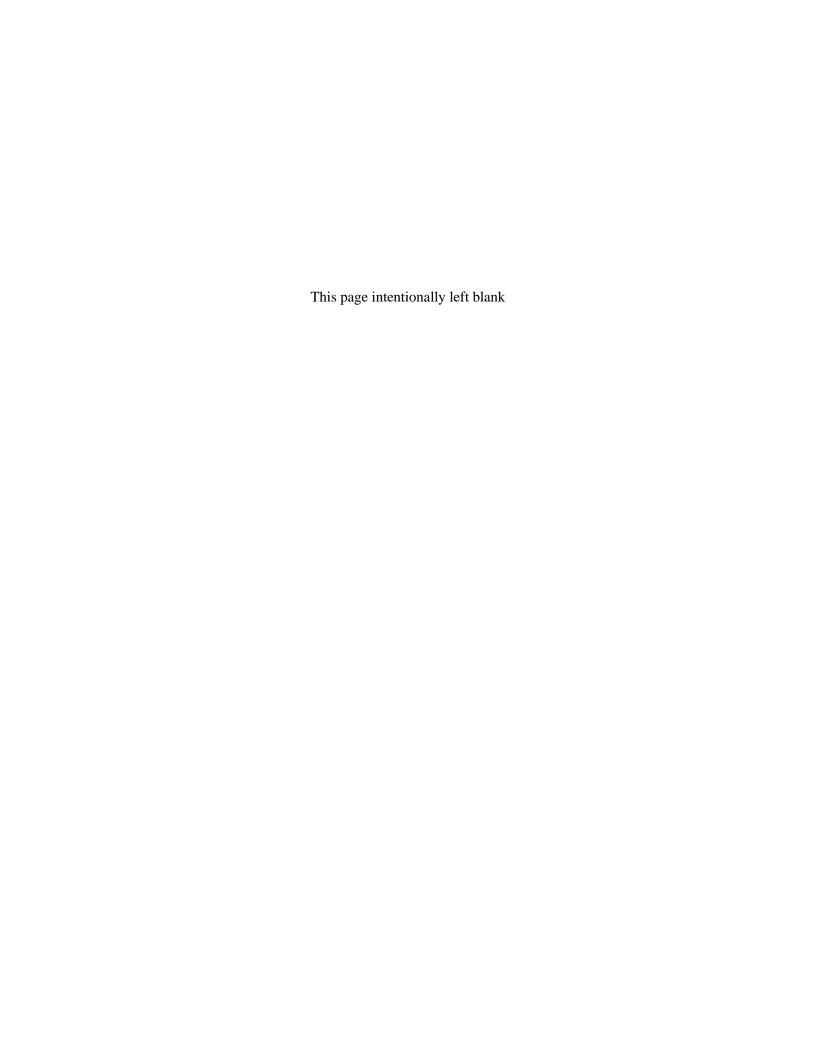


Northeast Energy Direct Project Inventory of Vernal Pools Along the Massachusetts, New Hampshire, and Connecticut Portions of the Northeast Energy Direct Project

INVENTORY OF VERNAL POOLS ALONG THE MASSACHUSETTS, NEW HAMPSHIRE, AND CONNECTICUT PORTIONS OF THE NORTHEAST ENERGY DIRECT PROJECT

Tennessee Gas Pipeline L.L.C. 1001 Louisiana Street Houston, Texas 77002

November 2015



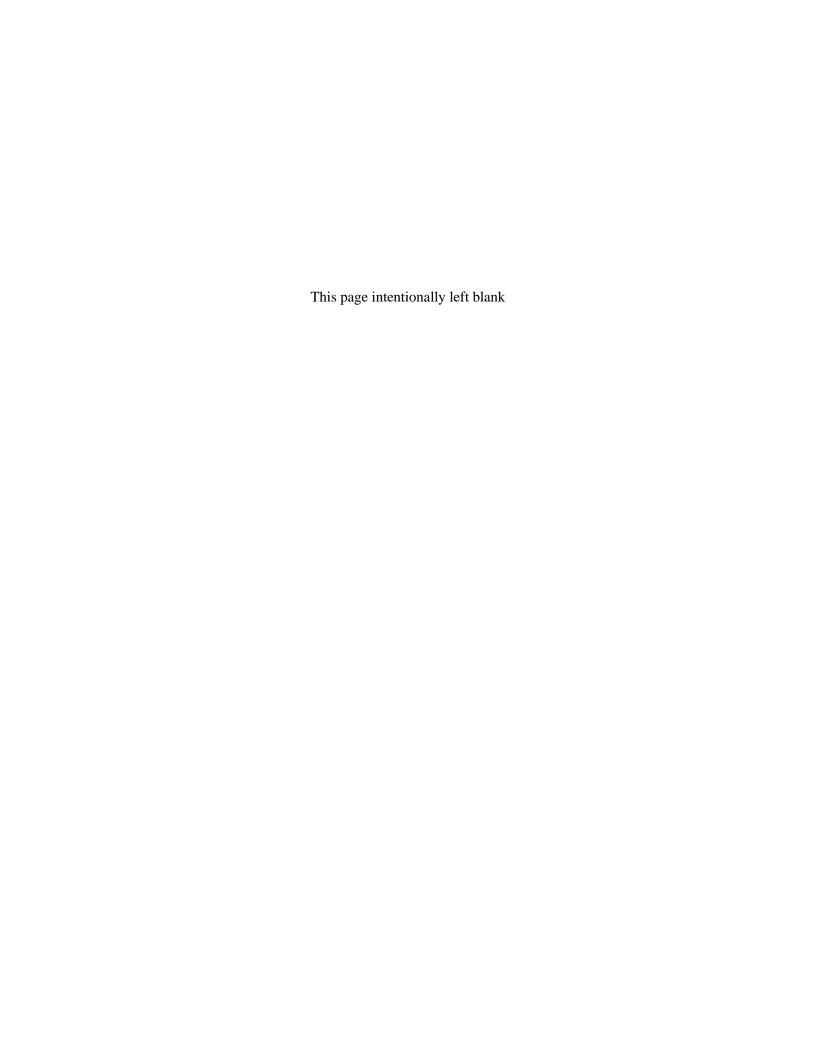


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1.0 INTRODUCTION

Tennessee Gas Pipeline Company, L.L.C. ("Tennessee" or "TGP") is filing an application seeking the issuance of a certificate of public convenience and necessity from the Federal Energy Regulatory Commission ("Commission" or "FERC") for the construction and operation of the proposed Northeast Energy Direct Project ("NED Project" or "Project"). Tennessee proposes to expand and modify its existing pipeline system in Pennsylvania, New York, Massachusetts, New Hampshire, and Connecticut. The NED Project is being developed to meet the increased demand in the Northeast United States ("U.S.") for transportation capacity of natural gas.

Vernal pool surveys were conducted in Massachusetts, New Hampshire, and Connecticut. The proposed Project mainline pipeline facilities in Massachusetts consist of approximately 64 miles of 30-inch-diameter pipeline, beginning at the New York/Massachusetts border and extending to the Massachusetts/New Hampshire border in Franklin County in western Massachusetts, generally co-located with an existing utility corridor to the extent practicable, feasible, and in compliance with existing law.

The proposed Project mainline pipeline facilities in New Hampshire consist of approximately 70 miles of 30-inch diameter pipeline, beginning at the Massachusetts border in Winchester, New Hampshire and extending eastward to the Massachusetts border in Pelham, New Hampshire, generally co-located with an existing utility corridor to the extent practicable, feasible, and in compliance with existing law. Additionally, approximately 58 miles of various laterals and pipeline looping segments are proposed in Massachusetts, New Hampshire, and Connecticut to serve local markets

On behalf of Tennessee, AECOM performed vernal pool surveys along all of the proposed Project routes and variations described above where access was available during the spring of 2015. Surveys included all temporarily flooded palustrine wetlands and flooded isolated depressions encountered that might support breeding habitat for obligate vernal pool amphibians and associated plant and aquatic macro-invertebrate communities. Vernal pool surveys are scheduled to continue in 2016 as survey access to additional properties become available. Impacts to each pool's adjacent landscape will be assessed following requirements outlined by the U.S. Army Corps of Engineers ("USACE") New England District. Because the route determination and survey access permission process is ongoing, additional delineation submissions will be necessary to complete the process of jurisdictional boundary line verification and approval.

This report discusses the methods used to identify the vernal pools encountered along the Massachusetts, New Hampshire, and Connecticut portions of the Project and summarizes the findings of the surveys. Vernal Pool Habitat Data Forms for all pools, documenting the biological evidence which supports these determinations, are included in Attachment A.

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2.0 VERNAL POOL HABITAT DEFINITIONS

State and federal agencies apply slightly different definitions to describe vernal pools. The following summarizes the definitions used by Massachusetts, New Hampshire, Connecticut, and the USACE. The Connecticut Department of Energy and Environmental Protection ("CTDEEP") defines vernal pools as small bodies of standing fresh water found throughout the spring that typically result from various combinations of snowmelt, precipitation, and high water tables associated with the spring season. These depressions can be natural or man-made (CTDEEP 2011). In most years, these areas become completely dry, losing water through infiltration and evapotranspiration. Vernal pools vary in many aspects including appearance, water source, hydroperiod, water quality, and surrounding habitats. Field investigations must coincide with the amphibian breeding and/or larval development time periods to determine if an area is functioning as a vernal pool.

The Massachusetts Wetlands Protection Act (310 CMR 10.00) defines vernal pool habitat as "confined basin depressions, which, at least in most years, hold water for a minimum of two continuous months during the spring and/or summer, and which are free of adult fish populations. These areas are essential breeding habitat, and provide other extremely important wildlife habitat functions during the non-breeding season as well, for a variety of amphibian species such as wood frogs (*Lithobates sylvatica*) and the spotted salamander (*Ambystoma maculatum*) and are important habitat for other wildlife species."

The New Hampshire Code of Administrative Rules defines a vernal pool as "a surface water or wetland, including an area intentionally created for purposes of compensatory mitigation, which provides breeding habitat for amphibians and invertebrates that have adapted to the unique environments provided by such pools." A vernal pool cannot be the result of on-going anthropogenic activities that are not intended to provide compensatory mitigation. Under the same definition, a vernal pool typically has the following characteristics: cycles annually from flooded to dry conditions, forms in a shallow depression or basin, has no permanently flowing outlet, holds water for at least two continuous months following spring ice-out, lacks a viable fish population, and supports primary or secondary vernal pool indicator species. (Env-Wt 101.106).

Many organisms critically rely upon vernal pool habitat for reproductive success. These species are referred to as obligate or primary vernal pool species. Obligate or primary vernal pool species that may have ranges within the Project area include the following:

- Wood frog (*Lithobates sylvatica*);
- Eastern spadefoot toad (Scaphiopus holbrookii);
- Spotted salamander (Ambystoma maculatum);
- Jefferson salamander (Ambystoma jeffersonianum);
- Blue-spotted salamander (Ambystoma laterale);
- Marbled salamander (Ambystoma opacum); and
- Fairy shrimp (*Branchiopoda anostraca*).

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Facultative or secondary vernal pool species are fauna that utilize, but do not necessarily require, vernal pools for reproductive success. Examples of facultative species include spring peeper (*Pseudacris crucifer*), American toad (*Anaxurus americanus*), gray treefrog (*Hyla versicolor*) and spotted turtle (*Clemmys guttata*). Facultative or secondary species such as those mentioned above can utilize vernal pool habitats. However, these amphibian species can also breed successfully in the margins of permanent water bodies including streams, rivers, and lakes.

In Connecticut, to meet the definition of a vernal pool, the following four criteria must be met:

- Contains water for approximately two months during the growing season;
- Occurs within a confined depression or basin that lacks a permanent outlet stream;
- Lacks any fish populations; and
- Dries out most years, usually by late summer.

The USACE District of New England requires detailed impact assessments of proposed work performed within and adjacent to vernal pools. These assessments will include an evaluation of impacts to the vernal pool, the vernal pool envelope (landscape within 0-100 feet from the pool edge) and the critical terrestrial habitats (landscape within 100-750 feet from the pool edge). Tennessee has already implemented some Project modifications based on the data collected to date.

Wetland areas associated with the Project rights-of-way ("ROW") were surveyed to identify the presence or absence of obligate or primary vernal pool species (presence/absence surveys). Where obligate or primary species were observed, the area was further investigated to identify whether the state and federal vernal pool criteria had been satisfied. Observed facultative or secondary species were noted on the Vernal Pool Data Forms (Attachment A), but these species were not used to identify an area as a vernal pool.

For the purposes of the ROW investigations and this report, a vernal pool was defined as an area that held obligate species in the 2015 breeding season and that met the majority of the state and federal vernal pool criteria discussed above. All potential vernal pools on parcels where access was granted were surveyed at the appropriate time of year for documenting obligate species. The process of identifying vernal pools, evaluating impacts and avoiding and minimizing impacts to the extent practicable will continue as access to more parcels become available.

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3.0 FIELD INVESTIGATIONS

AECOM conducted the vernal pool surveys in the spring of 2015 from April 21 to May 20. These survey periods correspond to the appropriate times of the year to identify areas that may function as vernal pools based on the presence of egg masses and developing larvae.

All wetland areas to which Tennessee had access in the above-referenced time period were investigated to determine if breeding amphibians, both obligate/primary and facultative/secondary, were present in an effort to identify vernal pools. To facilitate the surveys, biologists were provided Project-specific wetland mapping, YUMA GPS/data collection Units, dip nets, and digital cameras.

The surveys were done after the first significant rainfall events in the spring, when evening low temperatures remained in the 40s (° Fahrenheit). These weather conditions facilitate inward migration of amphibians to the pools for the purpose of breeding. Surveys began at the southern and eastern extents of the Project and worked northerly and westerly to take advantage of spatial and elevational variations in breeding times. Biologists conducted visual surveys and used dip nets to sweep the water column to assist in determining the presence or absence of amphibians and other vernal pool species. Choruses of breeding frogs were noted when audible.

Biologists followed survey and documentation procedures outlined by the USACE – New England District, *Vernal Pool Assessment Guidelines* and completed the USACE Vernal Pool Characterization Form for each pool encountered. Evidence of amphibian breeding, including but not limited to wood frog chorusing, mole salamander spermatophores, egg masses and amphibian larvae, were recorded on these Vernal Pool Data Forms and are included in this report as Attachment A. Additional data recorded on the data forms included the approximate size and depth of the observed breeding pool(s), substrate type and general comments, if any.

Lastly, the biologists then sketched the extent of the documented vernal pool habitat onto field mapping and/or used a global positioning system ("GPS") data collection device to locate the boundaries or center of pool where possible. Field sketches and GPS data were then digitized onto updated Project mapping.

Life history information for amphibian and reptile species observed during the course of the surveys is presented below.

Wood Frog

In New England, the wood frog is among the first species to arrive at the breeding pools and begin their loud, duck like mating call. Wood frogs have been documented as breeding in open and closed canopy wetlands (Werner and Glennemeier 1999). The timing of their movement varies annually, depending on climatic conditions but in general terms they immigrate to breeding sites in most years during late February to early April. The large scale migration to the breeding

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pools generally occurs at night during the first few heavy downpours which are accompanied by warmer air temperatures.

Except for the brief period spent at breeding habitats, wood frogs are mainly terrestrial. They utilize all types of forests and woodlands, including maritime, deciduous, and coniferous (Klemens 1993); as well as a variety of other types of habitats. During the coldest months, wood frogs hibernate under leaf litter, rotting logs, stumps, rocks, and moss. Wood frogs have perfected the cryogenic freezing process. In the winter, as much as 35-45% of the frog's body may freeze, and turn to ice. Ice crystals form beneath the skin and become interspersed among the body's skeletal muscles. During the freeze the frog's breathing, blood flow, and heartbeat cease. Freezing is made possible by specialized proteins and glucose, which prevent intracellular freezing and dehydration.

Compared to other amphibian species that utilize vernal pools for breeding in southern New England, the wood frog is the only frog species that truly can be considered obligate to vernal pools. Wood frogs successfully breed in pools with shorter hydroperiods than any other amphibian in this region except for eastern spadefoot toads (*Scaphiopus holbrookii*), with tadpole metamorphosis often complete by mid-July. Therefore, ponds that dry by August still provide perfectly suitable breeding habitat, whereas it takes much longer for the young of most other species to complete metamorphosis.

Wood frog egg masses are often deposited near the edge of a breeding pool on the water's surface where water temperatures are typically highest. They are usually attached to submerged woody debris and/or herbaceous vegetation. Wood frog egg masses can easily be distinguished from those of the spotted salamander by the lack of an outer gelatinous sheath.

Newly hatched larvae feed on their egg masses and associated algae, as wood frog tadpoles are microphagous filter-feeders with a largely herbivorous diet. Larger tadpoles use their specialized mouth parts to feed on algae and various microorganisms scraped from aquatic vegetation, decaying plants and some animal matter. Adult wood frogs feed on a variety of invertebrates including flies, beetles, spiders, earthworms, moth larvae, slugs, snails, and annelids (Klemens 1993).

Spotted Salamander

In New England, the spotted salamander is a very common and widespread mole salamander. Collectively, the mole salamanders are a secretive group of salamanders that are primarily active at night. These animals are rarely seen except during their nocturnal migrations to and from their breeding pools during their brief early spring breeding season. Often, spotted salamanders can be observed migrating to vernal pools in conjunction with wood frogs. Within a few days after mating, eggs are deposited in firm spherical or kidney-shaped masses and in most cases are attached to submerged objects such as woody debris or other organic material.

Once hatched, larvae feed predominantly on very small aquatic invertebrates. Larger individuals feed on snails, clams, oligochaete worms, small aquatic insects and their larvae and other invertebrates (Kenney and Burne 2001). In general, zooplankton is the dietary staple of larvae of

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all size classes. As adults, spotted salamanders are generalized carnivores that forage in upland habitats for a variety of invertebrates including earthworms, snails, slugs, insects and larvae, spiders, and beetles (Degraaf and Yamasaki 2001).

While breeding and larval development takes place in aquatic habitats during most of the year, spotted salamanders reside in upland forests away from breeding pools. Adults typically reside up to 200 meters from breeding pools but have been documented moving greater distances. Spotted salamanders typically live in burrows created by small mammals such as the short-tail shrew (*Blarina brevicauda*). They appear to be habitat generalists, and have been documented in forest habitats including deciduous, coniferous, and mixed forest. However, they are most abundant in mature deciduous or mixed deciduous woodlands.

Marbled Salamander

The marbled salamander is an unusual mole salamander in that it is the only species that breeds in the late summer and early fall, has eggs that hatch in November after pools fill with water, and has larvae that overwinter in vernal pools. All other species breed in the spring (Klemens 1993). Marbled salamanders tend to prefer large, undisturbed tracts of forest, although they can also occur in distinct, large forested tracts of land (Paton and Egan 2001). Klemens (1993) also observed marbled salamanders were more prevalent in rural areas of Connecticut; however, some individuals were also collected in suburban and urban areas.

In Connecticut, marbled salamanders typically breed in pools found in mixed deciduous or coniferous forest stands. This species appears to prefer dry, friable soils including sand and gravel deposits, as well as rocky slopes, although they are sometimes found in low-lying swampy areas (Klemens 1993). Marbled salamanders are thought to inhabit somewhat drier areas than other species of *Ambystoma* (DeGraaf and Yamasaki 2001).

In New England, adults start to immigrate to breeding ponds around the 1st of August. Adults are generally only active on rainy nights. The majority of adults are at breeding pools by the 26th of August, with some stragglers arriving as late as the 10th of September (Paton and Crouch 2002). Klemens (1993) documented peak breeding in Connecticut from mid-September to early October. Eggs are oviposited in a dry pool area, singly, in small depressions usually beneath a sheltering object such as logs, bark, leaf mold, or other organic debris. Eggs hatch in early November as ponds refill and eggs are flooded. The larvae then overwinter in the pools.

Marbled salamander larvae eat small aquatic insects, crustaceans, and other small invertebrates. They are also cannibalistic. Once wood frog eggs hatch in the spring, marbled salamander larvae readily feed on larval wood frogs and spotted salamanders (Klemens 1993). Adult marbled salamanders feed on adult and larval insects and crustaceans. They also take earthworms and mollusks (DeGraaf and Yamasaki 2001).

Spring Peeper

Spring peepers are among the most common frog species in southern New England. However, their diminutive size and cryptic coloration prevent most people from ever noticing them.

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Ironically, almost everyone has heard their springtime mating calls but fail to recognize the source. When not at breeding pools/ponds, peepers are habitat generalists and utilize habitats which range from mature forests to old field habitats. Although they are most commonly found in or near moist deciduous woodlands they also can be found in coniferous forests, grassy meadows, shrubby fields, gardens, sandy coastal dune habitats, as well as pine barrens (Klemens 1993).

In southern New England (Rhode Island), spring peepers are found at breeding pools/ponds from mid-March through May (Paton et al. 2000). Once there, males establish territories from which they actively call to attract females. After pairing up, females deposit eggs on the pool/pond bottom under organic debris such as dead leaves. Upon hatching, larvae tend to congregate in the warm shallows of ponds, in areas with dense vegetation where they are usually "inactive and benthic" - a strategy used as an anti-predator defense (Lawler, 1989).

Spring peeper larvae feed on small aquatic organisms such as diatoms and algae found on submerged organic debris. Adult peepers feed on a variety of small invertebrates, and thus, are beneficial to the environment by acting as natural pest control agents. Spiders account for the bulk of their diet (48%), although they also gorge themselves on mites, sowbugs, leafhoppers, ants, harvestmen, nematode worms, and lepidoptera (moth and butterfly) larvae (Gilhen, 1984).

Jefferson Salamander Complex

Blue-spotted salamanders (*Ambystoma laterale*) and Jefferson salamanders (*Ambystoma jeffersonianum*) are both species of mole salamanders found in Massachusetts, New Hampshire, and Connecticut. Both species are obligate indicators of vernal pools and are both protected in all three states. These species are also both members of a group of salamanders that form the *Ambystoma jeffersonianum* complex.

Blue-spotted salamanders are medium sized salamanders with conspicuous patterns of pale or sky blue blotches or spots randomly distributed over a base color of dark gray to black. These spots or blotches are abundant over the entire body of juvenile salamanders, but tend to be more concentrated along the sides of adult members of the species. Blue-spotted salamander larvae have external gills that appear bushy and are not easily distinguished from other species of salamander in the *Ambystoma* genus.

Jefferson salamanders are slender salamanders with a body 4 to 7 inches long. Slightly larger than the blue-spotted salamander, the Jefferson salamander displays similar color patterns. Spots or blotches on the Jefferson salamander may be smaller than the blue-spotted salamanders and appear on a more brown colored background. The Jefferson salamander appears to prefer small pools with forest canopy cover as habitat while blue-spotted salamanders appear to prefer breeding in floodplains (Colburn 2004).

Both the Jefferson salamander and the blue-spotted salamander are part of an intricate group of salamanders known as the Jefferson complex. This group also includes a group of unisexual *Ambystoma* salamanders of a hybrid lineage. Unisexual *Ambystoma* salamanders in this complex have variable nuclear genomes consisting of both Blue-spotted salamanders and Jefferson

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salamanders and have a mitochondrial genome from one of several species of *Ambystoma* salamanders, usually the Streamside salamander (*Ambystoma barbouri*). The Streamside salamander's range is further south and west than the Jefferson or Blue-spotted salamanders and genetic research shows that the separate species may share a maternal ancestor from approximately five million years ago. The Jefferson complex salamander is not a true hybrid as once thought. It now appears that this genetically unique complex derived from an intricate evolutionary process that formed to perpetuate the ability of the separate species to reproduce throughout fragmented habitat by retaining and passing on selective genomes. The Jefferson salamander complex is protected in Connecticut.

Fairy Shrimp

Fairy shrimp, a crustacean, are among the most distinctive invertebrate indicators of vernal pools. Several species of these shrimp can be found in vernal pools in the glaciated northeast, all belonging to the genus *Eubranchipus*. Their name is derived from the seemingly "magical" way they appear in tiny woodland pools, sometimes appearing suddenly in places where they have not been seen for years. They are present for short periods of the year, weeks to months at most, before rapidly disappearing due to warming water. Fairy shrimp hatch from specialized eggs, or cysts, that lie on the bottom of vernal pools. Hatching is stimulated by flooding, which happens in late fall, winter, or early spring (Colburn 2004).

Fairy shrimp adult body lengths range from approximately 0.6 to 1.5 inches and have striking color combinations including orange, blue, red, and bronze. They move by swimming upside down, propelled by many pairs of feathery legs. Females are identified by having smaller heads than males and exhibiting two egg sacs (known as ovisacs) where the thorax and abdomen meet. Fairy shrimp are filter feeders as well as an important food source for larger invertebrates and waterfowl making them a significant part of the vernal pool ecosystem.

Fairy shrimp exhibit a very selective life history pattern. They are most readily found in flooded vernal pools in early spring and do not generally tolerate warm water temperatures. As a general rule, fairy shrimp are not found in northeastern vernal pools when the temperature of the pool reaches above 68 to 72 degrees Fahrenheit. Sometimes young shrimp and mature adults can be seen under ice. This life history pattern is perfectly adapted to life in vernal pools, removing fairy shrimp from the pools before most amphibian larvae have hatched and invertebrate predators have become abundant (Colburn 2004).

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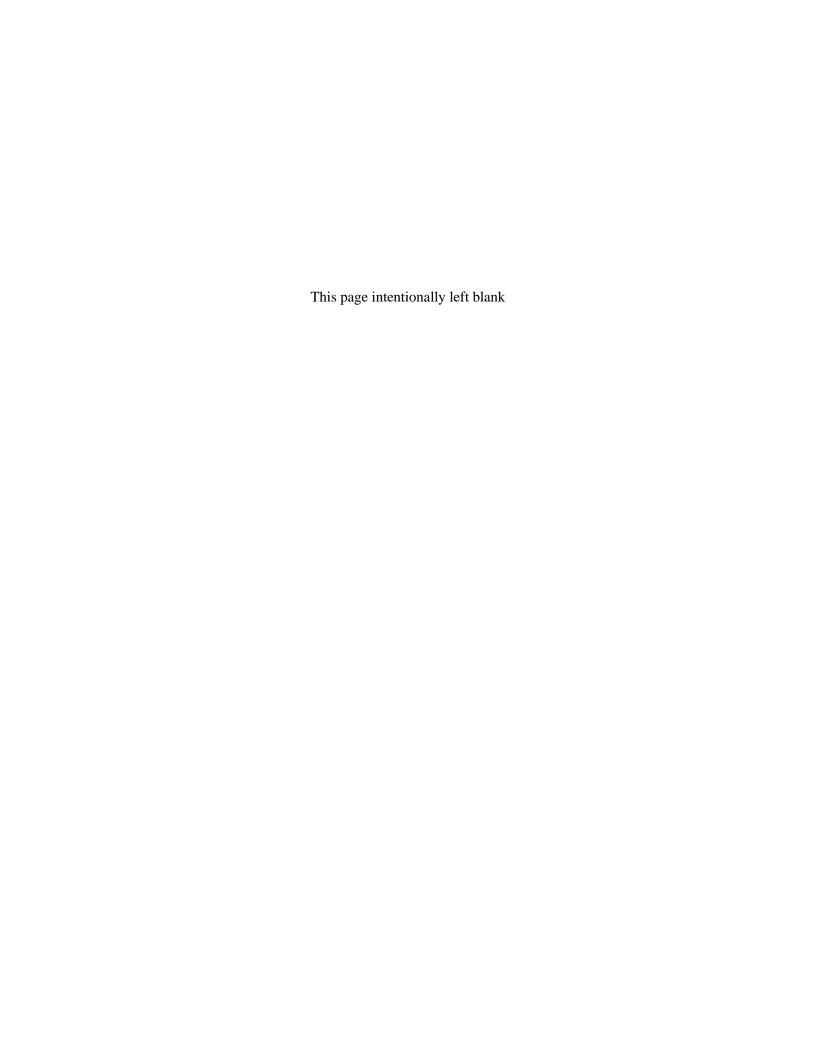
4.0 RESULTS

As summarized in Table 1, based on the 2015 breeding season field surveys, 108 wetlands located along the Project corridor were determined to contain vernal pools for obligate species. Eight vernal pools appear to be isolated, pending further access permission. As a result, a total of 116 vernal pools were identified along the Project corridor and ROWs.

The Eastern spadefoot toad is listed by Connecticut as state-endangered, and Massachusetts as state-threatened. The Jefferson Salamander is a Species of Special Concern in Massachusetts, New Hampshire, and Connecticut. The Blue-spotted salamander is state-endangered in New Hampshire, and is a species of special concern in Massachusetts. A pool that was surveyed in Massachusetts was found to contain what appeared to be a blue-spotted salamander egg mass. Additional surveys are planned for this pool in 2016 for confirmation. Project construction workspace has been modified to avoid this pool by more than 750 feet.

Surveys for state-listed salamanders are scheduled for early spring 2016 in Massachusetts and Connecticut. Surveys will follow protocols approved by the Massachusetts Natural Heritage and Endangered Species Program ("MANHESP") and the CTDEEP. The MANHESP has provided mapping of Priority Habitat for state-listed salamanders to guide surveys, and habitat evaluations were conducted in the fall of 2015 to guide surveys in Connecticut. The Connecticut Natural Diversity Database ("CTNDDB") will also likely provide information identifying habitat and/or areas of concern.

For wetlands that encompass vernal pools, the vernal pools depicted represent the areas that could be successfully utilized by obligate vernal pool species. Distinct areas within the overall vernal pool where specific data was collected are known as the data collection areas. The size of the data collection areas, as well as the overall vernal pool dimensions, represent data collected during the spring season of 2015 and can be expected to vary from year-to-year based upon seasonal fluctuations in the water table caused by annual variations in the amount and timing of precipitation. These hydrologic variations could in turn affect where exactly amphibians would deposit egg masses in a given year.



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Municipality	Facility Name ¹	Segment ¹	Adjacent Milepost ²	Vernal Pool Number ³	Associated Wetland ⁴	Latitude	Longitude	Existing Cover Type	Species Observed and/or Heard				
	Massachusetts Vernal Pools												
	Lynnfield Lateral	N	7.45	AN- AC3- VP001	AN-K-W008	42.60543	-71.1709	PFO	3 spotted salamander egg masses				
	Lynnfield Lateral	N	7.45	AN- AC3- VP002	AN-K-W008	42.60504	-71.1709	PFO	4 spotted salamander egg masses, 11 wood frog egg masses, wood frog tadpoles				
Andover	Lynnfield Lateral	N	7.45	AN- AC3- VP003	AN-P-W002	42.60443	-71.1704	PEM	44 wood frog egg masses, 13 spotted salamander egg masses, caddisflies				
	Lynnfield Lateral	N	7.6	AN- AC3- VP004	AN-K-W010	42.60031	-71.168	PFO	2 spotted salamander egg masses, 14 wood frog egg masses, wood frog tadpoles				
	Lynnfield Lateral	N	7.45	AN- AC3- VP005	Isolated Vernal Pool	42.60216	-71.1688	PEM	38 spotted salamander egg masses, 7 wood frog egg masses, wood frog tadpoles, fairy shrimp, spotted turtles				
	Wright to Dracut Pipeline Segment	G	27	AS-AC4- VP001	AS-M- W001	42.52761	-72.8751	PSS	4 spotted salamander egg masses, spotted salamander larvae, caddisflies				
Ashfield	Wright to Dracut Pipeline Segment	G	27.45	AS-AC4- VP002	AS-M- W001	42.52793	-72.8745	PFO	6 spotted salamander egg masses, spotted salamander larvae, 3 wood frog egg masses, wood frog tadpoles, caddisflies				

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Municipality	Facility Name ¹	Segment ¹	Adjacent Milepost ²	Vernal Pool Number ³	Associated Wetland ⁴	Latitude	Longitude	Existing Cover Type	Species Observed and/or Heard
	Wright to Dracut Pipeline Segment	G	27.45	AS-AC4- VP003	AS-M- W001	42.52852	-72.8733	PSS	11 spotted salamander egg masses, spotted salamander larvae, 12 wood frog egg masses, wood frog tadpoles, caddisflies, predaceous diving beetles
	Wright to Dracut Pipeline Segment	G	27.45	AS-AC4- VP004	AS-M- W004	42.52901	-72.8643	PEM	22 spotted salamander egg masses, spotted salamander larvae, 4 wood frog egg masses, wood frog tadpoles, predaceous diving beetles, caddisflies
	Wright to Dracut Pipeline Segment	G	28.85	AS-AC4- VP005	AS-M- W010	42.53319	-72.8368	PFO	2 spotted salamander egg masses, spotted salamander larvae, 3 blue-spotted salamander egg masses, blue- spotted salamander larvae, caddisflies, spring peepers, dragonfly larvae and exuviae
	Wright to Dracut Pipeline Segment	G	28.85	AS-AC4- VP006	AS-M- W011	42.53331	-72.8352	PSS	17 spotted salamander egg masses, spotted salamander larvae
	Wright to Dracut Pipeline Segment	G	28.85	AS-AC4- VP007	AS-M- W012	42.53372	-72.8335	OTHER	14 spotted salamander egg masses, spotted salamander larvae, caddisflies

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Table 1 Vernal Pool Habitat Identified Along the Proposed Project ROWs

Municipality	Facility Name ¹	Segment ¹	Adjacent Milepost ²	Vernal Pool Number ³	Associated Wetland ⁴	Latitude	Longitude	Existing Cover Type	Species Observed and/or Heard
	Wright to Dracut Pipeline Segment	G	28.85	AS-AC4- VP008	AS-M- W012	42.53383	-72.8327	PFO	4 spotted salamander egg masses, spotted salamander larvae, caddisflies
	Wright to Dracut Pipeline Segment	G	29.6	AS-AC4- VP009	AS-M- W015	42.53517	-72.8239	PFO	7 spotted salamander egg masses, spotted salamander larvae, 2 wood frog egg masses, wood frog larvae, wood frog tadpoles
	Wright to Dracut Pipeline Segment	Н	0.95	AS-AC4- VP010	AS-M- W019	42.53959	-72.7477	PEM	21 spotted salamander egg masses, spotted salamander larvae, dragonfly larvae or exuviae, predaceous diving beetles
	Wright to Dracut Pipeline Segment	K	N/A	DR- AC3- VP001	DR-A-W002	42.67801	-71.2837	PFO	3 spotted salamander egg masses
Dracut	Maritimes Delivery Line	L	0.75	DR- AC3- VP002	DR-J-W006	42.68853	-71.2625	PFO	2 spotted salamander egg masses, 85 wood frog egg masses, wood frog tadpoles, caddisflies
	Wright to Dracut Pipeline Segment	K	0.75	DR- AC3- VP003	DR-J-W003	42.68559	-71.264	PFO	Fairy shrimp
	Wright to Dracut Pipeline Segment	K	1.3	DR- AC3- VP004	DR-N-W004	42.69095	-71.27	PSS	7 wood frog egg masses, wood frog tadpoles, caddisflies

Table 1 Vernal Pool Habitat Identified Along the Proposed Project ROWs

Municipality	Facility Name ¹	Segment ¹	Adjacent Milepost ²	Vernal Pool Number ³	Associated Wetland ⁴	Latitude	Longitude	Existing Cover Type	Species Observed and/or Heard
	Haverhill Lateral	P	N/A	DR- AC3- VP005	DR-E-W008	42.69354	-71.2565	PEM	Wood frog tadpoles, caddisflies
	Haverhill Lateral	Р	N/A	DR- AC3- VP006	DR-E-W001	42.69083	-71.2596	PFO	2 spotted salamander egg masses, 7 wood frog egg masses, wood frog tadpoles, caddisflies
	Haverhill Lateral	P	N/A	DR- AC3- VP007	DR-E-W008	42.6939	-71.2564	PFO	3 spotted salamander egg masses, 2 wood frog egg masses, caddisflies
	Wright to Dracut Pipeline Segment	K	N/A	DR- AC3- VP008	DR-D-W002	42.68317	-71.2815	PFO	2 spotted salamander egg masses, 13 wood frog egg masses, wood frog tadpoles
	Wright to Dracut Pipeline Segment	K	N/A	DR- AC3- VP009	DR-D-W004	42.68255	-71.2811	PFO	13 spotted salamander egg masses, 3 wood frog egg masses, wood frog tadpoles
	Wright to Dracut Pipeline Segment	K	N/A	DR- AC3- VP010	DR-G-W005	42.6814	-71.2808	PFO	29 spotted salamander egg masses, 12 wood frog egg masses, wood frog tadpoles, caddisflies
	Wright to Dracut Pipeline Segment	К	N/A	DR- AC3- VP011	DR-D-W003	42.68316	-71.2806	PFO	2 spotted salamander egg masses, 8 wood frog egg masses, wood frog tadpoles, caddisflies
	Wright to Dracut Pipeline Segment	K	N/A	DR- AC3- VP012	DR-D-W005	42.68282	-71.2804	PFO	9 spotted salamander egg masses, wood frog tadpoles

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Municipality	Facility Name ¹	Segment ¹	Adjacent Milepost ²	Vernal Pool Number ³	Associated Wetland ⁴	Latitude	Longitude	Existing Cover Type	Species Observed and/or Heard
Erving	Wright to Dracut Pipeline Segment	Н	16.3	ER-AC3- VP001	ER-M-W002	42.582	-72.4778	PFO	Wood frog tadpoles
Hancock	Wright to Dracut Pipeline Segment	G	1.45	HA- AC4- VP001	Isolated Vernal Pool	42.53676	-73.3085	PEM	31 spotted salamander egg masses, spotted salamander larvae, 2 wood frog egg masses, spire-shaped snails or shells
	Wright to Dracut Pipeline Segment	G	13.75	HN- AC4- VP001	HN-M- W002	42.47281	-73.1102	PFO	13 spotted salamander egg masses, spotted salamander larvae, 1 wood frog egg mass, wood frog tadpoles, caddisflies, mosquito larvae, true fly larvae or pupae
Hinsdale	Wright to Dracut Pipeline Segment	G	13.75	HN- AC4- VP002	HN-M- W003	42.47152	-73.1081	PFO	15 spotted salamander egg masses, spotted salamander larvae, mosquito larvae
	Wright to Dracut Pipeline Segment	G	13.8	HN- AC4- VP003	HN-M- W005	42.46922	-73.102	PEM	47 spotted salamander egg masses, spotted salamander larvae, 2 wood frog egg masses, wood frog tadpoles, spire-shaped snails or shells
	Wright to Dracut Pipeline Segment	G	15.35	HN- AC4- VP004	HN-M- W008	42.47106	-73.0798	PEM	18 blue spotted salamander egg masses, blue spotted salamander larvae

Municipality	Facility Name ¹	Segment ¹	Adjacent Milepost ²	Vernal Pool Number ³	Associated Wetland ⁴	Latitude	Longitude	Existing Cover Type	Species Observed and/or Heard
	Wright to Dracut Pipeline Segment	G	15.35	HN- AC4- VP005	HN-M- W008	42.47151	-73.0799	PSS	5 spotted salamander egg masses, spotted salamander larvae, spire-shaped snails or shells
	Wright to Dracut Pipeline Segment	G	15.6	HN- AC4- VP006	HN-M- W010	42.47272	-73.0734	PEM	15 spotted salamander egg masses, spotted salamander larvae, 100+ wood frog tadpoles
	Fitchburg Lateral Extension	Q	N/A	LU- AC3- VP001	LU-D-W001	42.5863	-71.7599	PEM	15 spotted salamander egg masses, 1 unidentified mole salamander egg mass, wood frog tadpoles
Lunenburg	Fitchburg Lateral Extension	Q	N/A	LU- AC3- VP002	Isolated Vernal Pool	42.59443	-71.7567	PSS	7 spotted salamander egg masses, wood frog tadpoles, caddisflies
	Fitchburg Lateral Extension	Q	N/A	LU- AC3- VP003	Isolated Vernal Pool	42.58452	-71.7672	PEM	2 spotted salamander egg masses, wood frog tadpoles, American toads
	Fitchburg Lateral Extension	Q	N/A	LU- AC3- VP004	Isolated Vernal Pool	42.58457	-71.7664	PFO	5 spotted salamander egg masses, wood frog tadpoles, caddisflies
Lynnfield	Peabody Lateral	0	1.7	LY- AC4- VP001	LY-M- W002	42.56563	-71.0501	PEM	4 spotted salamander egg masses, 2 wood frog egg masses, caddisflies

Municipality	Facility Name ¹	Segment ¹	Adjacent Milepost ²	Vernal Pool Number ³	Associated Wetland ⁴	Latitude	Longitude	Existing Cover Type	Species Observed and/or Heard
	Peabody Lateral	О	1.9	LY- AC4- VP002	LY-K-W001	42.56615	-71.0448	PFO	16 spotted salamander egg masses, 2 wood frog egg masses, wood frog tadpoles, caddisflies
	Peabody Lateral	0	2.3	LY- AC4- VP003	LY-M- W003	42.56604	-71.0381	OTHER	22 spotted salamander egg masses
	Peabody Lateral	О	2.25	LY- AC4- VP004	LY-M- W003	42.56605	-71.0385	OTHER	27 spotted salamander egg masses
	Peabody Lateral	0	1.3	LY- AC4- VP005	LY-M- W002	42.56559	-71.057	PFO	4 spotted salamander egg masses, wood frog tadpoles, caddisflies, spire-shaped snails or shells
	Haverhill Lateral	P	N/A	ME- AC3- VP001	UNKNOWN	42.71229	-71.2434	PSS	Wood frog tadpoles, caddisflies
Methuen	Haverhill Lateral	P	4.9	ME- AC3- VP002	ME-P-W004	42.71856	-71.2297	OTHER	8 spotted salamander egg masses, caddisflies
Methuen	Haverhill Lateral	P	6.3	ME- AC3- VP003	ME-P-W001	42.74022	-71.2233	PFO	14 wood frog egg masses, wood frog tadpoles
	Haverhill Lateral	Р	6.5	ME- AC3- VP004	ME-P-W001	42.7404	-71.2189	PFO	Wood frog tadpoles, caddisflies

Municipality	Facility Name ¹	Segment ¹	Adjacent Milepost ²	Vernal Pool Number ³	Associated Wetland ⁴	Latitude	Longitude	Existing Cover Type	Species Observed and/or Heard
	Haverhill Lateral	P	6.9	ME- AC3- VP005	ME-P-W002	42.74246	-71.2111	PFO	Fairy shrimp, wood frog tadpoles
Montague	Wright to Dracut Pipeline Segment	Н	11.6	MO- AC3- VP001	UNKNOWN	42.56462	-72.5541	PFO	Wood frog tadpoles
	Wright to Dracut Pipeline Segment	Н	23.2	NO- AC3- VP001	NO-M- W002A	42.65843	-72.424808 59700	OTHER	21 spotted salamander egg masses, 1 wood frog egg mass
	Wright to Dracut Pipeline Segment	Н	23.15	NO- AC3- VP002	NO-M- W001	42.6566	-72.4265	PEM	43 spotted salamander egg masses, 4 wood frog egg masses, wood frog tadpoles
Northfield	Wright to Dracut Pipeline Segment	Н	23.8	NO- AC3- VP003	NO-L-W005	42.66581	-72.4197	PFO	31 spotted salamander egg masses, 9 wood frog egg masses, caddisflies
Tronmora	Wright to Dracut Pipeline Segment	Н	23.8	NO- AC3- VP004	NO-G-W004	42.66693	-72.419	PEM	3 spotted salamander egg masses
	Wright to Dracut Pipeline Segment	Н	23.8	NO- AC3- VP005	NO-L-W007	42.66555	-72.4178	POW	12 spotted salamander egg masses, 3 wood frog egg masses
	Wright to Dracut Pipeline Segment	Н	23.8	NO- AC3- VP006	NO-L-W015	42.66758	-72.4143	PEM	36 spotted salamander egg masses

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Table 1 Vernal Pool Habitat Identified Along the Proposed Project ROWs

Municipality	Facility Name ¹	Segment ¹	Adjacent Milepost ²	Vernal Pool Number ³	Associated Wetland ⁴	Latitude	Longitude	Existing Cover Type	Species Observed and/or Heard
	Wright to Dracut Pipeline Segment	Н	23.8	NO- AC3- VP007	NO-L-W014	42.66577	-72.4074	PFO	26 spotted salamander egg masses, caddisflies
	Wright to Dracut Pipeline Segment	Н	23.8	NO- AC3- VP008	NO-L-W023	42.66281	-72.4046	PEM	14 spotted salamander egg masses
	Wright to Dracut Pipeline Segment	G	22.05	PL-AC4- VP001	PL-E-W001	42.50932	-72.9647	OTHER	15 spotted salamander egg masses, spotted salamander larvae, 2 wood frog egg masses, wood frog tadpoles, caddisflies, mosquito larvae
	Wright to Dracut Pipeline Segment	G	22.025	PL-AC4- VP002	PL-M-W004	42.50933	-72.9653	PFO	2 spotted salamander egg masses, spotted salamander larvae
Plainfield	Wright to Dracut Pipeline Segment	G	21.6	PL-AC4- VP003	Isolated Vernal Pool	42.50672	-72.9723	POW	18 spotted salamander egg masses, spotted salamander larvae, 4 wood frog egg masses, wood frog tadpoles, caddisflies, mosquito larvae
	Wright to Dracut Pipeline Segment	G	23.25	PL-AC4- VP004	PL-M-W002	42.5149	-72.9434	PEM	7 blue spotted salamander egg masses, blue spotted salamander larvae, 37 spotted salamander egg masses, spotted salamander larvae, caddisflies, predaceous diving beetles, spring peepers

Municipality	Facility Name ¹	Segment ¹	Adjacent Milepost ²	Vernal Pool Number ³	Associated Wetland ⁴	Latitude	Longitude	Existing Cover Type	Species Observed and/or Heard
	Wright to Dracut Pipeline Segment	G	24.8	PL-AC4- VP005	PL-M-W011	42.52411	-72.91910 048200	PEM	1 spotted salamander egg mass, spotted salamander larvae, 3 wood frog egg masses, wood frog tadpoles
	Wright to Dracut Pipeline Segment	G	25.55	PL-AC4- VP006	PL-E-W002	42.52408	-72.9024	PSS	43 spotted salamander egg masses, spotted salamander larvae, 5 wood frog egg masses, wood frog tadpoles, fairy shrimp, mayflies
	Wright to Dracut Pipeline Segment	G	25.35	PL-AC4- VP007	PL-E-W003	42.52388	-72.908	PSS	4 spotted salamander egg masses, spotted salamander larvae, mosquito larvae
	Wright to Dracut Pipeline Segment	G	24.85	PL-AC4- VP008	PL-E-W003	42.52444	-72.9119	PEM	6 spotted salamander egg masses, spotted salamander larvae, 1 wood frog egg mass, wood frog tadpoles, mosquito larvae, spring peepers
	Wright to Dracut Pipeline Segment	G	26.7	PL-AC4- VP009	PL-M-W009	42.52699	-72.8801	PSS	52 spotted salamander egg masses, spotted salamander larvae, wood frog tadpoles, fairy shrimp, caddisflies, dragonfly larvae or exuviae, wood turtles
Tewksbury	Lynnfield Lateral	N	3.3	TK- AC3- VP001	TK-K-W002	42.64205	-71.2232	OTHER	5 wood frog egg masses, wood frog tadpoles

Municipality	Facility Name ¹	Segment ¹	Adjacent Milepost ²	Vernal Pool Number ³	Associated Wetland ⁴	Latitude	Longitude	Existing Cover Type	Species Observed and/or Heard
	Lynnfield Lateral	N	5.6	TK- AC3- VP002	UNKNOWN	42.62379	-71.1869	PFO	3 wood frog egg masses, wood frog tadpoles
	Lynnfield Lateral	N	5.5	TK- AC3- VP003	UNKNOWN	42.62468	-71.1892	PFO	18 spotted salamander egg masses, 8 wood frog egg masses, wood frog tadpoles, caddisflies
Warwick	Wright to Dracut Pipeline Segment	Н	27.75	WK- AC3- VP001	WK-M- W001	42.71844	-72.4052	PSS	7 spotted salamander egg masses, wood frog tadpoles
Windsor	Wright to Dracut Pipeline Segment	G	17.3	WN- AC4- VP001	WR-M- W011	42.47974	-73.0435	PEM	12 spotted salamander egg masses, spotted salamander larvae, 22 wood frog egg masses, wood frog tadpoles, spire-shaped snails or shells, mosquito larvae
Willasoi	Wright to Dracut Pipeline Segment	G	17.65	WN- AC4- VP002	WR-M- W002	42.4818	-73.035	PEM	14 spotted salamander egg masses, spotted salamander larvae, 1 wood frog egg mass
	Wright to Dracut Pipeline Segment	G	17.45	WN- AC4- VP003	WR-M- W006	42.48105	-73.039	PEM	15 spotted salamander egg masses, spotted salamander larvae
				New Han	pshire Vernal	Pools			
Greenville	Wright to Dracut Pipeline Segment	J	7.65	GN-U- VP001	GN-M- W001	42.78725	-71.7968	PSS	Damselflies, Mayflies

Municipality	Facility Name ¹	Segment ¹	Adjacent Milepost ²	Vernal Pool Number ³	Associated Wetland ⁴	Latitude	Longitude	Existing Cover Type	Species Observed and/or Heard
Hudson	Wright to Dracut Pipeline Segment	J	32.9	HD-T- VP001	HD-G-W003	42.80822	-71.3771	PSS	Wood frog tadpoles, caddisflies, true fly larvae or pupae
	Wright to Dracut Pipeline Segment	J	26.9	LT-U- VP001	LT-G-W002	42.83138	-71.4678	POW	1 wood frog egg mass, wood frog tadpoles, caddisflies, true fly larvae or pupae
	Wright to Dracut Pipeline Segment	J	27.03	LT-U- VP002	LT-G-W003	42.83294	-71.4657	PSS	Wood frog tadpoles, mosquito larvae
Litchfield	Wright to Dracut Pipeline Segment	J	27.04	LT-U- VP003	LT-G-W003	42.83266	-71.4654	PSS	2 wood frog egg masses, wood frog tadpoles
	Wright to Dracut Pipeline Segment	J	27.2	LT-U- VP004	LT-G-W003	42.8335	-71.4629	PSS	1 wood frog egg mass, wood frog tadpoles, true fly larvae or pupae
	Wright to Dracut Pipeline Segment	J	27.4	LT-U- VP005	LT-G-W005	42.83419	-71.4585	PSS	Wood frog tadpoles, caddisflies
Londonderry	Wright to Dracut Pipeline Segment	J	29.1	LD-T- VP001	LD-L-W001	42.8418	-71.427	POW	Fairy shrimp, wood frog tadpoles, caddisflies, dragonfly larvae or exuviae, true fly larvae or pupae
·	Wright to Dracut Pipeline Segment	J	30.12	LD-U- VP001	LD-L-W006	42.84019	-71.4099	PSS	1 wood frog egg mass, flat- spire snails or shells

Municipality	Facility Name ¹	Segment ¹	Adjacent Milepost ²	Vernal Pool Number ³	Associated Wetland ⁴	Latitude	Longitude	Existing Cover Type	Species Observed and/or Heard
	Fitchburg Lateral	Q	3.6	MS-U- VP001	Isolated Vernal Pool	42.72469	-71.7428	PFO	Unidentified mole salamander larvae, gray tree frogs, spring peepers
Mason	Fitchburg Lateral	Q	4.65	MS-U- VP002	Isolated Vernal Pool	42.7138	-71.7563	PFO	Damselflies, mayflies, gray tree frogs
	Wright to Dracut Pipeline Segment	J	6	NI-R- VP001	NI-R-W001	42.78296	-71.8293	POW	13 spotted salamander egg masses, 4 wood frog egg masses, caddisflies
	Wright to Dracut Pipeline Segment	J	5.96	NI-R- VP002	NI-R-W001	42.78287	-71.8299	OTHER	Aquatic beetles, true fly larvae or pupae
New Ipswich	Wright to Dracut Pipeline Segment	J	6.03	NI-R- VP003	NI-R-W001	42.7823	-71.8285	OTHER	4 spotted salamander egg masses, 1 wood frog egg mass
	Wright to Dracut Pipeline Segment	J	6.25	NI-R- VP004	NI-R-W001	42.78231	-71.8263	POW	9 spotted salamander egg masses, 4 wood frog egg masses, true fly larvae or pupae, water boatman beetles
	Wright to Dracut Pipeline Segment	J	6.2	NI-R- VP005	NI-R-W001	42.78203	-71.8264	PSS	6 spotted salamander egg masses
Pelham	Wright to Dracut Pipeline Segment	J	37.74	PH-T- VP001	PH-Y-W007	42.75351	-71.3238	PSS	Wood frog tadpoles, aquatic beetle larvae, true fly larvae or pupae

Municipality	Facility Name ¹	Segment ¹	Adjacent Milepost ²	Vernal Pool Number ³	Associated Wetland ⁴	Latitude	Longitude	Existing Cover Type	Species Observed and/or Heard		
Connecticut Vernal Pools											
	300 Line CT Loop	S	7.5	BL-AC3- VP002	BL-B-W005	41.84487	-72.7721	PFO	Northern caddisflies		
	300 Line CT Loop	S	8.5	BL-AC3- VP003	BL-B-W001	41.85779	-72.762	PFO	3 spotted salamander egg masses, 9 wood frog egg masses, wood frog tadpoles, fingernail clams, Northern caddisflies		
	300 Line CT Loop	S	8.55	BL-AC3- VP004	BL-B-W001	41.85788	-72.7619	PFO	2 American toad egg masses, fingernail clams, caddisflies		
	300 Line CT Loop	S	9	BL-AC3- VP005	BL-P-W001	41.86391	-72.7587	PFO	25 wood frog egg masses, wood frog tadpoles, caddisflies		
Bloomfield	300 Line CT Loop	S	9	BL-AC3- VP006	BL-P-W001	41.86847	-72.7563	PFO	8 spotted salamander egg masses, 40 wood frog egg masses, wood frog tadpoles, caddisflies		
	300 Line CT Loop	S	9	BL-AC3- VP007	BL-P-W001	41.86876	-72.7567	PFO	12 wood frog egg masses, wood frog tadpoles, caddisflies		
	300 Line CT Loop	S	9	BL-AC3- VP008	BL-P-W001	41.86772	-72.7568	PFO	60 wood frog egg masses, wood frog tadpoles, spotted turtles		
	300 Line CT Loop	S	9	BL-AC3- VP009	BL-P-W001	41.86529	-72.7578	PFO	5 wood frog egg masses, wood frog tadpoles, caddisflies		
	300 Line CT Loop	S	9	BL-AC3- VP010	BL-P-W001	41.86456	-72.759	PFO	11 wood frog egg masses, wood frog tadpoles, caddisflies		

Table 1 Vernal Pool Habitat Identified Along the Proposed Project ROWs

Municipality	Facility Name ¹	Segment ¹	Adjacent Milepost ²	Vernal Pool Number ³	Associated Wetland ⁴	Latitude	Longitude	Existing Cover Type	Species Observed and/or Heard
	300 Line CT Loop	S	9	BL-AC3- VP011	BL-P-W001	41.86417	-72.7586	PFO	4 wood frog egg masses, wood frog tadpoles
	300 Line CT Loop	S	9.73	BL-AC3- VP012	BL-P-W005	41.87273	-72.7541	PFO	1 spotted salamander egg mass, 40 wood frog egg masses, wood frog tadpoles, caddisflies
	300 Line CT Loop	S	9.7	BL-AC3- VP013	BL-P-W005	41.87374	-72.7539	PFO	2 spotted salamander egg masses, 25 wood frog egg masses, wood frog tadpoles, caddisflies, fingernail clams
	300 Line CT Loop	S	9.8	BL-AC3- VP014	BL-P-W005	41.87451	-72.754	PFO	6 wood frog egg masses, wood frog tadpoles, caddisflies
	300 Line CT Loop	S	9.85	BL-AC3- VP015	BL-P-W005	41.87476	-72.7536	PFO	9 spotted salamander egg masses, 28 wood frog egg masses, wood frog tadpoles
	300 Line CT Loop	S	10.38	BL-AC3- VP016	BL-N-W001	41.8809	-72.7486	OTHER	18 spotted salamander egg masses
	300 Line CT Loop	S	10.4	BL-AC3- VP017	BL-N-W001	41.88119	-72.7485	OTHER	3 spotted salamander egg masses, 9 wood frog egg masses, wood frog tadpoles
East Granby	300 Line CT Loop	S	14.35	EG- AC3- VP001	EG-P-W001	41.92885	-72.7174	PFO	24 spotted salamander egg masses, 11 wood frog egg masses, wood frog tadpoles, caddisflies
	300 Line CT Loop	S	14.3	EG- AC3- VP002	EG-P-W001	41.92851	-72.7175	PFO	4 spotted salamander egg masses, 8 wood frog egg masses, wood frog tadpoles

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Table 1 Vernal Pool Habitat Identified Along the Proposed Project ROWs

Municipality	Facility Name ¹	Segment ¹	Adjacent Milepost ²	Vernal Pool Number ³	Associated Wetland ⁴	Latitude	Longitude	Existing Cover Type	Species Observed and/or Heard
Windsor	300 Line CT Loop	S	14.08	WI-AC3- VP001	EG-P-W001	41.92703	-72.7188	OTHER	1 wood frog egg mass, wood frog tadpoles
	300 Line CT Loop	S	14.09	WI-AC3- VP002	EG-P-W001	41.92689	-72.7182	PEM	5 spotted salamander egg masses, 16 wood frog egg masses, wood frog tadpoles, caddisflies
	300 Line CT Loop	S	14.1	WI-AC3- VP003	EG-P-W001	41.92708	-72.718	PEM	4 spotted salamander egg masses, caddisflies
	300 Line CT Loop	S	14.15	WI-AC3- VP004	EG-P-W001	41.92732	-72.7178	PEM	1 spotted salamander egg mass, 11 wood frog egg masses, wood frog tadpoles, caddisflies

Source: The data sets used for vernal pools are field surveyed data

¹ Facility Name and Segment refer to the specific NED pipeline component with which the vernal pool is associated.

² Refers to mileposts along the existing pipelines for Connecticut, Massachusetts, and New Hampshire.

³ Vernal pool habitat number generated by AECOM for identification purposes.

⁴ Associated wetland number corresponds to the Project Wetland Identification number. Associated wetland information was interpreted through desktop review of aerial imagery, publically available data, or field surveyed data.

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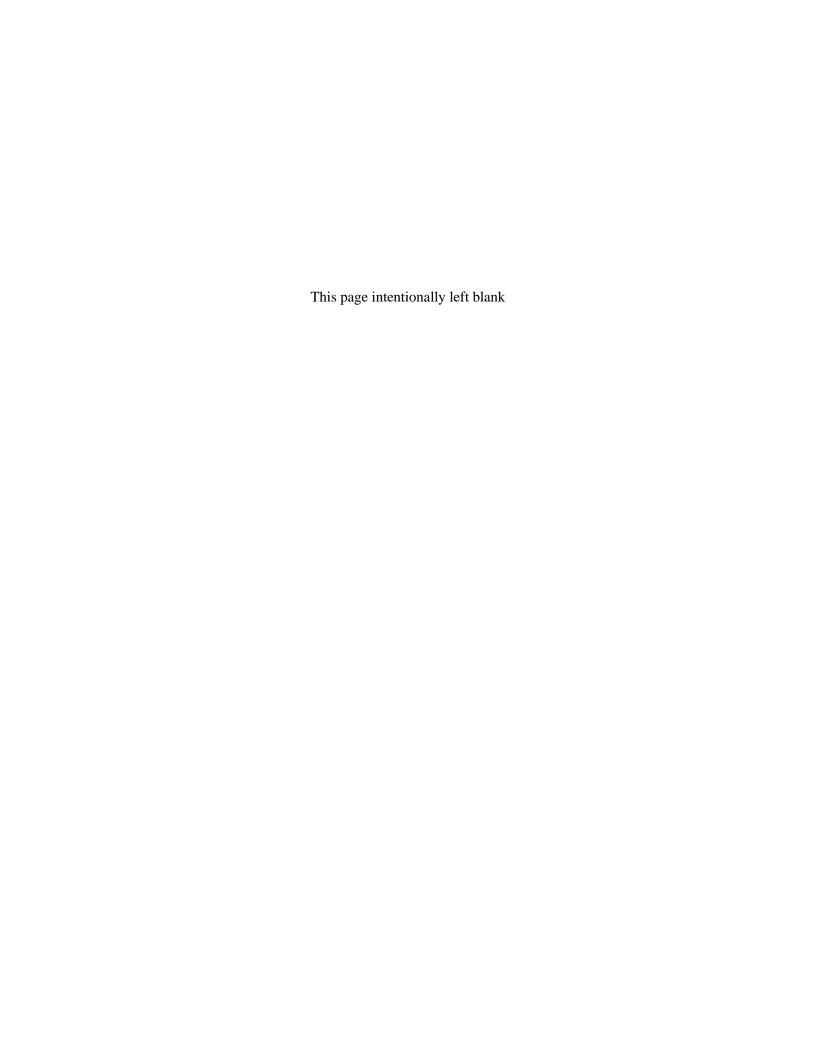
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Attachment A 2015 Vernal Pool Habitat Data Forms





Project File #60328763 Proj	ect Name: Northeast Energy Dire	ct Project	Pool ID: AM-U-VP	'001
Observer: AT		Phone or	email:	
Landowner/Applicant: TANA PROPERTIE	ES	Phone or	email:	
Address: 11 NORTHERN BL	LVD City: AN	MHERST	State: MA	Zip:: 03031
Location of vernal pool:				
Survey date(s):: 5/15/2015	Longitude/Latitude (in decimal of	degrees): 42	2.81039935, -71.5979344	44
A. VERNAL POOL CHARACTERISTICS (fil	in all information known):			
1. Landscape Setting (check all that apply):			
☐ Upland depression (4 pts; if this is a	so in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (within 1	000 feet of one or more other ver	rnal pools)(NA)		
☑ Pool within larger wetland system (4)	pts; if this is also in a floodplain,	use 2 pts)		
☐ Pool part of wildlife corridor (4 pts)				
☐ Other (variable pts):				
Pool Origin: Natural, but altered				
2. Vernal pool condition:				
Describe any recent modifications to the po	ool and associated landscape:	ROW CLEARIN	NG	
3. Parent material:				
☐ Glacial fluvial ("outwash") ☑	Loose till	☐ Peat		
☐ Dense till ☐	Alluvium	☐ Coastal m	arine sediments	
4. Aquatic resource type that best applies	to this pool (choose dominant)	:		
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Flood	lplain (overflow/oxbow) (3	3pts)
Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other	(variable points):	
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2	tpts)		
5. Pool canopy cover (%): 50%				
6. Predominant substrate:				
✓ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepest	t zone, edge,etc.)	:	
7. Pool sizes:				
Approximate dimensions of pool (at maxir	. ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u>3905.61</u>		
Maximum depth at deepest point at time of	of survey (include units):	<u>36</u>		
Hydrology: a. Estimated hydroperiod (unless actual, circlinates accepted to be a product the companion of the compan		are) known, use	the presence of these ex	ample
indicator species to best predict the experi	, , ,	Caray atriata Imp	ations cononsis llay vort	ioillata\(Gata\
Dries between early March and early			•	, , , ,
Dries between early July and early Se				
Dries between early September and e	, , ,		•	,,,
☑ Dries between early November and la	te December, or intermittently exp	posea (e.g., <i>Nupi</i>	ıaı spp., Potamogeton sp	υμ.)(οριs)
How long does pool hold water? Sen	ni-permanent			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (ch	nannel with well-o	defined banks and perma	inent flow) (2 pts)
☑ Temporary inlet/outlet (6 pts)				



9. Water quality:					
✓ Clear	High turbidity	☐ High algae cor	ntent Tannic		
22 TOTAL fo	or Pool Characteris	stics (out of 28 ma	x.)		
B. VERNAL POOL ENVI	ELOPE (100 ft) ANI	D CRITICAL HABIT	ΓΑΤ AREA (100-750 ft) CI	HARACTERISTICS (fill in all	information known):
1. Landuse type and ap	proximate percent	age within the 100	-ft vernal pool envelope:		
✓ Forested: 50%	(16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
✓ Shrub: 50%	(10 pts)		Developed: <u>%</u>	(0 pts)	
2. Landuse type and ap	proximate percent	age within the 100	-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 50%	(16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☑ Shrub: <u>50%</u>	(10 pts)		Developed: <u>%</u>	(0 pts)	
			vement within the envelop o incorporate this informati	e and/or critical terrestrial hab on.	itat? If so,
Based on:	Field estimate	☐ GIS	☐ Aerial phot	o estimate	
<u>26</u> TOTAL	for Pool Envelope	and Critical Terres	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT	IN VERNAL POOL				
		POOL that can pro	ovide egg attachment or of	fer concealment to aquatic or	developing larvae.
-	0-50%			· · · · · · · · · · · · · · · · · · ·	
Emergent veger	tation (grasses, seg	es, rushes, cattails)	: <u>10-50%</u>		
Submergent ve	getation: <10	<u>%</u>			
Dead branches and do	owned woody mater	ial (branches/twigs)	available for egg attachm	ent: greater than 10	
Dead branches and do	,	ial (branches/twigs) DATE		ent: greater than 10 TADPOLES/LARVAE	NOTES
	PECIES	. ,	evailable for egg attachm EGG MASSES (#) 1		NOTES
INDICATOR S	PECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR S	PECIES og	DATE	EGG MASSES (#)	TADPOLES/LARVAE Larvae	NOTES DTES
INDICATOR S Wood Fr	PECIES og SPECIES	DATE 5/15/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae	
INDICATOR S Wood Fr FACULTATIVE	PECIES og SPECIES	DATE 5/15/2015 DATE	EGG MASSES (#) 1 ABUNDANCE	TADPOLES/LARVAE Larvae	
INDICATOR S Wood Fr FACULTATIVE	SPECIES s or shells	DATE 5/15/2015 DATE	EGG MASSES (#) 1 ABUNDANCE	TADPOLES/LARVAE Larvae	
INDICATOR S Wood Fr FACULTATIVE Flat-spire snails	SPECIES s or shells	DATE 5/15/2015 DATE 5/15/2015	EGG MASSES (#) 1 ABUNDANCE Few	TADPOLES/LARVAE Larvae	DTES
INDICATOR S Wood Fr FACULTATIVE Flat-spire snails	SPECIES s or shells SPECIES	DATE 5/15/2015 DATE 5/15/2015	EGG MASSES (#) 1 ABUNDANCE Few	TADPOLES/LARVAE Larvae NO	DTES
FACULTATIVE Flat-spire snails PREDATOR S	SPECIES s or shells SPECIES	DATE 5/15/2015 DATE 5/15/2015 DATE	EGG MASSES (#) 1 ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Larvae NO	OTES
FACULTATIVE Flat-spire snails PREDATOR S OTHER SPE	SPECIES S or shells SPECIES SECIES	DATE 5/15/2015 DATE 5/15/2015 DATE DATE	EGG MASSES (#) 1 ABUNDANCE FeW ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Larvae NO	OTES
FACULTATIVE Flat-spire snails PREDATOR S	SPECIES S or shells SPECIES SECIES	DATE 5/15/2015 DATE 5/15/2015 DATE DATE	EGG MASSES (#) 1 ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Larvae NO	DTES DTES
FACULTATIVE Flat-spire snails PREDATOR S OTHER SPE	SPECIES S or shells SPECIES SPECIES SPECIES SPECIES SPECIES	DATE 5/15/2015 DATE 5/15/2015 DATE DATE DATE	EGG MASSES (#) 1 ABUNDANCE FeW ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Larvae NO	OTES
FACULTATIVE Flat-spire snails PREDATOR S OTHER SPE	SPECIES	DATE 5/15/2015 DATE 5/15/2015 DATE DATE DATE □ Yes □ Yes	EGG MASSES (#) 1 ABUNDANCE FeW ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Larvae NO	OTES
FACULTATIVE Flat-spire snails PREDATOR S OTHER SPE	SPECIES	DATE 5/15/2015 DATE 5/15/2015 DATE DATE DATE □ Yes □ Yes □	EGG MASSES (#) 1 ABUNDANCE FeW ABUNDANCE ABUNDANCE No	TADPOLES/LARVAE Larvae NO	OTES
FACULTATIVE Flat-spire snails PREDATOR S OTHER SPE Presence of Indicator S Were spermatophores of Were fish observed in the SUMMARY	SPECIES	DATE 5/15/2015 DATE 5/15/2015 DATE DATE □ Yes □ Yes □ Yes □ Yes	EGG MASSES (#) 1 ABUNDANCE FeW ABUNDANCE ABUNDANCE V No	TADPOLES/LARVAE Larvae NO	OTES OTES
FACULTATIVE Flat-spire snails PREDATOR S OTHER SPE Presence of Indicator S Were spermatophores of Were fish observed in the SUMMARY	SPECIES SOF SPECIES SOF SHELLS SO	DATE 5/15/2015 DATE 5/15/2015 DATE DATE □ Yes □ Yes □ Yes □ Yes	EGG MASSES (#) 1 ABUNDANCE FeW ABUNDANCE ABUNDANCE V No	TADPOLES/LARVAE Larvae NO NO	OTES OTES





NORTH



Project File #60328763	Project Name: Northeast Energy Direct Project Pool ID: AN-AC3-VP001
Observer: C M-H	Phone or email: 503-318-5970
Landowner/Applicant: GILLETTE CO	DMPANY Phone or email:
Address: 30 BURTT RI	City: ANDOVER State: MA Zip:: 01810
Location of vernal pool:	
Survey date(s):: 4/30/2015	Longitude/Latitude (in decimal degrees): 42.60542918, -71.17093800
A. VERNAL POOL CHARACTERISTICS	S (fill in all information known):
. Landscape Setting (check all that a	pply):
Upland depression (4 pts; if this	is also in a floodplain, use 2 pts)
☐ Pool part of a pool complex (with the pool part of a pool complex).	thin 1000 feet of one or more other vernal pools)(NA)
☐ Pool within larger wetland syste	em (4 pts; if this is also in a floodplain, use 2 pts)
□ Pool part of wildlife corridor (4 p	ots)
☐ Other (variable pts):	
Pool Origin:	
. Vernal pool condition:	
Describe any recent modifications to t	he pool and associated landscape:
. Parent material:	
☐ Glacial fluvial ("outwash")	□ Loose till □ Peat
✓ Dense till	☐ Alluvium ☐ Coastal marine sediments
. Aquatic resource type that best app	plies to this pool (choose dominant):
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts) ☐ Floodplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts) ☐ Other (variable points):
☐ Peatland (acidic fen or bog) (4pts	s) Intermittent stream reach (2pts)
i. Pool canopy cover (%): 90%	
. Predominant substrate:	
☐ Mineral soil	Depth: 6
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepest zone, edge,etc.): <u>DEEP ZONE</u>
'. Pool sizes:	
Approximate dimensions of pool (at r	
Maximum depth at deepest point at t	ime of survey (include units): 1'
 Hydrology: a Estimated hydroperiod (unless act 	ual, observed hydroperiod value(s) is(are) known, use the presence of these example
indicator species to best predict the	
☐ Dries between early March and e	early July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)
Dries between early July and ear	ly September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)
☐ Dries between early September a	and early November (e.g., Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts)
□ Dries between early November a	nd late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)
How long does pool hold water?	
b. Inlet/Outlet (pick one):	
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (channel with well-defined banks and permanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)	



9. Water quality:				
☐ Clear ☐ High turbidity	☐ High algae co	ntent 🗹 Tannic		
24 TOTAL for Pool Character	istics (out of 28 m	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and approximate percen	tage within the 10	0-ft vernal pool envelope	:	
✓ Forested: 75% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 0%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 25%	(0 pts)	
2. Landuse type and approximate percen	tage within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 30% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 25%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 45%	(0 pts)	
Are there one or more barriers to v check here and see directions for e				oitat? If so,
Based on: Field estimate	☐ GIS	Aerial photo	to estimate	
20 TOTAL for Pool Envelope	and Critical Terre	estrial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THI	E POOL that can p	ovide egg attachment or of	ffer concealment to aquatic or	developing larvae.
Shrubs:	•	33	·	, ,
Emergent vegetation (grasses, seg	ges, rushes, cattails):		
Submergent vegetation:	<u> </u>			
Dead branches and downed woody mater	rial (branches/twigs) available for egg attachm	ent:	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Spotted Salamander	4/30/2015	3		
FACULTATIVE SPECIES	DATE	ABUNDANCE	NO	OTES
PREDATOR SPECIES	DATE	ABUNDANCE	NO	OTES
OTHER SPECIES	DATE	ABUNDANCE	NO	OTES
	27.12	7,20,127,1102		
Presence of Indicator Species	✓ Yes	□ No		
Were spermatophores observed?	☐ Yes	☑ No		
Were fish observed in the pool?	☐ Yes	☑ No		
SUMMARY				
24 TOTAL for Pool Characterist	ics	20 TOTAL fo	r Pool Envelope and Critical	Terrestrial Habitat Area
Other Comments:				

AN-AC3-VP001 Page 2







Project File #60328763	Project Name: Northeast Energy Di	irect Project	Pool ID: AN-AC3-	-VP002
Observer: C M-H		Phone or ema	ail: 503-318-5970	
Landowner/Applicant: GILLETTE C	OMPANY	Phone or ema	ail:	
Address: 30 BURTT F	RD City:	ANDOVER	State: MA	Zip:: 01810
Location of vernal pool:				
Survey date(s):: 4/30/2015	Longitude/Latitude (in decima	al degrees): 42.60	0504251, -71.170884	∤86
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):			
1. Landscape Setting (check all that	apply):			
✓ Upland depression (4 pts; if th	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (w	rithin 1000 feet of one or more other v	vernal pools)(NA)		
☐ Pool within larger wetland syst	tem (4 pts; if this is also in a floodplain	n, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin:				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:	PERCHED CULVE	≣RT	
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coastal marin	ne sediments	
4. Aquatic resource type that best ap	plies to this pool (choose dominar	nt):		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pt	is) 🔲 Floodplai	in (overflow/oxbow) ((3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (va	ariable points):	
☐ Peatland (acidic fen or bog) (4p	ts)	(2pts)		
5. Pool canopy cover (%): <u>75%</u>				
6. Predominant substrate:				
☐ Mineral soil	Depth: 12			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.):	DEEP ZONE	
7. Pool sizes:				
Approximate dimensions of pool (at	maximum capacity) (sq. feet):	<u>14288.93</u>		
Maximum depth at deepest point at	time of survey (include units):	<u>2'</u>		
8. Hydrology:	ctual, observed hydroperiod value(s) i	is(are) known use the	presence of these ex	vamnla
indicator species to best predict the		is(ale) kilowii, use tile	presence of these ex	(ample
□ Dries between early March and	early July (e.g., Thelypteris palustris,	, Carex stricta, Impatie	ns capensis, llex vert	ticillata)(6pts)
Dries between early July and early	arly September (e.g., Sagittaria latifoli	ia, Scirpus cyperinus, I	Dulichium arundinacε	eum, Cephalanthus occ.)(8pts)
□ Dries between early September	and early November (e.g., Eleochari	is palustris, Glyceria ca	nadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently	exposed (e.g., Nuphar	spp., Potamogeton s	spp.)(8pts)
How long does pool hold water?				
b. Inlet/Outlet (pick one):	_			
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet	(channel with well-defin	ned banks and nerm:	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)	_ · · · · · · · · · · · · · · · · · · ·	(======================================	zaa ana pomic	



9. Water quality:				
☐ Clear ☐ High turbidity	☐ High algae co	ontent 🗹 Tannic		
22 TOTAL for Pool Charact	eristics (out of 28 m	ax.)		
B. VERNAL POOL ENVELOPE (100 ft)	AND CRITICAL HAB	ITAT AREA (100-750 ft) C	HARACTERISTICS (fill in all in	nformation known):
1. Landuse type and approximate perc	entage within the 10	0-ft vernal pool envelope	:	
✓ Forested: 60% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 0%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 40%	(0 pts)	
2. Landuse type and approximate perc	entage within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: <u>30%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): 25%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 45%	(0 pts)	
Are there one or more barriers to check here and see directions for				tat? If so,
Based on:	☐ GIS	Aerial photo	to estimate	
20 TOTAL for Pool Envelo	pe and Critical Terre	estrial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POO	DL			
Vegetation type and percent cover IN T		rovide egg attachment or of	ffer concealment to aquatic or c	leveloping larvae.
Shrubs:	00a. oa p	ondo ogg amasımısın on o	comocaminom to aquatio or c	ioroloping larvaor
Emergent vegetation (grasses, s	eges, rushes, cattails	s):		
Submergent vegetation:	<u> </u>	,		
Dead branches and downed woody ma	terial (branches/twigs	s) available for egg attachm	ent:	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Spotted Salamander	4/30/2015	4		
Wood Frog	4/30/2015	11	Tadpoles	
FACULTATIVE SPECIES	DATE	ABUNDANCE	NO [*]	TES
PREDATOR SPECIES	DATE	ABUNDANCE	NO	TES
OTHER SPECIES	DATE	ABUNDANCE	NO.	TES
Presence of Indicator Species	☑ Yes	□ No		
Were spermatophores observed?	☐ Yes	☑ No		
Were fish observed in the pool?	☐ Yes	☑ No		
SUMMARY				
22 TOTAL for Pool Character	stics	20 TOTAL fo	r Pool Envelope and Critical	Terrestrial Habitat Area
Other Comments:				
VERY TANNIC, OVERCAST DAY, DIFFIG	CULT VISIBILITY			







Pro	ject File #60328763	Project Name: Northeast E	nergy Direct Projec	t Pool ID:	AN-AC3-VP003	
Obs	server: C M-H		Р	hone or email: 503-	318-5970	
Lar	ndowner/Applicant: GILLETTE CO	MPANY	Р	hone or email:		
Add	dress: 30 BURTT RE)	City: ANDOVER	State:	MA Zip::	01810
Loc	cation of vernal pool:					
Sur	vey date(s):: 4/30/2015	Longitude/Latitude (in	n decimal degrees)	42.60443443, -7	71.17035572	
A. VE	RNAL POOL CHARACTERISTICS	3 (fill in all information kn	own):			
1. Laı	ndscape Setting (check all that a	pply):				
[✓ Upland depression (4 pts; if this	is also in a floodplain, use	2 pts)			
[☐ Pool part of a pool complex (wit	hin 1000 feet of one or mor	e other vernal pools	s)(NA)		
[☐ Pool within larger wetland syste	m (4 pts; if this is also in a f	floodplain, use 2 pts	s)		
[☐ Pool part of wildlife corridor (4 p	ots)				
[☐ Other (variable pts):					
Pod	ol Origin:					
2. Ve	rnal pool condition:					
Des	scribe any recent modifications to the	ne pool and associated land	dscape:			
3. Pai	rent material:					
	Glacial fluvial ("outwash")	☐ Loose till	□ Pe	eat		
$\overline{\checkmark}$	Dense till	☐ Alluvium	□ C	oastal marine sedimen	its	
4. Aq	uatic resource type that best app	olies to this pool (choose	dominant):			
	Forested wetland (4pts)	✓ Herbaceous wetland	and (4pts)	Floodplain (overflow	v/oxbow) (3pts)	
	Shrub wetland (4pts)	☐ Open water (2 pt	s)	Other (variable poin	its):	
	Peatland (acidic fen or bog) (4pts	s)	m reach (2pts)			
5. Po	ol canopy cover (%): 5%					
6. Pre	edominant substrate:					
✓	Mineral soil	Depth:				
	Organic matter (peat/muck)	Sampling location (e.	.g.,deepest zone, e	dge,etc.):		
	ol sizes:					
	oproximate dimensions of pool (at n		•	5.46		
	aximum depth at deepest point at ti drology:	me of survey (include units)): <u>2'</u>			
a.	Estimated hydroperiod (unless actidicator species to best predict the e			wn, use the presence o	of these example	
	Dries between early March and e	early July (e.g., <i>Thelypteris</i>)	palustris, Carex stri	cta, Impatiens capensi	ร, llex verticillata)(6เ	ots)
$\overline{\mathbf{V}}$	Dries between early July and earl	ly September (e.g., Sagittai	ria latifolia, Scirpus	cyperinus, Dulichium a	arundinaceum, Cept	nalanthus occ.)(8pts)
	Dries between early September a	and early November (e.g., E	Eleocharis palustris,	Glyceria canadensis,	Utricularia spp., Dec	codon vert.)(8pts)
	Dries between early November a	nd late December, or intern	nittently exposed (e	.g., Nuphar spp., Potar	mogeton spp.)(8pts)	
-	How long does pool hold water?					
b.	Inlet/Outlet (pick one):					
		☐ Permanent inlet o	or outlet (channel w	ith well-defined banks	and permanent flow) (2 pts)
	Temporary inlet/outlet (6 pts)					



9. Wate	r quality:									
☑ (Clear	□ Hi	gh turbidity		High algae c	ontent	☐ Tannic			
	<u>24</u> TO1	ΓAL for	Pool Character	ristics	(out of 28 n	nax.)				
B. VERI	NAL POOL	ENVEL	OPE (100 ft) AN	ND CR	ITICAL HAE	BITAT A	AREA (100-750 ft) C	CHARACTERISTICS	fill in all inf	formation known):
1. Land	use type ar	nd appro	oximate percer	ntage	within the 1	00-ft v	ernal pool envelope	e:		
$\overline{\checkmark}$	Forested:	<u>95%</u>	(16 pts)			Oper	n (e.g., meadow, agr	iculture, golf course):	<u>0%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)			Deve	loped: <u>5%</u>	(0 pts)		
2. Land	use type ar	nd appro	oximate percer	ntage v	within the 10	00-750	-ft vernal pool critic	cal terrestrial habitat	:	
	Forested:	<u>30%</u>	(16 pts)			Oper	n (e.g., meadow, agr	iculture, golf course):	<u>25%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)		\square	Deve	eloped: <u>45%</u>	(0 pts)		
							ent within the envelo orporate this informa	pe and/or critical terre	estrial habita	at? If so,
	Based on:		Field estimate		☐ GIS		Aerial pho	oto estimate		
	20 TO	TAL for	· Pool Envelope	e and	Critical Terr	estria	Habitat Area (out o	of 32 max.)		
			·				`	,		
			VERNAL POOL							
Veget	• •	and perc	ent cover IN TH	IE PO	OL that can p	orovide	egg attachment or o	offer concealment to a	quatic or de	eveloping larvae.
	Shrubs:		,							
	•	•	on (grasses, se	ges, ru	ishes, cattail	s): _				
	Submerge	ını vedel								
Dead	branches a	Ū		erial (b	ranches/twig	s) avai	lable for egg attachr	nent·		
Dead	branches a	Ū		erial (b	ranches/twig	s) avai	lable for egg attachr	ment:		
Dead	INDICAT	ond dowr	ned woody mate		DATE		GG MASSES (#)	TADPOLES/LA	RVAE	NOTES
Dead	INDICAT	nd dowr	ned woody mate						RVAE	NOTES
Dead	INDICAT	OR SPE	ned woody mate		DATE		GG MASSES (#)	TADPOLES/LA	RVAE	NOTES
Dead	INDICAT Wo	OR SPE	ned woody mate		DATE 4/30/2015		EGG MASSES (#) 44	TADPOLES/LA	RVAE	NOTES
Dead	INDICAT Wo	OR SPE	ed woody mate		DATE 4/30/2015		EGG MASSES (#) 44	TADPOLES/LA	RVAE	
Dead	INDICAT Wo Spotted	OR SPE	ed woody mate		DATE 4/30/2015 4/30/2015		44 13	TADPOLES/LA		
Dead	INDICAT Wo Spotted FACULTA Cad	OR SPE od Frog Salama TIVE SF	ed woody mate		DATE 4/30/2015 4/30/2015 DATE 4/30/2015		44 13 ABUNDANCE Common	TADPOLES/LA	NOTI	ES
Dead	INDICAT Wo Spotted	OR SPE od Frog Salama TIVE SF	ed woody mate		DATE 4/30/2015 4/30/2015 DATE		EGG MASSES (#) 44 13 ABUNDANCE	TADPOLES/LA		ES
Dead	INDICAT Wo Spotted FACULTA Cac	OR SPE od Frog Salama TIVE SF	ed woody mate		DATE 4/30/2015 4/30/2015 DATE 4/30/2015		44 13 ABUNDANCE Common	TADPOLES/LA	NOTI	ES
Dead	INDICAT Wo Spotted FACULTA Cac	OR SPE od Frog Salama TIVE SF ddisflies	ed woody mate		DATE 4/30/2015 4/30/2015 DATE 4/30/2015 DATE		ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LA	NOTI	ES
	INDICAT Wo Spotted FACULTA Cac PREDAT	OR SPE od Frog Salama TIVE SF ddisflies FOR SPE	ed woody mate		DATE 4/30/2015 4/30/2015 DATE 4/30/2015 DATE DATE	E	ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LA	NOTI	ES
Presence	INDICAT Wo Spotted FACULTA Cac PREDAT OTHER	OR SPE od Frog Salama TIVE SR ddisflies FOR SPE ator Spe	ed woody mate		DATE 4/30/2015 4/30/2015 DATE 4/30/2015 DATE DATE DATE	E	ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LA	NOTI	ES
Presence Were sp	INDICAT Wo Spotted FACULTA Cac PREDAT OTHER	OR SPE od Frog Salama TIVE SF ddisflies OR SPE R SPECI	ned woody mate		DATE 4/30/2015 DATE 4/30/2015 DATE 4/30/2015 DATE DATE Yes Yes		ABUNDANCE Common ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LA	NOTI	ES
Presence Were sp	INDICAT Wo Spotted FACULTA Cac PREDAT OTHER	OR SPE od Frog Salama TIVE SF ddisflies OR SPE R SPECI	ned woody mate		DATE 4/30/2015 4/30/2015 DATE 4/30/2015 DATE DATE DATE	E	ABUNDANCE Common ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LA	NOTI	ES
Presence Were sp	INDICAT Wo Spotted FACULTA Cac PREDAT OTHER	OR SPE od Frog Salama TIVE SF ddisflies OR SPE R SPECI	ned woody mate		DATE 4/30/2015 DATE 4/30/2015 DATE 4/30/2015 DATE DATE Yes Yes		ABUNDANCE Common ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LA	NOTI	ES
Presence Were sp	INDICAT Wo Spotted FACULTA Cac PREDAT OTHER ce of Indica permatophological observed	OR SPE OD Frog Salama TIVE SF ddisflies FOR SPE Ator Spe Tres obse Tin the p	ned woody mate		DATE 4/30/2015 DATE 4/30/2015 DATE 4/30/2015 DATE DATE Yes Yes		ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE O	TADPOLES/LA Tadpoles	NOTI	ES





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Project File #60328763	Project Name: Northeast Energy Direct	ct Project Pool ID: AN-AC3-VP0	04
Observer: C M-H		Phone or email: 503-318-5970	
Landowner/Applicant: KELLY, RICHA	ARD J	Phone or email:	
Address: 3 EXECUTIV	E PL City: AN	DOVER State: MA	Zip:: 01810
Location of vernal pool:			
Survey date(s):: 4/30/2015	Longitude/Latitude (in decimal d	degrees): 42.60030979, -71.16797055	
A. VERNAL POOL CHARACTERISTICS	S (fill in all information known):		
. Landscape Setting (check all that a	pply):		
Upland depression (4 pts; if this	is also in a floodplain, use 2 pts)		
☐ Pool part of a pool complex (with a pool part of a pool complex (with a pool complex).	thin 1000 feet of one or more other veri	nal pools)(NA)	
☐ Pool within larger wetland syste	em (4 pts; if this is also in a floodplain, ເ	use 2 pts)	
□ Pool part of wildlife corridor (4 p	ots)		
☐ Other (variable pts):			
Pool Origin:			
. Vernal pool condition:			
Describe any recent modifications to t	he pool and associated landscape:	ADJACENT TO UTILITY ROW	
. Parent material:			
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat	
✓ Dense till	☐ Alluvium	☐ Coastal marine sediments	
. Aquatic resource type that best app	olies to this pool (choose dominant):	:	
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Floodplain (overflow/oxbow) (3pts))
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable points):	
☐ Peatland (acidic fen or bog) (4pts	s) Intermittent stream reach (2p	pts)	
i. Pool canopy cover (%): <u>85%</u>			
. Predominant substrate:			
✓ Mineral soil	Depth:		
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepest	zone, edge,etc.):	
'. Pool sizes:			
Approximate dimensions of pool (at r		<u>1504.37</u>	
Maximum depth at deepest point at t	ime of survey (include units):	<u>2'</u>	
 Hydrology: a Estimated hydroperiod (unless act 	ual observed hydroperiod value(s) is(a	are) known, use the presence of these examp	ale.
indicator species to best predict the		and) known, doe and processes of those examp	
☑ Dries between early March and expression	early July (e.g., <i>Thelypteris palustris, C</i>	arex stricta, Impatiens capensis, Ilex verticilla	ta)(6pts)
□ Dries between early July and ear	ly September (e.g., Sagittaria latifolia,	Scirpus cyperinus, Dulichium arundinaceum,	Cephalanthus occ.)(8pts)
☐ Dries between early September a	and early November (e.g., <i>Eleocharis</i> p	palustris, Glyceria canadensis, Utricularia spp.	., Decodon vert.)(8pts)
□ Dries between early November a	nd late December, or intermittently exp	oosed (e.g., Nuphar spp., Potamogeton spp.)((8pts)
How long does pool hold water?			
b. Inlet/Outlet (pick one):			
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (ch	nannel with well-defined banks and permanen	t flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)	_	,	, , ,
,			



9. Water quality:				
☑ Clear ☐ High turbidity	☐ High algae co	ntent Tannic		
22 TOTAL for Pool Character	istics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	ID CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	nformation known):
1. Landuse type and approximate percen	tage within the 100	0-ft vernal pool envelope	:	
✓ Forested: <u>75%</u> (16 pts)	\square	Open (e.g., meadow, agric	culture, golf course): 25%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 0%	(0 pts)	
2. Landuse type and approximate percen	tage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: <u>55%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): 35%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 10%	(0 pts)	
Are there one or more barriers to v check here and see directions for e				tat? If so,
Based on: Field estimate	☐ GIS	Aerial photo	to estimate	
20 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THI	E POOL that can pro	ovide egg attachment or of	ffer concealment to aquatic or o	developing larvae.
Shrubs:				
Emergent vegetation (grasses, seg	ges, rushes, cattails)): <u> </u>		
Cubmorgant vagatation:				
Submergent vegetation: Dead branches and downed woody mate	— rial (branches/twigs)) available for egg attachm	ent:	
Dead branches and downed woody mater				
Dead branches and downed woody mater INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog	DATE 5/1/2015	EGG MASSES (#)		NOTES
Dead branches and downed woody mater INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander	DATE 5/1/2015 5/1/2015	EGG MASSES (#) 14 2	TADPOLES/LARVAE Tadpoles	
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog	DATE 5/1/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES TES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES	DATE 5/1/2015 5/1/2015 DATE	EGG MASSES (#) 14 2 ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander	DATE 5/1/2015 5/1/2015	EGG MASSES (#) 14 2	TADPOLES/LARVAE Tadpoles NO	
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES	DATE 5/1/2015 5/1/2015 DATE	EGG MASSES (#) 14 2 ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES	DATE 5/1/2015 5/1/2015 DATE DATE	EGG MASSES (#) 14 2 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES	DATE 5/1/2015 5/1/2015 DATE DATE	EGG MASSES (#) 14 2 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES	DATE 5/1/2015 5/1/2015 DATE DATE DATE	EGG MASSES (#) 14 2 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES	DATE 5/1/2015 5/1/2015 DATE DATE DATE ✓ Yes	EGG MASSES (#) 14 2 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 5/1/2015 5/1/2015 DATE DATE DATE ✓ Yes ☐ Yes	EGG MASSES (#) 14 2 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 5/1/2015 5/1/2015 DATE DATE DATE ✓ Yes ☐ Yes	EGG MASSES (#) 14 2 ABUNDANCE ABUNDANCE ABUNDANCE No No	TADPOLES/LARVAE Tadpoles NO	TES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 5/1/2015 5/1/2015 DATE DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	EGG MASSES (#) 14 2 ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles NO	TES TES







Project File #60328763 Project File #60328763	ect Name: Northeast Energy Dire	ct Project	Pool ID: AN-AC3-V	′P005
Observer: SH		Phone or	email:	
Landowner/Applicant: KELLY, RICHARD	J	Phone or	email:	
Address: 3 EXECUTIVE PL	City: AN	IDOVER	State: MA	Zip:: 01810
Location of vernal pool:				
Survey date(s):: 4/30/2015	Longitude/Latitude (in decimal of	degrees): 42	2.60216401, -71.1688323	1
A. VERNAL POOL CHARACTERISTICS (fil	I in all information known):			
1. Landscape Setting (check all that apply):			
✓ Upland depression (4 pts; if this is a	lso in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (within	1000 feet of one or more other ver	nal pools)(NA)		
☐ Pool within larger wetland system (4	pts; if this is also in a floodplain,	use 2 pts)		
☐ Pool part of wildlife corridor (4 pts)				
☐ Other (variable pts):				
Pool Origin:				
2. Vernal pool condition:				
Describe any recent modifications to the p	ool and associated landscape:	TREE/BRUSH VP	CLEARING ON TRANSM	MISSION ROW TO EDGE OF
3. Parent material:				
☐ Glacial fluvial ("outwash") ☐	Loose till	□ Peat		
✓ Dense till □		_	arine sediments	
Aquatic resource type that best applies	to this pool (choose dominant)	_ :		
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)		lplain (overflow/oxbow) (3	pts)
✓ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other	(variable points):	
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2	pts)		
5. Pool canopy cover (%): 20%				
6. Predominant substrate:				
☐ Mineral soil	Depth: <u>12</u>			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepest	zone, edge,etc.)	: <u>DEEP ZONE</u>	
7. Pool sizes:				
Approximate dimensions of pool (at maxi	mum capacity) (sq. feet):	<u>4791.26</u>		
Maximum depth at deepest point at time	of survey (include units):	<u>3.5'</u>		
8. Hydrology:				
Estimated hydroperiod (unless actual, indicator species to best predict the expe	cted hydroperiod of the pool):			
□ Dries between early March and early	July (e.g., Thelypteris palustris, C	arex stricta, Impa	atiens capensis, llex vertic	cillata)(6pts)
Dries between early July and early Se	eptember (e.g., Sagittaria latifolia,	Scirpus cyperinu	ıs, Dulichium arundinaceu	ım, Cephalanthus occ.)(8pts)
☐ Dries between early September and e	early November (e.g., <i>Eleocharis</i> p	palustris, Glyceria	a canadensis, Utricularia s	spp., Decodon vert.)(8pts)
☐ Dries between early November and la	ate December, or intermittently exp	oosed (e.g., Nupl	har spp., Potamogeton sp	p.)(8pts)
How long does pool hold water?				
b. Inlet/Outlet (pick one):				
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (ch	nannel with well-o	defined banks and permar	nent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)				



9. Water quality:				
☐ Clear ☐ High turbidity	☐ High algae co	ntent 🗹 Tannic		
24 TOTAL for Pool Character	istics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	ID CRITICAL HABI	TAT AREA (100-750 ft) CI	HARACTERISTICS (fill in all i	information known):
1. Landuse type and approximate percen	tage within the 100)-ft vernal pool envelope:	:	
✓ Forested: 30% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 60%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 10%	(0 pts)	
2. Landuse type and approximate percen	tage within the 100	0-750-ft vernal pool critica	al terrestrial habitat:	
✓ Forested: 45% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 35%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 20%	(0 pts)	
Are there one or more barriers to vecheck here and see directions for example.				itat? If so,
Based on:	☐ GIS	Aerial phot	to estimate	
20 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
			, , , , , , , , , , , , , , , , , , ,	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN TH	E POOL that can pro	ovide egg attachment or of	ffer concealment to aquatic or o	developing larvae.
Shrubs:				
Emergent vegetation (grasses, seg	ges, rushes, cattails)):		
Submergent vegetation: Dead branches and downed woody mate	— rial (hranches/twics)	available for egg attachm	ent·	
Dodd Brahones and downed woody mate	nar (branenes/twigs)	available for egg attaching	<u></u>	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Fairy Shrimp	DATE 5/1/2015		Common	NOTES
Fairy Shrimp Wood Frog	5/1/2015 5/1/2015	EGG MASSES (#)		NOTES
Fairy Shrimp	5/1/2015		Common	NOTES
Fairy Shrimp Wood Frog Spotted Salamander	5/1/2015 5/1/2015 5/1/2015	7 38	Common Tadpoles	
Fairy Shrimp Wood Frog Spotted Salamander FACULTATIVE SPECIES	5/1/2015 5/1/2015 5/1/2015 DATE	7 38 ABUNDANCE	Common Tadpoles	NOTES
Fairy Shrimp Wood Frog Spotted Salamander	5/1/2015 5/1/2015 5/1/2015	7 38	Common Tadpoles	
Fairy Shrimp Wood Frog Spotted Salamander FACULTATIVE SPECIES	5/1/2015 5/1/2015 5/1/2015 DATE	7 38 ABUNDANCE	Common Tadpoles NO	
Fairy Shrimp Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies	5/1/2015 5/1/2015 5/1/2015 DATE 5/1/2015	7 38 ABUNDANCE Common	Common Tadpoles NO	TES
Fairy Shrimp Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies	5/1/2015 5/1/2015 5/1/2015 DATE 5/1/2015	7 38 ABUNDANCE Common	Common Tadpoles NO	TES
Fairy Shrimp Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	5/1/2015 5/1/2015 5/1/2015 DATE 5/1/2015	7 38 ABUNDANCE Common ABUNDANCE	Common Tadpoles NO	TES
Fairy Shrimp Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES	5/1/2015 5/1/2015 5/1/2015 DATE 5/1/2015 DATE DATE DATE	7 38 ABUNDANCE Common ABUNDANCE ABUNDANCE	Common Tadpoles NO	TES
Fairy Shrimp Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES	5/1/2015 5/1/2015 5/1/2015 DATE 5/1/2015 DATE DATE 5/1/2015	7 38 ABUNDANCE Common ABUNDANCE ABUNDANCE	Common Tadpoles NO	TES
Fairy Shrimp Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES SPOTTED TURTLE	5/1/2015 5/1/2015 5/1/2015 DATE 5/1/2015 DATE DATE 5/1/2015 ✓ Yes	7 38 ABUNDANCE Common ABUNDANCE ABUNDANCE Few	Common Tadpoles NO	TES
Fairy Shrimp Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES SPOTTED TURTLE Presence of Indicator Species	5/1/2015 5/1/2015 5/1/2015 DATE 5/1/2015 DATE 5/1/2015 VATE 5/1/2015 Yes Yes	7 38 ABUNDANCE Common ABUNDANCE ABUNDANCE Few	Common Tadpoles NO	TES
Fairy Shrimp Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES SPOTTED TURTLE Presence of Indicator Species Were spermatophores observed?	5/1/2015 5/1/2015 5/1/2015 DATE 5/1/2015 DATE 5/1/2015 VATE 5/1/2015 Yes Yes	7 38 ABUNDANCE Common ABUNDANCE ABUNDANCE Few No	Common Tadpoles NO	TES
Fairy Shrimp Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES SPOTTED TURTLE Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	5/1/2015 5/1/2015 5/1/2015 DATE 5/1/2015 DATE DATE 5/1/2015 Ves Yes Yes Yes Yes	7 38 ABUNDANCE Common ABUNDANCE Few No No No	Common Tadpoles NO	TES TES





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Project File #60328763	Project Name: Northeast Energy D	Direct Project Pool ID:	AS-AC4-VP001
Observer: JW		Phone or email:	
Landowner/Applicant: STOCKWE	LL WALLACE BRUCE	Phone or email:	
Address: OFF WATS	ON-SPRUCE CORNER RD City:	ASHFIELD State: 1	MA Zip:: 01330
Location of vernal pool:			
Survey date(s):: 5/14/2015	Longitude/Latitude (in decim	nal degrees): 42.52760701, -7	2.87509626
A. VERNAL POOL CHARACTERIST	ICS (fill in all information known):		
1. Landscape Setting (check all tha	t apply):		
☐ Upland depression (4 pts; if t	this is also in a floodplain, use 2 pts)		
Pool part of a pool complex (within 1000 feet of one or more other	vernal pools)(NA)	
Pool within larger wetland sy	stem (4 pts; if this is also in a floodpla	in, use 2 pts)	
☐ Pool part of wildlife corridor (4 pts)		
☐ Other (variable pts):			
Pool Origin: Natural, but altered			
2. Vernal pool condition:			
Describe any recent modifications t	to the pool and associated landscape:	POSSIBLE RELIC BEAVER [DAM
3. Parent material:			
☑ Glacial fluvial ("outwash")	□ Loose till	☐ Peat	
☐ Dense till	☐ Alluvium	□ Coastal marine sediment	ts
4. Aquatic resource type that best a	applies to this pool (choose domina	int):	
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4p	ts)	/oxbow) (3pts)
✓ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable point	ts):
☐ Peatland (acidic fen or bog) (4	lpts)	າ (2pts)	
5. Pool canopy cover (%): <u>10%</u>			
6. Predominant substrate:			
☐ Mineral soil	Depth: 4		
✓ Organic matter (peat/muck)	Sampling location (e.g.,deep	pest zone, edge,etc.): <u>DEEPES</u>	<u>r zone</u>
7. Pool sizes:			
Approximate dimensions of pool (a	. ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u>281.08</u>	
Maximum depth at deepest point a	at time of survey (include units):	<u>7</u>	
8. Hydrology:	actual, observed hydroperiod value(s)	is(are) known use the presence of	f these evample
	e expected hydroperiod of the pool):	is(are) known, use the presence of	These example
□ Dries between early March an	d early July (e.g., Thelypteris palustris	s, Carex stricta, Impatiens capensis	s, llex verticillata)(6pts)
□ Dries between early July and early early and early and early e	early September (e.g., <i>Sagittaria latifo</i>	ilia, Scirpus cyperinus, Dulichium a	rundinaceum, Cephalanthus occ.)(8pts)
☑ Dries between early September	er and early November (e.g., <i>Eleochai</i>	ris palustris, Glyceria canadensis, l	Jtricularia spp., Decodon vert.)(8pts)
□ Dries between early November	er and late December, or intermittently	exposed (e.g., Nuphar spp., Potan	nogeton spp.)(8pts)
How long does pool hold water?	<u>Seasonal</u>		
b. Inlet/Outlet (pick one):			
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet	t (channel with well-defined banks a	and permanent flow) (2 pts)
Temporary inlet/outlet (6 pts)		, and the second	(2 p.0)



9. Water quality:				
☑ Clear ☐ High turbidity	☐ High algae co	ntent Tannic		
22 TOTAL for Pool Characte	eristics (out of 28 m	ax.)		
B. VERNAL POOL ENVELOPE (100 ft)	AND CRITICAL HABI	TAT AREA (100-750 ft) CI	HARACTERISTICS (fill in all i	information known):
1. Landuse type and approximate perce	entage within the 10	0-ft vernal pool envelope:	:	
✓ Forested: 50% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
✓ Shrub: <u>5%</u> (10 pts)		Developed: 45%	(0 pts)	
2. Landuse type and approximate perce	entage within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 70% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
✓ Shrub: 5% (10 pts)		Developed: <u>25%</u>	(0 pts)	
Are there one or more barriers to check here and see directions fo				itat? If so,
Based on:	☐ GIS	☐ Aerial phot	to estimate	
26 TOTAL for Pool Envelo	pe and Critical Terre	estrial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POO	DL			
Vegetation type and percent cover IN T		ovide egg attachment or of	ffer concealment to aquatic or	developing larvae.
Shrubs: <10%		orido ogg diladilinom er er	or ochocamioni to aquallo or t	acrosoping larrace
Emergent vegetation (grasses, s	eges, rushes, cattails): <u>10-50%</u>		
Submergent vegetation: <	: <u>10%</u>			
Dead branches and downed woody ma	terial (branches/twigs) available for egg attachm	ent: greater than 10	
INDICATOR SPECIES	DATE	FGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Spotted Salamander	DATE 5/14/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae	NOTES
				NOTES
Spotted Salamander	5/14/2015	4	Larvae	
			Larvae	NOTES
Spotted Salamander FACULTATIVE SPECIES	5/14/2015 DATE	4 ABUNDANCE	Larvae	
Spotted Salamander FACULTATIVE SPECIES Caddisflies	5/14/2015 DATE	ABUNDANCE Few	Larvae	DTES
Spotted Salamander FACULTATIVE SPECIES	5/14/2015 DATE 5/14/2015	4 ABUNDANCE	Larvae	
Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	5/14/2015 DATE 5/14/2015 DATE	ABUNDANCE Few ABUNDANCE	Larvae	DTES
Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	5/14/2015 DATE 5/14/2015 DATE	ABUNDANCE Few ABUNDANCE	Larvae NO	DTES
Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES BULL FROG	5/14/2015 DATE 5/14/2015 DATE 5/14/2015	ABUNDANCE Few ABUNDANCE Common	Larvae NO	DITES DITES
Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES BULL FROG OTHER SPECIES	5/14/2015 DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015	ABUNDANCE Few ABUNDANCE Common ABUNDANCE	Larvae NO	OTES
Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES BULL FROG OTHER SPECIES	5/14/2015 DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015	ABUNDANCE Few ABUNDANCE Common ABUNDANCE	Larvae NO	OTES
Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES BULL FROG OTHER SPECIES	5/14/2015 DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015	ABUNDANCE Few ABUNDANCE Common ABUNDANCE	Larvae NO	DITES DITES
Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES BULL FROG OTHER SPECIES WATER STRIDER	DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 ✓ Yes	ABUNDANCE Few ABUNDANCE Common ABUNDANCE Common	Larvae NO	DITES DITES
Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES BULL FROG OTHER SPECIES WATER STRIDER Presence of Indicator Species	5/14/2015 DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 ✓ Yes ☐ Yes	ABUNDANCE Few ABUNDANCE Common ABUNDANCE Common	Larvae NO	OTES
FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES BULL FROG OTHER SPECIES WATER STRIDER Presence of Indicator Species Were spermatophores observed?	5/14/2015 DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 ✓ Yes ☐ Yes	ABUNDANCE Few ABUNDANCE Common ABUNDANCE Common	Larvae NO	OTES
Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES BULL FROG OTHER SPECIES WATER STRIDER Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 ✓ Yes ☐ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE Few ABUNDANCE Common ABUNDANCE Common No No No	Larvae NO	OTES OTES
FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES BULL FROG OTHER SPECIES WATER STRIDER Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY 22 TOTAL for Pool Characteri	DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 ✓ Yes ☐ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE Few ABUNDANCE Common ABUNDANCE Common No No No	Larvae NO NO	OTES OTES
Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES BULL FROG OTHER SPECIES WATER STRIDER Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 ✓ Yes ☐ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE Few ABUNDANCE Common ABUNDANCE Common No No No	Larvae NO NO	OTES OTES





NW



Project File #60328763	Project Name: Northeast Energy D	rect Project Pool ID: AS-	AC4-VP002
Observer: JW		Phone or email:	
Landowner/Applicant: STOCKWEL	L WALLACE BRUCE	Phone or email:	
Address: OFF WATSO	ON-SPRUCE CORNER RD City:	ASHFIELD State: MA	Zip:: 01330
Location of vernal pool:			
Survey date(s):: 5/14/2015	Longitude/Latitude (in decima	l degrees): 42.52792531, -72.87	451399
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):		
1. Landscape Setting (check all that	apply):		
☐ Upland depression (4 pts; if th	is is also in a floodplain, use 2 pts)		
Pool part of a pool complex (w	vithin 1000 feet of one or more other	ernal pools)(NA)	
Pool within larger wetland sys	tem (4 pts; if this is also in a floodplai	ı, use 2 pts)	
□ Pool part of wildlife corridor (4	pts)		
Other (variable pts):			
Pool Origin: Natural, but altered			
2. Vernal pool condition:			
Describe any recent modifications to	the pool and associated landscape:	RELIC BEAVER DAM	
3. Parent material:			
☑ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat	
☐ Dense till	☐ Alluvium	☐ Coastal marine sediments	
4. Aquatic resource type that best ap	pplies to this pool (choose dominal	t):	
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pt	s)	ow) (3pts)
☑ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable points):	
☐ Peatland (acidic fen or bog) (4p	ots)	(2pts)	
5. Pool canopy cover (%): 0%			
6. Predominant substrate:	- .		
✓ Mineral soil	Depth:		
☐ Organic matter (peat/muck)	Sampling location (e.g.,deep	st zone, edge,etc.):	
7. Pool sizes:		070.40	
Approximate dimensions of pool (at Maximum depth at deepest point at	. ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u>873.13</u> <u>1.75 FEET</u>	
8. Hydrology:	time of survey (include units).	<u>1.701 LL1</u>	
a. Estimated hydroperiod (unless ac indicator species to best predict the		s(are) known, use the presence of the	se example
□ Dries between early March and	early July (e.g., Thelypteris palustris	Carex stricta, Impatiens capensis, Ilea	x verticillata)(6pts)
□ Dries between early July and early	arly September (e.g., Sagittaria latifol	a, Scirpus cyperinus, Dulichium arund	inaceum, Cephalanthus occ.)(8pts)
□ Dries between early September	and early November (e.g., Eleochar	s palustris, Glyceria canadensis, Utrico	ularia spp., Decodon vert.)(8pts)
Dries between early November	and late December, or intermittently	exposed (e.g., Nuphar spp., Potamoge	ton spp.)(8pts)
How long does pool hold water?	Semi-permanent		
b. Inlet/Outlet (pick one):			
☐ No inlet/outlet (8 pts)	Permanent inlet or outlet	channel with well-defined banks and p	permanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)			



9. Wate	r quality:										
☑ (Clear	☐ Hi	gh turbidity		High algae o	onte	nt 🔲 🗆	Γannic			
	<u>18</u> TO	ΓAL for I	Pool Characte	ristics	(out of 28 n	nax.)					
B. VERI	NAL POOL	ENVEL	OPE (100 ft) A	ND CR	ITICAL HAE	BITA [®]	Γ AREA (10	0-750 ft) C	HARACTERISTICS	(fill in all	information known):
1. Land	use type aı	nd appro	oximate perce	ntage v	within the 1	00-ft	vernal poo	l envelope	:		
\checkmark	Forested:	<u>60%</u>	(16 pts)			Ор	en (e.g., me	adow, agric	culture, golf course):	<u>%</u>	(4 pts)
\checkmark	Shrub:	<u>5%</u>	(10 pts)			De	veloped:	<u>35%</u>	(0 pts)		
2. Land	use type ar	nd appro	oximate perce	ntage v	within the 1	00-7	50-ft vernal	pool critic	al terrestrial habita	t:	
	Forested:	<u>80%</u>	(16 pts)			Op	en (e.g., me	adow, agrid	culture, golf course):	<u>%</u>	(4 pts)
\checkmark	Shrub:	<u>5%</u>	(10 pts)		V	De	veloped:	<u>15%</u>	(0 pts)		
			ore barriers to e directions for						oe and/or critical terroion.	estrial hab	itat? If so,
	Based on:		Field estimate	I	☐ GIS			Aerial phot	to estimate		
					o				.		
	<u>26</u> 10) I AL for	Pool Envelop	e and	Critical Teri	estr	ial Habitat /	Area (out o	f 32 max.)		
C. SPE	CIES PRES	ENT IN	VERNAL POO	L							
Vege	ation type a	and perc	ent cover IN Th	HE POO	OL that can p	orovi	de egg attac	hment or of	ffer concealment to a	aquatic or	developing larvae.
	Shrubs:	<u><109</u>	<u>%</u>								
	Emergent	vegetati	on (grasses, se	eges, ru	ıshes, cattail	s):	<u>10-50%</u>				
	Submerge	•		10%							
Dead	branches a	ınd dowr	ned woody mate	erial (br	ranches/twig	s) av	ailable for e	gg attachm	ent: greater than 1	<u>0</u>	
	INDICAT	OR SPE	CIES		DATE		EGG MAS	SES (#)	TADPOLES/LA	RVAE	NOTES
	Spotted	Salama	nder		5/14/2015		6		Larvae		
	Wo	od Frog		į	5/14/2015		3		Tadpoles		
	FACULTA	TIVE SF	PECIES		DATE		ABUNDA	ANCE		NO	TES
	Ca	ddisflies			5/14/2015		Few	<i>!</i>			
	PREDAT	OR SPE	CIES		DATE		ABUNDA	ANCE		NO	TES
	BUL	L FROG)		5/14/2015		Comm	ion			
		R SPECI			DATE	4	ABUNDA	-		NO	OTES
	RED SPO	OTTED N	NEWT		5/14/2015	\perp	Comm	ion			
Presenc	e of Indica	itor Spe	cies		Yes		No				
Were sp	ermatopho	res obse	rved?		Yes	$\overline{\mathbf{V}}$	No				
Were fis	h observed	l in the p	ool?		Yes	$\overline{\checkmark}$	No				
SUMMA	.RY										
	<u>18</u> TOTA	L for Po	ol Characteris	stics			<u>26</u>	TOTAL fo	r Pool Envelope an	d Critical	Terrestrial Habitat Area
Other Co	omments:										
		# 180.00) , MP 27.05								
_											





SW



Project File #60328763 Proj	ect Name: Northeast Energy Direc	ct Project	Pool ID:	AS-AC4-VP	003	
Observer: JW		Phone or e	mail:			
Landowner/Applicant: STOCKWELL WAL	LACE BRUCE	Phone or e	mail:			
Address: OFF WATSON-SP	RUCE CORNER RD City: ASI	HFIELD	State:	MA	Zip::	01330
Location of vernal pool:						
Survey date(s):: 5/14/2015	Longitude/Latitude (in decimal d	legrees): 42.	.52852160, -7	2.87334384		
A. VERNAL POOL CHARACTERISTICS (fil	in all information known):					
1. Landscape Setting (check all that apply):					
☐ Upland depression (4 pts; if this is a	so in a floodplain, use 2 pts)					
Pool part of a pool complex (within 1	000 feet of one or more other vern	nal pools)(NA)				
✓ Pool within larger wetland system (4)	pts; if this is also in a floodplain, $\boldsymbol{\iota}$	use 2 pts)				
☐ Pool part of wildlife corridor (4 pts)						
☐ Other (variable pts):						
Pool Origin: Natural, but altered						
2. Vernal pool condition:						
Describe any recent modifications to the po	ool and associated landscape:	BEAVER DAM	COMPLEX IN	IPOUNDING	ADJAC	ENT STREAM
3. Parent material:						
	Loose till	☐ Peat				
☐ Dense till ☐	Alluvium	_	ırine sedimen	ts		
4. Aquatic resource type that best applies					,	
Forested wetland (4pts)	☐ Herbaceous wetland (4pts)		lain (overflow	, , ,	s)	
	Open water (2 pts)	<u>—</u>	(variable poin	ts):		
Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2p	ots)				
5. Pool canopy cover (%): 5%						
6. Predominant substrate: Mineral soil	Depth: 6					
☑ Organic matter (peat/muck)	Sampling location (e.g.,deepest	zone edge etc.).	DEEPES	T ZONE		
7. Pool sizes:	Camping location (e.g., acopest	20110, Gugo, Gto.).	<u>DEET EO</u>	1 20112		
Approximate dimensions of pool (at maxir	num capacity) (sq. feet):	<u>2538.25</u>				
Maximum depth at deepest point at time of		5 INCHES				
8. Hydrology:						
 a. Estimated hydroperiod (unless actual, of indicator species to best predict the expectation) 		are) known, use th	ne presence o	of these exam	ple	
□ Dries between early March and early	July (e.g., Thelypteris palustris, Ca	arex stricta, Impa	tiens capensi	s, Ilex verticili	lata)(6pt	s)
✓ Dries between early July and early Se	ptember (e.g., Sagittaria latifolia,	Scirpus cyperinus	s, Dulichium a	rundinaceum	i, Cepha	alanthus occ.)(8pts)
☐ Dries between early September and e	arly November (e.g., Eleocharis p	alustris, Glyceria	canadensis,	Utricularia sp	p., Decc	odon vert.)(8pts)
□ Dries between early November and la	te December, or intermittently exp	oosed (e.g., <i>Nuph</i>	ar spp., Potar	nogeton spp.)(8pts)	
How long does pool hold water? Sea	<u>sonal</u>					
b. Inlet/Outlet (pick one):						
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (ch	annel with well-de	efined banks	and permane	nt flow)	(2 pts)
✓ Temporary inlet/outlet (6 pts)						



9. Water quality:				
☐ Clear ☐ High turbidity	☑ High algae co	ntent Tannic		
22 TOTAL for Pool Charac	cteristics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft)	AND CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	information known):
1. Landuse type and approximate per		, ,	•	,
✓ Forested: <u>25%</u> (16 pts)	_	Open (e.g., meadow, agric		(4 pts)
✓ Shrub: <u>70%</u> (10 pts)	-	Developed: 5%	(0 pts)	
2. Landuse type and approximate per	_	• —	· · /	
✓ Forested: <u>30%</u> (16 pts)	J	Open (e.g., meadow, agric		(4 pts)
✓ Shrub: 60% (10 pts)	_	Developed: 10%	(0 pts)	(4 βιο)
▼ 3111ub. <u>0076</u> (1137)	V	Developed. 1076	(υ ριδ)	
Are there one or more barriers check here and see directions				itat? If so,
Based on:	te GIS	☐ Aerial pho	to estimate	
26 TOTAL for Pool Envel	lope and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL PO	OOL			
Vegetation type and percent cover IN	THE POOL that can pro	ovide egg attachment or o	ffer concealment to aquatic or	developing larvae.
Shrubs: 10-50%	, , , , , , , , , , , , , , , , , , ,			g
Emergent vegetation (grasses,	, seges, rushes, cattails	: < <u>10%</u>		
Submergent vegetation:	<u><10%</u>			
Dead branches and downed woody m	naterial (branches/twigs)	available for egg attachm	ent: greater than 10	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADDOLES/LADVAE	NOTES
INDICATOR SPECIES Wood Frog	DATE 5/14/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES
Wood Frog	5/14/2015	12	Tadpoles	NOTES
				NOTES
Wood Frog Spotted Salamander	5/14/2015 5/14/2015	12	Tadpoles Larvae	
Wood Frog Spotted Salamander FACULTATIVE SPECIES	5/14/2015 5/14/2015 DATE	12 11 ABUNDANCE	Tadpoles Larvae	NOTES
Wood Frog Spotted Salamander	5/14/2015 5/14/2015	12	Tadpoles Larvae	
Wood Frog Spotted Salamander FACULTATIVE SPECIES	5/14/2015 5/14/2015 DATE 5/14/2015	12 11 ABUNDANCE	Tadpoles Larvae	
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies Other:PREDACEOUS DIVING BEETL	5/14/2015 5/14/2015 DATE 5/14/2015 E 5/14/2015	12 11 ABUNDANCE Few Few	Tadpoles Larvae	
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies Other:PREDACEOUS DIVING BEETL PREDATOR SPECIES	5/14/2015 5/14/2015 DATE 5/14/2015 E 5/14/2015 DATE	12 11 ABUNDANCE Few Few ABUNDANCE	Tadpoles Larvae NO	
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies Other:PREDACEOUS DIVING BEETL	5/14/2015 5/14/2015 DATE 5/14/2015 E 5/14/2015	12 11 ABUNDANCE Few Few	Tadpoles Larvae NO	DTES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies Other:PREDACEOUS DIVING BEETL PREDATOR SPECIES	5/14/2015 5/14/2015 DATE 5/14/2015 E 5/14/2015 DATE	12 11 ABUNDANCE Few Few ABUNDANCE	Tadpoles Larvae NO	DTES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies Other:PREDACEOUS DIVING BEETL PREDATOR SPECIES	5/14/2015 5/14/2015 DATE 5/14/2015 E 5/14/2015 DATE	12 11 ABUNDANCE Few Few ABUNDANCE	Tadpoles Larvae NO	DTES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies Other:PREDACEOUS DIVING BEETL PREDATOR SPECIES BULL FROG	5/14/2015 5/14/2015 DATE 5/14/2015 E 5/14/2015 DATE 5/14/2015	12 11 ABUNDANCE Few Few ABUNDANCE Common	Tadpoles Larvae NO	TES OTES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies Other:PREDACEOUS DIVING BEETL PREDATOR SPECIES BULL FROG OTHER SPECIES	5/14/2015 5/14/2015 DATE 5/14/2015 E 5/14/2015 DATE 5/14/2015 DATE 5/14/2015	12 11 ABUNDANCE FeW FeW ABUNDANCE Common	Tadpoles Larvae NO	TES OTES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies Other:PREDACEOUS DIVING BEETL PREDATOR SPECIES BULL FROG OTHER SPECIES	5/14/2015 5/14/2015 DATE 5/14/2015 E DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015	12 11 ABUNDANCE FeW FeW ABUNDANCE Common	Tadpoles Larvae NO	TES OTES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies Other:PREDACEOUS DIVING BEETL PREDATOR SPECIES BULL FROG OTHER SPECIES RED SPOTTED NEWT Presence of Indicator Species	5/14/2015 5/14/2015 DATE 5/14/2015 E 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 Ves	12 11 ABUNDANCE FeW FeW ABUNDANCE Common ABUNDANCE Common	Tadpoles Larvae NO	TES OTES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies Other:PREDACEOUS DIVING BEETL PREDATOR SPECIES BULL FROG OTHER SPECIES RED SPOTTED NEWT	5/14/2015 5/14/2015 DATE 5/14/2015 E 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 Ves Yes Yes	12 11 ABUNDANCE FeW FeW ABUNDANCE Common ABUNDANCE Common	Tadpoles Larvae NO	TES OTES



SUMMARY

22 TOTAL for Pool Characteristics

26 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area

Other Comments:

LOCATION TRACT# 180.00 , MP 27.10

PHOTOS



NW



Project File #60328763	Project Name: Northeast Energy Di	rect Project Poo	ol ID: AS-AC4-	VP004	
Observer: JW		Phone or email:			
Landowner/Applicant: LILLY SHIRL	EY & ALAN W	Phone or email:			
Address: 966 WATSO	N-SPRUCE CORNER RD City: A	ASHFIELD S	State: MA	Zip::	01330
Location of vernal pool:					
Survey date(s):: 5/14/2015	Longitude/Latitude (in decima	al degrees): 42.52901	097, -72.864248	83	
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):				
I. Landscape Setting (check all that a	apply):				
☐ Upland depression (4 pts; if thi	s is also in a floodplain, use 2 pts)				
☐ Pool part of a pool complex (w	ithin 1000 feet of one or more other v	rernal pools)(NA)			
Pool within larger wetland syst	em (4 pts; if this is also in a floodplair	n, use 2 pts)			
□ Pool part of wildlife corridor (4	pts)				
☐ Other (variable pts):					
Pool Origin: Natural Depression					
2. Vernal pool condition:					
Describe any recent modifications to	the pool and associated landscape:				
3. Parent material:					
☑ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat			
☐ Dense till	☐ Alluvium	☐ Coastal marine se	diments		
4. Aquatic resource type that best ap	plies to this pool (choose dominar	nt):			
☐ Forested wetland (4pts)	✓ Herbaceous wetland (4pts)	s) 🔲 Floodplain (o	verflow/oxbow) (3pts)	
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	Other (variab	le points):		
☐ Peatland (acidic fen or bog) (4pt	ts)	(2pts)			
5. Pool canopy cover (%): 0%					
6. Predominant substrate:					
☐ Mineral soil	Depth: <u>24</u>				
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.): DE	EPEST ZONE		
7. Pool sizes:					
Approximate dimensions of pool (at		<u>33153.06</u>			
Maximum depth at deepest point at	time of survey (include units):	<u>2.75 FEET</u>			
B. Hydrology: a Estimated hydroneriod (unless ac	tual, observed hydroperiod value(s) i	s(are) known use the pres	sence of these ex	rample	
indicator species to best predict the		o(aro) intown, doo aro proc	01100 01 111000 05	tampio	
□ Dries between early March and	early July (e.g., Thelypteris palustris,	Carex stricta, Impatiens c	apensis, llex vert	ticillata)(6pts	s)
□ Dries between early July and ea	rly September (e.g., Sagittaria latifoli	a, Scirpus cyperinus, Dulic	hium arundinace	∍um, Cephal	anthus occ.)(8pts)
☑ Dries between early September	and early November (e.g., Eleocharia	s palustris, Glyceria canad	ensis, Utricularia	spp., Deco	don vert.)(8pts)
☐ Dries between early November a	and late December, or intermittently e	exposed (e.g., Nuphar spp.	, Potamogeton s	pp.)(8pts)	
How long does pool hold water?	Semi-permanent				
b. Inlet/Outlet (pick one):					
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet ((channel with well-defined	banks and perma	anent flow) ((2 pts)
Temporary inlet/outlet (6 pts)			·	, ,	•



9. Water	r quality:							
A C	Clear		ligh turbidity	☐ High algae	e cont	ent 🔲 Tannic		
	<u>22</u> TOT	AL for	Pool Character	stics (out of 28	3 max	.)		
B. VERN	NAL POOL	ENVEL	OPE (100 ft) AN	D CRITICAL H	ABIT <i>A</i>	AT AREA (100-750 ft) C	HARACTERISTICS (fill in a	Il information known):
1. Landı	use type ar	nd appi	roximate percen	tage within the	100-f	t vernal pool envelope	:	
\checkmark	Forested:	<u>50%</u>	(16 pts)		□ 0	pen (e.g., meadow, agri	culture, golf course): %	(4 pts)
\checkmark	Shrub:	<u>25%</u>	(10 pts)		☑ D	eveloped: <u>25%</u>	(0 pts)	
2. Landı	use type an	ıd appı	roximate percen	tage within the	100-7	750-ft vernal pool critic	al terrestrial habitat:	
	Forested:	<u>75%</u>	(16 pts)		□ 0	pen (e.g., meadow, agri	culture, golf course): %	(4 pts)
	Shrub:	<u>10%</u>	(10 pts)		☑ D	eveloped: <u>15%</u>	(0 pts)	
						ement within the envelop incorporate this informat	pe and/or critical terrestrial hation.	abitat? If so,
	Based on:		Field estimate	☐ GIS		☐ Aerial pho	to estimate	
	26 TO	TAL fo	r Bool Envolone	and Critical T	022004	rial Habitat Area (out c	of 22 may)	
	<u>26</u> 10	IALIO	or Poor Envelope	and Childan	errest	riai nabitat Area (out c	or 32 max.)	
C. SPEC	CIES PRESI	ENT IN	VERNAL POOL					
Veget	ation type a	ind per	cent cover IN THI	E POOL that ca	n prov	ride egg attachment or o	ffer concealment to aquatic o	or developing larvae.
	Shrubs:	<u>10-</u>	<u>50%</u>					
	Emergent	vegeta	tion (grasses, seg	jes, rushes, cat	ails):	<u>>50%</u>		
	Submerge	•		 '				
Dead	branches a	nd dow	ned woody mate	rial (branches/tv	vigs) a	vailable for egg attachm	nent: greater than 10	
	INDICAT	OR SP	ECIES	DATE		EGG MASSES (#)	TADPOLES/LARVAE	NOTES
	Spotted			DATE 5/14/2015		EGG MASSES (#)	TADPOLES/LARVAE Larvae	NOTES
	Spotted		ander		_			NOTES
	Spotted	Salama	ander	5/14/2015	_	22	Larvae	NOTES
	Spotted	Salama	ander	5/14/2015	_	22	Larvae Tadpoles	NOTES
	Spotted Woo	Salama	PECIES	5/14/2015 5/14/2015		22 4	Larvae Tadpoles	
Other:	Spotted Wood	Salama od Frog TIVE S	PECIES	5/14/2015 5/14/2015 DATE		22 4 ABUNDANCE	Larvae Tadpoles	
Other:	Spotted Wood	Salama od Frog TIVE S	PECIES	5/14/2015 5/14/2015 DATE 5/14/2015		4 ABUNDANCE Few	Larvae Tadpoles	
Other:	Spotted Wood	Salama od Fro TIVE S ddisflies	PECIES S VING BEETLE	5/14/2015 5/14/2015 DATE 5/14/2015		4 ABUNDANCE Few	Larvae Tadpoles	
Other:	Spotted Work FACULTA Cac PREDACEC	Salama od Fro TIVE S ddisflies	PECIES S VING BEETLE ECIES	5/14/2015 5/14/2015 DATE 5/14/2015 5/14/2015		4 ABUNDANCE Few Many	Larvae Tadpoles	IOTES
Other:	Spotted Work FACULTA Cac PREDACEC	Salama od Frog TIVE S ddisflies DUS DI	PECIES S VING BEETLE ECIES	5/14/2015 5/14/2015 DATE 5/14/2015 5/14/2015 DATE		4 ABUNDANCE Few Many ABUNDANCE Many	Larvae Tadpoles	IOTES
Other:	Spotted Work FACULTA Cac PREDACEC PREDATE BUL	Salama od Frog TIVE S ddisflies DUS DI OR SP L FROG	PECIES S VING BEETLE ECIES G	5/14/2015 5/14/2015 DATE 5/14/2015 5/14/2015 DATE 5/14/2015 DATE 5/14/2015		4 ABUNDANCE FeW Many ABUNDANCE Many ABUNDANCE	Larvae Tadpoles	IOTES
Other:	Spotted Work FACULTA Cac PREDACEC PREDATE BUL OTHER	Salama od Fro od Fro od Store Oddisflies OUS DI OR SP L FRO OTTED	PECIES S VING BEETLE ECIES G NEWT	5/14/2015 5/14/2015 DATE 5/14/2015 5/14/2015 DATE 5/14/2015 DATE 5/14/2015		4 ABUNDANCE Few Many ABUNDANCE Many	Larvae Tadpoles	IOTES
Other:	Spotted Work FACULTA Cac PREDACEC PREDATE BUL	Salama od Fro od Fro od Store Oddisflies OUS DI OR SP L FRO OTTED	PECIES S VING BEETLE ECIES G NEWT	5/14/2015 5/14/2015 DATE 5/14/2015 5/14/2015 DATE 5/14/2015 DATE 5/14/2015		4 ABUNDANCE FeW Many ABUNDANCE Many ABUNDANCE	Larvae Tadpoles	IOTES
Other:	Spotted Work FACULTA Cac PREDACEC PREDATE BUL OTHER	Salama od Fro od Fro od Stro od Specification or Specific	PECIES S VING BEETLE ECIES G NEWT RVAE	5/14/2015 5/14/2015 DATE 5/14/2015 5/14/2015 DATE 5/14/2015 DATE 5/14/2015		4 ABUNDANCE Few Many ABUNDANCE Many ABUNDANCE Common	Larvae Tadpoles	IOTES
Other:	Spotted Work FACULTA Cac PREDACEC PREDATE BUL OTHER RED SPC	Salama od Fro od Fro od Stro od Specification or Specific	PECIES S VING BEETLE ECIES G NEWT RVAE	5/14/2015 5/14/2015 DATE 5/14/2015 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 5/14/2015		4 ABUNDANCE Few Many ABUNDANCE Many ABUNDANCE Common Many	Larvae Tadpoles	IOTES
	Spotted Work FACULTA Cac PREDACEC PREDATE BUL OTHER RED SPC	Salama od Frog TIVE S ddisflies DUS DI OR SP L FROG OTTED ITO LA	PECIES S VING BEETLE ECIES G NEWT RVAE DER	5/14/2015 5/14/2015 DATE 5/14/2015 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 5/14/2015		4 ABUNDANCE Few Many ABUNDANCE Many ABUNDANCE Common Many	Larvae Tadpoles	IOTES
Presence	Spotted Work FACULTA Cac PREDACEC PREDATE BUL OTHER RED SPC MOSQUE WATER	Salama od Frog TIVE S ddisflies DUS DI OR SP L FROD OTTED OTTED ITO LA R STRI	PECIES S VING BEETLE ECIES G NEWT RVAE DER	5/14/2015 5/14/2015 DATE 5/14/2015 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 5/14/2015 5/14/2015 5/14/2015		ABUNDANCE Few Many ABUNDANCE Many ABUNDANCE Common Many Common	Larvae Tadpoles	IOTES
Presence Were sp	Spotted Work FACULTA Cac PREDACEC PREDATE BUL OTHER RED SPC MOSQUE WATER	Salama od Fro od Fro od Fro od Specific	PECIES S VING BEETLE ECIES G NEWT RVAE DER ecies erved?	5/14/2015 5/14/2015 DATE 5/14/2015 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 5/14/2015 5/14/2015		4 ABUNDANCE FeW Many ABUNDANCE Many ABUNDANCE Common Many Common	Larvae Tadpoles	IOTES



SUMMARY

22 TOTAL for Pool Characteristics

26 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area

Other Comments:

LOCATION TRACT# 187.00 , MP 27.60



WEST



Project File #60328763	Project Name: Northeast Energy Dire	ect Project	Pool ID: AS-AC4-	VP005
Observer: JW		Phone or	email:	
Landowner/Applicant: WMECO		Phone or	email:	
Address: BUG HILL RE	City: AS	SHFIELD	State: MA	Zip:: 01330
Location of vernal pool:				
Survey date(s):: 5/15/2015	Longitude/Latitude (in decimal	degrees): 42	2.53318933, -72.836807	35
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):			
I. Landscape Setting (check all that a	apply):			
☐ Upland depression (4 pts; if thi	s is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (w	ithin 1000 feet of one or more other ve	rnal pools)(NA)		
Pool within larger wetland syst	em (4 pts; if this is also in a floodplain,	use 2 pts)		
☐ Pool part of wildlife corridor (4	pts)			
Other (variable pts):				
Pool Origin: Natural Depression				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:			
•				
3. Parent material:				
☑ Glacial fluvial ("outwash")	☐ Loose till	□ Peat		
☐ Dense till	☐ Alluvium	☐ Coastal m	arine sediments	
1. Aquatic resource type that best ap	plies to this pool (choose dominant	:):		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Flood	plain (overflow/oxbow) (3	3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other	(variable points):	
☐ Peatland (acidic fen or bog) (4pt	ts)	2pts)		
5. Pool canopy cover (%): 85%				
6. Predominant substrate:				
☐ Mineral soil	Depth: 4			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepes	st zone, edge,etc.)	: <u>DEEPEST ZONE</u>	
7. Pool sizes:				
Approximate dimensions of pool (at	maximum capacity) (sq. feet):	<u>1151.04</u>		
Maximum depth at deepest point at	time of survey (include units):	<u>6</u>		
B. Hydrology:		, , , , ,		
Estimated hydroperiod (unless ac indicator species to best predict the	etual, observed hydroperiod value(s) is expected hydroperiod of the pool):	(are) known, use t	the presence of these ex	ample
☐ Dries between early March and	early July (e.g., Thelypteris palustris, (Carex stricta, Impa	atiens capensis, llex vert	icillata)(6pts)
✓ Dries between early July and ea	ırly September (e.g., <i>Sagittaria latifolia</i> ,	, Scirpus cyperinu	ıs, Dulichium arundinace	um, Cephalanthus occ.)(8pts)
☐ Dries between early September	and early November (e.g., <i>Eleocharis</i>	palustris, Glyceria	a canadensis, Utricularia	spp., Decodon vert.)(8pts)
☐ Dries between early November a	and late December, or intermittently ex	cposed (e.g., Nuph	har spp., Potamogeton s	<i>pp</i> .)(8pts)
How long does pool hold water?	<u>Seasonal</u>			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (c	hannel with well-c	defined banks and perma	anent flow) (2 pts)
√ Temporary inlet/outlet (6 pts)				



9. Water quality:					
✓ Clear	☐ High turbidity	☐ High algae co	ntent		
<u>22</u> TO1	TAL for Pool Charac	teristics (out of 28 ma	ax.)		
B. VERNAL POOL	ENVELOPE (100 ft)	AND CRITICAL HABIT	ΓΑΤ AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type ar	nd approximate perc	entage within the 100)-ft vernal pool envelope	:	
✓ Forested:	50% (16 pts)		Open (e.g., meadow, agri	culture, golf course): %	(4 pts)
☑ Shrub:	10% (10 pts)		Developed: 40%	(0 pts)	
2. Landuse type ar	nd approximate perd	entage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested:	60% (16 pts)		Open (e.g., meadow, agri	culture, golf course): %	(4 pts)
☑ Shrub:	20% (10 pts)		Developed: 20%	(0 pts)	
			ovement within the envelop o incorporate this informat	pe and/or critical terrestrial hab ion.	itat? If so,
Based on:	✓ Field estimate	e 🔲 GIS	☐ Aerial pho	to estimate	
00 TO	TAL Company Forms		adolal Habitat Assa Zasat a	(00)	
<u>26</u> TO	OTAL for Pool Envelo	ope and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRES	ENT IN VERNAL PO	OL			
Vegetation type a	and percent cover IN	THE POOL that can pro	ovide egg attachment or o	ffer concealment to aquatic or	developing larvae.
Shrubs:	<u>NA</u>				
Emergent	vegetation (grasses,	seges, rushes, cattails)	: <u><10%</u>		
Submerge	nt vegetation:	<10 <u>%</u>			
Dead branches a	and downed woody ma	aterial (branches/twigs)	available for egg attachm	ent: greater than 10	
	•	` ,		cit. gicater than 10	
INDICAT	OR SPECIES	DATE			NOTES
	OR SPECIES Salamander	DATE 5/15/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae	NOTES
Spotted			EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Spotted	Salamander	5/15/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae	NOTES
Spotted Blue-spotte	Salamander ed Salamander	5/15/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae Larvae	
Spotted Blue-spotte	Salamander	5/15/2015 5/15/2015	2 3	TADPOLES/LARVAE Larvae Larvae	NOTES DTES
Spotted Blue-spotte FACULTA Sprin	Salamander ed Salamander TIVE SPECIES	5/15/2015 5/15/2015 DATE	EGG MASSES (#) 2 3 ABUNDANCE	TADPOLES/LARVAE Larvae Larvae	DTES
Spotted Blue-spotte FACULTA Sprin Dragonfly la	Salamander ed Salamander TIVE SPECIES ng Peeper	5/15/2015 5/15/2015 DATE 5/15/2015	EGG MASSES (#) 2 3 ABUNDANCE Few	TADPOLES/LARVAE Larvae Larvae	DTES
Spotted Blue-spotte FACULTA Sprin Dragonfly la	Salamander ed Salamander TIVE SPECIES ng Peeper arvae or exuviae	5/15/2015 5/15/2015 DATE 5/15/2015 5/15/2015	EGG MASSES (#) 2 3 ABUNDANCE Few Few	TADPOLES/LARVAE Larvae Larvae	DTES
Spotted Blue-spotte FACULTA Sprin Dragonfly la	Salamander ed Salamander TIVE SPECIES ng Peeper arvae or exuviae	5/15/2015 5/15/2015 DATE 5/15/2015 5/15/2015	EGG MASSES (#) 2 3 ABUNDANCE Few Few	TADPOLES/LARVAE Larvae Larvae NO	DTES
Spotted Blue-spotte FACULTA Sprin Dragonfly la Cae	Salamander ed Salamander TIVE SPECIES ag Peeper arvae or exuviae ddisflies	5/15/2015 5/15/2015 DATE 5/15/2015 5/15/2015 5/15/2015	EGG MASSES (#) 2 3 ABUNDANCE Few Few Few	TADPOLES/LARVAE Larvae Larvae NO	DTES DULT
Spotted Blue-spotte FACULTA Sprin Dragonfly la Cae	Salamander ed Salamander TIVE SPECIES ng Peeper arvae or exuviae ddisflies COR SPECIES	5/15/2015 5/15/2015 DATE 5/15/2015 5/15/2015 5/15/2015 DATE	EGG MASSES (#) 2 3 ABUNDANCE FeW FeW FeW ABUNDANCE	TADPOLES/LARVAE Larvae Larvae NO	DTES DULT
Spotted Blue-spotte FACULTA Sprin Dragonfly la Cac PREDAT BUL	Salamander ed Salamander TIVE SPECIES ng Peeper arvae or exuviae ddisflies COR SPECIES	5/15/2015 5/15/2015 DATE 5/15/2015 5/15/2015 5/15/2015 DATE	EGG MASSES (#) 2 3 ABUNDANCE FeW FeW FeW ABUNDANCE	TADPOLES/LARVAE Larvae NO AD	DTES DULT
Spotted Blue-spotte FACULTA Sprin Dragonfly la Cac PREDAT BUL	Salamander ed Salamander TIVE SPECIES ag Peeper arvae or exuviae ddisflies OR SPECIES L FROG	5/15/2015 5/15/2015 DATE 5/15/2015 5/15/2015 5/15/2015 DATE 5/15/2015	EGG MASSES (#) 2 3 ABUNDANCE FeW FeW FeW ABUNDANCE FeW	TADPOLES/LARVAE Larvae NO AD	DTES DULT
Spotted Blue-spotte FACULTA Sprin Dragonfly la Cac PREDAT BUL	Salamander ed Salamander TIVE SPECIES ag Peeper arvae or exuviae ddisflies TOR SPECIES L FROG	5/15/2015 5/15/2015 DATE 5/15/2015 5/15/2015 5/15/2015 DATE 5/15/2015 DATE 5/15/2015	EGG MASSES (#) 2 3 ABUNDANCE FeW FeW ABUNDANCE FeW ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Larvae NO AD	DTES DULT
Spotted Blue-spotte FACULTA Sprin Dragonfly la Cac PREDAT BUL	Salamander ed Salamander TIVE SPECIES ng Peeper arvae or exuviae ddisflies TOR SPECIES LL FROG R SPECIES OPOD	5/15/2015 5/15/2015 DATE 5/15/2015 5/15/2015 5/15/2015 DATE 5/15/2015 DATE 5/15/2015	EGG MASSES (#) 2 3 ABUNDANCE FeW FeW ABUNDANCE FeW ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Larvae NO AD	DTES DULT
Spotted Blue-spotte FACULTA Sprin Dragonfly la Cac PREDAT BUL OTHER	Salamander ed Salamander ed Salamander ATIVE SPECIES ag Peeper arvae or exuviae ddisflies FOR SPECIES AL FROG R SPECIES OPOD	5/15/2015 5/15/2015 DATE 5/15/2015 5/15/2015 5/15/2015 DATE 5/15/2015 DATE 5/15/2015 VARE 5/15/2015	EGG MASSES (#) 2 3 ABUNDANCE FeW FeW ABUNDANCE FeW ABUNDANCE FeW	TADPOLES/LARVAE Larvae NO AD	DTES DULT
Spotted Blue-spotte FACULTA Sprin Dragonfly la Cac PREDAT BUL OTHEF	Salamander ed Salamander ed Salamander TIVE SPECIES ag Peeper arvae or exuviae ddisflies OR SPECIES L FROG R SPECIES OPOD	5/15/2015 5/15/2015 DATE 5/15/2015 5/15/2015 5/15/2015 DATE 5/15/2015 DATE 5/15/2015 Ves Yes Yes	EGG MASSES (#) 2 3 ABUNDANCE FeW FeW ABUNDANCE FeW ABUNDANCE FeW	TADPOLES/LARVAE Larvae NO AD	DTES DULT



SUMMARY

22 TOTAL for Pool Characteristics

26 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area

Other Comments:

LOCATION TRACT# 198.00, MP 29.00 DEVELOPED COVER TYPE MEANS POWERLINE EASEMENT

PHOTOS



NE



Project File #60328763	Project Name: Northeast Energy Dir	ect Project	Pool ID: AS-AC4-	-VP006	
Observer: JW		Phone or em	ıail:		
Landowner/Applicant: WMECO		Phone or em	ail:		
Address: BUG HILL RI	City: A	SHFIELD	State: MA	Zip:: 01330	
Location of vernal pool:					
Survey date(s):: 5/15/2015	Longitude/Latitude (in decimal	degrees): 42.53	3331070, -72.835193	309	
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):				
I. Landscape Setting (check all that a	apply):				
☐ Upland depression (4 pts; if thi	is is also in a floodplain, use 2 pts)				
☑ Pool part of a pool complex (w	rithin 1000 feet of one or more other ve	ernal pools)(NA)			
Pool within larger wetland syst	tem (4 pts; if this is also in a floodplain	, use 2 pts)			
☐ Pool part of wildlife corridor (4	pts)				
☐ Other (variable pts):					
Pool Origin: Natural, but altered					
2. Vernal pool condition:					
Describe any recent modifications to	the pool and associated landscape:	RELIC BEAVER D	DAM PRESENT		
3. Parent material:					
☑ Glacial fluvial ("outwash")	☐ Loose till	□ Peat			
☐ Dense till	☐ Alluvium	☐ Coastal marir	ne sediments		
1. Aquatic resource type that best ap	plies to this pool (choose dominan	t):			
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)) 🔲 Floodpla	in (overflow/oxbow) ((3pts)	
✓ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (va	ariable points):		
☐ Peatland (acidic fen or bog) (4p	ts)	(2pts)			
5. Pool canopy cover (%): 50%					
6. Predominant substrate:					
	Depth: 18				
✓ Organic matter (peat/muck)	Sampling location (e.g.,deeper	st zone, edge,etc.):	DEEPEST ZONE		
7. Pool sizes:					
Approximate dimensions of pool (at	, . ,	27442.09			
Maximum depth at deepest point at	time of survey (include units):	7 INCHES			
B. Hydrology:	standard a barran and barran a sign day a barran (a)	- ()			
a. Estimated hydroperiod (unless ac indicator species to best predict the	ctual, observed hydroperiod value(s) is expected hydroperiod of the pool):	(are) known, use the	presence of these ex	kample	
☐ Dries between early March and	early July (e.g., Thelypteris palustris,	Carex stricta, Impatie	ns capensis, llex ven	ticillata)(6pts)	
✓ Dries between early July and ea	arly September (e.g., <i>Sagittaria latifolia</i>	a, Scirpus cyperinus, I	Dulichium arundinace	eum, Cephalanthus occ.)((8pts)
☐ Dries between early September	and early November (e.g., Eleocharis	palustris, Glyceria ca	anadensis, Utricularia	spp., Decodon vert.)(8pt	ts)
☐ Dries between early November	and late December, or intermittently ea	xposed (e.g., Nuphar	spp., Potamogeton s	spp.)(8pts)	
How long does pool hold water?	Seasonal				
b. Inlet/Outlet (pick one):					
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (d	channel with well-defi	ned banks and perma	anent flow) (2 pts)	
☐ Temporary inlet/outlet (6 pts)					



9. Water quality:				
☐ Clear ☐ High tur	bidity High algae co	ntent 🗹 Tannic		
22 TOTAL for Pool	Characteristics (out of 28 m	ax.)		
B. VERNAL POOL ENVELOPE	(100 ft) AND CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	information known):
1. Landuse type and approxima	ate percentage within the 10	0-ft vernal pool envelope	:	
✓ Forested: <u>50%</u> (1	6 pts)	Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
✓ Shrub: <u>10%</u> (1	0 pts)	Developed: 40%	(0 pts)	
2. Landuse type and approxima	ate percentage within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 60% (1)	6 pts)	Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☑ Shrub: 20% (1)	0 pts) ☑	Developed: 20%	(0 pts)	
	arriers to vernal pool fauna me		pe and/or critical terrestrial habi	itat? If so,
Based on: 🗹 Field	estimate	☐ Aerial pho	to estimate	
26 TOTAL for Pool	Envelope and Critical Terre	estrial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERM	IAL POOL			
Vegetation type and percent co	over IN THE POOL that can pr	ovide egg attachment or o	ffer concealment to aquatic or	developing larvae.
Shrubs: <u>10-50%</u>	•	33	,	1 0
Emergent vegetation (gr	rasses, seges, rushes, cattails): <u>10-50%</u>		
Submergent vegetation:	<u><10%</u>			
Dead branches and downed w	oody material (branches/twigs) available for egg attachm	ent: greater than 10	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Spotted Salamander	5 DATE 5/15/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae	FOUND DEAD ADULT
		-		
Spotted Salamander	5/15/2015	17	Larvae	FOUND DEAD ADULT SALAMANDER
	5/15/2015	-	Larvae	FOUND DEAD ADULT
Spotted Salamander FACULTATIVE SPECIE	5/15/2015 ES DATE	17	Larvae	FOUND DEAD ADULT SALAMANDER
Spotted Salamander	5/15/2015 ES DATE	17 ABUNDANCE	Larvae	FOUND DEAD ADULT SALAMANDER
Spotted Salamander FACULTATIVE SPECIE PREDATOR SPECIES	5/15/2015 ES DATE DATE	ABUNDANCE ABUNDANCE	Larvae	FOUND DEAD ADULT SALAMANDER
Spotted Salamander FACULTATIVE SPECIE PREDATOR SPECIES	5/15/2015 ES DATE DATE	ABUNDANCE ABUNDANCE	Larvae NO	FOUND DEAD ADULT SALAMANDER
FACULTATIVE SPECIES PREDATOR SPECIES BULL FROG	5/15/2015 ES DATE 5 DATE 5/15/2015 DATE	ABUNDANCE ABUNDANCE Common	Larvae NO	FOUND DEAD ADULT SALAMANDER TES
FACULTATIVE SPECIES PREDATOR SPECIES BULL FROG OTHER SPECIES	5/15/2015 ES DATE 5 DATE 5/15/2015 DATE	ABUNDANCE Common ABUNDANCE ABUNDANCE	Larvae NO	FOUND DEAD ADULT SALAMANDER TES
FACULTATIVE SPECIES PREDATOR SPECIES BULL FROG OTHER SPECIES RED SPOTTED NEWT	5/15/2015 ES DATE 5 DATE 5/15/2015 DATE 5/15/2015	ABUNDANCE Common ABUNDANCE Few	Larvae NO	FOUND DEAD ADULT SALAMANDER TES
FACULTATIVE SPECIES PREDATOR SPECIES BULL FROG OTHER SPECIES RED SPOTTED NEWT	5/15/2015 ES DATE 5 DATE 5/15/2015 DATE 5/15/2015	ABUNDANCE Common ABUNDANCE Few	Larvae NO	FOUND DEAD ADULT SALAMANDER TES
FACULTATIVE SPECIES PREDATOR SPECIES BULL FROG OTHER SPECIES RED SPOTTED NEWT	5/15/2015 ES DATE 5/15/2015 DATE 5/15/2015 DATE 5/15/2015 5/15/2015	ABUNDANCE Common ABUNDANCE Few	Larvae NO	FOUND DEAD ADULT SALAMANDER TES
FACULTATIVE SPECIES PREDATOR SPECIES BULL FROG OTHER SPECIES RED SPOTTED NEWT LEOPARD FROG	5/15/2015 S DATE 5/15/2015 DATE 5/15/2015 DATE 5/15/2015 5/15/2015	ABUNDANCE Common ABUNDANCE Few Few	Larvae NO	FOUND DEAD ADULT SALAMANDER TES
FACULTATIVE SPECIES PREDATOR SPECIES BULL FROG OTHER SPECIES RED SPOTTED NEWT LEOPARD FROG Presence of Indicator Species	5/15/2015 B DATE 5/15/2015 DATE 5/15/2015 DATE 5/15/2015 Ves Yes	ABUNDANCE Common ABUNDANCE Few Few No	Larvae NO	FOUND DEAD ADULT SALAMANDER TES
FACULTATIVE SPECIES PREDATOR SPECIES BULL FROG OTHER SPECIES RED SPOTTED NEWT LEOPARD FROG Presence of Indicator Species Were spermatophores observed?	5/15/2015 B DATE 5/15/2015 DATE 5/15/2015 DATE 5/15/2015 Ves Yes	ABUNDANCE ABUNDANCE Common ABUNDANCE Few Few No	Larvae NO	FOUND DEAD ADULT SALAMANDER TES
FACULTATIVE SPECIES PREDATOR SPECIES BULL FROG OTHER SPECIES RED SPOTTED NEWT LEOPARD FROG Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	5/15/2015 B DATE 5/15/2015 DATE 5/15/2015 DATE 5/15/2015 Ves Yes Yes Yes	ABUNDANCE ABUNDANCE Common ABUNDANCE Few Few No No	Larvae NO	FOUND DEAD ADULT SALAMANDER OTES OTES
FACULTATIVE SPECIES PREDATOR SPECIES BULL FROG OTHER SPECIES RED SPOTTED NEWT LEOPARD FROG Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	5/15/2015 B DATE 5/15/2015 DATE 5/15/2015 DATE 5/15/2015 Ves Yes Yes Yes	ABUNDANCE ABUNDANCE Common ABUNDANCE Few Few No No	Larvae NO NO	FOUND DEAD ADULT SALAMANDER OTES OTES





EAST



Project File #60328763	Project Name: Northeast Energy Dire	ect Project Pool ID: AS-	-AC4-VP007
Observer: JW		Phone or email:	
Landowner/Applicant: WMECO		Phone or email:	
Address: BUG HILL RD	City: AS	SHFIELD State: MA	Zip:: 01330
Location of vernal pool:			
Survey date(s):: 5/15/2015	Longitude/Latitude (in decimal	degrees): 42.53372407, -72.83	346127
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):		
1. Landscape Setting (check all that a	ipply):		
Upland depression (4 pts; if this	s is also in a floodplain, use 2 pts)		
Pool part of a pool complex (wi	ithin 1000 feet of one or more other ve	rnal pools)(NA)	
☐ Pool within larger wetland system	em (4 pts; if this is also in a floodplain,	use 2 pts)	
☐ Pool part of wildlife corridor (4)	pts)		
☐ Other (variable pts):			
Pool Origin: Natural Depression			
2. Vernal pool condition:			
Describe any recent modifications to	the pool and associated landscape:		
3. Parent material:			
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat	
✓ Dense till	☐ Alluvium	☐ Coastal marine sediments	
4. Aquatic resource type that best ap	plies to this pool (choose dominant):	
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Floodplain (overflow/oxb	ow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	✓ Other (variable points):	SUBSIDENCE, NATURAL DEPRESSION
☐ Peatland (acidic fen or bog) (4pt	s) Intermittent stream reach (2	2pts)	
5. Pool canopy cover (%): <u>90%</u>			
6. Predominant substrate:			
☑ Mineral soil	Depth:		
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepes	st zone, edge,etc.):	
7. Pool sizes:			
Approximate dimensions of pool (at		339.62	
Maximum depth at deepest point at a 8. Hydrology:	ime of survey (include units):	14 INCHES	
· ·	tual, observed hydroperiod value(s) iso	(are) known, use the presence of the	se example
·	early July (e.g., <i>Thelypteris palustris</i> , (Carex stricta. Impatiens capensis. Ile	x verticillata)(6pts)
_ ,	rly September (e.g., Sagittaria latifolia,	• • • • • •	, ,
	and early November (e.g., Eleocharis		
	and late December, or intermittently ex		,, , , , , , , , , , , , , , , , , , ,
	•		,,,,,,,
How long does pool hold water?	<u>Seasonal</u>		
b. Inlet/Outlet (pick one):	Dormonant inlet or avidet /-	shannal with wall defined banks and	normanant flow) (2 ptp)
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (C	channel with well-defined banks and p	Dermanent now) (2 pts)
☐ Temporary inlet/outlet (6 pts)			



9. Water quality:				
☐ Clear ☐ High turbidity	☐ High algae co	ntent 🗹 Tannic		
20 TOTAL for Pool Characteri	stics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABI	TAT AREA (100-750 ft) CI	HARACTERISTICS (fill in all i	information known):
1. Landuse type and approximate percent	tage within the 10	0-ft vernal pool envelope:	:	
✓ Forested: 80% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)	$\overline{\checkmark}$	Developed: 20%	(0 pts)	
2. Landuse type and approximate percent	tage within the 100	0-750-ft vernal pool critica	al terrestrial habitat:	
✓ Forested: 90% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 10%	(0 pts)	
Are there one or more barriers to v check here and see directions for e	ernal pool fauna mo explanation of how t	ovement within the envelop to incorporate this informati	pe and/or critical terrestrial habition.	itat? If so,
Based on:	☐ GIS	☐ Aerial phot	to estimate	
46 TOTAL for Book Envisions	and Cuitinal Tanna	atrial Habitat Area (aut a	£ 20	
16 TOTAL for Pool Envelope	and Critical Terre	estriai Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THI	E POOL that can pr	ovide egg attachment or of	ffer concealment to aquatic or	developing larvae.
Shrubs: <u>NA</u>				
Emergent vegetation (grasses, seg	jes, rushes, cattails): <u>NA</u>		
Submergent vegetation: NA				
Dead branches and downed woody mater	rial (branches/twigs) available for egg attachm	ent: <u>1 - 10</u>	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Spotted Salamander	DATE 5/15/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae	NOTES
				NOTES
			Larvae	NOTES
Spotted Salamander	5/15/2015	14	Larvae	
Spotted Salamander FACULTATIVE SPECIES	5/15/2015 DATE	14 ABUNDANCE	Larvae	
Spotted Salamander FACULTATIVE SPECIES Caddisflies	5/15/2015 DATE 5/15/2015	ABUNDANCE Many	Larvae	
Spotted Salamander FACULTATIVE SPECIES Caddisflies	5/15/2015 DATE 5/15/2015	ABUNDANCE Many	Larvae	
Spotted Salamander FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE	5/15/2015 DATE 5/15/2015 5/15/2015	ABUNDANCE Many Many	Larvae	TES
Spotted Salamander FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE PREDATOR SPECIES	5/15/2015 DATE 5/15/2015 5/15/2015 DATE	ABUNDANCE Many Many ABUNDANCE	Larvae	TES
Spotted Salamander FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE PREDATOR SPECIES	5/15/2015 DATE 5/15/2015 5/15/2015 DATE	ABUNDANCE Many Many ABUNDANCE	Larvae NO	TES
Spotted Salamander FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE PREDATOR SPECIES BULL FROG	5/15/2015 DATE 5/15/2015 5/15/2015 DATE 5/15/2015	ABUNDANCE Many Many ABUNDANCE Few	Larvae NO	TES
Spotted Salamander FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE PREDATOR SPECIES BULL FROG OTHER SPECIES	5/15/2015 DATE 5/15/2015 5/15/2015 DATE 5/15/2015	ABUNDANCE Many Many ABUNDANCE Few	Larvae NO	TES
Spotted Salamander FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE PREDATOR SPECIES BULL FROG	5/15/2015 DATE 5/15/2015 5/15/2015 DATE 5/15/2015 DATE 5/15/2015	ABUNDANCE Many Many ABUNDANCE Few	Larvae NO	TES
Spotted Salamander FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE PREDATOR SPECIES BULL FROG OTHER SPECIES	5/15/2015 DATE 5/15/2015 5/15/2015 DATE 5/15/2015 DATE ✓ Yes	ABUNDANCE Many Many ABUNDANCE Few ABUNDANCE	Larvae NO	TES
Spotted Salamander FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE PREDATOR SPECIES BULL FROG OTHER SPECIES Presence of Indicator Species	5/15/2015 DATE 5/15/2015 5/15/2015 DATE 5/15/2015 DATE ✓ Yes ☐ Yes	ABUNDANCE Many Many ABUNDANCE Few ABUNDANCE	Larvae NO	TES
Spotted Salamander FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE PREDATOR SPECIES BULL FROG OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	5/15/2015 DATE 5/15/2015 5/15/2015 DATE 5/15/2015 DATE ✓ Yes ☐ Yes	ABUNDANCE Many Many ABUNDANCE Few ABUNDANCE No No	Larvae NO	TES
Spotted Salamander FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE PREDATOR SPECIES BULL FROG OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	5/15/2015 DATE 5/15/2015 5/15/2015 DATE 5/15/2015 DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE Many Many ABUNDANCE Few ABUNDANCE V No No	Larvae NO	TES TES
Spotted Salamander FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE PREDATOR SPECIES BULL FROG OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	5/15/2015 DATE 5/15/2015 5/15/2015 DATE 5/15/2015 DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE Many Many ABUNDANCE Few ABUNDANCE VOICE NO NO NO NO	Larvae NO	TES TES





NORTH



Project File #60328763	Project Name: Northeast Energy Direct	Project	Pool ID: AS-AC4-	VP008	
Observer: JW		Phone or en	nail:		
Landowner/Applicant: WMECO		Phone or en	nail:		
Address: BUG HILL R	D City: ASH	FIELD	State: MA	Zip:: 01:	330
Location of vernal pool:					
Survey date(s):: 5/15/2015	Longitude/Latitude (in decimal de	grees): 42.5	3383222, -72.832697	69	
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):				
1. Landscape Setting (check all that	apply):				
☐ Upland depression (4 pts; if th	is is also in a floodplain, use 2 pts)				
✓ Pool part of a pool complex (w.)	vithin 1000 feet of one or more other verna	al pools)(NA)			
Pool within larger wetland syst	tem (4 pts; if this is also in a floodplain, us	se 2 pts)			
□ Pool part of wildlife corridor (4	pts)				
☐ Other (variable pts):					
Pool Origin: Natural Depression					
2. Vernal pool condition:					
Describe any recent modifications to	the pool and associated landscape:				
3. Parent material:					
✓ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat			
☐ Dense till	☐ Alluvium	☐ Coastal mari	ine sediments		
4. Aquatic resource type that best ap	oplies to this pool (choose dominant):				
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Floodpla	ain (overflow/oxbow) (3pts)	
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (v	variable points):		
☐ Peatland (acidic fen or bog) (4p	ots)	s)			
5. Pool canopy cover (%): 95%					
6. Predominant substrate:					
☐ Mineral soil	Depth: 20				
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepest z	one, edge,etc.):	DEEPEST ZONE		
7. Pool sizes:					
Approximate dimensions of pool (at	, ,,, ,	<u>0</u>			
Maximum depth at deepest point at	time of survey (include units):	13 INCHES			
8. Hydrology:	ctual absenced budgeneried value(a) is/or	o) known was the	nraganae of those av	romplo	
indicator species to best predict the	. , ,				
	early July (e.g., Thelypteris palustris, Car	•	•	,,,,	
✓ Dries between early July and early	arly September (e.g., <i>Sagittaria latifolia</i> , S	cirpus cyperinus,	Dulichium arundinace	um, Cephalant	thus occ.)(8pts)
□ Dries between early September	and early November (e.g., Eleocharis pa	lustris, Glyceria c	anadensis, Utricularia	spp., Decodor	1 vert.)(8pts)
☐ Dries between early November	and late December, or intermittently expo	sed (e.g., <i>Nuphai</i>	r spp., Potamogeton s	pp.)(8pts)	
How long does pool hold water?	Seasonal				
b. Inlet/Outlet (pick one):					
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (cha	nnel with well-def	ined banks and perma	anent flow) (2 p	ots)
Temporary inlet/outlet (6 nts)					



9. Water quality:				
☐ Clear ☐ High turbio	dity High algae co	ntent 🗹 Tannic		
22 TOTAL for Pool Ch	aracteristics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (10	00 ft) AND CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	information known):
1. Landuse type and approximate	percentage within the 10	0-ft vernal pool envelope	:	
✓ Forested: 60% (16 p)	ots)	Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 p	ots)	Developed: 40%	(0 pts)	
2. Landuse type and approximate	percentage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 80% (16 p.)	ots)	Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 p	ots)	Developed: 20%	(0 pts)	
	riers to vernal pool fauna mo		e and/or critical terrestrial habi	itat? If so,
Based on: Field es	timate	☐ Aerial pho	to estimate	
16 TOTAL for Pool E	nvelope and Critical Terre	estrial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNA	L POOL			
Vegetation type and percent cover		ovide egg attachment or o	ffer concealment to aquatic or	developing larvae.
Shrubs: <10%	,			3
Emergent vegetation (gras	ses, seges, rushes, cattails): <u><10%</u>		
Submergent vegetation:	<u><10%</u>			
Dead branches and downed woo	dy material (branches/twigs) available for egg attachm	ent: greater than 10	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Spotted Salamander	DATE 5/15/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae	NOTES
				NOTES
			Larvae	NOTES
Spotted Salamander	5/15/2015	4	Larvae	
Spotted Salamander FACULTATIVE SPECIES	5/15/2015 DATE	4 ABUNDANCE	Larvae	
Spotted Salamander FACULTATIVE SPECIES Caddisflies	5/15/2015 DATE 5/15/2015	ABUNDANCE Few	Larvae	
Spotted Salamander FACULTATIVE SPECIES Caddisflies	5/15/2015 DATE 5/15/2015	ABUNDANCE Few	Larvae	
Spotted Salamander FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE PREDATOR SPECIES	5/15/2015 DATE 5/15/2015 5/15/2015 DATE	ABUNDANCE Few Few ABUNDANCE	Larvae	TES
Spotted Salamander FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE	5/15/2015 DATE 5/15/2015 5/15/2015	ABUNDANCE Few Few	Larvae	TES
Spotted Salamander FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE PREDATOR SPECIES	5/15/2015 DATE 5/15/2015 5/15/2015 DATE	ABUNDANCE Few Few ABUNDANCE	Larvae	TES
Spotted Salamander FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE PREDATOR SPECIES	5/15/2015 DATE 5/15/2015 5/15/2015 DATE DATE	ABUNDANCE Few Few ABUNDANCE	Larvae	TES
Spotted Salamander FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES	DATE 5/15/2015 5/15/2015 5/15/2015 DATE DATE DATE ✓ Yes	ABUNDANCE Few Few ABUNDANCE ABUNDANCE	Larvae	TES
FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES	DATE 5/15/2015 5/15/2015 5/15/2015 DATE DATE ✓ Yes ☐ Yes	ABUNDANCE FeW FeW ABUNDANCE ABUNDANCE	Larvae	TES
Spotted Salamander FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 5/15/2015 5/15/2015 5/15/2015 DATE DATE ✓ Yes ☐ Yes	ABUNDANCE FeW FeW ABUNDANCE ABUNDANCE No No	Larvae	TES
FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 5/15/2015 5/15/2015 5/15/2015 DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE FeW FeW ABUNDANCE ABUNDANCE No No No	Larvae	TES TES
FACULTATIVE SPECIES Caddisflies MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	DATE 5/15/2015 5/15/2015 5/15/2015 DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE FeW FeW ABUNDANCE ABUNDANCE No No No	Larvae NO NO	TES TES





SW



Proj	ect File #60328763	Project Name: Northeast Energy D	irect Project	Pool ID: AS-AC4-	VP009
Obs	erver: JW		Phone or e	mail:	
Land	downer/Applicant: WALKER NO	RMAN S	Phone or e	mail:	
Add	ress: 411 HAWLE	Y RD City:	ASHFIELD	State: MA	Zip:: 01330
Loca	ation of vernal pool:				
Surv	vey date(s):: 5/15/2015	Longitude/Latitude (in decim-	al degrees): 42.	53517010, -72.823875	42
A. VEF	RNAL POOL CHARACTERISTIC	S (fill in all information known):			
1. Lan	dscape Setting (check all that a	pply):			
	Upland depression (4 pts; if this	s is also in a floodplain, use 2 pts)			
	Pool part of a pool complex (wi	thin 1000 feet of one or more other	vernal pools)(NA)		
V	Pool within larger wetland system	em (4 pts; if this is also in a floodplai	in, use 2 pts)		
	Pool part of wildlife corridor (4	ots)			
	Other (variable pts):				
Poo	l Origin: Natural Depression				
2. Veri	nal pool condition:				
Des	cribe any recent modifications to	the pool and associated landscape:			
3. Pare	ent material:				
	Glacial fluvial ("outwash")	□ Loose till	□ Peat		
	Dense till	☐ Alluvium	☐ Coastal ma	rine sediments	
4. Aqu	atic resource type that best ap	plies to this pool (choose domina	ınt):		
\checkmark	Forested wetland (4pts)	☐ Herbaceous wetland (4pt	ts) 🔲 Floodp	lain (overflow/oxbow) (3pts)
	Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other ((variable points):	
	Peatland (acidic fen or bog) (4pt	s) Intermittent stream reach	ı (2pts)		
5. Poo	ol canopy cover (%): 85%				
6. Pred	dominant substrate:				
	Mineral soil	Depth: <u>14</u>			
	Organic matter (peat/muck)	Sampling location (e.g.,deep	est zone, edge,etc.):	DEEPEST ZONE	
7. Poo	ol sizes:				
	proximate dimensions of pool (at	. ,,,,,,,	<u>0</u>		
	ximum depth at deepest point at	ime of survey (include units):	5 INCHES		
-	Irology: Estimated bydroporiod (upless as	tual, observed hydroperiod value(s)	is(ara) known usa th	o processes of those ox	vamplo
		expected hydroperiod of the pool):	is(are) known, use in	e presence of these ex	ample
$\overline{\mathbf{A}}$	Dries between early March and	early July (e.g., <i>Thelypteris palustris</i>	s, Carex stricta, Impat	iens capensis, llex vert	ticillata)(6pts)
	Dries between early July and ea	rly September (e.g., <i>Sagittaria latifol</i>	lia, Scirpus cyperinus	, Dulichium arundinace	um, Cephalanthus occ.)(8pts)
	Dries between early September	and early November (e.g., Eleochar	ris palustris, Glyceria	canadensis, Utricularia	spp., Decodon vert.)(8pts)
	Dries between early November a	and late December, or intermittently	exposed (e.g., Nupha	ar spp., Potamogeton s	pp.)(8pts)
Н	low long does pool hold water?	Seasonal			
b. I	nlet/Outlet (pick one):				
	No inlet/outlet (8 pts)	☐ Permanent inlet or outlet	(channel with well-de	efined banks and perma	anent flow) (2 pts)
	Temporary inlet/outlet (6 pts)			•	• • • •



9. Water quality:				
☐ Clear ☐ High turbidity	☑ High algae cor	ntent Tannic		
20 TOTAL for Pool Characteri	stics (out of 28 ma	ıx.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABIT	ΓΑΤ AREA (100-750 ft) C	HARACTERISTICS (fill in all i	information known):
1. Landuse type and approximate percent	tage within the 100	-ft vernal pool envelope	:	
✓ Forested: 70% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 30%	(0 pts)	
2. Landuse type and approximate percent	tage within the 100	-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: <u>90%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)	<u> </u>	Developed: 10%	(0 pts)	
Are there one or more barriers to v check here and see directions for e				itat? If so,
Based on: Field estimate	☐ GIS	☐ Aerial phot	to estimate	
40 70744 6 70 45	10 11 17		' • • • • • • • • • • • • • • • • • • •	
16 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	1 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THE	E POOL that can pro	ovide egg attachment or of	ffer concealment to aquatic or	developing larvae.
Shrubs: <u>NA</u>	·		•	
Emergent vegetation (grasses, seg	es, rushes, cattails)	: <u>NA</u>		
Submergent vegetation: NA				
Dead branches and downed woody mater	rial (branches/twigs)	available for egg attachm	ent: greater than 10	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Wood Frog	DATE 5/15/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae	NOTES ALSO OBSERVED A FEW TADPOLES
				ALSO OBSERVED A FEW
Wood Frog	5/15/2015	2	Larvae	ALSO OBSERVED A FEW
Wood Frog	5/15/2015	2	Larvae Larvae	ALSO OBSERVED A FEW
Wood Frog Spotted Salamander	5/15/2015 5/15/2015	7	Larvae Larvae	ALSO OBSERVED A FEW TADPOLES
Wood Frog Spotted Salamander FACULTATIVE SPECIES	5/15/2015 5/15/2015 DATE	7 ABUNDANCE	Larvae Larvae	ALSO OBSERVED A FEW TADPOLES
Wood Frog Spotted Salamander FACULTATIVE SPECIES	5/15/2015 5/15/2015 DATE	7 ABUNDANCE	Larvae NO	ALSO OBSERVED A FEW TADPOLES
Wood Frog Spotted Salamander FACULTATIVE SPECIES MOSQUITO LARVAE	5/15/2015 5/15/2015 DATE 5/15/2015	7 ABUNDANCE Many	Larvae NO	ALSO OBSERVED A FEW TADPOLES
Wood Frog Spotted Salamander FACULTATIVE SPECIES MOSQUITO LARVAE	5/15/2015 5/15/2015 DATE 5/15/2015	7 ABUNDANCE Many	Larvae Larvae NO	ALSO OBSERVED A FEW TADPOLES
Wood Frog Spotted Salamander FACULTATIVE SPECIES MOSQUITO LARVAE PREDATOR SPECIES	5/15/2015 5/15/2015 DATE 5/15/2015 DATE	2 7 ABUNDANCE Many ABUNDANCE	Larvae Larvae NO	ALSO OBSERVED A FEW TADPOLES TES
Wood Frog Spotted Salamander FACULTATIVE SPECIES MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES	5/15/2015 5/15/2015 DATE 5/15/2015 DATE DATE DATE	2 7 ABUNDANCE Many ABUNDANCE ABUNDANCE	Larvae Larvae NO	ALSO OBSERVED A FEW TADPOLES TES
Wood Frog Spotted Salamander FACULTATIVE SPECIES MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES	5/15/2015 5/15/2015 DATE 5/15/2015 DATE DATE DATE	2 7 ABUNDANCE Many ABUNDANCE ABUNDANCE	Larvae Larvae NO	ALSO OBSERVED A FEW TADPOLES TES
Wood Frog Spotted Salamander FACULTATIVE SPECIES MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES	5/15/2015 5/15/2015 DATE 5/15/2015 DATE DATE DATE 5/15/2015	2 7 ABUNDANCE Many ABUNDANCE ABUNDANCE	Larvae Larvae NO	ALSO OBSERVED A FEW TADPOLES TES
Spotted Salamander FACULTATIVE SPECIES MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES RED SPOTTED NEWT	5/15/2015 5/15/2015 DATE 5/15/2015 DATE DATE 5/15/2015 Very Yes	2 7 ABUNDANCE Many ABUNDANCE ABUNDANCE Few	Larvae Larvae NO	ALSO OBSERVED A FEW TADPOLES TES
Spotted Salamander FACULTATIVE SPECIES MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES RED SPOTTED NEWT Presence of Indicator Species	5/15/2015 5/15/2015 DATE 5/15/2015 DATE DATE 5/15/2015 Ves Yes Yes	2 7 ABUNDANCE Many ABUNDANCE Few	Larvae Larvae NO	ALSO OBSERVED A FEW TADPOLES TES
Spotted Salamander FACULTATIVE SPECIES MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES RED SPOTTED NEWT Presence of Indicator Species Were spermatophores observed?	5/15/2015 5/15/2015 DATE 5/15/2015 DATE DATE 5/15/2015 Ves Yes Yes	2 7 ABUNDANCE Many ABUNDANCE ABUNDANCE Few No	Larvae Larvae NO	ALSO OBSERVED A FEW TADPOLES TES
Wood Frog Spotted Salamander FACULTATIVE SPECIES MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES RED SPOTTED NEWT Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	5/15/2015 5/15/2015 DATE 5/15/2015 DATE DATE 5/15/2015 Ves Yes Yes Yes	ABUNDANCE Many ABUNDANCE ABUNDANCE Few No No No	Larvae Larvae NO	ALSO OBSERVED A FEW TADPOLES TES TES
Spotted Salamander FACULTATIVE SPECIES MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES RED SPOTTED NEWT Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	5/15/2015 5/15/2015 DATE 5/15/2015 DATE DATE 5/15/2015 Ves Yes Yes Yes	ABUNDANCE Many ABUNDANCE ABUNDANCE Few No No No	Larvae NO NO NO	ALSO OBSERVED A FEW TADPOLES TES TES





WEST



Project File #60328763	Project Name: Northeast Energy Dir	rect Project	Pool ID: AS-AC4	-VP010
Observer: JW		Phone or ema	ail:	
Landowner/Applicant: PYLANT JOH	-IN	Phone or ema	ail:	
Address: 582 PFERS	ICK RD City: A	ASHFIELD	State: MA	Zip:: 01370
Location of vernal pool:				
Survey date(s):: 5/16/2015	Longitude/Latitude (in decimal	degrees): 42.53	959400, -72.747736	550
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):			
1. Landscape Setting (check all that	apply):			
☐ Upland depression (4 pts; if th	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (w	vithin 1000 feet of one or more other ve	ernal pools)(NA)		
Pool within larger wetland sys	tem (4 pts; if this is also in a floodplain	ı, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin: Natural, but altered				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:	RELIC BEAVER D	AM IMPOUNDING \	WATER
3. Parent material:		– 5 .		
☑ Glacial fluvial ("outwash")	Loose till	☐ Peat		
☐ Dense till	☐ Alluvium	☐ Coastal marin	e sediments	
4. Aquatic resource type that best ap		•		
☐ Forested wetland (4pts)	☑ Herbaceous wetland (4pts)		n (overflow/oxbow) ((3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (va	riable points):	
☐ Peatland (acidic fen or bog) (4p	ts) Intermittent stream reach ((2pts)		
5. Pool canopy cover (%): <u>10%</u>				
6. Predominant substrate:				
☐ Mineral soil	Depth: <u>14</u>			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepe	st zone, edge,etc.):	DEEPEST POOL	
7. Pool sizes:				
Approximate dimensions of pool (at		3490.38		
Maximum depth at deepest point at 8. Hydrology:	time of survey (include units).	<u>3 FEET</u>		
, ,,	ctual, observed hydroperiod value(s) is	s(are) known, use the	presence of these ex	xample
	early July (e.g., <i>Thelypteris palustris</i> ,	Carex stricta Impatie	ns canensis. Ilex ver	ticillata)(6nts)
_ ,	arly September (e.g., Sagittaria latifolia	. ,	•	,, ,
	and early November (e.g., Eleocharis			
	and late December, or intermittently e		•	,,,,
✓ Dries between early November	and late December, or intermittently e	Aposeu (e.g., Mupilal s	spp., i diamogeidh s	ηρρ. _{[(} Ορίο]
How long does pool hold water?	Semi-permanent			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (channel with well-defir	ned banks and perm	anent flow) (2 pts)
√ Temporary inlet/outlet (6 pts)				



9. Water quality:					
✓ Clear	☐ High turbidity	☐ High algae co	ontent		
<u>22</u> TOTA	L for Pool Character	istics (out of 28 m	ax.)		
B. VERNAL POOL E	NVELOPE (100 ft) AN	ND CRITICAL HAB	ITAT AREA (100-750 ft) CI	HARACTERISTICS (fill in all i	nformation known):
1. Landuse type and	l approximate percen	ntage within the 10	0-ft vernal pool envelope:	:	
✓ Forested: 8	30% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: 9	<u>%</u> (10 pts)	☑	Developed: 20%	(0 pts)	
2. Landuse type and	l approximate percen	tage within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 9		_	Open (e.g., meadow, agric		(4 pts)
	% (10 pts)	_	Developed: 10%	(0 pts)	, , ,
			ovement within the envelop to incorporate this informati	e and/or critical terrestrial habi	itat? If so,
Based on:	✓ Field estimate	☐ GIS	☐ Aerial phot	o estimate	
16 TOT	Al for Bool Envelope	and Critical Tarr	estrial Habitat Area (out o	f 22 may)	
<u>16</u> 101.	AL IOI POOI ETIVETOPE	e and Childar Terri	estriai Habitat Area (Out O	1 32 IIIdx.)	
C. SPECIES PRESEI	NT IN VERNAL POOL				
Vegetation type and	d percent cover IN TH	E POOL that can p	rovide egg attachment or of	fer concealment to aquatic or o	developing larvae.
Shrubs:	<u>NA</u>				
Emergent ve	egetation (grasses, se	ges, rushes, cattails	s): <10%		
• • •					
Submergent	t vegetation: NA	<u>\</u>			
•	•	=	s) available for egg attachm	ent: greater than 10	
Dead branches and	•	=	s) available for egg attachm	ent: greater than 10 TADPOLES/LARVAE	NOTES
Dead branches and	d downed woody mate	rial (branches/twigs		_	NOTES
Dead branches and	d downed woody mate	rial (branches/twigs	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Dead branches and INDICATO Spotted S	d downed woody mate	rial (branches/twigs	EGG MASSES (#)	TADPOLES/LARVAE Larvae	NOTES TES
Dead branches and INDICATO Spotted S FACULTATI	d downed woody mate R SPECIES alamander	DATE 5/16/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae	
Dead branches and INDICATO Spotted S FACULTATI	d downed woody mate R SPECIES alamander IVE SPECIES	DATE 5/16/2015 DATE	EGG MASSES (#) 21 ABUNDANCE	TADPOLES/LARVAE Larvae	
Dead branches and INDICATO Spotted S FACULTATI Dragonfly larv	d downed woody mate R SPECIES alamander IVE SPECIES vae or exuviae	DATE 5/16/2015 DATE 5/16/2015	EGG MASSES (#) 21 ABUNDANCE Many	TADPOLES/LARVAE Larvae	TES
Dead branches and INDICATO Spotted S FACULTATI Dragonfly larv PREDATO	d downed woody mate R SPECIES alamander IVE SPECIES	DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015 DATE	EGG MASSES (#) 21 ABUNDANCE Many ABUNDANCE	TADPOLES/LARVAE Larvae	
Dead branches and INDICATO Spotted S FACULTATI Dragonfly larv PREDATO	d downed woody mate R SPECIES alamander IVE SPECIES vae or exuviae R SPECIES	DATE 5/16/2015 DATE 5/16/2015	EGG MASSES (#) 21 ABUNDANCE Many	TADPOLES/LARVAE Larvae	TES
PREDACEOUS	d downed woody mate R SPECIES alamander IVE SPECIES vae or exuviae R SPECIES DIVING BEETLE	DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015	ABUNDANCE Many ABUNDANCE Few	TADPOLES/LARVAE Larvae NO	TES
PREDACEOUS Dead branches and INDICATO Spotted S FACULTATI Dragonfly larv PREDATO PREDACEOUS	d downed woody mate R SPECIES alamander IVE SPECIES vae or exuviae R SPECIES	DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015 DATE	EGG MASSES (#) 21 ABUNDANCE Many ABUNDANCE	TADPOLES/LARVAE Larvae NO	TES
PREDATO PREDACEOUS OTHER:	d downed woody mate R SPECIES alamander IVE SPECIES vae or exuviae R SPECIES DIVING BEETLE SPECIES	DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015	ABUNDANCE Few ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Larvae NO	TES
PREDATO PREDACEOUS OTHER:	d downed woody mate R SPECIES alamander IVE SPECIES vae or exuviae R SPECIES DIVING BEETLE SPECIES STRIDER	DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015	ABUNDANCE Few ABUNDANCE Common	TADPOLES/LARVAE Larvae NO	TES
PREDATO PREDACEOUS OTHER:	d downed woody mate R SPECIES calamander IVE SPECIES vae or exuviae R SPECIES DIVING BEETLE SPECIES STRIDER LLY NEWT	DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015	ABUNDANCE Few ABUNDANCE Common	TADPOLES/LARVAE Larvae NO	TES
PREDACEOUS OTHER RED BEL	d downed woody mate R SPECIES calamander IVE SPECIES vae or exuviae R SPECIES DIVING BEETLE SPECIES STRIDER LLY NEWT	DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015	ABUNDANCE Few ABUNDANCE Common Common	TADPOLES/LARVAE Larvae NO	TES
PREDACEOUS OTHER: WATER RED BEL	d downed woody mate R SPECIES alamander IVE SPECIES vae or exuviae R SPECIES DIVING BEETLE SPECIES STRIDER LLY NEWT Or Species s observed?	DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015 VARIABLE 5/16/2015 DATE 5/16/2015 DATE 5/16/2015	EGG MASSES (#) 21 ABUNDANCE Many ABUNDANCE Few ABUNDANCE Common Common	TADPOLES/LARVAE Larvae NO	TES



SUMMARY

22 TOTAL for Pool Characteristics

16 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area

Other Comments:

LOCATION TRACT# 236.01, MP 0.95 DEVELOPED LAND TYPE MEANS POWERLINE EASEMENT



NORTH



Project File #60328763	Project Name: Northeast Energy Di	irect Project	Pool ID: BK-U-VF	2001
Observer: AT		Phone or e	email:	
Landowner/Applicant: AXELSON, S	SCOTT R	Phone or e	email:	
Address: RUONALA R	D City: I	BROOKLINE	State: MA	Zip:: 03033
Location of vernal pool:				
Survey date(s):: 5/19/2015	Longitude/Latitude (in decima	al degrees): 42	2.79203477, -71.661948	385
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):			
1. Landscape Setting (check all that	apply):			
☐ Upland depression (4 pts; if th	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (w	rithin 1000 feet of one or more other v	vernal pools)(NA)		
Pool within larger wetland sys	tem (4 pts; if this is also in a floodplain	n, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin: Natural Depression				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:			
3. Parent material:				
☐ Glacial fluvial ("outwash")	✓ Loose till	☐ Peat		
☐ Dense till	☐ Alluvium	☐ Coastal ma	arine sediments	
4. Aquatic resource type that best ap	pplies to this pool (choose dominal	nt):		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pt	s) 🔲 Flood	plain (overflow/oxbow) ((3pts)
☐ Shrub wetland (4pts)	□ Open water (2 pts)	☐ Other	(variable points):	
☐ Peatland (acidic fen or bog) (4p)	ts)	(2pts)		
5. Pool canopy cover (%): <u>70%</u>				
6. Predominant substrate:				
☐ Mineral soil	Depth: 6			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.):	: <u>—</u>	
7. Pool sizes:				
Approximate dimensions of pool (at	. ,, , ,	<u>90.34</u>		
Maximum depth at deepest point at	time of survey (include units):	<u>6</u>		
8. Hydrology: a Estimated hydroneriod (unless as	ctual, observed hydroperiod value(s) i	is(are) known juse t	he presence of these e	yamnle
indicator species to best predict the		o(dre) known, doe a	no prosence or these of	Kampio
□ Dries between early March and	early July (e.g., Thelypteris palustris,	, Carex stricta, Impa	atiens capensis, llex ver	ticillata)(6pts)
Dries between early July and early	arly September (e.g., Sagittaria latifoli	ia, Scirpus cyperinu	s, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
□ Dries between early September	and early November (e.g., Eleochari	is palustris, Glyceria	ı canadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently	exposed (e.g., Nuph	າar spp., Potamogeton ເ	spp.)(8pts)
How long does pool hold water?	Semi-permanent			
b. Inlet/Outlet (pick one):				
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet	(channel with well-d	lefined banks and perm	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)	_		, -	, , , ,



9. Water quality:					
✓ Clear	☐ High turbidity	☐ High algae co	ntent Tannic		
<u>24</u> TOTA	AL for Pool Character	istics (out of 28 ma	ıx.)		
B. VERNAL POOL E	NVELOPE (100 ft) AN	D CRITICAL HABI	ΓΑΤ AREA (100-750 ft) C	HARACTERISTICS (fill in all i	nformation known):
1. Landuse type and	d approximate percen	tage within the 100	-ft vernal pool envelope	:	
✓ Forested:	50% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☑ Shrub:	50% (10 pts)		Developed: <u>%</u>	(0 pts)	
2. Landuse type and	d approximate percen	tage within the 100	-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested:	49% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☑ Shrub:	49% (10 pts)		Developed: <u>%</u>	(0 pts)	
			ovement within the envelop o incorporate this informat	pe and/or critical terrestrial habi	itat? If so,
Based on:	✓ Field estimate	☐ GIS	☐ Aerial phot	to estimate	
<u>26</u> TOT	AL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESE	NT IN VERNAL POOL				
			ovide egg attachment or of	ffer concealment to aquatic or o	developing larvae.
Shrubs:	<10%	,			3
Emergent v	egetation (grasses, seg	ges, rushes, cattails)	: <u>10-50%</u>		
Submergen	t vegetation: 10-	<u>50%</u>			
Dead branches an	d downed woody mate	rial (branches/twigs)	available for egg attachm	ent: greater than 10	
INDICATO	R SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
	d Frog	DATE 5/19/2015	EGG MASSES (#)	TADPOLES/LARVAE	NOTES adult
			EGG MASSES (#)	TADPOLES/LARVAE	
Woo			EGG MASSES (#) ABUNDANCE		
Woo FACULTAT	d Frog	5/19/2015			adult
FACULTAT Spring	d Frog	5/19/2015 DATE	ABUNDANCE	NO	adult
FACULTAT Spring Gray T	d Frog FIVE SPECIES Peeper	5/19/2015 DATE 5/19/2015	ABUNDANCE Few	NO	adult
FACULTAT Spring Gray T	TIVE SPECIES Peeper Tree Frog	5/19/2015 DATE 5/19/2015 5/19/2015	ABUNDANCE Few Few	NO	adult
FACULTAT Spring Gray T Dragonfly lar	TIVE SPECIES Peeper Tree Frog	5/19/2015 DATE 5/19/2015 5/19/2015	ABUNDANCE Few Few	NO heard	adult
FACULTAT Spring Gray T Dragonfly lar	rive species Peeper Free Frog vae or exuviae	5/19/2015 DATE 5/19/2015 5/19/2015 5/19/2015	ABUNDANCE Few Few Few	NO heard	adult TES 5/18/15
FACULTAT Spring Gray T Dragonfly lar	rive species Peeper Free Frog vae or exuviae	5/19/2015 DATE 5/19/2015 5/19/2015 5/19/2015	ABUNDANCE Few Few Few	NO heard	adult TES 5/18/15
FACULTAT Spring Gray T Dragonfly lar	TIVE SPECIES Peeper Tree Frog vae or exuviae OR SPECIES	5/19/2015 DATE 5/19/2015 5/19/2015 5/19/2015 DATE	ABUNDANCE FeW FeW ABUNDANCE	NO heard	adult TES 5/18/15
FACULTAT Spring Gray T Dragonfly lar PREDATO	d Frog IVE SPECIES Peeper Tree Frog vae or exuviae OR SPECIES SPECIES	5/19/2015 DATE 5/19/2015 5/19/2015 5/19/2015 DATE DATE	ABUNDANCE FeW FeW ABUNDANCE ABUNDANCE	NO heard	adult TES 5/18/15
FACULTAT Spring Gray T Dragonfly lar	d Frog IVE SPECIES Peeper Tree Frog vae or exuviae OR SPECIES SPECIES	5/19/2015 DATE 5/19/2015 5/19/2015 5/19/2015 DATE DATE	ABUNDANCE FeW FeW ABUNDANCE	NO heard	adult TES 5/18/15
FACULTAT Spring Gray T Dragonfly lar PREDATO	d Frog TIVE SPECIES I Peeper Tree Frog vae or exuviae DR SPECIES SPECIES or Species	5/19/2015 DATE 5/19/2015 5/19/2015 5/19/2015 DATE DATE DATE	ABUNDANCE FeW FeW ABUNDANCE ABUNDANCE	NO heard	adult TES 5/18/15
FACULTAT Spring Gray T Dragonfly lar PREDATO OTHER	d Frog FIVE SPECIES I Peeper Free Frog vae or exuviae OR SPECIES SPECIES or Species es observed?	5/19/2015 DATE 5/19/2015 5/19/2015 5/19/2015 DATE DATE ✓ Yes ☐ Yes	ABUNDANCE FeW FeW ABUNDANCE ABUNDANCE	NO heard	adult TES 5/18/15
FACULTAT Spring Gray T Dragonfly lar PREDATO OTHER Presence of Indicate Were spermatophore	d Frog FIVE SPECIES I Peeper Free Frog vae or exuviae OR SPECIES SPECIES or Species es observed?	5/19/2015 DATE 5/19/2015 5/19/2015 5/19/2015 DATE DATE ✓ Yes ☐ Yes	ABUNDANCE FeW FeW ABUNDANCE ABUNDANCE No	NO heard	adult TES 5/18/15
FACULTAT Spring Gray T Dragonfly lar PREDATO OTHER Presence of Indicate Were spermatophore Were fish observed in	d Frog FIVE SPECIES I Peeper Free Frog vae or exuviae OR SPECIES SPECIES or Species es observed?	5/19/2015 DATE 5/19/2015 5/19/2015 5/19/2015 DATE DATE DATE Yes Yes Yes Yes	ABUNDANCE FeW FeW ABUNDANCE ABUNDANCE No No No	NO heard	adult TES 5/18/15 TES
FACULTAT Spring Gray T Dragonfly lar PREDATO OTHER Presence of Indicate Were spermatophore Were fish observed in SUMMARY 24 TOTAL	d Frog IVE SPECIES I Peeper Iree Frog vae or exuviae OR SPECIES SPECIES or Species es observed? In the pool?	5/19/2015 DATE 5/19/2015 5/19/2015 5/19/2015 DATE DATE DATE Yes Yes Yes Yes	ABUNDANCE FeW FeW ABUNDANCE ABUNDANCE No No No	NO heard NO NO	adult TES 5/18/15 TES
FACULTAT Spring Gray T Dragonfly lar PREDATO OTHER Presence of Indicate Were spermatophore Were fish observed in	d Frog IVE SPECIES I Peeper Iree Frog vae or exuviae OR SPECIES SPECIES or Species es observed? In the pool?	5/19/2015 DATE 5/19/2015 5/19/2015 5/19/2015 DATE DATE DATE Yes Yes Yes Yes	ABUNDANCE FeW FeW ABUNDANCE ABUNDANCE No No No	NO heard NO NO	adult TES 5/18/15 TES







Project File #60328763	B Project Name	: Northeast Energy Direct Pro	ject Pool ID:	DR-AC3-VP001	
Observer: C M-H			Phone or email: 503	3-318-5970	
Landowner/Applicant:	Loon Realty LLC		Phone or email:		
Address:	274 LOON HILL RD	City: DRACU	Γ State:	MA Zip::	: 01826
Location of vernal pool	:				
Survey date(s):: 5/01	/2015 Longitu	de/Latitude (in decimal degree	es): 42.67801250,	-71.28366854	
A. VERNAL POOL CHA	RACTERISTICS (fill in all inf	formation known):			
1. Landscape Setting (c	heck all that apply):				
Upland depress	ion (4 pts; if this is also in a flo	oodplain, use 2 pts)			
☐ Pool part of a po	ool complex (within 1000 feet	of one or more other vernal po	ools)(NA)		
☐ Pool within large	er wetland system (4 pts; if thi	s is also in a floodplain, use 2	pts)		
☐ Pool part of wild	llife corridor (4 pts)				
☐ Other (variable)	ots):				
Pool Origin:					
2. Vernal pool condition	n:				
Describe any recent m	odifications to the pool and as	ssociated landscape:			
3. Parent material:					
☐ Glacial fluvial ("ou	twash")	I 🗆	Peat		
✓ Dense till	☐ Alluvium		Coastal marine sedime	ents	
4. Aquatic resource typ	e that best applies to this p	ool (choose dominant):			
✓ Forested wetland	(4pts)	baceous wetland (4pts)	☐ Floodplain (overflo	ow/oxbow) (3pts)	
☐ Shrub wetland (4	pts) 🔲 Ope	en water (2 pts)	☐ Other (variable poi	ints):	
□ Peatland (acidic f	en or bog) (4pts) Inte	rmittent stream reach (2pts)			
5. Pool canopy cover (%	65 %				
6. Predominant substra					
✓ Mineral soil	Depth:				
☐ Organic matter (p	eat/muck) Samplir	ng location (e.g.,deepest zone	, edge,etc.):		
7. Pool sizes:			4.00		
	ons of pool (at maximum capa epest point at time of survey		<u>1.30</u>		
8. Hydrology:	epest point at time of survey		<u>-</u>		
a. Estimated hydrope	riod (unless actual, observed est predict the expected hydro	hydroperiod value(s) is(are) kepperiod of the pool):	nown, use the presence	of these example	
✓ Dries between ea	urly March and early July (e.g.	, Thelypteris palustris, Carex s	stricta, Impatiens capens	sis, Ilex verticillata)(6	3pts)
□ Dries between ea	rly July and early September	(e.g., Sagittaria latifolia, Scirp	us cyperinus, Dulichium	arundinaceum, Cep	ohalanthus occ.)(8pts)
□ Dries between ea	rly September and early Nove	ember (e.g., <i>Eleocharis palust</i>	ris, Glyceria canadensis,	, Utricularia spp., De	ecodon vert.)(8pts)
□ Dries between ea	rly November and late Decem	nber, or intermittently exposed	(e.g., Nuphar spp., Pota	amogeton spp.)(8pts	3)
How long does pool	hold water?				
b. Inlet/Outlet (pick or	ne):				
☐ No inlet/outlet (8	ots) 🔲 Per	manent inlet or outlet (channe	with well-defined banks	s and permanent flow	w) (2 pts)
☑ Temporary inlet/or	utlet (6 pts)				



9. Water quality:					
☑ Clear ☐ Hig	gh turbidity	☐ High algae cor	ntent Tannic		
20 TOTAL for F	Pool Characteris	stics (out of 28 ma	x.)		
B. VERNAL POOL ENVELO	OPE (100 ft) AND	CRITICAL HABIT	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and appro	ximate percenta	age within the 100	-ft vernal pool envelope	:	
✓ Forested: 80%	(16 pts)		Open (e.g., meadow, agric	culture, golf course): 20%	(4 pts)
☐ Shrub: <u>%</u>	(10 pts)		Developed: <u>%</u>	(0 pts)	
2. Landuse type and appro	ximate percenta	age within the 100	-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 80%	(16 pts)		Open (e.g., meadow, agri	culture, golf course): 10%	(4 pts)
☐ Shrub: <u>%</u>	(10 pts)		Developed: 10%	(0 pts)	
			vement within the envelop o incorporate this informat	pe and/or critical terrestrial habition.	oitat? If so,
Based on: F	Field estimate	☐ GIS	Aerial pho	to estimate	
20 TOTAL for	Pool Envelope	and Critical Terres	strial Habitat Area (out o	of 32 max.)	
C. SPECIES PRESENT IN V	/ERNAL POOL				
		POOL that can pro	ovide egg attachment or o	ffer concealment to aquatic or	developing larvae.
Shrubs:		·		·	1 0
Emergent vegetation	on (grasses, sege	es, rushes, cattails)	: <u>—</u>		
Emergent vegetation Submergent vegeta		es, rushes, cattails) -	: <u></u>		
•	ation:	_		nent: greater than 10	
Submergent vegeta	ation: ed woody materi	_		nent: greater than 10 TADPOLES/LARVAE	NOTES
Submergent vegeta Dead branches and down	ation: ed woody materi	– al (branches/twigs)	available for egg attachm	-	NOTES
Submergent vegeta Dead branches and down	ation: ed woody materi	al (branches/twigs)	available for egg attachm	-	NOTES
Submergent vegeta Dead branches and down	ation: ed woody materion CIES nder	al (branches/twigs)	available for egg attachm	TADPOLES/LARVAE	NOTES
Submergent vegeta Dead branches and down INDICATOR SPE Spotted Salamar FACULTATIVE SP	ation: ed woody materio CIES nder ECIES	al (branches/twigs) DATE 5/2/2015 DATE	available for egg attachm EGG MASSES (#) 3 ABUNDANCE	TADPOLES/LARVAE	DTES
Submergent vegeta Dead branches and down INDICATOR SPE Spotted Salamar	ation: ed woody materio CIES nder ECIES	al (branches/twigs) DATE 5/2/2015	available for egg attachm EGG MASSES (#) 3	TADPOLES/LARVAE	
Submergent vegeta Dead branches and down INDICATOR SPE Spotted Salamar FACULTATIVE SP PREDATOR SPE	ation: ed woody materic CIES nder PECIES CIES	DATE 5/2/2015 DATE DATE	available for egg attachm EGG MASSES (#) 3 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE	DTES DTES
Submergent vegeta Dead branches and down INDICATOR SPE Spotted Salamar FACULTATIVE SP	ation: ed woody materic CIES nder PECIES CIES	al (branches/twigs) DATE 5/2/2015 DATE	available for egg attachm EGG MASSES (#) 3 ABUNDANCE	TADPOLES/LARVAE	DTES
Submergent vegeta Dead branches and down INDICATOR SPE Spotted Salamar FACULTATIVE SP PREDATOR SPE	ation: ed woody materic CIES nder PECIES CIES	DATE 5/2/2015 DATE DATE	available for egg attachm EGG MASSES (#) 3 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE	DTES DTES
Submergent vegeta Dead branches and down INDICATOR SPE Spotted Salamar FACULTATIVE SP PREDATOR SPE	ation: ed woody materic CIES nder PECIES CIES	DATE 5/2/2015 DATE DATE DATE DATE	available for egg attachm EGG MASSES (#) 3 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE	DTES DTES
Submergent vegeta Dead branches and down INDICATOR SPECA Spotted Salamar FACULTATIVE SP PREDATOR SPECA OTHER SPECIE	ation: ed woody materic CIES nder PECIES CIES CIES	DATE 5/2/2015 DATE DATE DATE DATE DATE	available for egg attachm EGG MASSES (#) 3 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE	DTES DTES
Submergent vegeta Dead branches and down INDICATOR SPECA Spotted Salamar FACULTATIVE SP PREDATOR SPECA OTHER SPECIAL Presence of Indicator Speca	ation: ed woody materia CIES nder CIES CIES CIES CIES CIES ES Cies rved?	DATE 5/2/2015 DATE DATE DATE DATE DATE DATE PATE Ves Yes Yes [available for egg attachm EGG MASSES (#) 3 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE	DTES DTES
Submergent vegeta Dead branches and down INDICATOR SPE Spotted Salamar FACULTATIVE SP PREDATOR SPE OTHER SPECII Presence of Indicator Spec Were spermatophores observed.	ation: ed woody materia CIES nder CIES CIES CIES CIES CIES ES Cies rved?	DATE 5/2/2015 DATE DATE DATE DATE DATE DATE PATE Ves Yes Yes [available for egg attachm EGG MASSES (#) 3 ABUNDANCE ABUNDANCE ABUNDANCE No No	TADPOLES/LARVAE	DTES DTES
Submergent vegeta Dead branches and down INDICATOR SPE Spotted Salamar FACULTATIVE SP PREDATOR SPE OTHER SPECII Presence of Indicator Spec Were spermatophores observed in the possible of the possible o	ation: ed woody materia cles nder cles cles cles cles cved? col?	DATE 5/2/2015 DATE DATE DATE DATE Ves [Yes [Yes [Yes [available for egg attachm EGG MASSES (#) 3 ABUNDANCE ABUNDANCE ABUNDANCE V No	TADPOLES/LARVAE	DTES DTES







Project File #60328763	Project Name: Northeast Energy Dir	rect Project Po	ol ID: DR-AC3-	-VP002	
Observer: SH		Phone or email:			
Landowner/Applicant: DRACO HOI	MES INC.	Phone or email:			
Address: 43 BERUBE	LN City: D	DRACUT S	State: MA	Zip:: 018	26
Location of vernal pool:					
Survey date(s):: 5/04/2015	Longitude/Latitude (in decima	d degrees): 42.68853	363, -71.262524	75	
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):				
1. Landscape Setting (check all that	apply):				
☐ Upland depression (4 pts; if the	is is also in a floodplain, use 2 pts)				
☐ Pool part of a pool complex (was provided to the pool part of a pool complex (was provided to the pool part of a pool p	vithin 1000 feet of one or more other v	ernal pools)(NA)			
Pool within larger wetland sys	tem (4 pts; if this is also in a floodplain	ı, use 2 pts)			
□ Pool part of wildlife corridor (4	pts)				
☐ Other (variable pts):					
Pool Origin: Natural, but altered					
2. Vernal pool condition:					
Describe any recent modifications to	the pool and associated landscape:	BEAVER ACTIVITY			
3. Parent material:					
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat			
✓ Dense till	☐ Alluvium	☐ Coastal marine se	ediments		
4. Aquatic resource type that best ap	pplies to this pool (choose dominan	ıt):			
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	s) 🔲 Floodplain (o	verflow/oxbow) ((3pts)	
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variab	le points):		
☐ Peatland (acidic fen or bog) (4p	ots)	(2pts)			
5. Pool canopy cover (%): 65%					
6. Predominant substrate:					
☐ Mineral soil	Depth: 6				
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.): DE	EEP ZONE		
7. Pool sizes:					
Approximate dimensions of pool (at		<u>92310.89</u>			
Maximum depth at deepest point at	time of survey (include units):	<u>3.5'</u>			
8. Hydrology:	otual abaaryad bydranariad valua(a) ir	o(ara) known was the proc	ones of these ov	vamala	
indicator species to best predict the	, , , , , , , , , , , , , , , , , , , ,				
□ Dries between early March and	early July (e.g., Thelypteris palustris,	Carex stricta, Impatiens c	apensis, Ilex ven	ticillata)(6pts)	
✓ Dries between early July and early	arly September (e.g., <i>Sagittaria latifolia</i>	a, Scirpus cyperinus, Dulic	hium arundinace	∍um, Cephalanth	ius occ.)(8pts)
☐ Dries between early September	r and early November (e.g., <i>Eleocharis</i>	s palustris, Glyceria canad	ensis, Utricularia	spp., Decodon	vert.)(8pts)
□ Dries between early November	and late December, or intermittently e	exposed (e.g., Nuphar spp.	, Potamogeton s	<i>pp.</i>)(8pts)	
How long does pool hold water?	Semi-permanent				
b. Inlet/Outlet (pick one):					
☐ No inlet/outlet (8 pts)	✓ Permanent inlet or outlet (channel with well-defined	banks and perma	anent flow) (2 pts	s)
☐ Temporary inlet/outlet (6 pts)	`			,	



9. Water quality:				
☑ Clear ☐ High turbidity	☐ High algae cor	ntent Tannic		
18 TOTAL for Pool Characteri	stics (out of 28 ma	x.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABIT	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	information known):
1. Landuse type and approximate percent	tage within the 100	-ft vernal pool envelope	:	
✓ Forested: 50% (16 pts)	I	Open (e.g., meadow, agric	culture, golf course): 50%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
2. Landuse type and approximate percent	tage within the 100	-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: <u>50%</u> (16 pts)	_	Open (e.g., meadow, agric		(4 pts)
☐ Shrub: % (10 pts)	_	Developed: %	(0 pts)	(. p.s.)
	ш	Белегореа. <u>76</u>	(0 pts)	
Are there one or more barriers to v check here and see directions for e				itat? If so,
Based on:	☐ GIS	Aerial photo	to estimate	
20 TOTAL for Pool Envelope	and Critical Terres	strial Habitat Area (out o	f 32 max)	
<u>LV</u> TOTAL IOT FOR LINGIOPS	and Ormour rerre-	oti lai Flabitat Arca (out o	1 02 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THE	E POOL that can pro	ovide egg attachment or of	ffer concealment to aquatic or	developing larvae.
Shrubs: >50%	·		·	, -
Emergent vegetation (grasses, seg	jes, rushes, cattails)	: <u>10-50%</u>		
Submergent vegetation: <10	<u>)%</u>			
Dead branches and downed woody mater	rial (branches/twigs)	available for egg attachm	ent: greater than 10	
INDIOATOR ORFOIGO	DATE	E00 MA 00E0 (#)	TARROL FOU ARVAE	NOTES
INDICATOR SPECIES	DATE 5/5/2015	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Wood Frog	5/5/2015	85	TADPOLES/LARVAE Tadpoles	NOTES
				NOTES
Wood Frog	5/5/2015	85		NOTES
Wood Frog	5/5/2015	85	Tadpoles	NOTES
Wood Frog Spotted Salamander	5/5/2015 5/5/2015	85 2	Tadpoles	
Wood Frog Spotted Salamander FACULTATIVE SPECIES	5/5/2015 5/5/2015 DATE	85 2 ABUNDANCE	Tadpoles	
Wood Frog Spotted Salamander FACULTATIVE SPECIES	5/5/2015 5/5/2015 DATE	85 2 ABUNDANCE	Tadpoles	
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies	5/5/2015 5/5/2015 DATE 5/5/2015	85 2 ABUNDANCE Many	Tadpoles	TES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies	5/5/2015 5/5/2015 DATE 5/5/2015	85 2 ABUNDANCE Many	Tadpoles NO	TES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	5/5/2015 5/5/2015 DATE 5/5/2015	ABUNDANCE Many ABUNDANCE	Tadpoles NO	OTES OTES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	5/5/2015 5/5/2015 DATE 5/5/2015	ABUNDANCE Many ABUNDANCE	Tadpoles NO	OTES OTES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	5/5/2015 5/5/2015 DATE 5/5/2015 DATE DATE	ABUNDANCE Many ABUNDANCE	Tadpoles NO	OTES OTES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES	5/5/2015 5/5/2015 DATE 5/5/2015 DATE DATE Ves [ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE	Tadpoles NO	OTES OTES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	5/5/2015 5/5/2015 DATE 5/5/2015 DATE DATE Ves Yes Yes	ABUNDANCE Many ABUNDANCE ABUNDANCE ABUNDANCE	Tadpoles NO	OTES OTES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	5/5/2015 5/5/2015 DATE 5/5/2015 DATE DATE Ves Yes Yes	ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE No	Tadpoles NO	OTES OTES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	5/5/2015 5/5/2015 DATE 5/5/2015 DATE DATE Ves Yes Yes Yes Yes	ABUNDANCE Many ABUNDANCE ABUNDANCE ABUNDANCE V No	Tadpoles NO	OTES OTES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY 18 TOTAL for Pool Characteristics	5/5/2015 5/5/2015 DATE 5/5/2015 DATE DATE Ves Yes Yes Yes Yes	ABUNDANCE Many ABUNDANCE ABUNDANCE ABUNDANCE V No	NO NO	OTES OTES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY 18 TOTAL for Pool Characteristi Other Comments:	5/5/2015 5/5/2015 DATE 5/5/2015 DATE DATE Ves Yes Yes Yes Yes	ABUNDANCE Many ABUNDANCE ABUNDANCE ABUNDANCE V No	NO NO	OTES OTES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY 18 TOTAL for Pool Characteristics	5/5/2015 5/5/2015 DATE 5/5/2015 DATE DATE Ves Yes Yes Yes Yes	ABUNDANCE Many ABUNDANCE ABUNDANCE ABUNDANCE V No	NO NO	OTES OTES





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Project File #60328763	Project Name: Northeast Energy Dir	rect Project	Pool ID: DR-A	C3-VP003
Observer: SH		Phone	or email:	
Landowner/Applicant: DRACO HOM	MES INC.	Phone	or email:	
Address: 43 BERUBE	LN City: D	DRACUT	State: MA	Zip:: 01826
Location of vernal pool:				
Survey date(s):: 5/04/2015	Longitude/Latitude (in decimal	l degrees):	42.68559229, -71.2640)2532
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):			
1. Landscape Setting (check all that	apply):			
Upland depression (4 pts; if th	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (w	vithin 1000 feet of one or more other ve	ernal pools)(NA	A)	
☐ Pool within larger wetland syst	tem (4 pts; if this is also in a floodplain	n, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin: Natural Depression				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:	TREE/BRU	SH CLEARING ON ADJ	ACENT ROW
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coasta	al marine sediments	
4. Aquatic resource type that best ap	pplies to this pool (choose dominan	it):		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	s) 🔲 Flo	oodplain (overflow/oxbov	v) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Ot	ther (variable points):	
☐ Peatland (acidic fen or bog) (4p	ts)	(2pts)		
5. Pool canopy cover (%): 60%				
6. Predominant substrate:				
☑ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,e	etc.):	
7. Pool sizes:				
Approximate dimensions of pool (at		<u>3336.61</u>		
Maximum depth at deepest point at 8. Hydrology:	time of survey (include units):	<u>3'</u>		
• •	ctual, observed hydroperiod value(s) is	s(are) known. u	se the presence of these	e example
indicator species to best predict the		, , ,		
□ Dries between early March and	early July (e.g., Thelypteris palustris,	Carex stricta, I	mpatiens capensis, llex	verticillata)(6pts)
☑ Dries between early July and early	arly September (e.g., Sagittaria latifolia	a, Scirpus cype	rinus, Dulichium arundin	aceum, Cephalanthus occ.)(8pts)
□ Dries between early September	and early November (e.g., Eleocharis	s palustris, Glyc	eria canadensis, Utricula	aria spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently e	exposed (e.g., N	luphar spp., Potamogeto	n spp.)(8pts)
How long does pool hold water?	Semi-permanent			
b. Inlet/Outlet (pick one):				
No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (channel with we	ell-defined banks and pe	rmanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)				



9. Water quality:					
	urbidity 🔲 I	High algae cont	ent Tannic		
24 TOTAL for Pool	I Characteristics	(out of 28 max)		
B. VERNAL POOL ENVELOPE	(100 ft) AND CR	ITICAL HABITA	AT AREA (100-750 ft) CI	HARACTERISTICS (fill in a	III information known):
1. Landuse type and approxim	nate percentage v	within the 100-	ft vernal pool envelope:		
✓ Forested: 60% ((16 pts)	 ✓ O	pen (e.g., meadow, agric	culture, golf course): 40%	(4 pts)
☐ Shrub: <u>%</u> ((10 pts)	□ D	eveloped: <u>0%</u>	(0 pts)	
2. Landuse type and approxim	nate percentage v	within the 100-	750-ft vernal pool critica	al terrestrial habitat:	
✓ Forested: 40% ((16 pts)	 ✓ C	pen (e.g., meadow, agric	culture, golf course): 45%	(4 pts)
☐ Shrub: <u>%</u> ((10 pts)	☑ D	eveloped: <u>15%</u>	(0 pts)	
			ement within the envelop incorporate this informati	e and/or critical terrestrial h on.	abitat? If so,
Based on:	d estimate [☐ GIS	Aerial phot	o estimate	
20 TOTAL for Poo	ol Envelope and (Critical Terres	trial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VER	RNAL POOL				
Vegetation type and percent of	cover IN THE POC	OL that can prov	vide egg attachment or of	fer concealment to aquatic	or developing larvae.
Shrubs: <u>10-50%</u>					
Emergent vegetation (g	grasses, seges, ru	ishes, cattails):	<u>NA</u>		
Submergent vegetation	n: <u>NA</u>				
• •					
Dead branches and downed v		ranches/twigs) a	available for egg attachm	ent: greater than 10	
• •	woody material (br	ranches/twigs) a	evailable for egg attachm	ent: greater than 10 TADPOLES/LARVAE	NOTES
Dead branches and downed v	woody material (br				NOTES
Dead branches and downed v	woody material (br	DATE		TADPOLES/LARVAE	NOTES
Dead branches and downed v	woody material (br	DATE		TADPOLES/LARVAE Few	NOTES
Dead branches and downed v INDICATOR SPECIE Fairy Shrimp	woody material (br	DATE 5/5/2015	EGG MASSES (#)	TADPOLES/LARVAE Few	
Dead branches and downed v INDICATOR SPECIE Fairy Shrimp	woody material (br	DATE 5/5/2015	EGG MASSES (#)	TADPOLES/LARVAE Few	
Dead branches and downed volume in the second secon	woody material (br	DATE 5/5/2015 DATE	EGG MASSES (#) ABUNDANCE	TADPOLES/LARVAE Few	NOTES
Dead branches and downed of INDICATOR SPECIE Fairy Shrimp FACULTATIVE SPECIE PREDATOR SPECIE OTHER SPECIES	is	DATE 5/5/2015 DATE DATE DATE	ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Few	NOTES
Dead branches and downed volume in the second secon	is	DATE 5/5/2015 DATE DATE	ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Few	NOTES
Dead branches and downed of INDICATOR SPECIE Fairy Shrimp FACULTATIVE SPECIE PREDATOR SPECIE OTHER SPECIES	is	DATE 5/5/2015 DATE DATE DATE	ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Few	NOTES
Dead branches and downed of INDICATOR SPECIE Fairy Shrimp FACULTATIVE SPECIE PREDATOR SPECIE OTHER SPECIES	Woody material (br	DATE 5/5/2015 DATE DATE DATE 5/5/2015	ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Few	NOTES
PREDATOR SPECIE OTHER SPECIES GREEN FROG	woody material (br	DATE 5/5/2015 DATE DATE DATE 5/5/2015 Yes	ABUNDANCE ABUNDANCE ABUNDANCE Common	TADPOLES/LARVAE Few	NOTES
INDICATOR SPECIE Fairy Shrimp FACULTATIVE SPECIE PREDATOR SPECIES GREEN FROG Presence of Indicator Species	woody material (br	DATE 5/5/2015 DATE DATE DATE 5/5/2015 Yes Yes	ABUNDANCE ABUNDANCE Common	TADPOLES/LARVAE Few	NOTES
INDICATOR SPECIE Fairy Shrimp FACULTATIVE SPECIE PREDATOR SPECIES OTHER SPECIES GREEN FROG Presence of Indicator Species Were spermatophores observed Were fish observed in the pool?	woody material (br	DATE 5/5/2015 DATE DATE DATE 5/5/2015 Yes Yes	ABUNDANCE ABUNDANCE Common No	TADPOLES/LARVAE Few	NOTES
INDICATOR SPECIE Fairy Shrimp FACULTATIVE SPECIE PREDATOR SPECIE OTHER SPECIES GREEN FROG Presence of Indicator Species Were spermatophores observed	woody material (br	DATE 5/5/2015 DATE DATE DATE 5/5/2015 Yes Yes	ABUNDANCE ABUNDANCE ABUNDANCE Common	TADPOLES/LARVAE Few	NOTES
INDICATOR SPECIE Fairy Shrimp FACULTATIVE SPECIE OTHER SPECIES GREEN FROG Presence of Indicator Species Were spermatophores observed Were fish observed in the pool?	woody material (br	DATE 5/5/2015 DATE DATE DATE 5/5/2015 Yes Yes	ABUNDANCE ABUNDANCE ABUNDANCE Common	TADPOLES/LARVAE Few	NOTES





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Project File #60328763	Project Name: Northeast Energy Dir	rect Project	Pool ID: DR-AC3	-VP004
Observer: SH		Phone or e	email:	
Landowner/Applicant: NEW ENGL	AND POWER COMPANY	Phone or e	email:	
Address: 40 SYLVAN	RD City: D	DRACUT	State: MA	Zip:: 01826
Location of vernal pool:				
Survey date(s):: 5/06/2015	Longitude/Latitude (in decima	ıl degrees): 42	2.69095177, -71.270037	'17
A. VERNAL POOL CHARACTERISTI	CS (fill in all information known):			
1. Landscape Setting (check all that	apply):			
☐ Upland depression (4 pts; if the	nis is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (v	vithin 1000 feet of one or more other v	ernal pools)(NA)		
☐ Pool within larger wetland sys	stem (4 pts; if this is also in a floodplain	າ, use 2 pts)		
✓ Pool part of wildlife corridor (4)	pts)			
✓ Other (variable pts):	RECENTLY MOWED FLOODED RO	OW WITH TIRE RU	JTS	
Pool Origin: Ditch along road or	rut from vehicle			
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:	RECENTLY MC	OWED	
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coastal ma	arine sediments	
4. Aquatic resource type that best a	oplies to this pool (choose dominan	ıt):		
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	s) 🔲 Floodp	plain (overflow/oxbow) ((3pts)
✓ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other	(variable points):	
☐ Peatland (acidic fen or bog) (4p	ots)	(2pts)		
5. Pool canopy cover (%): 0%				
6. Predominant substrate:				
✓ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.):	: <u> </u>	
7. Pool sizes:				
Approximate dimensions of pool (a	, ,,,,,,	<u>304.75</u>		
Maximum depth at deepest point at	time of survey (include units):	<u>6"</u>		
8. Hydrology: a Estimated hydroneriod (unless a	ctual, observed hydroperiod value(s) is	s(are) known juse tl	he presence of these e:	xample
	e expected hydroperiod of the pool):	5(a.6) kilowii, acc ii	to procented or those of	tampio
Dries between early March and	l early July (e.g., Thelypteris palustris,	Carex stricta, Impa	tiens capensis, llex ver	ticillata)(6pts)
□ Dries between early July and e	arly September (e.g., <i>Sagittaria latifolia</i>	a, Scirpus cyperinus	s, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
□ Dries between early Septembe	r and early November (e.g., <i>Eleocharis</i>	s palustris, Glyceria	canadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently e	exposed (e.g., Nuph	ar spp., Potamogeton s	spp.)(8pts)
How long does pool hold water?	<u>Seasonal</u>			
b. Inlet/Outlet (pick one):				
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet ((channel with well-d	efined banks and perm	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)			·	, , , ,



9. Water quality:					
☑ Clear ☐ H	High turbidity	☐ High algae co	ontent		
22 TOTAL for	r Pool Characteri	stics (out of 28 m	ax.)		
B. VERNAL POOL ENVE	LOPE (100 ft) AN	D CRITICAL HAB	ITAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and app	roximate percent	tage within the 10	0-ft vernal pool envelope	:	
✓ Forested: <u>5%</u>	(16 pts)	\square	Open (e.g., meadow, agri-	culture, golf course): 95%	(4 pts)
☐ Shrub: <u>%</u>	(10 pts)		Developed: <u>%</u>	(0 pts)	
2. Landuse type and app	roximate percent	tage within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 30%	(16 pts)		Open (e.g., meadow, agri	culture, golf course): 55%	(4 pts)
☐ Shrub: <u>%</u>	(10 pts)		Developed: <u>15%</u>	(0 pts)	
			ovement within the envelop to incorporate this informat	pe and/or critical terrestrial hab ion.	itat? If so,
Based on:	Field estimate	☐ GIS	Aerial pho	to estimate	
<u>20</u> TOTAL fo	or Pool Envelope	and Critical Terro	estrial Habitat Area (out c	of 32 max.)	
C. SPECIES PRESENT IN	VERNAL POOL				
Shrubs: >50	<u>0%</u> ition (grasses, seg	es, rushes, cattails		ffer concealment to aquatic or	developing larvae.
Oubinicigent vege	etation: <u>NA</u>				
			s) available for egg attachm	nent: greater than 10	
	vned woody mater		s) available for egg attachm	nent: greater than 10 TADPOLES/LARVAE	NOTES
Dead branches and dow	vned woody mater	rial (branches/twigs	, 55	•	NOTES
Dead branches and dow	vned woody mater	ial (branches/twigs	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Dead branches and dow	vned woody mater PECIES g	ial (branches/twigs	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES DTES
Dead branches and dow INDICATOR SP Wood Frog	PECIES G SPECIES	DATE 5/6/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	
Dead branches and dow INDICATOR SP Wood Frog FACULTATIVE S	PECIES G SPECIES	DATE 5/6/2015 DATE	EGG MASSES (#) 7 ABUNDANCE	TADPOLES/LARVAE Tadpoles	
Dead branches and dow INDICATOR SP Wood Frog FACULTATIVE S	PECIES 9 SPECIES S	DATE 5/6/2015 DATE	EGG MASSES (#) 7 ABUNDANCE	TADPOLES/LARVAE Tadpoles	
Dead branches and dow INDICATOR SP Wood Frog FACULTATIVE S Caddisflies	PECIES 9 SPECIES S	DATE 5/6/2015 DATE 5/6/2015 DATE 5/6/2015	EGG MASSES (#) 7 ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Tadpoles	DTES
Dead branches and dow INDICATOR SP Wood Frog FACULTATIVE S Caddisflies	PECIES PECIES PECIES	DATE 5/6/2015 DATE 5/6/2015	EGG MASSES (#) 7 ABUNDANCE Few	TADPOLES/LARVAE Tadpoles NC	DTES
Dead branches and dow INDICATOR SP Wood Frog FACULTATIVE S Caddisflies PREDATOR SP	PECIES PECIES PECIES	DATE 5/6/2015 DATE 5/6/2015 DATE 5/6/2015	EGG MASSES (#) 7 ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	DTES DTES
Dead branches and dow INDICATOR SP Wood Frog FACULTATIVE S Caddisflies PREDATOR SP	PECIES SPECIES CIES	DATE 5/6/2015 DATE 5/6/2015 DATE 5/6/2015	EGG MASSES (#) 7 ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	DTES DTES
Dead branches and dow INDICATOR SP Wood Frog FACULTATIVE S Caddisflies PREDATOR SP OTHER SPEC	PECIES SPECIES PECIES CIES ecies	DATE 5/6/2015 DATE 5/6/2015 DATE 5/6/2015 DATE DATE	ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	DTES DTES
Presence of Indicator Spe	PECIES GRECIES SPECIES CIES CIES ecies Served?	DATE 5/6/2015 DATE 5/6/2015 DATE 5/6/2015 DATE DATE VYes	EGG MASSES (#) 7 ABUNDANCE FeW ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	DTES DTES
Presence of Indicator Spewere spermatophores obs	PECIES GRECIES SPECIES CIES CIES ecies Served?	DATE 5/6/2015 DATE 5/6/2015 DATE 5/6/2015 DATE DATE Ves Yes	EGG MASSES (#) 7 ABUNDANCE FeW ABUNDANCE ABUNDANCE No No	TADPOLES/LARVAE Tadpoles NC	DTES DTES
Presence of Indicator Sp Were spermatophores obs Were fish observed in the	PECIES GRECIES SPECIES CIES CIES ecies Served?	DATE 5/6/2015 DATE 5/6/2015 DATE 5/6/2015 DATE Ves Yes Yes Yes	EGG MASSES (#) 7 ABUNDANCE FeW ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles NC	OTES OTES
Presence of Indicator Sp Were spermatophores obs Were fish observed in the	PECIES SPECIES CIES CIES ecies served? pool?	DATE 5/6/2015 DATE 5/6/2015 DATE 5/6/2015 DATE Ves Yes Yes Yes	EGG MASSES (#) 7 ABUNDANCE FeW ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles NC	OTES OTES





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Project File #60328763	Project Name: Northeast Energy D	irect Project	Pool ID: DR-AC3	-VP005
Observer: SH		Phone or	r email:	
Landowner/Applicant: COUTURE [ONALD A. (TE)	Phone or	r email:	
Address: 23 MONTE F	ROAD City:	DRACUT	State: MA	Zip:: 01826
Location of vernal pool:				
Survey date(s):: 5/06/2015	Longitude/Latitude (in decima	al degrees): 4	12.69353930, -71.256485	500
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):			
1. Landscape Setting (check all that	apply):			
☐ Upland depression (4 pts; if th	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (was provided to the pool part of a pool complex (was provided to the pool part of a pool complex (was provided to the pool part of a po	vithin 1000 feet of one or more other v	vernal pools)(NA)		
Pool within larger wetland sys	tem (4 pts; if this is also in a floodplai	in, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin: Natural, but altered				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:	IN UTILITY RO	OW	
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coastal n	marine sediments	
4. Aquatic resource type that best ap	oplies to this pool (choose dominar	nt):		
☐ Forested wetland (4pts)	✓ Herbaceous wetland (4pt)	ts) 🔲 Floor	dplain (overflow/oxbow) ((3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Othe	er (variable points):	
☐ Peatland (acidic fen or bog) (4p	ots)	ı (2pts)		
5. Pool canopy cover (%): 0%				
6. Predominant substrate:				
☑ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.	.):	
7. Pool sizes:				
Approximate dimensions of pool (at	. ,,,,,,,	<u>2189.56</u>		
Maximum depth at deepest point at 8. Hydrology:	time of survey (include units):	<u>1.5'</u>		
	ctual, observed hydroperiod value(s)	is(are) known, use	the presence of these ex	xample
indicator species to best predict the				
Dries between early March and	early July (e.g., Thelypteris palustris	i, Carex stricta, Imp	oatiens capensis, llex ver	ticillata)(6pts)
☐ Dries between early July and ea	arly September (e.g., Sagittaria latifoli	lia, Scirpus cyperin	us, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
☐ Dries between early September	and early November (e.g., <i>Eleochari</i>	is palustris, Glycer	ia canadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently	exposed (e.g., Nup	ohar spp., Potamogeton s	<i>spp</i> .)(8pts)
How long does pool hold water?	<u>Seasonal</u>			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet	(channel with well-	-defined banks and perma	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)	_			, , , ,



9. Water quality:				
☐ Clear ☐ High turbidity	✓ High algae co	ontent		
20 TOTAL for Pool Characte	ristics (out of 28 m	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) A	ND CRITICAL HABI	TAT AREA (100-750 ft) CI	HARACTERISTICS (fill in all	information known):
Landuse type and approximate percent	ntage within the 10	0-ft vernal pool envelope:	:	
✓ Forested: 30% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 70%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
2. Landuse type and approximate percei	ntage within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 45% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 20%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 35%	(0 pts)	
Are there one or more barriers to check here and see directions for				oitat? If so,
Based on:	☐ GIS	Aerial phot	o estimate	
20 TOTAL for Pool Envelop	e and Critical Terre	estrial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POO	L			
Vegetation type and percent cover IN TH Shrubs: <10% Emergent vegetation (grasses, se Submergent vegetation: ≤1	·		fer concealment to aquatic or	developing larvae.
Dead branches and downed woody mate) available for egg attachm	ent: <u>1 - 10</u>	
Dead branches and downed woody mate	erial (branches/twigs	, 55		NOTES
-		egg masses (#)	ent: 1-10 TADPOLES/LARVAE Tadpoles	NOTES 1/2" LONG TADPOLES
Dead branches and downed woody mate	erial (branches/twigs	, 55	TADPOLES/LARVAE	
Dead branches and downed woody mate	erial (branches/twigs	, 55	TADPOLES/LARVAE Tadpoles	
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog	DATE 5/7/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	1/2" LONG TADPOLES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 5/7/2015 DATE	EGG MASSES (#) ABUNDANCE	TADPOLES/LARVAE Tadpoles	1/2" LONG TADPOLES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 5/7/2015 DATE	EGG MASSES (#) ABUNDANCE	TADPOLES/LARVAE Tadpoles	1/2" LONG TADPOLES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015	ABUNDANCE Common ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	1/2" LONG TADPOLES OTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies	DATE 5/7/2015 DATE 5/7/2015	EGG MASSES (#) ABUNDANCE Common	TADPOLES/LARVAE Tadpoles NO	1/2" LONG TADPOLES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015 DATE DATE	ABUNDANCE Common ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	1/2" LONG TADPOLES OTES
INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES	DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015 DATE DATE VAITE DATE DATE DATE DATE	EGG MASSES (#) ABUNDANCE Common ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	1/2" LONG TADPOLES OTES
INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015 DATE DATE Ves Yes	EGG MASSES (#) ABUNDANCE Common ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	1/2" LONG TADPOLES OTES
INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015 DATE DATE Ves Yes	ABUNDANCE Common ABUNDANCE ABUNDANCE ABUNDANCE No No	TADPOLES/LARVAE Tadpoles NO	1/2" LONG TADPOLES OTES
INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015 DATE Ves Yes Yes Yes	EGG MASSES (#) ABUNDANCE Common ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles NO	1/2" LONG TADPOLES OTES OTES
INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES OTHER SPECIES Were spermatophores observed? Were fish observed in the pool?	DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015 DATE Ves Yes Yes Yes	EGG MASSES (#) ABUNDANCE Common ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles NO NO	1/2" LONG TADPOLES OTES OTES





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Pro	ject File #60328763	Project Name: Northeas	t Energy Direct Project	t Pool ID:	DR-AC3-VP00	6
Obs	server: SH		P	hone or email:		
Lan	downer/Applicant: MONTE CAR	RL JR.	P	hone or email:		
Add	dress: 470 WHEELE	ER RD	City: DRACUT	State:	MA Z	ip:: 01826
Loc	ation of vernal pool:					
Sur	vey date(s):: 5/06/2015	Longitude/Latitude	e (in decimal degrees):	42.69083040, -	71.25960065	
A. VE	RNAL POOL CHARACTERISTIC	S (fill in all information	known):			
1. Lar	ndscape Setting (check all that a	apply):				
[☐ Upland depression (4 pts; if thi	is is also in a floodplain, u	se 2 pts)			
[☐ Pool part of a pool complex (w	ithin 1000 feet of one or r	nore other vernal pools	s)(NA)		
6	Pool within larger wetland syst	em (4 pts; if this is also in	a floodplain, use 2 pts)		
[☐ Pool part of wildlife corridor (4	pts)				
[☐ Other (variable pts):					
Pod	ol Origin: Natural Depression					
2. Vei	nal pool condition:					
Des	scribe any recent modifications to	the pool and associated I	andscape: PART	OF POOL IN ROW		
3. Pai	ent material:					
	Glacial fluvial ("outwash")	☐ Loose till	☐ Pe	eat		
	Dense till	☐ Alluvium	☐ Cc	pastal marine sedimer	nts	
4. Aq	uatic resource type that best ap	plies to this pool (choo	se dominant):			
\checkmark	Forested wetland (4pts)	☐ Herbaceous w	vetland (4pts)	Floodplain (overfloo	w/oxbow) (3pts)	
	Shrub wetland (4pts)	☐ Open water (2	2 pts)	Other (variable poir	nts):	
	Peatland (acidic fen or bog) (4p	ts)	ream reach (2pts)			
5. Po	ol canopy cover (%): 60%					
6. Pre	dominant substrate:					
✓	Mineral soil	Depth:				
	Organic matter (peat/muck)	Sampling location	(e.g.,deepest zone, ed	dge,etc.):		
	ol sizes:					
	proximate dimensions of pool (at	. ,,	,	<u>52</u>		
	aximum depth at deepest point at drology:	time of survey (include ur	nits): <u>2'</u>			
a.	Estimated hydroperiod (unless ad dicator species to best predict the			vn, use the presence	of these example	;
	Dries between early March and	early July (e.g., Thelypte	ris palustris, Carex stric	cta, Impatiens capens	is, llex verticillata	a)(6pts)
	Dries between early July and ea	arly September (e.g., Sagi	ittaria latifolia, Scirpus	cyperinus, Dulichium a	arundinaceum, C	Cephalanthus occ.)(8pts)
	Dries between early September	and early November (e.g	., Eleocharis palustris,	Glyceria canadensis,	Utricularia spp.,	Decodon vert.)(8pts)
	Dries between early November	and late December, or int	ermittently exposed (e.	g., Nuphar spp., Pota	mogeton spp.)(8	pts)
ŀ	How long does pool hold water?	<u>Seasonal</u>				
b.	Inlet/Outlet (pick one):					
	No inlet/outlet (8 pts)	☐ Permanent inle	et or outlet (channel wi	th well-defined banks	and permanent	flow) (2 pts)
	Temporary inlet/outlet (6 pts)					



9. Water quality:					
✓ Clear	☐ High turbidity	y ☐ High algae	content		
<u>22</u> TOT/	AL for Pool Char	acteristics (out of 28	max.)		
B. VERNAL POOL E	ENVELOPE (100	ft) AND CRITICAL HA	BITAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and	d approximate p	ercentage within the	100-ft vernal pool envelope	:	
✓ Forested:	80% (16 pts) _	Open (e.g., meadow, agri	culture, golf course): 20%	(4 pts)
☐ Shrub:	<u>%</u> (10 pts)) [Developed: %	(0 pts)	
2. Landuse type and	d approximate pe	ercentage within the 1	100-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested:	80% (16 pts) 5	Open (e.g., meadow, agri	culture, golf course): 15%	(4 pts)
☐ Shrub:	<u>%</u> (10 pts)) _	Developed: <u>5%</u>	(0 pts)	
Are there of check here	ne or more barrier and see direction	rs to vernal pool fauna s for explanation of ho	movement within the envelop w to incorporate this informat	pe and/or critical terrestrial hab ion.	itat? If so,
Based on:	☐ Field estim	nate 🔲 GIS	✓ Aerial pho	to estimate	
<u>20</u> TO1	ΓAL for Pool Env	relope and Critical Te	rrestrial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESE	NT IN VERNAL F	POOL			
Shrubs: Emergent v Submergen	>50% regetation (grasse	es, seges, rushes, catta		ffer concealment to aquatic or sent: greater than 10	developing larvae.
INDICATO	OR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
	OR SPECIES and Frog	DATE 5/7/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES 1/2" TADPOLES
Woo					
Woo Spotted S	od Frog Salamander	5/7/2015 5/7/2015	7 2	Tadpoles	1/2" TADPOLES
Spotted S	od Frog Salamander	5/7/2015 5/7/2015 DATE	7 2 ABUNDANCE	Tadpoles	
Spotted S	od Frog Salamander	5/7/2015 5/7/2015	7 2	Tadpoles	1/2" TADPOLES
Spotted S FACULTAT Cade	Salamander FIVE SPECIES disflies	5/7/2015 5/7/2015 DATE 5/7/2015	7 2 ABUNDANCE Few	Tadpoles	1/2" TADPOLES DTES
Spotted S FACULTAT Cade	od Frog Salamander	5/7/2015 5/7/2015 DATE	7 2 ABUNDANCE	Tadpoles	1/2" TADPOLES
FACULTAT Cade	Salamander FIVE SPECIES disflies OR SPECIES	5/7/2015 5/7/2015 DATE 5/7/2015 DATE	7 2 ABUNDANCE Few ABUNDANCE	Tadpoles NC	1/2" TADPOLES DIES
FACULTAT Cade	Salamander FIVE SPECIES disflies	5/7/2015 5/7/2015 DATE 5/7/2015	7 2 ABUNDANCE Few	Tadpoles NC	1/2" TADPOLES DTES
FACULTAT Cade	Salamander FIVE SPECIES disflies DR SPECIES SPECIES	5/7/2015 5/7/2015 DATE 5/7/2015 DATE	7 2 ABUNDANCE Few ABUNDANCE	Tadpoles NC	1/2" TADPOLES DIES
FACULTAT Cade PREDATO OTHER	Salamander FIVE SPECIES disflies DR SPECIES SPECIES or Species	5/7/2015 5/7/2015 DATE 5/7/2015 DATE DATE	7 2 ABUNDANCE Few ABUNDANCE ABUNDANCE	Tadpoles NC	1/2" TADPOLES DIES
PREDATO OTHER	Salamander FIVE SPECIES disflies DR SPECIES SPECIES or Species es observed?	5/7/2015 5/7/2015 DATE 5/7/2015 DATE DATE DATE ✓ Yes	7 2 ABUNDANCE Few ABUNDANCE ABUNDANCE	Tadpoles NC	1/2" TADPOLES DIES
PREDATO OTHER Presence of Indicate Were spermatophore	Salamander FIVE SPECIES disflies DR SPECIES SPECIES or Species es observed?	5/7/2015 5/7/2015 DATE 5/7/2015 DATE DATE Ves Yes	7 2 ABUNDANCE FeW ABUNDANCE ABUNDANCE No No	Tadpoles NC	1/2" TADPOLES DIES
PREDATO OTHER Presence of Indicate Were spermatophore Were fish observed i	Salamander FIVE SPECIES disflies DR SPECIES SPECIES or Species es observed?	5/7/2015 5/7/2015 DATE 5/7/2015 DATE DATE Ves Yes Yes Yes	7 2 ABUNDANCE FeW ABUNDANCE ABUNDANCE No No No	Tadpoles NC	1/2" TADPOLES DIES DIES
PREDATO OTHER Presence of Indicate Were spermatophore Were fish observed i	Salamander FIVE SPECIES disflies DR SPECIES or Species es observed? in the pool?	5/7/2015 5/7/2015 DATE 5/7/2015 DATE DATE Ves Yes Yes Yes	7 2 ABUNDANCE FeW ABUNDANCE ABUNDANCE No No No	NC NC	1/2" TADPOLES DIES DIES





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Project File #60328763	Project Name: Northeast Energy D	irect Project	Pool ID: DR-AC3-	-VP007
Observer: SH		Phone	or email:	
Landowner/Applicant: COUTURE [OONALD A. (TE)	Phone of	or email:	
Address: 23 MONTE F	ROAD City:	DRACUT	State: MA	Zip:: 01826
Location of vernal pool:				
Survey date(s):: 5/06/2015	Longitude/Latitude (in decima	al degrees):	42.69389595, -71.256409	93
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):			
1. Landscape Setting (check all that	apply):			
✓ Upland depression (4 pts; if th	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (was provided to the pool part of a pool complex (was provided to the pool part of a pool complex (was provided to the pool part of a po	vithin 1000 feet of one or more other	vernal pools)(NA)	1	
☐ Pool within larger wetland sys	tem (4 pts; if this is also in a floodplai	in, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin: Natural Depression				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:	ADJACENT	TO ROW	
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coastal	marine sediments	
4. Aquatic resource type that best ap	oplies to this pool (choose domina	nt):		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pt	ts) 🔲 Floo	odplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Oth	ner (variable points):	
☐ Peatland (acidic fen or bog) (4p	ts)	ı (2pts)		
5. Pool canopy cover (%): 80%				
6. Predominant substrate:				
☑ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deep	est zone, edge,et	c.):	
7. Pool sizes:				
Approximate dimensions of pool (at	. ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u>301.35</u>		
Maximum depth at deepest point at	time of survey (include units):	<u>1.5'</u>		
Hydrology: a Estimated hydroperiod (unless as	ctual, observed hydroperiod value(s)	is(are) known us	se the presence of these ex	kample
indicator species to best predict the		15(4.5) 11151111, 45	cc p. coccc cccc c.	isinpro
□ Dries between early March and	early July (e.g., Thelypteris palustris	s, Carex stricta, Im	npatiens capensis, llex ven	ticillata)(6pts)
Dries between early July and early	arly September (e.g., Sagittaria latifol	lia, Scirpus cyperi	inus, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
□ Dries between early September	and early November (e.g., <i>Eleochar</i>	is palustris, Glyce	eria canadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently	exposed (e.g., Νι	uphar spp., Potamogeton s	spp.)(8pts)
How long does pool hold water?	<u>Seasonal</u>			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet	(channel with we	II-defined banks and perma	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)	_	•	·	, , , ,



☐ Clear ☐ High turbidity ☐ High algae content ☐ Tannic 22 TOTAL for Pool Characteristics (out of 28 max.) B. VERNAL POOL ENVELOPE (100 ft) AND CRITICAL HABITAT AREA (100-750 ft) CHARACTERISTICS (fill in all information known): 1. Landuse type and approximate percentage within the 100-ft vernal pool envelope: ☐ Forested: 85% (16 pts) ☐ Open (e.g., meadow, agriculture, golf course): 15% (4 pts) ☐ Shrub: % (10 pts) ☐ Developed: % (0 pts) 2. Landuse type and approximate percentage within the 100-750-ft vernal pool critical terrestrial habitat: ☐ Forested: 40% (16 pts) ☐ Open (e.g., meadow, agriculture, golf course): 20% (4 pts) ☐ Shrub: % (10 pts) ☐ Open (e.g., meadow, agriculture, golf course): 20% (4 pts) ☐ Open (e.g., meadow, agriculture, golf course): 20% (4 pts) ☐ Open (e.g., meadow, agriculture, golf course): 20% (4 pts)	
B. VERNAL POOL ENVELOPE (100 ft) AND CRITICAL HABITAT AREA (100-750 ft) CHARACTERISTICS (fill in all information known): 1. Landuse type and approximate percentage within the 100-ft vernal pool envelope: Forested: 85% (16 pts)	
1. Landuse type and approximate percentage within the 100-ft vernal pool envelope: ☐ Forested: 85% (16 pts) ☐ Open (e.g., meadow, agriculture, golf course): 15% (4 pts) ☐ Shrub: % (10 pts) ☐ Developed: % (0 pts) 2. Landuse type and approximate percentage within the 100-750-ft vernal pool critical terrestrial habitat: ☐ Forested: 40% (16 pts) ☐ Open (e.g., meadow, agriculture, golf course): 20% (4 pts)	
 Forested: 85% (16 pts) ☑ Open (e.g., meadow, agriculture, golf course): 15% (4 pts) ☐ Shrub: ½ (10 pts) ☐ Developed: ½ (0 pts) 2. Landuse type and approximate percentage within the 100-750-ft vernal pool critical terrestrial habitat: ☑ Forested: 40% (16 pts) ☑ Open (e.g., meadow, agriculture, golf course): 20% (4 pts) 	
☐ Shrub: % (10 pts) ☐ Developed: % (0 pts) 2. Landuse type and approximate percentage within the 100-750-ft vernal pool critical terrestrial habitat: ☐ Forested: 40% (16 pts) ☐ Open (e.g., meadow, agriculture, golf course): 20% (4 pts)	
2. Landuse type and approximate percentage within the 100-750-ft vernal pool critical terrestrial habitat: Profested: 40% (16 pts) Open (e.g., meadow, agriculture, golf course): 20% (4 pts)	
✓ Forested: 40% (16 pts) ✓ Open (e.g., meadow, agriculture, golf course): 20% (4 pts)	
(40)	
☐ Shrub: $\frac{\%}{}$ (10 pts) $$ Developed: $\frac{40\%}{}$ (0 pts)	
Are there one or more barriers to vernal pool fauna movement within the envelope and/or critical terrestrial habitat? If so, check here and see directions for explanation of how to incorporate this information.	
Based on: ☐ Field estimate ☐ GIS ☑ Aerial photo estimate	
20 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area (out of 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL	
Vegetation type and percent cover IN THE POOL that can provide egg attachment or offer concealment to aquatic or developing larvae.	
Shrubs: <u><10%</u>	
Emergent vegetation (grasses, seges, rushes, cattails): NA	
Submergent vegetation: NA	
Dead branches and downed woody material (branches/twigs) available for egg attachment: greater than 10	
INDICATOR SPECIES DATE EGG MASSES (#) TADPOLES/LARVAE NOTES	
Spotted Salamander 5/7/2015 3	
Wood Frog 5/7/2015 2	
FACULTATIVE SPECIES DATE ABUNDANCE NOTES	
Caddisflies 5/7/2015 Few	
Caddisflies 5/7/2015 Few	_
Caddisflies 5/7/2015 Few PREDATOR SPECIES DATE ABUNDANCE NOTES	
PREDATOR SPECIES DATE ABUNDANCE NOTES	
PREDATOR SPECIES DATE ABUNDANCE NOTES	
PREDATOR SPECIES DATE ABUNDANCE NOTES	
PREDATOR SPECIES DATE ABUNDANCE NOTES OTHER SPECIES DATE ABUNDANCE NOTES	
PREDATOR SPECIES DATE ABUNDANCE NOTES OTHER SPECIES DATE ABUNDANCE NOTES Presence of Indicator Species Yes No	
PREDATOR SPECIES DATE ABUNDANCE NOTES OTHER SPECIES DATE ABUNDANCE NOTES Presence of Indicator Species Yes No Were spermatophores observed? Yes No	
PREDATOR SPECIES DATE ABUNDANCE NOTES OTHER SPECIES DATE ABUNDANCE NOTES Presence of Indicator Species Yes No Were spermatophores observed? Yes No Were fish observed in the pool? Yes No	





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Proj	ect File #60328763	Project Name: Northeast Energ	Direct Project Pool ID: DR-AC3-VP008	3
Obs	server: SH		Phone or email:	
Lan	downer/Applicant: VINAL RIC	CHARD & BERNICE TRSTS	Phone or email:	
Add	lress: 561 BROA	ADWAY RD City:	DRACUT State: MA Zi	p:: 01826
Loc	ation of vernal pool:			
Sur	vey date(s):: 5/08/2015	Longitude/Latitude (in ded	imal degrees): 42.68317439, -71.28148241	
A. VE	RNAL POOL CHARACTERIS	TICS (fill in all information known		
1. Lan	dscape Setting (check all the	at apply):		
5	Upland depression (4 pts; if	this is also in a floodplain, use 2 pts	ı	
	Pool part of a pool complex	(within 1000 feet of one or more oth	er vernal pools)(NA)	
	Pool within larger wetland s	system (4 pts; if this is also in a flood	olain, use 2 pts)	
	Pool part of wildlife corridor	(4 pts)		
	Other (variable pts):			
Pod	ol Origin: Natural Depression	าก		
	nal pool condition:			
Des	scribe any recent modifications	to the pool and associated landscap	e:	
3. Par	ent material:			
	Glacial fluvial ("outwash")	□ Loose till	☐ Peat	
\checkmark	Dense till	☐ Alluvium	☐ Coastal marine sediments	
4. Aqı	uatic resource type that best	applies to this pool (choose dom	nant):	
$\overline{\checkmark}$	Forested wetland (4pts)	☐ Herbaceous wetland	4pts)	
	Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable points):	
	Peatland (acidic fen or bog) ((4pts)	ch (2pts)	
5. Pod	ol canopy cover (%): 65%	<u>6</u>		
6. Pre	dominant substrate:			
	Mineral soil	Depth: 6		
\checkmark	Organic matter (peat/muck)	Sampling location (e.g.,de	epest zone, edge,etc.): <u>DEEP ZONE</u>	
7. Pod	ol sizes:			
		(at maximum capacity) (sq. feet):	<u>1732.49</u>	
		at time of survey (include units):	<u>3.5'</u>	
-	drology: Estimated bydronoriad (unless	a actual absorved by draparied value	a) is/ara) known use the presence of these example	
	licator species to best predict t	he expected hydroperiod of the poo		
	Dries between early March a	nd early July (e.g., Thelypteris palus	tris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)
\checkmark	Dries between early July and	early September (e.g., Sagittaria la	ifolia, Scirpus cyperinus, Dulichium arundinaceum, C	ephalanthus occ.)(8pts)
	Dries between early Septemb	per and early November (e.g., Eleoc	naris palustris, Glyceria canadensis, Utricularia spp.,	Decodon vert.)(8pts)
	Dries between early Novemb	er and late December, or intermitter	lly exposed (e.g., <i>Nuphar spp., Potamogeton spp.</i>)(8p	ots)
F	low long does pool hold water	? <u>Seasonal</u>		
b.	Inlet/Outlet (pick one):			
	No inlet/outlet (8 pts)	☐ Permanent inlet or ou	let (channel with well-defined banks and permanent f	low) (2 pts)
_	Temporary inlet/outlet (6 pts)		·	



9. Water	quality:										
	lear	□н	igh turbidity		High algae co	onten	t ☑ T	annic			
	<u>22</u> TOT	TAL for	Pool Character	istics	(out of 28 m	ax.)					
B. VERN	IAL POOL	ENVEL	OPE (100 ft) AN	ID CRI	TICAL HAB	ITAT	AREA (10	0-750 ft) C	HARACTERISTIC	S (fill in al	II information known):
1. Landı	ıse type ar	nd appr	oximate percen	tage v	vithin the 10	00-ft v	ernal pool	envelope	:		
	Forested:	<u>80%</u>	(16 pts)			Ope	n (e.g., me	adow, agri	culture, golf course	e): <u>%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)		$\overline{\checkmark}$	Dev	eloped:	<u>20%</u>	(0 pts)		
2. Landı	ıse type ar	nd appr	oximate percen	tage v	vithin the 10	0-750	0-ft vernal	pool critic	al terrestrial hab	itat:	
$\overline{\mathbf{A}}$	Forested:	<u>50%</u>	(16 pts)			Ope	en (e.g., me	adow, agri	culture, golf course	e): <u>10%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)			Dev	eloped:	<u>40%</u>	(0 pts)		
			nore barriers to v						oe and/or critical te	errestrial ha	abitat? If so,
	Based on:		Field estimate	[□ GIS			Aerial pho	to estimate		
	<u>20</u> TO	TAL fo	r Pool Envelope	and (Critical Terr	estria	al Habitat A	Area (out o	of 32 max.)		
C. SPEC	IES PRES	ENT IN	VERNAL POOL								
	Shrubs: Emergent Submerge	<10 vegetat nt vege	<u>%</u> ion (grasses, seç tation: <u>NA</u>	ges, ru	shes, cattails	s):	<u>NA</u>		ffer concealment t		or developing larvae.
	INDICAT	OR SPI	ECIES		DATE		EGG MAS	SES (#)	TADPOLES/I	LARVAE	NOTES
	Wo	od Frog	I		5/8/2015		13		Tadpol	es	
	Spotted	Salama	ander		5/8/2015		2				
	FACULTA	TIVE S	PECIES		DATE	-	ABUNDA	NCE		N	IOTES
										-	100
	PREDAT	OR SPI	ECIES		DATE		ABUNDA	INCE		N	IOTES
	OTHER	R SPEC	IES		DATE		ABUNDA	NCE		N	IOTES
NO	ORTHERN	LEOPA	RD FROG		5/8/2015	T	Few	,			
Presenc	e of Indica	tor Spe	ecies	I	Yes	ים	No				
Were sp	ermatophor	res obse	erved?		Yes	√ 1	No				
Were fis	h observed	in the p	oool?		Yes	V	No				
SUMMA	RY										
	22 TOTA	L for Po	ool Characterist	ics			<u>20</u>	TOTAL fo	r Pool Envelope	and Critica	al Terrestrial Habitat Area
Other Co	mments:										







Project File #60328763	Project Name: Northeast Energy Di	rect Project	Pool ID: DR-AC3-	VP009
Observer: SH		Phone or	r email:	
Landowner/Applicant: VINAL RICH	ARD & BERNICE TRSTS	Phone or	r email:	
Address: 561 BROAD\	WAY RD City: [DRACUT	State: MA	Zip:: 01826
Location of vernal pool:				
Survey date(s):: 5/08/2015	Longitude/Latitude (in decima	al degrees): 4	42.68255004, -71.281118	51
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):			
1. Landscape Setting (check all that	apply):			
✓ Upland depression (4 pts; if th	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (w	rithin 1000 feet of one or more other v	vernal pools)(NA)		
☐ Pool within larger wetland syst	tem (4 pts; if this is also in a floodplair	n, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin: Natural Depression				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:			
•				
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coastal r	marine sediments	
4. Aquatic resource type that best ap	plies to this pool (choose dominar	nt):		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	s) 🔲 Floor	dplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Othe	er (variable points):	
☐ Peatland (acidic fen or bog) (4p	ts)	(2pts)		
5. Pool canopy cover (%): 80%				
6. Predominant substrate:				
✓ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc	.):	
7. Pool sizes:				
Approximate dimensions of pool (at	maximum capacity) (sq. feet):	<u>2391.86</u>		
Maximum depth at deepest point at	time of survey (include units):	<u>1.5'</u>		
8. Hydrology:	atual absorved by draparied value(a) i	is(ara) known yoo	the presence of these ev	rampla
indicator species to best predict the	ctual, observed hydroperiod value(s) is expected hydroperiod of the pool):	s(are) known, use	the presence of these ex	ampie
□ Dries between early March and	early July (e.g., Thelypteris palustris,	Carex stricta, Imp	oatiens capensis, llex vert	icillata)(6pts)
Dries between early July and early	arly September (e.g., Sagittaria latifolia	a, Scirpus cyperin	us, Dulichium arundinace	um, Cephalanthus occ.)(8pts)
□ Dries between early September	and early November (e.g., Eleocharis	s palustris, Glycer	ia canadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently e	exposed (e.g., Nur	ohar spp., Potamogeton s	pp.)(8pts)
How long does pool hold water?	Seasonal			
b. Inlet/Outlet (pick one):				
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet ((channel with well-	-defined banks and perma	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)				



9. Water quality:				
☑ Clear ☐ High turbidity	☐ High algae co	ntent Tannic		
24 TOTAL for Pool Character	ristics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) Al	ND CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	nformation known):
1. Landuse type and approximate percei	ntage within the 100)-ft vernal pool envelope	:	
✓ Forested: 100% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 0%	(0 pts)	
2. Landuse type and approximate percer	ntage within the 100)-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 75% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 25%	(0 pts)	
Are there one or more barriers to check here and see directions for				tat? If so,
Based on:	☐ GIS	✓ Aerial pho	to estimate	
16 TOTAL for Pool Envelop	e and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOI	_			
Vegetation type and percent cover IN TH	IE POOL that can pro	ovide egg attachment or o	ffer concealment to aquatic or o	developing larvae.
Shrubs: <10%	•	00	•	1 0
Emergent vegetation (grasses, se	ges, rushes, cattails)): <u>NA</u>		
Submergent vegetation: NA	<u> </u>			
Dead branches and downed woody mate	erial (branches/twigs)	available for egg attachm	ent: greater than 10	
Dead branches and downed woody mate	erial (branches/twigs)		ent: greater than 10 TADPOLES/LARVAE	NOTES
		egg masses (#)	-	NOTES
INDICATOR SPECIES	DATE	EGG MASSES (#)	-	NOTES
INDICATOR SPECIES Spotted Salamander	DATE 5/8/2015	EGG MASSES (#) 13	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Spotted Salamander	DATE 5/8/2015	EGG MASSES (#) 13	TADPOLES/LARVAE Tadpoles	NOTES TES
INDICATOR SPECIES Spotted Salamander Wood Frog	5/8/2015 5/8/2015	13 3	TADPOLES/LARVAE Tadpoles	
INDICATOR SPECIES Spotted Salamander Wood Frog	5/8/2015 5/8/2015	13 3	TADPOLES/LARVAE Tadpoles NO	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES	DATE 5/8/2015 5/8/2015 DATE	EGG MASSES (#) 13 3 ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES	DATE 5/8/2015 5/8/2015 DATE	EGG MASSES (#) 13 3 ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 5/8/2015 5/8/2015 DATE DATE	ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 5/8/2015 5/8/2015 DATE DATE DATE	ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES	DATE 5/8/2015 5/8/2015 DATE DATE DATE DATE	ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 5/8/2015 5/8/2015 DATE DATE DATE ✓ Yes ☐ Yes	ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 5/8/2015 5/8/2015 DATE DATE DATE ✓ Yes ☐ Yes	EGG MASSES (#) 13 3 ABUNDANCE ABUNDANCE ABUNDANCE No	TADPOLES/LARVAE Tadpoles NO	TES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	DATE 5/8/2015 5/8/2015 DATE DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE ABUNDANCE ABUNDANCE No No No	Tadpoles Tadpoles NO NO	TES TES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 5/8/2015 5/8/2015 DATE DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles NO	TES TES







Project File #60328763	Project Name: Northeast Energy Di	rect Project	Pool ID: DR-AC3-	VP010
Observer: SH		Phone o	or email:	
Landowner/Applicant: VINAL RICH	ARD & BERNICE TRSTS	Phone o	or email:	
Address: 561 BROAD	WAY RD City: [DRACUT	State: MA	Zip:: 01826
Location of vernal pool:				
Survey date(s):: 5/08/2015	Longitude/Latitude (in decima	al degrees):	42.68139533, -71.280778	88
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):			
1. Landscape Setting (check all that	apply):			
Upland depression (4 pts; if th	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (w	rithin 1000 feet of one or more other v	ernal pools)(NA)		
☐ Pool within larger wetland syst	tem (4 pts; if this is also in a floodplair	າ, use 2 pts)		
☐ Pool part of wildlife corridor (4)	pts)			
☐ Other (variable pts):				
Pool Origin: Natural Depression				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:			
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coastal r	marine sediments	
4. Aquatic resource type that best ap	plies to this pool (choose dominan	nt):		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	s) 🔲 Floo	odplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Othe	er (variable points):	
☐ Peatland (acidic fen or bog) (4p)	ts)	(2pts)		
5. Pool canopy cover (%): <u>85%</u>				
6. Predominant substrate:				
☑ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc):	
7. Pool sizes:				
Approximate dimensions of pool (at		<u>3012.76</u>		
Maximum depth at deepest point at 8. Hydrology:	time of survey (include units):	<u>4'</u>		
	ctual, observed hydroperiod value(s) is	s(are) known, use	the presence of these ex	ample
indicator species to best predict the		o(a. o)o, aoo	, and processes of another or	ap.o
□ Dries between early March and	early July (e.g., Thelypteris palustris,	Carex stricta, Imp	patiens capensis, llex vert	icillata)(6pts)
Dries between early July and early	arly September (e.g., Sagittaria latifolia	a, Scirpus cyperir	านร, Dulichium arundinace	um, Cephalanthus occ.)(8pts)
□ Dries between early September	and early November (e.g., Eleocharis	s palustris, Glycer	ria canadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently e	exposed (e.g., Nu	phar spp., Potamogeton s	<i>pp</i> .)(8pts)
How long does pool hold water?	<u>Seasonal</u>			
b. Inlet/Outlet (pick one):				
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet ((channel with well	-defined banks and perma	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)			•	, , , ,



9. Wate	r quality:									
☑ (Clear	ПН	igh turbidity	☐ High	algae co	ontent _	Tannic			
	<u>24</u> TO1	AL for	Pool Character	istics (out	of 28 m	ax.)				
B. VER	NAL POOL	ENVEL	OPE (100 ft) AN	ID CRITIC	AL HAB	ITAT AREA (100-750 ft)	CHARACTERISTICS	(fill in all	information known):
1. Land	use type ar	nd appr	oximate percen	tage withi	n the 10	0-ft vernal p	ool envelo	ppe:		
	Forested:	100%	(16 pts)			Open (e.g.,	meadow, a	griculture, golf course)	: <u>%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)			Developed:	<u>0%</u>	(0 pts)		
2. Land	use type ar	ıd appr	oximate percen	tage withi	n the 10	0-750-ft verr	al pool cri	itical terrestrial habit	at:	
	Forested:	90%	(16 pts)			Open (e.g.,	meadow, a	griculture, golf course)	: <u>%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)		$\overline{\checkmark}$	Developed:	<u>10%</u>	(0 pts)		
Ø			nore barriers to vee directions for o					elope and/or critical ter nation.	restrial hab	itat? If so,
	Based on:		Field estimate		GIS	[✓ Aerial p	hoto estimate		
	<u>16</u> TO	TAL fo	r Pool Envelope	e and Criti	cal Terre	estrial Habita	it Area (ou	it of 32 max.)		
C. SPE	CIES PRES	ENT IN	VERNAL POOL							
Vege	tation type a	ind perd	ent cover IN TH	E POOL th	at can p	rovide egg at	achment o	r offer concealment to	aquatic or	developing larvae.
	Shrubs:	<u>10-5</u>	<u>50%</u>							
	•	•	ion (grasses, se	ges, rushes	s, cattails	s): <u>NA</u>				
D 1	Submerge	•		=		·		harant maratanthan	10	
Dead	branches a	na aow	ned woody mate	riai (branci	nes/twigs	s) avallable to	r egg attac	hment: <u>greater than</u>	<u>10</u>	
	INDICAT	OR SPI	ECIES	DA	TE	EGG MA	SSES (#)	TADPOLES/L	ARVAE	NOTES
	Spotted	Salama	ander	5/8/2	2015		29			
	Wo	od Frog	1	5/8/2	2015		12	Tadpole	3	
	FACULTA	TIVE S	PECIES	DA	TE	ABUN	DANCE		NO	OTES
	Cad	ddisflies	•	5/8/2	2015	Cor	nmon			
	PREDAT	OR SPI	ECIES	DA	TE	ABUN	DANCE		NO	TES
	OTHE	R SPEC	IEC	 DA	TE	ADIIN	DANCE		NO	OTES
	OTHER	SPEC	IES	DA	VIE	ABUN	DANCE		NC	7123
Presen	ce of Indica	tor Spe	ecies	✓ Yes		□ No				
Were sp	permatophoi	es obse	erved?	☐ Yes		☑ No				
Were fis	sh observed	in the p	oool?	☐ Yes		☑ No				
SUMMA	RY									
	24 TOTA	L for Po	ool Characterist	tics			16 TOTAL	for Pool Envelope a	nd Critical	Terrestrial Habitat Area
Other C	omments:									







Project File #60328763	Project Name: Northeast Energy Dire	ct Project	Pool ID: DR-AC3-	VP011	
Observer: SH		Phone of	or email:		
Landowner/Applicant: VINAL RICHAR	RD & BERNICE TRSTS	Phone of	or email:		
Address: 561 BROADWA	AY RD City: DF	RACUT	State: MA	Zip:: 01826	
Location of vernal pool:					
Survey date(s):: 5/12/2015	Longitude/Latitude (in decimal of	degrees):	42.68315954, -71.2805657	77	
A. VERNAL POOL CHARACTERISTICS	(fill in all information known):				
I. Landscape Setting (check all that ap	ply):				
✓ Upland depression (4 pts; if this	is also in a floodplain, use 2 pts)				
☐ Pool part of a pool complex (with	nin 1000 feet of one or more other ver	rnal pools)(NA)			
☐ Pool within larger wetland syster	m (4 pts; if this is also in a floodplain,	use 2 pts)			
☐ Pool part of wildlife corridor (4 pt	s)				
☐ Other (variable pts):					
Pool Origin: Natural Depression					
2. Vernal pool condition:					
Describe any recent modifications to th	e pool and associated landscape:				
•					
3. Parent material:					
☐ Glacial fluvial ("outwash")	☐ Loose till	□ Peat			
✓ Dense till	☐ Alluvium	□ Coastal	marine sediments		
1. Aquatic resource type that best appl	ies to this pool (choose dominant)):			
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Floo	odplain (overflow/oxbow) (3	3pts)	
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Oth	ner (variable points):		
☐ Peatland (acidic fen or bog) (4pts)	Intermittent stream reach (2	2pts)			
5. Pool canopy cover (%): <u>70%</u>					
6. Predominant substrate:					
✓ Mineral soil	Depth:				
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepest	t zone, edge,et	c.):		
7. Pool sizes:					
Approximate dimensions of pool (at m	aximum capacity) (sq. feet):	<u>2737.91</u>			
Maximum depth at deepest point at tir	ne of survey (include units):	<u>1.5'</u>			
B. Hydrology:		(a.a.) I	. th		
 a. Estimated hydroperiod (unless actu indicator species to best predict the ex 		are) known, us	e the presence of these exa	ampie	
☑ Dries between early March and early	arly July (e.g., <i>Thelypteris palustris, C</i>	Carex stricta, Im	npatiens capensis, llex verti	icillata)(6pts)	
□ Dries between early July and early	y September (e.g., Sagittaria latifolia,	Scirpus cyperi	inus, Dulichium arundinace	um, Cephalanthus oc	c.)(8pts)
☐ Dries between early September a	nd early November (e.g., <i>Eleocharis</i> _l	palustris, Glyce	eria canadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November an	nd late December, or intermittently exp	posed (e.g., Nu	ıphar spp., Potamogeton sເ	op.)(8pts)	
How long does pool hold water?	<u>Seasonal</u>				
b. Inlet/Outlet (pick one):					
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (ch	hannel with wel	II-defined banks and perma	nent flow) (2 pts)	
☐ Temporary inlet/outlet (6 pts)					



☐ Clear	High turbidity	☐ High algae co	ontent 🗹 Tannic		
<u>22</u> TOT	AL for Pool Characte	ristics (out of 28 m	ax.)		
B. VERNAL POOL	ENVELOPE (100 ft) A	ND CRITICAL HAB	ITAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type an	d approximate perce	ntage within the 10	0-ft vernal pool envelope	:	
✓ Forested:	80% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub:	<u>%</u> (10 pts)		Developed: 20%	(0 pts)	
2. Landuse type an	d approximate perce	ntage within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested:	<u>75%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub:	<u>%</u> (10 pts)	☑	Developed: 25%	(0 pts)	
			ovement within the envelop to incorporate this informat	oe and/or critical terrestrial hab ion.	itat? If so,
Based on:	☐ Field estimate	☐ GIS	Aerial pho	to estimate	
<u>16</u> TO	TAL for Pool Envelop	e and Critical Terro	estrial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESI	ENT IN VERNAL POO	L			
Vegetation type a	nd percent cover IN Th	IE POOL that can p	rovide egg attachment or o	ffer concealment to aquatic or	developing larvae.
Shrubs:	<u>>50%</u>				
•	vegetation (grasses, se		s): <u><10%</u>		
-	_) <u>-50%</u> erial (branches/twigs	s) available for egg attachm	ent: areater than 10	
2 3 4 4 5 4 1 5 1		ona. (oranonos/miga		greater triair to	
	OR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
VVO	od Frog	5/13/2015	8		
		0/10/2010	0	Tadpoles	
Spotted	Salamander	5/13/2015	2	radpoles	
·		5/13/2015	2	·	
FACULTA	TIVE SPECIES	5/13/2015 DATE	2 ABUNDANCE	·	DTES
FACULTA		5/13/2015	2	·) TES
FACULTA Cac	TIVE SPECIES ddisflies	5/13/2015 DATE 5/13/2015	2 ABUNDANCE Common	NO	
FACULTA Cac	TIVE SPECIES	5/13/2015 DATE	2 ABUNDANCE	NO	DTES DTES
FACULTA Cac PREDAT	TIVE SPECIES ddisflies	5/13/2015 DATE 5/13/2015	2 ABUNDANCE Common	NO NO	
FACULTA Cac PREDAT	TIVE SPECIES ddisflies OR SPECIES	5/13/2015 DATE 5/13/2015 DATE	2 ABUNDANCE Common ABUNDANCE	NO NO	DTES
FACULTA Cac PREDAT	TIVE SPECIES Iddisflies OR SPECIES	5/13/2015 DATE 5/13/2015 DATE	2 ABUNDANCE Common ABUNDANCE	NO NO	DTES
FACULTA Cac PREDAT	TIVE SPECIES Iddisflies OR SPECIES R SPECIES tor Species	5/13/2015 DATE 5/13/2015 DATE DATE	ABUNDANCE Common ABUNDANCE ABUNDANCE	NO NO	DTES
PREDATE OTHER	TIVE SPECIES ddisflies OR SPECIES R SPECIES tor Species res observed?	5/13/2015 DATE 5/13/2015 DATE DATE DATE ✓ Yes	ABUNDANCE Common ABUNDANCE ABUNDANCE	NO NO	DTES
PREDATE OTHER Presence of Indica Were spermatophor	TIVE SPECIES ddisflies OR SPECIES R SPECIES tor Species res observed?	5/13/2015 DATE 5/13/2015 DATE DATE ✓ Yes ☐ Yes	ABUNDANCE Common ABUNDANCE ABUNDANCE No No	NO NO	DTES
PREDATE OTHER Presence of Indica Were spermatophor Were fish observed	TIVE SPECIES ddisflies OR SPECIES R SPECIES tor Species res observed?	5/13/2015 DATE 5/13/2015 DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE Common ABUNDANCE ABUNDANCE No No No	NO NO	DTES DTES
PREDATE OTHER Presence of Indica Were spermatophor Were fish observed	TIVE SPECIES Iddisflies OR SPECIES R SPECIES tor Species res observed? in the pool?	5/13/2015 DATE 5/13/2015 DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE Common ABUNDANCE ABUNDANCE No No No	NO NO	DTES DTES







Project File #60328763	Project Name: Northeast Energy D	irect Project	Pool ID: DR-AC3	-VP012
Observer: SH		Phone or e	mail:	
Landowner/Applicant: VINAL RICH/	ARD & BERNICE TRSTS	Phone or e	mail:	
Address: 561 BROAD	WAY RD City:	DRACUT	State: MA	Zip:: 01826
Location of vernal pool:				
Survey date(s):: 5/12/2015	Longitude/Latitude (in decima	al degrees): 42.	.68281804, -71.280375	546
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):			
I. Landscape Setting (check all that a	apply):			
✓ Upland depression (4 pts; if thi	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (w)	rithin 1000 feet of one or more other v	vernal pools)(NA)		
☐ Pool within larger wetland syst	tem (4 pts; if this is also in a floodplain	n, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin: Natural Depression				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:			
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coastal ma	rine sediments	
1. Aquatic resource type that best ap	plies to this pool (choose dominar	nt):		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pt	s) 🔲 Floodp	olain (overflow/oxbow) ((3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other ((variable points):	
☐ Peatland (acidic fen or bog) (4p	ts)	(2pts)		
5. Pool canopy cover (%): 80%				
6. Predominant substrate:				
✓ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.):	_	
7. Pool sizes:				
Approximate dimensions of pool (at	, ,	<u>1235.83</u>		
Maximum depth at deepest point at	time of survey (include units):	<u>2'</u>		
B. Hydrology: a. Estimated hydroneriod (unless ac	ctual, observed hydroperiod value(s)	is(are) known jise th	ne nresence of these e	vamnle
indicator species to best predict the		is(arc) known, use ii	e presence of these ex	varripie
☐ Dries between early March and	early July (e.g., Thelypteris palustris,	, Carex stricta, Impai	tiens capensis, llex ver	rticillata)(6pts)
Dries between early July and early	arly September (e.g., Sagittaria latifol	ia, Scirpus cyperinus	, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
□ Dries between early September	and early November (e.g., Eleochari	is palustris, Glyceria	canadensis, Utricularia	a spp., Decodon vert.)(8pts)
☐ Dries between early November	and late December, or intermittently	exposed (e.g., Nupha	ar spp., Potamogeton s	spp.)(8pts)
How long does pool hold water?	<u>Seasonal</u>			
b. Inlet/Outlet (pick one):				
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet	(channel with well-de	efined banks and perm	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)	_	•	•	,



9. Wate	r quality:									
	Clear	☐ Hi	gh turbidity	□⊦	High algae co	onten	t 🗹 Tannic			
	<u>24</u> TOT	TAL for I	Pool Character	istics ((out of 28 m	ax.)				
B. VERI	NAL POOL	ENVELO	OPE (100 ft) AN	ID CRI	TICAL HAB	ITAT	AREA (100-750 ft) C	CHARACTERISTICS (fill in all inf	ormation known):
1. Land	use type ar	nd appro	oximate percen	tage w	vithin the 10	0-ft v	vernal pool envelope	9 :		
	Forested:	<u>70%</u>	(16 pts)			Оре	n (e.g., meadow, agr	iculture, golf course):	<u>%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)			Dev	eloped: <u>30%</u>	(0 pts)		
2. Land	use type ar	nd appro	oximate percen	tage w	ithin the 10	0-750	0-ft vernal pool critic	cal terrestrial habitat:	:	
$\overline{\checkmark}$	Forested:	<u>75%</u>	(16 pts)			Ope	n (e.g., meadow, agr	iculture, golf course):	<u>%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)			Dev	eloped: <u>25%</u>	(0 pts)		
							nent within the envelo corporate this informa	pe and/or critical terrestion.	strial habitat	? If so,
	Based on:		Field estimate		☐ GIS		Aerial pho	oto estimate		
	<u>16</u> TO	TAL for	Pool Envelope	e and C	Critical Terre	estria	al Habitat Area (out o	of 32 max.)		
C. SPE	CIES PRES	ENT IN V	VERNAL POOL							
vege	Shrubs: Emergent	10-50 vegetation	0% on (grasses, seg	ges, rus			e egg attachment or c	offer concealment to a	quatic or dev	veloping larvae.
Dead	Submerge branches a	•		-	anches/twigs	s) ava	uilable for egg attachn	nent: greater than 10		
Dead	•	nd down	ed woody mate	-	anches/twigs		ilable for egg attachn	nent: greater than 10		NOTES
Dead	branches a	nd down	cies	rial (bra				-		NOTES
Dead	branches a INDICAT Spotted	nd down	cies	rial (bra	DATE		EGG MASSES (#)	-		NOTES
Dead	branches a INDICAT Spotted	nd down OR SPE Salamai	cies	rial (bra	DATE 5/13/2015		EGG MASSES (#)	TADPOLES/LAR		NOTES
Dead	branches a INDICAT Spotted	nd down OR SPE Salamar od Frog	ccies	rial (bra	DATE 5/13/2015		EGG MASSES (#)	TADPOLES/LAR		
Dead	branches a INDICAT Spotted Wo FACULTA	or SPE Salamar od Frog	ed woody mater	rial (bra	DATE 5/13/2015 5/13/2015 DATE		9 ABUNDANCE	TADPOLES/LAR	NOTE	:S
Dead	branches a INDICAT Spotted Wo	or SPE Salamar od Frog	ed woody mater	rial (bra	DATE 5/13/2015 5/13/2015		EGG MASSES (#)	TADPOLES/LAR	RVAE	:S
Dead	branches a INDICAT Spotted Wo FACULTA	or SPE Salamar od Frog	CIES Inder PECIES	rial (bra	DATE 5/13/2015 5/13/2015 DATE		9 ABUNDANCE	TADPOLES/LAR	NOTE	ES ES
Dead	branches a INDICAT Spotted Wo FACULTA	OR SPE Salaman od Frog TIVE SP	CIES Inder PECIES	rial (bra	DATE 5/13/2015 5/13/2015 DATE		ABUNDANCE ABUNDANCE	TADPOLES/LAR	NOTE	ES ES
	branches a INDICAT Spotted Wo FACULTA	OR SPE Salaman od Frog TIVE SP OR SPE	CIES nder PECIES ECIES	rial (bra	DATE 5/13/2015 6/13/2015 DATE DATE DATE		ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LAR	NOTE	ES ES
Presence	branches a INDICAT Spotted Wo FACULTA PREDAT	OR SPE Salaman od Frog TIVE SP OR SPE R SPECI	CIES CIES CIES CIES CIES	5.	DATE 5/13/2015 6/13/2015 DATE DATE DATE Yes		ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LAR	NOTE	ES ES
Presenc Were sp	branches a INDICAT Spotted Wo FACULTA PREDAT OTHER	od Frog TIVE SP OR SPECI tor Species obse	CIES nder PECIES ECIES ECIES EVEN	5.	DATE 5/13/2015 DATE DATE DATE PATE PATE		ABUNDANCE ABUNDANCE ABUNDANCE No	TADPOLES/LAR	NOTE	ES ES
Presence Were sp	INDICAT Spotted Wo FACULTA PREDAT OTHER	od Frog TIVE SP OR SPECI tor Species obse	CIES nder PECIES ECIES ECIES EVEN	5. 5	DATE 5/13/2015 DATE DATE DATE PATE PATE	□ 1 N	ABUNDANCE ABUNDANCE ABUNDANCE No	TADPOLES/LAR	NOTE	ES ES
Presenc Were sp	PREDAT OTHER ce of Indica cermatopholosh observed	OR SPE Salaman od Frog TIVE SP OR SPECI tor Species obse in the po	CIES nder PECIES ECIES ECIES EVEN	state of the state	DATE 5/13/2015 DATE DATE DATE PATE PATE	□ 1 N	ABUNDANCE ABUNDANCE ABUNDANCE No No	TADPOLES/LAR	NOTE	ES ES
Presence Were sp Were fis	PREDAT OTHER ce of Indica cermatopholosh observed	OR SPE Salaman od Frog TIVE SP OR SPECI tor Species obse in the po	CIES INCIES INCI	state of the state	DATE 5/13/2015 DATE DATE DATE PATE PATE	□ 1 N	ABUNDANCE ABUNDANCE ABUNDANCE No No	TADPOLES/LAR	NOTE	ES ES







Project File #60328763	Project Name: Northeast Energy	Direct Project	Pool ID: ER-AC3-	-VP001
Observer: SH		Phone o	r email:	
Landowner/Applicant: CLARK ROE	BERT	Phone o	r email:	
Address: 209 OLD ST	TATE ROAD City:	ERVING	State: MA	Zip:: 01344
Location of vernal pool:				
Survey date(s):: 5/14/2015	Longitude/Latitude (in decir	mal degrees):	42.58200167, -72.477825	29
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):			
1. Landscape Setting (check all that	apply):			
Upland depression (4 pts; if th	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (w	vithin 1000 feet of one or more othe	r vernal pools)(NA)		
☐ Pool within larger wetland syst	tem (4 pts; if this is also in a floodpl	lain, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin: Natural Depression				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape	э :		
3. Parent material:				
☐ Glacial fluvial ("outwash")	□ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coastal r	marine sediments	
4. Aquatic resource type that best ap	pplies to this pool (choose domin	nant):		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4	lpts) 🔲 Floo	odplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	□ Open water (2 pts)	☐ Othe	er (variable points):	
☐ Peatland (acidic fen or bog) (4p	ts)	ch (2pts)		
5. Pool canopy cover (%): <u>85%</u>				
6. Predominant substrate:				
☐ Mineral soil	Depth: 4			
✓ Organic matter (peat/muck)	Sampling location (e.g.,dee	epest zone, edge,etc	c.): <u>DEEP ZONE</u>	
7. Pool sizes:				
Approximate dimensions of pool (at		<u>875.77</u>		
Maximum depth at deepest point at 8. Hydrology:	time of survey (include units):	<u>3"</u>		
a. Estimated hydroperiod (unless ac	ctual, observed hydroperiod value(s	s) is(are) known, use	the presence of these ex	cample
indicator species to best predict the			, and processes of another of	
Dries between early March and	early July (e.g., Thelypteris palustr	ris, Carex stricta, Imp	patiens capensis, llex vert	ticillata)(6pts)
□ Dries between early July and early	arly September (e.g., Sagittaria latif	folia, Scirpus cyperin	nus, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
□ Dries between early September	and early November (e.g., Eleocha	aris palustris, Glycer	ria canadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently	y exposed (e.g., Nu	phar spp., Potamogeton s	:pp.)(8pts)
How long does pool hold water?	<u>Seasonal</u>			
b. Inlet/Outlet (pick one):				
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet	et (channel with well	-defined banks and perma	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)	_	•	•	, , , ,



9. Water quality:				
	☐ High algae con	tent Tannic		
22 TOTAL for Pool Character	istics (out of 28 max	x.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	ID CRITICAL HABIT	AT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and approximate percen	tage within the 100-	-ft vernal pool envelope	:	
✓ Forested: <u>95%</u> (16 pts)	☑ (Open (e.g., meadow, agric	culture, golf course): 5%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: <u>%</u>	(0 pts)	
2. Landuse type and approximate percen	tage within the 100-	-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: <u>80%</u> (16 pts)	☑ (Open (e.g., meadow, agric	culture, golf course): 10%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)	I	Developed: 10%	(0 pts)	
Are there one or more barriers to vecheck here and see directions for example.				itat? If so,
Based on:	☐ GIS	Aerial pho	to estimate	
20 TOTAL for Pool Envelope	e and Critical Terres	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN TH	E POOL that can pro	vide egg attachment or o	ffer concealment to aquatic or	developing larvae.
Shrubs: <u>10-50%</u>				
Emergent vegetation (grasses, seg	ges, rushes, cattails):	<u><10%</u>		
Submergent vegetation: NA				
• • •	_			
Dead branches and downed woody mate	_	available for egg attachm	ent: greater than 10	
• • •	_	available for egg attachm	ent: greater than 10 TADPOLES/LARVAE	NOTES
Dead branches and downed woody mate	rial (branches/twigs)		-	NOTES
Dead branches and downed woody mate INDICATOR SPECIES	rial (branches/twigs) DATE		TADPOLES/LARVAE	NOTES
Dead branches and downed woody mate INDICATOR SPECIES	rial (branches/twigs) DATE		TADPOLES/LARVAE Tadpoles	NOTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 5/16/2015 DATE	EGG MASSES (#) ABUNDANCE	TADPOLES/LARVAE Tadpoles	DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog	DATE 5/16/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 5/16/2015 DATE DATE	ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 5/16/2015 DATE	EGG MASSES (#) ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 5/16/2015 DATE DATE	ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 5/16/2015 DATE DATE DATE DATE	ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES	DATE 5/16/2015 DATE DATE DATE DATE DATE	ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 5/16/2015 DATE DATE DATE DATE VYes Yes	ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 5/16/2015 DATE DATE DATE DATE VYes Yes	ABUNDANCE ABUNDANCE ABUNDANCE No	TADPOLES/LARVAE Tadpoles NC	DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 5/16/2015 DATE DATE DATE DATE VYes Yes Yes Yes	ABUNDANCE ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles NC	OTES OTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	DATE 5/16/2015 DATE DATE DATE DATE VYes Yes Yes Yes	ABUNDANCE ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles NO NO	OTES OTES







Project File #60328763	Project Name: Northeast Energy Dire	ct Project Pool ID: HA-AC4-VP001
Observer: JW		Phone or email:
Landowner/Applicant: Whitman Farm	Family Trust	Phone or email:
Address: 107 POTTER	MTN RD City: HA	NCOCK State: MA Zip:: 01201
Location of vernal pool:		
Survey date(s):: 5/06/2015	Longitude/Latitude (in decimal of	degrees): 42.53675883, -73.30845343
A. VERNAL POOL CHARACTERISTICS	(fill in all information known):	
1. Landscape Setting (check all that ap	oply):	
☐ Upland depression (4 pts; if this	is also in a floodplain, use 2 pts)	
☐ Pool part of a pool complex (with	nin 1000 feet of one or more other ver	nal pools)(NA)
Pool within larger wetland system	m (4 pts; if this is also in a floodplain,	use 2 pts)
☐ Pool part of wildlife corridor (4 p	ts)	
Other (variable pts):		
Pool Origin: Natural, but altered		
2. Vernal pool condition:		
Describe any recent modifications to the	e pool and associated landscape:	Within a farm field, live stock area, wetland fenced off goats outside area. small rock dams and walls shaping area of larger wetland surrounding pool.
3. Parent material:		
Glacial fluvial ("outwash")	☐ Loose till	☐ Peat
☐ Dense till	☐ Alluvium	☐ Coastal marine sediments
4. Aquatic resource type that best app	_	_
Forested wetland (4pts)	Herbaceous wetland (4pts)	Floodplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	Other (variable points):
☐ Peatland (acidic fen or bog) (4pts		_ , _
5. Pool canopy cover (%): 0%	,	,
6. Predominant substrate:		
☐ Mineral soil	Depth: <u>5</u>	
─ Organic matter (peat/muck)	Sampling location (e.g.,deepest	zone, edge,etc.): <u>deepest zone</u>
7. Pool sizes:		
Approximate dimensions of pool (at m	naximum capacity) (sq. feet):	<u>10521.86</u>
Maximum depth at deepest point at tir	me of survey (include units):	6 inches
8. Hydrology:		
 a. Estimated hydroperiod (unless actuindicator species to best predict the extension) 		are) known, use the presence of these example
☐ Dries between early March and early	arly July (e.g., <i>Thelypteris palustris,</i> C	Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)
Dries between early July and early	y September (e.g., Sagittaria latifolia,	Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)
□ Dries between early September a	nd early November (e.g., Eleocharis p	palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts)
□ Dries between early November ar	nd late December, or intermittently exp	posed (e.g., Nuphar spp., Potamogeton spp.)(8pts)
How long does pool hold water?	Semi-permanent	
b. Inlet/Outlet (pick one):		
☐ No inlet/outlet (8 pts)	☑ Permanent inlet or outlet (check)	nannel with well-defined banks and permanent flow) (2 pts)
Tomporary inlet/outlet (6 pts)		



9. Water quality:				
☐ Clear ☐ High turbidity	☑ High algae co	ntent Tannic		
18 TOTAL for Pool Characteri	stics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABI	TAT AREA (100-750 ft) CI	HARACTERISTICS (fill in all i	information known):
Landuse type and approximate percent	tage within the 100	0-ft vernal pool envelope:	: :	
☐ Forested: <u>%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): 95%	(4 pts)
✓ Shrub: <u>5%</u> (10 pts)		Developed: <u>%</u>	(0 pts)	
2. Landuse type and approximate percent	tage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 30% (16 pts)	\checkmark	Open (e.g., meadow, agric	culture, golf course): 65%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 5%	(0 pts)	
Are there one or more barriers to vicheck here and see directions for e				itat? If so,
Based on:	☐ GIS	☐ Aerial phot	to estimate	
OO TOTAL (on Book Functions	1 O-1011 T	atalah Habitat Assa (assa)	(00)	
20 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THE	E POOL that can pr	ovide egg attachment or of	ffer concealment to aquatic or o	developing larvae.
Shrubs: <10%				
Emergent vegetation (grasses, seg	es, rushes, cattails): <u>>50%</u>		
Submergent vegetation: <10				
Dead branches and downed woody mater	rial (branches/twigs)) available for egg attachm	ent: <u>1 - 10</u>	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Spotted Salamander	5/6/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae	NOTES VERY YOUNG LARVAE
Spotted Salamander	5/6/2015	31	Larvae	VERY YOUNG LARVAE
Spotted Salamander Wood Frog FACULTATIVE SPECIES	5/6/2015 5/6/2015 DATE	31 2 ABUNDANCE	Larvae Tadpoles	VERY YOUNG LARVAE
Spotted Salamander Wood Frog	5/6/2015 5/6/2015	2	Larvae Tadpoles	VERY YOUNG LARVAE JUST EGG MASSES
Spotted Salamander Wood Frog FACULTATIVE SPECIES	5/6/2015 5/6/2015 DATE 5/6/2015	31 2 ABUNDANCE	Larvae Tadpoles NO	VERY YOUNG LARVAE JUST EGG MASSES TES
Spotted Salamander Wood Frog FACULTATIVE SPECIES Spire-shaped snails or shells PREDATOR SPECIES	5/6/2015 5/6/2015 DATE 5/6/2015	31 2 ABUNDANCE Few ABUNDANCE	Larvae Tadpoles NO	VERY YOUNG LARVAE JUST EGG MASSES
Spotted Salamander Wood Frog FACULTATIVE SPECIES Spire-shaped snails or shells	5/6/2015 5/6/2015 DATE 5/6/2015	31 2 ABUNDANCE Few	Larvae Tadpoles NO	VERY YOUNG LARVAE JUST EGG MASSES TES
Spotted Salamander Wood Frog FACULTATIVE SPECIES Spire-shaped snails or shells PREDATOR SPECIES BULLFROG	5/6/2015 5/6/2015 DATE 5/6/2015 DATE 5/6/2015	31 2 ABUNDANCE Few ABUNDANCE Few	Larvae Tadpoles NO	VERY YOUNG LARVAE JUST EGG MASSES TES
Spotted Salamander Wood Frog FACULTATIVE SPECIES Spire-shaped snails or shells PREDATOR SPECIES	5/6/2015 5/6/2015 DATE 5/6/2015	31 2 ABUNDANCE Few ABUNDANCE	Larvae Tadpoles NO	VERY YOUNG LARVAE JUST EGG MASSES TES
Spotted Salamander Wood Frog FACULTATIVE SPECIES Spire-shaped snails or shells PREDATOR SPECIES BULLFROG	5/6/2015 5/6/2015 DATE 5/6/2015 DATE 5/6/2015	31 2 ABUNDANCE Few ABUNDANCE Few	Larvae Tadpoles NO	VERY YOUNG LARVAE JUST EGG MASSES TES
Spotted Salamander Wood Frog FACULTATIVE SPECIES Spire-shaped snails or shells PREDATOR SPECIES BULLFROG	5/6/2015 5/6/2015 DATE 5/6/2015 DATE 5/6/2015 DATE 5/6/2015	31 2 ABUNDANCE Few ABUNDANCE Few	Larvae Tadpoles NO	VERY YOUNG LARVAE JUST EGG MASSES TES
Spotted Salamander Wood Frog FACULTATIVE SPECIES Spire-shaped snails or shells PREDATOR SPECIES BULLFROG OTHER SPECIES Presence of Indicator Species	5/6/2015 5/6/2015 DATE 5/6/2015 DATE 5/6/2015 DATE Ves	31 2 ABUNDANCE Few ABUNDANCE Few ABUNDANCE	Larvae Tadpoles NO	VERY YOUNG LARVAE JUST EGG MASSES TES
Spotted Salamander Wood Frog FACULTATIVE SPECIES Spire-shaped snails or shells PREDATOR SPECIES BULLFROG OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	5/6/2015 5/6/2015 DATE 5/6/2015 DATE 5/6/2015 DATE Ves Yes	31 2 ABUNDANCE Few ABUNDANCE Few ABUNDANCE	Larvae Tadpoles NO	VERY YOUNG LARVAE JUST EGG MASSES TES
Spotted Salamander Wood Frog FACULTATIVE SPECIES Spire-shaped snails or shells PREDATOR SPECIES BULLFROG OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	5/6/2015 5/6/2015 DATE 5/6/2015 DATE 5/6/2015 DATE Ves Yes	31 2 ABUNDANCE FeW ABUNDANCE Few ABUNDANCE No No	Larvae Tadpoles NO	VERY YOUNG LARVAE JUST EGG MASSES TES
Spotted Salamander Wood Frog FACULTATIVE SPECIES Spire-shaped snails or shells PREDATOR SPECIES BULLFROG OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	5/6/2015 5/6/2015 DATE 5/6/2015 DATE 5/6/2015 DATE 1/2 Yes 1/2 Yes 1/2 Yes 1/2 Yes 1/3 Yes 1/4 Yes	ABUNDANCE FeW ABUNDANCE FeW ABUNDANCE VOICE NO NO NO	Larvae Tadpoles NO	VERY YOUNG LARVAE JUST EGG MASSES TES TES
Spotted Salamander Wood Frog FACULTATIVE SPECIES Spire-shaped snails or shells PREDATOR SPECIES BULLFROG OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY 18 TOTAL for Pool Characteristic	5/6/2015 5/6/2015 DATE 5/6/2015 DATE 5/6/2015 DATE 1/2 Yes 1/2 Yes 1/2 Yes 1/2 Yes 1/3 Yes 1/4 Yes	ABUNDANCE FeW ABUNDANCE FeW ABUNDANCE VOICE NO NO NO	Larvae Tadpoles NO	VERY YOUNG LARVAE JUST EGG MASSES TES TES
Spotted Salamander Wood Frog FACULTATIVE SPECIES Spire-shaped snails or shells PREDATOR SPECIES BULLFROG OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	5/6/2015 5/6/2015 DATE 5/6/2015 DATE 5/6/2015 DATE 1/2 Yes 1/2 Yes 1/2 Yes 1/2 Yes 1/3 Yes 1/4 Yes	ABUNDANCE FeW ABUNDANCE FeW ABUNDANCE VOICE NO NO NO	Larvae Tadpoles NO	VERY YOUNG LARVAE JUST EGG MASSES TES TES





SOUTH



Project File #60328763	Project Name: Northeast Energy Dir	ect Project	Pool ID: LU-AC3-	VP001
Observer: SH		Phone or	email:	
Landowner/Applicant: TWIN CITY BA	PTIST TEMPLE INC	Phone or	email:	
Address: 194 ELECTRIC	C AVE City: L	UNENBURG	State: MA	Zip:: 01462
Location of vernal pool:				
Survey date(s):: 5/11/2015	Longitude/Latitude (in decimal	degrees): 42	2.58630101, -71.759925	64
A. VERNAL POOL CHARACTERISTICS	(fill in all information known):			
1. Landscape Setting (check all that ap	oply):			
☐ Upland depression (4 pts; if this	is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (with	hin 1000 feet of one or more other ve	ernal pools)(NA)		
Pool within larger wetland syste	m (4 pts; if this is also in a floodplain	, use 2 pts)		
☐ Pool part of wildlife corridor (4 p	ts)			
☐ Other (variable pts):				
Pool Origin: Ditch along road or rut	from vehicle			
2. Vernal pool condition:				
Describe any recent modifications to the	ne pool and associated landscape:	TIRE RUTS TH	HROUGH POOL LOCAT	ED ON EXISTING ROW
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coastal m	narine sediments	
4. Aquatic resource type that best app	lies to this pool (choose dominan	t):		
☐ Forested wetland (4pts)	✓ Herbaceous wetland (4pts)	Flood	dplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other	r (variable points):	
☐ Peatland (acidic fen or bog) (4pts)) Intermittent stream reach ((2pts)		
5. Pool canopy cover (%): <u>20%</u>				
6. Predominant substrate:				
✓ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepe	st zone, edge,etc.)):	
7. Pool sizes:				
Approximate dimensions of pool (at n		<u>707.21</u>		
Maximum depth at deepest point at til	ne of survey (include units):	<u>1'</u>		
8. Hydrology:a. Estimated hydroperiod (unless actu	ial observed hydroneriod value(s) is	s(are) known use :	the presence of these ex	vamnla
indicator species to best predict the e		Marc) Known, dae i	the presence of these ex	ampie
Dries between early March and e	arly July (e.g., Thelypteris palustris,	Carex stricta, Impa	atiens capensis, llex ver	ticillata)(6pts)
□ Dries between early July and earl	y September (e.g., <i>Sagittaria latifolia</i>	a, Scirpus cyperinu	ıs, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
□ Dries between early September a	nd early November (e.g., Eleocharis	palustris, Glyceria	a canadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November ar	nd late December, or intermittently ea	xposed (e.g., Nupl	har spp., Potamogeton s	<i>spp</i> .)(8pts)
How long does pool hold water?	<u>Seasonal</u>			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (or	channel with well-c	defined banks and perma	anent flow) (2 pts)
✓ Temporary inlet/outlet (6 pts)	(\			7 \ 1 \ 1 \ 7



9. Water quality: ☐ Clear ☐ High turbidity	☐ High algae coi	ntent ☐ Tannic		
20 TOTAL for Pool Characteri	_ , ,	_		
	`	<i>,</i>	HADACTERISTICS (SIII in all	information language.
B. VERNAL POOL ENVELOPE (100 ft) AN		-	•	information known):
1. Landuse type and approximate percent Forested: 15% (16 pts)	_	Open (e.g., meadow, agric		(4 pts)
☐ Shrub: % (10 pts)	_	Developed: %	(0 pts)	(4 μιο)
2. Landuse type and approximate percent	-	· —		
✓ Forested: 65% (16 pts)	_	-	culture, golf course): 35%	(4 pts)
☐ Shrub: % (10 pts)	_	Developed: %	(0 pts)	(4 00)
☐ Are there one or more barriers to v	_	·	,	itat? If so.
check here and see directions for e				
Based on: Field estimate	☐ GIS		to estimate	
20 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THE	POOL that can pro	ovide egg attachment or of	ffer concealment to aquatic or	developing larvae.
Shrubs: <10%				
Emergent vegetation (grasses, seg	es, rushes, cattails)	: <u>10-50%</u>		
Submergent vegetation: NA				
Dead branches and downed woody mater	ial (branches/twigs)	available for egg attachm	ent: <u>1 - 10</u>	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
		(/	TADPOLES/LARVAE	NOTES
Spotted Salamander	5/11/2015	15	TADPOLES/LARVAE	NOTES
Spotted Salamander Unidentified Mole Salamander	5/11/2015 5/11/2015		TADFOLES/LARVAE	4 EGGS IN TUBULAR EGG MASS POSSIBLE BLUE SPOTTED OR JEFF
·		15	Tadpoles	4 EGGS IN TUBULAR EGG MASS POSSIBLE BLUE
Unidentified Mole Salamander	5/11/2015	15		4 EGGS IN TUBULAR EGG MASS POSSIBLE BLUE
Unidentified Mole Salamander	5/11/2015	15	Tadpoles	4 EGGS IN TUBULAR EGG MASS POSSIBLE BLUE
Unidentified Mole Salamander Wood Frog	5/11/2015 5/11/2015	15	Tadpoles	4 EGGS IN TUBULAR EGG MASS POSSIBLE BLUE SPOTTED OR JEFF
Unidentified Mole Salamander Wood Frog	5/11/2015 5/11/2015	15	Tadpoles	4 EGGS IN TUBULAR EGG MASS POSSIBLE BLUE SPOTTED OR JEFF
Unidentified Mole Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	5/11/2015 5/11/2015 DATE	15 1 ABUNDANCE ABUNDANCE	Tadpoles NC	4 EGGS IN TUBULAR EGG MASS POSSIBLE BLUE SPOTTED OR JEFF OTES
Unidentified Mole Salamander Wood Frog FACULTATIVE SPECIES	5/11/2015 5/11/2015 DATE	15 1 ABUNDANCE	Tadpoles NC	4 EGGS IN TUBULAR EGG MASS POSSIBLE BLUE SPOTTED OR JEFF
Unidentified Mole Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	5/11/2015 5/11/2015 DATE	15 1 ABUNDANCE ABUNDANCE	Tadpoles NC	4 EGGS IN TUBULAR EGG MASS POSSIBLE BLUE SPOTTED OR JEFF OTES
Unidentified Mole Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	5/11/2015 5/11/2015 DATE DATE DATE	15 1 ABUNDANCE ABUNDANCE	Tadpoles NC	4 EGGS IN TUBULAR EGG MASS POSSIBLE BLUE SPOTTED OR JEFF OTES
Unidentified Mole Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES	5/11/2015 5/11/2015 DATE DATE DATE ✓ Yes	15 1 ABUNDANCE ABUNDANCE ABUNDANCE	Tadpoles NC	4 EGGS IN TUBULAR EGG MASS POSSIBLE BLUE SPOTTED OR JEFF OTES
Unidentified Mole Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	5/11/2015 5/11/2015 DATE DATE DATE ✓ Yes ☐ Yes	15 1 ABUNDANCE ABUNDANCE ABUNDANCE	Tadpoles NC	4 EGGS IN TUBULAR EGG MASS POSSIBLE BLUE SPOTTED OR JEFF OTES
Unidentified Mole Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	5/11/2015 5/11/2015 DATE DATE DATE ✓ Yes ☐ Yes	ABUNDANCE ABUNDANCE ABUNDANCE No No	Tadpoles NC	4 EGGS IN TUBULAR EGG MASS POSSIBLE BLUE SPOTTED OR JEFF OTES
Unidentified Mole Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	5/11/2015 5/11/2015 DATE DATE DATE Yes Yes Yes Yes	ABUNDANCE ABUNDANCE ABUNDANCE No No No	Tadpoles NC	4 EGGS IN TUBULAR EGG MASS POSSIBLE BLUE SPOTTED OR JEFF DTES DTES
Unidentified Mole Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	5/11/2015 5/11/2015 DATE DATE DATE Yes Yes Yes Yes	ABUNDANCE ABUNDANCE ABUNDANCE No No No	Tadpoles NO NO	4 EGGS IN TUBULAR EGG MASS POSSIBLE BLUE SPOTTED OR JEFF DTES DTES
Unidentified Mole Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY 20 TOTAL for Pool Characteristic	5/11/2015 5/11/2015 DATE DATE DATE Yes Yes Yes Yes	ABUNDANCE ABUNDANCE ABUNDANCE No No No	Tadpoles NO NO	4 EGGS IN TUBULAR EGG MASS POSSIBLE BLUE SPOTTED OR JEFF DTES DTES







Project File #60328763	Project Name: Northeast Energy Dire	ect Project	Pool ID: LU-AC3-	-VP002	
Observer: SH		Phone or e	email:		
Landowner/Applicant: Brixmor GA L	unenberg Crossing LLC	Phone or e	email:		
Address: 301 MASS A	VE City: L	UNENBURG	State: MA	Zip:: 01462	
Location of vernal pool:					
Survey date(s):: 5/11/2015	Longitude/Latitude (in decimal	degrees): 42	2.59443424, -71.756648	396	
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):				
I. Landscape Setting (check all that a	apply):				
☐ Upland depression (4 pts; if thi	s is also in a floodplain, use 2 pts)				
☐ Pool part of a pool complex (w	ithin 1000 feet of one or more other ve	ernal pools)(NA)			
☑ Pool within larger wetland syst	em (4 pts; if this is also in a floodplain	, use 2 pts)			
☐ Pool part of wildlife corridor (4	pts)				
Other (variable pts):					
Pool Origin: RETENTION BASIN	SHOPPING PLAZA				
2. Vernal pool condition:					
Describe any recent modifications to	the pool and associated landscape:				
•	·				
3. Parent material:					
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat			
✓ Dense till	☐ Alluvium	☐ Coastal ma	arine sediments		
4. Aquatic resource type that best ap	plies to this pool (choose dominan	t):			
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)) 🔲 Flood	plain (overflow/oxbow) ((3pts)	
☑ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other	(variable points):		
☐ Peatland (acidic fen or bog) (4p	ts)	(2pts)			
5. Pool canopy cover (%): <u>15%</u>					
6. Predominant substrate:					
✓ Mineral soil	Depth:				
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepes	st zone, edge,etc.):	<u> </u>		
7. Pool sizes:					
Approximate dimensions of pool (at	maximum capacity) (sq. feet):	<u>8413.73</u>			
Maximum depth at deepest point at	time of survey (include units):	<u>1'</u>			
B. Hydrology:					
Estimated hydroperiod (unless ac indicator species to best predict the	ctual, observed hydroperiod value(s) is expected hydroperiod of the pool):	are) known, use tا	he presence of these ex	kample	
□ Dries between early March and	early July (e.g., Thelypteris palustris,	Carex stricta, Impa	atiens capensis, llex ven	ticillata)(6pts)	
✓ Dries between early July and ea	arly September (e.g., <i>Sagittaria latifolia</i>	a, Scirpus cyperinu	s, Dulichium arundinace	эит, Cephalanthus occ.)(8р	ots)
□ Dries between early September	and early November (e.g., Eleocharis	palustris, Glyceria	ı canadensis, Utricularia	a spp., Decodon vert.)(8pts)	
☐ Dries between early November	and late December, or intermittently ex	xposed (e.g., Nuph	nar spp., Potamogeton s	spp.)(8pts)	
How long does pool hold water?	Semi-permanent				
b. Inlet/Outlet (pick one):					
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (d	channel with well-d	lefined banks and perma	anent flow) (2 pts)	
√ Temporary inlet/outlet (6 pts)					



9. Water	quality:									
☑ C	lear	□н	ligh turbidity	☐ High algae	content	Tannic				
	<u>22</u> TOT	AL for	Pool Character	istics (out of 28	max.)					
B. VERN	IAL POOL	ENVEL	OPE (100 ft) AN	ID CRITICAL HA	BITAT AREA (1	00-750 ft) C	HARACTERISTICS (fil	ll in all inf	ormation known):	
1. Landu	ıse type ar	nd appr	roximate percen	tage within the	100-ft vernal po	ol envelope	:			
	Forested:	<u>%</u>	(16 pts)	5	☑ Open (e.g., m	eadow, agri	culture, golf course):	<u>55%</u>	(4 pts)	
	Shrub:	<u>%</u>	(10 pts)	<u> </u>	Developed:	<u>45%</u>	(0 pts)			
2. Landu	ise type ar	nd appr	roximate percen	tage within the	100-750-ft verna	I pool critic	al terrestrial habitat:			
\checkmark	Forested:	<u>40%</u>	(16 pts)	5	Open (e.g., m	neadow, agri	culture, golf course):	<u>20%</u>	(4 pts)	
	Shrub:	<u>%</u>	(10 pts)	5	Developed:	<u>40%</u>	(0 pts)			
				vernal pool fauna explanation of ho			oe and/or critical terrest iion.	rial habitat	t? If so,	
	Based on:		Field estimate	☐ GIS	V	Aerial pho	to estimate			
	<u>20</u> TO	TAL fo	or Pool Envelope	e and Critical Te	rrestrial Habitat	Area (out o	of 32 max.)			
C. SPEC	IES PRES	ENT IN	VERNAL POOL	•						
Vegeta	ation type a	nd per	cent cover IN TH	E POOL that can	provide egg atta	chment or o	ffer concealment to aqu	uatic or dev	veloping larvae.	
	Shrubs:	<u>10-</u>	<u>50%</u>							
	•	•		ges, rushes, catta	ils): <u>>50%</u>					
5	Submerge	•		<u>0%</u> 						
Dead	oranches a	nd dow	ned woody mate	rial (branches/twi	gs) available for	egg attachm	nent: <u>1 - 10</u>			
	INDICAT	OR SP	ECIES	DATE	EGG MA	SSES (#)	TADPOLES/LARV	/AE	NOTES	
	Spotted	Salama	ander	5/11/2015	7	•				
	Wo	od Frog	9	5/11/2015			Tadpoles			
	FACULTA	TIVE S	PECIES	DATE	ABUNE	ANCE		NOTE	ES .	
	Cad	ddisflies	3	5/11/2015	Ma	ny				
	PREDAT	OR SP	ECIES	DATE	ABUNE	DANCE		NOTE	ES	
	OTUE	0050	NEO.	DATE	ADUNE	ANOF		NOTE	-0	
	OTHER	R SPEC	JES	DATE	ABUNE	DANCE		NOTE	:8	
Presenc	e of Indica	tor Spe	ecies	✓ Yes	□ No					
Were sp	ermatophor	res obs	erved?	☐ Yes	☑ No					
Were fish	n observed	in the p	pool?	☐ Yes	☑ No					
SUMMAI	RY									
	22 TOTA	L for Po	ool Characterist	tics	2	0 TOTAL fo	r Pool Envelope and (Critical Te	errestrial Habitat A	rea
Othor Co										
Other Co	mments:									





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Project File #60328763	Project Name: Northeast Energy Direct	ct Project Pool ID: LU-AC	:3-VP003
Observer: SH		Phone or email:	
Landowner/Applicant: TWIN CITY BA	APTIST TEMPLE INC	Phone or email:	
Address: 101 PLEASAN	IT ST City: LU	INENBURG State: MA	Zip:: 01462
Location of vernal pool:			
Survey date(s):: 5/11/2015	Longitude/Latitude (in decimal of	degrees): 42.58451940, -71.7671	6736
A. VERNAL POOL CHARACTERISTICS	(fill in all information known):		
. Landscape Setting (check all that ap	oply):		
☐ Upland depression (4 pts; if this	is also in a floodplain, use 2 pts)		
☐ Pool part of a pool complex (with	hin 1000 feet of one or more other ver	nal pools)(NA)	
Pool within larger wetland syste	m (4 pts; if this is also in a floodplain,	use 2 pts)	
☐ Pool part of wildlife corridor (4 p	ts)		
☐ Other (variable pts):			
Pool Origin: Ditch along road or rut	from vehicle		
. Vernal pool condition:			
Describe any recent modifications to the	ne pool and associated landscape:	TIRE RUTS LOCATED IN UTILITY F	ROW ON ACCESS ROAD
. Parent material:			
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat	
✓ Dense till	☐ Alluvium	☐ Coastal marine sediments	
. Aquatic resource type that best app	lies to this pool (choose dominant)	:	
☐ Forested wetland (4pts)	☑ Herbaceous wetland (4pts)	☐ Floodplain (overflow/oxbow	(3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable points):	
☐ Peatland (acidic fen or bog) (4pts	Intermittent stream reach (2)	pts)	
5. Pool canopy cover (%): 0%			
. Predominant substrate:			
✓ Mineral soil	Depth:		
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepest	zone, edge,etc.):	
'. Pool sizes:			
Approximate dimensions of pool (at n		<u>1525.77</u>	
Maximum depth at deepest point at ti B. Hydrology:	me of survey (include units):	<u>6"</u>	
		are) known, use the presence of these	example
	. , ,	Carex stricta, Impatiens capensis, Ilex v	verticillata)(6pts)
		Scirpus cyperinus, Dulichium arundina	,,,,
		palustris, Glyceria canadensis, Utricula	
_ , ,	, , ,	posed (e.g., Nuphar spp., Potamogetor	,,,,
		(g-,	-r- /\-r-/
How long does pool hold water?	<u>Seasonal</u>		
b. Inlet/Outlet (pick one):			
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (ch	hannel with well-defined banks and per	manent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)			



9. Water quality:				
☐ Clear ☑ High turbidity	☐ High algae co	ntent Tannic		
22 TOTAL for Pool Charac	eteristics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft)	AND CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and approximate per	centage within the 10	0-ft vernal pool envelope	:	
✓ Forested: 15% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 85%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
2. Landuse type and approximate per	centage within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 85% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 15%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
Are there one or more barriers check here and see directions	to vernal pool fauna mo for explanation of how t	ovement within the envelop to incorporate this informat	pe and/or critical terrestrial hab ion.	oitat? If so,
Based on: Field estimate	e 🔲 GIS	Aerial photo	to estimate	
20 TOTAL for Pool Envel	ope and Critical Terre	estrial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL PO	OL			
Vegetation type and percent cover IN Shrubs: NA Emergent vegetation (grasses, Submergent vegetation: Dead branches and downed woody m	seges, rushes, cattails): <u><10%</u>		developing larvae.
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Spotted Salamander	DATE 5/12/2015	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
			TADPOLES/LARVAE Tadpoles	NOTES
Spotted Salamander	5/12/2015			NOTES
Spotted Salamander	5/12/2015		Tadpoles	NOTES
Spotted Salamander Wood Frog	5/12/2015 5/12/2015	2	Tadpoles	
Spotted Salamander Wood Frog FACULTATIVE SPECIES	5/12/2015 5/12/2015 DATE	2 ABUNDANCE	Tadpoles	
Spotted Salamander Wood Frog FACULTATIVE SPECIES	5/12/2015 5/12/2015 DATE	2 ABUNDANCE	Tadpoles	
Spotted Salamander Wood Frog FACULTATIVE SPECIES American Toad	5/12/2015 5/12/2015 DATE 5/12/2015	ABUNDANCE Many	Tadpoles	DTES
Spotted Salamander Wood Frog FACULTATIVE SPECIES American Toad	5/12/2015 5/12/2015 DATE 5/12/2015	ABUNDANCE Many	Tadpoles No	DTES
Spotted Salamander Wood Frog FACULTATIVE SPECIES American Toad PREDATOR SPECIES	5/12/2015 5/12/2015 DATE 5/12/2015 DATE	ABUNDANCE Many ABUNDANCE	Tadpoles No	DTES DTES
Spotted Salamander Wood Frog FACULTATIVE SPECIES American Toad PREDATOR SPECIES	5/12/2015 5/12/2015 DATE 5/12/2015 DATE DATE	ABUNDANCE Many ABUNDANCE	Tadpoles No	DTES DTES
Spotted Salamander Wood Frog FACULTATIVE SPECIES American Toad PREDATOR SPECIES OTHER SPECIES	5/12/2015 5/12/2015 DATE 5/12/2015 DATE DATE DATE ✓ Yes	ABUNDANCE Many ABUNDANCE ABUNDANCE	Tadpoles No	DTES DTES
Spotted Salamander Wood Frog FACULTATIVE SPECIES American Toad PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	5/12/2015 5/12/2015 DATE 5/12/2015 DATE DATE Ves Yes	ABUNDANCE Many ABUNDANCE ABUNDANCE	Tadpoles No	DTES DTES
Spotted Salamander Wood Frog FACULTATIVE SPECIES American Toad PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	5/12/2015 5/12/2015 DATE 5/12/2015 DATE DATE DATE ✓ Yes ☐ Yes	ABUNDANCE Many ABUNDANCE ABUNDANCE D No No	Tadpoles No	DTES DTES
Spotted Salamander Wood Frog FACULTATIVE SPECIES American Toad PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	5/12/2015 5/12/2015 DATE 5/12/2015 DATE DATE Ves Yes Yes Yes	ABUNDANCE Many ABUNDANCE ABUNDANCE No No No	Tadpoles No	DTES DTES





SW



Project File #60328763	Project Name: Northeast Energy Di	rect Project	Pool ID: LU-AC3-	VP004
Observer: SH		Phone or e	email:	
Landowner/Applicant: TWIN CITY E	SAPTIST TEMPLE INC	Phone or e	email:	
Address: 101 PLEASA	NT ST City: L	LUNENBURG	State: MA	Zip:: 01462
Location of vernal pool:				
Survey date(s):: 5/11/2015	Longitude/Latitude (in decima	al degrees): 42	2.58457314, -71.766348	43
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):			
1. Landscape Setting (check all that	apply):			
☐ Upland depression (4 pts; if th	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (w	ithin 1000 feet of one or more other v	/ernal pools)(NA)		
Pool within larger wetland syst	em (4 pts; if this is also in a floodplair	n, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin: Natural, but altered				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:			
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coastal ma	arine sediments	
4. Aquatic resource type that best ap	plies to this pool (choose dominar	nt):		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	s) 🔲 Flood	plain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other	(variable points):	
☐ Peatland (acidic fen or bog) (4p	ts)	(2pts)		
5. Pool canopy cover (%): 90%				
6. Predominant substrate:				
☑ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.)	: <u>—</u>	
7. Pool sizes:				
Approximate dimensions of pool (at	. ,,,,,,	<u>683.30</u>		
Maximum depth at deepest point at 8. Hydrology:	time of survey (include units):	<u>8"</u>		
	ctual, observed hydroperiod value(s) i	is(are) known, use t	he presence of these ex	cample
indicator species to best predict the		S(a. 5), a. 5	p. 00000 0000 0	isp.o
□ Dries between early March and	early July (e.g., Thelypteris palustris,	, Carex stricta, Impa	atiens capensis, llex vert	ticillata)(6pts)
Dries between early July and early	ırly September (e.g., Sagittaria latifoli	ia, Scirpus cyperinu	s, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
□ Dries between early September	and early November (e.g., Eleocharia	s palustris, Glyceria	a canadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently e	exposed (e.g., Nuph	nar spp., Potamogeton s	pp.)(8pts)
How long does pool hold water?	<u>Seasonal</u>			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet ((channel with well-d	lefined banks and perma	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)		•	•	, , , ,



9. Wate	r quality:											
V	Clear	☐ Hiệ	gh turbidity		High algae	conte	ent 🔲	Tannic				
	<u>22</u> TOT	AL for I	Pool Character	ristics	(out of 28	max.))					
B. VER	NAL POOL	ENVELO	OPE (100 ft) AN	ND CR	ITICAL HA	BITA	T AREA (10	00-750 ft) (CHARACTE	ERISTICS (f	ill in all info	ormation known):
1. Land	use type ar	nd appro	oximate percen	ntage v	within the 1	00-ft	vernal po	ol envelop	e:			
	Forested:	<u>70%</u>	(16 pts)		✓	1 Op	en (e.g., m	eadow, agr	iculture, go	If course):	<u>30%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)] De	veloped:	<u>%</u>	(0 pts)			
2. Land	use type ar	nd appro	ximate percen	ntage v	within the 1	00-7	50-ft verna	l pool criti	cal terresti	ial habitat:		
	Forested:	<u>85%</u>	(16 pts)		v	<u> 7</u> Op	en (e.g., m	eadow, agr	riculture, go	If course):	<u>15%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)] De	veloped:	<u>%</u>	(0 pts)			
☑	Are there of check here	one or me and see	ore barriers to vertices to vertices or	vernal explan	pool fauna ination of how	move v to ir	ment within	the envelo	ope and/or ontion.	critical terres	strial habitat?	? If so,
	Based on:		Field estimate		☐ GIS		☑	Aerial pho	oto estimate	Э		
	<u>20</u> TO	TAL for	Pool Envelope	e and	Critical Ter	restr	ial Habitat	Area (out	of 32 max.			
C. SPE	CIES PRES	ENT IN V	VERNAL POOL	-								
Vege	Shrubs:	>50% vegetation	on (grasses, se	ges, ru				chment or o	offer conce	alment to ac	uatic or dev	eloping larvae.
Dead	•	•	ed woody mate		ranches/twi	gs) av	/ailable for	egg attachr	nent: grea	iter than 10		
Dead	•	nd down	ed woody mate		ranches/twiç	gs) av				ter than 10	VAE	NOTES
Dead	branches a	nd down	cied woody mate	erial (bi		gs) av	vailable for EGG MAS	SSES (#)			VAE	NOTES
Dead	branches a INDICAT Spotted	nd down	cied woody mate	erial (bi	DATE	gs) av	EGG MAS	SSES (#)			VAE	NOTES
Dead	branches a INDICAT Spotted	nd down OR SPE Salamai	cied woody mate	erial (bi	DATE 5/12/2015	gs) av	EGG MAS	SSES (#)		OLES/LAR	VAE	NOTES
Dead	INDICAT Spotted Wo	nd down OR SPE Salamar od Frog	ccies	erial (bi	DATE 5/12/2015 5/12/2015	gs) av	EGG MAS	SSES (#)		OLES/LAR		
Dead	branches a INDICAT Spotted Wo FACULTA	nd down OR SPE Salamar od Frog	ccies	erial (bi	DATE 5/12/2015	gs) av	EGG MAS	ANCE		OLES/LAR	VAE	
Dead	branches a INDICAT Spotted Wo FACULTA	or SPE Salaman od Frog	ccies	erial (bi	DATE 5/12/2015 5/12/2015 DATE	gs) av	EGG MAS 5	ANCE		OLES/LAR		
Dead	branches a INDICAT Spotted Wo FACULTA Cac	OR SPE Salaman od Frog TIVE SF	CIES nder PECIES	erial (bi	DATE 5/12/2015 5/12/2015 DATE 5/12/2015	gs) av	EGG MAS 5 ABUND	ANCE		OLES/LAR	NOTE	S
Dead	branches a INDICAT Spotted Wo FACULTA	OR SPE Salaman od Frog TIVE SF	CIES nder PECIES	erial (bi	DATE 5/12/2015 5/12/2015 DATE	gs) av	EGG MAS 5	ANCE		OLES/LAR		S
Dead	branches a INDICAT Spotted Wo FACULTA Cac	OR SPE Salaman od Frog TIVE SF	CIES nder PECIES	erial (bi	DATE 5/12/2015 5/12/2015 DATE 5/12/2015	gs) av	EGG MAS 5 ABUND	ANCE		OLES/LAR	NOTE	S
Dead	branches a INDICAT Spotted Wo FACULTA Cac	or SPE Salaman od Frog TIVE SF ddisflies OR SPE	CIES nder PECIES	erial (bi	DATE 5/12/2015 5/12/2015 DATE 5/12/2015 DATE	gs) av	ABUND ABUND	ANCE		OLES/LAR	NOTE	S
	branches a INDICAT Spotted Wo FACULTA Cac	od Frog TIVE SF ddisflies OR SPE	CIES nder PECIES ECIES	erial (bi	DATE 5/12/2015 5/12/2015 DATE 5/12/2015 DATE		ABUND ABUND	ANCE		OLES/LAR	NOTE	S
Presence	branches a INDICAT Spotted Wo FACULTA Cac PREDAT	od Frog TIVE SF ddisflies OR SPE R SPECI	CIES nder PECIES ES E	erial (bi	DATE 5/12/2015 DATE 5/12/2015 DATE DATE DATE		ABUND ABUND ABUND	ANCE		OLES/LAR	NOTE	S
Presence Were sp	PREDAT OTHER	OR SPE Salaman od Frog TIVE SP ddisflies OR SPE R SPECI tor Spec	CIES CIES CIES CIES CIES CIES CIES CIES	erial (bi	DATE 5/12/2015 DATE 5/12/2015 DATE DATE DATE DATE		ABUND ABUND ABUND	ANCE		OLES/LAR	NOTE	S
Presence Were sp	FACULTA Cac PREDAT OTHER	OR SPE Salaman od Frog TIVE SP ddisflies OR SPE R SPECI tor Spec	CIES CIES CIES CIES CIES CIES CIES CIES	erial (bi	DATE 5/12/2015 DATE 5/12/2015 DATE DATE DATE Ves		ABUND ABUND No	ANCE		OLES/LAR	NOTE	S
Presence Were sp Were fis	FACULTA Cac PREDAT OTHER ce of Indica permatophorish observed	OR SPE Salaman od Frog TIVE SP ddisflies OR SPECI tor Species obse in the po	CIES CIES CIES CIES CIES CIES CIES CIES	erial (bi	DATE 5/12/2015 DATE 5/12/2015 DATE DATE DATE Ves		ABUND ABUND No No	ANCE MONCE ANCE	TADF	Tadpoles	NOTE	S







Project File #60328763	Project Name: Northeast Energy	Direct Project Pool ID: LY-AC	24-VP001
Observer: SH		Phone or email:	
Landowner/Applicant: LYNN	FIELD CTR WATER DIST	Phone or email:	
Address: Not Lis	sted City:	LYNNFIELD State: MA	Zip:: 01940
Location of vernal pool:			
Survey date(s):: 5/19/2015	Longitude/Latitude (in decir	nal degrees): 42.56563311, -71.0500)7509
A. VERNAL POOL CHARACTE	RISTICS (fill in all information known):		
1. Landscape Setting (check a	ll that apply):		
☐ Upland depression (4 p	ets; if this is also in a floodplain, use 2 pts)		
☐ Pool part of a pool com	plex (within 1000 feet of one or more other	vernal pools)(NA)	
☑ Pool within larger wetla	and system (4 pts; if this is also in a floodpla	ain, use 2 pts)	
□ Pool part of wildlife corr	ridor (4 pts)		
☐ Other (variable pts):			
Pool Origin: Natural, but a	Itered		
2. Vernal pool condition:			
Describe any recent modificat	ions to the pool and associated landscape	: ATV TIRE RUTS	
3. Parent material:			
☑ Glacial fluvial ("outwash")) Loose till	☐ Peat	
□ Dense till	☐ Alluvium	☐ Coastal marine sediments	
4. Aquatic resource type that b	best applies to this pool (choose domin	ant):	
☐ Forested wetland (4pts)	☑ Herbaceous wetland (4)	ots)	v) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable points):	
☐ Peatland (acidic fen or be	og) (4pts)	h (2pts)	
5. Pool canopy cover (%):	<u>25%</u>		
6. Predominant substrate:			
	Depth: 4		
✓ Organic matter (peat/multiple)	ck) Sampling location (e.g.,dee	pest zone, edge,etc.): <u>DEEP</u>	
7. Pool sizes:			
	pool (at maximum capacity) (sq. feet):	<u>6046.76</u>	
	point at time of survey (include units):	<u>4"</u>	
8. Hydrology:	blood partial phoenical hydropariad value/a) is (are) known use the presence of those	o ovemble
indicator species to best pred	nless actual, observed hydroperiod value(s dict the expected hydroperiod of the pool):		
□ Dries between early Mar	ch and early July (e.g., Thelypteris palustr	s, Carex stricta, Impatiens capensis, Ilex v	verticillata)(6pts)
✓ Dries between early July	and early September (e.g., Sagittaria latifo	olia, Scirpus cyperinus, Dulichium arundina	aceum, Cephalanthus occ.)(8pts)
□ Dries between early Sept	tember and early November (e.g., Eleocha	ris palustris, Glyceria canadensis, Utricula	aria spp., Decodon vert.)(8pts)
□ Dries between early Nove	ember and late December, or intermittently	exposed (e.g., Nuphar spp., Potamogeto	n spp.)(8pts)
How long does pool hold wa	ater? <u>Seasonal</u>		
b. Inlet/Outlet (pick one):			
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outle	t (channel with well-defined banks and pe	rmanent flow) (2 pts)
Temporary inlet/outlet (6	nte)	·	



☑ Clear ☐ High turbidity	☐ High algae cor	ntent Tannic		
22 TOTAL for Pool Characteri	stics (out of 28 ma	x.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABIT	ΓΑΤ AREA (100-750 ft) CH	HARACTERISTICS (fill in all	information known):
Landuse type and approximate percent	age within the 100)-ft vernal pool envelope:		
✓ Forested: 50% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
✓ Shrub: <u>50%</u> (10 pts)		Developed: <u>%</u>	(0 pts)	
2. Landuse type and approximate percent	age within the 100	-750-ft vernal pool critica	al terrestrial habitat:	
✓ Forested: <u>75%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
✓ Shrub: 25% (10 pts)		Developed: <u>%</u>	(0 pts)	
Are there one or more barriers to we check here and see directions for e				itat? If so,
Based on: Field estimate	☐ GIS	Aerial phot	o estimate	
26 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THE Shrubs: <10% Emergent vegetation (grasses, seg Submergent vegetation: <10 Dead branches and downed woody mater	es, rushes, cattails)	: <u>10-50%</u>	,	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Mood Fra				
Wood Frog	5/19/2015	2		
Spotted Salamander	5/19/2015	4		BUSTED EGG MASSES
				BUSTED EGG MASSES
			NC	BUSTED EGG MASSES
Spotted Salamander	5/19/2015	4	NC	
Spotted Salamander FACULTATIVE SPECIES	5/19/2015 DATE	4 ABUNDANCE	NC	
Spotted Salamander FACULTATIVE SPECIES	5/19/2015 DATE	4 ABUNDANCE		
Spotted Salamander FACULTATIVE SPECIES Caddisflies	5/19/2015 DATE 5/19/2015	4 ABUNDANCE Common		DTES
Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	5/19/2015 DATE 5/19/2015 DATE	ABUNDANCE Common ABUNDANCE		DTES
Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES BULLFROG	5/19/2015 DATE 5/19/2015 DATE 5/19/2015 5/19/2015	ABUNDANCE Common ABUNDANCE Few		DTES
Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES BULLFROG CRAYFISH OTHER SPECIES	5/19/2015 DATE 5/19/2015 DATE 5/19/2015 5/19/2015 DATE DATE	ABUNDANCE Common ABUNDANCE Few Few ABUNDANCE	NC	DTES
Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES BULLFROG CRAYFISH	5/19/2015 DATE 5/19/2015 DATE 5/19/2015 5/19/2015	ABUNDANCE Common ABUNDANCE Few Few	NC	DTES DTES
Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES BULLFROG CRAYFISH OTHER SPECIES	5/19/2015 DATE 5/19/2015 DATE 5/19/2015 5/19/2015 DATE DATE	ABUNDANCE Common ABUNDANCE Few Few ABUNDANCE	NC	DTES DTES
Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES BULLFROG CRAYFISH OTHER SPECIES	5/19/2015 DATE 5/19/2015 DATE 5/19/2015 5/19/2015 DATE 5/19/2015	ABUNDANCE Common ABUNDANCE Few Few ABUNDANCE	NC	DTES DTES
Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES BULLFROG CRAYFISH OTHER SPECIES GIANT WATER BUG	5/19/2015 DATE 5/19/2015 DATE 5/19/2015 5/19/2015 DATE 5/19/2015 ✓ Yes	ABUNDANCE Common ABUNDANCE Few Few ABUNDANCE Few	NC	DTES DTES



SUMMARY

22 TOTAL for Pool Characteristics

26 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area

Other Comments:

HMM#2417 MILE 1.69

PHOTOS



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Project File #60328763	Project Name: Northeast Energy Dir	ect Project	Pool ID: LY-AC4-	VP002	
Observer: SH		Phone or en	nail:		
Landowner/Applicant: LYNNFIELD (CTR WATER DIST	Phone or en	nail:		
Address: Not Listed	City: L	YNNFIELD.	State: MA	Zip:: 01940	
Location of vernal pool:					
Survey date(s):: 5/19/2015	Longitude/Latitude (in decimal	l degrees): 42.5	66614979, -71.044808	306	
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):				
. Landscape Setting (check all that a	ipply):				
☐ Upland depression (4 pts; if this	s is also in a floodplain, use 2 pts)				
☐ Pool part of a pool complex (wi	thin 1000 feet of one or more other ve	ernal pools)(NA)			
Pool within larger wetland system	em (4 pts; if this is also in a floodplain	ı, use 2 pts)			
☐ Pool part of wildlife corridor (4	pts)				
☐ Other (variable pts):					
Pool Origin: Natural Depression					
. Vernal pool condition:					
Describe any recent modifications to	the pool and associated landscape:				
. Parent material:					
☑ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat			
☐ Dense till	☐ Alluvium	☐ Coastal mari	ine sediments		
. Aquatic resource type that best ap	plies to this pool (choose dominan	t):			
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	Floodpla	ain (overflow/oxbow) ((3pts)	
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (v	variable points):		
☐ Peatland (acidic fen or bog) (4pt	s) Intermittent stream reach ((2pts)			
i. Pool canopy cover (%): 90%					
. Predominant substrate:					
☐ Mineral soil	Depth: 4				
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepe	st zone, edge,etc.):	DEEP		
'. Pool sizes:					
Approximate dimensions of pool (at	maximum capacity) (sq. feet):	<u>3521.23</u>			
Maximum depth at deepest point at t	ime of survey (include units):	<u>6"</u>			
B. Hydrology:	ا در اور اور اور اور اور اور اور اور اور او	-() l			
indicator species to best predict the	tual, observed hydroperiod value(s) is expected hydroperiod of the pool):	s(are) known, use the	presence of these ex	campie	
☑ Dries between early March and	early July (e.g., Thelypteris palustris,	Carex stricta, Impatie	ens capensis, llex ven	ticillata)(6pts)	
☐ Dries between early July and ear	rly September (e.g., <i>Sagittaria latifolia</i>	a, Scirpus cyperinus,	Dulichium arundinace	eum, Cephalanthus occ.)((8pts)
☐ Dries between early September	and early November (e.g., <i>Eleochari</i> s	s palustris, Glyceria c	anadensis, Utricularia	spp., Decodon vert.)(8pt	is)
☐ Dries between early November a	and late December, or intermittently e	xposed (e.g., Nuphai	r spp., Potamogeton s	spp.)(8pts)	
How long does pool hold water?	Seasonal				
b. Inlet/Outlet (pick one):					
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (channel with well-def	ined banks and perma	anent flow) (2 pts)	
☐ Temporary inlet/outlet (6 pts)					



✓ Clear	☐ High to	urbidity	☐ High algae co	ntent Tannic		
<u>22</u> TOT	AL for Poo	I Characteris	tics (out of 28 ma	ax.)		
B. VERNAL POOL	ENVELOPE	E (100 ft) AND	CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type an	d approxin	nate percenta	age within the 100)-ft vernal pool envelope	:	
Forested:	100% ((16 pts)		Open (e.g., meadow, agri	culture, golf course): %	(4 pts)
☐ Shrub:	<u>%</u> ((10 pts)		Developed: %	(0 pts)	
2. Landuse type an	d approxim	nate percenta	age within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested:	<u>100%</u> ((16 pts)		Open (e.g., meadow, agri	culture, golf course): %	(4 pts)
☐ Shrub:	<u>%</u> ((10 pts)		Developed: %	(0 pts)	
				ovement within the envelop o incorporate this informat	pe and/or critical terrestrial hab tion.	itat? If so,
Based on:	☐ Field	d estimate	☐ GIS	✓ Aerial pho	to estimate	
<u>16</u> TO	TAL for Po	ol Envelope a	and Critical Terre	strial Habitat Area (out c	of 32 max.)	
C. SPECIES PRESI	ENT IN VER	RNAL POOL				
Shrubs: Emergent Submerger	<10% vegetation (entry)	grasses, sege n: <u>10-5</u>	es, rushes, cattails)		ffer concealment to aquatic or	developing larvae.
Dead branches a	nd downed v	woody materia	al (branches/twigs)	available for egg attachm	nent: greater than 10	
	nd downed v		al (branches/twigs) DATE	e available for egg attachm	nent: greater than 10 TADPOLES/LARVAE	NOTES
INDICATO				1		NOTES
INDICATE Wood	OR SPECIE	ES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATO Wood Spotted	OR SPECIE od Frog Salamandei	r	DATE 5/20/2015 5/20/2015	2 16	TADPOLES/LARVAE Tadpoles	
Spotted FACULTA	OR SPECIE od Frog Salamandei	r	DATE 5/20/2015 5/20/2015 DATE	EGG MASSES (#) 2 16 ABUNDANCE	TADPOLES/LARVAE Tadpoles	NOTES
Spotted FACULTA	OR SPECIE od Frog Salamandei	r	DATE 5/20/2015 5/20/2015	2 16	TADPOLES/LARVAE Tadpoles	
Spotted FACULTA Cac	OR SPECIE od Frog Salamander TIVE SPEC	r	DATE 5/20/2015 5/20/2015 DATE 5/20/2015	EGG MASSES (#) 2 16 ABUNDANCE Common	TADPOLES/LARVAE Tadpoles	DTES
Spotted FACULTA Cac	OR SPECIE od Frog Salamandei	r	DATE 5/20/2015 5/20/2015 DATE	EGG MASSES (#) 2 16 ABUNDANCE	TADPOLES/LARVAE Tadpoles	
Spotted FACULTA Cac	OR SPECIE od Frog Salamander TIVE SPEC Idisflies OR SPECIE	r	DATE 5/20/2015 5/20/2015 DATE 5/20/2015 DATE	EGG MASSES (#) 2 16 ABUNDANCE Common ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	DTES DTES
Spotted FACULTA Cac	OR SPECIE od Frog Salamander TIVE SPEC	r	DATE 5/20/2015 5/20/2015 DATE 5/20/2015	EGG MASSES (#) 2 16 ABUNDANCE Common	TADPOLES/LARVAE Tadpoles NO	DTES
Spotted FACULTA Cac	OR SPECIE od Frog Salamander TIVE SPEC Idisflies OR SPECIES	r FIES	DATE 5/20/2015 5/20/2015 DATE 5/20/2015 DATE DATE	EGG MASSES (#) 2 16 ABUNDANCE Common ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	DTES DTES
Spotted FACULTA Cac PREDATE	OR SPECIE od Frog Salamander TIVE SPEC Idisflies OR SPECIES R SPECIES	r FIES	DATE 5/20/2015 5/20/2015 DATE 5/20/2015 DATE DATE DATE DATE	EGG MASSES (#) 2 16 ABUNDANCE Common ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	DTES DTES
Spotted FACULTA Cac PREDATO OTHER	OR SPECIE od Frog Salamander TIVE SPEC ddisflies OR SPECIES tor Species es observed	r FIES	DATE 5/20/2015 5/20/2015 DATE 5/20/2015 DATE DATE DATE □ Yes	EGG MASSES (#) 2 16 ABUNDANCE Common ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	DTES DTES
FACULTA' Cac PREDATE OTHER Presence of Indica: Were spermatophor	OR SPECIE od Frog Salamander TIVE SPEC ddisflies OR SPECIES tor Species es observed	r FIES	DATE 5/20/2015 5/20/2015 DATE 5/20/2015 DATE DATE DATE □ Yes	EGG MASSES (#) 2 16 ABUNDANCE Common ABUNDANCE ABUNDANCE DNo No No	TADPOLES/LARVAE Tadpoles NO	DTES DTES
FACULTA Cac PREDATE OTHER Presence of Indica Were spermatophor Were fish observed	OR SPECIE od Frog Salamander TIVE SPEC Iddisflies OR SPECIES tor Species res observed in the pool?	r FIES	DATE 5/20/2015 5/20/2015 DATE 5/20/2015 DATE DATE □ Yes □ Yes □ Yes	EGG MASSES (#) 2 16 ABUNDANCE Common ABUNDANCE ABUNDANCE No No No No	TADPOLES/LARVAE Tadpoles NO	DTES DTES





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Project File #60328763	Project Name: Northeast Energ	y Direct Project	Pool ID: LY-AC4-	VP003
Observer: SH		Phone or	r email:	
Landowner/Applicant: LYNNFIELD	CTR WATER DIST	Phone or	r email:	
Address: 100 RESEAR	RCH DR City:	: LYNNFIELD	State: MA	Zip:: 01940
Location of vernal pool:				
Survey date(s):: 5/19/2015	Longitude/Latitude (in dec	cimal degrees): 4	12.56603820, -71.038112	59
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):		
1. Landscape Setting (check all that	apply):			
☐ Upland depression (4 pts; if th	is is also in a floodplain, use 2 pts	3)		
☑ Pool part of a pool complex (was a pool part of a pool part of a pool complex (was a pool part of a pool	vithin 1000 feet of one or more oth	ner vernal pools)(NA)		
☐ Pool within larger wetland sys	tem (4 pts; if this is also in a flood	lplain, use 2 pts)		
☐ Pool part of wildlife corridor (4	pts)			
Other (variable pts):				
Pool Origin: Ditch along road or r	ut from vehicle			
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscap	pe: ATV ACCESS	ROAD TIRE RUTS	
3. Parent material:				
☑ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
☐ Dense till	☐ Alluvium	☐ Coastal n	narine sediments	
4. Aquatic resource type that best ap	pplies to this pool (choose dom	inant):		
☐ Forested wetland (4pts)	☐ Herbaceous wetland ((4pts)	dplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	✓ Othe	er (variable points): IMF	POUNDED SURFACE WATER
☐ Peatland (acidic fen or bog) (4p	ots) Intermittent stream re	ach (2pts)		
5. Pool canopy cover (%): <u>55%</u>				
6. Predominant substrate:				
✓ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,de	eepest zone, edge,etc.	.):	
7. Pool sizes:				
Approximate dimensions of pool (at	. ,,,,,	<u>554.78</u>		
Maximum depth at deepest point at 8. Hydrology:	time of survey (include units):	<u>4"</u>		
a. Estimated hydroperiod (unless ac indicator species to best predict the			the presence of these ex	ample
•	early July (e.g., Thelypteris palus	,	patiens capensis. Ilex vert	ticillata)(6pts)
	arly September (e.g., Sagittaria la		•	, , ,
	and early November (e.g., <i>Eleoc</i>			
_ , ,	and late December, or intermitten		•	,,,
		,		[PP-7/(-P7)
How long does pool hold water?	<u>Seasonal</u>			
b. Inlet/Outlet (pick one):	Democratical	atlat (ala anna at codula a 1000).	defined hands and a	an ant flavol (O mt-)
No inlet/outlet (8 pts)	☐ Permanent inlet or our	tiet (channel with well-	-defined banks and perma	arient flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)				



☐ Clear ☑ High turbidity	☐ High algae co	ontent		
14 TOTAL for Pool Character	stics (out of 28 m	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	nformation known):
1. Landuse type and approximate percen	tage within the 10	0-ft vernal pool envelope	:	
✓ Forested: 100% (16 pts)		Open (e.g., meadow, agric		(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
2. Landuse type and approximate percen	tage within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: <u>100%</u> (16 pts)	_	Open (e.g., meadow, agric		(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	· · /
☐ Are there one or more barriers to v check here and see directions for e				tat? If so,
Based on:	☐ GIS	Aerial photo	to estimate	
16 TOTAL for Pool Envelope	and Critical Terre	estrial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THI Shrubs: NA Emergent vegetation (grasses, sec Submergent vegetation: NA Dead branches and downed woody mate	es, rushes, cattails): <u>NA</u>		developing larvae.
INDICATOR SPECIES	DATE			
INDICATOR SPECIES Spotted Salamander		EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Spotted Salamander	5/20/2015	22	TADFOLES/LARVAE	NOTES
Spotted Salamander	5/20/2015	22		
				TES
Spotted Salamander FACULTATIVE SPECIES	5/20/2015 DATE	ABUNDANCE	NO	TES
Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES	5/20/2015 DATE DATE	ABUNDANCE ABUNDANCE	NO	
Spotted Salamander FACULTATIVE SPECIES	5/20/2015 DATE	ABUNDANCE	NO	TES
Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES BULLFROG	5/20/2015 DATE DATE 5/20/2015	ABUNDANCE ABUNDANCE Few	NO NO	TES
Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES	5/20/2015 DATE DATE	ABUNDANCE ABUNDANCE	NO NO	TES
Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES BULLFROG	5/20/2015 DATE DATE 5/20/2015	ABUNDANCE ABUNDANCE Few	NO NO	TES
Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES BULLFROG	5/20/2015 DATE DATE 5/20/2015	ABUNDANCE ABUNDANCE Few	NO NO	TES
Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES BULLFROG OTHER SPECIES	5/20/2015 DATE DATE 5/20/2015 DATE	ABUNDANCE Few ABUNDANCE ABUNDANCE	NO NO	TES
Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES BULLFROG OTHER SPECIES Presence of Indicator Species	5/20/2015 DATE DATE 5/20/2015 DATE ✓ Yes ☐ Yes	ABUNDANCE Few ABUNDANCE Fow No	NO NO	TES
Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES BULLFROG OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	5/20/2015 DATE DATE 5/20/2015 DATE ✓ Yes ☐ Yes	ABUNDANCE ABUNDANCE Few ABUNDANCE No No	NO NO	TES
Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES BULLFROG OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	5/20/2015 DATE DATE 5/20/2015 DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE Few ABUNDANCE Few ABUNDANCE Vo No No	NO NO	TES TES
Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES BULLFROG OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	5/20/2015 DATE DATE 5/20/2015 DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE Few ABUNDANCE Few ABUNDANCE Vo No No	NO NO NO	TES TES

LY-AC4-VP003 Page 2





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Project File #60328763	Project Name: Northeast Energy Direct	ct Project Pool ID: LY-A	C4-VP004
Observer: SH		Phone or email:	
Landowner/Applicant: LYNNFIELD	CTR WATER DIST	Phone or email:	
Address: 100 RESEAR	RCH DR City: LY	NNFIELD State: MA	Zip:: 01940
Location of vernal pool:			
Survey date(s):: 5/19/2015	Longitude/Latitude (in decimal of	degrees): 42.56604682, -71.038	354014
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):		
. Landscape Setting (check all that a	apply):		
☐ Upland depression (4 pts; if thi	s is also in a floodplain, use 2 pts)		
✓ Pool part of a pool complex (with the pool part of a pool complex) ✓ Pool part of a pool complex (with the pool part of a pool complex) ✓ Pool part of a pool complex (with the pool part of a pool part of a pool part of a pool complex) ✓ Pool part of a pool complex (with the pool part of a pool	ithin 1000 feet of one or more other ver	nal pools)(NA)	
☐ Pool within larger wetland syst	em (4 pts; if this is also in a floodplain, u	use 2 pts)	
Pool part of wildlife corridor (4	pts)		
☐ Other (variable pts):			
Pool Origin: Ditch along road or ru	ut from vehicle		
. Vernal pool condition:			
Describe any recent modifications to	the pool and associated landscape:	ATV ACCESS ROAD TIRE RUTS	
. Parent material:			
☑ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat	
☐ Dense till	☐ Alluvium	☐ Coastal marine sediments	
. Aquatic resource type that best ap	plies to this pool (choose dominant)	:	
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Floodplain (overflow/oxbo	ow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☑ Other (variable points):	IMPOUNDED WATER ON ACCESS ROAD
☐ Peatland (acidic fen or bog) (4pt	ts)	pts)	
5. Pool canopy cover (%): 55%			
. Predominant substrate:			
✓ Mineral soil	Depth:		
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepest	zone, edge,etc.):	
7. Pool sizes:			
Approximate dimensions of pool (at		449.04	
Maximum depth at deepest point at	time of survey (include units):	<u>5"</u>	
 B. Hydrology: a. Estimated hydroperiod (unless ac indicator species to best predict the 	etual, observed hydroperiod value(s) is(a	are) known, use the presence of thes	e example
·	early July (e.g., <i>Thelypteris palustris</i> , C	Carex stricta. Impatiens capensis. Ilex	verticillata)(6pts)
	arly September (e.g., Sagittaria latifolia,		,,,,
	and early November (e.g., Eleocharis p		
	and late December, or intermittently exp	•	
How long does pool hold water?	Seasonal	sooda (o.g., rupnar opp., r olamogol	on opp./(op.o)
b. Inlet/Outlet (pick one):	<u></u>		
No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (ch	nannel with well-defined banks and pe	ermanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)	L i cimanent iniet of outlet (ci	rainioi with won defined banks and p	ormanoni now, (2 pts)
- remperary interroduct (o pis)			



9. Water quality:				
☐ Clear ☑ High turbidity	☐ High algae co	ontent		
22 TOTAL for Pool Characteri	stics (out of 28 m	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	nformation known):
Landuse type and approximate percent	age within the 10	0-ft vernal pool envelope	:	
✓ Forested: 100% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
2. Landuse type and approximate percent	age within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 100% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
Are there one or more barriers to vicheck here and see directions for e				itat? If so,
Based on: Field estimate	☐ GIS	Aerial pho	to estimate	
16 TOTAL for Pool Envelope	and Critical Terre	estrial Habitat Area (out o	of 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THE Shrubs: NA Emergent vegetation (grasses, seg Submergent vegetation: NA Dead branches and downed woody mater	es, rushes, cattails	s): <u>NA</u>		developing larvae.
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Spotted Salamander	5/20/2015	27		
FACULTATIVE SPECIES	DATE	ABUNDANCE	NO	TES
PREDATOR SPECIES	DATE	ABUNDANCE	NO	TES
BULLFROG	5/20/2015	Few		
OTHER SPECIES	DATE	ABUNDANCE	NO	TES
Presence of Indicator Species	✓ Yes	□ No		
Were spermatophores observed?	☐ Yes	☑ No		
Were fish observed in the pool?	☐ Yes	☑ No		
SUMMARY				
22 TOTAL for Pool Characteristi	cs	16 TOTAL fo	r Pool Envelope and Critical	Terrestrial Habitat Area
Other Comments:				





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Project File #60328763	Project Name: Northeast Energy Dir	rect Project	Pool ID: LY-AC4-	VP005
Observer: SH		Phone or	email:	
Landowner/Applicant: LYNNFIELD	CTR WATER DIST	Phone or	email:	
Address: 83 PHILLIPS	ROAD City: L	YNNFIELD	State: MA	Zip:: 01940
Location of vernal pool:				
Survey date(s):: 5/19/2015	Longitude/Latitude (in decimal	ıl degrees): 42	2.56558853, -71.057024	.96
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):			
1. Landscape Setting (check all that	apply):			
☐ Upland depression (4 pts; if th	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (w	vithin 1000 feet of one or more other ve	ernal pools)(NA)		
Pool within larger wetland sys	tem (4 pts; if this is also in a floodplain	ı, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin: Natural Depression				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:			
3. Parent material:				
☑ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
☐ Dense till	☐ Alluvium	☐ Coastal m	arine sediments	
4. Aquatic resource type that best ap	oplies to this pool (choose dominan	ıt):		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	s) 🔲 Flood	Iplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	□ Open water (2 pts)	☐ Other	r (variable points):	
☐ Peatland (acidic fen or bog) (4p)	ots)	(2pts)		
5. Pool canopy cover (%): 80%				
6. Predominant substrate:				
☐ Mineral soil	Depth: <u>10"</u>			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.)): <u>DEEP</u>	
7. Pool sizes:				
Approximate dimensions of pool (at		<u>1983.76</u>		
Maximum depth at deepest point at 8. Hydrology:	time of survey (include units):	<u>12"</u>		
	ctual, observed hydroperiod value(s) is	s(are) known, use f	the presence of these ex	kample
indicator species to best predict the		5(a. 6) 16 11, a66 1	6	isinpro
□ Dries between early March and	early July (e.g., Thelypteris palustris,	Carex stricta, Impa	atiens capensis, llex vert	ticillata)(6pts)
Dries between early July and early	arly September (e.g., <i>Sagittaria latifolia</i>	a, Scirpus cyperinu	ıs, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
□ Dries between early September	and early November (e.g., Eleocharis	s palustris, Glyceria	a canadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently e	exposed (e.g., Nupl	har spp., Potamogeton s	spp.)(8pts)
How long does pool hold water?	<u>Seasonal</u>			
b. Inlet/Outlet (pick one):				
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (channel with well-c	defined banks and perma	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)			·	, , , ,



9. Water quality:				
☐ Clear ☐ High turbidity	☐ High algae co	ntent 🗹 Tannic		
24 TOTAL for Pool Characteri	stics (out of 28 ma	ıx.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABI	ΓΑΤ AREA (100-750 ft) CI	HARACTERISTICS (fill in all i	nformation known):
Landuse type and approximate percent				
✓ Forested: <u>100%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
2. Landuse type and approximate percent	tage within the 100	-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 90% (16 pts)	_	Open (e.g., meadow, agric		(4 pts)
☐ Shrub: <u>%</u> (10 pts)	\square	Developed: 10%	(0 pts)	
Are there one or more barriers to v check here and see directions for e	ernal pool fauna mo explanation of how t	ovement within the envelop o incorporate this informati	e and/or critical terrestrial habi on.	tat? If so,
Based on:	☐ GIS	Aerial phot	o estimate	
16 TOTAL for Pool Envelope	and Critical Torra	etrial Habitat Aroa (out o	f 32 may)	
10 TOTAL TOT POOT ETIVETOPE	and Chucai Terre	Striai Habitat Area (Out O	1 32 IIIax.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THE	E POOL that can pro	ovide egg attachment or of	fer concealment to aquatic or o	developing larvae.
Shrubs: <u>NA</u>				
Emergent vegetation (grasses, seg	jes, rushes, cattails)	: <u>10-50%</u>		
Submergent vegetation: <10	<u></u>			
Dead branches and downed woody mater	rial (branches/twigs)	available for egg attachm	ent: <u>1 - 10</u>	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Wood Frog	DATE 5/20/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES
		EGG MASSES (#)		NOTES
Wood Frog	5/20/2015			NOTES
Wood Frog	5/20/2015		Tadpoles	NOTES TES
Wood Frog Spotted Salamander	5/20/2015 5/20/2015	4	Tadpoles	
Wood Frog Spotted Salamander FACULTATIVE SPECIES	5/20/2015 5/20/2015 DATE	4 ABUNDANCE	Tadpoles	
Wood Frog Spotted Salamander FACULTATIVE SPECIES Spire-shaped snails or shells	5/20/2015 5/20/2015 DATE 5/20/2015	4 ABUNDANCE Many	Tadpoles	
Wood Frog Spotted Salamander FACULTATIVE SPECIES Spire-shaped snails or shells	5/20/2015 5/20/2015 DATE 5/20/2015	4 ABUNDANCE Many	Tadpoles NO	
Wood Frog Spotted Salamander FACULTATIVE SPECIES Spire-shaped snails or shells Caddisflies PREDATOR SPECIES	5/20/2015 5/20/2015 DATE 5/20/2015 5/20/2015 DATE	ABUNDANCE Many Many ABUNDANCE	Tadpoles NO	TES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Spire-shaped snails or shells Caddisflies	5/20/2015 5/20/2015 DATE 5/20/2015 5/20/2015	4 ABUNDANCE Many Many	Tadpoles NO	TES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Spire-shaped snails or shells Caddisflies PREDATOR SPECIES	5/20/2015 5/20/2015 DATE 5/20/2015 5/20/2015 DATE	ABUNDANCE Many Many ABUNDANCE	Tadpoles NO	TES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Spire-shaped snails or shells Caddisflies PREDATOR SPECIES	5/20/2015 5/20/2015 DATE 5/20/2015 5/20/2015 DATE DATE	ABUNDANCE Many Many ABUNDANCE	Tadpoles NO	TES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Spire-shaped snails or shells Caddisflies PREDATOR SPECIES OTHER SPECIES	5/20/2015 5/20/2015 DATE 5/20/2015 5/20/2015 DATE DATE DATE ✓ Yes	ABUNDANCE Many Many ABUNDANCE ABUNDANCE	Tadpoles NO	TES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Spire-shaped snails or shells Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	5/20/2015 5/20/2015 DATE 5/20/2015 5/20/2015 DATE DATE DATE Yes Yes	ABUNDANCE Many Many ABUNDANCE ABUNDANCE	Tadpoles NO	TES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Spire-shaped snails or shells Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	5/20/2015 5/20/2015 DATE 5/20/2015 5/20/2015 DATE DATE DATE Yes Yes	ABUNDANCE Many Many ABUNDANCE ABUNDANCE No	Tadpoles NO	TES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Spire-shaped snails or shells Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	5/20/2015 5/20/2015 DATE 5/20/2015 5/20/2015 DATE DATE Ves Yes Yes Yes Yes	ABUNDANCE Many Many ABUNDANCE ABUNDANCE No No No	Tadpoles NO	TES TES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Spire-shaped snails or shells Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	5/20/2015 5/20/2015 DATE 5/20/2015 5/20/2015 DATE DATE Ves Yes Yes Yes Yes	ABUNDANCE Many Many ABUNDANCE ABUNDANCE No No No	Tadpoles NO NO	TES TES





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Project File #60328763	Project Name: Northeast Energy Di	irect Project	Pool ID: ME-AC3-	-VP001
Observer: SH		Phone or en	nail:	
Landowner/Applicant: BENSON AN	IN S RLE	Phone or en	nail:	
Address: 97 MYRTLE	ST City: 1	METHUEN	State: MA	Zip:: 01844
Location of vernal pool:				
Survey date(s):: 5/07/2015	Longitude/Latitude (in decima	al degrees): 42.7	71229294, -71.243433	85
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):			
1. Landscape Setting (check all that	apply):			
☐ Upland depression (4 pts; if th	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (w)	rithin 1000 feet of one or more other v	vernal pools)(NA)		
Pool within larger wetland sys	tem (4 pts; if this is also in a floodplain	n, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin: Natural Depression				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:	IN UTILITY ROW	!	
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coastal mar	ine sediments	
4. Aquatic resource type that best ap	pplies to this pool (choose dominar	nt):		
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	s) 🔲 Floodpla	ain (overflow/oxbow) (3pts)
☑ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (v	variable points):	
☐ Peatland (acidic fen or bog) (4p	ts)	(2pts)		
5. Pool canopy cover (%): <u>15%</u>				
6. Predominant substrate:				
☐ Mineral soil	Depth: 18			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.):	DEEP ZONE	
7. Pool sizes:				
Approximate dimensions of pool (at	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u>13398.21</u>		
Maximum depth at deepest point at	time of survey (include units):	<u>2'</u>		
8. Hydrology: a Estimated hydroneriod (unless as	ctual, observed hydroperiod value(s) i	is(are) known Tuse the	nresence of these ex	ramnle
indicator species to best predict the		o(are) known, ase the	, preserior of these ex	мирю
□ Dries between early March and	early July (e.g., Thelypteris palustris,	, Carex stricta, Impatio	ens capensis, llex vert	ticillata)(6pts)
□ Dries between early July and early	arly September (e.g., Sagittaria latifoli	ia, Scirpus cyperinus,	Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
Dries between early September	and early November (e.g., Eleochari	is palustris, Glyceria c	anadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently	exposed (e.g., Nupha	r spp., Potamogeton s	pp.)(8pts)
How long does pool hold water?	Semi-permanent			
b. Inlet/Outlet (pick one):				
□ No inlet/outlet (8 pts)	✓ Permanent inlet or outlet	(channel with well-def	fined banks and perma	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)				/ V 1 = 7



9. Wate	r quality:									
	Clear	☑ Hi	gh turbidity	☐ High	algae co	ntent	Tannic			
	<u>18</u> TOT	TAL for	Pool Characte	ristics (out	of 28 ma	ax.)				
B. VER	NAL POOL	ENVEL	OPE (100 ft) AI	ND CRITICA	AL HABI	TAT AREA (10	00-750 ft) CH	HARACTERISTICS (fill in all inf	formation known):
1. Land	use type ar	nd appro	oximate percei	ntage withi	n the 100)-ft vernal poo	ol envelope:			
	Forested:	<u>50%</u>	(16 pts)			Open (e.g., m	eadow, agric	ulture, golf course):	<u>50%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)			Developed:	<u>%</u>	(0 pts)		
2. Land	use type ar	nd appro	oximate percei	ntage withi	n the 100)-750-ft verna	l pool critica	al terrestrial habitat	:	
	Forested:	<u>30%</u>	(16 pts)		$\overline{\checkmark}$	Open (e.g., m	eadow, agric	ulture, golf course):	<u>50%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)		$\overline{\checkmark}$	Developed:	<u>20%</u>	(0 pts)		
☑			nore barriers to e directions for					e and/or critical terre on.	strial habita	t? If so,
	Based on:		Field estimate		SIS		Aerial phot	o estimate		
	<u>20</u> TO	TAL for	Pool Envelop	e and Critic	cal Terre	strial Habitat	Area (out of	⁻ 32 max.)		
C. SPE	CIES PRES	ENT IN	VERNAL POOI	_						
Vege	tation type a	and perc	ent cover IN TH	IE POOL th	at can pr	ovide egg atta	chment or of	fer concealment to a	quatic or de	veloping larvae.
	Shrubs:	<u>>509</u>	<u>%</u>							
	•	•	on (grasses, se		s, cattails)): <u>>50%</u>				
D 1	Submerge	•		<u> 60%</u>						
					/4: `					
Dead	branches a	nd dowr	ned woody mate	erial (branch	nes/twigs)	available for	egg attachme	ent: greater than 10		
Dead	INDICAT			erial (branch		e available for e		ent: greater than 10		NOTES
Dead	INDICAT			<u> </u>	TE					NOTES
Dead	INDICAT	OR SPE		DA	TE			TADPOLES/LAF		NOTES
Dead	INDICAT	OR SPE od Frog	CIES	DA	TE 2015		SSES (#)	TADPOLES/LAF		
Dead	INDICAT Wo	OR SPE od Frog	CIES	DA 5/8/2	TE 2015	EGG MAS	SSES (#) ANCE	TADPOLES/LAF	RVAE	
Dead	INDICAT Wo	OR SPE	CIES	DA 5/8/2	TE 2015	EGG MAS	SSES (#) ANCE	TADPOLES/LAF	RVAE	
Dead	INDICAT Wo	OR SPE od Frog TIVE SF	ECIES PECIES	DA 5/8/2	TE 2015	EGG MAS	ANCE	TADPOLES/LAF	RVAE	ES
Dead	INDICAT Wo FACULTA Car PREDAT	OR SPE	PECIES	DA 5/8/2	TE 2015 TE 2015	ABUND Comr	ANCE	TADPOLES/LAF	NOT	ES
Dead	FACULTA Cac PREDAT	OR SPE Od Frog TIVE SF ddisflies OR SPE	PECIES	DA 5/8/2	TE 2015 TE 2015 TE 2015	ABUND Comr ABUND ABUND	ANCE ANCE ANCE	TADPOLES/LAF	NOT	ES
Dead	FACULTA Cac PREDAT	OR SPE	PECIES	DA 5/8/2	TE 2015 TE 2015 TE 2015	ABUND Comr	ANCE ANCE ANCE	TADPOLES/LAF	NOT	ES
Dead	FACULTA Cac PREDAT	OR SPE Od Frog TIVE SF ddisflies OR SPE	PECIES	DA 5/8/2	TE 2015 TE 2015 TE 2015	ABUND Comr ABUND ABUND	ANCE ANCE ANCE	TADPOLES/LAF	NOT	ES
	FACULTA Cac PREDAT	OR SPE od Frog TIVE SR ddisflies OR SPE R SPECEN FRO	ECIES ECIES ECIES ECIES ECIES	DA 5/8/2	TE 2015 TE 2015 TE 2015	ABUND Comr ABUND ABUND	ANCE ANCE ANCE	TADPOLES/LAF	NOT	ES
Present	FACULTA Car PREDAT OTHER	OR SPE od Frog TIVE SF ddisflies OR SPE R SPECEN FRO	ECIES ECIES ECIES ECIES ECIES ECIES ECIES	DA 5/8/2 DA 5/8/2 DA 5/8/2	TE 2015 TE 2015 TE 2015	ABUND Comr ABUND Comr	ANCE ANCE ANCE	TADPOLES/LAF	NOT	ES
Present Were sp	FACULTA Car PREDAT OTHER	OR SPE od Frog TIVE SF ddisflies OR SPE EN FRO tor Spe res obse	PECIES PECIES CIES CIES CIES CIES CIES CIES CIES CIES	DA 5/8/2 DA 5/8/2 DA 5/8/2 VYes	TE 2015 TE 2015 TE 2015	ABUND Comr ABUND Comr	ANCE ANCE ANCE	TADPOLES/LAF	NOT	ES
Present Were sp	FACULTA Cac PREDAT OTHER GREI ce of Indica	OR SPE od Frog TIVE SF ddisflies OR SPE EN FRO tor Spe res obse	PECIES PECIES CIES CIES CIES CIES CIES CIES CIES CIES	DA 5/8/2 DA 5/8/2 DA 5/8/2 DA 5/8/2 ✓ Yes □ Yes	TE 2015 TE 2015 TE 2015	ABUND Comr ABUND Comr	ANCE ANCE ANCE	TADPOLES/LAF	NOT	ES
Presence Were sp Were fis	FACULTA Cac PREDAT OTHER GREI ce of Indica	OR SPE od Frog TIVE SF ddisflies OR SPE EN FRO tor Spe res obse in the p	PECIES PECIES CIES CIES CIES CIES CIES CIES CIES CIES	DA	TE 2015 TE 2015 TE 2015	ABUND Comr ABUND Comr	ANCE ANCE MON	TADPOLES/LAR Tadpoles	NOT!	ES
Presence Were sp	FACULTA Cac PREDAT OTHER GREI ce of Indica	OR SPE od Frog TIVE SF ddisflies OR SPE EN FRO tor Spe res obse	PECIES PECIES CIES CIES CIES CIES CIES CIES CIES CIES	DA 5/8/2 DA 5/8/2 DA 5/8/2 DA 5/8/2 ✓ Yes □ Yes	TE 2015 TE 2015 TE 2015	ABUND Comr ABUND Comr	ANCE ANCE ANCE	TADPOLES/LAF	NOT	ES
Presence Were sp Were fis	FACULTA Cac PREDAT OTHER GREI ce of Indica	OR SPE od Frog TIVE SF ddisflies OR SPE EN FRO tor Spe res obse in the p	ECIES PECIES ECIES E	DA	TE 2015 TE 2015 TE 2015	ABUND Comr ABUND Comr	ANCE ANCE MON	TADPOLES/LAR Tadpoles	NOT!	ES ES
Presence Were significant with the second se	FACULTA Cac PREDAT OTHER GREI ce of Indica	OR SPE od Frog TIVE SF ddisflies OR SPE EN FRO tor Spe res obse in the p	ECIES PECIES ECIES E	DA	TE 2015 TE 2015 TE 2015	ABUND Comr ABUND Comr	ANCE ANCE MON	TADPOLES/LAR Tadpoles	NOT!	ES ES





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Project File #60328763	Project Name: Northeast Energy Di	ect Project Pool ID: ME-A	AC3-VP002
Observer: SH		Phone or email:	
Landowner/Applicant: COLLIER D	IANE	Phone or email:	
Address: 532 FORES	T ST LT A City: N	ETHUEN State: MA	Zip:: 01844
Location of vernal pool:			
Survey date(s):: 5/07/2015	Longitude/Latitude (in decima	degrees): 42.71855934, -71.229	68805
A. VERNAL POOL CHARACTERISTI	CS (fill in all information known):		
1. Landscape Setting (check all that	apply):		
☐ Upland depression (4 pts; if the	nis is also in a floodplain, use 2 pts)		
☐ Pool part of a pool complex (v	within 1000 feet of one or more other v	rnal pools)(NA)	
☐ Pool within larger wetland sys	stem (4 pts; if this is also in a floodplair	use 2 pts)	
☐ Pool part of wildlife corridor (4	1 pts)		
✓ Other (variable pts):	MANMADE		
Pool Origin: Small pond/construc	cted pond		
2. Vernal pool condition:	·		
Describe any recent modifications to	the pool and associated landscape:		
3. Parent material:			
☐ Glacial fluvial ("outwash")	☐ Loose till	□ Peat	
✓ Dense till	☐ Alluvium	□ Coastal marine sediments	
4. Aquatic resource type that best a	pplies to this pool (choose dominar):	
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	☐ Floodplain (overflow/oxbo	w) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☑ Other (variable points):	MANMADE POND
☐ Peatland (acidic fen or bog) (4	ots)	2pts)	
5. Pool canopy cover (%): <u>10%</u>			
6. Predominant substrate:			
✓ Mineral soil	Depth:		
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepe	st zone, edge,etc.):	
7. Pool sizes:			
Approximate dimensions of pool (a	. ,,,,,,,	<u>3987.98</u>	
Maximum depth at deepest point a	t time of survey (include units):	<u>5'</u>	
8. Hydrology:	votual absortion by draparied value(a) i	(ara) known was the presence of these	o ovamnia
indicator species to best predict the	actual, observed hydroperiod value(s) is expected hydroperiod of the pool):		
☐ Dries between early March and	d early July (e.g., Thelypteris palustris,	Carex stricta, Impatiens capensis, Ilex	verticillata)(6pts)
☐ Dries between early July and e	arly September (e.g., Sagittaria latifoli	, Scirpus cyperinus, Dulichium arundir	naceum, Cephalanthus occ.)(8pts)
☐ Dries between early Septembe	r and early November (e.g., <i>Eleochari</i>	palustris, Glyceria canadensis, Utricul	aria spp., Decodon vert.)(8pts)
☑ Dries between early November	and late December, or intermittently e	xposed (e.g., Nuphar spp., Potamogete	on spp.)(8pts)
How long does pool hold water?	<u>Permanent</u>		
b. Inlet/Outlet (pick one):			
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (channel with well-defined banks and pe	ermanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)			



9. Water quality:				
☑ Clear ☐ High turbidity	☐ High algae co	ntent Tannic		
14 TOTAL for Pool Characteri	istics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABIT	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and approximate percent	tage within the 100)-ft vernal pool envelope		
✓ Forested: 30% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 70%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
2. Landuse type and approximate percent	tage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 60% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 25%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 15%	(0 pts)	
Are there one or more barriers to v check here and see directions for each				oitat? If so,
Based on:	☐ GIS	Aerial photo	o estimate	
20 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THI		ovide egg attachment or of	fer concealment to aquatic or	developing larvae.
Shrubs: <u>NA</u>	,			3 4 44
Emergent vegetation (grasses, seg	ges, rushes, cattails)	: <u><10%</u>		
		: <u><10%</u>		
Emergent vegetation (grasses, seg			ent: <u>None</u>	
Emergent vegetation (grasses, seg Submergent vegetation: <u>NA</u>			ent: None TADPOLES/LARVAE	NOTES
Emergent vegetation (grasses, seg Submergent vegetation: NA Dead branches and downed woody mater	rial (branches/twigs)	available for egg attachm		NOTES
Emergent vegetation (grasses, seg Submergent vegetation: NA Dead branches and downed woody mater	rial (branches/twigs)	available for egg attachm		NOTES
Emergent vegetation (grasses, seg Submergent vegetation: NA Dead branches and downed woody mater	rial (branches/twigs)	available for egg attachm	TADPOLES/LARVAE	NOTES
Emergent vegetation (grasses, seg Submergent vegetation: NA Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander	rial (branches/twigs) DATE 5/8/2015	eavailable for egg attachm EGG MASSES (#) 8	TADPOLES/LARVAE	
Emergent vegetation (grasses, seg Submergent vegetation: NA Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES	DATE 5/8/2015 DATE	e available for egg attachm EGG MASSES (#) 8 ABUNDANCE	TADPOLES/LARVAE	
Emergent vegetation (grasses, seg Submergent vegetation: NA Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES	DATE 5/8/2015 DATE	e available for egg attachm EGG MASSES (#) 8 ABUNDANCE	TADPOLES/LARVAE	
Emergent vegetation (grasses, seg Submergent vegetation: NA Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 5/8/2015 DATE 5/8/2015 DATE 5/8/2015 DATE	BEGG MASSES (#) 8 ABUNDANCE Common ABUNDANCE	TADPOLES/LARVAE	OTES
Emergent vegetation (grasses, seg Submergent vegetation: NA Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES Caddisflies	DATE 5/8/2015 DATE 5/8/2015	e available for egg attachm EGG MASSES (#) 8 ABUNDANCE Common	TADPOLES/LARVAE	OTES
Emergent vegetation (grasses, seg Submergent vegetation: NA Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 5/8/2015 DATE 5/8/2015 DATE 5/8/2015 DATE	BEGG MASSES (#) 8 ABUNDANCE Common ABUNDANCE	TADPOLES/LARVAE	OTES
Emergent vegetation (grasses, seg Submergent vegetation: NA Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 5/8/2015 DATE 5/8/2015 DATE 5/8/2015 DATE DATE	BEGG MASSES (#) 8 ABUNDANCE Common ABUNDANCE	TADPOLES/LARVAE	OTES
Emergent vegetation (grasses, seg Submergent vegetation: NA Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES	DATE 5/8/2015 DATE 5/8/2015 DATE 5/8/2015 DATE DATE Ves	available for egg attachm EGG MASSES (#) 8 ABUNDANCE Common ABUNDANCE ABUNDANCE	TADPOLES/LARVAE	OTES
Emergent vegetation (grasses, seg Submergent vegetation: NA Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES OTHER SPECIES	DATE 5/8/2015 DATE 5/8/2015 DATE 5/8/2015 DATE DATE Ves Yes Yes	B ABUNDANCE Common ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE	OTES
Emergent vegetation (grasses, seg Submergent vegetation: NA Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES OTHER SPECIES Were spermatophores observed?	DATE 5/8/2015 DATE 5/8/2015 DATE 5/8/2015 DATE DATE Ves Yes Yes	B ABUNDANCE Common ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE No No	TADPOLES/LARVAE	OTES
Emergent vegetation (grasses, seg Submergent vegetation: NA Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES OTHER SPECIES Were spermatophores observed? Were fish observed in the pool?	DATE 5/8/2015 DATE 5/8/2015 DATE 5/8/2015 DATE Ves Yes Yes Yes Yes	B ABUNDANCE Common ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE	OTES OTES





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Project File #60328763	Project Name: Northeast E	nergy Direct Project	Pool ID: ME-AC3	-VP003
Observer: SH		Phone or	email:	
Landowner/Applicant: BETHUI	NE QUENTIN A	Phone or	email:	
Address: 145 HAI	MPSHIRE RD	City: METHUEN	State: MA	Zip:: 01844
Location of vernal pool:				
Survey date(s):: 5/08/2015	Longitude/Latitude (ir	n decimal degrees): 42	2.74022444, -71.223333	393
A. VERNAL POOL CHARACTER	ISTICS (fill in all information known	own):		
1. Landscape Setting (check all	that apply):			
☐ Upland depression (4 pts	; if this is also in a floodplain, use	2 pts)		
☐ Pool part of a pool compl	ex (within 1000 feet of one or more	e other vernal pools)(NA)		
Pool within larger wetland	d system (4 pts; if this is also in a f	floodplain, use 2 pts)		
☐ Pool part of wildlife corrid	lor (4 pts)			
☐ Other (variable pts):				
Pool Origin: Natural Depress	sion			
2. Vernal pool condition:				
Describe any recent modificatio	ns to the pool and associated land	dscape:		
3. Parent material:				
☐ Glacial fluvial ("outwash")	□ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coastal m	arine sediments	
4. Aquatic resource type that be	est applies to this pool (choose o	dominant):		
✓ Forested wetland (4pts)	☐ Herbaceous wetla	and (4pts) Flood	lplain (overflow/oxbow) ((3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts	s) 🔲 Other	(variable points):	
☐ Peatland (acidic fen or bog	g) (4pts)	m reach (2pts)		
5. Pool canopy cover (%): 6	<u>55%</u>			
6. Predominant substrate:				
✓ Mineral soil	Depth:			
☐ Organic matter (peat/muck	Sampling location (e.	.g.,deepest zone, edge,etc.)	: <u>DEEP ZONE</u>	
7. Pool sizes:				
• • • • • • • • • • • • • • • • • • • •	ol (at maximum capacity) (sq. feet	,		
	int at time of survey (include units)): <u>6"</u>		
8. Hydrology:	ess actual, observed hydroperiod v	valua(s) is(ara) known usa t	the presence of these o	vampla
	ct the expected hydroperiod of the		the presence of these ex	kampie
□ Dries between early March	n and early July (e.g., <i>Thelypteris</i> p	palustris, Carex stricta, Impa	atiens capensis, llex ver	ticillata)(6pts)
□ Dries between early July a	nd early September (e.g., Sagittar	ria latifolia, Scirpus cyperinu	ıs, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
☑ Dries between early Septe	mber and early November (e.g., E	Eleocharis palustris, Glyceria	a canadensis, Utricularia	a spp., Decodon vert.)(8pts)
□ Dries between early Nover	mber and late December, or interm	nittently exposed (e.g., Nupl	har spp., Potamogeton s	spp.)(8pts)
How long does pool hold wat	er? <u>Seasonal</u>			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☐ Permanent inlet o	or outlet (channel with well-c	defined banks and perm	anent flow) (2 pts)
☑ Temporary inlet/outlet (6 nt	te)			



9. Wate	r quality:									
V	Clear	☐ Hi	gh turbidity		High algae c	ontent	☐ Tannic			
	<u>22</u> TOT	TAL for I	Pool Characte	ristics	(out of 28 m	nax.)				
B. VER	NAL POOL	ENVEL	OPE (100 ft) A	ND CR	ITICAL HAB	ITAT A	REA (100-750 ft	t) CHARACTERIS	TICS (fill in all	information known):
1. Land	use type ar	nd appro	oximate perce	ntage	within the 10	00-ft ver	nal pool envel	ope:		
$\overline{\checkmark}$	Forested:	<u>95%</u>	(16 pts)		$\overline{\checkmark}$	Open	(e.g., meadow, a	agriculture, golf co	urse): <u>5%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)			Develo	ped: <u>%</u>	(0 pts)		
			oximate percei	ntage	within the 10	00-750-f	t vernal pool cr	ritical terrestrial h	nabitat:	
	Forested:	<u>40%</u>	(16 pts)		V	Open	(e.g., meadow, a	agriculture, golf co	urse): <u>55%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)			Develo	ped: <u>5%</u>	(0 pts)		
☑							nt within the env porate this infor	elope and/or critic mation.	al terrestrial hab	pitat? If so,
	Based on:		Field estimate		☐ GIS		✓ Aerial	photo estimate		
	<u>20</u> TO	TAL for	Pool Envelop	e and	Critical Terr	estrial l	Habitat Area (o	ut of 32 max.)		
C. SPE	CIES PRES	ENT IN	VERNAL POO	L						
Vege	tation type a	and perce	ent cover IN TH	HE PO	OL that can p	rovide e	egg attachment of	or offer concealme	ent to aquatic or	developing larvae.
	Shrubs:	10-5	<u>0%</u>							
	_									
	-	•	on (grasses, se	eges, ru	ushes, cattails	s): <u><1</u>	<u>0%</u>			
Dood	Submerge	nt veget	ation: <u>N</u>	<u>A</u>		,		ohmont: groater t	hon 10	
Dead	Submerge	nt veget	ation: <u>N</u>	<u>A</u>		,		chment: <u>greater t</u>	<u>han 10</u>	
Dead	Submerge branches a	nt veget nd down	ation: <u>N</u>	<u>A</u>	ranches/twig	s) availa	able for egg attac	TADPOLE	ES/LARVAE	NOTES
Dead	Submerge branches a	nt veget	ation: <u>N</u>	<u>A</u>	ranches/twig	s) availa	able for egg attac	TADPOLE		NOTES
Dead	Submerge branches a INDICAT Wo	nt veget nd down OR SPE od Frog	ation: N. ned woody mate	<u>A</u>	DATE 5/9/2015	s) availa	oble for egg attac GG MASSES (#)	TADPOLE	ES/LARVAE Ipoles	
Dead	Submerge branches a	nt veget nd down OR SPE od Frog	ation: N. ned woody mate	<u>A</u>	ranches/twig	s) availa	able for egg attac	TADPOLE	ES/LARVAE Ipoles	NOTES
Dead	Submerge branches a INDICAT Wo FACULTA	nt vegetand down OR SPE od Frog	ation: Noted woody mate	<u>A</u>	DATE 5/9/2015 DATE	s) availa	able for egg attac GG MASSES (#) 14 ABUNDANCE	TADPOLE	ES/LARVAE Ipoles	DTES
Dead	Submerge branches a INDICAT Wo	nt vegetand down OR SPE od Frog	ation: Noted woody mate	<u>A</u>	DATE 5/9/2015	s) availa	oble for egg attac GG MASSES (#)	TADPOLE	ES/LARVAE Ipoles	
Dead	Submerge branches a INDICAT Wo FACULTA PREDAT	nt vegetand down OR SPE od Frog	ation: Noted woody materials CIES PECIES CIES	<u>A</u>	DATE 5/9/2015 DATE	s) availa	able for egg attac GG MASSES (#) 14 ABUNDANCE	TADPOLE	ES/LARVAE dpoles No	DTES
Dead	Submerge branches a INDICAT Wo FACULTA PREDAT	nt veget nd down OR SPE od Frog TIVE SF	ation: Noted woody materials CIES PECIES CIES	<u>A</u>	DATE 5/9/2015 DATE DATE	s) availa	ABUNDANCE	TADPOLE	ES/LARVAE dpoles No	DTES DTES
	Submerge branches a INDICAT Wo FACULTA PREDAT	nt veget nd down OR SPE od Frog TIVE SF OR SPE	ation: Noted woody materials CCIES PECIES CCIES	A erial (b	DATE 5/9/2015 DATE DATE	s) availa	ABUNDANCE ABUNDANCE	TADPOLE	ES/LARVAE dpoles No	DTES DTES
Presence	Submerge branches a INDICAT Wo FACULTA PREDAT	nt veget. nd down OR SPE od Frog TIVE SF OR SPE R SPECI	ation: Noted woody materials CCIES PECIES CIES CIES	A erial (b	DATE 5/9/2015 DATE DATE DATE	s) availa	ABUNDANCE ABUNDANCE	TADPOLE	ES/LARVAE dpoles No	DTES DTES
Presence Were sp	Submerge branches a INDICAT Wo FACULTA PREDAT OTHER	nt veget. nd down OR SPE od Frog TIVE SF OR SPE R SPECI ttor Spec	ation: Noted woody materials: CIES PECIES CIES	A erial (b	DATE 5/9/2015 DATE DATE DATE Ves	s) availa	ABUNDANCE ABUNDANCE	TADPOLE	ES/LARVAE dpoles No	DTES DTES
Presence Were sp	Submerge I branches a INDICAT Wo FACULTA PREDAT OTHER Ce of Indica Dermatopholish observed	nt veget. nd down OR SPE od Frog TIVE SF OR SPE R SPECI ttor Spec	ation: Noted woody materials: CIES PECIES CIES	A erial (b	DATE 5/9/2015 DATE DATE DATE Ves Yes	s) availa	ABUNDANCE ABUNDANCE	TADPOLE	ES/LARVAE dpoles No	DTES DTES
Presence Were sp	Submerge branches a INDICAT Wo FACULTA PREDAT OTHER ce of Indica permatophor sh observed	or SPE OR SPE OR SPE OR SPE OR SPE tor Special residue of the property of	ation: Noted woody materials: CIES PECIES CIES	A erial (b	DATE 5/9/2015 DATE DATE DATE Ves Yes	s) availa	ABUNDANCE ABUNDANCE	TADPOLE Tac	ES/LARVAE dipoles No	DTES DTES
Presence Were sp Were fis	Submerge branches a INDICAT Wo FACULTA PREDAT OTHER ce of Indica permatophor sh observed	or SPE OR SPE OR SPE OR SPE OR SPE tor Special residue of the property of	ation: Noted woody materials: SCIES PECIES ECIES ECIES CIES C	A erial (b	DATE 5/9/2015 DATE DATE DATE Ves Yes	s) availa	ABUNDANCE ABUNDANCE	TADPOLE Tac	ES/LARVAE dipoles No	OTES OTES





W



Project File #60328763	Project Name: Northeast Energy Di	rect Project Po	ool ID: ME-AC3	-VP004	
Observer: SH		Phone or email:			
Landowner/Applicant: IANNUCCILLI	MARK S	Phone or email:			
Address: 117 HAMPSH	IIRE RD City: 1	METHUEN	State: MA	Zip:: 01844	
Location of vernal pool:					
Survey date(s):: 5/08/2015	Longitude/Latitude (in decima	al degrees): 42.7403	9684, -71.218875	515	
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):				
. Landscape Setting (check all that a	ipply):				
☐ Upland depression (4 pts; if this	s is also in a floodplain, use 2 pts)				
☐ Pool part of a pool complex (will	thin 1000 feet of one or more other v	/ernal pools)(NA)			
Pool within larger wetland system	em (4 pts; if this is also in a floodplair	n, use 2 pts)			
☐ Pool part of wildlife corridor (4 p	pts)				
☐ Other (variable pts):					
Pool Origin: Natural Depression					
. Vernal pool condition:					
Describe any recent modifications to t	the pool and associated landscape:				
. Parent material:					
☐ Glacial fluvial ("outwash")	□ Loose till	☐ Peat			
✓ Dense till	☐ Alluvium	☐ Coastal marine s	sediments		
. Aquatic resource type that best ap	plies to this pool (choose dominar	nt):			
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	s) 🔲 Floodplain ((overflow/oxbow) ((3pts)	
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (varia)	ıble points):		
☐ Peatland (acidic fen or bog) (4pt	s)	(2pts)			
i. Pool canopy cover (%): 50%					
. Predominant substrate:					
☐ Mineral soil	Depth: 4				
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.): D	DEEP ZONE		
'. Pool sizes:					
Approximate dimensions of pool (at a		<u>8307.81</u>			
Maximum depth at deepest point at t	ime of survey (include units):	<u>1'</u>			
3. Hydrology:	tual abase and budranariad valua(a) i	is(ara) known was the pro	ocense of those or	vomnlo	
 a. Estimated hydroperiod (unless act indicator species to best predict the 		s(are) known, use the pre	sence of these ex	campie	
☑ Dries between early March and expression	early July (e.g., Thelypteris palustris,	, Carex stricta, Impatiens	capensis, llex ver	ticillata)(6pts)	
□ Dries between early July and ear	rly September (e.g., <i>Sagittaria latifoli</i>	ia, Scirpus cyperinus, Duli	ichium arundinace	eum, Cephalanthus o	occ.)(8pts)
☐ Dries between early September	and early November (e.g., <i>Eleochari</i>	s palustris, Glyceria cana	densis, Utricularia	spp., Decodon vert	.)(8pts)
☐ Dries between early November a	and late December, or intermittently e	exposed (e.g., <i>Nuphar sp</i>	o., Potamogeton s	<i>spp</i> .)(8pts)	
How long does pool hold water?	Seasonal				
b. Inlet/Outlet (pick one):					
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet ((channel with well-defined	d banks and perma	anent flow) (2 pts)	
☐ Temporary inlet/outlet (6 pts)					



	r quality:					
☑ (Clear	urbidity H	ligh algae cor	ntent		
	20 TOTAL for Pool	l Characteristics (out of 28 ma	x.)		
B. VERI	NAL POOL ENVELOPE	(100 ft) AND CRIT	TICAL HABIT	TAT AREA (100-750 ft)	CHARACTERISTICS (fil	II in all information known):
1. Land	use type and approxim	nate percentage w	ithin the 100	-ft vernal pool envelo	pe:	
$\overline{\checkmark}$	Forested: 95% (16 pts)	V	Open (e.g., meadow, a	griculture, golf course):	<u>5%</u> (4 pts)
	Shrub: <u>%</u> (10 pts)		Developed: <u>%</u>	(0 pts)	
2. Land	use type and approxim	nate percentage w	ithin the 100	-750-ft vernal pool cri	tical terrestrial habitat:	
$\overline{\checkmark}$	Forested: 20% (16 pts)		Open (e.g., meadow, a	griculture, golf course):	<u>75%</u> (4 pts)
	Shrub: <u>%</u> (10 pts)		Developed: <u>5%</u>	(0 pts)	
	Are there one or more check here and see dir	barriers to vernal prections for explana	ool fauna mo	vement within the enve	lope and/or critical terrest nation.	rial habitat? If so,
	Based on:	d estimate] GIS	Aerial p	hoto estimate	
	20 TOTAL for Poo	ol Envelope and C	ritical Terres	strial Habitat Area (ou	t of 32 max.)	
C. SPEC	CIES PRESENT IN VER	NAL POOL				
	Shrubs: >50% Emergent vegetation (g Submergent vegetation	grasses, seges, rus n: <u>NA</u>	hes, cattails)	: <u>10-50%</u>	nment: greater than 10	uatic or developing larvae.
	INDICATOR SPECIE	S	DATE	EGG MASSES (#)	TADPOLES/LARV	/AE NOTES
	Wood Frog	-	DATE 5/9/2015	EGG MASSES (#)	TADPOLES/LAR\ Tadpoles	/AE NOTES
		-		EGG MASSES (#)		/AE NOTES
		5		EGG MASSES (#) ABUNDANCE		NOTES NOTES
	Wood Frog	IES 5	/9/2015			
	Wood Frog FACULTATIVE SPECI	IES 5	/9/2015 DATE	ABUNDANCE		
	Wood Frog FACULTATIVE SPECI	5 IES 5	/9/2015 DATE	ABUNDANCE		
	Wood Frog FACULTATIVE SPECI Caddisflies	5 IES 5	DATE /9/2015	ABUNDANCE Common		NOTES
	Wood Frog FACULTATIVE SPECI Caddisflies	5 IES 5	DATE /9/2015	ABUNDANCE Common		NOTES
	Wood Frog FACULTATIVE SPECION Caddisflies PREDATOR SPECIE	5 S S S	DATE /9/2015 DATE DATE	ABUNDANCE Common ABUNDANCE		NOTES
	Wood Frog FACULTATIVE SPECION Caddisflies PREDATOR SPECIES	5 S S S	DATE //9/2015 DATE DATE	ABUNDANCE Common ABUNDANCE		NOTES
Presence	Wood Frog FACULTATIVE SPECION Caddisflies PREDATOR SPECIES	5 S S S	DATE //9/2015 DATE //9/2015 DATE DATE //9/2015	ABUNDANCE Common ABUNDANCE		NOTES
	Wood Frog FACULTATIVE SPECIC Caddisflies PREDATOR SPECIE OTHER SPECIES GREEN FROG	5 S S S S	DATE //9/2015 DATE //9/2015 DATE //9/2015 //es [ABUNDANCE Common ABUNDANCE ABUNDANCE		NOTES
Were sp	Wood Frog FACULTATIVE SPECIC Caddisflies PREDATOR SPECIE OTHER SPECIES GREEN FROG ce of Indicator Species	5 IES 5 5 5 5 5 5 7 7 7 7 7 7 7 7 7 7 7 7 7	DATE //9/2015 DATE //9/2015 DATE //9/2015 //es [ABUNDANCE Common ABUNDANCE ABUNDANCE		NOTES
Were sp	Wood Frog FACULTATIVE SPECION Caddisflies PREDATOR SPECIES OTHER SPECIES GREEN FROG Ce of Indicator Species Desiratophores observed on the pool?	5 IES 5 5 5 5 5 5 7 7 7 7 7 7 7 7 7 7 7 7 7	DATE //9/2015 DATE //9/2015 DATE //9/2015 //es [ABUNDANCE Common ABUNDANCE ABUNDANCE No No		NOTES
Were sp	Wood Frog FACULTATIVE SPECION Caddisflies PREDATOR SPECIES OTHER SPECIES GREEN FROG Ce of Indicator Species Desiratophores observed on the pool?	5 S S S S S S S S S S S S S S S S S S S	DATE //9/2015 DATE //9/2015 DATE //9/2015 //es [ABUNDANCE Common ABUNDANCE ABUNDANCE No No No No	Tadpoles	NOTES





NW



Project File #60328763 P	roject Name: Northeast Energy Dire	ect Project	Pool ID: ME-AC3-	-VP005
Observer: SH		Phone o	r email:	
Landowner/Applicant: LIPONIS BESSI	E	Phone o	r email:	
Address: VP HAMPSHIRE	RD City: M	IETHUEN	State: MA	Zip:: 01844
Location of vernal pool:				
Survey date(s):: 5/08/2015	Longitude/Latitude (in decimal	degrees):	42.74246351, -71.211111	57
A. VERNAL POOL CHARACTERISTICS	fill in all information known):			
1. Landscape Setting (check all that app	ıly):			
Upland depression (4 pts; if this is	also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (within)	n 1000 feet of one or more other ve	ernal pools)(NA)		
☐ Pool within larger wetland system	(4 pts; if this is also in a floodplain,	, use 2 pts)		
□ Pool part of wildlife corridor (4 pts)			
☐ Other (variable pts):				
Pool Origin: Natural Depression				
2. Vernal pool condition:				
Describe any recent modifications to the	pool and associated landscape:			
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coastal ı	marine sediments	
4. Aquatic resource type that best applied	es to this pool (choose dominant	t):		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)) 🔲 Floo	odplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Othe	er (variable points):	
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2	2pts)		
5. Pool canopy cover (%): 95%				
6. Predominant substrate:				
☑ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepes	st zone, edge,etc	:.):	
7. Pool sizes:				
Approximate dimensions of pool (at ma	, . ,	<u>388.37</u>		
Maximum depth at deepest point at tim	e of survey (include units):	<u>4"</u>		
8. Hydrology:a. Estimated hydroperiod (unless actual)	al observed hydroperiod value(s) is	s(are) known juse	the presence of these ex	ramnle
indicator species to best predict the exp		,(a. o)o, aoc	, in 6 processes of income of	isp.o
Dries between early March and ear	ly July (e.g., Thelypteris palustris,	Carex stricta, Imp	oatiens capensis, llex vert	ticillata)(6pts)
□ Dries between early July and early	September (e.g., Sagittaria latifolia	a, Scirpus cyperir	nus, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
☐ Dries between early September and	d early November (e.g., Eleocharis	palustris, Glycer	ia canadensis, Utricularia	spp., Decodon vert.)(8pts)
☐ Dries between early November and	l late December, or intermittently ex	xposed (e.g., Nu	ohar spp., Potamogeton s	pp.)(8pts)
How long does pool hold water? S	easonal			
b. Inlet/Outlet (pick one):	_			
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (c	channel with well	-defined banks and perma	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)	_			, , , ,



9. Wate	r quality:					
☑ (Clear	☐ High turbidity	☐ High algae c	ontent		
	22 TOT	AL for Pool Charact	eristics (out of 28 m	nax.)		
B. VERI	NAL POOL E	ENVELOPE (100 ft)	AND CRITICAL HAB	SITAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	information known):
1. Land	use type and	d approximate perc	entage within the 10	00-ft vernal pool envelope	:	
\checkmark	Forested:	80% (16 pts)	☑	Open (e.g., meadow, agric	culture, golf course): 15%	(4 pts)
	Shrub:	% (10 pts)	\square	Developed: <u>5%</u>	(0 pts)	
2. Land	use type and	d approximate perc	entage within the 10	00-750-ft vernal pool critic	al terrestrial habitat:	
\checkmark	Forested:	80% (16 pts)	\square	Open (e.g., meadow, agri	culture, golf course): 5%	(4 pts)
	Shrub:	<u>%</u> (10 pts)	\square	Developed: 15%	(0 pts)	
V				novement within the envelop to incorporate this informat	oe and/or critical terrestrial hab	itat? If so,
	Based on:	☐ Field estimate	☐ GIS	Aerial pho	to estimate	
	<u>20</u> TOT	「AL for Pool Envelo	pe and Critical Terr	estrial Habitat Area (out o	of 32 max.)	
C. SPE	CIES PRESE	NT IN VERNAL POO	DL			
	-	NA egetation (grasses, set vegetation:	eges, rushes, cattail	s): <u>NA</u>		
Dead	•	-	<u>-</u>	s) available for egg attachm	nent: greater than 10	
Dead	branches an	-	<u>-</u>	s) available for egg attachm EGG MASSES (#)	nent: greater than 10 TADPOLES/LARVAE	NOTES
Dead	branches an	d downed woody ma	terial (branches/twig		-	NOTES
Dead	branches an INDICATO Woo	d downed woody ma	terial (branches/twig		TADPOLES/LARVAE	NOTES
Dead	branches an INDICATO Woo	d downed woody ma	DATE 5/9/2015		TADPOLES/LARVAE Tadpoles	NOTES
Dead	INDICATO Woo Fairy	d downed woody ma	DATE 5/9/2015		TADPOLES/LARVAE Tadpoles Common	NOTES
Dead	INDICATO Woo Fairy FACULTAT	d downed woody ma	DATE 5/9/2015 5/9/2015 DATE	EGG MASSES (#) ABUNDANCE	TADPOLES/LARVAE Tadpoles Common	TES
Dead	INDICATO Woo Fairy FACULTAT	d downed woody ma	DATE 5/9/2015 5/9/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles Common	
Dead	INDICATO Woo Fairy FACULTAT	d downed woody ma	DATE 5/9/2015 5/9/2015 DATE	EGG MASSES (#) ABUNDANCE	TADPOLES/LARVAE Tadpoles Common NO	TES
Dead	INDICATO Woo Fairy FACULTAT	or SPECIES OR SPECIES OR SPECIES OR SPECIES OR SPECIES	DATE 5/9/2015 5/9/2015 DATE DATE DATE	ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles Common NO	TES DTES
	INDICATO Woo Fairy FACULTAT	or SPECIES OR SPECIES OR SPECIES OR SPECIES OR SPECIES SPECIES	DATE 5/9/2015 5/9/2015 DATE DATE DATE	ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles Common NO	TES DTES
Presence	INDICATO Woo Fairy FACULTAT PREDATO	or Species	DATE 5/9/2015 5/9/2015 DATE DATE DATE	ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles Common NO	TES DTES
Presence Were sp	FACULTAT PREDATO OTHER	or Species es observed?	DATE 5/9/2015 5/9/2015 DATE DATE DATE DATE	ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles Common NO	TES DTES
Presence Were sp Were fis	FACULTAT PREDATO OTHER ce of Indicate permatophore sh observed in	or Species es observed?	DATE 5/9/2015 5/9/2015 DATE DATE DATE DATE DATE Ves	ABUNDANCE ABUNDANCE ABUNDANCE No No	TADPOLES/LARVAE Tadpoles Common NO	TES DTES
Presence Were sp	FACULTAT PREDATO OTHER ce of Indicate bermatophore sh observed in	or Species es observed?	DATE 5/9/2015 5/9/2015 DATE DATE DATE DATE Ves Yes Yes Yes	ABUNDANCE ABUNDANCE ABUNDANCE No No No No	TADPOLES/LARVAE Tadpoles Common NO	DTES DTES
Presence Were sp Were fis	FACULTAT PREDATO OTHER ce of Indicate bermatophore sh observed in	or Species es observed? In the pool?	DATE 5/9/2015 5/9/2015 DATE DATE DATE DATE Ves Yes Yes Yes	ABUNDANCE ABUNDANCE ABUNDANCE No No No No	TADPOLES/LARVAE Tadpoles Common NO NO	DTES DTES





SW



Proj	ect File #60328763	Project Name: Northeast Energy Di	rect Project	Pool ID: MO-AC3-	·VP001
Obs	erver: SH		Phone or er	nail:	
Lan	downer/Applicant: QUINNEHTU	K COMPANY THE (WMECO)	Phone or er	mail:	
Add	ress: GREENFIELI	O RD City: N	MONTAGUE	State: MA	Zip:: 01351
Loca	ation of vernal pool:				
Surv	vey date(s):: 5/16/2015	Longitude/Latitude (in decima	ıl degrees): 42.5	56462497, -72.554085	75
A. VEI	RNAL POOL CHARACTERISTIC	S (fill in all information known):			
1. Lan	dscape Setting (check all that a	apply):			
v	Upland depression (4 pts; if thi	s is also in a floodplain, use 2 pts)			
	Pool part of a pool complex (w	ithin 1000 feet of one or more other v	ernal pools)(NA)		
	Pool within larger wetland syst	em (4 pts; if this is also in a floodplair	າ, use 2 pts)		
	Pool part of wildlife corridor (4	pts)			
	Other (variable pts):				
Poo	l Origin: Natural, but altered				
	nal pool condition:				
Des	cribe any recent modifications to	the pool and associated landscape:	ROW		
3. Par	ent material:				
	Glacial fluvial ("outwash")	□ Loose till	☐ Peat		
$\overline{\checkmark}$	Dense till	☐ Alluvium	☐ Coastal mar	rine sediments	
4. Aqu	atic resource type that best ap	plies to this pool (choose dominan	nt):		
$\overline{\checkmark}$	Forested wetland (4pts)	☐ Herbaceous wetland (4pts	s) 🔲 Floodpl	ain (overflow/oxbow) (3	3pts)
	Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (v	variable points):	
	Peatland (acidic fen or bog) (4pt	s) Intermittent stream reach	(2pts)		
5. Pod	ol canopy cover (%): 90%				
6. Pre	dominant substrate:				
	Mineral soil	Depth: <u>12</u>			
$\overline{\checkmark}$	Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.):	DEEP ZONE	
7. Pod	ol sizes:				
	proximate dimensions of pool (at		7283.88		
	ximum depth at deepest point at	time of survey (include units):	<u>1.5'</u>		
-	irology: Estimated hydropariad (uplace as	tual abantuad bydronariad valua(a) in	a(ara) known waa th	a processes of those av	ample
	licator species to best predict the	tual, observed hydroperiod value(s) is expected hydroperiod of the pool):			
	Dries between early March and	early July (e.g., Thelypteris palustris,	Carex stricta, Impati	ens capensis, llex vert	icillata)(6pts)
	Dries between early July and ea	rly September (e.g., Sagittaria latifolia	a, Scirpus cyperinus,	Dulichium arundinace	um, Cephalanthus occ.)(8pts)
	Dries between early September	and early November (e.g., Eleocharis	s palustris, Glyceria d	canadensis, Utricularia	spp., Decodon vert.)(8pts)
$\overline{\checkmark}$	Dries between early November a	and late December, or intermittently e	exposed (e.g., Nupha	r spp., Potamogeton sp	pp.)(8pts)
F	low long does pool hold water?	Semi-permanent			
b. l	nlet/Outlet (pick one):				
		☐ Permanent inlet or outlet ((channel with well-de	fined banks and perma	anent flow) (2 pts)
 	Temporary inlet/outlet (6 pts)	`			



9. Wate	r quality:									
V	Clear	☐ Hig	h turbidity		High algae	conte	nt 🔲 Tannic			
	<u>22</u> TO	TAL for P	ool Characte	ristics	s (out of 28 r	nax.))			
B. VER	NAL POOL	ENVELO	PE (100 ft) Al	ND CF	RITICAL HAI	SITA ⁻	T AREA (100-750 ft)	CHARACTERISTICS	(fill in all in	formation known):
1. Land	use type ar	nd appro	ximate percei	ntage	within the 1	00-ft	vernal pool envelop	pe:		
\checkmark	Forested:	<u>70%</u>	(16 pts)		\checkmark	¶ Op	en (e.g., meadow, aç	griculture, golf course):	<u>30%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)] De	veloped: <u>%</u>	(0 pts)		
2. Land	use type ar	nd appro	ximate percei	ntage	within the 1	00-7	50-ft vernal pool crit	tical terrestrial habita	t:	
	Forested:	<u>55%</u>	(16 pts)		✓] Op	en (e.g., meadow, aç	griculture, golf course):	<u>40%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)		✓] De	veloped: <u>5%</u>	(0 pts)		
☑							ment within the enve	lope and/or critical terre	estrial habita	at? If so,
	Based on:	□ F	ield estimate		☐ GIS		Aerial pl	noto estimate		
	<u>20</u> TO	TAL for	Pool Envelop	e and	Critical Ter	restri	ial Habitat Area (ou	t of 32 max.)		
C. SPE	CIES PRES	ENT IN V	ERNAL POOI	L						
Vege	tation type a	and perce	ent cover IN TH	HE PO	OL that can	provi	de egg attachment or	offer concealment to a	aquatic or de	eveloping larvae.
	Shrubs:	<10%	<u>.</u> <u>D</u>							
	Emergent	venetatio	n (grasses, se	anc r			4.007			
	Linorgoni	vogetatio	iii (grasses, se	ges, ii	usnes, cattai	IS):	<u><10%</u>			
5	Submerge	nt vegeta	ation: >5	<u>50%</u>		,			•	
Dead	Submerge	nt vegeta	ation: >5	<u>50%</u>		,		nment: greater than 10	0	
Dead	Submerge	nt vegeta	ation: >5 ed woody mate	<u>50%</u>		,		nment: greater than 10		NOTES
Dead	Submerge branches a	nt vegeta	ation: >5 ed woody mate	50% erial (b	oranches/twig	,	ailable for egg attach	-	RVAE	NOTES
Dead	Submerge branches a	nt vegetand downer	ation: >5 ed woody mate	50% erial (b	oranches/twig	,	ailable for egg attach	TADPOLES/LA	RVAE	NOTES
Dead	Submerge branches a	nt vegeta nd downe OR SPEC od Frog	ation: ≥5 ed woody mate	50% erial (b	oranches/twig	,	ailable for egg attach	TADPOLES/LA	RVAE	
Dead	Submerge branches a INDICAT Wo	nt vegeta nd downe OR SPEC od Frog TIVE SP	ation: ≥5 ed woody mate CIES ECIES	50% erial (b	DATE 5/17/2015 DATE	,	railable for egg attach EGG MASSES (#) ABUNDANCE	TADPOLES/LA	RVAE	ËS
Dead	Submerge branches a INDICAT Wo	nt vegeta nd downe OR SPEC od Frog TIVE SP	ation: ≥5 ed woody mate CIES ECIES	50% erial (b	DATE 5/17/2015	,	vailable for egg attach	TADPOLES/LA	RVAE	ËS
Dead	Submerge branches a INDICAT Wo FACULTA	nt vegeta nd downe OR SPEC od Frog TIVE SP	ed woody mate CIES ECIES	50% erial (b	DATE 5/17/2015 DATE	,	railable for egg attach EGG MASSES (#) ABUNDANCE	TADPOLES/LA	RVAE	'ES
Dead	Submerge branches a INDICAT Wo FACULTA	nt vegeta nd downe OR SPEC od Frog TIVE SP	ed woody mate CIES ECIES	50% erial (b	DATE 5/17/2015 DATE DATE	,	railable for egg attach EGG MASSES (#) ABUNDANCE ABUNDANCE	TADPOLES/LA	NOT	'ES
	Submerge branches a INDICAT Wo FACULTA PREDAT	or SPECIE	ed woody mate CIES ECIES ES	50% erial (b	DATE 5/17/2015 DATE DATE DATE	gs) av	ABUNDANCE ABUNDANCE	TADPOLES/LA	NOT	'ES
Presence	Submerge branches a INDICAT Wo FACULTA PREDAT OTHER	or SPECIE TIVE SPECIE TOR SP	ed woody mate CIES ECIES ES Lies	50% erial (b	DATE 5/17/2015 DATE DATE	gs) av	railable for egg attach EGG MASSES (#) ABUNDANCE ABUNDANCE	TADPOLES/LA	NOT	'ES
Presence Were sp	Submerge branches a INDICAT Wo FACULTA PREDAT OTHER ce of Indica permatophore	od Frog TIVE SP OR SPECIE R SPECIE tor Species observes	ed woody mate CIES ECIES ES Lies ved?	50% erial (b	DATE 5/17/2015 DATE DATE DATE Ves Yes	gs) av	ABUNDANCE ABUNDANCE ABUNDANCE No	TADPOLES/LA	NOT	'ES
Presence Were sp	Submerge branches a INDICAT Wo FACULTA PREDAT OTHER	od Frog TIVE SP OR SPECIE R SPECIE tor Species observes	ed woody mate CIES ECIES ES Lies ved?	50% erial (b	DATE 5/17/2015 DATE DATE DATE Ves	gs) av	ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LA	NOT	'ES
Presence Were sp	Submerge branches a INDICAT Wo FACULTA PREDAT OTHER ce of Indica permatopholish observed	od Frog TIVE SP OR SPECIE R SPECIE tor Species observes	ed woody mate CIES ECIES ES Lies ved?	50% erial (b	DATE 5/17/2015 DATE DATE DATE Ves Yes	gs) av	ABUNDANCE ABUNDANCE ABUNDANCE No	TADPOLES/LA	NOT	'ES
Present Were sp	Submerge branches a INDICAT Wo FACULTA PREDAT OTHER ce of Indica permatopholish observed	or SPECIE Tor Specific tor Specific the point in the poi	ed woody mate CIES ECIES ES Lies ved?	50% erial (b	DATE 5/17/2015 DATE DATE DATE Ves Yes	gs) av	ABUNDANCE ABUNDANCE ABUNDANCE No No	TADPOLES/LA Tadpoles	NOT NOT	'ES
Presence Were sp Were fis	Submerge branches a INDICAT Wo FACULTA PREDAT OTHER ce of Indica permatopholish observed	or SPECIE Tor Specific tor Specific the point in the poi	ECIES ECIES Eies ved?	50% erial (b	DATE 5/17/2015 DATE DATE DATE Ves Yes	gs) av	ABUNDANCE ABUNDANCE ABUNDANCE No No	TADPOLES/LA Tadpoles	NOT NOT	ES ES





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Project File #60328763	Project Name: Northeast Energy Di	irect Project Pool	ID: NO-AC	3-VP001
Observer: SH		Phone or email:		
Landowner/Applicant: Ethier Jeffrey	R. & Antes James H	Phone or email:		
Address: OLD WENDEL	LL RD City: N	NORTHFIELD Sta	te: MA	Zip:: 01360
Location of vernal pool:				
Survey date(s):: 5/13/2015	Longitude/Latitude (in decima	al degrees): 42.6584279	90, -72.42480	859
A. VERNAL POOL CHARACTERISTICS	S (fill in all information known):			
1. Landscape Setting (check all that a	pply):			
☐ Upland depression (4 pts; if this	s is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (with	thin 1000 feet of one or more other v	rernal pools)(NA)		
☐ Pool within larger wetland syste	em (4 pts; if this is also in a floodplair	n, use 2 pts)		
□ Pool part of wildlife corridor (4 p	ots)			
✓ Other (variable pts):	SHALLOW AQUITARD - POOL ON EXPOSEDBEDROCK	I TOP OF HILL WITH		
Pool Origin: Natural, but altered				
2. Vernal pool condition:				
Describe any recent modifications to the	he pool and associated landscape:	TRANSMISSION LINES	AND GRAVE	L ACCESS ROAD
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
☐ Dense till	☐ Alluvium	☐ Coastal marine sed	iments	
4. Aquatic resource type that best app	lies to this pool (choose dominan	•		
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	s)	erflow/oxbow)	(3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	✓ Other (variable)	points):	
☐ Peatland (acidic fen or bog) (4pts	s) Intermittent stream reach	(2pts)		
5. Pool canopy cover (%): 5%				
6. Predominant substrate:				
✓ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.):		
7. Pool sizes:				
Approximate dimensions of pool (at r Maximum depth at deepest point at ti		<u>884.09</u> <u>1'</u>		
8. Hydrology:		:-()	{ 4	
a. Estimated hydroperiod (unless act indicator species to best predict the e	expected hydroperiod of the pool):			·
	early July (e.g., Thelypteris palustris,	• • • • •	·	,, ,
	ly September (e.g., Sagittaria latifolia			
☐ Dries between early September a	and early November (e.g., <i>Eleocharis</i>	s palustris, Glyceria canader	nsis, Utriculari	a spp., Decodon vert.)(8pts)
□ Dries between early November a	nd late December, or intermittently e	exposed (e.g., Nuphar spp., I	Potamogeton	<i>spp.</i>)(8pts)
How long does pool hold water?	Seasonal			
b. Inlet/Outlet (pick one):		, , , , , , , , , , , , , , , , , , , ,		(f) \ (O \)
✓ No inlet/outlet (8 pts)	Permanent inlet or outlet ((channel with well-defined ba	inks and perm	nanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)				



9. Water quality:					
✓ Clear	☐ High turbidity	☐ High algae co	ntent Tannic		
<u>14</u> TO	ΓAL for Pool Character	ristics (out of 28 ma	ax.)		
B. VERNAL POOL	ENVELOPE (100 ft) AN	ND CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type ar	nd approximate percer	ntage within the 10	0-ft vernal pool envelope	:	
✓ Forested:	45% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 40%	(4 pts)
☐ Shrub:	<u>%</u> (10 pts)		Developed: <u>15%</u>	(0 pts)	
2. Landuse type ar	nd approximate percer	ntage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested:	85% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 10%	(4 pts)
☐ Shrub:	<u>%</u> (10 pts)		Developed: <u>5%</u>	(0 pts)	
			ovement within the envelop to incorporate this informat	oe and/or critical terrestrial hab ion.	itat? If so,
Based on:	☐ Field estimate	☐ GIS	Aerial pho	to estimate	
20 TC	NTAL for Book Envision	o and Critical Torro	estrial Habitat Area (out o	of 22 may \	
<u>20</u> 10	TAL IOI FOOI ETIVETOP	e and Chilical Terre	Siriai Habitat Area (out o	32 max.)	
C. SPECIES PRES	ENT IN VERNAL POOL	_			
Vegetation type a	and percent cover IN TH	IE POOL that can pr	ovide egg attachment or o	ffer concealment to aquatic or	developing larvae.
Shrubs:	<u>NA</u>				
J	vegetation (grasses, se	ges, rushes, cattails): <u>10-50%</u>		
•	ent vegetation: NA	_			
Dead branches a	and downed woody mate	erial (branches/twigs) available for egg attachm	ient: None	
INDICAT	OR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Spotted	Salamander	5/14/2015	21		
Wo	od Frog	5/14/2015	1		
FACULTA	TIVE SPECIES	DATE	ABUNDANCE	NC	OTES
	OR SPECIES	DATE	ABUNDANCE	NC	OTES
	ERN NEWT	5/14/2015	Common		
BUI	LFROG	5/14/2015	Few		
OTHE	R SPECIES	DATE	ABUNDANCE	NC	OTES
OTHE	N SPECIES	DATE	ABONDANCE	INC	7123
Presence of Indica	•	_	□ No		
Were spermatopho	res observed?	☐ Yes	☑ No		
Were fish observed	I in the pool?	☐ Yes	☑ No		
SUMMARY					
<u>14</u> TOTA	L for Pool Characteris	tice	20 TOTAL to	r Pool Envelope and Critical	Torroctrial Habitat Araa
	L 101 1 001 Characteris	ucs	<u>20</u> TOTAL 10	r Fooi Envelope and Chilcan	Terrestriai nabitat Area
Other Comments:	L 101 1 001 Characteris	lics	<u>20</u> TOTAL 10	r Poor Envelope and Chilcar	Terrestriai nabitat Area
Other Comments:	E 101 1 001 Characteris	iius	<u>20</u> TOTAL 10	r Pool Envelope and Gillical	Terrestrial nabital Area







Project File #60328763	Project Name: Northeast Energy	y Direct Project	Pool ID: NO-AC3-	-VP002
Observer: SH		Phone or e	:mail:	
Landowner/Applicant: Ethier Jef	frey R. & Antes James H	Phone or e	mail:	
Address: OLD WEN	IDELL RD City:	NORTHFIELD	State: MA	Zip:: 01360
Location of vernal pool:				
Survey date(s):: 5/13/2015	Longitude/Latitude (in dec	cimal degrees): 42.	.65660113, -72.426478	77
A. VERNAL POOL CHARACTERIS	TICS (fill in all information known)):		
1. Landscape Setting (check all the	at apply):			
✓ Upland depression (4 pts; if	this is also in a floodplain, use 2 pts	3)		
☐ Pool part of a pool complex	(within 1000 feet of one or more oth	ner vernal pools)(NA)		
☐ Pool within larger wetland s	ystem (4 pts; if this is also in a flood	plain, use 2 pts)		
☐ Pool part of wildlife corridor	(4 pts)			
☐ Other (variable pts):				
Pool Origin: Natural Depression	'n			
2. Vernal pool condition:				
Describe any recent modifications	to the pool and associated landscap	oe:		
3. Parent material:				
☐ Glacial fluvial ("outwash")	□ Loose till	☐ Peat		
□ Dense till	☐ Alluvium	☐ Coastal ma	rine sediments	
4. Aquatic resource type that best	applies to this pool (choose domi	inant):		
☐ Forested wetland (4pts)	Herbaceous wetland ((4pts) 🔲 Floodp	olain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other	(variable points):	
☐ Peatland (acidic fen or bog) ((4pts)	ach (2pts)		
5. Pool canopy cover (%): <u>5%</u>				
6. Predominant substrate:				
☐ Mineral soil	Depth: 4			
☑ Organic matter (peat/muck)	Sampling location (e.g.,de	eepest zone, edge,etc.):	DEEP ZONE	
7. Pool sizes:				
Approximate dimensions of pool	. ,,,,,,,	<u>526.76</u>		
Maximum depth at deepest point	at time of survey (include units):	<u>1'</u>		
8. Hydrology: a Estimated hydroneriod (unless	actual, observed hydroperiod value	(s) is(are) known juse th	ne presence of these ex	ramnle
	he expected hydroperiod of the pool		ic presence of these ex	ampic
☑ Dries between early March a	nd early July (e.g., Thelypteris palus	stris, Carex stricta, Impa	tiens capensis, llex vert	ticillata)(6pts)
□ Dries between early July and	early September (e.g., Sagittaria lai	tifolia, Scirpus cyperinus	s, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
□ Dries between early September	per and early November (e.g., Eleoc	haris palustris, Glyceria	canadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early Novemb	er and late December, or intermitten	ntly exposed (e.g., Nupha	ar spp., Potamogeton s	pp.)(8pts)
How long does pool hold water'	? <u>Seasonal</u>			
b. Inlet/Outlet (pick one):				
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or out	tlet (channel with well-de	efined banks and nerm:	anent flow) (2 pts)
Temporary inlet/outlet (6 pts)	_	(, , , , , , , , , , , , , , , , , , ,	· · · · · · · · / (- F · · · /



9. Water quality:					
✓ Clear	☐ High turbidity	☐ High algae co	ntent Tannic		
<u>22</u> TOT	AL for Pool Character	ristics (out of 28 ma	x.)		
B. VERNAL POOL E	ENVELOPE (100 ft) AN	ND CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	nformation known):
1. Landuse type and	d approximate percer	ntage within the 100	-ft vernal pool envelope	:	
✓ Forested:	30% (16 pts)	\square	Open (e.g., meadow, agric	culture, golf course): 65%	(4 pts)
☐ Shrub:	<u>%</u> (10 pts)	\square	Developed: <u>5%</u>	(0 pts)	
2. Landuse type and	d approximate percer	ntage within the 100	-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested:	85% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 10%	(4 pts)
☐ Shrub:	<u>%</u> (10 pts)		Developed: 5%	(0 pts)	
			vement within the envelop o incorporate this informat	e and/or critical terrestrial habi ion.	itat? If so,
Based on:	☐ Field estimate	☐ GIS	Aerial photo	to estimate	
<u>20</u> TO	ΓAL for Pool Envelope	e and Critical Terre	strial Habitat Area (out o	f 32 max.)	
	ENT IN VERNAL POOL				
-		IE POOL that can pro	ovide egg attachment or of	ffer concealment to aquatic or o	developing larvae.
Shrubs:	NA	ann munhan nottoile)			
-	regetation (grasses, se nt vegetation: NA		. <u>>50%</u>		
•	<u> </u>	-	available for egg attachm	ent: None	
	OR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Woo	od Frog	5/14/2015	4	TADPOLES/LARVAE Tadpoles	NOTES
Woo					NOTES
Woo Spotted S	od Frog Salamander	5/14/2015 5/14/2015	43	Tadpoles	
Woo Spotted S	od Frog	5/14/2015	4	Tadpoles	NOTES TES
Spotted S FACULTAT	Salamander	5/14/2015 5/14/2015 DATE	4 43 ABUNDANCE	Tadpoles NO	TES
Spotted S FACULTAT PREDATO	od Frog Salamander	5/14/2015 5/14/2015	43	Tadpoles NO	
Spotted S FACULTAT PREDATO	Salamander FIVE SPECIES OR SPECIES	5/14/2015 5/14/2015 DATE	4 43 ABUNDANCE ABUNDANCE	Tadpoles NO	TES
FACULTAT PREDATO EASTE	Salamander FIVE SPECIES OR SPECIES	5/14/2015 5/14/2015 DATE	4 43 ABUNDANCE ABUNDANCE	Tadpoles NO NO	TES
FACULTAT PREDATO EASTE	Salamander FIVE SPECIES OR SPECIES RN NEWT	5/14/2015 5/14/2015 DATE DATE 5/14/2015	4 43 ABUNDANCE ABUNDANCE Few	Tadpoles NO NO	TES
FACULTAT PREDATO EASTE	Salamander FIVE SPECIES OR SPECIES RN NEWT SPECIES	5/14/2015 5/14/2015 DATE DATE 5/14/2015 DATE	4 43 ABUNDANCE ABUNDANCE Few ABUNDANCE	Tadpoles NO NO	TES
FACULTAT PREDATO EASTE	Salamander FIVE SPECIES OR SPECIES RN NEWT SPECIES	5/14/2015 5/14/2015 DATE DATE 5/14/2015 DATE	4 43 ABUNDANCE ABUNDANCE Few ABUNDANCE	Tadpoles NO NO	TES
FACULTAT PREDATO EASTE	Salamander FIVE SPECIES OR SPECIES RN NEWT SPECIES N FROG	5/14/2015 5/14/2015 DATE DATE 5/14/2015 DATE 5/14/2015	4 43 ABUNDANCE ABUNDANCE Few ABUNDANCE	Tadpoles NO NO	TES
FACULTAT PREDATO EASTEI OTHER GREE	Salamander FIVE SPECIES OR SPECIES RN NEWT SPECIES N FROG or Species	5/14/2015 5/14/2015 DATE DATE 5/14/2015 DATE 5/14/2015	4 43 ABUNDANCE ABUNDANCE Few ABUNDANCE Few	Tadpoles NO NO	TES
FACULTAT PREDATO EASTE OTHER GREE	Salamander FIVE SPECIES OR SPECIES RN NEWT SPECIES N FROG or Species es observed?	5/14/2015 5/14/2015 DATE DATE 5/14/2015 DATE 5/14/2015 Ves Yes	4 43 ABUNDANCE ABUNDANCE Few ABUNDANCE Few	Tadpoles NO NO	TES
PREDATO EASTEI OTHER GREE Presence of Indicat Were spermatophore	Salamander FIVE SPECIES OR SPECIES RN NEWT SPECIES N FROG or Species es observed?	5/14/2015 5/14/2015 DATE DATE 5/14/2015 DATE 5/14/2015 Ves Yes	4 43 ABUNDANCE Few ABUNDANCE Few No	Tadpoles NO NO	TES
PREDATO EASTEI OTHER GREE Presence of Indicat Were spermatophore Were fish observed in	Salamander FIVE SPECIES OR SPECIES RN NEWT SPECIES N FROG or Species es observed?	5/14/2015 5/14/2015 DATE DATE 5/14/2015 DATE 5/14/2015 VYes Yes Yes Yes Yes	4 43 ABUNDANCE Few ABUNDANCE Few No No No	Tadpoles NO NO	TES
PREDATO EASTEI OTHER GREE Presence of Indicat Were spermatophore Were fish observed in	Salamander FIVE SPECIES OR SPECIES RN NEWT SPECIES N FROG or Species es observed? in the pool?	5/14/2015 5/14/2015 DATE DATE 5/14/2015 DATE 5/14/2015 VYes Yes Yes Yes Yes	4 43 ABUNDANCE Few ABUNDANCE Few No No No	Tadpoles NO NO	TES
PREDATO EASTE OTHER GREE Presence of Indicat Were spermatophore Were fish observed in SUMMARY 22 TOTAL	Salamander FIVE SPECIES OR SPECIES RN NEWT SPECIES N FROG or Species es observed? in the pool?	5/14/2015 5/14/2015 DATE DATE 5/14/2015 DATE 5/14/2015 VYes Yes Yes Yes Yes	4 43 ABUNDANCE Few ABUNDANCE Few No No No	Tadpoles NO NO	TES







Project File #60328763	Project Name: Northeast Energy Dire	ect Project	Pool ID: NO-AC3	3-VP003
Observer: SH		Phone or	email:	
Landowner/Applicant: NELSON JERE		Phone or	email:	
Address: GULF RD	City: No	ORTHFIELD	State: MA	Zip:: 01360
Location of vernal pool:				
Survey date(s):: 5/15/2015	Longitude/Latitude (in decimal	degrees): 4	2.66581153, -72.419661	189
A. VERNAL POOL CHARACTERISTICS	(fill in all information known):			
1. Landscape Setting (check all that ap	ply):			
Upland depression (4 pts; if this i	s also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (with	in 1000 feet of one or more other ve	rnal pools)(NA)		
☐ Pool within larger wetland system	n (4 pts; if this is also in a floodplain,	use 2 pts)		
□ Pool part of wildlife corridor (4 pt	s)			
☐ Other (variable pts):				
Pool Origin: Natural, but altered				
2. Vernal pool condition:				
Describe any recent modifications to the	e pool and associated landscape:		O LOGGING ROAD IPE WITH CULVERT UN	NDER ROAD
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coastal n	narine sediments	
4. Aquatic resource type that best appl	ies to this pool (choose dominant):		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Flood	dplain (overflow/oxbow) ((3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Othe	r (variable points):	
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2	2pts)		
5. Pool canopy cover (%): <u>40%</u>				
6. Predominant substrate:				
☐ Mineral soil	Depth: <u>12</u>			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepes	t zone, edge,etc.): <u>MID</u>	
7. Pool sizes:				
Approximate dimensions of pool (at ma	, . ,	2303.49		
Maximum depth at deepest point at tin	ne of survey (include units):	<u>5'</u>		
8. Hydrology:a. Estimated hydroperiod (unless actual)	al observed bydroneriod value(s) is	(are) known use	the presence of these e	vamnla
indicator species to best predict the ex	spected hydroperiod of the pool):			
□ Dries between early March and early	rly July (e.g., <i>Thelypteris palustris,</i> (Carex stricta, Imp	atiens capensis, llex ver	ticillata)(6pts)
□ Dries between early July and early	September (e.g., Sagittaria latifolia,	, Scirpus cyperini	us, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
	nd early November (e.g., <i>Eleocharis</i>			,,,,
☑ Dries between early November an	d late December, or intermittently ex	sposed (e.g., Nup	har spp., Potamogeton s	spp.)(8pts)
How long does pool hold water?	<u>Permanent</u>			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (c	hannel with well-	defined banks and perm	anent flow) (2 pts)
✓ Temporary inlet/outlet (6 pts)				



9. Water quality:										
✓ Clear	☐ High	turbidity	☐ High a	algae con	tent 🔲 Ta	annic				
<u>22</u> TO	TAL for Po	ol Characteri	istics (out	of 28 max	c.)					
B. VERNAL POOL	ENVELOP	PE (100 ft) AN	D CRITICA	L HABIT	AT AREA (100-	-750 ft) CHA	RACTERISTICS (fill in all inf	ormation known):	
1. Landuse type a	nd approxi	imate percen	tage within	the 100-	ft vernal pool	envelope:				
✓ Forested:	<u>50%</u>	(16 pts)		☑ (Open (e.g., mea	dow, agricult	ure, golf course):	<u>50%</u>	(4 pts)	
☐ Shrub:	<u>%</u>	(10 pts)			Developed:	<u>%</u>	(0 pts)			
2. Landuse type ar	nd approxi	mate percent	tage within	the 100-	750-ft vernal p	ool critical t	errestrial habitat:	:		
✓ Forested:	<u>55%</u>	(16 pts)		☑ (Open (e.g., mea	dow, agricult	ure, golf course):	<u>45%</u>	(4 pts)	
☐ Shrub:	<u>%</u>	(10 pts)			Developed:	<u>%</u>	(0 pts)			
					ement within the incorporate this		and/or critical terre:	strial habita	t? If so,	
Based on:	☐ Fie	eld estimate	□G	IS	☑ A	Aerial photo e	estimate			
<u>20</u> TC	TAL for P	ool Envelope	and Critic	al Terres	trial Habitat Ar	ea (out of 3	2 max.)			
C. SPECIES PRES	ENT IN VE	RNAL POOL								
Vegetation type a	and percent	t cover IN THE	E POOL tha	at can pro	vide egg attachi	ment or offer	concealment to a	quatic or de	veloping larvae.	
Shrubs:	<u>NA</u>									
ū	ŭ	(grasses, seg		, cattails):	<u>10-50%</u>					
_	ent vegetati			//	and Table Comme					
Dead branches a	ana aowned	a woody mater	riai (branch	es/twigs)	avallable for eg	g attacnment	: greater than 10			
INDICAT	OR SPECI	ES	DAT	ГЕ	EGG MASSI	ES (#)	TADPOLES/LAF	RVAE	NOTES	
-	OR SPECI	ES	DA 1 5/15/2		EGG MASSI	ES (#)	TADPOLES/LAF	RVAE	NOTES	
Wo				2015		ES (#)	TADPOLES/LAF	RVAE	NOTES	
Wo	od Frog		5/15/2	2015	9	ES (#)	TADPOLES/LAF	RVAE	NOTES	
Spotted	od Frog	er	5/15/2	2015	9		TADPOLES/LAF	RVAE		
Spotted FACULTA	ood Frog Salamand	er	5/15/2 5/15/2	2015 2015 FE	9	NCE	TADPOLES/LAF			
Spotted FACULTA	Salamand	er	5/15/2 5/15/2 DA1	2015 2015 FE	9 31 ABUNDAN	NCE	TADPOLES/LAF			
Spotted FACULTA Ca PREDAT	Salamando ATIVE SPEC ddisflies FOR SPECI	er	5/15/2 5/15/2 DA1 5/15/2	2015 2015 FE 2015	9 31 ABUNDAN	NCE n	TADPOLES/LAF		ES	
Spotted FACULTA Ca PREDAT	Salamando ATIVE SPEC ddisflies	er	5/15/2 5/15/2 DA1 5/15/2	2015 2015 FE 2015	9 31 ABUNDAN Commo	NCE n	TADPOLES/LAF	NOT	ES	
Spotted FACULTA Ca PREDAT	Salamando ATIVE SPEC ddisflies FOR SPECI	er	5/15/2 5/15/2 DA1 5/15/2	2015 2015 FE 2015	9 31 ABUNDAN Commo	NCE n	TADPOLES/LAF	NOT	ES	
Spotted FACULTA Ca PREDAT BUI	Salamando ATIVE SPEC ddisflies FOR SPECI	er CIES	5/15/2 5/15/2 DA1 5/15/2	2015 2015 FE 2015	9 31 ABUNDAN Commo	NCE INCE	TADPOLES/LAF	NOT	ES	
Spotted FACULTA Ca PREDAT BUI	Salamand ATIVE SPECION COR SPECI	er CIES	5/15/2 5/15/2 DA1 5/15/2 DA1 5/15/2	2015 2015 FE 2015	9 31 ABUNDAN Commo ABUNDAN Few	NCE INCE	TADPOLES/LAF	NOT	ES	
Spotted FACULTA Ca PREDAT BUI	Salamando ATIVE SPEC ddisflies FOR SPECI	er CIES	5/15/2 5/15/2 DA1 5/15/2 DA1 5/15/2	2015 2015 FE 2015 FE	9 31 ABUNDAN Commo ABUNDAN Few	NCE INCE	TADPOLES/LAF	NOT	ES	
FACULTA Ca PREDAT BUI	Salamando ATIVE SPEC ddisflies FOR SPECI	er CIES DES	5/15/2 5/15/2 DA1 5/15/2 DA1 5/15/2 DA1	2015 2015 FE 2015 FE	9 31 ABUNDAN Commo ABUNDAN Few ABUNDAN	NCE INCE	TADPOLES/LAF	NOT	ES	
FACULTA Ca PREDAT BUI OTHE	Salamando ATIVE SPECION COR SPECIO LLFROG R SPECIES Attor Species res observe	er CIES S es ed?	5/15/2 5/15/2 DA1 5/15/2 DA1 5/15/2 DA1	2015 2015 FE 2015 FE 2015	9 31 ABUNDAN Commo ABUNDAN Few ABUNDAN	NCE INCE	TADPOLES/LAF	NOT	ES	
PREDAT BUI OTHER Presence of Indica Were spermatopho Were fish observed	Salamando ATIVE SPECION COR SPECIO LLFROG R SPECIES Attor Species res observe	er CIES S es ed?	5/15/2 5/15/2 DAT 5/15/2 DAT 5/15/2 DAT Yes	2015 2015 FE 2015 FE 2015	9 31 ABUNDAN Commo ABUNDAN Few ABUNDAN B No	NCE INCE	TADPOLES/LAF	NOT	ES	
PREDAT BUI OTHER Presence of Indica Were spermatopho Were fish observed	Salamando Salamando	er CIES Ses ed?	5/15/2 5/15/2 DAT 5/15/2 DAT 5/15/2 DAT Ves Yes Yes	2015 2015 FE 2015 FE 2015	9 31 ABUNDAN Commo ABUNDAN Few ABUNDAN I No I No	NCE NCE		NOT	ES	
PREDAT BUI OTHEI Presence of Indica Were spermatopho Were fish observed SUMMARY 22 TOTA	Salamando Salamando	er CIES S es ed?	5/15/2 5/15/2 DAT 5/15/2 DAT 5/15/2 DAT Ves Yes Yes	2015 2015 FE 2015 FE 2015	9 31 ABUNDAN Commo ABUNDAN Few ABUNDAN I No I No	NCE NCE		NOT	ES	
PREDAT BUI OTHER Presence of Indica Were spermatopho Were fish observed	Salamando Salamando	er CIES Ses ed?	5/15/2 5/15/2 DAT 5/15/2 DAT 5/15/2 DAT Ves Yes Yes	2015 2015 FE 2015 FE 2015	9 31 ABUNDAN Commo ABUNDAN Few ABUNDAN I No I No	NCE NCE		NOT	ES	





SW



Project File #60328763	Project Name: Northeast Energy Direct Project Pool ID: NO-AC3-VP004
Observer: SH	Phone or email:
Landowner/Applicant: NELSON J	Phone or email:
Address: GULF RD	City: NORTHFIELD State: MA Zip:: 01360
Location of vernal pool:	
Survey date(s):: 5/15/2015	Longitude/Latitude (in decimal degrees): 42.66692625, -72.41901680
A. VERNAL POOL CHARACTERIST	TICS (fill in all information known):
1. Landscape Setting (check all tha	at apply):
✓ Upland depression (4 pts; if	this is also in a floodplain, use 2 pts)
☐ Pool part of a pool complex	(within 1000 feet of one or more other vernal pools)(NA)
☐ Pool within larger wetland sy	ystem (4 pts; if this is also in a floodplain, use 2 pts)
☐ Pool part of wildlife corridor	(4 pts)
☐ Other (variable pts):	
Pool Origin: Natural, but altered	t de la companya de
2. Vernal pool condition:	
Describe any recent modifications	to the pool and associated landscape:
3. Parent material:	
☐ Glacial fluvial ("outwash")	☐ Loose till ☐ Peat
✓ Dense till	☐ Alluvium ☐ Coastal marine sediments
4. Aquatic resource type that best	applies to this pool (choose dominant):
☐ Forested wetland (4pts)	☑ Herbaceous wetland (4pts) ☐ Floodplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts) ☐ Other (variable points):
☐ Peatland (acidic fen or bog) (4pts)
5. Pool canopy cover (%): 0%	
6. Predominant substrate:	
☐ Mineral soil	Depth: <u>24</u>
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepest zone, edge,etc.): <u>DEEP ZONE</u>
7. Pool sizes:	
Approximate dimensions of pool (
Maximum depth at deepest point	at time of survey (include units): 3'
8. Hydrology:	actual absented hydroparied value(a) is (are) known, use the presence of these example
indicator species to best predict the	actual, observed hydroperiod value(s) is(are) known, use the presence of these example ne expected hydroperiod of the pool):
_	nd early July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)
☐ Dries between early July and	early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)
☑ Dries between early Septemb	er and early November (e.g., Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts)
□ Dries between early November	er and late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)
How long does pool hold water?	Semi-permanent
b. Inlet/Outlet (pick one):	
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (channel with well-defined banks and permanent flow) (2 pts)
☑ Temporary inlet/outlet (6 pts)	



9. Water	quality:									
☑ CI	lear	ПН	ligh turbidity	☐ High alga	ae cor	ntent 🔲	Tannic			
	<u>22</u> TOT	AL for	Pool Character	istics (out of 2	28 ma	x.)				
B. VERN	AL POOL	ENVEL	OPE (100 ft) AN	ID CRITICAL I	HABIT	ΓAT AREA (10	0-750 ft)	CHARACTERISTICS (fill in all i	information known):
1. Landu	se type an	nd appi	roximate percen	tage within th	e 100	-ft vernal poo	l envelo	oe:		
	Forested:	<u>30%</u>	(16 pts)		V	Open (e.g., me	eadow, ag	riculture, golf course):	<u>70%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)			Developed:	<u>%</u>	(0 pts)		
2. Landu	se type an	ıd appr	roximate percen	tage within th	e 100	-750-ft vernal	pool crit	ical terrestrial habitat	:	
	Forested:	<u>55%</u>	(16 pts)		V	Open (e.g., m	eadow, ag	riculture, golf course):	<u>45%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)			Developed:	<u>%</u>	(0 pts)		
			more barriers to v					ope and/or critical terreation.	strial habi	itat? If so,
	Based on:		Field estimate	☐ GIS		☑	Aerial ph	noto estimate		
	<u>20</u> TO	TAL fo	or Pool Envelope	and Critical	Terres	strial Habitat	Area (out	of 32 max.)		
C. SPEC	IES PRESI	ENT IN	VERNAL POOL							
	Shrubs: Emergent Submerger	NA vegetat nt vege	tion (grasses, seç	ges, rushes, ca <u>0%</u>	attails)	: <u>10-50%</u>		offer concealment to a	quatic or c	developing larvae.
	INDICAT	OR SP	ECIES	DATE		EGG MAS	SES (#)	TADPOLES/LAF	RVAE	NOTES
	Spotted	Salama	ander	5/15/201	5	3				
	FACULTA [®]	TIVE S	PECIES	DATE		ABUND	ANCE		NO	TES
	PREDAT			DATE		ABUND			NO	TES
	BUL	LFRO		5/15/201	5	Comr	non			
	EASTE	RN NE	EWT	5/15/201	5	Fe	V			
	OTUE	0050		DATE		ADUND	ANOF		NO	
	OTHER	SPEC	JIES	DATE		ABUND	ANCE		NO	TES
Presence	e of Indica	tor Spe	ecies	✓ Yes	[□ No				
Were spe	ermatophor	es obs	erved?	☐ Yes	E	√ No				
Were fish	observed	in the p	pool?	☐ Yes	E	☑ No				
SUMMAR	RY									
	22 TOTAL	L for P	ool Characterist	ics		20	TOTAL	for Pool Envelope and	Critical [*]	Terrestrial Habitat Area
Other Cor	mments:									





W



Project File #60328763	Project Name: Northeast Energy Dire	ect Project	Pool ID: NO-AC	3-VP005
Observer: SH		Phone of	or email:	
Landowner/Applicant: NELSON JE	RE	Phone	or email:	
Address: GULF RD	City: N	IORTHFIELD	State: MA	Zip:: 01360
Location of vernal pool:				
Survey date(s):: 5/15/2015	Longitude/Latitude (in decimal	degrees):	42.66555481, -72.41781	388
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):			
1. Landscape Setting (check all that	apply):			
Upland depression (4 pts; if the	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (w	vithin 1000 feet of one or more other ve	ernal pools)(NA))	
☐ Pool within larger wetland sys	tem (4 pts; if this is also in a floodplain,	, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin: Small pond/construc	ted pond			
2. Vernal pool condition:	·			
Describe any recent modifications to	the pool and associated landscape:			
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	□ Coastal	marine sediments	
4. Aquatic resource type that best ap	oplies to this pool (choose dominant	t):		
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts))	odplain (overflow/oxbow)	(3pts)
☐ Shrub wetland (4pts)	✓ Open water (2 pts)	☐ Oth	ner (variable points):	
☐ Peatland (acidic fen or bog) (4p	ts) Intermittent stream reach ((2pts)		
5. Pool canopy cover (%): 0%				
6. Predominant substrate:				
✓ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepes	st zone, edge,et	:c.):	
7. Pool sizes:				
Approximate dimensions of pool (at	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u>1831.37</u>		
Maximum depth at deepest point at	time of survey (include units):	<u>2.5'</u>		
8. Hydrology:	ctual, observed hydroperiod value(s) is	s(are) known us	ee the presence of these (avamnla
indicator species to best predict the		(are) Kilowii, us	e the presence of these e	жаттріе
□ Dries between early March and	early July (e.g., Thelypteris palustris,	Carex stricta, Im	npatiens capensis, llex ve	erticillata)(6pts)
□ Dries between early July and early	arly September (e.g., <i>Sagittaria latifolia</i>	a, Scirpus cyperi	inus, Dulichium arundinad	eum, Cephalanthus occ.)(8pts)
Dries between early September	and early November (e.g., Eleocharis	; palustris, Glycε	eria canadensis, Utriculari	ia spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently ex	xposed (e.g., Νι	uphar spp., Potamogeton	spp.)(8pts)
How long does pool hold water?	Semi-permanent			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (c	channel with we	ll-defined banks and perm	nanent flow) (2 pts)
			, and a game and point	



9. Wate	r quality:								
	Clear	☑ H	ligh turbidity	☐ High algae	content	☐ Tannic			
	<u>20</u> TOT	AL for	Pool Character	istics (out of 28	max.)				
B. VERI	NAL POOL	ENVEL	OPE (100 ft) AN	ID CRITICAL HA	BITAT ARE	A (100-750 ft) C	CHARACTERISTICS (fill in all in	formation known):
1. Land	use type an	nd appi	roximate percen	tage within the 1	00-ft verna	l pool envelope): •:		·
	Forested:		(16 pts)	_			iculture, golf course):	100%	(4 pts)
	Shrub:	<u>%</u>	(10 pts)] Develope	d: <u>%</u>	(0 pts)		
2. Land	use type an	ıd appı	roximate percen	tage within the 1	00-750-ft ve	ernal pool critic	cal terrestrial habitat	•	
	Forested:		(16 pts)	_		-	iculture, golf course):		(4 pts)
_	Shrub:	<u>%</u>	(10 pts)	<u> </u>	Develope	d: <u>5%</u>	(0 pts)		, , ,
☑	check here	and s	ee directions for 6	explanation of how		ate this informa		strial habita	at? If so,
	Based on:		Field estimate	☐ GIS		✓ Aerial pho	oto estimate		
	<u>20</u> TO	TAL fo	or Pool Envelope	e and Critical Ter	restrial Hab	oitat Area (out o	of 32 max.)		
C. SPE	CIES PRESI	ENT IN	VERNAL POOL						
Ü	Shrubs: Emergent	<u>NA</u> vegeta	tion (grasses, seg	ges, rushes, catta	. 55		ffer concealment to a	qualio or ac	Svoidping larvae.
Dead	branches a	nd dow	ned woody mate	rial (branches/twi	gs) available	for egg attachn	nent:		
Dead	INDICATO			rial (branches/twi	,	for egg attachn	nent: TADPOLES/LAF	RVAE	NOTES
Dead		OR SP	ECIES	` .	,		_	RVAE	NOTES
Dead	INDICATO Spotted	OR SP	ECIES ander	DATE	,	MASSES (#)	_	RVAE	NOTES
Dead	INDICATO Spotted	OR SP Salama	ECIES ander	DATE 5/15/2015	,	MASSES (#) 12	_	RVAE	NOTES
Dead	INDICATO Spotted	OR SP Salama od Frog	ECIES ander	DATE 5/15/2015	EGG	MASSES (#) 12	_	RVAE	
Dead	Spotted Woo	OR SP Salama od Frog	ECIES ander	DATE 5/15/2015 5/15/2015	EGG	MASSES (#) 12 3	_		
Dead	Spotted Woo	OR SP Salama od Frog	ECIES ander	DATE 5/15/2015 5/15/2015	EGG	MASSES (#) 12 3	_		ES
Dead	INDICATO Spotted Wood	OR SP Salama od Frog	ECIES ander	DATE 5/15/2015 5/15/2015 DATE	EGG	MASSES (#) 12 3 UNDANCE	_	NOT	ES
Dead	INDICATO Spotted Wood	OR SP Salama od Froo TIVE S	ECIES ander PECIES ECIES	DATE 5/15/2015 5/15/2015 DATE	ABI	MASSES (#) 12 3 UNDANCE	_	NOT	ES
Dead	Spotted Wood FACULTA PREDATE	OR SP Salama od Froo TIVE S	ECIES ander PECIES ECIES	DATE 5/15/2015 5/15/2015 DATE DATE	ABI	MASSES (#) 12 3 UNDANCE	_	NOT	ES
Dead	Spotted Wood FACULTA PREDATE	OR SP Salama od Frog TIVE S OR SP	ECIES ander PECIES ECIES	DATE 5/15/2015 5/15/2015 DATE DATE	ABI	MASSES (#) 12 3 UNDANCE UNDANCE	_	NOT	ES
	Spotted Wood FACULTA PREDATE	OR SP Salama od Frog TIVE S OR SP R SPEC	ECIES ander PECIES ECIES DG	DATE 5/15/2015 5/15/2015 DATE DATE	ABI	MASSES (#) 12 3 UNDANCE UNDANCE	_	NOT	ES
Presence	FACULTA PREDATO OTHER	OR SP Salama od Frog TIVE S OR SP R SPEC	ECIES ander PECIES ECIES CIES OG ecies	DATE 5/15/2015 5/15/2015 DATE DATE DATE 5/15/2015	ABI	MASSES (#) 12 3 UNDANCE UNDANCE	_	NOT	ES
Presence Were sp	FACULTA PREDATE OTHER GREE ce of Indicar	OR SP Salama od Fro OR SP R SPEC EN FRO tor Species obs	ECIES ander PECIES ECIES DG ecies erved?	DATE 5/15/2015 5/15/2015 DATE DATE DATE 5/15/2015	ABI ABI	MASSES (#) 12 3 UNDANCE UNDANCE	_	NOT	ES
Presence Were sp	FACULTA PREDATE OTHER GREE ce of Indicar permatophor sh observed	OR SP Salama od Fro OR SP R SPEC EN FRO tor Species obs	ECIES ander PECIES ECIES DG ecies erved?	DATE 5/15/2015 DATE DATE DATE DATE 15/15/2015 Yes Yes	ABI ABI No No	MASSES (#) 12 3 UNDANCE UNDANCE	_	NOT	ES
Presence Were sp	INDICATO Spotted Wood FACULTA PREDATO OTHER GREE Ce of Indicato Dermatophoresh observed ARY	OR SP Salama od Fro OR SP R SPEC EN FRO tor Species obs in the p	ECIES ander PECIES ECIES DG ecies erved?	DATE 5/15/2015 5/15/2015 DATE DATE DATE 5/15/2015 ✓ Yes ☐ Yes ☐ Yes	ABI ABI No No	MASSES (#) 12 3 UNDANCE UNDANCE Few	TADPOLES/LAF	NOT NOT	ES

NO-AC3-VP005 Page 2





NE



Project File #60328763	Project Name: Northeast Energy Dir	ect Project	Pool ID: NO-AC3-	VP006
Observer: SH		Phone or	email:	
Landowner/Applicant: NELSON JE	RE	Phone or	email:	
Address: GULF RD	City: N	ORTHFIELD	State: MA	Zip:: 01360
Location of vernal pool:				
Survey date(s):: 5/15/2015	Longitude/Latitude (in decimal	l degrees): 42	2.66757985, -72.414258	38
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):			
1. Landscape Setting (check all that	apply):			
Upland depression (4 pts; if the	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (w	vithin 1000 feet of one or more other ve	ernal pools)(NA)		
☐ Pool within larger wetland sys	tem (4 pts; if this is also in a floodplain	ı, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin: Natural, but altered				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:	ADJACENT TO	D LOGGING ROAD	
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coastal m	arine sediments	
4. Aquatic resource type that best ap	pplies to this pool (choose dominan	t):		
☐ Forested wetland (4pts)	☑ Herbaceous wetland (4pts)	s) 🔲 Flood	lplain (overflow/oxbow) (3	3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other	r (variable points):	
☐ Peatland (acidic fen or bog) (4p)	ots)	(2pts)		
5. Pool canopy cover (%): <u>15%</u>				
6. Predominant substrate:				
☑ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepe	st zone, edge,etc.)):	
7. Pool sizes:				
Approximate dimensions of pool (at	, ,,, ,	<u>1683.96</u>		
Maximum depth at deepest point at 8. Hydrology:	time of survey (include units):	<u>2'</u>		
	ctual, observed hydroperiod value(s) is	s(are) known, use i	the presence of these ex	ample
indicator species to best predict the		χ(α. σ) ταιστιιί, ασσι	6. 000 0	ap.o
□ Dries between early March and	early July (e.g., Thelypteris palustris,	Carex stricta, Impa	atiens capensis, llex vert	icillata)(6pts)
Dries between early July and early	arly September (e.g., <i>Sagittaria latifolia</i>	a, Scirpus cyperinu	ıs, Dulichium arundinace	um, Cephalanthus occ.)(8pts)
□ Dries between early September	and early November (e.g., <i>Eleochari</i> s	s palustris, Glyceria	a canadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently e	xposed (e.g., Nupl	har spp., Potamogeton s	<i>pp</i> .)(8pts)
How long does pool hold water?	<u>Seasonal</u>			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	✓ Permanent inlet or outlet (a)	channel with well-o	defined banks and perma	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)			•	, , , ,



9. Wate	r quality:									
V	Clear	☐ Hi	gh turbidity	☐ High	algae cor	ntent 🔲	Tannic			
	<u>18</u> TOT	AL for I	Pool Character	istics (out	of 28 ma	x.)				
B. VER	NAL POOL	ENVELO	OPE (100 ft) AN	ID CRITIC	AL HABIT	AT AREA (1	00-750 ft) C	HARACTERISTICS (fill in all inf	ormation known):
1. Land	use type ar	nd appro	oximate percen	tage with	in the 100	-ft vernal po	ol envelope	:		
	Forested:	<u>75%</u>	(16 pts)		V	Open (e.g., m	eadow, agric	culture, golf course):	<u>25%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)			Developed:	<u>%</u>	(0 pts)		
2. Land	use type ar	nd appro	ximate percen	tage withi	in the 100	-750-ft verna	l pool critic	al terrestrial habitat:	:	
	Forested:	80%	(16 pts)		V	Open (e.g., m	eadow, agric	culture, golf course):	20%	(4 pts)
	Shrub:	<u>%</u>	(10 pts)			Developed:	<u>%</u>	(0 pts)		
			ore barriers to vertient or e					pe and/or critical terre	strial habitat	?? If so,
	Based on:		Field estimate		GIS		Aerial pho	to estimate		
	20 TO	TAL for	Pool Envelope	and Criti	aal Tarra	trial Habitat	Aron (out o	f 22 may \		
	<u>20</u> 10	TAL IOI	Pool Envelope	and Criti	Cai Terres	striai napitat	Area (out o	32 IIIax.)		
C. SPE	CIES PRES	ENT IN V	VERNAL POOL							
	Shrubs: Emergent Submerge	<u>NA</u> vegetation	on (grasses, seç	ges, rushe			chment or o	ffer concealment to a	quatic or dev	veloping larvae.
Dead	branches a	nd down	ed woody mate	rial (brancl	hes/twigs)	available for	egg attachm	ent: greater than 10		
Dead								ent: greater than 10		NOTES
Dead	INDICAT Spotted	OR SPE	CIES	DA	hes/twigs) TE /2015	available for EGG MAS	SSES (#)	ent: greater than 10 TADPOLES/LAR		NOTES
Dead	INDICAT	OR SPE	CIES	DA	ATE .	EGG MAS	SSES (#)	-		NOTES
Dead	Spotted	OR SPE Salamar	CIES	DA 5/16/	/2015	EGG MAS	SSES (#)	-	RVAE	
Dead	INDICAT	OR SPE Salamar	CIES	DA 5/16/	ATE .	EGG MAS	SSES (#)	-		
Dead	Spotted	OR SPE Salamar	CIES nder	5/16/ DA	/2015	EGG MAS	ANCE	-	RVAE	ES .
Dead	Spotted FACULTA	OR SPE Salamar	CIES nder PECIES	DA DA	(2015) (TE	EGG MAS	ANCE	-	RVAE	ES .
Dead	Spotted FACULTA	OR SPE Salamai TIVE SP	CIES nder PECIES	DA DA	\(\text{TE}\) \(\text{XTE}\) \(\text{XTE}\) \(\text{XTE}\)	EGG MAS 36 ABUND	ANCE	-	RVAE	ES .
Dead	Spotted FACULTA PREDAT BUL	OR SPE Salaman TIVE SP OR SPE LFROG	CIES nder PECIES CIES	DA DA 5/16/	\(\text{TE}\) \(\text{\text{TE}}\) \(\text{\text{TE}}\)	ABUND Comr	ANCE	-	NOTE	ES ES
Dead	FACULTA PREDAT BUL OTHER	OR SPE Salamai TIVE SP	CIES Inder PECIES ICIES	DA 5/16/	\(\text{TE}\) \(\text{XTE}\) \(\text{XTE}\) \(\text{XTE}\)	EGG MAS 36 ABUND	ANCE ANCE ANCE	-	RVAE	ES ES
Dead	FACULTA PREDAT BUL OTHER	OR SPE Salamai TIVE SP OR SPE LLFROG	CIES Inder PECIES ICIES	DA 5/16/	\(\text{TE}\) \(\text{XTE}\) \(\text{XTE}\) \(\text{XTE}\) \(\text{XTE}\)	ABUND Comm	ANCE ANCE ANCE	-	NOTE	ES ES
Dead	FACULTA PREDAT BUL OTHER	OR SPE Salamai TIVE SP OR SPE LLFROG	CIES Inder PECIES ICIES	DA 5/16/	\(\text{TE}\) \(\text{XTE}\) \(\text{XTE}\) \(\text{XTE}\) \(\text{XTE}\)	ABUND Comm	ANCE ANCE ANCE	-	NOTE	ES ES
	FACULTA PREDAT BUL OTHER	OR SPE Salamai TIVE SF OR SPE LFROG	CIES Inder PECIES ECIES ES G	DA 5/16/	ATE //2015 ATE //2015 ATE //2015	ABUND Comm	ANCE ANCE ANCE	-	NOTE	ES ES
Presence	FACULTA PREDAT BUL OTHER	OR SPE Salamai TIVE SP OR SPE LFROG R SPECI	CIES Inder PECIES ECIES CIES CIES CIES CIES CIES CIES	DA 5/16/	ATE //2015 ATE //2015 ATE //2015	ABUND Comm	ANCE ANCE ANCE	-	NOTE	ES ES
Presence Were sp	FACULTA PREDAT BUL OTHEF GREE ce of Indica	OR SPE Salamai TIVE SP OR SPE LFROG EN FROG tor Specifies obse	CIES Inder PECIES CIES CIES CIES CIES CIES CIES CIES	DA	ATE //2015 ATE //2015 ATE //2015	ABUND Comm ABUND Comm	ANCE ANCE ANCE	-	NOTE	ES ES
Presence Were sp	FACULTA PREDAT BUL OTHER GREE ce of Indica permatophore sh observed	OR SPE Salamai TIVE SP OR SPE LFROG EN FROG tor Specifies obse	CIES Inder PECIES CIES CIES CIES CIES CIES CIES CIES	DA 5/16 DA 5/16 DA 5/16 Ves Yes	ATE //2015 ATE //2015 ATE //2015	ABUND Comm ABUND Comm	ANCE ANCE ANCE	-	NOTE	ES ES
Presence Were sp	FACULTA PREDAT BUL OTHER GREE ce of Indica permatophor sh observed	OR SPE Salaman TIVE SF OR SPE LFROG R SPECI EN FROC tor Special residue of the point of the poin	CIES Inder PECIES CIES CIES CIES CIES CIES CIES CIES	DA	ATE //2015 ATE //2015 ATE //2015	ABUND Comm ABUND Comm No No No	ANCE mon ANCE mon	TADPOLES/LAF	NOTE NOTE	ES ES





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Project File #60328763	Project Name: Northeast Energy Dire	ect Project	Pool ID: NO-AC3-	VP007	
Observer: SH		Phone or	email:		
Landowner/Applicant: Not Listed		Phone or	email:		
Address: Not Listed	City: N	IORTHFIELD	State: MA	Zip:: 01360	
Location of vernal pool:					
Survey date(s):: 5/16/2015	Longitude/Latitude (in decimal	degrees): 42	2.66576862, -72.407350	57	
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):				
I. Landscape Setting (check all that a	apply):				
✓ Upland depression (4 pts; if thi	s is also in a floodplain, use 2 pts)				
☐ Pool part of a pool complex (w	ithin 1000 feet of one or more other ve	ernal pools)(NA)			
☐ Pool within larger wetland syst	em (4 pts; if this is also in a floodplain,	, use 2 pts)			
☐ Pool part of wildlife corridor (4	pts)				
Other (variable pts):					
Pool Origin: Natural Depression					
2. Vernal pool condition:					
Describe any recent modifications to	the pool and associated landscape:				
•					
3. Parent material:					
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat			
✓ Dense till	☐ Alluvium	☐ Coastal m	narine sediments		
4. Aquatic resource type that best ap	plies to this pool (choose dominant	t):			
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)) 🔲 Flood	dplain (overflow/oxbow) (3	3pts)	
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other	r (variable points):		
☐ Peatland (acidic fen or bog) (4pt	s) Intermittent stream reach (2pts)			
5. Pool canopy cover (%): 95%					
6. Predominant substrate:					
✓ Mineral soil	Depth:				
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepes	st zone, edge,etc.): <u> </u>		
7. Pool sizes:					
Approximate dimensions of pool (at	maximum capacity) (sq. feet):	<u>340.99</u>			
Maximum depth at deepest point at	time of survey (include units):	<u>6"</u>			
B. Hydrology:		·/>	the manager of these sec		
indicator species to best predict the	tual, observed hydroperiod value(s) is expected hydroperiod of the pool):	(are) known, use	the presence of these ex	ampie	
☑ Dries between early March and	early July (e.g., <i>Thelypteris palustris,</i> (Carex stricta, Imp	atiens capensis, llex vert	icillata)(6pts)	
□ Dries between early July and ea	rly September (e.g., Sagittaria latifolia	ı, Scirpus cyperinı	us, Dulichium arundinace	um, Cephalanthus occ.)(8p	ots)
☐ Dries between early September	and early November (e.g., Eleocharis	palustris, Glyceria	a canadensis, Utricularia	spp., Decodon vert.)(8pts)	
☐ Dries between early November a	and late December, or intermittently ex	xposed (e.g., Nup	har spp., Potamogeton sp	pp.)(8pts)	
How long does pool hold water?	Seasonal				
b. Inlet/Outlet (pick one):					
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (c	channel with well-	defined banks and perma	nent flow) (2 pts)	
☐ Temporary inlet/outlet (6 pts)					



☑ Clear ☐ Hiệ	gh turbidity] High algae con	tent Tannic		
22 TOTAL for I	Pool Characteristi	cs (out of 28 max	(.)		
B. VERNAL POOL ENVELO	OPE (100 ft) AND (CRITICAL HABITA	AT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and appro	oximate percentag	e within the 100-	ft vernal pool envelope	:	
✓ Forested: 100%	(16 pts)		pen (e.g., meadow, agri	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u>	(10 pts)		eveloped: <u>%</u>	(0 pts)	
2. Landuse type and appro	oximate percentag	e within the 100-	750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 90%	(16 pts)	☑ C	pen (e.g., meadow, agri	culture, golf course): 10%	(4 pts)
☐ Shrub: <u>%</u>	(10 pts)		Developed: %	(0 pts)	
			rement within the envelop incorporate this informat	oe and/or critical terrestrial hab tion.	itat? If so,
Based on:	Field estimate	☐ GIS	Aerial pho	to estimate	
20 TOTAL for	Pool Envelope ar	nd Critical Terres	trial Habitat Area (out c	of 32 max.)	
C. SPECIES PRESENT IN	VERNAL POOL				
Vegetation type and perce	ent cover IN THE P	OOL that can prov	vide egg attachment or o	ffer concealment to aquatic or	developing larvae.
Shrubs: <u>10-5</u> 6	<u>0%</u>				
Emergent vegetation	,,,	, rushes, cattails):	<u>NA</u>		
Submergent veget		(branches/twiss)	ovojloblo for oga ottoobm		
Dead branches and down	ieu woody material	(b) and les/(wids)			
		3-7	available for egg attacriff	nent: greater than 10	
INDICATOR SPE	CIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPE Spotted Salaman					NOTES
		DATE	EGG MASSES (#)		NOTES
	nder	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Spotted Salamar	nder	DATE 5/17/2015	EGG MASSES (#) 26	TADPOLES/LARVAE	
Spotted Salamai	nder	DATE 5/17/2015 DATE	EGG MASSES (#) 26 ABUNDANCE	TADPOLES/LARVAE	
Spotted Salamai	PECIES	DATE 5/17/2015 DATE	EGG MASSES (#) 26 ABUNDANCE	TADPOLES/LARVAE	
Spotted Salamai FACULTATIVE SP Caddisflies PREDATOR SPE	PECIES	DATE 5/17/2015 DATE 5/17/2015 DATE	EGG MASSES (#) 26 ABUNDANCE Common ABUNDANCE	TADPOLES/LARVAE	DITES DITES
Spotted Salaman FACULTATIVE SP Caddisflies	PECIES	DATE 5/17/2015 DATE 5/17/2015	EGG MASSES (#) 26 ABUNDANCE Common	TADPOLES/LARVAE	DTES
Spotted Salamai FACULTATIVE SP Caddisflies PREDATOR SPE	PECIES	DATE 5/17/2015 DATE 5/17/2015 DATE	EGG MASSES (#) 26 ABUNDANCE Common ABUNDANCE	TADPOLES/LARVAE	DITES DITES
Spotted Salamai FACULTATIVE SP Caddisflies PREDATOR SPE	PECIES	DATE 5/17/2015 DATE 5/17/2015 DATE DATE	EGG MASSES (#) 26 ABUNDANCE Common ABUNDANCE	TADPOLES/LARVAE	DITES DITES
FACULTATIVE SP Caddisflies PREDATOR SPE OTHER SPECI	PECIES CCIES ES Cies	DATE 5/17/2015 DATE 5/17/2015 DATE DATE	EGG MASSES (#) 26 ABUNDANCE Common ABUNDANCE ABUNDANCE	TADPOLES/LARVAE	DITES DITES
FACULTATIVE SP Caddisflies PREDATOR SPE OTHER SPECI	PECIES CCIES ES cies cies cryed?	DATE 5/17/2015 DATE 5/17/2015 DATE DATE VYes	EGG MASSES (#) 26 ABUNDANCE Common ABUNDANCE ABUNDANCE I No	TADPOLES/LARVAE	DITES DITES
FACULTATIVE SP Caddisflies PREDATOR SPE OTHER SPECI Presence of Indicator Special S	PECIES CCIES ES cies cies cryed?	DATE 5/17/2015 DATE 5/17/2015 DATE DATE DATE VYes Yes	EGG MASSES (#) 26 ABUNDANCE Common ABUNDANCE ABUNDANCE I No	TADPOLES/LARVAE	DITES DITES
FACULTATIVE SP Caddisflies PREDATOR SPE OTHER SPECI Presence of Indicator Special Were spermatophores obse Were fish observed in the presence of the presen	PECIES CIES Cies Fived? Fived? Fived?	DATE 5/17/2015 DATE 5/17/2015 DATE DATE V Yes Yes Yes Yes Yes	EGG MASSES (#) 26 ABUNDANCE Common ABUNDANCE ABUNDANCE I No I No I No	TADPOLES/LARVAE	OTES OTES
FACULTATIVE SP Caddisflies PREDATOR SPE OTHER SPECI Presence of Indicator Special S	PECIES CIES Cies Fived? Fived? Fived?	DATE 5/17/2015 DATE 5/17/2015 DATE DATE V Yes Yes Yes Yes Yes	EGG MASSES (#) 26 ABUNDANCE Common ABUNDANCE ABUNDANCE I No I No I No	TADPOLES/LARVAE NO NO	OTES OTES







Project File #60328763	Project Name: Northeast Energy Dire	ect Project	Pool ID: NO-AC3-	VP008
Observer: SH		Phone or e	mail:	
Landowner/Applicant: Not Listed		Phone or e	mail:	
Address: Not Listed	City: N	ORTHFIELD	State: MA	Zip:: 01360
Location of vernal pool:				
Survey date(s):: 5/16/2015	Longitude/Latitude (in decimal	degrees): 42.	.66280998, -72.4046259	92
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):			
1. Landscape Setting (check all that	apply):			
☐ Upland depression (4 pts; if th	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (w	vithin 1000 feet of one or more other ve	ernal pools)(NA)		
Pool within larger wetland sys	tem (4 pts; if this is also in a floodplain	, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin: POOL IN WETLAND	CONNECTED TO LARGE POND			
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:			
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coastal ma	rine sediments	
4. Aquatic resource type that best ap	pplies to this pool (choose dominant	i) :		
☐ Forested wetland (4pts)	Herbaceous wetland (4pts)) 🔲 Floodp	olain (overflow/oxbow) (3	3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other ((variable points):	
☐ Peatland (acidic fen or bog) (4p)	ots)	2pts)		
5. Pool canopy cover (%): <u>10%</u>				
6. Predominant substrate:				
☐ Mineral soil	Depth:			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepes	st zone, edge,etc.):		
7. Pool sizes:				
Approximate dimensions of pool (at	. ,,,,,,	<u>3137.43</u>		
Maximum depth at deepest point at 8. Hydrology:	time of survey (include units):	<u>8"</u>		
	ctual, observed hydroperiod value(s) is	(are) known, use th	ne presence of these ex	ample
indicator species to best predict the		(4.5) 14.5 11.1, 455 41	processor or anoce or	ap.o
□ Dries between early March and	early July (e.g., Thelypteris palustris,	Carex stricta, Impat	iens capensis, llex vert	icillata)(6pts)
Dries between early July and early	arly September (e.g., <i>Sagittaria latifolia</i>	, Scirpus cyperinus	, Dulichium arundinace	um, Cephalanthus occ.)(8pts)
□ Dries between early September	and early November (e.g., Eleocharis	palustris, Glyceria	canadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently ex	kposed (e.g., Nupha	ar spp., Potamogeton s _l	pp.)(8pts)
How long does pool hold water?	Semi-permanent			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	✓ Permanent inlet or outlet (continue)	channel with well-de	efined banks and perma	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)			·	, , , <i>,</i>



9. Wate	r quality:											
☑ (Clear	☐ Hi	gh turbidity	ПН	ligh algae co	ontent	☐ Tannic					
	<u>18</u> TOT	AL for I	Pool Characte	ristics (out of 28 m	ax.)						
B. VER	NAL POOL	ENVELO	OPE (100 ft) AI	ND CRIT	TICAL HABI	ITAT AR	EA (100-750 f	ft) CHAR	ACTERISTICS	(fill in all i	nformation known):	
1. Land	use type ar	nd appro	oximate percei	ntage w	ithin the 10	0-ft verr	nal pool envel	lope:				
\checkmark	Forested:	<u>45%</u>	(16 pts)			Open (e.g., meadow,	agricultu	re, golf course):	<u>55%</u>	(4 pts)	
	Shrub:	<u>%</u>	(10 pts)			Develop	ped: <u>%</u>	(0 pts)			
2. Land	use type ar	nd appro	oximate percei	ntage w	ithin the 10	0-750-ft	vernal pool c	ritical te	rrestrial habitat	t:		
	Forested:	<u>80%</u>	(16 pts)		\square	Open (e.g., meadow,	agricultu	re, golf course):	<u>20%</u>	(4 pts)	
	Shrub:	<u>%</u>	(10 pts)			Develo	ped: <u>%</u>	(0 pts)			
			ore barriers to e directions for						nd/or critical terre	estrial habi	tat? If so,	
	Based on:		Field estimate] GIS		Aerial	photo es	stimate			
	<u>20</u> TO	TAL for	Pool Envelop	e and C	ritical Terre	estrial H	abitat Area (o	out of 32	max.)			
C. SPE	CIES PRES	ENT IN V	VERNAL POOI	L								
Vege	tation type a	and perce	ent cover IN TH	IE POOI	L that can pi	rovide e	gg attachment	or offer c	concealment to a	quatic or o	developing larvae.	
	Shrubs:	<u>10-5</u>	<u>0%</u>									
	Emergent	venetation	on (grasses, se	AGE THE	hac cattaile	١. 4٥	E00/					
	•	•		_	ones, callans	s): <u>10-</u>	<u>50%</u>					
Dead	Submerge	nt vegeta	ation: 10) <u>-50%</u>				chment:	greater than 10	1		
Dead	Submerge	nt vegeta	ation: 10) <u>-50%</u>				achment:	greater than 10	<u>)</u>		
Dead	Submerge branches a	nt vegetand down	ation: 10 ned woody mate	0 <u>-50%</u> erial (bra	anches/twigs	s) availat	ole for egg atta		greater than 10		NOTES	
Dead	Submerge branches a	nt vegetand down	ation: 10 ned woody mate	0 <u>-50%</u> erial (bra	anches/twigs	s) availat	ole for egg atta				NOTES	
Dead	Submerge branches a INDICAT Spotted	nt vegetand down OR SPE Salaman	ation: 10 ned woody mate CIES nder	0 <u>-50%</u> erial (bra	DATE /17/2015	EG	ole for egg atta G MASSES (#			RVAE		
Dead	Submerge branches a	nt vegetand down OR SPE Salaman	ation: 10 ned woody mate CIES nder	0 <u>-50%</u> erial (bra	anches/twigs	EG	ole for egg atta			RVAE	NOTES TES	
Dead	Submerge branches a INDICAT Spotted	nt vegetand down OR SPE Salaman TIVE SF	ation: 10 ned woody mate CIES nder PECIES	0 <u>-50%</u> erial (bra	DATE /17/2015	EG	ole for egg atta G MASSES (#			RVAE NO		
Dead	Submerge branches a INDICAT Spotted	nt vegetand down OR SPE Salaman TIVE SF	ation: 10 ned woody mate CIES nder PECIES	0 <u>-50%</u> erial (bra	DATE /17/2015	EG	ole for egg atta G MASSES (# 14 BUNDANCE			RVAE NO	TES	
Dead	Submerge branches a INDICAT Spotted FACULTA PREDAT	nt vegetand down OR SPE Salaman TIVE SF	ation: 10 ned woody mate CIES nder PECIES	0 <u>-50%</u> erial (bra	DATE /17/2015	EG	ole for egg atta G MASSES (# 14 BUNDANCE			RVAE NO NO	TES	
Dead	Submerge branches a INDICAT Spotted FACULTA PREDAT	nt vegetand down OR SPE Salaman TIVE SP	ation: 10 ned woody mate CIES nder PECIES	0 <u>-50%</u> erial (bra	DATE /17/2015 DATE DATE	EG	BUNDANCE			RVAE NO NO	TES	
	Submerge branches a INDICAT Spotted FACULTA PREDAT	nt vegetand down OR SPE Salaman TIVE SP OR SPE	ation: 10 ned woody mate CIES nder PECIES CIES	0 <u>-50%</u> erial (bra	DATE DATE DATE DATE	EG	BUNDANCE			RVAE NO NO	TES	
Presence	Submerge branches a INDICAT Spotted FACULTA PREDAT	nt vegeta nd down OR SPE Salaman TIVE SP OR SPECI	ation: 10 ned woody mate CIES nder PECIES CIES	9-50% erial (bra	DATE DATE DATE DATE	EG	BUNDANCE			RVAE NO NO	TES	
Presence Were sp	Submerge branches a INDICAT Spotted FACULTA PREDAT OTHER	nt vegeta nd down OR SPE Salamai TIVE SP OR SPECI tor Species obse	ation: 10 ned woody mate CIES nder PECIES CIES CIES CIES	9-50% erial (bra	DATE DATE DATE DATE OATE OATE OATE	EG A A No	BUNDANCE			RVAE NO NO	TES	
Presence Were sp	Submerge I branches a INDICAT Spotted FACULTA PREDAT OTHER ce of Indica permatophorish observed	nt vegeta nd down OR SPE Salamai TIVE SP OR SPECI tor Species obse	ation: 10 ned woody mate CIES nder PECIES CIES CIES CIES	1-50% 1-50	DATE DATE DATE DATE OATE OATE OATE	availati	BUNDANCE			RVAE NO NO	TES	
Present Were sp	Submerge branches a INDICAT Spotted FACULTA PREDAT OTHER ce of Indica permatophor sh observed	nt vegeta nd down OR SPE Salaman TIVE SP OR SPECI tor Special res obse in the po	ation: 10 ned woody mate CIES nder PECIES CIES CIES CIES	1-50% -50% 	DATE DATE DATE DATE OATE OATE	availati	BUNDANCE BUNDANCE	*)	TADPOLES/LA	NO NO	TES	
Presence Were sp Were fis	Submerge branches a INDICAT Spotted FACULTA PREDAT OTHER ce of Indica permatophor sh observed	nt vegeta nd down OR SPE Salaman TIVE SP OR SPECI tor Special res obse in the po	ation: 10 ned woody mate CIES nder PECIES CIES CIES CIES CIES CIES CIES CIES	1-50% -50% 	DATE DATE DATE DATE OATE OATE	availati	BUNDANCE BUNDANCE	*)	TADPOLES/LA	NO NO	TES TES	





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Project File #60328763	Project Name: Northeast Energy Dire	ect Project Pool ID	: PL-AC4-VP001	
Observer: ED	Phone or email:			
Landowner/Applicant: AESCHBACK	Alice L	Phone or email:		
Address: 229 WEST ST	TREET City: PL	LAINFIELD State	: MA Zip:: 01070	
Location of vernal pool:				
Survey date(s):: 5/09/2015	Longitude/Latitude (in decimal	degrees): 42.50931578	, -72.96473188	
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):			
1. Landscape Setting (check all that a	pply):			
✓ Upland depression (4 pts; if this	s is also in a floodplain, use 2 pts)			
☑ Pool part of a pool complex (wire	thin 1000 feet of one or more other ve	rnal pools)(NA)		
☐ Pool within larger wetland system	em (4 pts; if this is also in a floodplain,	use 2 pts)		
☐ Pool part of wildlife corridor (4 p	ots)			
☐ Other (variable pts):				
Pool Origin: OLD ROAD WITH DE	PRESSION			
2. Vernal pool condition:				
Describe any recent modifications to t	he pool and associated landscape:	APPEARS AS IF THE DEF TIME AGO.	PRESSSION WAS DUG BY MAN SOME	
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coastal marine sedim	ents	
4. Aquatic resource type that best app	_	_		
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	•	low/oxbow) (3pts)	
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	✓ Other (variable po	, , , ,	
_		_ ` ` '	N UPLAND FOREST	
☐ Peatland (acidic fen or bog) (4pt	s) Intermittent stream reach (2	2pts)		
5. Pool canopy cover (%): 80%				
6. Predominant substrate:	Davids 0			
☐ Mineral soil	Depth: 2		507 70NF	
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepes	t zone, edge,etc.): <u>DEEPI</u>	<u>EST ZONE</u>	
7. Pool sizes:		400.07		
Approximate dimensions of pool (at r Maximum depth at deepest point at t	. ,,,,,,	423.07 12 INCHES OF WATER		
8. Hydrology:	into or survey (include dring).	12 INOTILO OF WATER		
• ••	tual, observed hydroperiod value(s) is(expected hydroperiod of the pool):	(are) known, use the presence	e of these example	
□ Dries between early March and €	early July (e.g., <i>Thelypteris palustris</i> , C	Carex stricta, Impatiens caper	nsis, llex verticillata)(6pts)	
□ Dries between early July and ear	ly September (e.g., Sagittaria latifolia,	, Scirpus cyperinus, Dulichium	n arundinaceum, Cephalanthus occ.)(8pts)	
☐ Dries between early September a	and early November (e.g., <i>Eleocharis</i> ,	palustris, Glyceria canadensi	s, Utricularia spp., Decodon vert.)(8pts)	
Dries between early November a	and late December, or intermittently ex	posed (e.g., Nuphar spp., Po	tamogeton spp.)(8pts)	
How long does pool hold water?	Semi-permanent			
b. Inlet/Outlet (pick one):				
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (c	hannel with well-defined banl	ks and permanent flow) (2 pts)	
☐ Temporary inlet/outlet (6 pts)	·			



9. Water quality:				
☑ Clear ☐ High turbidity	☐ High algae c	ontent		
20 TOTAL for Pool Character	stics (out of 28 m	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HAB	ITAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and approximate percen	tage within the 10	0-ft vernal pool envelope	:	
✓ Forested: 50% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 50%	(0 pts)	
2. Landuse type and approximate percen	tage within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 70% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 30%	(0 pts)	
Are there one or more barriers to v check here and see directions for e				pitat? If so,
Based on:	☐ GIS	☐ Aerial pho	to estimate	
16 TOTAL for Pool Envelope	and Critical Terr	estrial Habitat Area (out o	of 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THI Shrubs: NA	E POOL that can p	rovide egg attachment or o	ffer concealment to aquatic or	developing larvae.
Shrubs: <u>NA</u> Emergent vegetation (grasses, seg	ies riishes cattaile	s): NA		
Submergent vegetation: NA		5). <u>1471</u>		
Dead branches and downed woody mate	rial (branches/twigs	s) available for egg attachm	nent: <u>1 - 10</u>	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Spotted Salamander	5/9/2015	15	Larvae	
Wood Frog	F /0 /004 F			
	5/9/2015	2	Tadpoles	DISPERSED EGG MASSES
	5/9/2015	2	Tadpoles	DISPERSED EGG MASSES WITH TADPOLE.
FACULTATIVE SPECIES			·	1
FACULTATIVE SPECIES Caddisflies	DATE 5/9/2015	ABUNDANCE Few	·	WITH TADPOLE.
	DATE	ABUNDANCE	·	WITH TADPOLE.
	DATE	ABUNDANCE	NC	WITH TADPOLE.
Caddisflies	DATE 5/9/2015	ABUNDANCE Few	NC	WITH TADPOLE. DTES
Caddisflies	DATE 5/9/2015	ABUNDANCE Few	NC NC	WITH TADPOLE. DTES
Caddisflies PREDATOR SPECIES	DATE 5/9/2015 DATE	ABUNDANCE Few ABUNDANCE	NC NC	OTES WITH TADPOLE.
Caddisflies PREDATOR SPECIES OTHER SPECIES	DATE 5/9/2015 DATE DATE	ABUNDANCE Few ABUNDANCE ABUNDANCE	NC NC	OTES WITH TADPOLE.
Caddisflies PREDATOR SPECIES OTHER SPECIES MOSQUITOES	DATE 5/9/2015 DATE DATE 5/9/2015	ABUNDANCE ABUNDANCE ABUNDANCE Few	NC NC	OTES WITH TADPOLE.
Caddisflies PREDATOR SPECIES OTHER SPECIES MOSQUITOES	DATE 5/9/2015 DATE DATE 5/9/2015	ABUNDANCE ABUNDANCE ABUNDANCE Few	NC NC	OTES WITH TADPOLE.
Caddisflies PREDATOR SPECIES OTHER SPECIES MOSQUITOES PICKEREL FROG	DATE 5/9/2015 DATE DATE 5/9/2015 5/9/2015	ABUNDANCE Few ABUNDANCE Few Few Few	NC NC	OTES WITH TADPOLE.



SUMMARY

20 TOTAL for Pool Characteristics

16 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area

Other Comments:

LOCATION TRACT#144.00, MP 22.10

DEVELOPED LAND MEANS OVERHEAD POWERLINE

ACTIVE CONSTRUCTION AT TIME OF VISIT



NORTH



Project File #60328763	Project Name: Northeast Energy Dir	rect Project	Pool ID: PL-AC4	4-VP002
Observer: ED	Phone or email:			
Landowner/Applicant: AESCHBACK	Alice L	Phone or	r email:	
Address: 229 WEST ST	TREET City: P	PLAINFIELD	State: MA	Zip:: 01070
Location of vernal pool:				
Survey date(s):: 5/09/2015	Longitude/Latitude (in decimal	l degrees):	42.50933229, -72.96526	5518
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):			
1. Landscape Setting (check all that a	pply):			
☐ Upland depression (4 pts; if this	s is also in a floodplain, use 2 pts)			
Pool part of a pool complex (wi	thin 1000 feet of one or more other ve	ernal pools)(NA)		
Pool within larger wetland system	em (4 pts; if this is also in a floodplain	ı, use 2 pts)		
☐ Pool part of wildlife corridor (4 p	ots)			
☐ Other (variable pts):				
Pool Origin: Natural Depression				
2. Vernal pool condition:				
Describe any recent modifications to t	he pool and associated landscape:	UP ROOTED	TREE HAS CREATED	THE CREATER FOR THE POOL
3. Parent material:				
☑ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
☐ Dense till	☐ Alluvium	☐ Coastal n	marine sediments	
4. Aquatic resource type that best app	olies to this pool (choose dominan	ıt):		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	s) 🔲 Floor	dplain (overflow/oxbow)	(3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Othe	er (variable points):	
☐ Peatland (acidic fen or bog) (4pt	s) Intermittent stream reach ((2pts)		
5. Pool canopy cover (%): <u>100%</u>				
6. Predominant substrate:				
☐ Mineral soil	Depth: 5			
☑ Organic matter (peat/muck)	Sampling location (e.g.,deepe	st zone, edge,etc.	:.): <u>DEEPEST ZONE</u>	
7. Pool sizes:				
Approximate dimensions of pool (at i		<u>372.66</u>		
Maximum depth at deepest point at t 8. Hydrology:	ime of survey (include units):	<u>5 INCHES O</u>	F WATER	
,	tual, observed hydroperiod value(s) is expected hydroperiod of the pool):	s(are) known, use	the presence of these of	example
·	early July (e.g., <i>Thelypteris palustris</i> ,	Carex stricta, Imp	patiens capensis, llex ve	erticillata)(6pts)
	rly September (e.g., Sagittaria latifolia		•	,,,,
_ , ,	and early November (e.g., <i>Eleochari</i> s			, , , ,
	and late December, or intermittently ex	•		
	•	. (- 3 /	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,.
How long does pool hold water?	Semi-permanent			
b. Inlet/Outlet (pick one):				. (1 .) (2)
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (o	channel with well-	defined banks and pern	nanent flow) (2 pts)
✓ Temporary inlet/outlet (6 pts)				



9. Water quality:							
☑ Clear ☐ High turbidity	☐ High algae co	ntent Tannic					
22 TOTAL for Pool Characteristics (out of 28 max.)							
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	nformation known):			
1. Landuse type and approximate percent	age within the 100	0-ft vernal pool envelope	:				
✓ Forested: 80% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)			
☐ Shrub: <u>%</u> (10 pts)	\square	Developed: 20%	(0 pts)				
2. Landuse type and approximate percent	age within the 100	0-750-ft vernal pool critic	al terrestrial habitat:				
✓ Forested: 90% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)			
☐ Shrub: <u>%</u> (10 pts)	\square	Developed: 10%	(0 pts)				
Are there one or more barriers to vicheck here and see directions for e				tat? If so,			
Based on: Field estimate	☐ GIS	☐ Aerial pho	to estimate				
16 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	of 32 max.)				
C. SPECIES PRESENT IN VERNAL POOL							
Vegetation type and percent cover IN THE Shrubs: NA Emergent vegetation (grasses, seg Submergent vegetation: NA Dead branches and downed woody mater	es, rushes, cattails): <u>NA</u>		developing larvae.			
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES			
Spotted Salamander	5/9/2015	2	Larvae				
FACULTATIVE SPECIES	DATE	ABUNDANCE	NO'	TES			
PREDATOR SPECIES	DATE	ABUNDANCE	NO	TES			
OTHER SPECIES	DATE	ABUNDANCE	NO	TES			
Presence of Indicator Species	 ✓ Yes	□ No					
Were spermatophores observed?	☐ Yes	☑ No					
Were fish observed in the pool?	☐ Yes	☑ No					
SUMMARY							
22 TOTAL for Pool Characteristi	cs	16 TOTAL fo	r Pool Envelope and Critical	Terrestrial Habitat Area			
Other Comments: LOCATION TRACT#144.00 , MP 22.05 DEVELOPED LAND MEANS OVERHEAD P							
DEVELOPED LAND MEANS OVERHEAD P	OWERLINE .						





NORTH



Project File #60328763	Project Name: Northeast Energy Direct	ct Project Pool ID: PL-AC4-V	P003
Observer: ED		Phone or email:	
Landowner/Applicant: HARRISON W	/ILLIAM G SR & MARY E	Phone or email:	
Address: 267 WEST ST	REET City: PL	AINFIELD State: MA	Zip:: 01070
Location of vernal pool:			
Survey date(s):: 5/09/2015	Longitude/Latitude (in decimal d	degrees): 42.50671580, -72.97225858	8
A. VERNAL POOL CHARACTERISTICS	(fill in all information known):		
. Landscape Setting (check all that ap	oply):		
✓ Upland depression (4 pts; if this	is also in a floodplain, use 2 pts)		
☐ Pool part of a pool complex (with	hin 1000 feet of one or more other ver	nal pools)(NA)	
☐ Pool within larger wetland system	m (4 pts; if this is also in a floodplain, u	use 2 pts)	
☐ Pool part of wildlife corridor (4 p	ts)		
Other (variable pts):			
Pool Origin: WITHIN OLD FORSTF	RV ROAD		
. Vernal pool condition:	(TROAD		
Describe any recent modifications to the	ne nool and associated landscape.	DEPRESSION IN OLD FORESTRY ROA	ΔD
Describe any resem meanications to a	to poor and accordated landscape.	DEL REGGION IN GED I GREGINI RO	
. Parent material:			
Glacial fluvial ("outwash")	☐ Loose till	☐ Peat	
✓ Dense till	☐ Alluvium	☐ Coastal marine sediments	
. Aquatic resource type that best app	_	_	
Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	Floodplain (overflow/oxbow) (3)	ots)
☐ Shrub wetland (4pts)	✓ Open water (2 pts)	☐ Other (variable points):	<i></i>
☐ Peatland (acidic fen or bog) (4pts	,	_ , , , ,	
i. Pool canopy cover (%): 40%		ptoy	
5. Predominant substrate:			
Mineral soil	Depth:		
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepest	zone, edge.etc.):	
'. Pool sizes:		<u> </u>	
Approximate dimensions of pool (at m	naximum capacity) (sq. feet):	273.43	
Maximum depth at deepest point at til		5 INCHES OF WATER	
3. Hydrology:			
 a. Estimated hydroperiod (unless actuindicator species to best predict the extension) 		are) known, use the presence of these exa	mple
☐ Dries between early March and e	arly July (e.g., <i>Thelypteris palustris, C</i>	arex stricta, Impatiens capensis, Ilex vertic	cillata)(6pts)
Dries between early July and earl	y September (e.g., Sagittaria latifolia,	Scirpus cyperinus, Dulichium arundinaceu	m, Cephalanthus occ.)(8pts)
□ Dries between early September a	nd early November (e.g., Eleocharis p	palustris, Glyceria canadensis, Utricularia s	spp., Decodon vert.)(8pts)
□ Dries between early November ar	nd late December, or intermittently exp	oosed (e.g., Nuphar spp., Potamogeton sp	p.)(8pts)
How long does pool hold water?	<u>Seasonal</u>		
b. Inlet/Outlet (pick one):			
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (ch	nannel with well-defined banks and perman	ent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)			



9. Wate	er quality:					
	Clear] High turbidity	☐ High algae co	ntent Tannic		
	22 TOTAL	for Pool Characteri	istics (out of 28 ma	ax.)		
B. VER	NAL POOL EN	VELOPE (100 ft) AN	ID CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Land	luse type and a	approximate percen	tage within the 100)-ft vernal pool envelope):	
	Forested: 50	<u>%</u> (16 pts)		Open (e.g., meadow, agri	culture, golf course): %	(4 pts)
	Shrub: <u>%</u>	(10 pts)		Developed: 50%	(0 pts)	
2. Land	luse type and a	pproximate percen	tage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
	Forested: 60		_	Open (e.g., meadow, agri		(4 pts)
	Shrub: <u>%</u>	(10 pts)	<u> </u>	Developed: 40%	(0 pts)	
				ovement within the envelop o incorporate this informat	pe and/or critical terrestrial hab	pitat? If so,
	Based on:	✓ Field estimate	☐ GIS	☐ Aerial pho	to estimate	
	<u>16</u> TOTA	L for Pool Envelope	and Critical Terre	strial Habitat Area (out o	of 32 max.)	
C. SPE	CIES PRESENT	T IN VERNAL POOL				
Vege	etation type and	percent cover IN THE	E POOL that can pro	ovide egg attachment or o	ffer concealment to aquatic or	developing larvae.
	Shrubs:	<u><10%</u>				
	Emergent veg	etation (grasses, seg	ges, rushes, cattails)	: <u>10-50%</u>		
	Submergent v	regetation: <u>NA</u>	:			
Dead	•	•	-	available for egg attachm	nent: <u>1 - 10</u>	
Dead	•	downed woody mater	-	available for egg attachm	nent: 1 - 10 TADPOLES/LARVAE	NOTES
Dead	d branches and	downed woody mater	rial (branches/twigs)	1		NOTES
Dead	INDICATOR	SPECIES amander	rial (branches/twigs)	EGG MASSES (#)	TADPOLES/LARVAE	TADPOLES OBSERVED ON
Dead	INDICATOR Spotted Sal	SPECIES amander	DATE 5/9/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae	
Dead	INDICATOR Spotted Sal	SPECIES amander Frog	DATE 5/9/2015 5/9/2015	18 4	TADPOLES/LARVAE Larvae Tadpoles	TADPOLES OBSERVED ON DISPERSED EGG MASSES
Dead	INDICATOR Spotted Sal	SPECIES amander Frog	DATE 5/9/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae Tadpoles	TADPOLES OBSERVED ON
Dead	INDICATOR Spotted Sal Wood I	SPECIES amander Frog E SPECIES Siflies	DATE 5/9/2015 5/9/2015 DATE	EGG MASSES (#) 18 4 ABUNDANCE	TADPOLES/LARVAE Larvae Tadpoles	TADPOLES OBSERVED ON DISPERSED EGG MASSES
Dead	INDICATOR Spotted Sal Wood I FACULTATIV Caddis	SPECIES amander Frog E SPECIES Siflies	DATE 5/9/2015 DATE 5/9/2015 DATE 5/9/2015	EGG MASSES (#) 18 4 ABUNDANCE Few	TADPOLES/LARVAE Larvae Tadpoles	TADPOLES OBSERVED ON DISPERSED EGG MASSES
Dead	INDICATOR Spotted Sal Wood I FACULTATIV Caddis	SPECIES amander Frog E SPECIES filies LARVAE	DATE 5/9/2015 DATE 5/9/2015 DATE 5/9/2015	EGG MASSES (#) 18 4 ABUNDANCE Few	TADPOLES/LARVAE Larvae Tadpoles	TADPOLES OBSERVED ON DISPERSED EGG MASSES
Dead	INDICATOR Spotted Sal Wood I FACULTATIV Caddis MOSQUITO	SPECIES amander Frog E SPECIES filies LARVAE	DATE 5/9/2015 5/9/2015 DATE 5/9/2015 5/9/2015	EGG MASSES (#) 18 4 ABUNDANCE Few Many	TADPOLES/LARVAE Larvae Tadpoles	TADPOLES OBSERVED ON DISPERSED EGG MASSES
Dead	INDICATOR Spotted Sal Wood I FACULTATIV Caddis MOSQUITO	SPECIES SPECIES SPECIES SPECIES SPECIES SPECIES	DATE 5/9/2015 5/9/2015 DATE 5/9/2015 5/9/2015	EGG MASSES (#) 18 4 ABUNDANCE Few Many	TADPOLES/LARVAE Larvae Tadpoles NO	TADPOLES OBSERVED ON DISPERSED EGG MASSES
Dead	INDICATOR Spotted Sal Wood I FACULTATIV Caddis MOSQUITO	SPECIES SPECIES SPECIES SPECIES SPECIES PECIES	DATE 5/9/2015 DATE 5/9/2015 DATE 5/9/2015 DATE 5/9/2015 DATE 5/9/2015	ABUNDANCE ABUNDANCE Few Many ABUNDANCE	TADPOLES/LARVAE Larvae Tadpoles NO	TADPOLES OBSERVED ON DISPERSED EGG MASSES DTES
Dead	INDICATOR Spotted Sal Wood I FACULTATIV Caddis MOSQUITO PREDATOR OTHER SI	SPECIES SPECIES SPECIES SPECIES SPECIES PECIES	DATE 5/9/2015 DATE 5/9/2015 DATE 5/9/2015 DATE 5/9/2015 DATE DATE DATE	ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Larvae Tadpoles NO	TADPOLES OBSERVED ON DISPERSED EGG MASSES DTES
	INDICATOR Spotted Sal Wood I FACULTATIV Caddis MOSQUITO PREDATOR OTHER SI	SPECIES amander Frog E SPECIES of LARVAE SPECIES PECIES TS	DATE 5/9/2015 DATE 5/9/2015 DATE 5/9/2015 DATE 5/9/2015 DATE 5/9/2015 DATE DATE 5/9/2015	ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Larvae Tadpoles NO	TADPOLES OBSERVED ON DISPERSED EGG MASSES DTES
Present	INDICATOR Spotted Sal Wood I FACULTATIV Caddis MOSQUITO PREDATOR OTHER SI NEW	SPECIES TS Species	DATE 5/9/2015 DATE 5/9/2015 DATE 5/9/2015 DATE 5/9/2015 DATE DATE DATE DATE V/9/2015	ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE Few ABUNDANCE Few	TADPOLES/LARVAE Larvae Tadpoles NO	TADPOLES OBSERVED ON DISPERSED EGG MASSES DTES



SUMMARY

22 TOTAL for Pool Characteristics

16 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area

Other Comments:

LOCATION TRACT#143.00, MP 21.65

DEVELOPED LAND MEANS OVERHEAD POWERLINE CORRIDOR



SOUTH



Project File #60328763	Project Name: Northeast Energy Di	irect Project	Pool ID: PL-AC4-	VP004	
Observer: ED	Phone or email:				
Landowner/Applicant: WESTERN N	MASS ELECTRIC CO	Phone or e	mail:		
Address: PROSPECT	STREET City: I	PLAINFIELD	State: MA	Zip:: 01070	
Location of vernal pool:					
Survey date(s):: 5/12/2015	Longitude/Latitude (in decima	al degrees): 42.	51490199, -72.943416	28	
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):				
1. Landscape Setting (check all that	apply):				
☐ Upland depression (4 pts; if th	is is also in a floodplain, use 2 pts)				
✓ Pool part of a pool complex (was a pool complex (was a pool complex).	vithin 1000 feet of one or more other v	vernal pools)(NA)			
Pool within larger wetland sys	tem (4 pts; if this is also in a floodplain	n, use 2 pts)			
□ Pool part of wildlife corridor (4	pts)				
☐ Other (variable pts):					
Pool Origin: Small pond/construc	ted pond				
2. Vernal pool condition:	•				
Describe any recent modifications to	the pool and associated landscape:	ACTIVE BEAVE	R SITE		
3. Parent material:					
☑ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat			
☐ Dense till	☐ Alluvium	☐ Coastal mai	rine sediments		
4. Aquatic resource type that best ap	pplies to this pool (choose dominar	nt):			
☐ Forested wetland (4pts)	☑ Herbaceous wetland (4pt)	s) 🔲 Floodpl	lain (overflow/oxbow) (3pts)	
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable points):		
☐ Peatland (acidic fen or bog) (4p	ots)	(2pts)			
5. Pool canopy cover (%): 0%					
6. Predominant substrate:					
☐ Mineral soil	Depth: 10				
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.):	DEEPEST ZONE		
7. Pool sizes:					
Approximate dimensions of pool (at	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u>18597.17</u>			
Maximum depth at deepest point at	time of survey (include units):	30 INCHES			
8. Hydrology:	ctual, observed hydroperiod value(s) i	is(ara) known usa th	a presence of these av	vamnle	
indicator species to best predict the		is(are) known, use in	e presence of these ex	ampie	
□ Dries between early March and	early July (e.g., Thelypteris palustris,	, Carex stricta, Impat	iens capensis, llex vert	ticillata)(6pts)	
□ Dries between early July and early	arly September (e.g., Sagittaria latifoli	ia, Scirpus cyperinus	, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)	
□ Dries between early September	and early November (e.g., Eleochari	is palustris, Glyceria	canadensis, Utricularia	spp., Decodon vert.)(8pts)	
Dries between early November	and late December, or intermittently	exposed (e.g., <i>Nuphε</i>	ar spp., Potamogeton s	pp.)(8pts)	
How long does pool hold water?	Semi-permanent				
b. Inlet/Outlet (pick one):	Som pormanore				
☐ No inlet/outlet (8 pts)	Permanent inlet or outlet	(channel with well-de	fined banks and nerms	anent flow) (2 pts)	
☐ Temporary inlet/outlet (6 pts)	E : S.M.S.Morte Infort of Outlot	(Za and point		



	Clear	☐ Higl	h turbidity	☐ High algae c	ontent 🗹 Tanni		
	<u>18</u> TOT	ΓAL for P	ool Character	istics (out of 28 m	nax.)		
B. VERI	NAL POOL	ENVELO	PE (100 ft) AN	ID CRITICAL HAB	ITAT AREA (100-750	ft) CHARACTERISTICS (fi	II in all information known):
1. Land	use type ar	nd approx	ximate percen	tage within the 10	00-ft vernal pool env	elope:	
\checkmark	Forested:	<u>50%</u>	(16 pts)		Open (e.g., meadow	, agriculture, golf course):	<u>%</u> (4 pts)
\checkmark	Shrub:	<u>30%</u>	(10 pts)	\square	Developed: 20%	(0 pts)	
2. Land	use type ar	nd approx	kimate percen	tage within the 10	00-750-ft vernal pool	critical terrestrial habitat:	
\checkmark	Forested:	<u>70%</u>	(16 pts)		Open (e.g., meadow	, agriculture, golf course):	<u>%</u> (4 pts)
\checkmark	Shrub:	<u>20%</u>	(10 pts)	☑	Developed: 10%	(0 pts)	
					novement within the en to incorporate this inf	nvelope and/or critical terrestormation.	trial habitat? If so,
	Based on:	☑ Fi	ield estimate	☐ GIS	☐ Aeria	al photo estimate	
	<u>26</u> TO	TAL for I	Pool Envelope	and Critical Terr	estrial Habitat Area	out of 32 max.)	
C. SPE	CIES PRES	ENT IN V	ERNAL POOL				
Vege	tation type a	and percei	nt cover IN TH	E POOL that can p	rovide egg attachmer	t or offer concealment to aqu	uatic or developing larvae.
	Shrubs:	<u><10%</u>					
	_	-		ges, rushes, cattail	s): <u>>50%</u>		
	Submerge	•		· <u>50%</u>			
Dead branches and downed woody material (branches/twigs) available for egg attachment: greater than 10							
	INDICAT	OR SPEC	CIES	DATE	EGG MASSES	#) TADPOLES/LAR	VAE NOTES
	INDICAT Blue-spotte			DATE 5/12/2015	EGG MASSES (#) TADPOLES/LARV	VAE NOTES
	Blue-spotte		ander				VAE NOTES
	Blue-spotte	ed Salama	ander	5/12/2015	7	Larvae	VAE NOTES
	Blue-spotte	ed Salama	ander	5/12/2015	7	Larvae Larvae	NOTES NOTES
	Spotted FACULTA	ed Salama	ander	5/12/2015 5/12/2015	37	Larvae Larvae	
	Spotted FACULTA Cac	ed Salama	der ECIES	5/12/2015 5/12/2015 DATE	7 37 ABUNDANCE	Larvae Larvae	
	Spotted FACULTA Cac	ed Salamand Salamand TIVE SPE	der ECIES	5/12/2015 5/12/2015 DATE 5/12/2015	7 37 ABUNDANCE Common	Larvae Larvae	
	Spotted FACULTA Cac Sprin	ed Salamand Salamand TIVE SPE	ander der ECIES	5/12/2015 5/12/2015 DATE 5/12/2015	7 37 ABUNDANCE Common	Larvae	
	Spotted FACULTA Cac Sprin	Salamano TIVE SPE ddisflies ng Peeper	ander der ECIES	5/12/2015 5/12/2015 DATE 5/12/2015 5/12/2015	7 37 ABUNDANCE Common Common	Larvae	NOTES
	Spotted FACULTA Cac Sprin	Salamano TIVE SPE ddisflies ng Peeper	ander der ECIES	5/12/2015 5/12/2015 DATE 5/12/2015 5/12/2015 DATE	7 37 ABUNDANCE Common Common	Larvae	NOTES
	Spotted FACULTA Cac Sprin PREDAT BUL	Salamano TIVE SPE ddisflies ng Peeper	ander der ECIES	5/12/2015 5/12/2015 DATE 5/12/2015 5/12/2015 DATE	7 37 ABUNDANCE Common Common	Larvae	NOTES
	Spotted FACULTA Cac Sprin PREDAT BUL	Salamand Salamand TIVE SPE ddisflies ag Peeper OR SPEC	ander der ECIES	5/12/2015 5/12/2015 DATE 5/12/2015 5/12/2015 DATE 5/12/2015	7 37 ABUNDANCE Common Common ABUNDANCE Common	Larvae	NOTES
PRI	Spotted FACULTA Cac Sprin PREDAT BUL	Salamano Sal	ander der ECIES CIES ES RS	5/12/2015 5/12/2015 DATE 5/12/2015 5/12/2015 DATE 5/12/2015 DATE 5/12/2015	7 37 ABUNDANCE Common Common ABUNDANCE Common	Larvae	NOTES
PRI	FACULTA Cac Sprin PREDAT BUL OTHER	Salamano Sal	ander der ECIES CIES ES RS	5/12/2015 5/12/2015 DATE 5/12/2015 5/12/2015 DATE 5/12/2015 DATE 5/12/2015	7 37 ABUNDANCE Common Common ABUNDANCE Common ABUNDANCE Many	Larvae	NOTES
	FACULTA Cac Sprin PREDAT BUL OTHER	Salamano Sal	ECIES ES RS BEETLES	5/12/2015 5/12/2015 DATE 5/12/2015 5/12/2015 DATE 5/12/2015 DATE 5/12/2015	7 37 ABUNDANCE Common Common ABUNDANCE Common ABUNDANCE Many	Larvae	NOTES
Presenc	Spotted FACULTA Cac Sprin PREDAT BUL OTHER WATER	Salamano Sal	ander der ECIES ES RS BEETLES	5/12/2015 5/12/2015 DATE 5/12/2015 5/12/2015 DATE 5/12/2015 DATE 5/12/2015 5/12/2015	7 37 ABUNDANCE Common Common ABUNDANCE Common ABUNDANCE Many Few	Larvae	NOTES
Presend Were sp	FACULTA Cac Sprin PREDAT BUL OTHER WATER EDACEOUS	Salamano Sal	ander der ECIES ES RS BEETLES ies	5/12/2015 5/12/2015 DATE 5/12/2015 5/12/2015 DATE 5/12/2015 DATE 5/12/2015 VARIANCE 5/12/2015 The second of the secon	7 37 ABUNDANCE Common Common ABUNDANCE Common ABUNDANCE Many Few	Larvae	NOTES

9. Water quality:



SUMMARY

18 TOTAL for Pool Characteristics

26 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area

Other Comments:

LOCATION TRACT# 146.00, MP 23.25

DEVELOPED MEANS OVERHEAD POWERLINE CORRIDOR

PSS COMPLEX CONTINUES NORTH OUT OF CORRIDOR AND INTO RED PARCEL APPEARS TO BE A VERNAL POOL



NORTH



Project File #60328763 Proj	ect Name: Northeast Energy Dire	ct Project	Pool ID: PL-AC4-V	/P005	
Observer: JW	Phone or email:				
Landowner/Applicant: WESTERN MASS	ELECTRIC CO	Phone or ema	ail:		
Address: WEST MAIN STRE	EET City: PL	AINFIELD	State: MA	Zip:: 01070	
Location of vernal pool:					
Survey date(s):: 5/13/2015	Longitude/Latitude (in decimal of	degrees): 42.52	410576, -72.9191004	18	
A. VERNAL POOL CHARACTERISTICS (fil	I in all information known):				
1. Landscape Setting (check all that apply):				
☐ Upland depression (4 pts; if this is a	lso in a floodplain, use 2 pts)				
☐ Pool part of a pool complex (within	1000 feet of one or more other ver	rnal pools)(NA)			
☑ Pool within larger wetland system (4)	pts; if this is also in a floodplain,	use 2 pts)			
☐ Pool part of wildlife corridor (4 pts)					
☐ Other (variable pts):					
Pool Origin: Natural, but altered					
2. Vernal pool condition:					
Describe any recent modifications to the po	ool and associated landscape:	OLD ACCESS RO NATURAL PEM	AD ALONG ROW, TII	RE RUTS THROUGH	
3. Parent material:					
☐ Glacial fluvial ("outwash") ☐	Loose till	☐ Peat			
☑ Dense till □	Alluvium	☐ Coastal marin	e sediments		
4. Aquatic resource type that best applies	to this pool (choose dominant)):			
☐ Forested wetland (4pts)	☑ Herbaceous wetland (4pts)	☐ Floodplai	in (overflow/oxbow) (3	3pts)	
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (va	riable points):		
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2	pts)			
5. Pool canopy cover (%): 0%					
6. Predominant substrate:					
☐ Mineral soil	Depth: 4				
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepes	t zone, edge,etc.):	DEEPEST ZONE		
7. Pool sizes:					
Approximate dimensions of pool (at maxii	,	<u>807.54</u>			
Maximum depth at deepest point at time of	of survey (include units):	<u>6</u>			
8. Hydrology:a. Estimated hydroperiod (unless actual,	observed hydroperiod value(s) is(are) known use the	nresence of these ev	amnla	
indicator species to best predict the exper	cted hydroperiod of the pool):				
☐ Dries between early March and early		•			
☑ Dries between early July and early Se					
☐ Dries between early September and e	early November (e.g., <i>Eleocharis</i>)	palustris, Glyceria ca	nadensis, Utricularia	spp., Decodon vert.)(8pts)	
☐ Dries between early November and la	ate December, or intermittently ex	posed (e.g., <i>Nuphar</i>	spp., Potamogeton sp	op.)(8pts)	
How long does pool hold water? Sea	<u>isonal</u>				
b. Inlet/Outlet (pick one):					
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (cl	nannel with well-defir	ned banks and perman	nent flow) (2 pts)	
✓ Temporary inlet/outlet (6 pts)					



9. Water quality:							
☐ Clear ☐ High turbidity	☐ High algae co	ntent Tannic					
22 TOTAL for Pool Characteristics (out of 28 max.)							
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABI	TAT AREA (100-750 ft) CI	HARACTERISTICS (fill in all i	nformation known):			
1. Landuse type and approximate percent	tage within the 100	0-ft vernal pool envelope:	:				
✓ Forested: 15% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 70%	(4 pts)			
☐ Shrub: <u>%</u> (10 pts)		Developed: 15%	(0 pts)				
2. Landuse type and approximate percent	tage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:				
✓ Forested: 20% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 70%	(4 pts)			
☐ Shrub: <u>%</u> (10 pts)		Developed: 10%	(0 pts)				
Are there one or more barriers to v check here and see directions for e				itat? If so,			
Based on:	☐ GIS	☐ Aerial phot	to estimate				
20 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)				
C. SPECIES PRESENT IN VERNAL POOL							
		and de a ser attaches ant an at		davalania a lamba			
Vegetation type and percent cover IN THE Shrubs: NA	E POOL that can pr	ovide egg attachment or of	ner conceaiment to aquatic or o	developing larvae.			
Shrubs: <u>NA</u> Emergent vegetation (grasses, sec	ios rushos cattails): >50%					
Submergent vegetation: <10). <u>20076</u>					
Dead branches and downed woody mater) available for aga attachm					
		i avallable ioi euu allaciiii	ent: 1 - 10				
,							
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES			
INDICATOR SPECIES Spotted Salamander		EGG MASSES (#)	TADPOLES/LARVAE Larvae	NOTES			
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES			
INDICATOR SPECIES Spotted Salamander	DATE 5/13/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae	NOTES			
INDICATOR SPECIES Spotted Salamander	DATE 5/13/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae Tadpoles	NOTES TES			
INDICATOR SPECIES Spotted Salamander Wood Frog	DATE 5/13/2015 5/13/2015	EGG MASSES (#) 1 3	TADPOLES/LARVAE Larvae Tadpoles				
INDICATOR SPECIES Spotted Salamander Wood Frog	DATE 5/13/2015 5/13/2015	EGG MASSES (#) 1 3	TADPOLES/LARVAE Larvae Tadpoles				
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 5/13/2015 5/13/2015 DATE DATE	EGG MASSES (#) 1 3 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Larvae Tadpoles NO	TES			
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES	DATE 5/13/2015 5/13/2015 DATE DATE DATE	EGG MASSES (#) 1 3 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Larvae Tadpoles NO	TES			
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 5/13/2015 5/13/2015 DATE DATE	EGG MASSES (#) 1 3 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Larvae Tadpoles NO	TES			
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES	DATE 5/13/2015 5/13/2015 DATE DATE DATE	EGG MASSES (#) 1 3 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Larvae Tadpoles NO	TES			
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES WATER STRIDER	DATE 5/13/2015 5/13/2015 DATE DATE DATE DATE 5/13/2015	EGG MASSES (#) 1 3 ABUNDANCE ABUNDANCE Few	TADPOLES/LARVAE Larvae Tadpoles NO	TES			
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES	DATE 5/13/2015 5/13/2015 DATE DATE DATE DATE 5/13/2015	EGG MASSES (#) 1 3 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Larvae Tadpoles NO	TES			
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES WATER STRIDER	DATE 5/13/2015 5/13/2015 DATE DATE DATE 5/13/2015 ✓ Yes	EGG MASSES (#) 1 3 ABUNDANCE ABUNDANCE Few	TADPOLES/LARVAE Larvae Tadpoles NO	TES			
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES WATER STRIDER Presence of Indicator Species	DATE 5/13/2015 5/13/2015 DATE DATE DATE 5/13/2015 ✓ Yes ☐ Yes	EGG MASSES (#) 1 3 ABUNDANCE ABUNDANCE Few	TADPOLES/LARVAE Larvae Tadpoles NO	TES			
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES WATER STRIDER Presence of Indicator Species Were spermatophores observed?	DATE 5/13/2015 5/13/2015 DATE DATE DATE 5/13/2015 ✓ Yes ☐ Yes	EGG MASSES (#) 1 3 ABUNDANCE ABUNDANCE Few No	TADPOLES/LARVAE Larvae Tadpoles NO	TES			
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES WATER STRIDER Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 5/13/2015 5/13/2015 DATE DATE DATE 5/13/2015 ✓ Yes ☐ Yes ☐ Yes ☐ Yes	EGG MASSES (#) 1 3 ABUNDANCE ABUNDANCE Few No No	TADPOLES/LARVAE Larvae Tadpoles NO	TES TES			
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES WATER STRIDER Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	DATE 5/13/2015 5/13/2015 DATE DATE DATE 5/13/2015 ✓ Yes ☐ Yes ☐ Yes ☐ Yes	EGG MASSES (#) 1 3 ABUNDANCE ABUNDANCE Few No No	TADPOLES/LARVAE Larvae Tadpoles NO	TES TES			





NORTH



Project File #60328763 Proj	ject Name: Northeast Energy Dire	ect Project Po	ol ID: PL-AC4-VP	006
Observer: JW		Phone or email:		
Landowner/Applicant: CLARK DANA M	BRIAN E & AARON W	Phone or email:		
Address: PARSONS AVENU	JE City: PI	PLAINFIELD S	State: MA	Zip:: 01070
Location of vernal pool:				
Survey date(s):: 5/13/2015	Longitude/Latitude (in decimal	degrees): 42.52408	8029, -72.90236233	
A. VERNAL POOL CHARACTERISTICS (fil	I in all information known):			
1. Landscape Setting (check all that apply):			
☐ Upland depression (4 pts; if this is a	lso in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (within 1	1000 feet of one or more other ve	ernal pools)(NA)		
☑ Pool within larger wetland system (4)	pts; if this is also in a floodplain,	, use 2 pts)		
☐ Pool part of wildlife corridor (4 pts)				
☐ Other (variable pts):				
Pool Origin: Natural, but altered				
2. Vernal pool condition:				
Describe any recent modifications to the po	ool and associated landscape:	NORTH SIDE IN ACC ROW, SOUTH SIDE P		ELOPED POWERLINE
3. Parent material:				
☑ Glacial fluvial ("outwash") □	Loose till	☐ Peat		
☐ Dense till ☐	Alluvium	☐ Coastal marine set	ediments	
4. Aquatic resource type that best applies	to this pool (choose dominant	t):		
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts))	verflow/oxbow) (3pt	s)
☑ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variab	ele points):	
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2	(2pts)		
5. Pool canopy cover (%): 0%				
6. Predominant substrate:				
☐ Mineral soil	Depth: 6			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepes	st zone, edge,etc.): <u>DE</u>	EEPEST ZONE	
7. Pool sizes:				
Approximate dimensions of pool (at maxiii Maximum depth at deepest point at time of	, . ,	<u>17889.55</u> 7 INCHES		
8. Hydrology:	in survey (include units).	<u>/ INCLIES</u>		
a. Estimated hydroperiod (unless actual, indicator species to best predict the experience)		s(are) known, use the pres	sence of these exam	ple
☐ Dries between early March and early	July (e.g., Thelypteris palustris, (Carex stricta, Impatiens c	apensis, llex verticil	lata)(6pts)
☑ Dries between early July and early Se	eptember (e.g., Sagittaria latifolia	a, Scirpus cyperinus, Dulic	chium arundinaceum	n, Cephalanthus occ.)(8pts)
☐ Dries between early September and e	early November (e.g., <i>Eleochari</i> s	palustris, Glyceria canad	lensis, Utricularia sp	p., Decodon vert.)(8pts)
☐ Dries between early November and la	ate December, or intermittently ex	xposed (e.g., Nuphar spp.	., Potamogeton spp.)(8pts)
How long does pool hold water? Sea	asonal			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☑ Permanent inlet or outlet (continue)	channel with well-defined	banks and permane	ent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)				



9. Water quality:						
☐ Clear ☐ High turbidity	☑ High algae cor	ntent				
18 TOTAL for Pool Characteristics (out of 28 max.)						
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABI	ΓΑΤ AREA (100-750 ft) C	HARACTERISTICS (fill in all i	nformation known):		
1. Landuse type and approximate percent	age within the 100)-ft vernal pool envelope	:			
✓ Forested: 25% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)		
✓ Shrub: <u>70%</u> (10 pts)		Developed: <u>5%</u>	(0 pts)			
2. Landuse type and approximate percent	age within the 100	-750-ft vernal pool critic	al terrestrial habitat:			
✓ Forested: 45% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)		
✓ Shrub: 45% (10 pts)		Developed: 10%	(0 pts)			
Are there one or more barriers to vertheck here and see directions for e				itat? If so,		
Based on:	☐ GIS	☐ Aerial phot	to estimate			
26 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)			
C. SPECIES PRESENT IN VERNAL POOL						
Vegetation type and percent cover IN THE	POOL that can pro	ovide egg attachment or of	ffer concealment to aquatic or o	developing larvae		
Shrubs: >50%	OOL mat oan pro	oriae egg anaeimient er ei	sonosamioni to aquatio or t	zovolopilig iai raoi		
Emergent vegetation (grasses, seg	es, rushes, cattails)	: <u>10-50%</u>				
Submergent vegetation: <10	<u> 1%</u>					
Dead branches and downed woody mater	ial (branches/twigs)	available for egg attachm	ent: greater than 10			
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES		
Spotted Salamander	5/13/2015	43	Larvae	NOTEO		
Wood Frog	5/13/2015	5	Tadpoles			
Fairy Shrimp	5/13/2015	5	Few			
Blue-spotted Salamander	5/13/2015	2	Larvae			
Blue spotted calamander	0/10/2010	-	Laivae			
FACULTATIVE SPECIES	DATE	ABUNDANCE	NO	TES		
FACULTATIVE SPECIES	DATE	ABUNDANCE	NO	TES		
PREDATOR SPECIES	DATE	ABUNDANCE	NO	TES		
OTHER SPECIES	DATE	ABUNDANCE	NO	TES		
MAYFLY	5/13/2015	Few				
Presence of Indicator Species	☑ Yes	□ No				
Were spermatophores observed?	☐ Yes	√ No				
Were fish observed in the pool?	☐ Yes	√ No				
SUMMARY						
18 TOTAL for Pool Characteristi	cs	26 TOTAL fo	r Pool Envelope and Critical	Terrestrial Habitat Area		
Other Comments:						
LOCATION TRACT# 165.00 ,MP 25.60						





EAST



Proj	ect File #60328763	Project Name: Northeast Energy	Direct Project	Pool ID: PL-AC4-	-VP007
Obs	erver: JW		Phone or ema	il:	
Land	downer/Applicant: CLARK DANA	M BRIAN E & AARON W	Phone or ema	il:	
Add	ress: PARSONS AV	ENUE City:	PLAINFIELD	State: MA	Zip:: 01070
Loca	ation of vernal pool:				
Surv	vey date(s):: 5/13/2015	Longitude/Latitude (in decir	nal degrees): 42.523	387528, -72.908016	392
A. VEF	RNAL POOL CHARACTERISTICS	6 (fill in all information known):			
1. Lan	dscape Setting (check all that ap	oply):			
] Upland depression (4 pts; if this	is also in a floodplain, use 2 pts)			
	Pool part of a pool complex (wit	hin 1000 feet of one or more other	r vernal pools)(NA)		
v	Pool within larger wetland syste	m (4 pts; if this is also in a floodpla	ain, use 2 pts)		
	Pool part of wildlife corridor (4 p	ts)			
	Other (variable pts):				
Poo	l Origin: Ditch along road or rut	from vehicle			
2. Ver	nal pool condition:				
Des	cribe any recent modifications to the	ne pool and associated landscape	: RECENT ACCESS	ROAD ACTIVITIES	S CREATED DEEP RUT
3. Par	ent material:				
	Glacial fluvial ("outwash")	□ Loose till	☐ Peat		
	Dense till	☐ Alluvium	☐ Coastal marine	e sediments	
4. Aqu	atic resource type that best app	lies to this pool (choose domin	ant):		
	Forested wetland (4pts)	☐ Herbaceous wetland (4)	ots) 🔲 Floodplain	n (overflow/oxbow) ((3pts)
	Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (var	riable points):	
	Peatland (acidic fen or bog) (4pts) Intermittent stream read	:h (2pts)		
5. Poo	ol canopy cover (%): 0%				
6. Pre	dominant substrate:				
	Mineral soil	Depth: 6			
	Organic matter (peat/muck)	Sampling location (e.g.,dee	pest zone, edge,etc.):	DEEPEST ZONE	
7. Poc	ol sizes:				
•	proximate dimensions of pool (at n	. ,,,,,,	<u>712.86</u>		
	ximum depth at deepest point at ti	me of survey (include units):	7 INCHES		
-	Irology: Estimated hydroperiod (unless actu	ial observed hydroneriod value(s) is(are) known use the r	oresence of these e	vamnla
	icator species to best predict the e			reserice of these ex	Admple
	Dries between early March and e	arly July (e.g., Thelypteris palustr	is, Carex stricta, Impatien	s capensis, llex ver	rticillata)(6pts)
	Dries between early July and earl	y September (e.g., Sagittaria latif	olia, Scirpus cyperinus, D	ulichium arundinace	eum, Cephalanthus occ.)(8pts)
	Dries between early September a	and early November (e.g., <i>Eleocha</i>	aris palustris, Glyceria car	nadensis, Utricularia	a spp., Decodon vert.)(8pts)
	Dries between early November ar	nd late December, or intermittently	y exposed (e.g., <i>Nuphar</i> s	pp., Potamogeton s	spp.)(8pts)
Н	low long does pool hold water?	<u>Seasonal</u>			
	nlet/Outlet (pick one):				
	No inlet/outlet (8 pts)	□ Permanent inlet or outlet	et (channel with well-define	ed banks and perm	anent flow) (2 pts)
	Temporary inlet/outlet (6 pts)	_ · · · · · · · · · · · · · · · · · · ·	- (-) Common man won domin	Jame and point	



9. Wate	r quality:										
	Clear	ПН	ligh turbidity		High algae c	onte	nt 🔲 Ta	nnic			
	<u>22</u> TOT	TAL for	Pool Character	istics	(out of 28 m	nax.))				
B. VER	NAL POOL	ENVEL	OPE (100 ft) AN	D CR	ITICAL HAB	ITA	T AREA (100-	750 ft) CH	ARACTERISTICS (1	fill in all i	information known):
1. Land	use type ar	nd appı	roximate percen	tage	within the 10	00-ft	vernal pool e	envelope:			
$\overline{\checkmark}$	Forested:	<u>50%</u>	(16 pts)			Ор	en (e.g., mead	dow, agricu	ılture, golf course):	<u>%</u>	(4 pts)
\checkmark	Shrub:	<u>25%</u>	(10 pts)		\checkmark	De	veloped: 2	<u>25%</u>	(0 pts)		
2. Land	use type ar	nd appr	roximate percen	tage	within the 10	00-7	50-ft vernal po	ool critica	l terrestrial habitat:		
\checkmark	Forested:	<u>70%</u>	(16 pts)			Op	en (e.g., mead	dow, agricı	ulture, golf course):	<u>%</u>	(4 pts)
$\overline{\mathbf{V}}$	Shrub:	<u>25%</u>	(10 pts)			De	veloped:	<u>5%</u>	(0 pts)		
			more barriers to v						e and/or critical terres	strial habi	itat? If so,
	Based on:		Field estimate		☐ GIS		□ A	erial photo	estimate		
	<u>26</u> TO	TAL fo	or Pool Envelope	and	Critical Terr	estr	ial Habitat Ard	ea (out of	32 max.)		
C. SPE	CIES PRES	ENT IN	VERNAL POOL								
Vege	tation type a	and per	cent cover IN TH	E PO	OL that can p	rovi	de egg attachr	ment or off	er concealment to ac	quatic or	developing larvae.
	Shrubs:	<u><10</u>	<u>)%</u>								
	Emergent	vegetat	tion (grasses, seg	jes, ru	ushes, cattail	s):	<u><10%</u>				
	Submerge	nt vege	etation: <u>NA</u>								
Dead	branches a	nd dow	ned woody mate	rial (b	ranches/twig	s) av	ailable for egg	g attachme	nt: greater than 10		
	INDICAT	OR SP	ECIES		DATE		EGG MASSE	ES (#)	TADPOLES/LAR	VAE	NOTES
	Spotted	Salama	ander		5/13/2015		4		Larvae		
						T					
	FACULTA	TIVE S	PECIES		DATE		ABUNDAN	ICE		NO	TES
	MOSQU	ITO LA	RVAE		5/13/2015		Commor	n			
						\top					
	PREDAT	OR SP	ECIES		DATE		ABUNDAN	ICE		NO	TES
	BUL	L FRO	G		5/13/2015		Few				
	OTHER	R SPEC	CIES		DATE		ABUNDAN	ICE		NO	TES
Dresen	ce of Indica	tor Sne	ocios	L7(Yes	_	No				
				_							
	ermatopho				Yes	_	No				
Were fis	sh observed	in the p	pool?		Yes		No				
SUMMA	RY										
	22 TOTA	L for P	ool Characterist	ics			<u>26</u> T	OTAL for	Pool Envelope and	Critical	Terrestrial Habitat Area
Other C	omments:										
	ON TRACT	# 165.0	00 ,MP 25.30								





NW



Project File #60328763	3 Proje	ect Name: Northeast Energy Di	rect Project	Pool ID: PL-AC4-V	P008
Observer: JW			Phone or	email:	
Landowner/Applicant:	PYTKO ROBERT		Phone or	email:	
Address:	NORTH UNION ST	REET City: F	PLAINFIELD	State: MA	Zip:: 01070
Location of vernal pool	:				
Survey date(s):: 5/13	3/2015	Longitude/Latitude (in decima	ıl degrees): 42	2.52444393, -72.9118615	9
A. VERNAL POOL CHA	RACTERISTICS (fill	in all information known):			
1. Landscape Setting (c	heck all that apply):			
☐ Upland depress	ion (4 pts; if this is al	so in a floodplain, use 2 pts)			
☐ Pool part of a po	ool complex (within 1	000 feet of one or more other v	ernal pools)(NA)		
☑ Pool within large	er wetland system (4	pts; if this is also in a floodplair	າ, use 2 pts)		
☐ Pool part of wild	llife corridor (4 pts)				
☐ Other (variable	pts):				
Pool Origin: Natura	al Depression				
2. Vernal pool condition	·				
Describe any recent m	odifications to the po	ool and associated landscape:			
3. Parent material:					
☑ Glacial fluvial ("outline outline outli	itwash")	Loose till	☐ Peat		
□ Dense till		Alluvium	☐ Coastal ma	arine sediments	
4. Aquatic resource typ	e that best applies	to this pool (choose dominar	ıt):		
☐ Forested wetland	(4pts)	☑ Herbaceous wetland (4pts)	s) 🔲 Flood	plain (overflow/oxbow) (3p	pts)
☐ Shrub wetland (4	pts)	☐ Open water (2 pts)	☐ Other	(variable points):	
☐ Peatland (acidic f	en or bog) (4pts)	☐ Intermittent stream reach	(2pts)		
5. Pool canopy cover (%	%) : <u>10%</u>				
6. Predominant substra	te:				
		Depth: 4			
✓ Organic matter (p	eat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.)	: DEEPEST ZONE	
7. Pool sizes:					
		num capacity) (sq. feet):	<u>791.52</u>		
	epest point at time of	of survey (include units):	8 INCHES		
8. Hydrology:	riad (unless actual a	phoerwood by dropperiod value(a) in	a(ara) known waa t	the presence of these eye	amala
indicator species to b	est predict the expec	observed hydroperiod value(s) is cted hydroperiod of the pool):			
_		July (e.g., <i>Thelypteris palustris,</i>	•	•	,
☑ Dries between ea	rly July and early Se	ptember (e.g., <i>Sagittaria latifoli</i>	a, Scirpus cyperinu	s, Dulichium arundinaceu	ım, Cephalanthus occ.)(8pts)
☐ Dries between ea	rly September and e	early November (e.g., <i>Eleochari</i> s	s palustris, Glyceria	a canadensis, Utricularia s	spp., Decodon vert.)(8pts)
□ Dries between ea	rly November and la	te December, or intermittently e	exposed (e.g., Nuph	nar spp., Potamogeton sp	p.)(8pts)
How long does pool	hold water? Sea	<u>sonal</u>			
b. Inlet/Outlet (pick or	ne):				
☐ No inlet/outlet (8	ots)	☐ Permanent inlet or outlet (channel with well-d	defined banks and permar	nent flow) (2 pts)
☑ Temporary inlet/o	utlet (6 nts)				



9. Wate	r quality:												
	Clear	☐ Hig	h turbidity	\checkmark	High algae co	ontent		Tannic					
	22 TO	TAL for P	ool Characte	ristics	(out of 28 m	ax.)							
B. VER	NAL POOL	ENVELO	PE (100 ft) Al	ND CR	ITICAL HAB	ITAT /	AREA (10	0-750 ft) C	HARACTE	RISTICS (fi	ll in all i	nformation k	nown):
1. Land	use type a	nd appro	ximate percei	ntage	within the 10	00-ft ve	ernal poo	l envelope):				
V	Forested:	<u>50%</u>	(16 pts)			Oper	(e.g., me	eadow, agri	culture, golf	course):	<u>%</u>	(4 pts)	
	Shrub:	<u>%</u>	(10 pts)		abla	Deve	loped:	<u>50%</u>	(0 pts)				
2. Land	use type a	nd appro	ximate percei	ntage	within the 10	0-750	-ft vernal	pool critic	al terrestri	al habitat:			
abla	Forested:	<u>70%</u>	(16 pts)		$\overline{\checkmark}$	Oper	n (e.g., me	eadow, agri	culture, golf	course):	<u>15%</u>	(4 pts)	
	Shrub:	<u>%</u>	(10 pts)			Deve	loped:	<u>15%</u>	(0 pts)				
			ore barriers to directions for							itical terrest	trial habi	tat? If so,	
	Based on:	 ✓ F	ield estimate		☐ GIS			Aerial pho	to estimate				
	20 TC	TAL for	Daal Envelor		Cuitical Taux	4	Habitat	A (t	of 22 may \				
	<u>20</u> 10	TAL TO	Pool Envelop	e and	Critical Terri	estriai	парітат	Area (out o	or 32 max.)				
C. SPE	CIES PRES	ENT IN V	ERNAL POOI	_									
Vege	tation type a	and perce	ent cover IN TH	IE PO	OL that can p	rovide	egg attac	hment or o	ffer conceal	lment to aqu	uatic or o	developing lar	vae.
	Shrubs:	<u>NA</u>											
	Emergent	vegetatio	n (grasses, se	ges, ru	ushes, cattails	s): <u><</u>	:10%						
	Submerge	•		<u>0%</u>									
Dead	branches a	and down	ed woody mate	erial (b	ranches/twigs	s) avai	lable for e	egg attachm	nent: <u>great</u>	er than 10			
	INDICAT	OR SPE	CIES		DATE	E	GG MAS	SES (#)	TADPO	DLES/LAR\	VAE	N	OTES
	Spotted	Salaman	der		5/13/2015		6			Larvae			
	Wo	od Frog			5/13/2015		1		-	Tadpoles			
	FACULTA	TIVE SP	ECIES		DATE		ABUND	ANCE			NO	TES	
	Sprir	ng Peepe	r		5/13/2015		Fev	V					
	MOSQU	ITO LAR	VAE		5/13/2015		Comn	non					
		OR SPE	CIES		DATE		ABUND				NO	TES	
	BUL	L FROG		-	5/13/2015	╄	Fev	V					
	OTHE	R SPECII	ES		DATE		ABUNDA	ANCE			NO	TES	
	<u> </u>				27112		71201127					.20	
	ce of Indica	•		_	Yes	□ N							
Were sp	permatopho	res obser	ved?		Yes	☑ N	0						
Were fis	sh observed	I in the po	ool?		Yes	☑ N	0						
SUMMA	\RY												
	22 TOTA	L for Poo	ol Characteris	tics			20	TOTAL fo	r Pool Env	elope and	Critical '	Terrestrial Ha	abitat Area
Other C	omments:												
		# 163.00	, MP 25.10										





SOUTH



Project File #60328763 Pr	oject Name: Northeast Energy Dir	ect Project P	ool ID: PL-AC4-	·VP009
Observer: JW		Phone or email	:	
Landowner/Applicant: STOCKWELL W	ALLACE B & L. SYLVANE	Phone or email	:	
Address: GRANT STREET	City: P	PLAINFIELD	State: MA	Zip:: 01070
Location of vernal pool:				
Survey date(s):: 5/14/2015	Longitude/Latitude (in decimal	degrees): 42.5269	99100, -72.880059	995
A. VERNAL POOL CHARACTERISTICS (fill in all information known):			
1. Landscape Setting (check all that app	ly):			
✓ Upland depression (4 pts; if this is	also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (within)	1000 feet of one or more other ve	ernal pools)(NA)		
✓ Pool within larger wetland system	(4 pts; if this is also in a floodplain	, use 2 pts)		
☐ Pool part of wildlife corridor (4 pts)				
☐ Other (variable pts):				
Pool Origin: Natural, but altered				
2. Vernal pool condition:				
Describe any recent modifications to the	pool and associated landscape:	ACCESS ROAD CUI WATER	LVERT IS CLOGG	GED UP AND IMPOUNDING
3. Parent material:				
☐ Glacial fluvial ("outwash") [Loose till	☐ Peat		
✓ Dense till] Alluvium	☐ Coastal marine	sediments	
4. Aquatic resource type that best applied	es to this pool (choose dominant	t):		
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)) 🔲 Floodplain	(overflow/oxbow) ((3pts)
☑ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (varial)	able points):	
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach ((2pts)		
5. Pool canopy cover (%): <u>10%</u>				
6. Predominant substrate:				
☑ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepe	st zone, edge,etc.):	<u>—</u>	
7. Pool sizes:				
Approximate dimensions of pool (at max	. ,,,,,,	<u>9581.46</u>		
Maximum depth at deepest point at time	e of survey (include units):	<u>2.75 FEET</u>		
8. Hydrology:a. Estimated hydroperiod (unless actual	observed hydroneriod value(s) is	s(are) known luse the nr	esence of these ex	vamnle
indicator species to best predict the exp	ected hydroperiod of the pool):			
☐ Dries between early March and earl		•	•	,, , ,
☐ Dries between early July and early \$				
□ Dries between early September and		•		
Dries between early November and	late December, or intermittently ex	xposed (e.g., <i>Nuphar sp</i>	p., Potamogeton s	spp.)(8pts)
How long does pool hold water? Se	emi-permanent			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (o	channel with well-define	d banks and perma	anent flow) (2 pts)
✓ Temporary inlet/outlet (6 pts)				



9. Water quality:				
☑ Clear ☐ High turbidity	☐ High algae cor	ntent Tannic		
26 TOTAL for Pool Characteris	stics (out of 28 ma	x.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABIT	TAT AREA (100-750 ft) CI	HARACTERISTICS (fill in all i	nformation known):
1. Landuse type and approximate percent	age within the 100	-ft vernal pool envelope:	:	
✓ Forested: 40% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
✓ Shrub: 10% (10 pts)		Developed: 50%	(0 pts)	
2. Landuse type and approximate percent	age within the 100	-750-ft vernal pool critica	al terrestrial habitat:	
✓ Forested: <u>80%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
✓ Shrub: 10% (10 pts)		Developed: 20%	(0 pts)	
Are there one or more barriers to ve check here and see directions for e				itat? If so,
Based on:	☐ GIS	☐ Aerial phot	o estimate	
26 TOTAL for Pool Envelope	and Critical Terres	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THE	POOL that can pro	ovide egg attachment or of	fer concealment to aquatic or	developing larvae.
Shrubs: <u>10-50%</u>				
Emergent vegetation (grasses, seg	es, rushes, cattails)	: <u>10-50%</u>		
Submergent vegetation: <10				
Dead branches and downed woody mater	ial (branches/twigs)	available for egg attachm	ent: greater than 10	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Spotted Salamander	DATE 5/14/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae	NOTES
				NOTES
Spotted Salamander	5/14/2015	52	Larvae	NOTES
Spotted Salamander Wood Frog	5/14/2015 5/14/2015	52 0	Larvae Tadpoles	NOTES
Spotted Salamander Wood Frog Fairy Shrimp FACULTATIVE SPECIES	5/14/2015 5/14/2015 5/14/2015 DATE	52 0 0 ABUNDANCE	Larvae Tadpoles Common	NOTES
Spotted Salamander Wood Frog Fairy Shrimp	5/14/2015 5/14/2015 5/14/2015	52 0 0	Larvae Tadpoles Common	
Spotted Salamander Wood Frog Fairy Shrimp FACULTATIVE SPECIES	5/14/2015 5/14/2015 5/14/2015 DATE	52 0 0 ABUNDANCE	Larvae Tadpoles Common	
Spotted Salamander Wood Frog Fairy Shrimp FACULTATIVE SPECIES Caddisflies	5/14/2015 5/14/2015 5/14/2015 DATE 5/14/2015	52 0 0 ABUNDANCE Few	Larvae Tadpoles Common	
Spotted Salamander Wood Frog Fairy Shrimp FACULTATIVE SPECIES Caddisflies Dragonfly larvae or exuviae PREDATOR SPECIES	5/14/2015 5/14/2015 5/14/2015 DATE 5/14/2015 5/14/2015	52 0 0 ABUNDANCE Few Common ABUNDANCE	Larvae Tadpoles Common	
Spotted Salamander Wood Frog Fairy Shrimp FACULTATIVE SPECIES Caddisflies Dragonfly larvae or exuviae	5/14/2015 5/14/2015 5/14/2015 DATE 5/14/2015 5/14/2015	52 0 0 ABUNDANCE Few Common	Larvae Tadpoles Common	TES
Spotted Salamander Wood Frog Fairy Shrimp FACULTATIVE SPECIES Caddisflies Dragonfly larvae or exuviae PREDATOR SPECIES BULL FROG	5/14/2015 5/14/2015 5/14/2015 DATE 5/14/2015 5/14/2015 DATE 5/14/2015	52 0 0 ABUNDANCE Few Common ABUNDANCE Few	Larvae Tadpoles Common NO	TES
Spotted Salamander Wood Frog Fairy Shrimp FACULTATIVE SPECIES Caddisflies Dragonfly larvae or exuviae PREDATOR SPECIES BULL FROG OTHER SPECIES	5/14/2015 5/14/2015 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 DATE	52 0 0 ABUNDANCE Few Common ABUNDANCE Few ABUNDANCE	Larvae Tadpoles Common NO	TES
Spotted Salamander Wood Frog Fairy Shrimp FACULTATIVE SPECIES Caddisflies Dragonfly larvae or exuviae PREDATOR SPECIES BULL FROG	5/14/2015 5/14/2015 5/14/2015 DATE 5/14/2015 5/14/2015 DATE 5/14/2015	52 0 0 ABUNDANCE Few Common ABUNDANCE Few	Larvae Tadpoles Common NO	TES
Spotted Salamander Wood Frog Fairy Shrimp FACULTATIVE SPECIES Caddisflies Dragonfly larvae or exuviae PREDATOR SPECIES BULL FROG OTHER SPECIES	5/14/2015 5/14/2015 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 DATE	52 0 0 ABUNDANCE Few Common ABUNDANCE Few ABUNDANCE	Larvae Tadpoles Common NO	TES
Spotted Salamander Wood Frog Fairy Shrimp FACULTATIVE SPECIES Caddisflies Dragonfly larvae or exuviae PREDATOR SPECIES BULL FROG OTHER SPECIES	5/14/2015 5/14/2015 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015	52 0 0 ABUNDANCE Few Common ABUNDANCE Few ABUNDANCE	Larvae Tadpoles Common NO	TES
Spotted Salamander Wood Frog Fairy Shrimp FACULTATIVE SPECIES Caddisflies Dragonfly larvae or exuviae PREDATOR SPECIES BULL FROG OTHER SPECIES WOOD TURTLE	5/14/2015 5/14/2015 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 DATE 5/14/2015 Very 12	52 0 0 0 ABUNDANCE Few Common ABUNDANCE Few ABUNDANCE Few	Larvae Tadpoles Common NO	TES



SUMMARY

26 TOTAL for Pool Characteristics

26 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area

Other Comments:

LOCATION TRACT# 179.00 , MP 26.75



NORTH



Project File #60328763	Project Name: Northeast Energy Direct Project Pool ID: TK-AC3-VP001
Observer: C M-H	Phone or email: 503-318-5970
Landowner/Applicant: LEE SAI-KWO	NG Phone or email:
Address: 540 LOWELL	ST City: TEWKSBURY State: MA Zip:: 01876
Location of vernal pool:	
Survey date(s):: 4/28/2015	Longitude/Latitude (in decimal degrees): 42.64205036, -71.22314672
A. VERNAL POOL CHARACTERISTICS	(fill in all information known):
. Landscape Setting (check all that ap	oply):
Upland depression (4 pts; if this	is also in a floodplain, use 2 pts)
☐ Pool part of a pool complex (with	hin 1000 feet of one or more other vernal pools)(NA)
☐ Pool within larger wetland system	m (4 pts; if this is also in a floodplain, use 2 pts)
□ Pool part of wildlife corridor (4 p	ts)
☐ Other (variable pts):	
Pool Origin:	
. Vernal pool condition:	
Describe any recent modifications to the	ne pool and associated landscape: APPEARS TO BE MANMADE POSSIBLY STONE LINED
. Parent material:	
☐ Glacial fluvial ("outwash")	☐ Loose till ☐ Peat
☑ Dense till	☐ Alluvium ☐ Coastal marine sediments
. Aquatic resource type that best app	lies to this pool (choose dominant):
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts) ☐ Floodplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts) ☐ Other (variable points): UPLAND
☐ Peatland (acidic fen or bog) (4pts)
i. Pool canopy cover (%): 80%	
. Predominant substrate:	
☐ Mineral soil	Depth: 6
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepest zone, edge,etc.): <u>DEEP ZONE</u>
'. Pool sizes:	
Approximate dimensions of pool (at m	naximum capacity) (sq. feet): 876.31
Maximum depth at deepest point at til	me of survey (include units): 2.5'
B. Hydrology:	
indicator species to best predict the e	ual, observed hydroperiod value(s) is(are) known, use the presence of these example xpected hydroperiod of the pool):
☐ Dries between early March and e	arly July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)
☑ Dries between early July and earl	y September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)
☐ Dries between early September a	nd early November (e.g., Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts)
□ Dries between early November ar	nd late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)
How long does pool hold water?	
b. Inlet/Outlet (pick one):	
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (channel with well-defined banks and permanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)	



9. Water quality:				
☐ Clear ☐ High turbidity	✓ High algae cor	ntent Tannic		
20 TOTAL for Pool Charac	teristics (out of 28 ma	ıx.)		
B. VERNAL POOL ENVELOPE (100 ft)	AND CRITICAL HABI	ΓΑΤ AREA (100-750 ft) C	HARACTERISTICS (fill in all i	nformation known):
1. Landuse type and approximate percentage	entage within the 100)-ft vernal pool envelope	:	
✓ Forested: 60% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 40%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
2. Landuse type and approximate percentage 2.	entage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: <u>25%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): 15%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)	\square	Developed: 60%	(0 pts)	
Are there one or more barriers to check here and see directions f				itat? If so,
Based on:	e 🔲 GIS	Aerial pho	to estimate	
20 TOTAL for Pool Envelo	ope and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL PO	OL			
Vegetation type and percent cover IN	THE POOL that can pro	ovide egg attachment or o	ffer concealment to aquatic or	developing larvae.
Shrubs:				
Emergent vegetation (grasses,				
Emergent vegetation (grasses,	seges, rusnes, cattails)	: <u></u>		
Submergent vegetation:				
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			nent:	
Submergent vegetation:			rent: TADPOLES/LARVAE	NOTES
Submergent vegetation: Dead branches and downed woody management	aterial (branches/twigs)	available for egg attachm	_	NOTES
Submergent vegetation: Dead branches and downed woody management of the submergent vegetation: INDICATOR SPECIES	aterial (branches/twigs)	available for egg attachm	TADPOLES/LARVAE	NOTES
Submergent vegetation: Dead branches and downed woody management of the submergent vegetation: INDICATOR SPECIES	aterial (branches/twigs)	available for egg attachm	TADPOLES/LARVAE Tadpoles	NOTES TES
Submergent vegetation: Dead branches and downed woody made in the second	DATE 4/29/2015 DATE	available for egg attachm EGG MASSES (#) 5 ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody made in the second	DATE 4/29/2015	available for egg attachm EGG MASSES (#) 5	TADPOLES/LARVAE Tadpoles NO	
Submergent vegetation: Dead branches and downed woody made in the second	DATE 4/29/2015 DATE	available for egg attachm EGG MASSES (#) 5 ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody made in the second	DATE 4/29/2015 DATE DATE	available for egg attachm EGG MASSES (#) 5 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody made in the second	DATE 4/29/2015 DATE DATE	available for egg attachm EGG MASSES (#) 5 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody made in the second	DATE 4/29/2015 DATE DATE DATE DATE	available for egg attachm EGG MASSES (#) 5 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody made in the second	DATE 4/29/2015 DATE DATE DATE DATE DATE	available for egg attachm EGG MASSES (#) 5 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody made in the second	DATE 4/29/2015 DATE DATE DATE DATE DATE DATE PATE PATE Yes	available for egg attachm EGG MASSES (#) 5 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody made in the pool? INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 4/29/2015 DATE DATE DATE DATE Ves Yes Yes Yes	available for egg attachm EGG MASSES (#) 5 ABUNDANCE ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles NO NO	TES
Submergent vegetation: Dead branches and downed woody made in the second	DATE 4/29/2015 DATE DATE DATE DATE Ves Yes Yes Yes	available for egg attachm EGG MASSES (#) 5 ABUNDANCE ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles NO	TES





W



Project File #60328763 Pro	pject Name: Northeast Energy Direc	t Project Pool ID:	TK-AC3-VP002	
Observer: C M-H		Phone or email: 503	3-318-5970	
Landowner/Applicant: Hewlett Packard 0	Company	Phone or email:		
Address: 14 KIMBERLEY D	DR/ADJACENT City: TEV	VKSBURY State:	MA Zip:: 01876	
Location of vernal pool:				
Survey date(s):: 4/29/2015	Longitude/Latitude (in decimal de	egrees): 42.62379332,	-71.18692149	
A. VERNAL POOL CHARACTERISTICS (fi	II in all information known):			
. Landscape Setting (check all that apply	y):			
✓ Upland depression (4 pts; if this is a	also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (within	1000 feet of one or more other vern	nal pools)(NA)		
□ Pool within larger wetland system (4 pts; if this is also in a floodplain, u	se 2 pts)		
☐ Pool part of wildlife corridor (4 pts)				
☐ Other (variable pts):				
Pool Origin:				
. Vernal pool condition:				
Describe any recent modifications to the p	oool and associated landscape:			
. Parent material:				
☐ Glacial fluvial ("outwash") ☐	Loose till	☐ Peat		
☑ Dense till □] Alluvium	☐ Coastal marine sedime	ents	
. Aquatic resource type that best applies	s to this pool (choose dominant):			
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Floodplain (overflo	ow/oxbow) (3pts)	
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable po	ints):	
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2p	its)		
i. Pool canopy cover (%): 4 <u>0%</u>				
. Predominant substrate:				
✓ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepest a	zone, edge,etc.):		
'. Pool sizes:				
Approximate dimensions of pool (at max	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u>371.87</u>		
Maximum depth at deepest point at time	of survey (include units):	<u>6"</u>		
 B. Hydrology: a. Estimated hydroperiod (unless actual, 	observed hydroneriod value(s) is(a	re) known lise the presence	of these example	
indicator species to best predict the expe		rej known, doe the presence	of these example	
Dries between early March and early	July (e.g., <i>Thelypteris palustris, Ca</i>	arex stricta, Impatiens capen	sis, llex verticillata)(6pts)	
□ Dries between early July and early S	eptember (e.g., Sagittaria latifolia, S	Scirpus cyperinus, Dulichium	arundinaceum, Cephalanthus occ.)(8pts)
□ Dries between early September and	early November (e.g., Eleocharis pa	alustris, Glyceria canadensis	ន, Utricularia spp., Decodon vert.)(8រុ	ots)
□ Dries between early November and I	ate December, or intermittently expe	osed (e.g., Nuphar spp., Pot	amogeton spp.)(8pts)	
How long does pool hold water?				
b. Inlet/Outlet (pick one):	-			
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (cha	annel with well-defined bank	s and permanent flow) (2 pts)	
☐ Temporary inlet/outlet (6 pts)	(0.10		, · · · · · · · · · · · · · · ·	
_ ` ` ' - '				



9. Water quality:				
☑ Clear ☐ High turbidity	☐ High algae co	ntent		
22 TOTAL for Pool Charac	teristics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft)	AND CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	nformation known):
1. Landuse type and approximate per	entage within the 100)-ft vernal pool envelope	:	
✓ Forested: <u>70%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)	\square	Developed: 30%	(0 pts)	
2. Landuse type and approximate perc	entage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
▼ Forested: <u>50%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)	\square	Developed: 50%	(0 pts)	
Are there one or more barriers to check here and see directions f				tat? If so,
Based on:	e 🔲 GIS	✓ Aerial pho	to estimate	
16 TOTAL for Pool Envelo	ope and Critical Terre	strial Habitat Area (out o	of 32 max.)	
C. SPECIES PRESENT IN VERNAL PO	OL			
Vegetation type and percent cover IN	THE POOL that can pro	ovide egg attachment or o	ffer concealment to aquatic or c	developing larvae.
Shrubs:				
Emergent vegetation (grasses,	seges, rushes, cattails)):		
Submergent vegetation:				
Dead branches and downed woody ma	ateriai (branches/twigs)	avaliable for egg attachm	ient:	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Wood Frog	4/29/2015	3	Tadpoles	
FACULTATIVE SPECIES	DATE	ABUNDANCE	NO.	TES
DDEDATED ODEOUS	DATE	ADUNDANOE	No	TT0
PREDATOR SPECIES	DATE	ABUNDANCE	NO	TES
OTHER SPECIES	DATE	ABUNDANCE	NO [*]	TES
Presence of Indicator Species	⊻ Yes	□ No		
Were spermatophores observed?	☐ Yes	☑ No		
Were fish observed in the pool?	☐ Yes	☑ No		
SUMMARY				
22 TOTAL for Pool Character	istics	16 TOTAL fo	r Pool Envelope and Critical	Terrestrial Habitat Area
Other Comments:				







Project File #60328763 Project File #60328763	oject Name: Northeast Energy Dire	ct Project	Pool ID: TK-AC3-VF	2003
Observer: C M-H		Phone or e	mail: 503-318-5970	
Landowner/Applicant: Hewlett Packard 0	Company	Phone or e	mail:	
Address: 14 KIMBERLEY D	DR/ADJACENT City: TE	WKSBURY	State: MA	Zip:: 01876
Location of vernal pool:				
Survey date(s):: 4/29/2015	Longitude/Latitude (in decimal of	degrees): 42.6	62467923, -71.18923602	2
A. VERNAL POOL CHARACTERISTICS (f	ill in all information known):			
I. Landscape Setting (check all that appl	y):			
☐ Upland depression (4 pts; if this is	also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (within	1000 feet of one or more other ver	nal pools)(NA)		
☑ Pool within larger wetland system (4 pts; if this is also in a floodplain,	use 2 pts)		
☐ Pool part of wildlife corridor (4 pts)				
☐ Other (variable pts):				
Pool Origin:				
2. Vernal pool condition:				
Describe any recent modifications to the	oool and associated landscape:	NONE		
,	,			
3. Parent material:				
☐ Glacial fluvial ("outwash") ☐	Loose till	☐ Peat		
✓ Dense till] Alluvium	☐ Coastal ma	rine sediments	
4. Aquatic resource type that best applie	s to this pool (choose dominant)	:		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Floodp	lain (overflow/oxbow) (3p	ots)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other ((variable points):	
Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2	pts)		
5. Pool canopy cover (%): 40%				
6. Predominant substrate:				
✓ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepest	zone, edge,etc.):		
7. Pool sizes:				
Approximate dimensions of pool (at max	imum capacity) (sq. feet):	<u>1571.28</u>		
Maximum depth at deepest point at time	of survey (include units):	<u>8"</u>		
B. Hydrology:				
 a. Estimated hydroperiod (unless actual, indicator species to best predict the experience) 		are) known, use th	e presence of these exar	nple
✓ Dries between early March and early	July (e.g., <i>Thelypteris palustris, C</i>	arex stricta, Impat	iens capensis, llex vertici	illata)(6pts)
□ Dries between early July and early S	eptember (e.g., Sagittaria latifolia,	Scirpus cyperinus	, Dulichium arundinaceur	n, Cephalanthus occ.)(8pts)
□ Dries between early September and	early November (e.g., Eleocharis p	palustris, Glyceria (canadensis, Utricularia s _i	pp., Decodon vert.)(8pts)
☐ Dries between early November and	ate December, or intermittently exp	oosed (e.g., <i>Nupha</i>	ar spp., Potamogeton spp).)(8pts)
How long does pool hold water?	_			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (ch	nannel with well-de	efined banks and perman	ent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)	·			•



9. Water qua	ality:									
✓ Clear] High	turbidity		High algae o	onter	nt 🔲 Tannic			
2	20 TOTAL	for Po	ool Characte	ristics	(out of 28 r	nax.)				
B. VERNAL	POOL EN	VELOF	PE (100 ft) Al	ND CR	RITICAL HAE	BITAT	AREA (100-750 ft) (CHARACTERISTICS	(fill in all i	nformation known):
1. Landuse t	type and a	approx	imate percer	ntage	within the 1	00-ft	vernal pool envelope	e:		
✓ Fore	ested: 65	<u>5%</u>	(16 pts)			Оре	en (e.g., meadow, agr	riculture, golf course)	: <u>%</u>	(4 pts)
☐ Shr	ub: <u>%</u>		(10 pts)		$\overline{\checkmark}$	Dev	veloped: 35%	(0 pts)		
2. Landuse t	type and a	approxi	imate percer	ntage	within the 1	00-75	0-ft vernal pool critic	cal terrestrial habita	ıt:	
☑ For	ested: 50	<u>)%</u>	(16 pts)			Оре	en (e.g., meadow, agr	riculture, golf course)	: <u>%</u>	(4 pts)
☐ Shr	ub: <u>%</u>		(10 pts)		✓	Dev	veloped: 50%	(0 pts)		
							ment within the envelo corporate this informa		estrial habi	tat? If so,
Bas	sed on:	☐ Fie	eld estimate		☐ GIS		Aerial pho	oto estimate		
	<u>16</u> TOTA	L for P	ool Envelop	e and	Critical Ter	restri	al Habitat Area (out	of 32 max.)		
C. SPECIES	PRESENT	T IN VE	RNAL POOI	_						
Vegetation	n type and	percen	t cover IN TH	IE PO	OL that can i	orovid	le egg attachment or o	offer concealment to	aquatic or o	developing larvae.
•	ubs:	· 			·				·	. •
Em	ergent veg	getation	(grasses, se	ges, r	ushes, cattai	ls):				
Sub	omergent v	/egetati	ion:							
		•								
Dead bran	nches and	downed		erial (b	ranches/twig	ıs) av	ailable for egg attachr	ment:		
	DICATOR		d woody mate	erial (b	ranches/twig	ıs) av	ailable for egg attachr	ment:	ARVAE	NOTES
		SPEC	d woody mate		_	ıs) av				NOTES
IN	DICATOR	SPEC Frog	d woody mate		DATE	ıs) av	EGG MASSES (#)	TADPOLES/L#		NOTES
IN	DICATOR Wood I	SPEC Frog	d woody mate		DATE 4/30/2015	s) av	EGG MASSES (#)	TADPOLES/L#		NOTES
IN S	DICATOR Wood I	SPEC Frog lamand	d woody mate		DATE 4/30/2015	s) av	EGG MASSES (#)	TADPOLES/L#	5	NOTES TES
IN S	Wood I	SPECI Frog lamand	d woody mate		DATE 4/30/2015 4/30/2015	s) av	8 18	TADPOLES/L#	5	
IN S	DICATOR Wood I Spotted Sal	SPECI Frog lamand	d woody mate		DATE 4/30/2015 4/30/2015 DATE	is) av	EGG MASSES (#) 8 18 ABUNDANCE	TADPOLES/L#	5	
S	DICATOR Wood I Spotted Sal	SPECI Frog lamand /E SPE offlies	d woody mate		DATE 4/30/2015 4/30/2015 DATE	is) av	EGG MASSES (#) 8 18 ABUNDANCE	TADPOLES/L#	NO	
FAC	DICATOR Wood I Spotted Sal CULTATIV Caddis	SPEC	d woody mate		DATE 4/30/2015 4/30/2015 DATE 4/30/2015 DATE	as) ava	EGG MASSES (#) 8 18 ABUNDANCE Common ABUNDANCE	TADPOLES/L#	NO NO	TES
FAC	DICATOR Wood I Spotted Sal CULTATIV Caddis	SPEC	d woody mate		DATE 4/30/2015 4/30/2015 DATE 4/30/2015	ss) ava	EGG MASSES (#) 8 18 ABUNDANCE Common	TADPOLES/L#	NO NO	TES
FAC	DICATOR Wood I Spotted Sal CULTATIV Caddis	SPEC	d woody mate		DATE 4/30/2015 4/30/2015 DATE 4/30/2015 DATE	s) av	EGG MASSES (#) 8 18 ABUNDANCE Common ABUNDANCE	TADPOLES/L#	NO NO	TES
FAC	DICATOR Wood I Spotted Sal CULTATIV Caddis REDATOR OTHER SI	SPECIES	d woody mate		DATE 4/30/2015 4/30/2015 DATE 4/30/2015 DATE	ss) ava	EGG MASSES (#) 8 18 ABUNDANCE Common ABUNDANCE ABUNDANCE	TADPOLES/L#	NO NO	TES
FAC	DICATOR Wood I Spotted Sal CULTATIV Caddis REDATOR OTHER SI	SPECIES Specie	d woody mate		DATE 4/30/2015 4/30/2015 DATE 4/30/2015 DATE DATE		EGG MASSES (#) 8 18 ABUNDANCE Common ABUNDANCE ABUNDANCE	TADPOLES/L#	NO NO	TES
FAC	DICATOR Wood I Spotted Sal CULTATIV Caddis REDATOR OTHER SI Indicator atophores	SPECIES Species observe	d woody mate		DATE 4/30/2015 4/30/2015 DATE 4/30/2015 DATE DATE DATE		EGG MASSES (#) 8 18 ABUNDANCE Common ABUNDANCE ABUNDANCE No No	TADPOLES/L#	NO NO	TES
FAC	DICATOR Wood I Spotted Sal CULTATIV Caddis REDATOR OTHER SI Indicator atophores	SPECIES Species observe	d woody mate		DATE 4/30/2015 4/30/2015 DATE 4/30/2015 DATE DATE Yes Yes		EGG MASSES (#) 8 18 ABUNDANCE Common ABUNDANCE ABUNDANCE No No	TADPOLES/L#	NO NO	TES
Presence of Were sperma Were fish ob	DICATOR Wood I Spotted Sal CULTATIV Caddis REDATOR OTHER SI Indicator atophores served in t	SPECIES Species observithe poor	d woody mate		DATE 4/30/2015 4/30/2015 DATE 4/30/2015 DATE DATE Yes Yes		EGG MASSES (#) 8 18 ABUNDANCE Common ABUNDANCE ABUNDANCE No No No	TADPOLES/LA Tadpoles	NO NO	TES







Project File #60328763	Project Name: Northeast Energy Direct P	roject Pool ID:	WK-AC3-VP001
Observer: SH		Phone or email:	
Landowner/Applicant: CUTTING AE	BEL .	Phone or email:	
Address: TOWER RD	City: WARV	VICK State:	MA Zip:: 01378
Location of vernal pool:			
Survey date(s):: 5/13/2015	Longitude/Latitude (in decimal degr	rees): 42.71843537, -	72.40517931
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):		
. Landscape Setting (check all that a	ipply):		
☐ Upland depression (4 pts; if this	s is also in a floodplain, use 2 pts)		
☐ Pool part of a pool complex (wi	thin 1000 feet of one or more other vernal	pools)(NA)	
✓ Pool within larger wetland system	em (4 pts; if this is also in a floodplain, use	2 pts)	
☐ Pool part of wildlife corridor (4)	ots)		
Other (variable pts):	,		
Pool Origin: Natural Depression			
. Vernal pool condition:			
Describe any recent modifications to	the nool and associated landscape.		
Describe any recent meanications to	are poor and abboliated fariaboupe.		
. Parent material:			
☐ Glacial fluvial ("outwash")	☐ Loose till ☐	7 Peat	
☐ Dense till	☐ Alluvium ☐	☐ Coastal marine sedimer	nts
_	plies to this pool (choose dominant):	_	
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Floodplain (overflow	w/oxbow) (3pts)
✓ Shrub wetland (4pts)	Open water (2 pts)	☐ Other (variable poir	, , ,
☐ Peatland (acidic fen or bog) (4pt		_ ` ` .	
i. Pool canopy cover (%): 20%	o,(25.0)		
5. Predominant substrate:			
☐ Mineral soil	Depth: 4		
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepest zor	ne, edge,etc.): DEEP Z	ONE
'. Pool sizes:		, , ,	
Approximate dimensions of pool (at	maximum capacity) (sq. feet):	<u>5951.81</u>	
Maximum depth at deepest point at t	, . ,	<u></u>	
3. Hydrology:			
a. Estimated hydroperiod (unless act indicator species to best predict the	tual, observed hydroperiod value(s) is(are) expected hydroperiod of the pool):	known, use the presence	of these example
☑ Dries between early March and of	early July (e.g., <i>Thelypteris palustris, Care.</i>	x stricta, Impatiens capens	is, Ilex verticillata)(6pts)
☐ Dries between early July and ear	rly September (e.g., <i>Sagittaria latifolia, Sci</i>	rpus cyperinus, Dulichium	arundinaceum, Cephalanthus occ.)(8pts)
☐ Dries between early September	and early November (e.g., <i>Eleocharis palu</i>	stris, Glyceria canadensis,	Utricularia spp., Decodon vert.)(8pts)
☐ Dries between early November a	and late December, or intermittently expose	ed (e.g., <i>Nuphar spp., Pot</i> a	amogeton spp.)(8pts)
How long does pool hold water?	<u>Seasonal</u>		
b. Inlet/Outlet (pick one):			
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (channel)	nel with well-defined banks	and permanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)			



9. Water quality:				
☑ Clear ☐ High turbidity	☐ High algae cor	ntent Tannic		
22 TOTAL for Pool Character	istics (out of 28 ma	x.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABIT	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	nformation known):
1. Landuse type and approximate percen	tage within the 100	-ft vernal pool envelope	:	
✓ Forested: 95% (16 pts)	$ \mathbf{\nabla}$	Open (e.g., meadow, agric	culture, golf course): 5%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: <u>%</u>	(0 pts)	
2. Landuse type and approximate percen	tage within the 100	-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 85% (16 pts)		Open (e.g., meadow, agri	culture, golf course): 15%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: <u>%</u>	(0 pts)	
Are there one or more barriers to v check here and see directions for e				itat? If so,
Based on:	☐ GIS	Aerial pho	to estimate	
20 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THI Shrubs: >50% Emergent vegetation (grasses, sec	ges, rushes, cattails)		ner conceannent to aquatic of t	developing larvae.
Submergent vegetation: NA Dead branches and downed woody mater		available for egg attachm	ent: greater than 10	
-		available for egg attachm	ent: greater than 10 TADPOLES/LARVAE	NOTES
Dead branches and downed woody mater	rial (branches/twigs)			NOTES
Dead branches and downed woody mater INDICATOR SPECIES	rial (branches/twigs)	EGG MASSES (#)		NOTES
Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander	DATE 5/14/2015	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander	DATE 5/14/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES TES
Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander Wood Frog	DATE 5/14/2015 5/14/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	
Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander Wood Frog	DATE 5/14/2015 5/14/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	
Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 5/14/2015 5/14/2015 DATE DATE	EGG MASSES (#) 7 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES	DATE 5/14/2015 5/14/2015 DATE	EGG MASSES (#) 7 ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 5/14/2015 5/14/2015 DATE DATE DATE DATE	EGG MASSES (#) 7 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES	DATE 5/14/2015 DATE DATE DATE DATE DATE DATE DATE	ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 5/14/2015 5/14/2015 DATE DATE DATE DATE Ves [ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 5/14/2015 5/14/2015 DATE DATE DATE DATE Ves [EGG MASSES (#) 7 ABUNDANCE ABUNDANCE ABUNDANCE No	TADPOLES/LARVAE Tadpoles NO	TES
Dead branches and downed woody mater INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 5/14/2015 5/14/2015 DATE DATE DATE Ves [Yes [Yes [Yes [EGG MASSES (#) 7 ABUNDANCE ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles NO	TES TES







Project File #60328763 Proj	ect Name: Northeast Energy Dire	ct Project	Pool ID: WN-AC4-	VP001
Observer: JW		Phone or em	ail:	
Landowner/Applicant: WESTERN MASS	ELECTRIC CO	Phone or em	ail:	
Address: PERU ROAD	City: WI	NDSOR	State: MA	Zip:: 01270
Location of vernal pool:				
Survey date(s):: 5/08/2015	Longitude/Latitude (in decimal of	degrees): 42.47	7974241, -73.0434655	59
A. VERNAL POOL CHARACTERISTICS (fil	I in all information known):			
1. Landscape Setting (check all that apply):			
☐ Upland depression (4 pts; if this is a	lso in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (within 1	1000 feet of one or more other ver	nal pools)(NA)		
☑ Pool within larger wetland system (4)	pts; if this is also in a floodplain,	use 2 pts)		
☐ Pool part of wildlife corridor (4 pts)				
☐ Other (variable pts):				
Pool Origin: Ditch along road or rut fror	n vehicle			
2. Vernal pool condition:				
Describe any recent modifications to the po	ool and associated landscape:		ED UNDER THE OVER THROUGH THE EXTE	R HEAD POWER LINES AND ENT.
3. Parent material:				
☐ Glacial fluvial ("outwash") ☐	Loose till	☐ Peat		
✓ Dense till	Alluvium	☐ Coastal marin	ne sediments	
4. Aquatic resource type that best applies	to this pool (choose dominant)	:		
☐ Forested wetland (4pts)	✓ Herbaceous wetland (4pts)	☐ Floodpla	in (overflow/oxbow) (3	Spts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (va	ariable points):	
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2	pts)		
5. Pool canopy cover (%): 0%				
6. Predominant substrate:				
☐ Mineral soil	Depth: 9			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepest	zone, edge,etc.):	DEEPEST ZONE	
7. Pool sizes:				
Approximate dimensions of pool (at maxir	. ,, . ,	2360.49		
Maximum depth at deepest point at time of	of survey (include units):	<u>6 INCHES</u>		
 8. Hydrology: a. Estimated hydroperiod (unless actual, or indicator species to best predict the experior) 		are) known, use the	presence of these exa	ample
☐ Dries between early March and early		Carex stricta. Impatie	ens capensis. Ilex verti	cillata)(6pts)
☐ Dries between early July and early Se		•	•	
✓ Dries between early September and e				
☐ Dries between early November and la				,,,,
		(s.g., rtapnar		
How long does pool hold water? Sen	ni-permanent			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (ch	nannel with well-defi	ned banks and permai	nent flow) (2 pts)
✓ Temporary inlet/outlet (6 pts)				



	r quality:								
	Clear	☐ High	turbidity	☐ High algae	conte	nt ☑ Tannic			
	22 TOTA	AL for Po	ool Character	istics (out of 28	max.)			
B. VERI	NAL POOL E	NVELOF	PE (100 ft) AN	ID CRITICAL H	ABITA	T AREA (100-750 ft)	CHARACTERISTICS (1	ill in all	information known):
1. Land	use type and	d approx	imate percen	tage within the	100-ft	vernal pool envelop	e:		
$\overline{\checkmark}$	Forested: 2	<u>25%</u>	(16 pts)		□ Op	en (e.g., meadow, ag	riculture, golf course):	<u>%</u>	(4 pts)
$\overline{\checkmark}$	Shrub:	<u>25%</u>	(10 pts)		☑ De	veloped: 50%	(0 pts)		
2. Land	use type and	d approx	imate percen	tage within the	100-7	50-ft vernal pool criti	cal terrestrial habitat:		
$\overline{\checkmark}$	Forested: 5	<u>30%</u>	(16 pts)		☑ Op	en (e.g., meadow, ag	riculture, golf course):	<u>15%</u>	(4 pts)
	Shrub:	<u>30%</u>	(10 pts)		☑ De	veloped: <u>25%</u>	(0 pts)		
						ment within the enveloncorporate this informa	ope and/or critical terres	strial hab	oitat? If so,
	Based on:	☑ Fie	eld estimate	☐ GIS		☐ Aerial ph	oto estimate		
	<u>30</u> TOT	AL for P	ool Envelope	and Critical T	errestr	ial Habitat Area (out	of 32 max.)		
C. SPE	CIES PRESE	NT IN VE	RNAL POOL						
Vege	tation type an	nd percen	nt cover IN TH	E POOL that ca	n provi	de egg attachment or	offer concealment to ac	quatic or	developing larvae.
	Shrubs:	<u>10-50%</u>	<u>%</u>						
	Emergent ve	egetation	ı (grasses, seç	ges, rushes, cat	ails):	<u>10-50%</u>			
	Submergen	t vegetati	ion: <u>10-</u>	<u>-50%</u>					
Dead	branches and	d downed	d woody mate	rial (branches/tv	∕igs) av	vailable for egg attach	ment: <u>1 - 10</u>		
	INDICATO	R SPEC	IES	DATE		EGG MASSES (#)	TADPOLES/LAR	VAE	NOTES
	Spotted S	Salamand	ler	5/8/2015		12	Larvae		
	Woo	d Frog		5/8/2015		22	Tadpoles		BUSTED MASSES WITH TADPOLES ALL OVER THEM
	FACULTAT		· · · · · ·	DATE		ABUNDANCE		NC	OTES
	Spire-shaped	snails or	shells	5/8/2015		Common			
	Other:WATE	R STRIE	DERS	5/8/2015		Common			
	MOSQUIT	ΓΟ LARV	AE	5/8/2015		Many			
	PREDATO	R SPEC	IES	DATE		ABUNDANCE		NC	OTES
	BULL	FROG		5/8/2015		Few			
						ABUNDANCE		110	
	OTHER	SPECIE	S	DATE		ABUNDANCE		NC	OTES
	OTHER	SPECIES	S	DATE		ABUNDANCE		NC	DIES
Presence	OTHER			DATE ✓ Yes		No		NC	DIES
		or Specie	es					NC	DIES
Were sp	ce of Indicato	or Specie	es ed?	☑ Yes	V	No		NC	DIES



SUMMARY

22 TOTAL for Pool Characteristics

$\underline{\bf 30}\,$ TOTAL for Pool Envelope and Critical Terrestrial Habitat Area

Other Comments:

DEVELOPED MEANS THE OVER HEAD POWERLINE CORRIDOR

EGG MASSES SEEN IN TIRE RUTS ON CENTERLINE

LOCATION TRACT 97.00, MP 17.25

PHOTOS



SW



Project File #60328763	Project Name: Northeast Energy Dire	ect Project Pool ID: WN-AC4-VP002
Observer: JW		Phone or email:
Landowner/Applicant: IWANOWICZ	JAMES J	Phone or email:
Address: PERU ROAD	City: W	VINDSOR State: MA Zip:: 01270
Location of vernal pool:		
Survey date(s):: 5/08/2015	Longitude/Latitude (in decimal	degrees): 42.48180114, -73.03501886
A. VERNAL POOL CHARACTERISTICS	S (fill in all information known):	
. Landscape Setting (check all that a	pply):	
☐ Upland depression (4 pts; if this	is also in a floodplain, use 2 pts)	
☐ Pool part of a pool complex (with pool part of a pool complex (with pool part of a pool complex).	thin 1000 feet of one or more other ve	ernal pools)(NA)
Pool within larger wetland syste	em (4 pts; if this is also in a floodplain,	use 2 pts)
☐ Pool part of wildlife corridor (4 p	ots)	
Other (variable pts):	,	
Pool Origin: Ditch along road or ru	t from vehicle	
. Vernal pool condition:		
Describe any recent modifications to the	ne pool and associated landscape:	POOL IS LOCATED IN OPEN EXISTING CORRIDOR OF OVERHEAP POWERLINES. RECENT FORESTRY ACTIVITY HAS CREATED RUTS IN A PEMWETLAND.
. Parent material:		
☐ Glacial fluvial ("outwash")	✓ Loose till	☐ Peat
☐ Dense till	☐ Alluvium	☐ Coastal marine sediments
. Aquatic resource type that best app	olies to this pool (choose dominant	t):
☐ Forested wetland (4pts)	✓ Herbaceous wetland (4pts)	Floodplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	Other (variable points):
☐ Peatland (acidic fen or bog) (4pts	s) Intermittent stream reach (2	2pts)
i. Pool canopy cover (%): 0%		
. Predominant substrate:		
☐ Mineral soil	Depth: 6	
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepes	st zone, edge,etc.): <u>DEEPEST ZONE</u>
. Pool sizes:		
Approximate dimensions of pool (at n	naximum capacity) (sq. feet):	<u>4950.80</u>
Maximum depth at deepest point at ti	me of survey (include units):	<u>4</u>
3. Hydrology:		
 a. Estimated hydroperiod (unless actinidicator species to best predict the extension) 		s(are) known, use the presence of these example
☑ Dries between early March and e	arly July (e.g., <i>Thelypteris palustris,</i> C	Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)
□ Dries between early July and ear	ly September (e.g., Sagittaria latifolia,	a, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)
☐ Dries between early September a	and early November (e.g., <i>Eleocharis</i>	palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts)
□ Dries between early November a	nd late December, or intermittently ex	xposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)
How long does pool hold water?	Seasonal	
b. Inlet/Outlet (pick one):		
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (c	channel with well-defined banks and permanent flow) (2 pts)
✓ Temporary inlet/outlet (6 pts)		



9. Water quality: Clear High turbidity	☐ High algae cor	ntent ☑ Tannic		
18 TOTAL for Pool Characteri	stics (out of 28 ma	x.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABIT	AT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and approximate percent	age within the 100	-ft vernal pool envelope	:	
✓ Forested: 50% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)	☑ I	Developed: <u>50%</u>	(0 pts)	
2. Landuse type and approximate percent	age within the 100	-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: <u>70%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)	☑ □	Developed: 30%	(0 pts)	
Are there one or more barriers to vertheck here and see directions for e				oitat? If so,
Based on:	☐ GIS	☐ Aerial pho	to estimate	
16 TOTAL for Pool Envelope	and Critical Terres	strial Habitat Area (out o	of 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THE	POOL that can pro	ovide egg attachment or o	ffer concealment to aquatic or	developing larvae.
Shrubs: <10%				
Emergent vegetation (grasses, seg	es, rushes, cattails)	: <u><10%</u>		
Submergent vegetation: <u>NA</u> Dead branches and downed woody mater	ial (hranches/twice)	available for egg attachm	nent: 1 - 10	
Dead branches and downed woody mater	iai (biailoiles/twigs)	available for egg attaching		
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Spotted Salamander	5/8/2015	14	Larvae	EGG MASSES IN TIRE RUTS MOST NOT ATTACHED TO ANYTHING
Wood Frog	5/8/2015	1		NO TADPOLES SEEN AROUND SINGLE FIST SIZE EGG MASS
FACULTATIVE SPECIES	DATE	ABUNDANCE	NO	OTES
DDED ATOD ODEOUS	DATE	ABUNDANOE	N/c	2750
PREDATOR SPECIES	DATE	ABUNDANCE	NC	OTES
OTHER SPECIES	DATE	ABUNDANCE	NO	OTES
	27.12	7,20,127,11,02		
Presence of Indicator Species	☑ Yes [□ No		
Were spermatophores observed?	☐ Yes [✓ No		
Were fish observed in the pool?	_	☑ No		
	_			



SUMMARY

18 TOTAL for Pool Characteristics

16 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area

Other Comments:

DEVELOPED LAND MEANS WITHIN THE OVERHEAD POWERLINE CORRIDOR

LOW QUALITY POOL INCIDENTAL CREATION WITHIN PEM WETLAND FROM FORESTRY OPERATIONS

LOCATION TRACT 98.01, MP 17.70



NW



Project File #60328763 Pro	pject Name: Northeast Energy Dire	ect Project Pool ID	: WN-AC4-VP	'003
Observer: JW		Phone or email:		
Landowner/Applicant: KOCZELA BRIAI	N E & ANN M	Phone or email:		
Address: 550 EAST WINDS	SOR ROAD City: W	/INDSOR State:	MA	Zip:: 01270
Location of vernal pool:				
Survey date(s):: 5/08/2015	Longitude/Latitude (in decimal	degrees): 42.48105209,	-73.03902822	
A. VERNAL POOL CHARACTERISTICS (f	ill in all information known):			
1. Landscape Setting (check all that appl	y):			
☐ Upland depression (4 pts; if this is	also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (within	1000 feet of one or more other ve	rnal pools)(NA)		
Pool within larger wetland system (4 pts; if this is also in a floodplain,	use 2 pts)		
☐ Pool part of wildlife corridor (4 pts)				
Other (variable pts):				
Pool Origin: Ditch along road or rut fro	om vehicle			
2. Vernal pool condition:				
Describe any recent modifications to the p	pool and associated landscape:	POOL IS LOCATED WITH EXISTING OVER HEAD PO		
3. Parent material:				
☐ Glacial fluvial ("outwash")	Loose till	☐ Peat		
☐ Dense till ☐] Alluvium	☐ Coastal marine sedime	ents	
4. Aquatic resource type that best applied	s to this pool (choose dominant	·):		
☐ Forested wetland (4pts)	✓ Herbaceous wetland (4pts)	☐ Floodplain (overfl	ow/oxbow) (3pts	s)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable po	oints):	
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2	2pts)		
5. Pool canopy cover (%): 0%				
6. Predominant substrate:				
☐ Mineral soil	Depth: 5			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepes	st zone, edge,etc.): <u>DEEPF</u>	EST ZONE	
7. Pool sizes:				
Approximate dimensions of pool (at max	. ,, , ,	<u>2043.71</u>		
Maximum depth at deepest point at time	of survey (include units):	3 INCHES		
8. Hydrology:a. Estimated hydroperiod (unless actual,	observed hydroperiod value(s) is:	(are) known lise the presence	of these evam	nla
indicator species to best predict the expe	ected hydroperiod of the pool):			
☑ Dries between early March and early				,
□ Dries between early July and early S				,,,,,
□ Dries between early September and	, , ,	•	•	
□ Dries between early November and	late December, or intermittently ex	(posed (e.g., Nuphar spp., Po	tamogeton spp.)	ı(8pts)
How long does pool hold water? Se	asonal			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (c	channel with well-defined bank	s and permaner	nt flow) (2 pts)
✓ Temporary inlet/outlet (6 pts)				



9. Water quality:					
☐ Clear	☐ High turbidity	☐ High algae cor	ntent 🗹 Tannic		
<u>20</u> TOT	AL for Pool Character	ristics (out of 28 ma	ıx.)		
B. VERNAL POOL	ENVELOPE (100 ft) AN	ND CRITICAL HABIT	ΓΑΤ AREA (100-750 ft) CI	HARACTERISTICS (fill in all	information known):
1. Landuse type an	nd approximate percer	ntage within the 100)-ft vernal pool envelope:	:	
✓ Forested:	50% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub:	<u>%</u> (10 pts)		Developed: 50%	(0 pts)	
2. Landuse type an	nd approximate percer	ntage within the 100	-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested:	70% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub:	<u>%</u> (10 pts)	\square	Developed: 30%	(0 pts)	
			ovement within the envelop o incorporate this informati	pe and/or critical terrestrial hab ion.	itat? If so,
Based on:	✓ Field estimate	☐ GIS	☐ Aerial phot	to estimate	
<u>16</u> TO	TAL for Pool Envelope	e and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C SDECIES DRES	ENT IN VERNAL POOL				
			ovida agg attachmant ar at	ffor concealment to acception	dayalaning langa
Shrubs:	<10%	ie Pool that can pro	ovide egg attacriment or or	ffer concealment to aquatic or	developing larvae.
	vegetation (grasses, se	nes rushes cattails)	· <10%		
•	nt vegetation: NA		. <u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>		
•	-	_	available for egg attachm	ent: <u>1 - 10</u>	
INDICAT	OR EDECIES	DATE	ECC MASSES (#)	TADDOLES/LADVAE	NOTES
	OR SPECIES Salamander	DATE 5/8/2015	EGG MASSES (#)	TADPOLES/LARVAE	NOTES EGG MASSES IN TIRE RUTS
	OR SPECIES Salamander	DATE 5/8/2015	EGG MASSES (#) 15	TADPOLES/LARVAE Larvae	NOTES EGG MASSES IN TIRE RUTS MOST NOT ATTACHED TO ANYTHING
Spotted	Salamander	5/8/2015	15	Larvae	EGG MASSES IN TIRE RUTS MOST NOT ATTACHED TO ANYTHING
Spotted	Salamander TIVE SPECIES	5/8/2015 DATE	15 ABUNDANCE	Larvae	EGG MASSES IN TIRE RUTS MOST NOT ATTACHED TO
Spotted	Salamander	5/8/2015	15	Larvae	EGG MASSES IN TIRE RUTS MOST NOT ATTACHED TO ANYTHING
Spotted	Salamander TIVE SPECIES	5/8/2015 DATE	15 ABUNDANCE	Larvae	EGG MASSES IN TIRE RUTS MOST NOT ATTACHED TO ANYTHING
Spotted FACULTA Other:WAT	Salamander TIVE SPECIES	5/8/2015 DATE	15 ABUNDANCE	Larvae	EGG MASSES IN TIRE RUTS MOST NOT ATTACHED TO ANYTHING
FACULTA Other:WAT	Salamander TIVE SPECIES ER STRIDERS OR SPECIES	5/8/2015 DATE 5/8/2015 DATE	ABUNDANCE Few ABUNDANCE	Larvae	EGG MASSES IN TIRE RUTS MOST NOT ATTACHED TO ANYTHING DTES
FACULTA Other:WAT	Salamander TIVE SPECIES ER STRIDERS	5/8/2015 DATE 5/8/2015	ABUNDANCE Few	Larvae	EGG MASSES IN TIRE RUTS MOST NOT ATTACHED TO ANYTHING OTES
FACULTA Other:WAT	Salamander TIVE SPECIES ER STRIDERS OR SPECIES	5/8/2015 DATE 5/8/2015 DATE	ABUNDANCE Few ABUNDANCE	Larvae	EGG MASSES IN TIRE RUTS MOST NOT ATTACHED TO ANYTHING DTES
FACULTA Other:WAT	TIVE SPECIES ER STRIDERS OR SPECIES	5/8/2015 DATE 5/8/2015 DATE DATE	ABUNDANCE Few ABUNDANCE	Larvae	EGG MASSES IN TIRE RUTS MOST NOT ATTACHED TO ANYTHING DTES
FACULTA' Other:WAT PREDAT	TIVE SPECIES ER STRIDERS OR SPECIES R SPECIES tor Species	5/8/2015 DATE 5/8/2015 DATE DATE DATE	ABUNDANCE Few ABUNDANCE ABUNDANCE	Larvae	EGG MASSES IN TIRE RUTS MOST NOT ATTACHED TO ANYTHING DTES
FACULTA Other:WAT PREDATE OTHER	Salamander TIVE SPECIES ER STRIDERS OR SPECIES R SPECIES tor Species res observed?	DATE 5/8/2015 DATE DATE DATE ✓ Yes ☐ Yes	ABUNDANCE Few ABUNDANCE ABUNDANCE	Larvae	EGG MASSES IN TIRE RUTS MOST NOT ATTACHED TO ANYTHING DTES
FACULTA Other:WAT PREDATE OTHER Presence of Indica Were spermatophor	Salamander TIVE SPECIES ER STRIDERS OR SPECIES R SPECIES tor Species res observed?	DATE 5/8/2015 DATE DATE DATE ✓ Yes ☐ Yes	ABUNDANCE Few ABUNDANCE ABUNDANCE No No	Larvae	EGG MASSES IN TIRE RUTS MOST NOT ATTACHED TO ANYTHING DTES
FACULTA Other:WAT PREDATI OTHER Presence of Indica Were spermatophor Were fish observed SUMMARY	Salamander TIVE SPECIES ER STRIDERS OR SPECIES R SPECIES tor Species res observed?	DATE 5/8/2015 DATE 5/8/2015 DATE DATE □ Yes □ Yes □ Yes □ Yes □ Yes	ABUNDANCE FeW ABUNDANCE ABUNDANCE No No No	Larvae	EGG MASSES IN TIRE RUTS MOST NOT ATTACHED TO ANYTHING OTES OTES
FACULTA Other:WAT PREDATI OTHER Presence of Indica Were spermatophor Were fish observed SUMMARY	Salamander TIVE SPECIES ER STRIDERS OR SPECIES tor Species res observed? in the pool?	DATE 5/8/2015 DATE 5/8/2015 DATE DATE □ Yes □ Yes □ Yes □ Yes □ Yes	ABUNDANCE FeW ABUNDANCE ABUNDANCE No No No	Larvae NC	EGG MASSES IN TIRE RUTS MOST NOT ATTACHED TO ANYTHING OTES OTES
FACULTA Other:WAT PREDATO OTHER Presence of Indica Were spermatophor Were fish observed SUMMARY 20 TOTAL Other Comments:	Salamander TIVE SPECIES ER STRIDERS OR SPECIES tor Species res observed? in the pool?	DATE 5/8/2015 DATE 5/8/2015 DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes ☐ Yes ☐ tics	ABUNDANCE FeW ABUNDANCE ABUNDANCE No No No 16 TOTAL for	Larvae NC	EGG MASSES IN TIRE RUTS MOST NOT ATTACHED TO ANYTHING OTES OTES
FACULTA' Other:WAT PREDATION OTHER Presence of Indica Were spermatophor Were fish observed SUMMARY 20 TOTAL Other Comments: DEVELOPED LAND	Salamander TIVE SPECIES ER STRIDERS OR SPECIES tor Species res observed? in the pool? L for Pool Characterist	DATE 5/8/2015 DATE 5/8/2015 DATE DATE POWERLINE CORR	ABUNDANCE FeW ABUNDANCE ABUNDANCE No No No 16 TOTAL for	Larvae NC	EGG MASSES IN TIRE RUTS MOST NOT ATTACHED TO ANYTHING OTES OTES





NE



Project File #60328763	Project Name: Northeast Energy D	irect Project	Pool ID: GN-U-VF	2001
Observer: AT	Phone or email:			
Landowner/Applicant: Buttrick Ben	jamin S	Phone or	email:	
Address: 377 ADAMS	HILL ROAD City:	GREENVILLE	State: NH	Zip:: 03048
Location of vernal pool:				
Survey date(s):: 5/20/2015	Longitude/Latitude (in decima	al degrees): 42	2.78724800, -71.796751	35
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):			
1. Landscape Setting (check all that	apply):			
Upland depression (4 pts; if the	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (was pool part of a pool pool part of a pool complex (was pool pool pool part of a pool pool part of a pool pool part of a pool pool pool part of a pool pool pool pool pool pool pool po	vithin 1000 feet of one or more other v	vernal pools)(NA)		
☐ Pool within larger wetland sys	tem (4 pts; if this is also in a floodplai	n, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin: Natural, but altered				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:	recent clearing	in powerline cut	
3. Parent material:				
☐ Glacial fluvial ("outwash")	✓ Loose till	☐ Peat		
☐ Dense till	☐ Alluvium	☐ Coastal m	narine sediments	
4. Aquatic resource type that best ap	oplies to this pool (choose dominar	nt):		
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pt	ts) 🔲 Flood	dplain (overflow/oxbow) (3pts)
✓ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other	r (variable points):	
☐ Peatland (acidic fen or bog) (4p)	ots)	ı (2pts)		
5. Pool canopy cover (%): 0%				
6. Predominant substrate:				
☐ Mineral soil	Depth: 4			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.)):	
7. Pool sizes:				
Approximate dimensions of pool (at	, ,,,,,,	<u>157.47</u>		
Maximum depth at deepest point at	time of survey (include units):	<u>6</u>		
8. Hydrology: a Estimated hydroneriod (unless as	ctual, observed hydroperiod value(s)	is(are) known use	the presence of these as	vamnla
indicator species to best predict the		is(are) known, ase	the presence of these ex	tampio
Dries between early March and	early July (e.g., Thelypteris palustris,	, Carex stricta, Impa	atiens capensis, llex vert	ticillata)(6pts)
□ Dries between early July and early	arly September (e.g., Sagittaria latifoli	lia, Scirpus cyperinu	us, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
□ Dries between early September	and early November (e.g., Eleochari	is palustris, Glyceria	a canadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently	exposed (e.g., Nup	har spp., Potamogeton s	<i>spp</i> .)(8pts)
How long does pool hold water?	<u>Seasonal</u>			
b. Inlet/Outlet (pick one):				
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet	(channel with well-o	defined banks and perma	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)				7 \ 1 \ 1 \ 7



9. Water quality:				
☑ Clear ☐ High turbidity	☐ High algae cor	ntent Tannic		
22 TOTAL for Pool Characteri	istics (out of 28 ma	ıx.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABIT	ΓΑΤ AREA (100-750 ft) C	HARACTERISTICS (fill in all i	nformation known):
1. Landuse type and approximate percen	tage within the 100	-ft vernal pool envelope	:	
✓ Forested: 10% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☑ Shrub: 90% (10 pts)		Developed: <u>%</u>	(0 pts)	
2. Landuse type and approximate percent	tage within the 100	-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 35% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
✓ Shrub: 65% (10 pts)		Developed: %	(0 pts)	
Are there one or more barriers to v check here and see directions for e				tat? If so,
Based on: Field estimate	☐ GIS	☐ Aerial pho	to estimate	
26 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THE	E POOL that can pro	ovide egg attachment or o	ffer concealment to aquatic or o	developing larvae.
Shrubs: <10%				
Emergent vegetation (grasses, seg		: <u><10%</u>		
Submergent vegetation: >50	<u>J%</u>			
• •	rial (branches/twigs)	available for egg attachm	ent: 1 - 10	
Dead branches and downed woody mater	, ,			
• •	rial (branches/twigs) DATE	available for egg attachm EGG MASSES (#)	rent: 1 - 10 TADPOLES/LARVAE	NOTES
Dead branches and downed woody mater INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	
Dead branches and downed woody mater	, ,		TADPOLES/LARVAE	NOTES TES
Dead branches and downed woody mater INDICATOR SPECIES FACULTATIVE SPECIES	DATE	EGG MASSES (#) ABUNDANCE	TADPOLES/LARVAE	
INDICATOR SPECIES FACULTATIVE SPECIES Other:mayfly	DATE DATE 5/20/2015	EGG MASSES (#) ABUNDANCE Few	TADPOLES/LARVAE	
INDICATOR SPECIES FACULTATIVE SPECIES Other:mayfly	DATE DATE 5/20/2015	EGG MASSES (#) ABUNDANCE Few	TADPOLES/LARVAE NO	
Dead branches and downed woody mater INDICATOR SPECIES FACULTATIVE SPECIES Other:mayfly Other:damselfly	DATE DATE 5/20/2015 5/20/2015	EGG MASSES (#) ABUNDANCE Few Few	TADPOLES/LARVAE NO	TES
Dead branches and downed woody mater INDICATOR SPECIES FACULTATIVE SPECIES Other:mayfly Other:damselfly	DATE DATE 5/20/2015 5/20/2015	EGG MASSES (#) ABUNDANCE Few Few	TADPOLES/LARVAE NO	TES
Dead branches and downed woody mater INDICATOR SPECIES FACULTATIVE SPECIES Other:mayfly Other:damselfly PREDATOR SPECIES	DATE 5/20/2015 5/20/2015 DATE	EGG MASSES (#) ABUNDANCE FeW FeW ABUNDANCE	TADPOLES/LARVAE NO	TES
Dead branches and downed woody mater INDICATOR SPECIES FACULTATIVE SPECIES Other:mayfly Other:damselfly PREDATOR SPECIES	DATE 5/20/2015 5/20/2015 DATE DATE	EGG MASSES (#) ABUNDANCE FeW FeW ABUNDANCE	TADPOLES/LARVAE NO	TES
Dead branches and downed woody mater INDICATOR SPECIES FACULTATIVE SPECIES Other:mayfly Other:damselfly PREDATOR SPECIES OTHER SPECIES	DATE 5/20/2015 5/20/2015 DATE DATE DATE	EGG MASSES (#) ABUNDANCE FeW FeW ABUNDANCE ABUNDANCE	TADPOLES/LARVAE NO	TES
Dead branches and downed woody mater INDICATOR SPECIES FACULTATIVE SPECIES Other:mayfly Other:damselfly PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 5/20/2015 5/20/2015 DATE DATE DATE Pes [EGG MASSES (#) ABUNDANCE FeW FeW ABUNDANCE ABUNDANCE	TADPOLES/LARVAE NO	TES
INDICATOR SPECIES FACULTATIVE SPECIES Other:mayfly Other:damselfly PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 5/20/2015 5/20/2015 DATE DATE DATE Pes [EGG MASSES (#) ABUNDANCE FeW FeW ABUNDANCE ABUNDANCE VINO	TADPOLES/LARVAE NO	TES
INDICATOR SPECIES FACULTATIVE SPECIES Other:mayfly Other:damselfly PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 5/20/2015 5/20/2015 DATE DATE Page 1 Yes [Yes [Yes [EGG MASSES (#) ABUNDANCE FeW FeW ABUNDANCE ABUNDANCE V No	NO NO	TES TES
INDICATOR SPECIES FACULTATIVE SPECIES Other:mayfly Other:damselfly PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 5/20/2015 5/20/2015 DATE DATE Page 1 Yes [Yes [Yes [EGG MASSES (#) ABUNDANCE FeW FeW ABUNDANCE ABUNDANCE V No	TADPOLES/LARVAE NO	TES





NORTHEAST



Project File #60328763 Proj	ect Name: Northeast Energy Direc	ct Project	Pool ID:	HD-T-VP00	1	
Observer: EL		Phone or	email:			
Landowner/Applicant: VIGEANT LEONAR	RD A.TR/VIGEANT JANE M. TR	Phone or	email:			
Address: 13 A LENNY LAN	E City: HU	DSON	State: I	NH	Zip::	03051
Location of vernal pool:						
Survey date(s):: 5/11/2015	Longitude/Latitude (in decimal d	legrees): 4	2.80821504, -7	1.37706193		
A. VERNAL POOL CHARACTERISTICS (fil	l in all information known):					
1. Landscape Setting (check all that apply):					
☐ Upland depression (4 pts; if this is a	lso in a floodplain, use 2 pts)					
☐ Pool part of a pool complex (within 1	000 feet of one or more other verr	nal pools)(NA)				
☑ Pool within larger wetland system (4)	pts; if this is also in a floodplain, u	use 2 pts)				
☐ Pool part of wildlife corridor (4 pts)						
☐ Other (variable pts):						
Pool Origin: Ditch along road or rut fror	n vehicle					
2. Vernal pool condition:						
Describe any recent modifications to the po	ool and associated landscape:	In powerline R	OW			
3. Parent material:						
☐ Glacial fluvial ("outwash") ☐	Loose till	☐ Peat				
✓ Dense till □	Alluvium	☐ Coastal m	narine sedimen	ts		
4. Aquatic resource type that best applies	to this pool (choose dominant):	:				
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Flood	dplain (overflow	/oxbow) (3pts	s)	
✓ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Othe	r (variable poin	ts):		
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2p	pts)				
5. Pool canopy cover (%): <u>5%</u>						
6. Predominant substrate:						
✓ Mineral soil	Depth:					
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepest	zone, edge,etc.):			
7. Pool sizes:						
Approximate dimensions of pool (at maxir		<u>129.14</u>				
Maximum depth at deepest point at time of 8. Hydrology:	of survey (include units):	4 inches				
a. Estimated hydroperiod (unless actual, or indicator species to best predict the experience).		are) known, use	the presence o	f these exam	ple	
☐ Dries between early March and early	, , ,	arex stricta. Imp	atiens capensis	s. Ilex verticill	lata)(6pt	ts)
✓ Dries between early July and early Se			•		, , ,	•
☐ Dries between early September and e						,,,,
☐ Dries between early November and la	, , ,					<i>yaan vara</i> y(apia)
_	•	(g., , , up	spp., r stan		,,(0,10)	
How long does pool hold water? Sea	<u>sonal</u>					
b. Inlet/Outlet (pick one):						
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (ch	annel with well-	defined banks a	and permane	nt flow)	(2 pts)
☐ Temporary inlet/outlet (6 pts)						



9. Water quality:					
☐ Clear	✓ High turbidity	☐ High algae co	ntent Tannic		
<u>24</u> TOT	AL for Pool Characte	eristics (out of 28 ma	ax.)		
B. VERNAL POOL	ENVELOPE (100 ft) A	ND CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	information known):
1. Landuse type an	nd approximate perce	entage within the 100)-ft vernal pool envelope	:	
☐ Forested:	<u>%</u> (16 pts)		Open (e.g., meadow, agri-	culture, golf course): %	(4 pts)
☑ Shrub:	100% (10 pts)		Developed: <u>%</u>	(0 pts)	
2. Landuse type an	nd approximate perce	entage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested:	20% (16 pts)		Open (e.g., meadow, agri-	culture, golf course): %	(4 pts)
✓ Shrub:	80% (10 pts)		Developed: %	(0 pts)	
			ovement within the envelop o incorporate this informat	oe and/or critical terrestrial habition.	itat? If so,
Based on:	✓ Field estimate	☐ GIS	☐ Aerial pho	to estimate	
<u>26</u> TO	TAL for Pool Envelo	pe and Critical Terre	strial Habitat Area (out o	of 32 max.)	
C SDECIES BRESI	ENT IN VERNAL BOO	A.I			
	ENT IN VERNAL POO		ovido aga attachment ar a	ffor concealment to equations	dayalaning langa
vegetation type a Shrubs:		HE POOL that can pr	ovide egg attachment or o	ffer concealment to aquatic or	developing larvae.
	NA vegetation (grasses, s	anas rushas cattails	\· 10-50%		
•		0-50%	y. <u>10 30 70</u>		
•	<u>-</u>) available for egg attachm	nent: greater than 10	
INDICAT	OD SDECIES	DATE	ECC MASSES (#)	TADPOLES/LARVAE	NOTES
	or species od Frog	5/11/2015	EGG MASSES (#)	Tadpoles	NOTES
		0,11,2010	, ,	Тааролоо	
540U TA	TIVE OPEOUE	DATE	ADUNDANOE	No	
	TIVE SPECIES	5/11/2015	ABUNDANCE	NO	TES
	rvae or pupae		Few		
Cac	ddisflies	5/11/2015	Few		
PREDAT	OR SPECIES	DATE	ABUNDANCE	NO	TES
OTHE	0050150	DATE	ADUNDANOE	No	TEO
OTHER	R SPECIES	DATE	ABUNDANCE	NU	TES
Presence of Indica	tor Species	✓ Yes	□ No		
Were spermatophor	es observed?	☐ Yes	☑ No		
Were fish observed	in the pool?	☐ Yes	☑ No		
SUMMARY					
<u>24</u> TOTAI	L for Pool Characteri	stics	26 TOTAL fo	r Pool Envelope and Critical	Terrestrial Habitat Area
Other Comments:					
atv rut with wood fro	g tadpoles				
	- •				





south



Project File #60328763 Proj	ect Name: Northeast Energy Direct	ct Project	Pool ID: HN-AC4-	-VP001
Observer: ED		Phone or	email:	
Landowner/Applicant: CITY OF PITTSFIE	ELD	Phone or	email:	
Address: FRANK SCHNOPF	PRD City: HI	NSDALE	State: NH	Zip:: 01226
Location of vernal pool:				
Survey date(s):: 5/07/2015	Longitude/Latitude (in decimal o	degrees): 4	2.47281213, -73.110180)57
A. VERNAL POOL CHARACTERISTICS (fil	l in all information known):			
1. Landscape Setting (check all that apply):			
☑ Upland depression (4 pts; if this is a	lso in a floodplain, use 2 pts)			
☑ Pool part of a pool complex (within 1)	1000 feet of one or more other ver	nal pools)(NA)		
☐ Pool within larger wetland system (4	pts; if this is also in a floodplain,	use 2 pts)		
☐ Pool part of wildlife corridor (4 pts)				
☐ Other (variable pts):				
Pool Origin: Natural, but altered				
2. Vernal pool condition:				
Describe any recent modifications to the po	ool and associated landscape:		OF POOL HAS 10 FOOT AD TO POWERLINE EAS	
3. Parent material:				
☑ Glacial fluvial ("outwash")	Loose till	☐ Peat		
☐ Dense till ☐	Alluvium	☐ Coastal n	narine sediments	
4. Aquatic resource type that best applies	to this pool (choose dominant)	:		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Floo	dplain (overflow/oxbow) ((3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Othe	er (variable points):	
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2	pts)		
5. Pool canopy cover (%): 95%				
6. Predominant substrate:				
☐ Mineral soil	Depth: 5			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepest	zone, edge,etc	.): <u>DEEPEST</u>	
7. Pool sizes:				
Approximate dimensions of pool (at maxir	. ,, , ,	<u>688.14</u>		
Maximum depth at deepest point at time of	of survey (include units):	<u>6 INCHES</u>		
8. Hydrology:a. Estimated hydroperiod (unless actual, or	observed hydroneriod value(s) is(s	ara) known usa	the presence of these ex	vamnla
indicator species to best predict the exper	cted hydroperiod of the pool):			
☐ Dries between early March and early			•	, , , ,
☐ Dries between early July and early Se				
☑ Dries between early September and early				
☐ Dries between early November and la	ate December, or intermittently exp	posed (e.g., Nup	har spp., Potamogeton s	<i>pp</i> .)(8pts)
How long does pool hold water? Sea	sonal			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (ch	nannel with well-	defined banks and perma	anent flow) (2 pts)
✓ Temporary inlet/outlet (6 pts)				



9. Water quality:				
☐ Clear ☐ High tur	rbidity High algae co	ontent 🗹 Tannic		
22 TOTAL for Pool	Characteristics (out of 28 m	ax.)		
B. VERNAL POOL ENVELOPE ((100 ft) AND CRITICAL HAB	ITAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and approxima	ate percentage within the 10	0-ft vernal pool envelope	:	
✓ Forested: 80% (1)	6 pts)	Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (1	0 pts)	Developed: 20%	(0 pts)	
2. Landuse type and approxima	ate percentage within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: <u>75%</u> (1)	6 pts)	Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (1	0 pts) ☑	Developed: 25%	(0 pts)	
	parriers to vernal pool fauna mections for explanation of how		e and/or critical terrestrial hab ion.	itat? If so,
Based on: ☑ Field	estimate	☐ Aerial phot	o estimate	
16 TOTAL for Pool	I Envelope and Critical Terre	estrial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERN	IAL POOL			
Vegetation type and percent co	over IN THE POOL that can p	rovide egg attachment or of	fer concealment to aquatic or	developing larvae.
Shrubs: <u>10-50%</u>				
Emergent vegetation (gr	rasses, seges, rushes, cattails	s): <10%		
Submergent vegetation:	<u><10%</u>			
Dood branches and downed w	oody material (branches/twigs	available for ear attachm	ont: arouter than 10	
Dead branches and downed w	oddy material (branones/twige	y available for egg attacinn	ent. <u>greater than 10</u>	
INDICATOR SPECIES		EGG MASSES (#)	TADPOLES/LARVAE	NOTES
		, 55	•	NOTES
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Spotted Salamander	5 DATE 5/7/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae	NOTES
INDICATOR SPECIES Spotted Salamander	5 DATE 5/7/2015 5/7/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae Tadpoles	NOTES
INDICATOR SPECIES Spotted Salamander Wood Frog	5 DATE 5/7/2015 5/7/2015	13 1	TADPOLES/LARVAE Larvae Tadpoles	
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIE	5 DATE 5/7/2015 5/7/2015 ES DATE 5/7/2015	EGG MASSES (#) 13 1 ABUNDANCE	TADPOLES/LARVAE Larvae Tadpoles	
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIE Caddisflies	5 DATE 5/7/2015 5/7/2015 ES DATE 5/7/2015 5/7/2015	EGG MASSES (#) 13 1 ABUNDANCE Common	TADPOLES/LARVAE Larvae Tadpoles	
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIE Caddisflies True fly larvae or pupas	5 DATE 5/7/2015 5/7/2015 ES DATE 5/7/2015 5/7/2015 AE 5/7/2015	EGG MASSES (#) 13 1 ABUNDANCE Common Common	TADPOLES/LARVAE Larvae Tadpoles	
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIE Caddisflies True fly larvae or pupae Other:MOSQUITO LARV	5 DATE 5/7/2015 5/7/2015 ES DATE 5/7/2015 5/7/2015 AE 5/7/2015 R 5/7/2015	EGG MASSES (#) 13 1 ABUNDANCE Common Common Many	TADPOLES/LARVAE Larvae Tadpoles	
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIE Caddisflies True fly larvae or pupae Other:MOSQUITO LARV Other:WATER STRIDE	5 DATE 5/7/2015 5/7/2015 ES DATE 5/7/2015 5/7/2015 AE 5/7/2015 R 5/7/2015 DATE	EGG MASSES (#) 13 1 ABUNDANCE Common Common Many Few ABUNDANCE	TADPOLES/LARVAE Larvae Tadpoles NO	
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIE Caddisflies True fly larvae or pupae Other:MOSQUITO LARV	5 DATE 5/7/2015 5/7/2015 ES DATE 5/7/2015 5/7/2015 AE 5/7/2015 R 5/7/2015	EGG MASSES (#) 13 1 ABUNDANCE Common Common Many Few	TADPOLES/LARVAE Larvae Tadpoles NO	TES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIE Caddisflies True fly larvae or pupae Other:MOSQUITO LARV Other:WATER STRIDE	5 DATE 5/7/2015 5/7/2015 ES DATE 5/7/2015 6 5/7/2015 AE 5/7/2015 R 5/7/2015 DATE 5/7/2015	EGG MASSES (#) 13 1 ABUNDANCE Common Common Many Few ABUNDANCE Few	TADPOLES/LARVAE Larvae Tadpoles NO	DTES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIE Caddisflies True fly larvae or pupae Other:MOSQUITO LARV Other:WATER STRIDE	5 DATE 5/7/2015 5/7/2015 ES DATE 5/7/2015 5/7/2015 AE 5/7/2015 R 5/7/2015 DATE	EGG MASSES (#) 13 1 ABUNDANCE Common Common Many Few ABUNDANCE	TADPOLES/LARVAE Larvae Tadpoles NO	TES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIE Caddisflies True fly larvae or pupae Other:MOSQUITO LARV Other:WATER STRIDE	5 DATE 5/7/2015 5/7/2015 ES DATE 5/7/2015 6 5/7/2015 AE 5/7/2015 R 5/7/2015 DATE 5/7/2015	EGG MASSES (#) 13 1 ABUNDANCE Common Common Many Few ABUNDANCE Few	TADPOLES/LARVAE Larvae Tadpoles NO	DTES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIE Caddisflies True fly larvae or pupae Other:MOSQUITO LARV Other:WATER STRIDE	5 DATE 5/7/2015 5/7/2015 ES DATE 5/7/2015 6 5/7/2015 AE 5/7/2015 R 5/7/2015 DATE 5/7/2015	EGG MASSES (#) 13 1 ABUNDANCE Common Common Many Few ABUNDANCE Few	TADPOLES/LARVAE Larvae Tadpoles NO	DTES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIE Caddisflies True fly larvae or pupae Other:MOSQUITO LARV Other:WATER STRIDEI PREDATOR SPECIES BULL FROG OTHER SPECIES	S DATE 5/7/2015 5/7/2015 ES DATE 5/7/2015 5/7/2015 AE 5/7/2015 R 5/7/2015 DATE 5/7/2015 DATE 5/7/2015 DATE	EGG MASSES (#) 13 1 ABUNDANCE Common Common Many Few ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Larvae Tadpoles NO	DTES



SUMMARY

22 TOTAL for Pool Characteristics

16 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area

Other Comments:

LOCATION ON TRACT 83.00, MP 13.60

DEVELOPED LAND MEANS POWER LINE CORRIDOR



EAST



Project File #60328763	Project Name: Northeast Energ	gy Direct Project Pool	ID: HN-AC4	-VP002	
Observer: ED		Phone or email:			
Landowner/Applicant: CITY OF	PITTSFIELD	Phone or email:			
Address: FRANK S	CHNOPP RD City	r: HINSDALE Sta	ate: NH	Zip::	01226
Location of vernal pool:					
Survey date(s):: 5/07/2015	Longitude/Latitude (in de	ecimal degrees): 42.471516	51, -73.108106	95	
A. VERNAL POOL CHARACTERIS	STICS (fill in all information known	1):			
1. Landscape Setting (check all th	iat apply):				
☐ Upland depression (4 pts; i	if this is also in a floodplain, use 2 pt	is)			
☑ Pool part of a pool complex	x (within 1000 feet of one or more ot	her vernal pools)(NA)			
☑ Pool within larger wetland :	system (4 pts; if this is also in a flood	dplain, use 2 pts)			
☐ Pool part of wildlife corrido	r (4 pts)				
☐ Other (variable pts):					
Pool Origin: Natural Depression	on				
2. Vernal pool condition:					
Describe any recent modifications	s to the pool and associated landsca	аре:			
3. Parent material:					
☑ Glacial fluvial ("outwash")	□ Loose till	☐ Peat			
□ Dense till	☐ Alluvium	☐ Coastal marine sed	iments		
4. Aquatic resource type that bes	t applies to this pool (choose don	ninant):			
✓ Forested wetland (4pts)	☐ Herbaceous wetland	(4pts) ☐ Floodplain (over	erflow/oxbow) ((3pts)	
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable)	points):		
☐ Peatland (acidic fen or bog)	(4pts)	each (2pts)			
5. Pool canopy cover (%): 95°	<u>%</u>				
6. Predominant substrate:					
☐ Mineral soil	Depth: 8 INCHES				
✓ Organic matter (peat/muck)	Sampling location (e.g.,d	deepest zone, edge,etc.): DEE	PEST ZONE		
7. Pool sizes:					
	(at maximum capacity) (sq. feet):	<u>463.12</u>			
	t at time of survey (include units):	4 INCHES			
8. Hydrology: a Estimated hydroperiod (unless	s actual, observed hydroperiod value	e(s) is(are) known use the prese	nce of these ex	xample	
	the expected hydroperiod of the poo		100 01 11000 07	tampio	
□ Dries between early March a	and early July (e.g., Thelypteris palu	ıstris, Carex stricta, Impatiens cap	oensis, Ilex ver	ticillata)(6pt	s)
☑ Dries between early July and	d early September (e.g., Sagittaria la	atifolia, Scirpus cyperinus, Dulich	ium arundinace	∍um, Cepha	lanthus occ.)(8pts)
□ Dries between early Septem	ber and early November (e.g., Eleo	charis palustris, Glyceria canader	nsis, Utricularia	spp., Deco	don vert.)(8pts)
□ Dries between early November	per and late December, or intermitte	ntly exposed (e.g., Nuphar spp.,	Potamogeton s	spp.)(8pts)	
How long does pool hold water	r? <u>Semi-permanent</u>				
b. Inlet/Outlet (pick one):	<u>, , , , , , , , , , , , , , , , , , , </u>				
□ No inlet/outlet (8 pts)	☐ Permanent inlet or or	utlet (channel with well-defined ba	anks and nerm:	anent flow)	(2 pts)
☐ Temporary inlet/outlet (6 pts)	_				\ I = -/



9. Water quality:				
☐ Clear ☐ High turbidity	☐ High algae co	ntent 🗹 Tannic		
22 TOTAL for Pool Character	istics (out of 28 ma	x.)		
B. VERNAL POOL ENVELOPE (100 ft) AM	ID CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	nformation known):
1. Landuse type and approximate percer	tage within the 100	-ft vernal pool envelope	:	
✓ Forested: 90% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 10%	(0 pts)	
2. Landuse type and approximate percen	tage within the 100	-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 80% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 20%	(0 pts)	
Are there one or more barriers to check here and see directions for				tat? If so,
Based on:	☐ GIS	☐ Aerial pho	to estimate	
16 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C OPPOSED PRESENT IN VERNAL POOL				
C. SPECIES PRESENT IN VERNAL POOL		vida aga attachment ar a	for concealment to equations	dovalonina lanvon
Vegetation type and percent cover IN TH Shrubs: <10%	E POOL that can pro	ovide egg attachment or o	ner conceaiment to aquatic or t	developing larvae.
Emergent vegetation (grasses, se	ges. rushes. cattails)	: <10%		
	<u>0%</u>	- <u></u>		
Dead branches and downed woody mate	rial (branches/twigs)	available for egg attachm	ent: <u>1 - 10</u>	
INDICATOR SPECIES	DATE	ECC MASSES (#)	TADDOLES/LADVAE	NOTES
INDICATOR SPECIES Spotted Salamander	DATE 5/7/2015	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Spotted Salamander	DATE 5/7/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae	NOTES
Spotted Salamander	5/7/2015	15	Larvae	
Spotted Salamander FACULTATIVE SPECIES	5/7/2015 DATE	15 ABUNDANCE	Larvae	TES
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG	5/7/2015 DATE 5/7/2015	ABUNDANCE Few	Larvae	
Spotted Salamander FACULTATIVE SPECIES	5/7/2015 DATE	15 ABUNDANCE	Larvae	TES
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG MOSQUITO LARVAE	5/7/2015 DATE 5/7/2015 5/7/2015	ABUNDANCE Few Common	Larvae NO EGG N	TES MASS 1
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG	5/7/2015 DATE 5/7/2015	ABUNDANCE Few	Larvae NO EGG N	TES
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG MOSQUITO LARVAE PREDATOR SPECIES	5/7/2015 DATE 5/7/2015 5/7/2015 DATE	ABUNDANCE Few Common ABUNDANCE	Larvae NO EGG N	TES MASS 1 TES
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG MOSQUITO LARVAE	5/7/2015 DATE 5/7/2015 5/7/2015	ABUNDANCE Few Common	Larvae NO EGG N	TES MASS 1
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG MOSQUITO LARVAE PREDATOR SPECIES	5/7/2015 DATE 5/7/2015 5/7/2015 DATE	ABUNDANCE Few Common ABUNDANCE	Larvae NO EGG N	TES MASS 1 TES
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG MOSQUITO LARVAE PREDATOR SPECIES	5/7/2015 DATE 5/7/2015 5/7/2015 DATE DATE	ABUNDANCE Few Common ABUNDANCE	Larvae NO EGG N	TES MASS 1 TES
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	5/7/2015 DATE 5/7/2015 5/7/2015 DATE DATE DATE ✓ Yes	ABUNDANCE Few Common ABUNDANCE ABUNDANCE	Larvae NO EGG N	TES MASS 1 TES
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	5/7/2015 DATE 5/7/2015 5/7/2015 DATE DATE DATE Yes Yes	ABUNDANCE FeW Common ABUNDANCE ABUNDANCE No	Larvae NO EGG N	TES MASS 1 TES
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	5/7/2015 DATE 5/7/2015 5/7/2015 DATE DATE DATE Yes Yes	ABUNDANCE Few Common ABUNDANCE ABUNDANCE	Larvae NO EGG N	TES MASS 1 TES
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	5/7/2015 DATE 5/7/2015 5/7/2015 DATE DATE DATE Yes Yes	ABUNDANCE FeW Common ABUNDANCE ABUNDANCE No	Larvae NO EGG N	TES MASS 1 TES
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	5/7/2015 DATE 5/7/2015 5/7/2015 DATE DATE DATE Yes Yes Yes Yes	ABUNDANCE Few Common ABUNDANCE ABUNDANCE No No No	Larvae NO EGG N	TES MASS 1 TES TES
FACULTATIVE SPECIES Other:PICKEREL FROG MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY 22 TOTAL for Pool Characterist	5/7/2015 DATE 5/7/2015 5/7/2015 DATE DATE DATE Yes Yes Yes Yes	ABUNDANCE Few Common ABUNDANCE ABUNDANCE No No No	Larvae NO EGG N NO	TES MASS 1 TES TES
FACULTATIVE SPECIES Other:PICKEREL FROG MOSQUITO LARVAE PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY 22 TOTAL for Pool Characterist	5/7/2015 DATE 5/7/2015 5/7/2015 DATE DATE DATE Yes Yes Yes Yes Yes	ABUNDANCE Few Common ABUNDANCE ABUNDANCE No No No	Larvae NO EGG N NO	TES MASS 1 TES TES





WEST



Project File #60328763 P	roject Name: Northeast Energy Dire	ect Project	Pool ID: HN-AC4	-VP003
Observer: ED		Phone or e	mail:	
Landowner/Applicant: CITY OF PITTS	FIELD	Phone or e	mail:	
Address: FRANK SCHNO	PP RD City: HI	INSDALE	State: NH	Zip:: 01226
Location of vernal pool:				
Survey date(s):: 5/07/2015	Longitude/Latitude (in decimal	degrees): 42.	46922160, -73.101961	75
A. VERNAL POOL CHARACTERISTICS	(fill in all information known):			
1. Landscape Setting (check all that app	oly):			
Upland depression (4 pts; if this is	s also in a floodplain, use 2 pts)			
Pool part of a pool complex (within	n 1000 feet of one or more other ve	ernal pools)(NA)		
☐ Pool within larger wetland system	(4 pts; if this is also in a floodplain,	use 2 pts)		
☐ Pool part of wildlife corridor (4 pts))			
☐ Other (variable pts):				
Pool Origin: Natural, but altered				
2. Vernal pool condition:				
Describe any recent modifications to the	pool and associated landscape:			OWER LINE ACCESS ROAD. OIL IS HOLDING WATER.
3. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
✓ Dense till	☐ Alluvium	☐ Coastal ma	rine sediments	
4. Aquatic resource type that best appli	es to this pool (choose dominant	·):		
☐ Forested wetland (4pts)	☑ Herbaceous wetland (4pts)	☐ Floodp	lain (overflow/oxbow) ((3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable points):	
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2	2pts)		
5. Pool canopy cover (%): 0%				
6. Predominant substrate:				
Mineral soil	Depth: 4			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepes	st zone, edge,etc.):	<u>DEEPEST ZONE</u>	
7. Pool sizes:				
Approximate dimensions of pool (at ma	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1021.84		
Maximum depth at deepest point at tim 8. Hydrology:	e of survey (include units).	<u>6 INCHES</u>		
a. Estimated hydroperiod (unless actual indicator species to best predict the expectation).		(are) known, use th	e presence of these ex	xample
☐ Dries between early March and ear	rly July (e.g., <i>Thelypteris palustris,</i> (Carex stricta, Impat	iens capensis, llex ver	rticillata)(6pts)
✓ Dries between early July and early	September (e.g., Sagittaria latifolia,	, Scirpus cyperinus	, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
□ Dries between early September an	d early November (e.g., <i>Eleocharis</i>	palustris, Glyceria	canadensis, Utricularia	a spp., Decodon vert.)(8pts)
□ Dries between early November and			5	\(\(\alpha\)
	I late December, or intermittently ex	kposed (e.g., <i>Nupha</i>	ar spp., Potamogeton s	spp.)(8pts)
How long does nool hold water?	•	κposed (e.g., <i>Nupha</i>	ar spp., Potamogeton s	<i>spp.</i>)(8pts)
_	I late December, or intermittently ex	kposed (e.g., <i>Nupha</i>	ar spp., Potamogeton s	<i>spp.</i>)(8pts)
How long does pool hold water? Some b. Inlet/Outlet (pick one): No inlet/outlet (8 pts)	•			



	r quality:		h tuubiditu	□ High olgon on	otont 🗗 Tonnio		
Ц,	Clear		h turbidity	☐ High algae coi	_		
	<u>24</u> TO1	TAL for P	ool Character	istics (out of 28 ma	ix.)		
B. VER	NAL POOL	ENVELO	PE (100 ft) AN	ID CRITICAL HABIT	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in	all information known):
1. Land	use type ar	nd approx	-	tage within the 100	-ft vernal pool envelope	:	
	Forested:	<u>80%</u>	(16 pts)		Open (e.g., meadow, agri	culture, golf course): %	(4 pts)
_	Shrub:	<u>%</u>	(10 pts)	_	Developed: 20%	(0 pts)	
			-	_	0-750-ft vernal pool critic		
_	Forested:		(16 pts)		Open (e.g., meadow, agri	, _	(4 pts)
	Shrub:	<u>%</u>	(10 pts)	\square	Developed: <u>5%</u>	(0 pts)	
					vement within the envelop o incorporate this informat	pe and/or critical terrestrial tion.	habitat? If so,
	Based on:	 F	ield estimate	☐ GIS	☐ Aerial pho	to estimate	
	<u>16</u> TO	TAL for I	Pool Envelope	e and Critical Terre	strial Habitat Area (out c	of 32 max.)	
			ERNAL POOL				
Vege	• • •	•		E POOL that can pro	ovide egg attachment or o	ffer concealment to aquation	c or developing larvae.
	Shrubs:	<10%	•	ges, rushes, cattails)	: >50%		
	Lineigent	vegetatio	ii (grasses, seļ	ges, rusiles, callalis <i>)</i>	. <u>20070</u>		
	Submerge	nt vegeta	tion: 10-	-50%			
Dead	Submerge branches a	•		-50% rial (branches/twigs)	available for egg attachm	nent: greater than 10	
Dead	branches a	nd downe	ed woody mate	rial (branches/twigs)		-	- NOTES
Dead	branches a	or SPEC	ed woody mate	<u></u>	available for egg attachm EGG MASSES (#)	TADPOLES/LARVAE	E NOTES OBSERVED OVER AND
Dead	INDICAT Wo	OR SPEC	ed woody mate	rial (branches/twigs)	EGG MASSES (#)	-	
Dead	INDICAT Wo	or SPEC	ed woody mate	rial (branches/twigs)	EGG MASSES (#)	TADPOLES/LARVAE	OBSERVED OVER AND AROUND BUSTED EGG
Dead	INDICAT Wo	OR SPEC	ed woody mate	DATE 5/7/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	OBSERVED OVER AND AROUND BUSTED EGG
	INDICAT Wo Spotted	OR SPECTOR SALAMAN	ed woody mate CIES der ECIES	DATE 5/7/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	OBSERVED OVER AND AROUND BUSTED EGG
	INDICAT Wo	OR SPECTOR SALAMAN	ed woody mate CIES der ECIES	DATE 5/7/2015	2 47	TADPOLES/LARVAE Tadpoles	OBSERVED OVER AND AROUND BUSTED EGG MASSES
	INDICAT Wo Spotted FACULTA Spire-shape	OR SPECTOR OF SPECTOR	ed woody mate CIES der ECIES r shells	DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015	EGG MASSES (#) 2 47 ABUNDANCE Few	TADPOLES/LARVAE Tadpoles	OBSERVED OVER AND AROUND BUSTED EGG MASSES
	INDICAT Wo Spotted FACULTA Spire-shape	OR SPECO OD Frog Salamano	ed woody mate CIES der ECIES r shells	DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015	EGG MASSES (#) 2 47 ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Tadpoles	OBSERVED OVER AND AROUND BUSTED EGG MASSES
	INDICAT Wo Spotted FACULTA Spire-shape	OR SPECTOR OF SPECTOR	ed woody mate CIES der ECIES r shells	DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015	EGG MASSES (#) 2 47 ABUNDANCE Few	TADPOLES/LARVAE Tadpoles	OBSERVED OVER AND AROUND BUSTED EGG MASSES
	INDICAT Wo Spotted FACULTA Spire-shape PREDAT	OR SPECTOR SALAMAN OF SALAMAN OF SPECTOR SPE	ed woody mate CIES der ECIES Ir shells CIES	DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015	2 47 ABUNDANCE Few ABUNDANCE Few	TADPOLES/LARVAE Tadpoles	OBSERVED OVER AND AROUND BUSTED EGG MASSES NOTES
	INDICAT Wo Spotted FACULTA Spire-shape PREDAT	OR SPECO OD Frog Salamano	ed woody mate CIES der ECIES Ir shells CIES	DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015	EGG MASSES (#) 2 47 ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Tadpoles	OBSERVED OVER AND AROUND BUSTED EGG MASSES
	INDICAT Wo Spotted FACULTA Spire-shape PREDAT	OR SPECTOR SALAMAN OF SALAMAN OF SPECTOR SPE	ed woody mate CIES der ECIES Ir shells CIES	DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015	2 47 ABUNDANCE Few ABUNDANCE Few	TADPOLES/LARVAE Tadpoles	OBSERVED OVER AND AROUND BUSTED EGG MASSES NOTES
	INDICAT Wo Spotted FACULTA Spire-shape PREDAT	OR SPECON SALAMAN OF SPECIES OF S	ed woody mate CIES der ECIES Ir shells CIES	DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015	2 47 ABUNDANCE Few ABUNDANCE Few	TADPOLES/LARVAE Tadpoles	OBSERVED OVER AND AROUND BUSTED EGG MASSES NOTES
Presence	INDICAT Wo Spotted FACULTA Spire-shape PREDAT N OTHER	OR SPECON SALAMAN OF SPECIES OF S	ed woody mate CIES der ECIES r shells CIES	DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015 DATE 5/7/2015	2 47 ABUNDANCE Few ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Tadpoles	OBSERVED OVER AND AROUND BUSTED EGG MASSES NOTES



SUMMARY

24 TOTAL for Pool Characteristics

16 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area

Other Comments:

LOCATION TRACT 83.00, MP 14.10

DEVELOPED LAND IMPLIES POWER LINE CORRIDOR

PHOTOS



NW



Proje	ct File #60328763	Project Name: Northeast Energy D	Direct Project	Pool ID: HN-AC4	-VP004
Obse	erver: JW		Phone or em	nail:	
Land	owner/Applicant: THE FIRE DIS	TRICT OF DALTON	Phone or em	nail:	
Addr	ess: NEW WINDSC	DR RD City:	HINSDALE	State: NH	Zip:: 01235
Loca	tion of vernal pool:				
Surv	ey date(s):: 5/11/2015	Longitude/Latitude (in decim	nal degrees): 42.4	7105757, -73.079796	353
A. VER	NAL POOL CHARACTERISTICS	6 (fill in all information known):			
1. Land	Iscape Setting (check all that ap	oply):			
	Upland depression (4 pts; if this	is also in a floodplain, use 2 pts)			
\checkmark	Pool part of a pool complex (with	hin 1000 feet of one or more other	vernal pools)(NA)		
\checkmark	Pool within larger wetland syste	m (4 pts; if this is also in a floodpla	in, use 2 pts)		
	Pool part of wildlife corridor (4 p	ts)			
	Other (variable pts):				
Pool	Origin: Natural Depression				
	al pool condition:				
Desc	ribe any recent modifications to the	ne pool and associated landscape:	OLD BEAVER DA	M HAS IMPOUNDED	D WATER
3. Pare	nt material:				
\checkmark	Glacial fluvial ("outwash")	□ Loose till	☐ Peat		
	Dense till	☐ Alluvium	☐ Coastal mari	ne sediments	
4. Aqua	atic resource type that best app	lies to this pool (choose domina	ant):		
	Forested wetland (4pts)	☑ Herbaceous wetland (4p)	ts) 🔲 Floodpla	ain (overflow/oxbow) ((3pts)
	Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (v	ariable points):	
	Peatland (acidic fen or bog) (4pts) Intermittent stream reach	n (2pts)		
5. Pool	canopy cover (%): 0%				
6. Pred	ominant substrate:				
	Mineral soil	Depth: <u>12</u>			
$\overline{\checkmark}$	Organic matter (peat/muck)	Sampling location (e.g.,deep	est zone, edge,etc.):	DEEPEST ZONE	
7. Pool	sizes:				
	roximate dimensions of pool (at n	,	<u>5308.29</u>		
	kimum depth at deepest point at ti	me of survey (include units):	<u>2.5 FEET</u>		
-	rology:	ual, observed hydroperiod value(s)	io(ara) known was the	processes of those ov	vampla
	cator species to best predict the e		is(are) known, use the	presence of these ex	xampie
	Dries between early March and e	arly July (e.g., Thelypteris palustris	s, Carex stricta, Impatie	ens capensis, llex ver	ticillata)(6pts)
	Dries between early July and earl	y September (e.g., Sagittaria latifo	lia, Scirpus cyperinus,	Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
	Dries between early September a	and early November (e.g., Eleocha	ris palustris, Glyceria c	anadensis, Utricularia	a spp., Decodon vert.)(8pts)
$\overline{\checkmark}$	Dries between early November ar	nd late December, or intermittently	exposed (e.g., Nuphar	spp., Potamogeton s	spp.)(8pts)
Н	ow long does pool hold water?	Semi-permanent			
b. Ir	nlet/Outlet (pick one):				
	No inlet/outlet (8 pts)	✓ Permanent inlet or outlet	(channel with well-def	ined banks and perma	anent flow) (2 pts)
	Temporary inlet/outlet (6 pts)				



9. Water quality:				
☐ Clear ☐ High turbidity	☐ High algae co	ntent 🗹 Tannic		
18 TOTAL for Pool Character	ristics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	ND CRITICAL HABI	TAT AREA (100-750 ft) CI	HARACTERISTICS (fill in all i	information known):
1. Landuse type and approximate percer	ntage within the 10	0-ft vernal pool envelope:	:	
✓ Forested: 50% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 50%	(0 pts)	
2. Landuse type and approximate percer	ntage within the 100	0-750-ft vernal pool critica	al terrestrial habitat:	
✓ Forested: 75% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)	\square	Developed: <u>25%</u>	(0 pts)	
Are there one or more barriers to check here and see directions for				itat? If so,
Based on: Field estimate	☐ GIS	☐ Aerial phot	o estimate	
16 TOTAL for Pool Envelope	e and Critical Terre	estrial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN TH		ovide egg attachment or of	fer concealment to aquatic or	developing larvae.
Shrubs: <10%		orido ogg diladilinem er er	To the second se	acrosoping tarract
Emergent vegetation (grasses, se	ges, rushes, cattails): < <u>10%</u>		
Submergent vegetation: NA		,		
Dead branches and downed woody mate	- erial (branches/twigs) available for egg attachm	ent: greater than 10	
INDICATED OPEOUR	D.4.T.F	E00 111 00E0 (#)	T45561 50# 451/45	NOTES
INDICATOR SPECIES	DATE 5/11/2015	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Blue-spotted Salamander	DATE 5/11/2015	EGG MASSES (#)	TADPOLES/LARVAE Larvae	NOTES
Blue-spotted Salamander	5/11/2015	18	Larvae	
Blue-spotted Salamander FACULTATIVE SPECIES	5/11/2015 DATE	18 ABUNDANCE	Larvae	NOTES
Blue-spotted Salamander	5/11/2015	18	Larvae	
Blue-spotted Salamander FACULTATIVE SPECIES Other:RED SPOTTED NEWT	5/11/2015 DATE 5/11/2015	ABUNDANCE Many	Larvae	DTES
FACULTATIVE SPECIES Other:RED SPOTTED NEWT PREDATOR SPECIES	5/11/2015 DATE 5/11/2015 DATE	ABUNDANCE Many ABUNDANCE	Larvae	
Blue-spotted Salamander FACULTATIVE SPECIES Other:RED SPOTTED NEWT	5/11/2015 DATE 5/11/2015	ABUNDANCE Many	Larvae	DTES
FACULTATIVE SPECIES Other:RED SPOTTED NEWT PREDATOR SPECIES BULL FROG	5/11/2015 DATE 5/11/2015 DATE 5/11/2015	ABUNDANCE Many ABUNDANCE Common	Larvae NO	DTES DTES
Blue-spotted Salamander FACULTATIVE SPECIES Other:RED SPOTTED NEWT PREDATOR SPECIES BULL FROG OTHER SPECIES	5/11/2015 DATE 5/11/2015 DATE	ABUNDANCE Many ABUNDANCE	Larvae NO	DTES
FACULTATIVE SPECIES Other:RED SPOTTED NEWT PREDATOR SPECIES BULL FROG	5/11/2015 DATE 5/11/2015 DATE 5/11/2015 DATE 5/11/2015	ABUNDANCE ABUNDANCE Common ABUNDANCE	Larvae NO	DTES DTES
Blue-spotted Salamander FACULTATIVE SPECIES Other:RED SPOTTED NEWT PREDATOR SPECIES BULL FROG OTHER SPECIES	5/11/2015 DATE 5/11/2015 DATE 5/11/2015 DATE 5/11/2015	ABUNDANCE ABUNDANCE Common ABUNDANCE	Larvae NO	DTES DTES
Blue-spotted Salamander FACULTATIVE SPECIES Other:RED SPOTTED NEWT PREDATOR SPECIES BULL FROG OTHER SPECIES	5/11/2015 DATE 5/11/2015 DATE 5/11/2015 DATE 5/11/2015	ABUNDANCE ABUNDANCE Common ABUNDANCE	Larvae NO	DTES DTES
FACULTATIVE SPECIES Other:RED SPOTTED NEWT PREDATOR SPECIES BULL FROG OTHER SPECIES PICKEREL FROG	5/11/2015 DATE 5/11/2015 DATE 5/11/2015 DATE 5/11/2015 Ves	ABUNDANCE Many ABUNDANCE Common ABUNDANCE Common	Larvae NO	DTES DTES
FACULTATIVE SPECIES Other:RED SPOTTED NEWT PREDATOR SPECIES BULL FROG OTHER SPECIES PICKEREL FROG Presence of Indicator Species	5/11/2015 DATE 5/11/2015 DATE 5/11/2015 DATE 5/11/2015 ✓ Yes ☐ Yes	ABUNDANCE Many ABUNDANCE Common ABUNDANCE Common	Larvae NO	DTES DTES
FACULTATIVE SPECIES Other:RED SPOTTED NEWT PREDATOR SPECIES BULL FROG OTHER SPECIES PICKEREL FROG Presence of Indicator Species Were spermatophores observed?	5/11/2015 DATE 5/11/2015 DATE 5/11/2015 DATE 5/11/2015 ✓ Yes ☐ Yes	ABUNDANCE ABUNDANCE Common ABUNDANCE Common No No	Larvae NO	DTES DTES
FACULTATIVE SPECIES Other:RED SPOTTED NEWT PREDATOR SPECIES BULL FROG OTHER SPECIES PICKEREL FROG Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	5/11/2015 DATE 5/11/2015 DATE 5/11/2015 DATE 5/11/2015 VYes Yes Yes Yes Yes	ABUNDANCE Many ABUNDANCE Common ABUNDANCE Common No No No	Larvae NO	OTES OTES
Blue-spotted Salamander FACULTATIVE SPECIES Other:RED SPOTTED NEWT PREDATOR SPECIES BULL FROG OTHER SPECIES PICKEREL FROG Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	5/11/2015 DATE 5/11/2015 DATE 5/11/2015 DATE 5/11/2015 Ves Yes Yes Yes Yes	ABUNDANCE Many ABUNDANCE Common ABUNDANCE Common No No No No	Larvae NO NO	OTES OTES





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Project File #60328763	Project Name: Northeast Energy D	Direct Project Pool ID: HN-A	.C4-VP005
Observer: JW		Phone or email:	
Landowner/Applicant: THE FIRE I	DISTRICT OF DALTON	Phone or email:	
Address: NEW WIND	OSOR RD City:	HINSDALE State: NH	Zip:: 01235
Location of vernal pool:			
Survey date(s):: 5/11/2015	Longitude/Latitude (in decim	nal degrees): 42.47150882, -73.079	84824
A. VERNAL POOL CHARACTERIST	ICS (fill in all information known):		
1. Landscape Setting (check all tha	t apply):		
☐ Upland depression (4 pts; if	this is also in a floodplain, use 2 pts)		
Pool part of a pool complex ((within 1000 feet of one or more other	vernal pools)(NA)	
Pool within larger wetland sy	stem (4 pts; if this is also in a floodpla	ain, use 2 pts)	
Pool part of wildlife corridor ((4 pts)		
☐ Other (variable pts):			
Pool Origin: Natural Depression	1		
2. Vernal pool condition:			
Describe any recent modifications t	to the pool and associated landscape:	OLD BEAVER DAM HAS IMPOUN	DED WATER
3. Parent material:			
☑ Glacial fluvial ("outwash")	□ Loose till	☐ Peat	
☐ Dense till	☐ Alluvium	☐ Coastal marine sediments	
4. Aquatic resource type that best a	applies to this pool (choose domina	ant):	
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4p	ots)	w) (3pts)
✓ Shrub wetland (4pts)	☐ Open water (2 pts)	Other (variable points):	
☐ Peatland (acidic fen or bog) (4	1pts)	h (2pts)	
5. Pool canopy cover (%): 0%			
6. Predominant substrate:			
☐ Mineral soil	Depth: 9		
✓ Organic matter (peat/muck)	Sampling location (e.g.,deep	pest zone, edge,etc.): <u>DEEPEST ZON</u>	<u>IE</u>
7. Pool sizes:			
Approximate dimensions of pool (a	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u>1950.13</u>	
Maximum depth at deepest point a	at time of survey (include units):	<u>6 INCHES</u>	
8. Hydrology: a Estimated hydroperiod (unless):	actual observed hydroperiod value(s)	is(are) known, use the presence of these	e example
	ne expected hydroperiod of the pool):	is (are) fale in, also are presented of area	оскатрю
□ Dries between early March an	nd early July (e.g., Thelypteris palustris	s, Carex stricta, Impatiens capensis, Ilex	verticillata)(6pts)
□ Dries between early July and of	early September (e.g., Sagittaria latifo	olia, Scirpus cyperinus, Dulichium arundir	aceum, Cephalanthus occ.)(8pts)
Dries between early September	er and early November (e.g., <i>Eleocha</i>	ris palustris, Glyceria canadensis, Utricul	aria spp., Decodon vert.)(8pts)
□ Dries between early November	er and late December, or intermittently	exposed (e.g., Nuphar spp., Potamogeto	on spp.)(8pts)
How long does pool hold water?	Semi-permanent		
b. Inlet/Outlet (pick one):			
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outle	t (channel with well-defined banks and pe	ermanent flow) (2 pts)
Temporary inlet/outlet (6 pts)		, and a second s	- · · / (= F ·-/



9. Water quality:				
☐ Clear ☐ High turbid	ity High algae co	ontent		
26 TOTAL for Pool Cha	aracteristics (out of 28 m	ax.)		
B. VERNAL POOL ENVELOPE (100	ft) AND CRITICAL HAB	ITAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	information known):
1. Landuse type and approximate	percentage within the 10	0-ft vernal pool envelope	:	
✓ Forested: 80% (16 pt	rs)	Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
✓ Shrub: <u>20%</u> (10 pt	is)	Developed: <u>%</u>	(0 pts)	
2. Landuse type and approximate	percentage within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 70% (16 pt)	is)	Open (e.g., meadow, agri-	culture, golf course): %	(4 pts)
✓ Shrub: 20% (10 pt)	rs)	Developed: 10%	(0 pts)	
Are there one or more barri check here and see direction			pe and/or critical terrestrial habition.	itat? If so,
Based on:	mate GIS	☐ Aerial pho	to estimate	
26 TOTAL for Book Er	walana and Critical Tarr	potrial Habitat Area (out a	of 22 may \	
20 TOTAL IOI POOLEI	ivelope and Childar Terri	estrial Habitat Area (out o	or 32 max.)	
C. SPECIES PRESENT IN VERNAL	POOL			
Vegetation type and percent cover	IN THE POOL that can p	rovide egg attachment or o	ffer concealment to aquatic or	developing larvae.
Shrubs: <u>10-50%</u>				
Emergent vegetation (grass	ses, seges, rushes, cattails	s): <u>10-50%</u>		
Submergent vegetation:	< <u><10%</u>			
Dead branches and downed wood	ly material (branches/twigs	s) available for egg attachm	nent: <u>greater than 10</u>	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Spotted Salamander	5/11/2015	5	Larvae	
FACULTATIVE SPECIES	DATE	ABUNDANCE	NO	TES
Spire-shaped snails or shells	5/11/2015	Common		
PREDATOR SPECIES	DATE	ABUNDANCE	NO	TES
BULL FROG	5/11/2015	Common		
OTHER SPECIES	DATE	ABUNDANCE	NO	TES
PICKEREL FROG	5/11/2015	Common		
RED SPOTTED NEWT	5/11/2015	Common		
	'			
Presence of Indicator Species	✓ Yes	□ No		
Were spermatophores observed?	☐ Yes	☑ No		
Were fish observed in the pool?	☐ Yes	☑ No		
SUMMARY				
26 TOTAL for Pool Chara	ecteristics	26 TOTAL fo	r Pool Envelope and Critical	Terrestrial Habitat Area
Other Comments:				
LOCATION TRACT# 88.00, MP 15.3	0 (CL)			
	•			





WEST



Project File #60328763 Project	ect Name: Northeast Energy Direct	ct Project	Pool ID: HN-AC4-	VP006
Observer: JW		Phone or e	mail:	
Landowner/Applicant: THE FIRE DISTRIC	CT OF DALTON	Phone or e	mail:	
Address: NEW WINDSOR R	D City: HI	NSDALE	State: NH	Zip:: 01235
Location of vernal pool:				
Survey date(s):: 5/11/2015	Longitude/Latitude (in decimal of	degrees): 42.	47271670, -73.0734303	38
A. VERNAL POOL CHARACTERISTICS (fill	in all information known):			
1. Landscape Setting (check all that apply)	:			
☐ Upland depression (4 pts; if this is al	so in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (within 1	000 feet of one or more other ver	nal pools)(NA)		
☑ Pool within larger wetland system (4)	pts; if this is also in a floodplain,	use 2 pts)		
☐ Pool part of wildlife corridor (4 pts)				
☐ Other (variable pts):				
Pool Origin: Ditch along road or rut fron	n vehicle			
2. Vernal pool condition:				
Describe any recent modifications to the po	ool and associated landscape:		IG CONSTRUCTION A H WETLAND AREA	ACCESS ROAD HAS CREATED
3. Parent material:				
☐ Glacial fluvial ("outwash") ☐	Loose till	☐ Peat		
☑ Dense till □	Alluvium	☐ Coastal ma	rine sediments	
4. Aquatic resource type that best applies	to this pool (choose dominant)	:		
☐ Forested wetland (4pts)	☑ Herbaceous wetland (4pts)	☐ Floodp	lain (overflow/oxbow) (3	3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable points):	
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2	pts)		
5. Pool canopy cover (%): 0%				
6. Predominant substrate:				
☐ Mineral soil	Depth: 6			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepest	zone, edge,etc.):	DEEPEST ZONE	
7. Pool sizes:				
Approximate dimensions of pool (at maxim		0		
Maximum depth at deepest point at time of 8. Hydrology:	of survey (include units):	4 INCHES		
a. Estimated hydroperiod (unless actual, cindicator species to best predict the expectation)		are) known, use th	e presence of these ex	ample
✓ Dries between early March and early	July (e.g., <i>Thelypteris palustris, C</i>	arex stricta, Impat	iens capensis, llex vert	ticillata)(6pts)
☐ Dries between early July and early Se	ptember (e.g., Sagittaria latifolia,	Scirpus cyperinus	, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
☐ Dries between early September and e	arly November (e.g., Eleocharis p	palustris, Glyceria	canadensis, Utricularia	spp., Decodon vert.)(8pts)
☐ Dries between early November and la	te December, or intermittently exp	oosed (e.g., Nupha	ar spp., Potamogeton s	pp.)(8pts)
	sonal			
	<u> </u>			
b. Inlet/Outlet (pick one): No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (ch	nannel with well-de	ifined hanks and norms	anent flow) (2 nts)
☐ No interodulet (6 pts) ☐ Temporary inlet/outlet (6 pts)	_ 1 official filler of outlet (cf	IGHTOF WITH WEIT-UE	mod banko ana penna	110.11 110W) (2 Plo)
i i omporary imorroduct (o pto)				



9. Water quality:				
☐ Clear ☑ High turbidity	☐ High algae co	ntent Tannic		
20 TOTAL for Pool Characteri	stics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
Landuse type and approximate percent	tage within the 100)-ft vernal pool envelope	:	
✓ Forested: 20% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)	\square	Developed: 80%	(0 pts)	
2. Landuse type and approximate percent	tage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 70% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)	$\overline{\mathbf{V}}$	Developed: 30%	(0 pts)	
Are there one or more barriers to v check here and see directions for e				oitat? If so,
Based on: Field estimate	☐ GIS	☐ Aerial phot	to estimate	
16 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
		ovido oga ottoobmont or ot	ffor concoolment to equations	dovoloning lange
Vegetation type and percent cover IN THE Shrubs: NA	E POOL that can pri	ovide egg attacriment of of	ner conceannent to aquatic or	developing larvae.
Emergent vegetation (grasses, seg	ies rushes cattails)	· <10%		
Submergent vegetation: NA	joo, raonoo, cattano,	,. <u>51070</u>		
Dead branches and downed woody mater	rial (branches/twigs)) available for egg attachm	ent: greater than 10	
· · · · · · · · · · · · · · · · · · ·			•	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Wood Frog	DATE 5/11/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES HUNDREDS OF TADPOLES OBSERVED, EGG MASSES DEVOURED
				HUNDREDS OF TADPOLES OBSERVED, EGG MASSES
Wood Frog	5/11/2015	0	Tadpoles	HUNDREDS OF TADPOLES OBSERVED, EGG MASSES
Wood Frog Spotted Salamander FACULTATIVE SPECIES	5/11/2015 5/11/2015 DATE	0	Tadpoles Larvae	HUNDREDS OF TADPOLES OBSERVED, EGG MASSES
Wood Frog Spotted Salamander	5/11/2015 5/11/2015	15	Tadpoles Larvae	HUNDREDS OF TADPOLES OBSERVED, EGG MASSES DEVOURED
Wood Frog Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG	5/11/2015 5/11/2015 DATE 5/11/2015	0 15 ABUNDANCE	Tadpoles Larvae	HUNDREDS OF TADPOLES OBSERVED, EGG MASSES DEVOURED
Wood Frog Spotted Salamander FACULTATIVE SPECIES	5/11/2015 5/11/2015 DATE	0 15 ABUNDANCE	Tadpoles Larvae	HUNDREDS OF TADPOLES OBSERVED, EGG MASSES DEVOURED
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG PREDATOR SPECIES	5/11/2015 5/11/2015 DATE 5/11/2015 DATE	15 ABUNDANCE Few ABUNDANCE	Tadpoles Larvae NC	HUNDREDS OF TADPOLES OBSERVED, EGG MASSES DEVOURED OTES
Wood Frog Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG	5/11/2015 5/11/2015 DATE 5/11/2015	0 15 ABUNDANCE Few	Tadpoles Larvae NC	HUNDREDS OF TADPOLES OBSERVED, EGG MASSES DEVOURED
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG PREDATOR SPECIES	5/11/2015 5/11/2015 DATE 5/11/2015 DATE	15 ABUNDANCE Few ABUNDANCE	Tadpoles Larvae NC	HUNDREDS OF TADPOLES OBSERVED, EGG MASSES DEVOURED OTES
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG PREDATOR SPECIES	5/11/2015 5/11/2015 DATE 5/11/2015 DATE DATE	15 ABUNDANCE Few ABUNDANCE	Tadpoles Larvae NC	HUNDREDS OF TADPOLES OBSERVED, EGG MASSES DEVOURED OTES
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG PREDATOR SPECIES OTHER SPECIES	5/11/2015 5/11/2015 DATE 5/11/2015 DATE DATE DATE	15 ABUNDANCE Few ABUNDANCE ABUNDANCE	Tadpoles Larvae NC	HUNDREDS OF TADPOLES OBSERVED, EGG MASSES DEVOURED OTES
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	5/11/2015 5/11/2015 DATE 5/11/2015 DATE DATE Ves Yes	15 ABUNDANCE Few ABUNDANCE ABUNDANCE	Tadpoles Larvae NC	HUNDREDS OF TADPOLES OBSERVED, EGG MASSES DEVOURED OTES
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	5/11/2015 5/11/2015 DATE 5/11/2015 DATE DATE Ves Yes	0 15 ABUNDANCE Few ABUNDANCE ABUNDANCE □ No	Tadpoles Larvae NC	HUNDREDS OF TADPOLES OBSERVED, EGG MASSES DEVOURED OTES
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	5/11/2015 5/11/2015 DATE 5/11/2015 DATE DATE Ves Yes Yes Yes	ABUNDANCE FeW ABUNDANCE ABUNDANCE No No No	Tadpoles Larvae NC	HUNDREDS OF TADPOLES OBSERVED, EGG MASSES DEVOURED OTES OTES
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY 20 TOTAL for Pool Characteristic	5/11/2015 5/11/2015 DATE 5/11/2015 DATE DATE Ves Yes Yes Yes	ABUNDANCE FeW ABUNDANCE ABUNDANCE No No No	Tadpoles Larvae NC	HUNDREDS OF TADPOLES OBSERVED, EGG MASSES DEVOURED OTES OTES
Spotted Salamander FACULTATIVE SPECIES Other:PICKEREL FROG PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	5/11/2015 5/11/2015 DATE 5/11/2015 DATE DATE Ves Yes Yes Yes	ABUNDANCE FeW ABUNDANCE ABUNDANCE No No No	Tadpoles Larvae NC	HUNDREDS OF TADPOLES OBSERVED, EGG MASSES DEVOURED OTES OTES





NE



Project File #60328763	Project Name: Northeast Energy Dire	ect Project	Pool ID: LD-T-VP00	01
Observer: BE		Phone or em	ıail:	
Landowner/Applicant: COTE ROLAN	D J & SUSAN J	Phone or em	nail:	
Address: 8 MORWAY D	R City: LC	ONDONDERRY	State: NH	Zip:: 03053
Location of vernal pool:				
Survey date(s):: 5/13/2015	Longitude/Latitude (in decimal of	degrees): 42.84	4180344, -71.42698538	8
A. VERNAL POOL CHARACTERISTICS	(fill in all information known):			
. Landscape Setting (check all that a	pply):			
✓ Upland depression (4 pts; if this	is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (wit	hin 1000 feet of one or more other ver	rnal pools)(NA)		
☐ Pool within larger wetland syste	m (4 pts; if this is also in a floodplain,	use 2 pts)		
☐ Pool part of wildlife corridor (4 p	ts)			
Other (variable pts):				
Pool Origin: Natural Depression				
. Vernal pool condition:				
Describe any recent modifications to the	ne nool and associated landscape:	No		
Describe any resem meanications to a	to poor and associated fandscape.	140		
. Parent material:				
Glacial fluvial ("outwash")	✓ Loose till	☐ Peat		
☐ Dense till	☐ Alluvium	☐ Coastal marir	ne sediments	
. Aquatic resource type that best app	_	_		
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)		iin (overflow/oxbow) (3p	ots)
☐ Shrub wetland (4pts)	✓ Open water (2 pts)		ariable points):	<i></i>
☐ Peatland (acidic fen or bog) (4pts		_ `	andolo pomio).	
i. Pool canopy cover (%): 10%		-510)		
5. Predominant substrate:				
Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepes	t zone. edge.etc.):		
'. Pool sizes:	Camping recallen (eig., deepee	: 20.10, 00g0,010.j.	_	
Approximate dimensions of pool (at n	naximum capacity) (sq. feet):	<u>4051.78</u>		
Maximum depth at deepest point at ti	, . ,	24 in		
B. Hydrology:	,			
 a. Estimated hydroperiod (unless actuindicator species to best predict the extension) 		(are) known, use the	presence of these exa	mple
□ Dries between early March and e	arly July (e.g., <i>Thelypteris palustris</i> , C	Carex stricta, Impatie	ns capensis, llex vertic	cillata)(6pts)
Dries between early July and early	y September (e.g., Sagittaria latifolia,	Scirpus cyperinus, i	Dulichium arundinaceu	m, Cephalanthus occ.)(8pts)
☐ Dries between early September a	nd early November (e.g., <i>Eleocharis</i>)	palustris, Glyceria ca	anadensis, Utricularia s	spp., Decodon vert.)(8pts)
☐ Dries between early November a	nd late December, or intermittently ex	posed (e.g., Nuphar	spp., Potamogeton sp	p.)(8pts)
How long does pool hold water?	<u>Seasonal</u>			
b. Inlet/Outlet (pick one):				
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (cl	hannel with well-defi	ned banks and perman	nent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)				



	☐ High turbidity				
☐ Clear	riight tarbiaity	☑ High algae cor	ntent		
<u>22</u> TOT	AL for Pool Character	stics (out of 28 ma	ıx.)		
B. VERNAL POOL	ENVELOPE (100 ft) AN	D CRITICAL HABIT	ΓΑΤ AREA (100-750 ft) CI	HARACTERISTICS (fill in all i	information known):
1. Landuse type ar	nd approximate percen	tage within the 100	-ft vernal pool envelope	:	
✓ Forested:	<u>75%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub:	<u>%</u> (10 pts)		Developed: 25%	(0 pts)	
2. Landuse type ar	nd approximate percen	tage within the 100	-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested:	25% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub:	<u>%</u> (10 pts)	\square	Developed: 20%	(0 pts)	
			vement within the envelop o incorporate this informati	pe and/or critical terrestrial habition.	itat? If so,
Based on:	✓ Field estimate	☐ GIS	☐ Aerial phot	to estimate	
<u>16</u> TO	TAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C SDECIES DDES	ENT IN VERNAL POOL				
			ovide egg attachment or of	ffer concealment to aquatic or	developing larvae
Shrubs:	<10%	- 1 OOL that can pro	ovide egg attachment of of	nor conceannent to aquatic or t	developing larvae.
	vegetation (grasses, sec	es, rushes, cattails)	: <10%		
ŭ	0 (0)	50%			
Dead branches a	nd downed woody mate	rial (branches/twigs)	available for egg attachm	ent: greater than 10	
INDICAT	OR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
	y Shrimp	5/13/2015	EGG WASSES (#)	Common	Caught in all dipnet samples
Wo	od Frog	5/13/2015		Tadpoles	
		0/10/2010		Taapoloo	
FACULTA	TIVE SPECIES	DATE	ABUNDANCE	NO) TES
				110	.125
D (b. 1-	rvae or pupae	5/13/2015	Many		
□ Dragontiv ia			ŕ		
- ,	arvae or exuviae	5/13/2015	Few		
- ,			ŕ		
Cad	arvae or exuviae ddisflies	5/13/2015 5/13/2015	Few Few	NO.	
Cad	arvae or exuviae	5/13/2015	Few	NO	TES
PREDAT	ddisflies OR SPECIES	5/13/2015 5/13/2015	Few Few ABUNDANCE		OTES
PREDAT	arvae or exuviae ddisflies	5/13/2015 5/13/2015 DATE	Few Few		
PREDAT	ddisflies OR SPECIES	5/13/2015 5/13/2015 DATE	Few Few ABUNDANCE		
PREDAT	ddisflies OR SPECIES R SPECIES	5/13/2015 5/13/2015 DATE	Few Few ABUNDANCE		
PREDAT	or exuviae ddisflies OR SPECIES R SPECIES tor Species	5/13/2015 5/13/2015 DATE DATE ✓ Yes	Few Few ABUNDANCE ABUNDANCE		
PREDAT OTHER	ddisflies OR SPECIES R SPECIES tor Species res observed?	5/13/2015 5/13/2015 DATE DATE Yes Yes Yes	Few Few ABUNDANCE ABUNDANCE		
PREDAT OTHER Presence of Indica Were spermatophore	ddisflies OR SPECIES R SPECIES tor Species res observed?	5/13/2015 5/13/2015 DATE DATE Yes Yes Yes	Few Few ABUNDANCE ABUNDANCE No No		
PREDAT OTHER Presence of Indica Were spermatophor Were fish observed	ddisflies OR SPECIES R SPECIES tor Species res observed?	5/13/2015 5/13/2015 DATE DATE Yes Yes Yes Yes	Few Few ABUNDANCE ABUNDANCE No No No		TES
PREDAT OTHER Presence of Indica Were spermatophor Were fish observed SUMMARY 22 TOTAL	ddisflies OR SPECIES R SPECIES tor Species res observed? in the pool?	5/13/2015 5/13/2015 DATE DATE Yes Yes Yes Yes	Few Few ABUNDANCE ABUNDANCE No No No	NO	TES
PREDAT OTHER Presence of Indica Were spermatophor Were fish observed SUMMARY 22 TOTAL Other Comments:	ddisflies OR SPECIES R SPECIES tor Species res observed? in the pool? L for Pool Characterist	5/13/2015 5/13/2015 DATE DATE Yes Yes Yes Yes Sics	Few Few ABUNDANCE ABUNDANCE No No No	NO r Pool Envelope and Critical	TES





NORTHEAST



Project F	File #60328763	Project Name: Northeast Energy D	irect Project	Pool ID: LD-U-VP	J01
Observe	r: AT		Phone or e	mail:	
Landowr	ner/Applicant: AGRELLA TH	OMAS D & MICHELLE E	Phone or e	mail:	
Address	46 ELWOOD	RD City:	LONDONDERRY	State: NH	Zip:: 03053
Location	of vernal pool:				
Survey d	late(s):: 5/14/2015	Longitude/Latitude (in decima	al degrees): 42.	84019406, -71.4098914	47
A. VERNA	L POOL CHARACTERISTIC	S (fill in all information known):			
1. Landsca	ape Setting (check all that a	pply):			
□ U	pland depression (4 pts; if this	s is also in a floodplain, use 2 pts)			
☐ Po	ool part of a pool complex (wi	thin 1000 feet of one or more other	vernal pools)(NA)		
☑ Po	ool within larger wetland syste	em (4 pts; if this is also in a floodplai	n, use 2 pts)		
□ Po	ool part of wildlife corridor (4 p	ots)			
	ther (variable pts):				
Pool Ori	gin: Natural, but altered				
	oool condition:				
Describe	any recent modifications to t	he pool and associated landscape:			
3. Parent r	material:				
☐ Gla	cial fluvial ("outwash")	✓ Loose till	☐ Peat		
☐ Der	nse till	☐ Alluvium	☐ Coastal ma	rine sediments	
4. Aquatic	resource type that best app	plies to this pool (choose domina	nt):		
☐ For	rested wetland (4pts)	☐ Herbaceous wetland (4pt	s) 🔲 Floodp	lain (overflow/oxbow) (3	3pts)
☑ Shr	ub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable points):	
☐ Pea	atland (acidic fen or bog) (4pt	s)	(2pts)		
5. Pool ca	nopy cover (%): <u>20%</u>				
6. Predom	inant substrate:				
☐ Min	neral soil	Depth: 6			
☑ Org	ganic matter (peat/muck)	Sampling location (e.g.,deep	est zone, edge,etc.):	<u>EDGE</u>	
7. Pool siz	es:				
	. `	maximum capacity) (sq. feet):	<u>492.95</u>		
	um depth at deepest point at t	ime of survey (include units):	12 INCHES		
8. Hydrolo		tual abase and budranariad value(a)	io(ara) known was th	a processes of those av	ampla
indicato	or species to best predict the	tual, observed hydroperiod value(s) expected hydroperiod of the pool):			
☐ Drie	es between early March and	early July (e.g., Thelypteris palustris	, Carex stricta, Impat	iens capensis, llex verti	cillata)(6pts)
☐ Drie	es between early July and ear	rly September (e.g., Sagittaria latifol	ia, Scirpus cyperinus	, Dulichium arundinace	um, Cephalanthus occ.)(8pts)
☐ Drie	es between early September	and early November (e.g., <i>Eleochari</i>	is palustris, Glyceria	canadensis, Utricularia	spp., Decodon vert.)(8pts)
☑ Drie	es between early November a	and late December, or intermittently	exposed (e.g., Nupha	ar spp., Potamogeton sp	<i>p.</i>)(8pts)
How I	ong does pool hold water?	Semi-permanent			
b. Inlet/	Outlet (pick one):				
	inlet/outlet (8 pts)	☐ Permanent inlet or outlet	(channel with well-de	fined banks and perma	nent flow) (2 pts)
	nnorary inlet/outlet (6 nts)				



9. Wate	r quality:										
I	Clear	☐ Hi	gh turbidity		High algae	conte	ent 🔲	Tannic			
	<u>22</u> TOT	AL for I	Pool Character	istics	(out of 28	max.))				
B. VERI	NAL POOL	ENVEL	OPE (100 ft) AN	ID CR	ITICAL HA	BITA [.]	T AREA (1	00-750 ft) C	CHARACTERISTICS (fill in all i	nformation known):
1. Land	use type an	d appro	oximate percen	tage v	within the	100-ft	vernal po	ol envelope) :		
\checkmark	Forested:	<u>80%</u>	(16 pts)		<u> </u>	<u>7</u> Op	en (e.g., m	neadow, agri	iculture, golf course):	<u>5%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)		v] De	veloped:	<u>15%</u>	(0 pts)		
2. Land	use type an	d appro	oximate percen	tage v	within the 1	00-7	50-ft verna	al pool critic	cal terrestrial habitat	:	
$\overline{\checkmark}$	Forested:	<u>75%</u>	(16 pts)		<u> </u>	<u>7</u> Op	en (e.g., m	neadow, agri	iculture, golf course):	<u>10%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)		<u> </u>] De	veloped:	<u>15%</u>	(0 pts)		
			nore barriers to v e directions for e						pe and/or critical terre tion.	strial habi	tat? If so,
	Based on:	√ I	Field estimate	I	□ GIS			Aerial pho	oto estimate		
	<u>20</u> TO	TAL for	Pool Envelope	and (Critical Te	restr	ial Habitat	Area (out o	of 32 max.)		
C. SPE	CIES PRESI	ENT IN	VERNAL POOL								
Vege	tation type a	nd perce	ent cover IN TH	E POC	DL that can	provi	de egg atta	achment or c	offer concealment to a	quatic or o	developing larvae.
	Shrubs:	<10%	<u>%</u>								
	Emergent	vegetati	on (grasses, seg	ges, ru	ishes, catta	ils):	<u><10%</u>				
	Submerge	nt veget	ation: <10	0%							
Dead	branches a	nd down	ned woody mate	rial (br	anches/twi	gs) av	/ailable for	egg attachn	nent: greater than 10	<u>)</u>	
	INDICAT	OR SPE	CIES		DATE		EGG MA	SSES (#)	TADPOLES/LAI	RVAE	NOTES
	Wo	od Frog			5/14/2015		1	l			
				\vdash		+					
	FACULTA	TIVE SF	PECIES		DATE		ABUNE	DANCE		NO	TES
	Flat-spire s	snails or	shells		5/14/2015	\top	Fe	ew			
				\vdash		+					
	PREDAT	OR SPE	CIES		DATE		ABUNI	DANCE		NO	TES
	INLUAI	OK OI L	OILO		DAIL	+	ADONE	DAITOL		140	120
	OTHER	R SPECI	ES		DATE		ABUNE	DANCE		NO	TES
						_					
									1		
Presend	ce of Indica	tor Spe	cies	V	Yes		No				
			rved?		Yes	\checkmark	No				
Were sp	permatophor	es obse		_							
	permatophor sh observed				Yes	\checkmark	No				
	sh observed				Yes	\square	No				
Were fis	sh observed	in the po			Yes	\square		0 TOTAL fo	or Pool Envelope and	d Critical	Terrestrial Habitat Area
Were fis	sh observed	in the po	ool?		Yes			0 TOTAL fo	or Pool Envelope and	d Critical	Terrestrial Habitat Area





EAST



Project File #60328763	Project Name: Northeast Energy Dir	rect Project	Pool ID: LT-U-VP	001
Observer: AT		Phone or	r email:	
Landowner/Applicant: WILSON SC	отт с	Phone or	r email:	
Address: 33 BRICK Y/	ARD DR City: L	ITCHFIELD	State: NH	Zip:: 03052
Location of vernal pool:				
Survey date(s):: 5/13/2015	Longitude/Latitude (in decima	l degrees): 4	42.83138362, -71.467767	63
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):			
1. Landscape Setting (check all that	apply):			
☐ Upland depression (4 pts; if the	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (was pool part of a pool pool part of a pool complex (was pool pool pool pool part of a pool pool part of a pool pool pool part of a pool pool pool pool pool pool pool po	vithin 1000 feet of one or more other v	ernal pools)(NA)		
Pool within larger wetland sys	tem (4 pts; if this is also in a floodplain	ı, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin: Natural, but altered				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:	Powerline RO	W maintenance	
3. Parent material:				
☐ Glacial fluvial ("outwash")	✓ Loose till	☐ Peat		
☐ Dense till	☐ Alluvium	☐ Coastal n	marine sediments	
4. Aquatic resource type that best ap	oplies to this pool (choose dominan	ıt):		
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	s) 🔲 Floor	dplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	Open water (2 pts)	☐ Othe	er (variable points):	
☐ Peatland (acidic fen or bog) (4p)	ots)	(2pts)		
5. Pool canopy cover (%): 0%				
6. Predominant substrate:				
✓ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepe	st zone, edge,etc	z.):	
7. Pool sizes:				
Approximate dimensions of pool (at	. ,,,,,,	<u>560.86</u>		
Maximum depth at deepest point at	time of survey (include units):	<u>18in</u>		
8. Hydrology: a Estimated hydroneriod (unless as	ctual, observed hydroperiod value(s) is	e(are) known lise	the presence of these av	vamnla
indicator species to best predict the		s(are) known, ase	the presence of these ex	tampio
□ Dries between early March and	early July (e.g., Thelypteris palustris,	Carex stricta, Imp	oatiens capensis, llex vert	ticillata)(6pts)
□ Dries between early July and early	arly September (e.g., Sagittaria latifolia	a, Scirpus cyperin	ius, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
Dries between early September	r and early November (e.g., <i>Eleocharis</i>	s palustris, Glycer	ia canadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently e	xposed (e.g., Nur	ohar spp., Potamogeton s	<i>spp</i> .)(8pts)
How long does pool hold water?	Semi-permanent			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (channel with well-	-defined banks and perma	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)	_		, -	, , , ,



9. Water quality:				
☑ Clear ☐ High turbic	dity High algae co	ntent Tannic		
14 TOTAL for Pool Ch	aracteristics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (10	0 ft) AND CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	information known):
1. Landuse type and approximate	percentage within the 100)-ft vernal pool envelope	:	
✓ Forested: 50% (16 p)	ots)	Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
✓ Shrub: <u>50%</u> (10 p	ots)	Developed: <u>%</u>	(0 pts)	
2. Landuse type and approximate	percentage within the 100)-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 60% (16 p	ots)	Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
✓ Shrub: 20% (10 p)	ots)	Developed: 20%	(0 pts)	
	iers to vernal pool fauna mo		pe and/or critical terrestrial habi	itat? If so,
Based on: 🗹 Field est	imate GIS	☐ Aerial pho	to estimate	
26 TOTAL for Pool E	nvelope and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL	POOL			
Vegetation type and percent cove		ovide eag attachment or o	ffer concealment to aquatic or a	developing larvae
Shrubs: <10%	in in the root that can pr	ovide egg attachment of o	ner conceannent to aquatic or t	developing larvae.
	ses, seges, rushes, cattails): <10%		
Submergent vegetation:	<u>10-50%</u>	<u> </u>		
Dead branches and downed wood	dy material (branches/twigs)	available for egg attachm	ent: <u>1 - 10</u>	
INDICATOR SPECIES		ECC MASSES (#)	TADDOLES/LADVAE	NOTES
INDICATOR SPECIES Wood Frog	5/13/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES
Wood Frog	5/13/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES
Wood Frog	5/13/2015	1	Tadpoles	
	5/13/2015 DATE	1 ABUNDANCE	Tadpoles	NOTES
Wood Frog FACULTATIVE SPECIES Caddisflies	5/13/2015 DATE 5/13/2015	ABUNDANCE Many	Tadpoles	
Wood Frog FACULTATIVE SPECIES	5/13/2015 DATE	1 ABUNDANCE	Tadpoles	
Wood Frog FACULTATIVE SPECIES Caddisflies Other:	5/13/2015 DATE 5/13/2015 5/13/2015	ABUNDANCE Many Few	Tadpoles	DTES
Wood Frog FACULTATIVE SPECIES Caddisflies	5/13/2015 DATE 5/13/2015	ABUNDANCE Many	Tadpoles	
Wood Frog FACULTATIVE SPECIES Caddisflies Other: PREDATOR SPECIES	5/13/2015 DATE 5/13/2015 5/13/2015 DATE	ABUNDANCE Many Few ABUNDANCE	Tadpoles NO	OTES
Wood Frog FACULTATIVE SPECIES Caddisflies Other:	5/13/2015 DATE 5/13/2015 5/13/2015	ABUNDANCE Many Few	Tadpoles NO	DTES
Wood Frog FACULTATIVE SPECIES Caddisflies Other: PREDATOR SPECIES OTHER SPECIES	5/13/2015 DATE 5/13/2015 5/13/2015 DATE DATE	ABUNDANCE Many Few ABUNDANCE ABUNDANCE	Tadpoles NO	OTES
Wood Frog FACULTATIVE SPECIES Caddisflies Other: PREDATOR SPECIES OTHER SPECIES	5/13/2015 DATE 5/13/2015 5/13/2015 DATE DATE	ABUNDANCE Many Few ABUNDANCE ABUNDANCE	Tadpoles NO	OTES
Wood Frog FACULTATIVE SPECIES Caddisflies Other: PREDATOR SPECIES OTHER SPECIES truefly larvae	5/13/2015 DATE 5/13/2015 5/13/2015 DATE DATE DATE 5/13/2015	ABUNDANCE Many Few ABUNDANCE ABUNDANCE Few	Tadpoles NO	OTES
FACULTATIVE SPECIES Caddisflies Other: PREDATOR SPECIES OTHER SPECIES truefly larvae Presence of Indicator Species	DATE 5/13/2015 DATE 5/13/2015 5/13/2015 DATE DATE 5/13/2015 ✓ Yes	ABUNDANCE Many Few ABUNDANCE ABUNDANCE Few	Tadpoles NO	OTES
FACULTATIVE SPECIES Caddisflies Other: PREDATOR SPECIES OTHER SPECIES truefly larvae Presence of Indicator Species Were spermatophores observed?	5/13/2015 DATE 5/13/2015 5/13/2015 DATE DATE DATE 5/13/2015 ✓ Yes ☐ Yes	ABUNDANCE Many Few ABUNDANCE ABUNDANCE Few No	Tadpoles NO	OTES
FACULTATIVE SPECIES Caddisflies Other: PREDATOR SPECIES OTHER SPECIES truefly larvae Presence of Indicator Species	DATE 5/13/2015 DATE 5/13/2015 DATE DATE DATE 1	ABUNDANCE Many Few ABUNDANCE ABUNDANCE Few	Tadpoles NO	OTES
FACULTATIVE SPECIES Caddisflies Other: PREDATOR SPECIES OTHER SPECIES truefly larvae Presence of Indicator Species Were spermatophores observed?	5/13/2015 DATE 5/13/2015 5/13/2015 DATE DATE DATE 5/13/2015 ✓ Yes ☐ Yes	ABUNDANCE Many Few ABUNDANCE ABUNDANCE Few No	Tadpoles NO	OTES
FACULTATIVE SPECIES Caddisflies Other: PREDATOR SPECIES OTHER SPECIES truefly larvae Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 5/13/2015 DATE 5/13/2015 DATE DATE 5/13/2015 □ Yes □ Yes □ Yes □ Yes	ABUNDANCE Many Few ABUNDANCE ABUNDANCE Few No No No	Tadpoles NO	OTES OTES
FACULTATIVE SPECIES Caddisflies Other: PREDATOR SPECIES OTHER SPECIES truefly larvae Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY 14 TOTAL for Pool Characteris	DATE 5/13/2015 DATE 5/13/2015 DATE DATE 5/13/2015 □ Yes □ Yes □ Yes □ Yes	ABUNDANCE Many Few ABUNDANCE ABUNDANCE Few No No No	Tadpoles NO NO	OTES OTES
FACULTATIVE SPECIES Caddisflies Other: PREDATOR SPECIES OTHER SPECIES truefly larvae Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	DATE 5/13/2015 DATE 5/13/2015 DATE DATE 5/13/2015 □ Yes □ Yes □ Yes □ Yes	ABUNDANCE Many Few ABUNDANCE ABUNDANCE Few No No No	Tadpoles NO NO	OTES OTES





SOUTH



Project File #60328763	Project Name: Northeast Energy Di	rect Project	Pool ID: LT-U-VP	'002
Observer: AT		Phone or	remail:	
Landowner/Applicant: SCOPELITE	S KARI	Phone or	r email:	
Address: 30 BRICK YA	ARD DR City: L	LITCHFIELD	State: NH	Zip:: 03052
Location of vernal pool:				
Survey date(s):: 5/13/2015	Longitude/Latitude (in decima	al degrees): 4	2.83293938, -71.465682	:83
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):			
1. Landscape Setting (check all that	apply):			
☐ Upland depression (4 pts; if th	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (w	rithin 1000 feet of one or more other v	vernal pools)(NA)		
Pool within larger wetland syst	tem (4 pts; if this is also in a floodplair	n, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin: Natural, but altered				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:	LOGGING		
3. Parent material:				
☐ Glacial fluvial ("outwash")	✓ Loose till	☐ Peat		
☐ Dense till	☐ Alluvium	☐ Coastal n	narine sediments	
4. Aquatic resource type that best ap	plies to this pool (choose dominar	nt):		
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	s) 🔲 Floor	dplain (overflow/oxbow) ((3pts)
✓ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Othe	er (variable points):	
☐ Peatland (acidic fen or bog) (4p	ts)	(2pts)		
5. Pool canopy cover (%): 0%				
6. Predominant substrate:				
☐ Mineral soil	Depth: 9			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.	.):	
7. Pool sizes:				
Approximate dimensions of pool (at		<u>352.63</u>		
Maximum depth at deepest point at 8. Hydrology:	time of survey (include units):	<u>9</u>		
	ctual, observed hydroperiod value(s) is	s(are) known, use	the presence of these ex	xample
indicator species to best predict the		o(a.o)o, aoo	6.000 0 0.	
□ Dries between early March and	early July (e.g., Thelypteris palustris,	Carex stricta, Imp	atiens capensis, llex ver	ticillata)(6pts)
Dries between early July and early	arly September (e.g., <i>Sagittaria latifoli</i>	a, Scirpus cyperin	us, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
□ Dries between early September	and early November (e.g., Eleocharis	s palustris, Glyceri	ia canadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently e	exposed (e.g., Nup	har spp., Potamogeton s	<i>spp</i> .)(8pts)
How long does pool hold water?	<u>Seasonal</u>			
b. Inlet/Outlet (pick one):				
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet ((channel with well-	defined banks and perma	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)		-	·	, , , ,



9. Water quality:										
☐ Clear	☐ Hi	gh turbidity	☐ Hig	h algae cor	ntent 🗹	Tannic				
<u>24</u> TC	TAL for I	Pool Characteri	istics (οι	ut of 28 ma	x.)					
B. VERNAL POO	ENVEL	OPE (100 ft) AN	ID CRITIC	CAL HABIT	TAT AREA (1	00-750 ft) CI	HARACTERISTICS	(fill in all ir	formation known):	
1. Landuse type a	and appro	oximate percen	tage with	hin the 100	-ft vernal poo	ol envelope:	:			
	50%	(16 pts)			Open (e.g., m	eadow, agric	culture, golf course):	<u>%</u>	(4 pts)	
☑ Shrub:	<u>50%</u>	(10 pts)			Developed:	<u>%</u>	(0 pts)			
2. Landuse type a	and appro	oximate percen	tage with	nin the 100	-750-ft verna	l pool critic	al terrestrial habitat	t:		
√ Forested	60%	(16 pts)			Open (e.g., m	eadow, agric	culture, golf course):	<u>%</u>	(4 pts)	
✓ Shrub:	<u>35%</u>	(10 pts)		<u></u> □	Developed:	<u>5%</u>	(0 pts)			
		nore barriers to v e directions for e					e and/or critical terre	estrial habit	at? If so,	
Based or	n: 🔽	Field estimate		GIS		Aerial phot	o estimate			
26 T	OTAL for	· Pool Envelope	and Cris	tical Torros	etrial Habitat	Aroa (out o	f 22 may \			
<u>20</u> 1	OTAL IOI	i ooi Liivelope	and Cin	tical Terres	striai riabitat	Alea (out o	1 32 max.)			
C. SPECIES PRE	SENT IN	VERNAL POOL								
Vegetation type	and perc	ent cover IN THE	E POOL t	that can pro	ovide egg atta	chment or of	fer concealment to a	quatic or d	eveloping larvae.	
Shrubs:	<u><109</u>	<u>%</u>								
Emergen	t vegetati	on (grasses, seg	ges, rushe	es, cattails):	: <10%					
O I										
_	ent veget									
_	•	ration: <10 ned woody mater		ches/twigs)	available for	egg attachm	ent: <u>1 - 10</u>			
Dead branches	•	ned woody mater	rial (brand	ches/twigs)	available for		ent: 1-10 TADPOLES/LA	RVAE	NOTES	
Dead branches	and dowr	ned woody mater	rial (brand			SSES (#)		RVAE	NOTES	
Dead branches	and dowr	ned woody mater	rial (brand	ATE	EGG MAS	SSES (#)	TADPOLES/LA	RVAE	NOTES	
Dead branches INDICA	and dowr	ed woody mater	brand (brand brand 5/13	ATE	EGG MAS	SSES (#)	TADPOLES/LA	RVAE NOT		
Dead branches INDICA	and dowr	ed woody mater	brand (brand brand 5/13	ATE 3/2015	EGG MAS	SSES (#)	TADPOLES/LA			
Dead branches INDICA W FACULT	and dowr	ed woody mater	D 5/13	ATE 3/2015	EGG MAS	ANCE	TADPOLES/LA		ES	
Dead branches INDICA W FACULT	and dowr	ed woody mater	D 5/13	ATE 3/2015 ATE	EGG MAS	ANCE	TADPOLES/LA	NOT	ES	
Dead branches INDICA W FACULT PREDA	and dowr	ed woody mater ECIES PECIES ECIES	D 5/13	ATE 3/2015 ATE	EGG MAS	ANCE	TADPOLES/LA	NOT	ES	
Dead branches INDICA W FACULT PREDA	and dowr TOR SPE ood Frog ATIVE SF	ed woody mater CIES PECIES CIES	D 5/13	ATE 3/2015 ATE ATE	ABUND	ANCE ANCE	TADPOLES/LA	NOT	ES	
Dead branches INDICA W FACULT PREDA	and down TOR SPE OOD Frog ATIVE SF TOR SPE ER SPECI	ed woody mater CIES PECIES CIES	D 5/13	ATE ATE ATE	ABUND	ANCE ANCE	TADPOLES/LA	NOT	ES	
Dead branches INDICA W FACULT PREDA	and down TOR SPE OOD Frog ATIVE SF TOR SPE ER SPECI	ed woody mater CIES PECIES CIES	D 5/13	ATE ATE ATE	ABUND	ANCE ANCE	TADPOLES/LA	NOT	ES	
Dead branches INDICA W FACULT PREDA	and down TOR SPE OOD Frog ATIVE SF TOR SPE ER SPECI	PECIES ECIES G	D 5/13	ATE ATE ATE ATE ATE ATE ATE	ABUND	ANCE ANCE	TADPOLES/LA	NOT	ES	
PREDA OTHE	and down TOR SPE ood Frog ATIVE SF TOR SPE ER SPECI	PECIES ECIES G Cies	D 5/13	ATE ATE ATE ATE STATE ATE ATE ATE	ABUND ABUND Fe	ANCE ANCE	TADPOLES/LA	NOT	ES	
Presence of Indic	and down TOR SPE OOD Frog ATIVE SF TOR SPE ER SPECI EEN FRO ator Special Spec	PECIES ECIES ECIES ECIES G cies erved?	D D D D T/13	ATE ATE ATE 3/2015 ATE S [ABUND ABUND Fe	ANCE ANCE	TADPOLES/LA	NOT	ES	
Presence of India Were spermatoph	and down TOR SPE OOD Frog ATIVE SF TOR SPE ER SPECI EEN FRO ator Special Spec	PECIES ECIES ECIES ECIES G cies erved?	D 5/13 D D 5/13	ATE ATE ATE 3/2015 ATE S [ABUND ABUND Fe No	ANCE ANCE	TADPOLES/LA	NOT	ES	
Presence of India Were spermatoph Were fish observe	and down TOR SPE ood Frog ATIVE SF TOR SPE ER SPECI EEN FRO ator Speciator	PECIES ECIES ECIES ECIES G cies erved?	D D D S/13	ATE ATE ATE 3/2015 ATE S [ABUND ABUND ABUND Fe'	ANCE ANCE	TADPOLES/LA Tadpoles	NOT NOT	ES	
Presence of India Were spermatoph Were fish observe	and down TOR SPE ood Frog ATIVE SF TOR SPE ER SPECI EEN FRO ator Speciator	PECIES ECIES ECIES ECIES ECIES ECIES ECIES OCIES ECIES OCIES OCIES OCIES OCIES OCIES OCIES OCIES	D D D S/13	ATE ATE ATE 3/2015 ATE S [ABUND ABUND ABUND Fe'	ANCE ANCE	TADPOLES/LA Tadpoles	NOT NOT	ES	





EAST



Project File #60328763	Project Name: Northeast Energy Dire	ct Project Pool ID: LT-U-VP003	
Observer: AT		Phone or email:	
Landowner/Applicant: SCOPELITES	S KARI	Phone or email:	
Address: 30 BRICK YA	ARD DR City: LI	CHFIELD State: NH Zip::	03052
Location of vernal pool:			
Survey date(s):: 5/13/2015	Longitude/Latitude (in decimal	degrees): 42.83265723, -71.46540394	
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):		
1. Landscape Setting (check all that a	apply):		
☐ Upland depression (4 pts; if thi	s is also in a floodplain, use 2 pts)		
Pool part of a pool complex (w	ithin 1000 feet of one or more other ve	nal pools)(NA)	
☐ Pool within larger wetland syst	em (4 pts; if this is also in a floodplain,	use 2 pts)	
□ Pool part of wildlife corridor (4	pts)		
☐ Other (variable pts):			
Pool Origin: Natural, but altered			
2. Vernal pool condition:			
Describe any recent modifications to	the pool and associated landscape:	ROW MAINTENANCE LANDOWNER IMPACTS	
3. Parent material:			
☐ Glacial fluvial ("outwash")	✓ Loose till	☐ Peat	
☐ Dense till	☐ Alluvium	☐ Coastal marine sediments	
4. Aquatic resource type that best ap	plies to this pool (choose dominant	:	
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Floodplain (overflow/oxbow) (3pts)	
✓ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable points):	
☐ Peatland (acidic fen or bog) (4p	ts)	pts)	
5. Pool canopy cover (%): 0%			
6. Predominant substrate:			
☐ Mineral soil	Depth: 24		
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepes	zone, edge,etc.):	
7. Pool sizes:			
Approximate dimensions of pool (at Maximum depth at deepest point at		178.75	
8. Hydrology:	time of survey (include units).	12 INCHES	
•		are) known, use the presence of these example	
□ Dries between early March and	early July (e.g., Thelypteris palustris, (arex stricta, Impatiens capensis, Ilex verticillata)(6p	its)
□ Dries between early July and ea	ırly September (e.g., <i>Sagittaria latifolia</i>	Scirpus cyperinus, Dulichium arundinaceum, Ceph	alanthus occ.)(8pts)
Dries between early September	and early November (e.g., Eleocharis	palustris, Glyceria canadensis, Utricularia spp., Dec	odon vert.)(8pts)
☐ Dries between early November	and late December, or intermittently ex	posed (e.g., Nuphar spp., Potamogeton spp.)(8pts)	
How long does pool hold water?	Semi-permanent		
b. Inlet/Outlet (pick one):			
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (c	nannel with well-defined banks and permanent flow)	(2 pts)
☑ Temporary inlet/outlet (6 pts)			



9. Water quality:				
☐ Clear ☐ High turbidity	✓ High algae con	tent Tannic		
18 TOTAL for Pool Character	istics (out of 28 ma	x.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	ID CRITICAL HABIT	AT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and approximate percen	tage within the 100	-ft vernal pool envelope	:	
✓ Forested: <u>50%</u> (16 pts)	☑ (Open (e.g., meadow, agric	culture, golf course): 10%	(4 pts)
✓ Shrub: <u>40%</u> (10 pts)		Developed: <u>%</u>	(0 pts)	
2. Landuse type and approximate percen	tage within the 100-	-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 40% (16 pts)	☑ (Open (e.g., meadow, agric	culture, golf course): 5%	(4 pts)
✓ Shrub: 40% (10 pts)	☑ [Developed: <u>15%</u>	(0 pts)	
Are there one or more barriers to vecheck here and see directions for each				oitat? If so,
Based on:	☐ GIS	☐ Aerial phot	to estimate	
30 TOTAL for Pool Envelope	e and Critical Terres	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN TH		vide egg attachment or of	ffer concealment to aquatic or	developing larvae.
Shrubs: NA	_ : 00a. 0a p. 0	mae egg amaeimen en ei	comocamion to aquatic ci	developing iarvaer
Emergent vegetation (grasses, seg	ges, rushes, cattails):	<10%		
Submergent vegetation: <10	<u>0%</u>			
Submergent vegetation: <11 Dead branches and downed woody mate		,	ent: <u>1 - 10</u>	
		,	ent: <u>1 - 10</u> TADPOLES/LARVAE	NOTES
Dead branches and downed woody mate	rial (branches/twigs)	available for egg attachm		NOTES
Dead branches and downed woody mate INDICATOR SPECIES	rial (branches/twigs) DATE	available for egg attachm	TADPOLES/LARVAE	NOTES
Dead branches and downed woody mate INDICATOR SPECIES	rial (branches/twigs) DATE	available for egg attachm	TADPOLES/LARVAE Tadpoles	NOTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog	DATE 5/13/2015	available for egg attachm EGG MASSES (#) 2	TADPOLES/LARVAE Tadpoles	
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog	DATE 5/13/2015	available for egg attachm EGG MASSES (#) 2	TADPOLES/LARVAE Tadpoles	
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 5/13/2015 DATE DATE DATE	available for egg attachm EGG MASSES (#) 2 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles No	DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 5/13/2015 DATE DATE	available for egg attachm EGG MASSES (#) 2 ABUNDANCE	TADPOLES/LARVAE Tadpoles No	DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 5/13/2015 DATE DATE DATE	available for egg attachm EGG MASSES (#) 2 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles No	DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 5/13/2015 DATE DATE DATE DATE DATE	available for egg attachm EGG MASSES (#) 2 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles No	DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES	DATE 5/13/2015 DATE DATE DATE DATE DATE Ves	available for egg attachm EGG MASSES (#) 2 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles No	DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 5/13/2015 DATE DATE DATE DATE Ves Yes	available for egg attachm EGG MASSES (#) 2 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles No	DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 5/13/2015 DATE DATE DATE DATE Ves Yes	available for egg attachm EGG MASSES (#) 2 ABUNDANCE ABUNDANCE ABUNDANCE No No	TADPOLES/LARVAE Tadpoles No	DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 5/13/2015 DATE DATE DATE DATE Ves Yes Yes Yes	ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles No	OTES OTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	DATE 5/13/2015 DATE DATE DATE DATE Ves Yes Yes Yes	ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles No	OTES OTES





NORTH



Project File #60328763	Project Name: Northeast Energy Dir	ect Project	Pool ID: L7	Γ-U-VP004	
Observer: AT		Phone	or email:		
Landowner/Applicant: K & M DEVEL	OPERS LLC	Phone	or email:		
Address: 40 BRICK YA	RD DR City: L	ITCHFIELD	State: NH	Zip::	03052
Location of vernal pool:					
Survey date(s):: 5/13/2015	Longitude/Latitude (in decimal	l degrees):	42.83350379, -71.4	16285771	
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):				
1. Landscape Setting (check all that a	ipply):				
☐ Upland depression (4 pts; if thi	s is also in a floodplain, use 2 pts)				
Pool part of a pool complex (with a pool complex of a pool comp	thin 1000 feet of one or more other ve	ernal pools)(NA	.)		
☐ Pool within larger wetland system	em (4 pts; if this is also in a floodplain	, use 2 pts)			
□ Pool part of wildlife corridor (4	pts)				
☐ Other (variable pts):					
Pool Origin: Ditch along road or ru	ut from vehicle				
2. Vernal pool condition:					
Describe any recent modifications to	the pool and associated landscape:	ATV TRAIL			
3. Parent material:					
☐ Glacial fluvial ("outwash")	✓ Loose till	☐ Peat			
☐ Dense till	☐ Alluvium	☐ Coasta	Il marine sediments		
4. Aquatic resource type that best ap	plies to this pool (choose dominan	t):			
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	s) 🔲 Flo	oodplain (overflow/ox	(bow) (3pts)	
☑ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Ot	her (variable points):		
☐ Peatland (acidic fen or bog) (4pt	s) Intermittent stream reach ((2pts)			
5. Pool canopy cover (%): 5%					
6. Predominant substrate:					
✓ Mineral soil	Depth:				
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepe	st zone, edge,e	etc.):		
7. Pool sizes:					
Approximate dimensions of pool (at		<u>1398.09</u>			
Maximum depth at deepest point at 8. Hydrology:	time of survey (include units):	8 INCHES			
· ·	tual, observed hydroperiod value(s) is expected hydroperiod of the pool):	s(are) known, us	se the presence of th	iese example	
·	early July (e.g., Thelypteris palustris,	Carex stricta. Ir	mpatiens capensis. I	lex verticillata)(6p	ts)
_	rly September (e.g., Sagittaria latifolia		•	, , ,	ŕ
_ , ,	and early November (e.g., <i>Eleochari</i> s			•	, , , ,
	and late December, or intermittently e			• • •	,,,,
	•	. (-3,	, ,,,	, , , , , , , , , , , , , , , , , , , ,	
How long does pool hold water?	<u>Seasonal</u>				
b. Inlet/Outlet (pick one):	Daniel Color	aliana at 190	-U -1-61	1	(0 - 1-)
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (cnannel with we	eii-defined banks and	ı permanent flow)	(2 pts)
Temporary inlet/outlet (6 pts)					



9. Water quality:				
☑ Clear ☐ High turbidity	☐ High algae co	ontent		
18 TOTAL for Pool Charact	eristics (out of 28 m	ax.)		
B. VERNAL POOL ENVELOPE (100 ft)	AND CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	information known):
1. Landuse type and approximate perc	entage within the 10	0-ft vernal pool envelope	:	
✓ Forested: 50% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
✓ Shrub: <u>50%</u> (10 pts)		Developed: %	(0 pts)	
2. Landuse type and approximate perc	entage within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 50% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
✓ Shrub: 50% (10 pts)		Developed: <u>%</u>	(0 pts)	
Are there one or more barriers to check here and see directions for				itat? If so,
Based on: Field estimate	GIS	☐ Aerial phot	to estimate	
26 TOTAL for Pool Envelo	pe and Critical Terre	estrial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POO	DL			
Vegetation type and percent cover IN 1	HE POOL that can pr	ovide egg attachment or of	ffer concealment to aquatic or	developing larvae.
Shrubs: <u>NA</u>	·	00	·	
Emergent vegetation (grasses, s	seges, rushes, cattails): <u>10-50%</u>		
Submergent vegetation:	<u><10%</u>			
Dead branches and downed woody ma	terial (branches/twigs) available for egg attachm	ent: <u>1 - 10</u>	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Wood Frog	DATE 5/13/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES
				NOTES
			Tadpoles	NOTES
Wood Frog	5/13/2015	1	Tadpoles	
Wood Frog FACULTATIVE SPECIES	5/13/2015 DATE	1 ABUNDANCE	Tadpoles	
Wood Frog FACULTATIVE SPECIES	5/13/2015 DATE	1 ABUNDANCE	Tadpoles NO	
FACULTATIVE SPECIES True fly larvae or pupae PREDATOR SPECIES	5/13/2015 DATE 5/13/2015	ABUNDANCE Few	Tadpoles NO	DTES
FACULTATIVE SPECIES True fly larvae or pupae PREDATOR SPECIES OTHER SPECIES	5/13/2015 DATE 5/13/2015 DATE DATE	ABUNDANCE Few ABUNDANCE ABUNDANCE	Tadpoles NO	DTES
FACULTATIVE SPECIES True fly larvae or pupae PREDATOR SPECIES	5/13/2015 DATE 5/13/2015 DATE	ABUNDANCE Few ABUNDANCE	Tadpoles NO	OTES
FACULTATIVE SPECIES True fly larvae or pupae PREDATOR SPECIES OTHER SPECIES	5/13/2015 DATE 5/13/2015 DATE DATE	ABUNDANCE Few ABUNDANCE ABUNDANCE	Tadpoles NO	PTES
FACULTATIVE SPECIES True fly larvae or pupae PREDATOR SPECIES OTHER SPECIES PAINTED TURTLE	5/13/2015 DATE 5/13/2015 DATE DATE 5/13/2015	ABUNDANCE Few ABUNDANCE ABUNDANCE Few	Tadpoles NO	OTES
FACULTATIVE SPECIES True fly larvae or pupae PREDATOR SPECIES OTHER SPECIES PAINTED TURTLE	DATE 5/13/2015 DATE 5/13/2015 DATE 5/13/2015 5/13/2015	ABUNDANCE Few ABUNDANCE ABUNDANCE Few	Tadpoles NO	OTES
FACULTATIVE SPECIES True fly larvae or pupae PREDATOR SPECIES OTHER SPECIES PAINTED TURTLE PICKEREL FROG	5/13/2015 DATE 5/13/2015 DATE DATE 5/13/2015 5/13/2015 5/13/2015	ABUNDANCE Few ABUNDANCE ABUNDANCE Few Few	Tadpoles NO	PTES
FACULTATIVE SPECIES True fly larvae or pupae PREDATOR SPECIES OTHER SPECIES PAINTED TURTLE PICKEREL FROG Presence of Indicator Species	5/13/2015 DATE 5/13/2015 DATE DATE 5/13/2015 5/13/2015 √ Yes ☐ Yes	ABUNDANCE Few ABUNDANCE Few Few No	Tadpoles NO	OTES
FACULTATIVE SPECIES True fly larvae or pupae PREDATOR SPECIES OTHER SPECIES PAINTED TURTLE PICKEREL FROG Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	5/13/2015 DATE 5/13/2015 DATE DATE 5/13/2015 5/13/2015 √ Yes ☐ Yes	ABUNDANCE Few ABUNDANCE Few Few No	Tadpoles NO	OTES
FACULTATIVE SPECIES True fly larvae or pupae PREDATOR SPECIES OTHER SPECIES PAINTED TURTLE PICKEREL FROG Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	DATE 5/13/2015 DATE 5/13/2015 DATE 5/13/2015 5/13/2015 ✓ Yes ☐ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE Few ABUNDANCE Few Few No No No	Tadpoles NO NO	OTES OTES
FACULTATIVE SPECIES True fly larvae or pupae PREDATOR SPECIES OTHER SPECIES PAINTED TURTLE PICKEREL FROG Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY 18 TOTAL for Pool Character	DATE 5/13/2015 DATE 5/13/2015 DATE 5/13/2015 5/13/2015 ✓ Yes ☐ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE Few ABUNDANCE Few Few No No No	Tadpoles NO	OTES OTES
FACULTATIVE SPECIES True fly larvae or pupae PREDATOR SPECIES OTHER SPECIES PAINTED TURTLE PICKEREL FROG Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	DATE 5/13/2015 DATE 5/13/2015 DATE 5/13/2015 5/13/2015 ✓ Yes ☐ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE Few ABUNDANCE Few Few No No No	Tadpoles NO NO	OTES OTES





NORTH



Project File #60328763	Project Name: Northeast Energy Di	rect Project	Pool ID: LT-U-VP	'005
Observer: AT		Phone or	email:	
Landowner/Applicant: K & M DEVE	LOPERS LLC	Phone or	email:	
Address: 40 BRICK Y/	ARD DR City: L	LITCHFIELD	State: NH	Zip:: 03052
Location of vernal pool:				
Survey date(s):: 5/13/2015	Longitude/Latitude (in decima	al degrees): 4:	2.83419006, -71.458446	526
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):			
1. Landscape Setting (check all that	apply):			
☐ Upland depression (4 pts; if the	is is also in a floodplain, use 2 pts)			
☑ Pool part of a pool complex (w	vithin 1000 feet of one or more other v	vernal pools)(NA)		
☐ Pool within larger wetland sys	tem (4 pts; if this is also in a floodplair	n, use 2 pts)		
☐ Pool part of wildlife corridor (4)	pts)			
☐ Other (variable pts):				
Pool Origin: Natural, but altered				
2. Vernal pool condition:				
Describe any recent modifications to	the pool and associated landscape:	ATV TRAIL		
3. Parent material:				
☐ Glacial fluvial ("outwash")	✓ Loose till	☐ Peat		
☐ Dense till	☐ Alluvium	☐ Coastal m	narine sediments	
4. Aquatic resource type that best ap	oplies to this pool (choose dominar	nt):		
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	s) 🔲 Flood	dplain (overflow/oxbow) ((3pts)
✓ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other	r (variable points):	
☐ Peatland (acidic fen or bog) (4p	ots)	(2pts)		
5. Pool canopy cover (%): %				
6. Predominant substrate:				
☑ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.):	
7. Pool sizes:				
Approximate dimensions of pool (at	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u>5188.12</u>		
Maximum depth at deepest point at 8. Hydrology:	time of survey (include units):	36 INCHES		
, ,,	ctual, observed hydroperiod value(s) i	is(are) known, use	the presence of these ex	xample
indicator species to best predict the		S(G. 5) 1.1.5 11.1, G. 5	p. 000.100 0. 11.000 0.	
□ Dries between early March and	early July (e.g., Thelypteris palustris,	, Carex stricta, Imp	atiens capensis, llex ver	ticillata)(6pts)
□ Dries between early July and early	arly September (e.g., Sagittaria latifoli	ia, Scirpus cyperinı	ıs, Dulichium arundinace	eum, Cephalanthus occ.)(8pts)
□ Dries between early September	r and early November (e.g., <i>Eleochari</i>	s palustris, Glyceria	a canadensis, Utricularia	spp., Decodon vert.)(8pts)
Dries between early November	and late December, or intermittently e	exposed (e.g., Nup	har spp., Potamogeton s	<i>spp</i> .)(8pts)
How long does pool hold water?	Semi-permanent			
b. Inlet/Outlet (pick one):				
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet ((channel with well-	defined banks and perma	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)	_		, -	, , , ,



9. Water	r quality:											
	Clear	□н	ligh turbidity		High algae c	onte	nt 🗹 Tan	nic				
	<u>20</u> TO	TAL for	Pool Character	istics	(out of 28 n	nax.))					
B. VER	NAL POOL	ENVEL	OPE (100 ft) AN	ID CR	ITICAL HAE	ITA	T AREA (100-7	50 ft) CI	HARACTERISTICS (fill	in all in	nformation known):	
1. Land	use type ar	nd appr	roximate percen	tage	within the 1	00-ft	vernal pool er	velope	:			
	Forested:	<u>50%</u>	(16 pts)			Op	en (e.g., mead	ow, agric	culture, golf course):	<u>%</u>	(4 pts)	
	Shrub:	<u>45%</u>	(10 pts)		\square	De	veloped: <u>5</u>	<u>%</u>	(0 pts)			
2. Land	use type ar	nd appr	oximate percen	tage	within the 1	00-7	50-ft vernal po	ol critic	al terrestrial habitat:			
	Forested:	<u>45%</u>	(16 pts)			Op	en (e.g., mead	ow, agric	culture, golf course):	<u>%</u>	(4 pts)	
$\overline{\checkmark}$	Shrub:	<u>45%</u>	(10 pts)		\checkmark	De	veloped: 1	<u>0%</u>	(0 pts)			
			more barriers to vee directions for						e and/or critical terrestr	ial habit	at? If so,	
	Based on:		Field estimate		☐ GIS		☐ A∈	erial phot	o estimate			
	<u>26</u> TO	TAL fo	r Pool Envelope	e and	Critical Teri	estr	ial Habitat Are	a (out o	f 32 max.)			
C. SPEC	CIES PRES	ENT IN	VERNAL POOL									
Veget	ation type a	and per	cent cover IN TH	E PO	OL that can p	rovi	de egg attachm	ent or of	fer concealment to aqua	atic or d	eveloping larvae.	
	Shrubs:	<u>NA</u>										
	•	•	tion (grasses, se		ushes, cattail	s):	<u>NA</u>					
Deed	Submerge	•		<u>0%</u>		- \		- 11 1				
Dead	branches a	na aow	ned woody mate	riai (b	rancnes/twig	s) a	/allable for egg	attacnm	ent: <u>1 - 10</u>			
	INDICAT				DATE		EGG MASSE	S (#)	TADPOLES/LARV	AE	NOTES	
	Wo	od Frog			5/13/2015				Tadpoles			
						\perp						
	FACULTA				DATE	4	ABUNDAN	CE		NO	TES	
	Ca	ddisflies	S	-	5/13/2015	\perp	Few					
	PREDAT	OR SP	ECIES		DATE	+	ABUNDAN	CE		NO	TES	
	OTUE	R SPEC	MEG		DATE	\perp	ABUNDANG	`E		NO	TES	
		NE FL			5/13/2015	+	Few	, E		NO	1123	
				\vdash		+						_
	e of Indica	-		\square	Yes		No					
Were sp	ermatopho	res obs	erved?		Yes	\checkmark	No					
Were fis	h observed	in the p	oool?		Yes	V	No					
SUMMA	RY											
	<u>20</u> TOTA	L for P	ool Characterist	ics			<u>26</u> TC	TAL fo	Pool Envelope and C	ritical 1	Terrestrial Habitat Area	
Other Co	omments:											





EAST ATV TRAILING



Project File #60328763	Project Name: Northeast Energy Di	irect Project	Pool ID: MS-U-VP	' 001
Observer: AT		Phone	or email:	
Landowner/Applicant: COLLETON	TIMOTHY A.	Phone	or email:	
Address: 475 TOWNS	END ROAD City: N	MASON	State: NH	Zip:: 03048
Location of vernal pool:				
Survey date(s):: 5/19/2015	Longitude/Latitude (in decima	al degrees):	42.72469387, -71.7427608	85
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):			
1. Landscape Setting (check all that	apply):			
☐ Upland depression (4 pts; if the	is is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (v	vithin 1000 feet of one or more other v	vernal pools)(NA	()	
Pool within larger wetland sys	tem (4 pts; if this is also in a floodplair	n, use 2 pts)		
□ Pool part of wildlife corridor (4	pts)			
☐ Other (variable pts):				
Pool Origin: Natural Depression				
2. Vernal pool condition:				
•	the pool and associated landscape:	recently loge	ged adjacent forest	
3. Parent material:				
☐ Glacial fluvial ("outwash")	✓ Loose till	☐ Peat		
☐ Dense till	☐ Alluvium	□ Coasta	al marine sediments	
4. Aquatic resource type that best ap	oplies to this pool (choose dominar	nt):		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	s) 🔲 Flo	oodplain (overflow/oxbow) (3	3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Oti	ther (variable points):	
☐ Peatland (acidic fen or bog) (4p	ots)	(2pts)		
5. Pool canopy cover (%): <u>70%</u>				
6. Predominant substrate:				
☐ Mineral soil	Depth: <u>24</u>			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,e	etc.):	
7. Pool sizes:				
Approximate dimensions of pool (at	maximum capacity) (sq. feet):	<u>6812.32</u>		
Maximum depth at deepest point at	time of survey (include units):	<u>24</u>		
8. Hydrology:	otual absorved budrapariad valua(a) i	io(ara) known u	as the presence of these ev	rample
indicator species to best predict the	ctual, observed hydroperiod value(s) is expected hydroperiod of the pool):	s(are) known, us	se the presence of these ex	ample
□ Dries between early March and	early July (e.g., Thelypteris palustris,	, Carex stricta, Ir	mpatiens capensis, llex vert	icillata)(6pts)
☐ Dries between early July and ea	arly September (e.g., Sagittaria latifoli	ia, Scirpus cyper	rinus, Dulichium arundinace	um, Cephalanthus occ.)(8pts)
☑ Dries between early September	r and early November (e.g., <i>Eleochari</i>	is palustris, Glyc	eria canadensis, Utricularia	spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently e	exposed (e.g., N	luphar spp., Potamogeton s _l	pp.)(8pts)
How long does pool hold water?	Semi-permanent			
b. Inlet/Outlet (pick one):				
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet ((channel with we	ell-defined banks and perma	anent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)				



✓ Clear	☐ High turbidity	☐ High algae co	ntent Tannic		
<u>24</u> TO1	TAL for Pool Character	istics (out of 28 ma	ax.)		
B. VERNAL POOL	ENVELOPE (100 ft) AN	ID CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type ar	nd approximate percen	tage within the 100)-ft vernal pool envelope	:	
✓ Forested:	35% (16 pts)	\square	Open (e.g., meadow, agric	culture, golf course): 30%	(4 pts)
☑ Shrub:	35% (10 pts)		Developed: %	(0 pts)	
• •		tage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested:	` ' '	\square	Open (e.g., meadow, agric	culture, golf course): 30%	(4 pts)
☑ Shrub:	30% (10 pts)	\square	Developed: <u>5%</u>	(0 pts)	
			ovement within the envelop o incorporate this informat	pe and/or critical terrestrial hab ion.	itat? If so,
Based on:	✓ Field estimate	☐ GIS	☐ Aerial pho	to estimate	
<u>30</u> TO	TAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	of 32 max.)	
C. SPECIES PRES	ENT IN VERNAL POOL				
Vegetation type a	and percent cover IN TH	E POOL that can pro	ovide egg attachment or o	ffer concealment to aquatic or	developing larvae.
Shrubs:	<u>10-50%</u>	•	33	'	1 3
Emergent	vegetation (grasses, seg	ges, rushes, cattails)	: <u>10-50%</u>		
•	ent vegetation: <10				
Dead branches a	and downed woody mate	rial (branches/twigs)	available for egg attachm	nent: greater than 10	
INDICAT	OR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Unidentified	Mole Salamander	5/19/2015			
Officerunica	Wille Salamanuel	3/19/2013		Larvae	
Officerunical		5/19/2015		Larvae	
	TIVE SPECIES	DATE	ABUNDANCE		DTES
FACULTA			ABUNDANCE Few		DTES
FACULTA Sprin	TIVE SPECIES	DATE			DTES
FACULTA Sprin	TIVE SPECIES	DATE 5/19/2015	Few		DTES
FACULTA Sprin Gray	TIVE SPECIES	DATE 5/19/2015	Few	NC	DTES DTES
FACULTA Sprin Gray	TIVE SPECIES ng Peeper Tree Frog	DATE 5/19/2015 5/19/2015	Few Few	NC	
FACULTA Sprin Gray	TIVE SPECIES ng Peeper Tree Frog	DATE 5/19/2015 5/19/2015	Few Few	NC NC	
FACULTA Sprin Gray	TIVE SPECIES ag Peeper Tree Frog OR SPECIES	DATE 5/19/2015 5/19/2015 DATE	Few Few ABUNDANCE	NC NC	DTES
FACULTA Sprin Gray	TIVE SPECIES ag Peeper Tree Frog OR SPECIES R SPECIES	DATE 5/19/2015 5/19/2015 DATE DATE	Few Few ABUNDANCE	NC NC	DTES
FACULTA Sprin Gray PREDAT	TIVE SPECIES Ing Peeper Tree Frog TOR SPECIES R SPECIES	DATE 5/19/2015 5/19/2015 DATE DATE ✓ Yes	Few Few ABUNDANCE ABUNDANCE	NC NC	DTES
FACULTA Sprin Gray PREDAT OTHER	TIVE SPECIES Ing Peeper Tree Frog FOR SPECIES R SPECIES Inter Species Inter Species Inter Species Inter Species Inter Species Inter Species	DATE 5/19/2015 5/19/2015 DATE DATE ✓ Yes ☐ Yes	Few Few ABUNDANCE ABUNDANCE	NC NC	DTES
FACULTA Sprin Gray PREDAT OTHER Presence of Indica Were spermatophore	TIVE SPECIES Ing Peeper Tree Frog FOR SPECIES R SPECIES Inter Species Inter Species Inter Species Inter Species Inter Species Inter Species	DATE 5/19/2015 5/19/2015 DATE DATE ✓ Yes ☐ Yes	Few Few ABUNDANCE ABUNDANCE No No	NC NC	DTES
FACULTA Sprin Gray PREDAT OTHER Presence of Indica Were spermatophor Were fish observed	TIVE SPECIES Ing Peeper Tree Frog FOR SPECIES R SPECIES Inter Species Inter Species Inter Species Inter Species Inter Species Inter Species	DATE 5/19/2015 5/19/2015 DATE DATE Ves Yes Yes Yes	Few Few ABUNDANCE ABUNDANCE No No No	NC NC	DTES DTES
PREDAT OTHER Presence of Indica Were spermatophor Were fish observed SUMMARY 24 TOTA	TIVE SPECIES ag Peeper Tree Frog FOR SPECIES R SPECIES ator Species res observed? I in the pool?	DATE 5/19/2015 5/19/2015 DATE DATE Ves Yes Yes Yes	Few Few ABUNDANCE ABUNDANCE No No No	NC NC	DTES DTES
FACULTA Sprin Gray PREDAT OTHER Presence of Indica Were spermatophor Were fish observed	TIVE SPECIES ag Peeper Tree Frog FOR SPECIES R SPECIES ator Species res observed? I in the pool?	DATE 5/19/2015 5/19/2015 DATE DATE Ves Yes Yes Yes	Few Few ABUNDANCE ABUNDANCE No No No	NC NC	DTES DTES
PREDAT OTHER Presence of Indica Were spermatophor Were fish observed SUMMARY 24 TOTA	TIVE SPECIES ag Peeper Tree Frog FOR SPECIES R SPECIES ator Species res observed? I in the pool?	DATE 5/19/2015 5/19/2015 DATE DATE Ves Yes Yes Yes	Few Few ABUNDANCE ABUNDANCE No No No	NC NC	DTES DTES
PREDAT OTHER Presence of Indica Were spermatophor Were fish observed SUMMARY 24 TOTA	TIVE SPECIES ag Peeper Tree Frog FOR SPECIES R SPECIES ator Species res observed? I in the pool?	DATE 5/19/2015 5/19/2015 DATE DATE Ves Yes Yes Yes	Few Few ABUNDANCE ABUNDANCE No No No	NC NC	DTES DTES

AECOM



SOUTH



SOUTHWEST



NORTHWEST





Project File #60328763	Project Name: Northeast Energy Dire	ct Project	Pool ID: MS-U-VP0	002
Observer: AT		Phone	e or email:	
Landowner/Applicant: ROTA DANE I	L.	Phone	e or email:	
Address: 1199 VALLEY	ROAD City: MA	ASON	State: NH	Zip:: 03048
Location of vernal pool:				
Survey date(s):: 5/19/2015	Longitude/Latitude (in decimal	degrees):	42.71380138, -71.7562778	8
A. VERNAL POOL CHARACTERISTICS	(fill in all information known):			
I. Landscape Setting (check all that ap	oply):			
✓ Upland depression (4 pts; if this	is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (with	nin 1000 feet of one or more other ve	rnal pools)(NA	4)	
☑ Pool within larger wetland system	m (4 pts; if this is also in a floodplain,	use 2 pts)		
☐ Pool part of wildlife corridor (4 p	ts)			
Other (variable pts):				
Pool Origin: Natural Depression				
2. Vernal pool condition:				
Describe any recent modifications to the	ne pool and associated landscape:			
,				
3. Parent material:				
☐ Glacial fluvial ("outwash")	✓ Loose till	☐ Peat		
☐ Dense till	☐ Alluvium	☐ Coasta	al marine sediments	
4. Aquatic resource type that best app	lies to this pool (choose dominant)):		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	□ Fl	oodplain (overflow/oxbow) (3	pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	□ O:	ther (variable points):	
☐ Peatland (acidic fen or bog) (4pts) Intermittent stream reach (2	2pts)		
5. Pool canopy cover (%): <u>75%</u>				
6. Predominant substrate:				
☐ Mineral soil	Depth: 4			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepes	t zone, edge,	etc.):	
7. Pool sizes:				
Approximate dimensions of pool (at m	naximum capacity) (sq. feet):	<u>134.15</u>		
Maximum depth at deepest point at til	me of survey (include units):	<u>4</u>		
B. Hydrology:		(a.a.) l.a.a		
a. Estimated hydroperiod (unless actu- indicator species to best predict the ex-		are) known, u	ise the presence of these exa	mpie
☑ Dries between early March and early	arly July (e.g., Thelypteris palustris, C	Carex stricta, I	mpatiens capensis, llex vertic	cillata)(6pts)
☐ Dries between early July and early	y September (e.g., Sagittaria latifolia,	Scirpus cype	rinus, Dulichium arundinaceu	ım, Cephalanthus occ.)(8pts)
□ Dries between early September a	nd early November (e.g., <i>Eleocharis</i>	palustris, Glyd	peria canadensis, Utricularia s	spp., Decodon vert.)(8pts)
□ Dries between early November ar	nd late December, or intermittently ex	posed (e.g., N	Nuphar spp., Potamogeton sp	p.)(8pts)
How long does pool hold water?	<u>Seasonal</u>			
b. Inlet/Outlet (pick one):				
☑ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (c	hannel with w	ell-defined banks and permar	nent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)				



Clear	9. Water quality:					
B. VERNAL POOL ENVELOPE (100 ft) AND CRITICAL HABITAT AREA (100-750 ft) CHARACTERISTICS (fill in all information known): 1. Landuse type and approximate percentage within the 100-ft vernal pool envelope: Forested: 80%	☑ Clear ☐ Hi	gh turbidity	High algae con	tent Tannic		
1. Landuse type and approximate percentage within the 100-ft vernal pool envelope: Forested: 80% (16 pts) Open (e.g., meadow, agriculture, golf course): % (4 pts)	26 TOTAL for I	Pool Characteristics	(out of 28 max	x.)		
Forested: 80% (16 pts)	B. VERNAL POOL ENVELO	OPE (100 ft) AND CR	ITICAL HABIT	AT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	information known):
Shnub: 5½ (10 pts) Developed: 15½ (0 pts)	1. Landuse type and appro	oximate percentage	within the 100	-ft vernal pool envelope	:	
2. Landuse type and approximate percentage within the 100-750-ft vernal pool critical terrestrial habitat: Forested: 80%	✓ Forested: 80%	(16 pts)		Open (e.g., meadow, agri	culture, golf course): %	(4 pts)
Forested: 809½ (16 pts)	✓ Shrub: <u>5%</u>	(10 pts)	☑ [Developed: <u>15%</u>	(0 pts)	
Shrub: 5½ (10 pts) Developed: 15½ (0 pts) Are there one or more barriers to vernal pool fauna movement within the envelope and/or critical terrestrial habitat? If so, check here and see directions for explanation of how to incorporate this information. Based on:	2. Landuse type and appro	oximate percentage	within the 100-	-750-ft vernal pool critic	al terrestrial habitat:	
Are there one or more barriers to vernal pool fauna movement within the envelope and/or critical terrestrial habitat? If so, check here and see directions for explanation of how to incorporate this information. Based on: Field estimate	✓ Forested: 80%	(16 pts)		Open (e.g., meadow, agri	culture, golf course): %	(4 pts)
check here and see directions for explanation of how to incorporate this information. Based on: Field estimate	✓ Shrub: <u>5%</u>	(10 pts)	V	Developed: <u>15%</u>	(0 pts)	
C. SPECIES PRESENT IN VERNAL POOL Vegetation type and percent cover IN THE POOL that can provide egg attachment or offer concealment to aquatic or developing larvae. Shrubs: s10% Emergent vegetation (grasses, seges, rushes, cattails): 10-50% Submergent vegetation: 10-50% Dead branches and downed woody material (branches/twigs) available for egg attachment: greater than 10 INDICATOR SPECIES DATE EGG MASSES (#) TADPOLES/LARVAE NOTES FACULTATIVE SPECIES DATE ABUNDANCE NOTES Other:damselfly 5/19/2015 Few Other:mayfly 5/19/2015 Few Other:mayfly 5/19/2015 Common PREDATOR SPECIES DATE ABUNDANCE NOTES OTHER SPECIES DATE ABUNDANCE NOTES OTHER SPECIES DATE ABUNDANCE NOTES Presence of Indicator Species Yes Ø No Were spermatophores observed? Yes Ø No Were fish observed in the pool? Yes Ø No SUMMARY						itat? If so,
C. SPECIES PRESENT IN VERNAL POOL Vegetation type and percent cover IN THE POOL that can provide egg attachment or offer concealment to aquatic or developing larvae. Shrubs: \$\frac{\text{s10}\%}{20}\$ Emergent vegetation (grasses, seges, rushes, cattails): \$\frac{10-50\%}{20}\$ Submergent vegetation: \$\frac{10-50\%}{20}\$ Submerg	Based on: 🔽 🛚	Field estimate	☐ GIS	☐ Aerial pho	to estimate	
Vegetation type and percent cover IN THE POOL that can provide egg attachment or offer concealment to aquatic or developing larvae.	26 TOTAL for	Pool Envelope and	Critical Terres	strial Habitat Area (out o	of 32 max.)	
Shrubs: <10% Emergent vegetation (grasses, seges, rushes, cattails): 10-50% Submergent vegetation: 10-50% Dead branches and downed woody material (branches/twigs) available for egg attachment: greater than 10 INDICATOR SPECIES	C. SPECIES PRESENT IN	VERNAL POOL				
FACULTATIVE SPECIES Other:damselfly 5/19/2015 Few Other:mayfly 5/19/2015 Few Other:mayfly 5/19/2015 Common PREDATOR SPECIES DATE ABUNDANCE NOTES OTHER SPECIES DATE ABUNDANCE NOTES Presence of Indicator Species Yes No Were spermatophores observed? Yes No Were fish observed in the pool? Yes No SUMMARY	Shrubs: <109 Emergent vegetation Submergent veget	% on (grasses, seges, ru ation: <u>10-50%</u>	ushes, cattails):	10-50%	,	developing larvae.
Other:damselfly 5/19/2015 Few Gray Tree Frog 5/19/2015 Few Other:mayfly 5/19/2015 Common PREDATOR SPECIES DATE ABUNDANCE NOTES OTHER SPECIES DATE ABUNDANCE NOTES Presence of Indicator Species Yes ✓ No Were spermatophores observed? Yes ✓ No Were fish observed in the pool? Yes ✓ No			0 ,	available for ogg attachin	ient. <u>greater than 10</u>	
Other:damselfly 5/19/2015 Few Gray Tree Frog 5/19/2015 Few Other:mayfly 5/19/2015 Common PREDATOR SPECIES DATE ABUNDANCE NOTES OTHER SPECIES DATE ABUNDANCE NOTES Presence of Indicator Species Yes ✓ No Were spermatophores observed? Yes ✓ No Were fish observed in the pool? Yes ✓ No	INDICATOR SPE	CIES			-	NOTES
Gray Tree Frog 5/19/2015 Few Other:mayfly 5/19/2015 Common PREDATOR SPECIES DATE ABUNDANCE NOTES OTHER SPECIES DATE ABUNDANCE NOTES Presence of Indicator Species Yes ✓ No Were spermatophores observed? Yes ✓ No Were fish observed in the pool? Yes ✓ No SUMMARY	INDICATOR SPE	CIES			-	NOTES
Other:mayfly 5/19/2015 Common PREDATOR SPECIES DATE ABUNDANCE NOTES OTHER SPECIES DATE ABUNDANCE NOTES Presence of Indicator Species Yes No Were spermatophores observed? Yes No Were fish observed in the pool? Yes No No SUMMARY			DATE	EGG MASSES (#)	TADPOLES/LARVAE	
PREDATOR SPECIES DATE ABUNDANCE NOTES OTHER SPECIES DATE ABUNDANCE NOTES Presence of Indicator Species Yes No Were spermatophores observed? Yes No Were fish observed in the pool? SUMMARY	FACULTATIVE SF	PECIES	DATE	EGG MASSES (#) ABUNDANCE	TADPOLES/LARVAE	
OTHER SPECIES DATE ABUNDANCE NOTES Presence of Indicator Species Yes No Were spermatophores observed? Yes No Were fish observed in the pool? Yes No SUMMARY	FACULTATIVE SF Other:damself	PECIES fly	DATE 5/19/2015	EGG MASSES (#) ABUNDANCE Few	TADPOLES/LARVAE	
OTHER SPECIES DATE ABUNDANCE NOTES Presence of Indicator Species Yes No Were spermatophores observed? Yes No Were fish observed in the pool? Yes No SUMMARY	FACULTATIVE SF Other:damself Gray Tree Fro	PECIES fly pg	DATE 5/19/2015 5/19/2015	EGG MASSES (#) ABUNDANCE Few Few	TADPOLES/LARVAE	
Presence of Indicator Species	FACULTATIVE SF Other:damself Gray Tree Fro Other:mayfly	PECIES fly pg	DATE 5/19/2015 5/19/2015 5/19/2015	EGG MASSES (#) ABUNDANCE Few Few Common	TADPOLES/LARVAE	TES
Presence of Indicator Species	FACULTATIVE SF Other:damself Gray Tree Fro Other:mayfly	PECIES fly pg	DATE 5/19/2015 5/19/2015 5/19/2015	EGG MASSES (#) ABUNDANCE Few Few Common	TADPOLES/LARVAE	TES
Were spermatophores observed? ☐ Yes ☑ No Were fish observed in the pool? ☐ Yes ☑ No SUMMARY	FACULTATIVE SF Other:damself Gray Tree Fro Other:mayfly PREDATOR SPE	PECIES fly pg /	DATE 5/19/2015 5/19/2015 5/19/2015 DATE	EGG MASSES (#) ABUNDANCE FeW FeW Common ABUNDANCE	TADPOLES/LARVAE	DTES DTES
Were fish observed in the pool? ☐ Yes ☑ No SUMMARY	FACULTATIVE SF Other:damself Gray Tree Fro Other:mayfly PREDATOR SPE	PECIES fly pg /	DATE 5/19/2015 5/19/2015 5/19/2015 DATE	EGG MASSES (#) ABUNDANCE FeW FeW Common ABUNDANCE	TADPOLES/LARVAE	DTES DTES
SUMMARY	FACULTATIVE SP Other:damself Gray Tree Fro Other:mayfly PREDATOR SPE OTHER SPECI	PECIES fly pg / ECIES	DATE 5/19/2015 5/19/2015 5/19/2015 DATE DATE	EGG MASSES (#) ABUNDANCE FeW Common ABUNDANCE ABUNDANCE	TADPOLES/LARVAE	DTES DTES
	FACULTATIVE SP Other:damself Gray Tree Fro Other:mayfly PREDATOR SPE OTHER SPECI	PECIES fily og / ECIES Cies	DATE 5/19/2015 5/19/2015 DATE DATE DATE Ves	EGG MASSES (#) ABUNDANCE FeW Common ABUNDANCE ABUNDANCE	TADPOLES/LARVAE	DTES DTES
26 TOTAL for Pool Characteristics 26 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area	FACULTATIVE SP Other:damself Gray Tree Fro Other:mayfly PREDATOR SPE OTHER SPECI Presence of Indicator Special Specia	PECIES fly pg / CIES ECIES Diversed?	DATE 5/19/2015 5/19/2015 5/19/2015 DATE DATE Ves Yes	EGG MASSES (#) ABUNDANCE FeW Common ABUNDANCE ABUNDANCE ABUNDANCE No	TADPOLES/LARVAE	DTES DTES
·	FACULTATIVE SF Other:damself Gray Tree Fro Other:mayfly PREDATOR SPE OTHER SPECI Presence of Indicator Special Were spermatophores obse Were fish observed in the presence of the special observed of observed observed of the special observed o	PECIES fly pg / CIES ECIES Diversed?	DATE 5/19/2015 5/19/2015 5/19/2015 DATE DATE Ves Yes	EGG MASSES (#) ABUNDANCE FeW Common ABUNDANCE ABUNDANCE ABUNDANCE No	TADPOLES/LARVAE	DTES DTES
Other Comments:	FACULTATIVE SF Other:damself Gray Tree Fro Other:mayfly PREDATOR SPE OTHER SPECI Presence of Indicator Special Were spermatophores obseived in the presence of Indicator Special SUMMARY	PECIES fly og / CIES ES cies rved?	DATE 5/19/2015 5/19/2015 5/19/2015 DATE DATE Ves Yes	EGG MASSES (#) ABUNDANCE FeW Common ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE NO NO	OTES OTES
	FACULTATIVE SF Other:damself Gray Tree Fro Other:mayfly PREDATOR SPE OTHER SPECI Presence of Indicator Special Were spermatophores obse Were fish observed in the pro SUMMARY 26 TOTAL for Po	PECIES fly og / CIES ES cies rved?	DATE 5/19/2015 5/19/2015 5/19/2015 DATE DATE Ves Yes	EGG MASSES (#) ABUNDANCE FeW Common ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE NO NO	OTES OTES





Describe any recent modifications to the pool and associated landscape: area logged ~5 yrs ago Parent material:	Project File #60328763	Project Name: Northeast Energy D	irect Project Pool ID: NI-R-VP001
Address: TOBEY HIGHWIX City: NEW IPSWICH State: NH Zip: 03071 Location of vernal pool: Survey date(s): 4/24/2015 Longitude/Latitude (in decimal degrees): 4/2.78296397, -71.82928573 VERNAL POOL CHARACTERISTICS (fill in all information known): Landscape Setting (check all that apply): Upland depression (4 pts; if this is also in a floodplain, use 2 pts) Pool part of a pool complex (within 1000 feet of one or more other vernal pools)(NA) Pool within larger wetland system (4 pts; if this is also in a floodplain, use 2 pts) Pool part of wildlife corridor (4 pts) Pool part of wildlife resource type that best applies to this pool (choose dominant): Parent material:	Observer: E. Lema, J,Sweitzer		Phone or email: elema@normandeau.com
Location of vernal pool: Survey date(s): 4/24/2155	Landowner/Applicant: TAFT FAMIL	Y TRUST	Phone or email:
Survey date(s):: 4/24/2015	Address: TOBEY HIGH	HWAY City:	NEW IPSWICH State: NH Zip:: 03071
. VERNAL POOL CHARACTERISTICS (fill in all information known): . Landscape Setting (check all that apply): Upland depression (4 ps; if this is also in a floodplain, use 2 pts) Pool part of a pool complex (within 1000 feet of one or more other vernal pools)(NA) Pool within larger wetland system (4 pts; if this is also in a floodplain, use 2 pts) Pool part of wildlife corridor (4 pts) Other (variable pts): Pool or other (variable pts): Pool Origin: Vernal pool condition: Describe any recent modifications to the pool and associated landscape: area logged ~5 yrs ago Parent material: Glacial fluvial (*outwash**)	Location of vernal pool:		
Landscape Setting (check all that apply): Upland depression (4 pts; if this is also in a floodplain, use 2 pts)	Survey date(s):: 4/24/2015	Longitude/Latitude (in decima	al degrees): 42.78296397, -71.82928573
Upland depression (4 pts; if this is also in a floodplain, use 2 pts) Pool part of a pool complex (within 1000 feet of one or more other vernal pools)(NA) Pool within larger wetland system (4 pts; if this is also in a floodplain, use 2 pts) Pool part of wildlife corridor (4 pts) Pool part of wildlife corridor (4 pts) Pool or difficial or wildlife corridor (4 pts) Other (variable pts): Vernal pool condition: Describe any recent modifications to the pool and associated landscape: area logged −5 yrs ago Parent material:	A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):	
Pool part of a pool complex (within 1000 feet of one or more other vernal pools)(NA) Pool part of wildlife corridor (4 pts) Other (variable pts):	. Landscape Setting (check all that	apply):	
Pool within larger wetland system (4 pts; if this is also in a floodplain, use 2 pts) Pool part of wildlife corridor (4 pts) Other (variable pts): Pool Origin:	Upland depression (4 pts; if the	is is also in a floodplain, use 2 pts)	
Pool part of wildlife corridor (4 pts) Other (variable pts):	☐ Pool part of a pool complex (w	vithin 1000 feet of one or more other	vernal pools)(NA)
Coastal marine sediments Other (variable pts):	☐ Pool within larger wetland syst	tem (4 pts; if this is also in a floodplai	n, use 2 pts)
Pool Origin: Vernal pool condition: Describe any recent modifications to the pool and associated landscape: area logged ~5 yrs ago Parent material: Glacial fluvial ("outwash") Loose till Peat Dense till Alluvium Coastal marine sediments Aquatic resource type that best applies to this pool (choose dominant): Forested wetland (4pts) Herbaceous wetland (4pts) Floodplain (overflow/oxbow) (3pts) Shrub wetland (4pts) Open water (2 pts) Other (variable points): Peatland (acidic fen or bog) (4pts) Intermittent stream reach (2pts) Pool canopy cover (%): 10% Predominant substrate: Mineral soil Depth: Organic matter (peat/muck) Sampling location (e.g.,deepest zone, edge,etc.): Pool sizes: Approximate dimensions of pool (at maximum capacity) (sq. feet): 234.00 Maximum depth at deepest point at time of survey (include units): 36" Hydrology: a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): Dries between early March and early July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, liex verticillata)(6pts) Dries between early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts) Dries between early September and early November (e.g., Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts) Dries between early November and late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)	☐ Pool part of wildlife corridor (4)	pts)	
Parent material: Glacial fluvial ("outwash") Loose till Peat Glacial fluvial ("outwash") Loose till Peat Glacial fluvial ("outwash") Loose till Peat Glacial fluvial ("outwash") Loose till	☐ Other (variable pts):		
Parent material: Glacial fluvial ("outwash")	Pool Origin:		
Parent material: Glacial fluvial ("outwash") Loose till Peat Coastal marine sediments Aquatic resource type that best applies to this pool (choose dominant): Floodplain (overflow/oxbow) (3pts) Forested wetland (4pts) Herbaceous wetland (4pts) Ploodplain (overflow/oxbow) (3pts) Shrub wetland (4pts) Intermittent stream reach (2pts) Other (variable points): Peatland (acidic fen or bog) (4pts) Intermittent stream reach (2pts) Peol canopy cover (%): 10% Predominant substrate: Mineral soil Depth: Organic matter (peat/muck) Sampling location (e.g.,deepest zone, edge,etc.): Pool sizes: Approximate dimensions of pool (at maximum capacity) (sq. feet): 36: Hydrology: Aldion Survey (include units): 36: Hydrology: Aldion Sampling Survey (include units): 36: Ories between early March and early July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata) (6pts) Dries between early March and early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.) (8pts) Dries between early November and late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.) (8pts)	. Vernal pool condition:		
Glacial fluvial ("outwash")	Describe any recent modifications to	the pool and associated landscape:	area logged ~5 yrs ago
Glacial fluvial ("outwash")			
Dense till	. Parent material:		
Aquatic resource type that best applies to this pool (choose dominant): Forested wetland (4pts)	☐ Glacial fluvial ("outwash")	✓ Loose till	☐ Peat
Forested wetland (4pts)	☐ Dense till	☐ Alluvium	☐ Coastal marine sediments
Shrub wetland (4pts)	. Aquatic resource type that best ap	oplies to this pool (choose dominal	nt):
Peatland (acidic fen or bog) (4pts) □ Intermittent stream reach (2pts) Pool canopy cover (%): 10% Predominant substrate: Mineral soil	☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pt	s) ☐ Floodplain (overflow/oxbow) (3pts)
Predominant substrate: Mineral soil Depth: Organic matter (peat/muck) Sampling location (e.g.,deepest zone, edge,etc.): Pool sizes: Approximate dimensions of pool (at maximum capacity) (sq. feet): 234.00 Maximum depth at deepest point at time of survey (include units): 36" Hydrology: a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): Dries between early March and early July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts) Dries between early July and early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts) Dries between early September and early November (e.g., Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts) Dries between early November and late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts) How long does pool hold water?	☐ Shrub wetland (4pts)	☑ Open water (2 pts)	☐ Other (variable points):
Predominant substrate: ☐ Mineral soil Depth: ☐ Organic matter (peat/muck) Sampling location (e.g.,deepest zone, edge,etc.): Pool sizes: Approximate dimensions of pool (at maximum capacity) (sq. feet): 234.00 Maximum depth at deepest point at time of survey (include units): 36" Hydrology: a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): ☐ Dries between early March and early July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts) ☐ Dries between early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts) ☐ Dries between early September and early November (e.g., Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts) ☐ Dries between early November and late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts) How long does pool hold water?	☐ Peatland (acidic fen or bog) (4p	ts)	(2pts)
 ✓ Mineral soil ✓ Organic matter (peat/muck) ✓ Sampling location (e.g.,deepest zone, edge,etc.): ✓ Pool sizes: Approximate dimensions of pool (at maximum capacity) (sq. feet): ✓ Approximate dimensions of pool (at maximum capacity) (sq. feet): ✓ Approximate dimensions of pool (at maximum capacity) (sq. feet): ✓ Approximate dimensions of pool (at maximum capacity) (sq. feet): ✓ Approximate dimensions of pool (at maximum capacity) (sq. feet): ✓ By 36" ✓ Hydrology: a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): ✓ Dries between early March and early July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts) ✓ Dries between early July and early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts) ✓ Dries between early September and early November (e.g., Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts) ✓ Dries between early November and late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts) How long does pool hold water? 	i. Pool canopy cover (%): 10%		
□ Organic matter (peat/muck) Sampling location (e.g.,deepest zone, edge,etc.): 7. Pool sizes: Approximate dimensions of pool (at maximum capacity) (sq. feet): 234.00 Maximum depth at deepest point at time of survey (include units): 36" A. Hydrology: a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): □ Dries between early March and early July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts) □ Dries between early July and early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts) □ Dries between early September and early November (e.g., Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts) □ Dries between early November and late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts) How long does pool hold water?	. Predominant substrate:		
Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (at maximum capacity) (sq. feet): Approximate dimensions of pool (approximate): Appr	✓ Mineral soil	Depth:	
Approximate dimensions of pool (at maximum capacity) (sq. feet): Maximum depth at deepest point at time of survey (include units): Hydrology: a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): Dries between early March and early July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts) Dries between early July and early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts) Dries between early September and early November (e.g., Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts) Dries between early November and late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts) How long does pool hold water?	☐ Organic matter (peat/muck)	Sampling location (e.g.,deep	est zone, edge,etc.):
Maximum depth at deepest point at time of survey (include units): 36" Hydrology: a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): Dries between early March and early July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts) Dries between early July and early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts) Dries between early September and early November (e.g., Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts) Dries between early November and late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts) How long does pool hold water?	'. Pool sizes:		
a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): Dries between early March and early July (e.g., <i>Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata</i>)(6pts) Dries between early July and early September (e.g., <i>Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.</i>)(8pts) Dries between early September and early November (e.g., <i>Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.</i>)(8pts) Dries between early November and late December, or intermittently exposed (e.g., <i>Nuphar spp., Potamogeton spp.</i>)(8pts) How long does pool hold water?			
 a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): Dries between early March and early July (e.g., <i>Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata</i>)(6pts) Dries between early July and early September (e.g., <i>Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.</i>)(8pts) Dries between early September and early November (e.g., <i>Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.</i>)(8pts) Dries between early November and late December, or intermittently exposed (e.g., <i>Nuphar spp., Potamogeton spp.</i>)(8pts) How long does pool hold water? 		time of survey (include units):	<u>36"</u>
indicator species to best predict the expected hydroperiod of the pool): Dries between early March and early July (e.g., <i>Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata</i>)(6pts) Dries between early July and early September (e.g., <i>Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.</i>)(8pts) Dries between early September and early November (e.g., <i>Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.</i>)(8pts) Dries between early November and late December, or intermittently exposed (e.g., <i>Nuphar spp., Potamogeton spp.</i>)(8pts) How long does pool hold water?		ctual observed hydroperiod value(s)	is(are) known, use the presence of these example
 □ Dries between early July and early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts) □ Dries between early September and early November (e.g., Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts) ☑ Dries between early November and late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts) How long does pool hold water? 			is(a.s) fallown, ass the presence of these sxample
 □ Dries between early September and early November (e.g., <i>Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.</i>)(8pts) □ Dries between early November and late December, or intermittently exposed (e.g., <i>Nuphar spp., Potamogeton spp.</i>)(8pts) How long does pool hold water? 	□ Dries between early March and	early July (e.g., Thelypteris palustris	, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)
☐ Dries between early November and late December, or intermittently exposed (e.g., <i>Nuphar spp., Potamogeton spp.</i>)(8pts) How long does pool hold water?	□ Dries between early July and early	arly September (e.g., Sagittaria latifol	ia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)
How long does pool hold water?	□ Dries between early September	and early November (e.g., Eleochari	is palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts)
	☑ Dries between early November	and late December, or intermittently	exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)
b. Inlet/Outlet (pick one):	How long does pool hold water?		
	b. Inlet/Outlet (pick one):		
✓ No inlet/outlet (8 pts) ☐ Permanent inlet or outlet (channel with well-defined banks and permanent flow) (2 pts)		☐ Permanent inlet or outlet	(channel with well-defined banks and permanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)			(* * * * * * * * * * * * * * * * * * *



9. Water quality:					
☑ Clear ☐ Hig	h turbidity	High algae co	ntent Tannic		
22 TOTAL for P	ool Characteristic	s (out of 28 ma	ax.)		
B. VERNAL POOL ENVELO	PE (100 ft) AND C	RITICAL HABI	TAT AREA (100-750 ft) CI	HARACTERISTICS (fill in all i	information known):
1. Landuse type and appro	ximate percentage	within the 100	0-ft vernal pool envelope:	:	
✓ Forested: 100%	(16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u>	(10 pts)		Developed: %	(0 pts)	
2. Landuse type and approx	ximate percentage	within the 100	0-750-ft vernal pool critica	al terrestrial habitat:	
✓ Forested: 100%	(16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u>	(10 pts)		Developed: %	(0 pts)	
			ovement within the envelop to incorporate this informati	e and/or critical terrestrial habi	itat? If so,
Based on: 🗹 F	ield estimate	□ GIS	☐ Aerial phot	o estimate	
16 TOTAL for	Pool Envelope and	d Critical Terre	estrial Habitat Area (out o	f 32 max.)	
O ODEOLEO DECCENT IN W	EDNAL DOOL				
C. SPECIES PRESENT IN V		Ol that are ar	avida agg attachmant ar af	for concealment to acceptions	dayalaning langa
vegetation type and perce Shrubs:	nt cover in THE PC	JOL that can pr	ovide egg attachment or of	fer concealment to aquatic or o	developing larvae.
Emergent vegetatio	n (arassas sagas	rushas cattails	١٠		
Submergent vegetate	,,,	rasiles, battans)·		
Dead branches and downer		branches/twigs) available for egg attachm	ent:	
INDIOATOR ORE		D 4 TT	E00 114 00E0 (#)	T40001 50# 401/45	NOTES.
INDICATOR SPEC	CIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Wood Frog		4/24/2015	4	TADPOLES/LARVAE	NOTES
				TADPOLES/LARVAE	NOTES
Wood Frog		4/24/2015	4	TADPOLES/LARVAE	NOTES
Wood Frog Spotted Salaman FACULTATIVE SPI	der	4/24/2015 4/25/2015 DATE	4		NOTES
Wood Frog Spotted Salaman	der	4/24/2015 4/25/2015	13		
Wood Frog Spotted Salaman FACULTATIVE SPI	der	4/24/2015 4/25/2015 DATE	4 13 ABUNDANCE		
Wood Frog Spotted Salaman FACULTATIVE SPI	der	4/24/2015 4/25/2015 DATE	4 13 ABUNDANCE	NO	
Wood Frog Spotted Salaman FACULTATIVE SPI Caddisflies	der	4/24/2015 4/25/2015 DATE 4/24/2015	4 13 ABUNDANCE Many	NO	TES
Spotted Salaman FACULTATIVE SPI Caddisflies PREDATOR SPEC	der	4/24/2015 4/25/2015 DATE 4/24/2015 DATE	4 13 ABUNDANCE Many ABUNDANCE	NO	TES
Spotted Salaman FACULTATIVE SPI Caddisflies PREDATOR SPEC	der ECIES CIES Ind year	4/24/2015 4/25/2015 DATE 4/24/2015 DATE	4 13 ABUNDANCE Many ABUNDANCE	NO	TES
FACULTATIVE SPI Caddisflies PREDATOR SPEC	der ECIES CIES Ind year	4/24/2015 4/25/2015 DATE 4/24/2015 DATE 4/24/2015	4 13 ABUNDANCE Many ABUNDANCE Few	NO	TES
FACULTATIVE SPI Caddisflies PREDATOR SPEC green frog tadpoles, 2	der ECIES CIES and year	4/24/2015 4/25/2015 DATE 4/24/2015 DATE 4/24/2015 DATE	4 13 ABUNDANCE Many ABUNDANCE Few ABUNDANCE	NO	TES
FACULTATIVE SPI Caddisflies PREDATOR SPEC	der ECIES CIES and year	4/24/2015 4/25/2015 DATE 4/24/2015 DATE 4/24/2015 DATE	4 13 ABUNDANCE Many ABUNDANCE Few	NO	TES
FACULTATIVE SPI Caddisflies PREDATOR SPEC green frog tadpoles, 2	der ECIES CIES Ind year ES	4/24/2015 4/25/2015 DATE 4/24/2015 DATE 4/24/2015 DATE 1 Yes	4 13 ABUNDANCE Many ABUNDANCE Few ABUNDANCE	NO	TES
FACULTATIVE SPI Caddisflies PREDATOR SPEC green frog tadpoles, 2 OTHER SPECIE Presence of Indicator Species	der ECIES CIES Ind year ES ies Ved?	4/24/2015 4/25/2015 DATE 4/24/2015 DATE 4/24/2015 DATE 1 Yes Yes	4 13 ABUNDANCE Many ABUNDANCE Few ABUNDANCE	NO	TES
FACULTATIVE SPI Caddisflies PREDATOR SPEC green frog tadpoles, 2 OTHER SPECIE Presence of Indicator Spec Were spermatophores obser	der ECIES CIES Ind year ES ies Ved?	4/24/2015 4/25/2015 DATE 4/24/2015 DATE 4/24/2015 DATE 1 Yes Yes	4 13 ABUNDANCE Many ABUNDANCE Few ABUNDANCE I No No	NO	TES
FACULTATIVE SPICADD Caddisflies PREDATOR SPECE Green frog tadpoles, 2 OTHER SPECIE Presence of Indicator Spece Were spermatophores observed in the position of the positi	der ECIES CIES Ind year ES ies ved?	4/24/2015 4/25/2015 DATE 4/24/2015 DATE 4/24/2015 DATE 1 Yes Yes	4 13 ABUNDANCE Many ABUNDANCE Few ABUNDANCE V No No No	NO	TES
FACULTATIVE SPI Caddisflies PREDATOR SPEC green frog tadpoles, 2 OTHER SPECIE Presence of Indicator Spec Were spermatophores obser Were fish observed in the po	der ECIES CIES Ind year ES ies ved?	4/24/2015 4/25/2015 DATE 4/24/2015 DATE 4/24/2015 DATE 1 Yes Yes	4 13 ABUNDANCE Many ABUNDANCE Few ABUNDANCE V No No No	NO NO	TES OTES
FACULTATIVE SPIC Caddisflies PREDATOR SPECE Green frog tadpoles, 2 OTHER SPECIE Presence of Indicator Spece Were spermatophores observed in the position of the position	der ECIES CIES Ind year ES ies ved? ol?	4/24/2015 4/25/2015 DATE 4/24/2015 DATE 4/24/2015 DATE 4/24/2015 Yes Yes Yes Yes	ABUNDANCE Many ABUNDANCE Few ABUNDANCE Fow No No No No	NO NO	TES TES TES Terrestrial Habitat Area





East



Project File #60328763	Project Name: Northeast Energy Dire	ect Project Pool ID: NI-R	R-VP002
Observer: E. Lema, J. Sweitzer		Phone or email: elema@n	ormandeau.com
Landowner/Applicant: TAFT FAMIL	Y TRUST	Phone or email:	
Address: TOBEY HIGH	HWAY City: NI	EW IPSWICH State: NH	Zip:: 03071
Location of vernal pool:			
Survey date(s):: 4/24/2015	Longitude/Latitude (in decimal	degrees): 42.78287000, -71.829	985890
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):		
1. Landscape Setting (check all that	apply):		
Upland depression (4 pts; if the	is is also in a floodplain, use 2 pts)		
☐ Pool part of a pool complex (w)	ithin 1000 feet of one or more other ve	ernal pools)(NA)	
☐ Pool within larger wetland syst	em (4 pts; if this is also in a floodplain,	, use 2 pts)	
□ Pool part of wildlife corridor (4	pts)		
Other (variable pts):			
Pool Origin:			
2. Vernal pool condition:			
Describe any recent modifications to	the pool and associated landscape:	area logged ~5 yrs ago	
3. Parent material:			
☐ Glacial fluvial ("outwash")	✓ Loose till	☐ Peat	
☐ Dense till	☐ Alluvium	☐ Coastal marine sediments	
4. Aquatic resource type that best ap	plies to this pool (choose dominant	t):	
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	Floodplain (overflow/oxbo	ow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☑ Other (variable points):	sesonal unvegetated, ephemeral pool
☐ Peatland (acidic fen or bog) (4p	ts)	2pts)	
5. Pool canopy cover (%): 60%			
6. Predominant substrate:			
☑ Mineral soil	Depth:		
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepes	st zone, edge,etc.):	
7. Pool sizes:			
Approximate dimensions of pool (at	. ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u>774.76</u>	
Maximum depth at deepest point at 8. Hydrology:	time of survey (include units):	<u>30"</u>	
•	ctual, observed hydroperiod value(s) is	(are) known, use the presence of the	se example
·	early July (e.g., <i>Thelypteris palustris</i> , (Carex stricta. Impatiens capensis. Ile:	verticillata)(6ots)
_	arly September (e.g., Sagittaria latifolia,		,,,,
	and early November (e.g., Eleocharis		
_ ,	and late December, or intermittently ex		
How long does pool hold water?	2000. Hoo intermitted by Ox	T (Sig., Hapital Spp., 1 Starrings	
b. Inlet/Outlet (pick one): No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (c	channel with well-defined banks and p	permanent flow) (2 nts)
_	Permanent inlet or outlet (c	manner with wen-defined banks and p	remailent now, (2 pts)
☐ Temporary inlet/outlet (6 pts)			



☑ Clear ☐ High turbidity	☐ High algae co	ontent		
18 TOTAL for Pool Characte	eristics (out of 28 m	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) A	ND CRITICAL HAB	ITAT AREA (100-750 ft) CI	HARACTERISTICS (fill in all	information known):
1. Landuse type and approximate perce	ntage within the 10	0-ft vernal pool envelope	:	
✓ Forested: 100% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
2. Landuse type and approximate perce	ntage within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 100% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
Are there one or more barriers to check here and see directions for				itat? If so,
Based on:	☐ GIS	☐ Aerial phot	to estimate	
40 70741 (B 15 1	10 11 17		.	
16 TOTAL for Pool Envelop	be and Critical Terr	estrial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POO	L			
Vegetation type and percent cover IN TI	HE POOL that can p	rovide egg attachment or of	ffer concealment to aquatic or	developing larvae.
Shrubs:				
Emergent vegetation (grasses, se	eges, rushes, cattails	s):		
Submergent vegetation:				
Dead branches and downed woody mat	eriai (branches/twigs	s) available for egg attachm	ent:	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
FACULTATIVE SPECIES	DATE	ABUNDANCE		NOTES
FACULTATIVE SPECIES	DATE	ABUNDANCE		
FACULTATIVE SPECIES Other:true fly larvae	DATE 4/24/2015	ABUNDANCE Many		
FACULTATIVE SPECIES Other:true fly larvae	DATE 4/24/2015	ABUNDANCE Many	NO	
FACULTATIVE SPECIES Other:true fly larvae Other:aquatic beetles PREDATOR SPECIES	DATE 4/24/2015 4/24/2015 DATE	ABUNDANCE Many Many ABUNDANCE	NO NO	DTES DTES
FACULTATIVE SPECIES Other:true fly larvae Other:aquatic beetles	DATE 4/24/2015 4/24/2015	ABUNDANCE Many Many	NO NO	DTES
FACULTATIVE SPECIES Other:true fly larvae Other:aquatic beetles PREDATOR SPECIES	DATE 4/24/2015 4/24/2015 DATE	ABUNDANCE Many Many ABUNDANCE	NO NO	DTES DTES
FACULTATIVE SPECIES Other:true fly larvae Other:aquatic beetles PREDATOR SPECIES	DATE 4/24/2015 4/24/2015 DATE	ABUNDANCE Many Many ABUNDANCE	NO NO	DTES DTES
FACULTATIVE SPECIES Other:true fly larvae Other:aquatic beetles PREDATOR SPECIES OTHER SPECIES	DATE 4/24/2015 4/24/2015 DATE DATE	ABUNDANCE Many Many ABUNDANCE ABUNDANCE	NO NO	DTES DTES
FACULTATIVE SPECIES Other:true fly larvae Other:aquatic beetles PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 4/24/2015 4/24/2015 DATE DATE	ABUNDANCE Many Many ABUNDANCE ABUNDANCE	NO NO	DTES DTES
FACULTATIVE SPECIES Other:true fly larvae Other:aquatic beetles PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 4/24/2015 4/24/2015 DATE DATE Yes Yes	ABUNDANCE Many Many ABUNDANCE ABUNDANCE V No	NO NO	DTES DTES
FACULTATIVE SPECIES Other:true fly larvae Other:aquatic beetles PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 4/24/2015 4/24/2015 DATE DATE Yes Yes Yes Yes	ABUNDANCE Many Many ABUNDANCE ABUNDANCE V No No No	NO NO	DTES DTES
FACULTATIVE SPECIES Other:true fly larvae Other:aquatic beetles PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	DATE 4/24/2015 4/24/2015 DATE DATE Yes Yes Yes Yes	ABUNDANCE Many Many ABUNDANCE ABUNDANCE V No No No	NO NO	DTES DTES
FACULTATIVE SPECIES Other:true fly larvae Other:aquatic beetles PREDATOR SPECIES OTHER SPECIES	DATE 4/24/2015 4/24/2015 DATE DATE	ABUNDANCE Many Many ABUNDANCE ABUNDANCE	NO NO	DTES DTES
FACULTATIVE SPECIES Other:true fly larvae Other:aquatic beetles PREDATOR SPECIES OTHER SPECIES	DATE 4/24/2015 4/24/2015 DATE DATE	ABUNDANCE Many Many ABUNDANCE ABUNDANCE	NO NO	DTES DTES
FACULTATIVE SPECIES Other:true fly larvae Other:aquatic beetles PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 4/24/2015 4/24/2015 DATE DATE Yes Yes	ABUNDANCE Many Many ABUNDANCE ABUNDANCE V No	NO NO	DTES DTES
FACULTATIVE SPECIES Other:true fly larvae Other:aquatic beetles PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 4/24/2015 4/24/2015 DATE DATE Yes Yes	ABUNDANCE Many Many ABUNDANCE ABUNDANCE V No	NO NO	DTES DTES
FACULTATIVE SPECIES Other:true fly larvae Other:aquatic beetles PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	DATE 4/24/2015 4/24/2015 DATE DATE Yes Yes Yes Yes	ABUNDANCE Many Many ABUNDANCE ABUNDANCE V No No No	NO NO	DTES DTES
FACULTATIVE SPECIES Other:true fly larvae Other:aquatic beetles PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY 18 TOTAL for Pool Characteris	DATE 4/24/2015 4/24/2015 DATE DATE Yes Yes Yes Yes	ABUNDANCE Many Many ABUNDANCE ABUNDANCE V No No No	NO NO	DTES DTES





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Project File #60328763	Project Name: Northeast Energy Dir	rect Project Pool ID: NI-R-VP003	
Observer: E. Lema, J. Sweitzer		Phone or email: elema@normandeau.com	
Landowner/Applicant: TAFT FAMIL	Y TRUST	Phone or email:	
Address: TOBEY HIGH	HWAY City: N	NEW IPSWICH State: NH Zip:: 03071	
Location of vernal pool:			
Survey date(s):: 4/24/2015	Longitude/Latitude (in decimal	degrees): 42.78229975, -71.82845382	
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):		
. Landscape Setting (check all that	apply):		
☐ Upland depression (4 pts; if the	is is also in a floodplain, use 2 pts)		
☐ Pool part of a pool complex (w	rithin 1000 feet of one or more other ve	ernal pools)(NA)	
Pool within larger wetland syst	tem (4 pts; if this is also in a floodplain	n, use 2 pts)	
☐ Pool part of wildlife corridor (4)	pts)		
☐ Other (variable pts):			
Pool Origin:			
. Vernal pool condition:			
Describe any recent modifications to	the pool and associated landscape:	depression in ATV/access road. extremely disturbed.	
. Parent material:			
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat	
✓ Dense till	☐ Alluvium	☐ Coastal marine sediments	
. Aquatic resource type that best ap	plies to this pool (choose dominan	ıt):	
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	Floodplain (overflow/oxbow) (3pts)	
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☑ Other (variable points): unvegetated shallow	
☐ Peatland (acidic fen or bog) (4p	ts)	(2pts)	
i. Pool canopy cover (%): 0%			
. Predominant substrate:			
✓ Mineral soil	Depth:		
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.):	
'. Pool sizes:			
Approximate dimensions of pool (at	, . ,	<u>116.04</u>	
Maximum depth at deepest point at	time of survey (include units):	<u>8"</u>	
B. Hydrology: a Estimated hydroperiod (unless ac 	ctual observed hydroneriod value(s) is	s(are) known, use the presence of these example	
indicator species to best predict the		s(allo) known, add the processes of those oxample	
☑ Dries between early March and	early July (e.g., Thelypteris palustris,	Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)	
☐ Dries between early July and ea	arly September (e.g., Sagittaria latifolia	a, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)	(8pts)
□ Dries between early September	and early November (e.g., Eleocharis	s palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8p	ts)
□ Dries between early November	and late December, or intermittently e	exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)	
How long does pool hold water?	·		
b. Inlet/Outlet (pick one):			
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (c	channel with well-defined banks and permanent flow) (2 pts)	
☐ Temporary inlet/outlet (6 pts)	_	, , , , , , ,	



9. Water quality:					
☐ Clear	☑ High turbidity	☐ High algae co	ntent		
<u>18</u> TOTA	AL for Pool Character	istics (out of 28 ma	ax.)		
B. VERNAL POOL E	NVELOPE (100 ft) AN	D CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and	d approximate percen	tage within the 10	0-ft vernal pool envelope	:	
✓ Forested:	90% (16 pts)	<u>√</u>	Open (e.g., meadow, agric	culture, golf course): 10%	(4 pts)
☐ Shrub:	% (10 pts)		Developed: %	(0 pts)	
2. Landuse type and	d approximate percen	tage within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested:		•	Open (e.g., meadow, agric		(4 pts)
_	% (10 pts)	_	Developed: %	(0 pts)	(1 /
— Are there or		ernal pool fauna mo	ovement within the envelop	pe and/or critical terrestrial hab	itat? If so,
			o incorporate this informat		
Based on:	✓ Field estimate	☐ GIS	☐ Aerial pho	to estimate	
20 TOT	Al for Pool Envelone	and Critical Terre	strial Habitat Area (out o	of 32 may)	
<u>20</u> 101	AL 101 1 001 Elivelope	and Ornical Terre	Striai riabitat Arca (out o	1 02 max.)	
C. SPECIES PRESE	NT IN VERNAL POOL				
Vegetation type ar	nd percent cover IN TH	E POOL that can pr	ovide egg attachment or o	ffer concealment to aquatic or	developing larvae.
Shrubs:					
Emergent v	egetation (grasses, seg	ges, rushes, cattails):		
Submergen	t vegetation:	_			
Dead branches an	d downed woody mate	rial (branches/twigs) available for egg attachm	ent:	
INDICATO	R SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
	OR SPECIES Salamander	DATE 4/24/2015	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Spotted S	Salamander	4/24/2015	4	TADPOLES/LARVAE	NOTES
Spotted S				TADPOLES/LARVAE	NOTES
Spotted S Woo	Salamander d Frog	4/24/2015 4/24/2015	1		
Spotted S Woo	Salamander	4/24/2015	4		NOTES
Spotted S Woo	Salamander d Frog	4/24/2015 4/24/2015 DATE	4 1 ABUNDANCE	NC	TES
Spotted S Woo	Salamander d Frog	4/24/2015 4/24/2015	1	NC	
Spotted S Woo FACULTAT PREDATO	Salamander d Frog	4/24/2015 4/24/2015 DATE	4 1 ABUNDANCE	NC NC	TES
Spotted S Woo FACULTAT PREDATO	Galamander d Frog IVE SPECIES DR SPECIES	4/24/2015 4/24/2015 DATE	4 1 ABUNDANCE ABUNDANCE	NC NC	DTES DTES
FACULTAT PREDATO OTHER COLEOPTE	Galamander d Frog TIVE SPECIES DR SPECIES SPECIES	4/24/2015 4/24/2015 DATE DATE DATE	4 1 ABUNDANCE ABUNDANCE	NC NC	DTES DTES
FACULTAT PREDATO OTHER COLEOPTE	Galamander d Frog IVE SPECIES DR SPECIES SPECIES ERA BEETLE	4/24/2015 4/24/2015 DATE DATE DATE 4/24/2015	4 1 ABUNDANCE ABUNDANCE	NC NC	DTES DTES
FACULTAT PREDATO OTHER COLEOPTE	Galamander d Frog IVE SPECIES DR SPECIES SPECIES ERA BEETLE	4/24/2015 4/24/2015 DATE DATE DATE 4/24/2015	4 1 ABUNDANCE ABUNDANCE	NC NC	DTES DTES
FACULTAT PREDATO OTHER COLEOPTE	Galamander d Frog TIVE SPECIES DR SPECIES SPECIES ERA BEETLE STRIDER	4/24/2015 4/24/2015 DATE DATE DATE 4/24/2015 4/24/2015	4 1 ABUNDANCE ABUNDANCE	NC NC	DTES DTES
FACULTAT PREDATO OTHER COLEOPTE WATER	Salamander d Frog TIVE SPECIES DR SPECIES SPECIES ERA BEETLE STRIDER or Species	4/24/2015 4/24/2015 DATE DATE 4/24/2015 4/24/2015 4/24/2015 ✓ Yes	4 1 ABUNDANCE ABUNDANCE ABUNDANCE	NC NC	DTES DTES
FACULTAT PREDATO OTHER COLEOPTE WATER Presence of Indicate	Salamander d Frog IVE SPECIES SPECIES ERA BEETLE STRIDER or Species es observed?	4/24/2015 4/24/2015 DATE DATE 4/24/2015 4/24/2015 4/24/2015 ✓ Yes ☐ Yes	4 1 ABUNDANCE ABUNDANCE ABUNDANCE	NC NC	DTES DTES
FACULTAT PREDATO OTHER COLEOPTE WATER Presence of Indicate Were spermatophore Were fish observed i	Salamander d Frog IVE SPECIES SPECIES ERA BEETLE STRIDER or Species es observed?	4/24/2015 4/24/2015 DATE DATE 4/24/2015 4/24/2015 4/24/2015 ✓ Yes ☐ Yes	4 1 ABUNDANCE ABUNDANCE ABUNDANCE No No	NC NC	DTES DTES
Presence of Indicate Were spermatophore Were fish observed i	Galamander d Frog TIVE SPECIES DR SPECIES SPECIES ERA BEETLE STRIDER Dr Species es observed? In the pool?	4/24/2015 4/24/2015 DATE DATE DATE 4/24/2015 4/24/2015 4/24/2015 ✓ Yes ☐ Yes ☐ Yes ☐ Yes	4 1 ABUNDANCE ABUNDANCE ABUNDANCE No No No	NO NO	DTES DTES
Presence of Indicate Were spermatophore Were fish observed i	Salamander d Frog IVE SPECIES SPECIES ERA BEETLE STRIDER or Species es observed?	4/24/2015 4/24/2015 DATE DATE DATE 4/24/2015 4/24/2015 4/24/2015 ✓ Yes ☐ Yes ☐ Yes ☐ Yes	4 1 ABUNDANCE ABUNDANCE ABUNDANCE No No No	NC NC	DTES DTES
Presence of Indicate Were spermatophore Were fish observed i	Galamander d Frog TIVE SPECIES DR SPECIES SPECIES ERA BEETLE STRIDER Dr Species es observed? In the pool?	4/24/2015 4/24/2015 DATE DATE DATE 4/24/2015 4/24/2015 4/24/2015 ✓ Yes ☐ Yes ☐ Yes ☐ Yes	4 1 ABUNDANCE ABUNDANCE ABUNDANCE No No No	NO NO	DTES DTES
FACULTAT PREDATO OTHER COLEOPTE WATER Presence of Indicate Were spermatophore Were fish observed i SUMMARY 18 TOTAL	Galamander d Frog TIVE SPECIES DR SPECIES SPECIES ERA BEETLE STRIDER or Species es observed? In the pool? for Pool Characterist	4/24/2015 4/24/2015 DATE DATE DATE 4/24/2015 4/24/2015 4/24/2015 ✓ Yes ☐ Yes ☐ Yes ☐ Yes	4 1 ABUNDANCE ABUNDANCE ABUNDANCE No No No	NO NO	DTES DTES





W



Proj	ect File #60328763 F	Project Name: Northeast Energy Dire	ect Project Po	ool ID: NI-R-VP00	04
Obs	erver: E. Lema, J. Sweitzer		Phone or email:	elema@norman	ndeau.com
Land	downer/Applicant: TAFT FAMILY	TRUST	Phone or email:		
Add	ress: TOBEY HIGHW	VAY City: N	IEW IPSWICH	State: NH	Zip:: 03071
Loca	ation of vernal pool:				
Surv	rey date(s):: 4/24/2015	Longitude/Latitude (in decimal	degrees): 42.7823	0633, -71.8263122	4
A. VE	RNAL POOL CHARACTERISTICS	(fill in all information known):			
1. Lan	dscape Setting (check all that ap	ply):			
	Upland depression (4 pts; if this	is also in a floodplain, use 2 pts)			
	Pool part of a pool complex (with	in 1000 feet of one or more other ve	ernal pools)(NA)		
v	Pool within larger wetland system	n (4 pts; if this is also in a floodplain,	, use 2 pts)		
	Pool part of wildlife corridor (4 pt	s)			
	Other (variable pts):				
Poo	l Origin:				
2. Ver	nal pool condition:				
Des	cribe any recent modifications to the	e pool and associated landscape:	subject to routine veg	etation clearing due	e to ROW maintenance
3. Par	ent material:				
	Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
	Dense till	☐ Alluvium	☐ Coastal marine s	sediments	
4. Aqu	atic resource type that best appl	ies to this pool (choose dominant	t) :		
	Forested wetland (4pts)	☐ Herbaceous wetland (4pts)) 🔲 Floodplain (overflow/oxbow) (3p	pts)
	Shrub wetland (4pts)	✓ Open water (2 pts)	☐ Other (varia	ble points):	
	Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2pts)		
5. Poo	ol canopy cover (%): 0%				
6. Pre	dominant substrate:				
	Mineral soil	Depth:			
	Organic matter (peat/muck)	Sampling location (e.g.,deepes	st zone, edge,etc.):	_	
	l sizes:				
	proximate dimensions of pool (at m	, . ,	659.37		
	ximum depth at deepest point at tin	ne of survey (include units):	<u>48"</u>		
a. I		al, observed hydroperiod value(s) is spected hydroperiod of the pool):	(are) known, use the pre	sence of these exa	ımple
	Dries between early March and ea	arly July (e.g., Thelypteris palustris, (Carex stricta, Impatiens	capensis, llex vertic	cillata)(6pts)
	Dries between early July and early	September (e.g., Sagittaria latifolia	, Scirpus cyperinus, Dul	ichium arundinaceu	ım, Cephalanthus occ.)(8pts)
	Dries between early September ar	nd early November (e.g., Eleocharis	palustris, Glyceria cana	densis, Utricularia s	spp., Decodon vert.)(8pts)
$\overline{\mathbf{V}}$	Dries between early November an	d late December, or intermittently ex	xposed (e.g., <i>Nuphar sp</i>	o., Potamogeton sp	p.)(8pts)
Н	ow long does pool hold water?	<u></u>			
b. I	nlet/Outlet (pick one):				
	No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (c	channel with well-defined	l banks and permar	nent flow) (2 pts)
	Temporary inlet/outlet (6 pts)				



9. Water quality:					
☑ Clear [☐ High turbidity	☐ High algae co	ntent Tannic		
<u>22</u> TOTAI	L for Pool Characteri	stics (out of 28 ma	ax.)		
B. VERNAL POOL EN	NVELOPE (100 ft) AN	D CRITICAL HABI	TAT AREA (100-750 ft) (CHARACTERISTICS (fill in all	information known):
1. Landuse type and	approximate percent	tage within the 100)-ft vernal pool envelope	e:	
✓ Forested: 60	0% (16 pts)		Open (e.g., meadow, agr	iculture, golf course): 40%	(4 pts)
☐ Shrub: %	(10 pts)		Developed: %	(0 pts)	
2. Landuse type and	, , ,	age within the 100)-750-ft vernal pool critic	cal terrestrial habitat:	
✓ Forested: 80		_	Open (e.g., meadow, agr		(4 pts)
☐ Shrub: %	(10)	_	Developed: %	(0 pts)	(- /
☐ Are there one	e or more barriers to ve	ernal pool fauna mo	. –	ope and/or critical terrestrial hab	itat? If so,
Based on:	✓ Field estimate	☐ GIS	☐ Aerial pho	oto estimate	
20 TOT4	1 for Pool Envelone	and Critical Terre	strial Habitat Area (out	of 32 max)	
<u>20</u> 1017	AL TOT TOOL ETIVETOPE	and Ontical Terre	Striai riabitat Arca (out	or oz max.)	
C. SPECIES PRESEN	IT IN VERNAL POOL				
Vegetation type and	percent cover IN THE	POOL that can pr	ovide egg attachment or o	offer concealment to aquatic or	developing larvae.
Shrubs:					
Emergent ve	getation (grasses, seg	es, rushes, cattails)):		
Submergent	vegetation:	<u> </u>			
Dead branches and	downed woody mater	ial (branches/twigs)) available for egg attachr	ment:	
INDICATOR	R SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Wood	Frog	4/24/2015	4		
Spotted Sa	alamander	4/24/2015	9		
FACULTATIV	VE SPECIES	DATE	ABUNDANCE	NO	DTES
Other:wate	r boatman	4/24/2015	Few		
Other:true	fly larvae	4/25/2015	Many		
PREDATOR	R SPECIES	DATE	ABUNDANCE	NO	OTES
OTHER S		DATE	ABUNDANCE	NC	DTES
water s	triders	4/24/2015	Common		
Presence of Indicator	r Species	✓ Yes	□ No		
Were spermatophores	observed?	☐ Yes	☑ No		
Were fish observed in	the pool?	☐ Yes	☑ No		
SUMMARY					
22 TOTAL f	or Pool Characteristi	ics	20 TOTAL fo	or Pool Envelope and Critical	Terrestrial Habitat Area
Other Comments:					
deep pool in cleared R	OW, likely permanent	hydroperiod			





E



Project File #60328763 Proj	ect Name: Northeast Energy Di	irect Project	Pool ID: NI-R-VP	2005
Observer: E. Lema, J. Sweitzer		Phone or em	ail: elema@norm	andeau.com
Landowner/Applicant: TAFT FAMILY TRI	JST	Phone or em	ail:	
Address: TOBEY HIGHWAY	City: I	NEW IPSWICH	State: NH	Zip:: 03071
Location of vernal pool:				
Survey date(s):: 4/24/2015	Longitude/Latitude (in decima	al degrees): 42.78	8202834, -71.826355	557
A. VERNAL POOL CHARACTERISTICS (fil	I in all information known):			
1. Landscape Setting (check all that apply):			
☐ Upland depression (4 pts; if this is a	lso in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (within	1000 feet of one or more other v	vernal pools)(NA)		
☑ Pool within larger wetland system (4)	pts; if this is also in a floodplain	n, use 2 pts)		
☐ Pool part of wildlife corridor (4 pts)				
☐ Other (variable pts):				
Pool Origin:				
2. Vernal pool condition:				
Describe any recent modifications to the p	ool and associated landscape:	subject to routine	ROW clearing	
3. Parent material:				
☐ Glacial fluvial ("outwash") ☑	Loose till	☐ Peat		
☐ Dense till ☐	Alluvium	☐ Coastal marii	ne sediments	
4. Aquatic resource type that best applies	to this pool (choose dominar	nt):		
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pt	s) 🔲 Floodpla	in (overflow/oxbow)	(3pts)
✓ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (va	ariable points):	
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach	(2pts)		
5. Pool canopy cover (%): <u>20%</u>				
6. Predominant substrate:				
☐ Mineral soil	Depth: 4"			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.):	deepest portion	
7. Pool sizes:				
Approximate dimensions of pool (at maxii	, ,,,,,,,	<u>354.99</u>		
Maximum depth at deepest point at time	of survey (include units):	<u>24"</u>		
8. Hydrology:a. Estimated hydroperiod (unless actual,	observed hydroneriod value(s)	is(are) known luse the	nresence of these e	example
indicator species to best predict the experi		io(die) known, doe the	presente of these c.	xample
□ Dries between early March and early	July (e.g., Thelypteris palustris,	, Carex stricta, Impatie	ns capensis, llex ver	rticillata)(6pts)
☑ Dries between early July and early Se	eptember (e.g., Sagittaria latifoli	lia, Scirpus cyperinus, i	Dulichium arundinac	eum, Cephalanthus occ.)(8pts)
☐ Dries between early September and €	arly November (e.g., <i>Eleochari</i>	is palustris, Glyceria ca	anadensis, Utricularia	a spp., Decodon vert.)(8pts)
□ Dries between early November and la	ite December, or intermittently e	exposed (e.g., Nuphar	spp., Potamogeton	<i>spp</i> .)(8pts)
How long does pool hold water?				
b. Inlet/Outlet (pick one):				
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet	(channel with well-defi	ned banks and perm	nanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)			·	,



9. Water quality:				
☑ Clear ☐ High turbidity	☐ High algae co	ntent Tannic		
24 TOTAL for Pool Characteri	stics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and approximate percent	tage within the 100)-ft vernal pool envelope	:	
✓ Forested: 50% (16 pts)	\square	Open (e.g., meadow, agric	culture, golf course): 50%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
2. Landuse type and approximate percent	tage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 70% (16 pts)	$\overline{\checkmark}$	Open (e.g., meadow, agric	culture, golf course): 30%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
Are there one or more barriers to v check here and see directions for e				oitat? If so,
Based on:	☐ GIS	☐ Aerial phot	to estimate	
20 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THE Shrubs: Emergent vegetation (grasses, seg Submergent vegetation:			ffer concealment to aquatic or	developing larvae.
Dead branches and downed woody mater	rial (branches/twigs)) available for egg attachm	ent:	
Dead branches and downed woody mater INDICATOR SPECIES	rial (branches/twigs)	egg MASSES (#)	ent: TADPOLES/LARVAE	NOTES
				NOTES
INDICATOR SPECIES	DATE	EGG MASSES (#)		NOTES
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES	DATE 4/24/2015 DATE	EGG MASSES (#) 6 ABUNDANCE	TADPOLES/LARVAE	DTES
INDICATOR SPECIES Spotted Salamander	DATE 4/24/2015	EGG MASSES (#)	TADPOLES/LARVAE	
INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES	DATE 4/24/2015 DATE	EGG MASSES (#) 6 ABUNDANCE	TADPOLES/LARVAE	DTES
INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES	DATE 4/24/2015 DATE DATE	EGG MASSES (#) 6 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE	DTES DTES
INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES	DATE 4/24/2015 DATE DATE DATE	EGG MASSES (#) 6 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE	DTES DTES
INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES	DATE 4/24/2015 DATE DATE DATE VYes	EGG MASSES (#) 6 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE	DTES DTES
INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 4/24/2015 DATE DATE DATE Yes	EGG MASSES (#) 6 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE	DTES DTES
INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 4/24/2015 DATE DATE DATE Yes	EGG MASSES (#) 6 ABUNDANCE ABUNDANCE No No	TADPOLES/LARVAE	DTES DTES
INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 4/24/2015 DATE DATE DATE Yes Yes Yes Yes	EGG MASSES (#) 6 ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE	OTES OTES
INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	DATE 4/24/2015 DATE DATE DATE Yes Yes Yes Yes	EGG MASSES (#) 6 ABUNDANCE ABUNDANCE No No No	NO NO	OTES OTES





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Project File #60328763	Project Name: Northeast Energy Dir	ect Project Poc	ol ID: PH-T-VP00	01
Observer: EL		Phone or email:		
Landowner/Applicant: CARTER EU	GENE P & DOROTHY	Phone or email:		
Address: 15 KATIE LAN	NE City: P	PELHAM S	tate: NH	Zip:: 03076
Location of vernal pool:				
Survey date(s):: 5/14/2015	Longitude/Latitude (in decimal	l degrees): 42.753500	689, -71.32384328	3
A. VERNAL POOL CHARACTERISTICS	S (fill in all information known):			
. Landscape Setting (check all that a	pply):			
☐ Upland depression (4 pts; if this	s is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (with pool part of a pool complex (with pool part of a pool complex).	thin 1000 feet of one or more other ve	ernal pools)(NA)		
☑ Pool within larger wetland syste	em (4 pts; if this is also in a floodplain	ı, use 2 pts)		
☐ Pool part of wildlife corridor (4 p	ots)			
☐ Other (variable pts):				
Pool Origin: Natural Depression				
. Vernal pool condition:				
Describe any recent modifications to the	he pool and associated landscape:	mowed right of way		
,		,		
. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	✓ Peat		
☐ Dense till	☐ Alluvium	☐ Coastal marine se	diments	
. Aquatic resource type that best app	olies to this pool (choose dominan	t):		
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	s) 🔲 Floodplain (ov	verflow/oxbow) (3p	ots)
✓ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable)	le points):	
☐ Peatland (acidic fen or bog) (4pts	s)	(2pts)		
i. Pool canopy cover (%): 0%				
. Predominant substrate:				
☐ Mineral soil	Depth: 14 in			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepe	st zone, edge,etc.): inte	<u>erior</u>	
'. Pool sizes:				
Approximate dimensions of pool (at r	naximum capacity) (sq. feet):	<u>3822.33</u>		
Maximum depth at deepest point at ti	ime of survey (include units):	<u>20 in</u>		
B. Hydrology:				
 a. Estimated hydroperiod (unless act indicator species to best predict the extension) 	ual, observed hydroperiod value(s) is expected hydroperiod of the pool):	(are) known, use the pres	ence of these exar	mple
☑ Dries between early March and early March early March and early March early March early March early Marc	early July (e.g., Thelypteris palustris,	Carex stricta, Impatiens ca	apensis, llex vertic	illata)(6pts)
□ Dries between early July and ear	ly September (e.g., Sagittaria latifolia	a, Scirpus cyperinus, Dulici	hium arundinaceui	m, Cephalanthus occ.)(8pts)
☐ Dries between early September a	and early November (e.g., <i>Eleochari</i> s	s palustris, Glyceria canade	ensis, Utricularia s _i	pp., Decodon vert.)(8pts)
□ Dries between early November a	nd late December, or intermittently ex	xposed (e.g., Nuphar spp.,	, Potamogeton spr	o.)(8pts)
How long does pool hold water?	Seasonal			
b. Inlet/Outlet (pick one):				
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (o	channel with well-defined b	canks and perman	ent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)				



9. Water quality:					
☐ Clear	☐ High turbidity	☐ High algae co	ntent 🗹 Tannic		
<u>22</u> TOT	AL for Pool Character	istics (out of 28 ma	ıx.)		
B. VERNAL POOL	ENVELOPE (100 ft) AN	ND CRITICAL HABI	ΓΑΤ AREA (100-750 ft) CI	HARACTERISTICS (fill in all i	nformation known):
1. Landuse type an	d approximate percer	ntage within the 100	-ft vernal pool envelope	:	
☐ Forested:	<u>%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
✓ Shrub:	100% (10 pts)		Developed: <u>%</u>	(0 pts)	
2. Landuse type an	d approximate percer	ntage within the 100	-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested:	20% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☑ Shrub:	80% (10 pts)		Developed: <u>%</u>	(0 pts)	
			ovement within the envelop o incorporate this informati	pe and/or critical terrestrial habi	tat? If so,
Based on:	✓ Field estimate	☐ GIS	☐ Aerial phot	to estimate	
<u>26</u> TO	TAL for Pool Envelope	e and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C SPECIES PRESE	ENT IN VERNAL POOL				
			ovide egg attachment or of	ffer concealment to aquatic or o	developing larvae
Shrubs:	10-50%	ie i ooe mat can pro	ovide egg attachment of of	nor conceament to aquatic or t	developing laivae.
	vegetation (grasses, se	ges, rushes, cattails)	: 10-50%		
_		<u>0%</u>			
Dead branches ar	nd downed woody mate	erial (branches/twigs)	available for egg attachm	ent: greater than 10	
INDICATO	OP SPECIES	DATE	EGG MASSES (#)	TADDOLES/LADVAE	NOTES
	OR SPECIES od Frog	DATE 5/14/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES many
				TADPOLES/LARVAE Tadpoles	
Woo	od Frog	5/14/2015	0	Tadpoles	many
FACULTA				Tadpoles	
FACULTA Aquatic B	od Frog	5/14/2015 DATE	0 ABUNDANCE	Tadpoles	many
FACULTA* Aquatic B Other:	TIVE SPECIES Seetle Larvae bug larvae	5/14/2015 DATE 5/14/2015 5/14/2015	ABUNDANCE Common Common	Tadpoles	many
FACULTA* Aquatic B Other:	TIVE SPECIES Seetle Larvae	5/14/2015 DATE 5/14/2015	0 ABUNDANCE Common	Tadpoles	many
FACULTA Aquatic B Other:t	TIVE SPECIES Seetle Larvae Dug larvae Tryae or pupae	5/14/2015 DATE 5/14/2015 5/14/2015 5/14/2015	ABUNDANCE Common Common Many	Tadpoles NO	many
FACULTA Aquatic B Other:t	TIVE SPECIES Seetle Larvae bug larvae	5/14/2015 DATE 5/14/2015 5/14/2015	ABUNDANCE Common Common	Tadpoles NO	many
FACULTA Aquatic B Other:t True fly lat	TIVE SPECIES Seetle Larvae Dug larvae Trvae or pupae OR SPECIES	5/14/2015 DATE 5/14/2015 5/14/2015 5/14/2015 DATE	ABUNDANCE Common Common Many ABUNDANCE	Tadpoles NO	many TES TES
FACULTA Aquatic B Other:t True fly lat	TIVE SPECIES Seetle Larvae Dug larvae Tryae or pupae	5/14/2015 DATE 5/14/2015 5/14/2015 5/14/2015	ABUNDANCE Common Common Many	Tadpoles NO	many
FACULTA Aquatic B Other:t True fly lat	TIVE SPECIES Seetle Larvae Dug larvae Trvae or pupae OR SPECIES	5/14/2015 DATE 5/14/2015 5/14/2015 5/14/2015 DATE	ABUNDANCE Common Common Many ABUNDANCE	Tadpoles NO	many TES TES
FACULTA Aquatic B Other:t True fly lat	TIVE SPECIES Seetle Larvae Dug larvae Tryae or pupae OR SPECIES R SPECIES	5/14/2015 DATE 5/14/2015 5/14/2015 5/14/2015 DATE DATE	ABUNDANCE Common Common Many ABUNDANCE	Tadpoles NO	many TES TES
FACULTA Aquatic B Other:t True fly lat PREDATO	TIVE SPECIES Seetle Larvae Dug larvae Tryae or pupae Tryae SPECIES Tryae SPECIES Tryae SPECIES Tryae SPECIES	5/14/2015 DATE 5/14/2015 5/14/2015 5/14/2015 DATE DATE DATE	ABUNDANCE Common Common Many ABUNDANCE ABUNDANCE	Tadpoles NO	many TES TES
FACULTA Aquatic B Other:b True fly lan PREDATO OTHER	TIVE SPECIES Seetle Larvae Dug larvae Tryae or pupae Tryae or pupae Tryae SPECIES The Spec	5/14/2015 DATE 5/14/2015 5/14/2015 5/14/2015 DATE DATE DATE ✓ Yes ☐ Yes	ABUNDANCE Common Common Many ABUNDANCE ABUNDANCE	Tadpoles NO	many TES TES
FACULTA Aquatic B Other:t True fly lan PREDATO OTHER Presence of Indicator Were spermatophorous Were fish observed	TIVE SPECIES Seetle Larvae Dug larvae Tryae or pupae Tryae or pupae Tryae SPECIES The Spec	5/14/2015 DATE 5/14/2015 5/14/2015 5/14/2015 DATE DATE DATE ✓ Yes ☐ Yes	ABUNDANCE Common Common Many ABUNDANCE ABUNDANCE No	Tadpoles NO	many TES TES
FACULTA Aquatic B Other: True fly lan PREDATO OTHER Presence of Indicate Were spermatophor Were fish observed	TIVE SPECIES Seetle Larvae Dug larvae Tryae or pupae Tryae or pupae Tryae or pupae Tryae or Species Tryae or	5/14/2015 DATE 5/14/2015 5/14/2015 5/14/2015 DATE DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE Common Common Many ABUNDANCE ABUNDANCE No No No	Tadpoles NO NO NO	many TES TES
FACULTA Aquatic B Other: True fly lan PREDATO OTHER Presence of Indicate Were spermatophor Were fish observed	TIVE SPECIES Seetle Larvae Dug larvae Tryae or pupae Tryae or pupae Tryae SPECIES The Spec	5/14/2015 DATE 5/14/2015 5/14/2015 5/14/2015 DATE DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE Common Common Many ABUNDANCE ABUNDANCE No No No	Tadpoles NO	many TES TES TES
FACULTA Aquatic B Other: True fly lan PREDATO OTHER Presence of Indicate Were spermatophor Were fish observed	TIVE SPECIES Seetle Larvae Dug larvae Tryae or pupae Tryae or pupae Tryae or pupae Tryae or Species Tryae or	5/14/2015 DATE 5/14/2015 5/14/2015 5/14/2015 DATE DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	ABUNDANCE Common Common Many ABUNDANCE ABUNDANCE No No No	Tadpoles NO NO NO	many TES TES TES





EAST



Project File #60328763 Project Name: Northeast Energy Direct Project Pool ID: BL-AC3-VP002
Observer: CLARE MURPHY-HAGAN Phone or email: 503-318-5970
Landowner/Applicant: KALINOSKI MARY K TRUST & Phone or email:
Address: 1 STUART DR City: BLOOMFIELD State: CT Zip:: 06002
Location of vernal pool: 300' SW X BETWEEN DUNCASTER RD AND STUART DR
Survey date(s):: 4/21/2015 Longitude/Latitude (in decimal degrees): 41.84487088, -72.77205469
A. VERNAL POOL CHARACTERISTICS (fill in all information known):
. Landscape Setting (check all that apply):
☐ Upland depression (4 pts; if this is also in a floodplain, use 2 pts)
☐ Pool part of a pool complex (within 1000 feet of one or more other vernal pools)(NA)
☑ Pool within larger wetland system (4 pts; if this is also in a floodplain, use 2 pts)
☐ Pool part of wildlife corridor (4 pts)
☐ Other (variable pts):
Pool Origin:
. Vernal pool condition:
Describe any recent modifications to the pool and associated landscape: ADJACENT TO DISTURBED ROW AND RESIDENTIAL AREA
. Parent material:
☐ Glacial fluvial ("outwash") ☐ Loose till ☐ Peat
☐ Dense till ☐ Alluvium ☐ Coastal marine sediments
Aquatic resource type that best applies to this pool (choose dominant):
☐ Shrub wetland (4pts) ☐ Open water (2 pts) ☐ Other (variable points):
☐ Peatland (acidic fen or bog) (4pts) ☐ Intermittent stream reach (2pts)
5. Pool canopy cover (%): 15%
S. Predominant substrate:
☐ Mineral soil Depth: 24
✓ Organic matter (peat/muck) Sampling location (e.g.,deepest zone, edge,etc.): <u>DEEPEST ZONE</u>
7. Pool sizes:
Approximate dimensions of pool (at maximum capacity) (sq. feet): 176.08
Maximum depth at deepest point at time of survey (include units): 1.5'
 B. Hydrology: a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example
indicator species to best predict the expected hydroperiod of the pool):
☑ Dries between early March and early July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)
☐ Dries between early July and early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)
☐ Dries between early September and early November (e.g., Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts)
☐ Dries between early November and late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)
How long does pool hold water?
b. Inlet/Outlet (pick one):
☐ No inlet/outlet (8 pts) ☐ Permanent inlet or outlet (channel with well-defined banks and permanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)



9. Water quality:				
☐ Clear ☑ High turbidity	☐ High algae co	ontent		
20 TOTAL for Pool Charac	teristics (out of 28 m	ax.)		
B. VERNAL POOL ENVELOPE (100 ft)	AND CRITICAL HAB	ITAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	information known):
Landuse type and approximate per			•	,
✓ Forested: <u>60%</u> (16 pts)	_	Open (e.g., meadow, agric		(4 pts)
✓ Shrub: <u>5%</u> (10 pts)		Developed: <u>15%</u>	(0 pts)	
2. Landuse type and approximate per	entage within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: <u>30%</u> (16 pts)	_ 	Open (e.g., meadow, agric	culture, golf course): 35%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 35%	(0 pts)	
Are there one or more barriers				itat? If so,
check here and see directions f Based on: Field estimat	•	Aerial photo		
30 TOTAL for Pool Envel	ope and Critical Terro	estrial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL PO	OL			
Vegetation type and percent cover IN	THE POOL that can p	rovide egg attachment or of	ffer concealment to aquatic or	developing larvae.
Shrubs:				
Emergent vegetation (grasses,	seges, rushes, cattails	s):		
Submergent vegetation:				
Submergent vegetation: Dead branches and downed woody m	 aterial (branches/twigs	s) available for egg attachm	ent:	
ů ů	aterial (branches/twigs	s) available for egg attachm	ent: TADPOLES/LARVAE	NOTES
Dead branches and downed woody m	, ,	, 55	_	NOTES
Dead branches and downed woody m	, ,	, 55	TADPOLES/LARVAE	NOTES
Dead branches and downed woody m INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	
Dead branches and downed woody m INDICATOR SPECIES FACULTATIVE SPECIES	DATE	EGG MASSES (#) ABUNDANCE	TADPOLES/LARVAE	TES
Dead branches and downed woody m INDICATOR SPECIES FACULTATIVE SPECIES	DATE	EGG MASSES (#) ABUNDANCE	TADPOLES/LARVAE NO LIMNEF	TES
Dead branches and downed woody m INDICATOR SPECIES FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE DATE 4/22/2015 DATE	EGG MASSES (#) ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE NO LIMNEF	PHILIDAE
Dead branches and downed woody m INDICATOR SPECIES FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES	DATE DATE 4/22/2015 DATE DATE	EGG MASSES (#) ABUNDANCE FeW ABUNDANCE ABUNDANCE	TADPOLES/LARVAE NO LIMNEF	TES PHILIDAE
Dead branches and downed woody m INDICATOR SPECIES FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE DATE 4/22/2015 DATE	EGG MASSES (#) ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE NO LIMNEF	PHILIDAE
Dead branches and downed woody m INDICATOR SPECIES FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES	DATE DATE 4/22/2015 DATE DATE	EGG MASSES (#) ABUNDANCE FeW ABUNDANCE ABUNDANCE	TADPOLES/LARVAE NO LIMNEF	PHILIDAE
Dead branches and downed woody m INDICATOR SPECIES FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES	DATE DATE 4/22/2015 DATE DATE	EGG MASSES (#) ABUNDANCE FeW ABUNDANCE ABUNDANCE	TADPOLES/LARVAE NO LIMNEF	PHILIDAE
Dead branches and downed woody m INDICATOR SPECIES FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES GREEN FROG	DATE 4/22/2015 DATE DATE DATE 4/22/2015	EGG MASSES (#) ABUNDANCE Few ABUNDANCE ABUNDANCE Common	TADPOLES/LARVAE NO LIMNEF	PHILIDAE
Presence of Indicator Species	DATE	EGG MASSES (#) ABUNDANCE Few ABUNDANCE ABUNDANCE Common	TADPOLES/LARVAE NO LIMNEF	PHILIDAE
Presence of Indicator Species Presence of Indicator Species Were fish observed in the pool?	DATE 4/22/2015 DATE DATE 4/22/2015 DATE 4/22/2015 Yes Yes	EGG MASSES (#) ABUNDANCE Few ABUNDANCE Common No	TADPOLES/LARVAE NO LIMNEF	PHILIDAE
Presence of Indicator Species Were spermatophores observed?	DATE	EGG MASSES (#) ABUNDANCE Few ABUNDANCE Common No No	TADPOLES/LARVAE NO LIMNEF	TES PHILIDAE TES TES
Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE	EGG MASSES (#) ABUNDANCE Few ABUNDANCE Common No No	TADPOLES/LARVAE NO LIMNEF NO	TES PHILIDAE TES TES







Project File #60328763 Project	ect Name: Northeast Energy Direct	t Project Pool ID: BL-AC	:3-VP003
Observer: CLARE MURPHY-HAGAN		Phone or email: 503-318-59	70
Landowner/Applicant: Not Listed		Phone or email:	
Address: LL# 722	City: BLC	OOMFIELD State: CT	Zip:: 06002
Location of vernal pool: SW ON ROW	OFF TERRY PLAINS RD ABOUT	.10 MI IN EASTOF ROW	
Survey date(s):: 4/22/2015	Longitude/Latitude (in decimal d	egrees): 41.85779353, -72.7620	2982
A. VERNAL POOL CHARACTERISTICS (fill	in all information known):		
1. Landscape Setting (check all that apply)	:		
☐ Upland depression (4 pts; if this is als	so in a floodplain, use 2 pts)		
☐ Pool part of a pool complex (within 1	000 feet of one or more other ver	nal pools)(NA)	
Pool within larger wetland system (4	pts; if this is also in a floodplain, ι	use 2 pts)	
☐ Pool part of wildlife corridor (4 pts)			
Other (variable pts):			
Pool Origin:			
2. Vernal pool condition:			
Describe any recent modifications to the po	ol and associated landscape:	ADJACENT TO ROW RECENT TRE	E CLEARING
3. Parent material:			
☐ Glacial fluvial ("outwash") ☑	Loose till	☐ Peat	
☐ Dense till ☐	Alluvium	☐ Coastal marine sediments	
4. Aquatic resource type that best applies	to this pool (choose dominant):		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Floodplain (overflow/oxbow	y) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable points):	
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2p	ots)	
5. Pool canopy cover (%): <u>70%</u>			
6. Predominant substrate:			
✓ Mineral soil	Depth:		
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepest	zone, edge,etc.):	
7. Pool sizes:			
Approximate dimensions of pool (at maxim	. ,, , ,	<u>724.02</u>	
Maximum depth at deepest point at time o 8. Hydrology:	f survey (include units):	<u>1.5'</u>	
a. Estimated hydroperiod (unless actual, o	bserved hydroperiod value(s) is(a	re) known, use the presence of these	example
indicator species to best predict the expec		no) known, doo allo proconice of those	oxampio .
Dries between early March and early	July (e.g., <i>Thelypteris palustris</i> , Ca	arex stricta, Impatiens capensis, Ilex v	rerticillata)(6pts)
□ Dries between early July and early Se	ptember (e.g., <i>Sagittaria latifolia,</i> s	Scirpus cyperinus, Dulichium arundina	aceum, Cephalanthus occ.)(8pts)
☐ Dries between early September and early	arly November (e.g., <i>Eleocharis p</i>	alustris, Glyceria canadensis, Utricula	ria spp., Decodon vert.)(8pts)
☐ Dries between early November and lat	e December, or intermittently exp	osed (e.g., Nuphar spp., Potamogetor	n spp.)(8pts)
How long does pool hold water?			
b. Inlet/Outlet (pick one):			
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (ch	annel with well-defined banks and per	manent flow) (2 pts)
✓ Temporary inlet/outlet (6 pts)	, (1		,



9. Water quality:				
	☐ High algae co	ntent Tannic		
20 TOTAL for Pool Character	istics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	ID CRITICAL HABI	TAT AREA (100-750 ft) CI	HARACTERISTICS (fill in all	information known):
1. Landuse type and approximate percen	tage within the 10	0-ft vernal pool envelope:	:	
✓ Forested: 85% (16 pts)	\checkmark	Open (e.g., meadow, agric	culture, golf course): 15%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
2. Landuse type and approximate percen	tage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 50% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 10%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 40%	(0 pts)	
Are there one or more barriers to vecheck here and see directions for each	rernal pool fauna mo explanation of how t	ovement within the envelop to incorporate this informati	e and/or critical terrestrial hab	itat? If so,
Based on: Field estimate	☐ GIS	Aerial phot	o estimate	
20 TOTAL for Pool Envelope	and Critical Terre	estrial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THI Shrubs: Emergent vegetation (grasses, seg Submergent vegetation:			fer concealment to aquatic or	developing larvae.
Dead branches and downed woody mate	rial (branches/twigs) available for egg attachm	ent:	
Dead branches and downed woody mate INDICATOR SPECIES	rial (branches/twigs	available for egg attachm	ent: TADPOLES/LARVAE	NOTES
				NOTES
INDICATOR SPECIES	DATE	EGG MASSES (#)		NOTES
INDICATOR SPECIES Spotted Salamander	DATE 4/22/2015	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Spotted Salamander	DATE 4/22/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES
INDICATOR SPECIES Spotted Salamander Wood Frog	DATE 4/22/2015 4/22/2015	EGG MASSES (#) 3 9	TADPOLES/LARVAE Tadpoles	
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES	DATE 4/22/2015 4/22/2015 DATE	EGG MASSES (#) 3 9 ABUNDANCE	TADPOLES/LARVAE Tadpoles	
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Fingernail Clams	DATE 4/22/2015 4/22/2015 DATE 4/22/2015	EGG MASSES (#) 3 9 ABUNDANCE Common	TADPOLES/LARVAE Tadpoles	DTES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Fingernail Clams	DATE 4/22/2015 4/22/2015 DATE 4/22/2015	EGG MASSES (#) 3 9 ABUNDANCE Common	TADPOLES/LARVAE Tadpoles NC	DTES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Fingernail Clams Caddisflies PREDATOR SPECIES	DATE 4/22/2015 4/22/2015 DATE 4/22/2015 4/22/2015 DATE	BGG MASSES (#) 3 9 ABUNDANCE Common Many	TADPOLES/LARVAE Tadpoles NC	PHILIDAE DTES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Fingernail Clams Caddisflies PREDATOR SPECIES OTHER SPECIES	DATE 4/22/2015 4/22/2015 DATE 4/22/2015 4/22/2015 DATE DATE DATE	BGG MASSES (#) 3 9 ABUNDANCE Common Many ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	DTES PHILIDAE
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Fingernail Clams Caddisflies PREDATOR SPECIES	DATE 4/22/2015 4/22/2015 DATE 4/22/2015 4/22/2015 DATE	BUNDANCE Common Many ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	PHILIDAE DTES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Fingernail Clams Caddisflies PREDATOR SPECIES OTHER SPECIES	DATE 4/22/2015 4/22/2015 DATE 4/22/2015 4/22/2015 DATE DATE DATE	BGG MASSES (#) 3 9 ABUNDANCE Common Many ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	PHILIDAE DTES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Fingernail Clams Caddisflies PREDATOR SPECIES OTHER SPECIES GREEN FROG	DATE 4/22/2015 4/22/2015 DATE 4/22/2015 4/22/2015 DATE DATE DATE 4/22/2015	BUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE Common ABUNDANCE Common	TADPOLES/LARVAE Tadpoles NC	PHILIDAE DTES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Fingernail Clams Caddisflies PREDATOR SPECIES OTHER SPECIES GREEN FROG	DATE 4/22/2015 4/22/2015 DATE 4/22/2015 4/22/2015 DATE 4/22/2015 DATE 4/22/2015 4/22/2015	BUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE Common ABUNDANCE Common	TADPOLES/LARVAE Tadpoles NC	PHILIDAE DTES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Fingernail Clams Caddisflies PREDATOR SPECIES OTHER SPECIES GREEN FROG BULLFROG	DATE 4/22/2015 4/22/2015 DATE 4/22/2015 4/22/2015 DATE DATE 4/22/2015 4/22/2015 4/22/2015 ✓ Yes	ABUNDANCE Common Many ABUNDANCE Common Few	TADPOLES/LARVAE Tadpoles NC	PHILIDAE DTES



SUMMARY

20 TOTAL for Pool Characteristics

20 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area

Other Comments:

Around MP 8.6

PHOTOS



SW



Project File #60328763 Proj	ect Name: Northeast Energy Direct	ct Project	Pool ID: BL-AC3-VP	'004
Observer: CLARE MURPHY-HAGAN		Phone or em	ail: 503-318-5970	
Landowner/Applicant: Not Listed		Phone or ema	ail:	
Address: LL# 722	City: BL	OOMFIELD	State: CT	Zip:: 06002
Location of vernal pool: .10 MI SW ON	N ROW OFF TERRY PLAINS RD			
Survey date(s):: 4/22/2015	Longitude/Latitude (in decimal o	legrees): 41.85	5787713, -72.76192791	
A. VERNAL POOL CHARACTERISTICS (fil	I in all information known):			
1. Landscape Setting (check all that apply):			
☐ Upland depression (4 pts; if this is a	lso in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (within 1	000 feet of one or more other ver	nal pools)(NA)		
☑ Pool within larger wetland system (4)	pts; if this is also in a floodplain,	use 2 pts)		
☐ Pool part of wildlife corridor (4 pts)				
☐ Other (variable pts):				
Pool Origin:				
2. Vernal pool condition:				
Describe any recent modifications to the po	ool and associated landscape:	ADJACENT TO DI	STURBED ROW RECE	ENT TREE CLEARING
3. Parent material:				
☐ Glacial fluvial ("outwash") ☑	Loose till	☐ Peat		
☐ Dense till ☐	Alluvium	☐ Coastal marin	ie sediments	
4. Aquatic resource type that best applies	to this pool (choose dominant)	:		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Floodplai	in (overflow/oxbow) (3p	ts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (va	ariable points):	
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2	pts)		
5. Pool canopy cover (%): <u>75%</u>				
6. Predominant substrate:				
✓ Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepest	zone, edge,etc.):	_	
7. Pool sizes:				
Approximate dimensions of pool (at maxim	. ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1322.54		
Maximum depth at deepest point at time of	of survey (include units):	<u>1'</u>		
8. Hydrology:a. Estimated hydroperiod (unless actual, or	observed hydroperiod value(s) is(a	are) known use the	presence of these exar	nnle
indicator species to best predict the experi		2.0, 1	processor of another exam	
☑ Dries between early March and early	July (e.g., Thelypteris palustris, C	arex stricta, Impatie	ns capensis, llex vertici	llata)(6pts)
□ Dries between early July and early Se	eptember (e.g., Sagittaria latifolia,	Scirpus cyperinus, L	Dulichium arundinaceun	n, Cephalanthus occ.)(8pts)
□ Dries between early September and early	early November (e.g., <i>Eleocharis</i> p	palustris, Glyceria ca	nadensis, Utricularia sp	op., Decodon vert.)(8pts)
☐ Dries between early November and la	te December, or intermittently exp	oosed (e.g., <i>Nuphar</i>	spp., Potamogeton spp	o.)(8pts)
How long does pool hold water?				
b. Inlet/Outlet (pick one):				
No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (ch	nannel with well-defir	ned banks and permane	ent flow) (2 pts)
✓ Temporary inlet/outlet (6 pts)	_		,	, , , ,



9. Water quality:				
☑ Clear ☐ High turbidity	☐ High algae co	ntent Tannic		
20 TOTAL for Pool Character	istics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	ID CRITICAL HABIT	TAT AREA (100-750 ft) CI	HARACTERISTICS (fill in all i	nformation known):
1. Landuse type and approximate percen	tage within the 100)-ft vernal pool envelope:	:	
✓ Forested: 85% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 15%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: <u>%</u>	(0 pts)	
2. Landuse type and approximate percen	tage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
Forested: 50% (16 pts)	\square	Open (e.g., meadow, agric	culture, golf course): 10%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)	\square	Developed: 40%	(0 pts)	
Are there one or more barriers to vecheck here and see directions for example.				tat? If so,
Based on:	☐ GIS	Aerial phot	to estimate	
20 TOTAL for Pool Envelope	e and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN TH	E POOL that can pro	ovide egg attachment or of	ffer concealment to aquatic or o	developing larvae.
Shrubs:				
Emergent vegetation (grasses, seg	ges, rushes, cattails)):		
Submergent vegetation:				
Dead branches and downed woody mate	rial (branches/twigs)	available for egg attachm	ent:	
Dead branches and downed woody mate INDICATOR SPECIES	rial (branches/twigs)	egg MASSES (#)	ent: TADPOLES/LARVAE	NOTES
	DATE		TADPOLES/LARVAE	
INDICATOR SPECIES FACULTATIVE SPECIES	DATE	EGG MASSES (#) ABUNDANCE	TADPOLES/LARVAE	NOTES TES
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	TES
INDICATOR SPECIES FACULTATIVE SPECIES	DATE	EGG MASSES (#) ABUNDANCE	TADPOLES/LARVAE	
INDICATOR SPECIES FACULTATIVE SPECIES Caddisflies	DATE DATE 4/23/2015	EGG MASSES (#) ABUNDANCE Common	TADPOLES/LARVAE	TES
FACULTATIVE SPECIES Caddisflies American Toad Fingernail Clams	DATE 4/23/2015 4/23/2015 4/23/2015	EGG MASSES (#) ABUNDANCE Common Few Few	NO 2 HATCHED	TES EGG MASSES
FACULTATIVE SPECIES Caddisflies American Toad	DATE DATE 4/23/2015 4/23/2015	EGG MASSES (#) ABUNDANCE Common Few	NO 2 HATCHED	TES
FACULTATIVE SPECIES Caddisflies American Toad Fingernail Clams PREDATOR SPECIES	DATE DATE 4/23/2015 4/23/2015 4/23/2015 DATE	EGG MASSES (#) ABUNDANCE Common Few Few ABUNDANCE	NO 2 HATCHED	TES EGG MASSES TES
FACULTATIVE SPECIES Caddisflies American Toad Fingernail Clams	DATE 4/23/2015 4/23/2015 4/23/2015	EGG MASSES (#) ABUNDANCE Common Few Few	NO 2 HATCHED	TES EGG MASSES
FACULTATIVE SPECIES Caddisflies American Toad Fingernail Clams PREDATOR SPECIES OTHER SPECIES	DATE DATE 4/23/2015 4/23/2015 4/23/2015 DATE DATE	EGG MASSES (#) ABUNDANCE Common Few Few ABUNDANCE ABUNDANCE	NO 2 HATCHED	TES EGG MASSES TES
FACULTATIVE SPECIES Caddisflies American Toad Fingernail Clams PREDATOR SPECIES OTHER SPECIES	DATE DATE 4/23/2015 4/23/2015 4/23/2015 DATE DATE	EGG MASSES (#) ABUNDANCE Common Few Few ABUNDANCE ABUNDANCE	NO 2 HATCHED	TES EGG MASSES TES
FACULTATIVE SPECIES Caddisflies American Toad Fingernail Clams PREDATOR SPECIES OTHER SPECIES	DATE 4/23/2015 4/23/2015 4/23/2015 DATE DATE DATE 4/23/2015	EGG MASSES (#) ABUNDANCE Common Few Few ABUNDANCE ABUNDANCE	NO 2 HATCHED	TES EGG MASSES TES
FACULTATIVE SPECIES Caddisflies American Toad Fingernail Clams PREDATOR SPECIES OTHER SPECIES GREEN FROGS	DATE 4/23/2015 4/23/2015 4/23/2015 DATE DATE 4/23/2015	EGG MASSES (#) ABUNDANCE Common Few Few ABUNDANCE ABUNDANCE Common	NO 2 HATCHED	TES EGG MASSES TES
FACULTATIVE SPECIES Caddisflies American Toad Fingernail Clams PREDATOR SPECIES OTHER SPECIES GREEN FROGS Presence of Indicator Species	DATE 4/23/2015 4/23/2015 4/23/2015 DATE DATE 4/23/2015 DATE Yes Yes	EGG MASSES (#) ABUNDANCE Common Few Few ABUNDANCE Common	NO 2 HATCHED	TES EGG MASSES TES
FACULTATIVE SPECIES Caddisflies American Toad Fingernail Clams PREDATOR SPECIES OTHER SPECIES GREEN FROGS Presence of Indicator Species Were spermatophores observed?	DATE 4/23/2015 4/23/2015 4/23/2015 DATE DATE 4/23/2015 DATE Yes Yes	EGG MASSES (#) ABUNDANCE Common Few Few ABUNDANCE Common ABUNDANCE Common	NO 2 HATCHED	TES EGG MASSES TES
FACULTATIVE SPECIES Caddisflies American Toad Fingernail Clams PREDATOR SPECIES OTHER SPECIES GREEN FROGS Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 4/23/2015 4/23/2015 4/23/2015 DATE DATE 4/23/2015 PATE 4/23/2015	EGG MASSES (#) ABUNDANCE Common Few Few ABUNDANCE Common V No No No	NO 2 HATCHED	TES EGG MASSES TES TES





NE



Project File #60328763 Project Na	ame: Northeast Energy Direct Proje	ct Pool ID: BL-AC3	3-VP005
Observer: CLARE MURPHY-HAGAN		Phone or email: 503-318-597	0
Landowner/Applicant: BLOOMFIELD TOWN OF	F	Phone or email:	
Address: 800 BLOOMFIELD AVEN	NUE City: BLOOMFI	ELD State: CT	Zip:: 06002
Location of vernal pool: TERRY PLAINS RD	NORTH ON ROW APPROX .35 N	/II 20 YDS EAST OF ROW	
Survey date(s):: 4/22/2015 Long	gitude/Latitude (in decimal degrees	e): 41.86391319, -72.75864	866
A. VERNAL POOL CHARACTERISTICS (fill in all	I information known):		
1. Landscape Setting (check all that apply):			
☐ Upland depression (4 pts; if this is also in a	a floodplain, use 2 pts)		
☐ Pool part of a pool complex (within 1000 fe	eet of one or more other vernal poo	ols)(NA)	
Pool within larger wetland system (4 pts; if	f this is also in a floodplain, use 2 p	ts)	
☐ Pool part of wildlife corridor (4 pts)			
☐ Other (variable pts):			
Pool Origin:			
2. Vernal pool condition:			
Describe any recent modifications to the pool and	d associated landscape: ADJA	CENT TO DISTURBED ROW	
3. Parent material:			
☐ Glacial fluvial ("outwash") ☑ Loos	e till 🔲 🖡	Peat	
☐ Dense till ☐ Alluv	rium 🔲 (Coastal marine sediments	
4. Aquatic resource type that best applies to this	s pool (choose dominant):		
✓ Forested wetland (4pts)	Herbaceous wetland (4pts)	☐ Floodplain (overflow/oxbow)	(3pts)
☐ Shrub wetland (4pts) ☐ 0	Open water (2 pts)	☐ Other (variable points):	
☐ Peatland (acidic fen or bog) (4pts) ☐ I	Intermittent stream reach (2pts)		
5. Pool canopy cover (%): 95%			
6. Predominant substrate:			
	th:		
☐ Organic matter (peat/muck) Sam	npling location (e.g.,deepest zone,	edge,etc.):	
7. Pool sizes:			
Approximate dimensions of pool (at maximum c		<u>74</u>	
Maximum depth at deepest point at time of surv 8. Hydrology:	vey (include units): 1'		
a. Estimated hydroperiod (unless actual, observindicator species to best predict the expected hydroperiod)		own, use the presence of these e	example
☑ Dries between early March and early July (€	, ,	ricta. Impatiens capensis. Ilex ve	erticillata)(6pts)
☐ Dries between early July and early Septemb			,,,,
☐ Dries between early September and early N			
☐ Dries between early November and late Dec	,		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
_ ,	,,,,	J. , , , ,	
How long does pool hold water?			
b. Inlet/Outlet (pick one):	Danis and Calaba and C	ode on the defendation of	
_ ` ` ' / _	Permanent inlet or outlet (channel v	with well-defined banks and pern	nanent flow) (2 pts)
✓ Temporary inlet/outlet (6 pts)			



9. Water quality:				
☑ Clear ☐ High turbidity	☐ High algae co	ntent Tannic		
20 TOTAL for Pool Character	istics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	ID CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and approximate percen	tage within the 100	0-ft vernal pool envelope	:	
✓ Forested: <u>75%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): 25%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
2. Landuse type and approximate percen	tage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
▼ Forested: 30% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 70%	(4 pts)
☐ Shrub: % (10 pts)		Developed: <u>%</u>	(0 pts)	
Are there one or more barriers to vecheck here and see directions for each				itat? If so,
Based on:	☐ GIS	Aerial photo	to estimate	
20 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN TH	E POOL that can pr	ovide egg attachment or of	ffer concealment to aquatic or	developing larvae.
Shrubs:				
Emergent vegetation (grasses, seg	ges, rushes, cattails)):		
Submergent vegetation:				
-				
Dead branches and downed woody mate	 rial (branches/twigs)) available for egg attachm	ent:	
-	rial (branches/twigs)	available for egg attachm	ent: TADPOLES/LARVAE	NOTES
Dead branches and downed woody mate				NOTES
Dead branches and downed woody mate INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Dead branches and downed woody mate INDICATOR SPECIES	DATE 4/23/2015 DATE	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog	DATE 4/23/2015	EGG MASSES (#) 25	TADPOLES/LARVAE Tadpoles	
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 4/23/2015 DATE	EGG MASSES (#) 25 ABUNDANCE	TADPOLES/LARVAE Tadpoles	
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 4/23/2015 DATE	EGG MASSES (#) 25 ABUNDANCE	TADPOLES/LARVAE Tadpoles	
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 4/23/2015 DATE 4/23/2015 DATE	EGG MASSES (#) 25 ABUNDANCE Common ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	PTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies	DATE 4/23/2015 DATE 4/23/2015	EGG MASSES (#) 25 ABUNDANCE Common	TADPOLES/LARVAE Tadpoles NO	DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 4/23/2015 DATE 4/23/2015 DATE	EGG MASSES (#) 25 ABUNDANCE Common ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	OTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 4/23/2015 DATE 4/23/2015 DATE DATE	EGG MASSES (#) 25 ABUNDANCE Common ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	OTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES	DATE 4/23/2015 DATE 4/23/2015 DATE DATE DATE	EGG MASSES (#) 25 ABUNDANCE Common ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	OTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 4/23/2015 DATE 4/23/2015 DATE DATE DATE ✓ Yes ☐ Yes	EGG MASSES (#) 25 ABUNDANCE Common ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	PTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 4/23/2015 DATE 4/23/2015 DATE DATE DATE ✓ Yes ☐ Yes	EGG MASSES (#) 25 ABUNDANCE Common ABUNDANCE ABUNDANCE No No	TADPOLES/LARVAE Tadpoles NO	OTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 4/23/2015 DATE 4/23/2015 DATE DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	EGG MASSES (#) 25 ABUNDANCE Common ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles NO	OTES OTES





Project File #60328763	Project Name: Northeast Energy Dire	ect Project Pool ID: BL-AC3-VP006
Observer: C M-H		Phone or email: 503-318-5970
Landowner/Applicant: THORNTON D	AVID G REV TR & LYNDA J TR &	Phone or email:
Address: 17 BIRCH KNC	DLL ROAD City: B	LOOMFIELD State: CT Zip:: 06002
Location of vernal pool: .25 MI SO	UTH ON ROW OFF ADAMS RD	
Survey date(s):: 4/23/2015	Longitude/Latitude (in decimal	degrees): 41.86846862, -72.75627377
A. VERNAL POOL CHARACTERISTICS	(fill in all information known):	
. Landscape Setting (check all that ap	ply):	
☐ Upland depression (4 pts; if this	is also in a floodplain, use 2 pts)	
☐ Pool part of a pool complex (with	nin 1000 feet of one or more other ve	ernal pools)(NA)
Pool within larger wetland syster	m (4 pts; if this is also in a floodplain,	, use 2 pts)
□ Pool part of wildlife corridor (4 pt	rs)	
☐ Other (variable pts):		
Pool Origin:		
. Vernal pool condition:		
Describe any recent modifications to the	e pool and associated landscape:	ADJACENT TO DISTURBED VEG ON ROW
. Parent material:		
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat
☑ Dense till	☐ Alluvium	☐ Coastal marine sediments
. Aquatic resource type that best app	ies to this pool (choose dominant	t):
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	Floodplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable points):
☐ Peatland (acidic fen or bog) (4pts)	Intermittent stream reach (2pts)
i. Pool canopy cover (%): 50%		
. Predominant substrate:		
☐ Mineral soil	Depth: 6	
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepes	st zone, edge,etc.): <u>DEEPEST ZONE</u>
7. Pool sizes:		
Approximate dimensions of pool (at m	aximum capacity) (sq. feet):	<u>2016.25</u>
Maximum depth at deepest point at tir	ne of survey (include units):	<u>3'</u>
B. Hydrology:		(and the same of the same)
indicator species to best predict the ex		s(are) known, use the presence of these example
☑ Dries between early March and ea	arly July (e.g., Thelypteris palustris,	Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)
☐ Dries between early July and early	/ September (e.g., Sagittaria latifolia	a, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)
☐ Dries between early September a	nd early November (e.g., Eleocharis	palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts)
☐ Dries between early November an	d late December, or intermittently ex	xposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)
How long does pool hold water?		
b. Inlet/Outlet (pick one):		
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (c	channel with well-defined banks and permanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)		



9. Water quality:				
☐ Clear ☐ High turbidity	☐ High algae co	ntent 🗹 Tannic		
22 TOTAL for Pool Character	stics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABIT	ΓΑΤ AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and approximate percen	tage within the 100)-ft vernal pool envelope	:	
✓ Forested: 95% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 5%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: <u>%</u>	(0 pts)	
2. Landuse type and approximate percen	tage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: <u>75%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): 25%	(4 pts)
☐ Shrub: ½ (10 pts)		Developed: %	(0 pts)	
Are there one or more barriers to vecheck here and see directions for each	ernal pool fauna mo explanation of how to	ovement within the envelop o incorporate this informat	pe and/or critical terrestrial hab ion.	itat? If so,
Based on:	☐ GIS	Aerial photo	to estimate	
20 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THE Shrubs: Emergent vegetation (grasses, sec	·		ffer concealment to aquatic or	developing larvae.
Submergent vegetation: Dead branches and downed woody mate	— rial (branches/twigs)	available for egg attachm	ent:	
· · ·	— rial (branches/twigs)			NOTES
Dead branches and downed woody mate		available for egg attachm EGG MASSES (#) 8	ent: TADPOLES/LARVAE	NOTES
Dead branches and downed woody mate INDICATOR SPECIES	DATE	EGG MASSES (#)		NOTES EGG MASSES CLUSTERED IN NW CORNER OF POOL
Dead branches and downed woody mate INDICATOR SPECIES Spotted Salamander Wood Frog	DATE 4/23/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	EGG MASSES CLUSTERED IN NW CORNER OF POOL
Dead branches and downed woody mate INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES	DATE 4/23/2015 4/23/2015 DATE	EGG MASSES (#) 8 40 ABUNDANCE	TADPOLES/LARVAE Tadpoles	EGG MASSES CLUSTERED
Dead branches and downed woody mate INDICATOR SPECIES Spotted Salamander Wood Frog	DATE 4/23/2015 4/23/2015	EGG MASSES (#) 8 40	TADPOLES/LARVAE Tadpoles	EGG MASSES CLUSTERED IN NW CORNER OF POOL
Dead branches and downed woody mate INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Caddisflies	DATE 4/23/2015 4/23/2015 DATE 4/23/2015	8 40 ABUNDANCE Few	TADPOLES/LARVAE Tadpoles NC	EGG MASSES CLUSTERED IN NW CORNER OF POOL DTES
Dead branches and downed woody mate INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES	DATE 4/23/2015 4/23/2015 DATE	EGG MASSES (#) 8 40 ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	EGG MASSES CLUSTERED IN NW CORNER OF POOL
Dead branches and downed woody mate INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 4/23/2015 4/23/2015 DATE 4/23/2015 DATE	8 40 ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	EGG MASSES CLUSTERED IN NW CORNER OF POOL DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Caddisflies	DATE 4/23/2015 4/23/2015 DATE 4/23/2015	8 40 ABUNDANCE Few	TADPOLES/LARVAE Tadpoles NO	EGG MASSES CLUSTERED IN NW CORNER OF POOL DTES
Dead branches and downed woody mate INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 4/23/2015 4/23/2015 DATE 4/23/2015 DATE DATE DATE	8 40 ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	EGG MASSES CLUSTERED IN NW CORNER OF POOL DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES	DATE 4/23/2015 4/23/2015 DATE 4/23/2015 DATE DATE DATE ✓ Yes	8 40 ABUNDANCE Few ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	EGG MASSES CLUSTERED IN NW CORNER OF POOL OTES OTES
Dead branches and downed woody mate INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 4/23/2015 4/23/2015 DATE 4/23/2015 DATE DATE DATE Ves Yes	BGG MASSES (#) 8 40 ABUNDANCE FeW ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	EGG MASSES CLUSTERED IN NW CORNER OF POOL DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 4/23/2015 4/23/2015 DATE 4/23/2015 DATE DATE DATE Ves Yes	EGG MASSES (#) 8 40 ABUNDANCE FeW ABUNDANCE ABUNDANCE No	TADPOLES/LARVAE Tadpoles NO	EGG MASSES CLUSTERED IN NW CORNER OF POOL DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 4/23/2015 4/23/2015 DATE 4/23/2015 DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	BGG MASSES (#) 8 40 ABUNDANCE FeW ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles NO	EGG MASSES CLUSTERED IN NW CORNER OF POOL OTES OTES





NW



Project File #60328763 P	roject Name: Northeast Energy Dir	ect Project Pool ID: BL-AC3-VP007	
Observer: C M-H		Phone or email: 5033185970	
Landowner/Applicant: THORNTON DA	VID G REV TR & LYNDA J TR &	Phone or email:	
Address: 17 BIRCH KNOL	L ROAD City: B	LOOMFIELD State: CT Zip:: 06	6002
Location of vernal pool:			
Survey date(s):: 4/23/2015	Longitude/Latitude (in decimal	degrees): 41.86875626, -72.75666877	
A. VERNAL POOL CHARACTERISTICS	fill in all information known):		
1. Landscape Setting (check all that app	oly):		
☐ Upland depression (4 pts; if this is	also in a floodplain, use 2 pts)		
☐ Pool part of a pool complex (within)	n 1000 feet of one or more other ve	ernal pools)(NA)	
Pool within larger wetland system	(4 pts; if this is also in a floodplain	, use 2 pts)	
☐ Pool part of wildlife corridor (4 pts))		
☐ Other (variable pts):			
Pool Origin:			
2. Vernal pool condition:			
Describe any recent modifications to the	pool and associated landscape:		
3. Parent material:			
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat	
✓ Dense till	☐ Alluvium	☐ Coastal marine sediments	
4. Aquatic resource type that best applied	es to this pool (choose dominant	t):	
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	Floodplain (overflow/oxbow) (3pts)	
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable points):	
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2pts)	
5. Pool canopy cover (%): 65%			
6. Predominant substrate:			
☐ Mineral soil	Depth: 6		
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepe	st zone, edge,etc.): <u>DEEPEST ZONE</u>	
7. Pool sizes:			
Approximate dimensions of pool (at ma	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	4414.90	
Maximum depth at deepest point at tim 8. Hydrology:	e of survey (include units):	<u>2'</u>	
	l. observed hydroperiod value(s) is	(are) known, use the presence of these example	
indicator species to best predict the exp		(dis) intermi, des the presence of those sxample	
Dries between early March and ear	ly July (e.g., Thelypteris palustris,	Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)	
□ Dries between early July and early	September (e.g., Sagittaria latifolia	n, Scirpus cyperinus, Dulichium arundinaceum, Cephalan	nthus occ.)(8pts)
☐ Dries between early September and	d early November (e.g., <i>Eleochari</i> s	palustris, Glyceria canadensis, Utricularia spp., Decodo	n vert.)(8pts)
☐ Dries between early November and	late December, or intermittently ex	xposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)	
How long does pool hold water?	_		
b. Inlet/Outlet (pick one):			
No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (c	channel with well-defined banks and permanent flow) (2	pts)
✓ Temporary inlet/outlet (6 pts)	_	, , , , , ,	



Clear
B. VERNAL POOL ENVELOPE (100 ft) AND CRITICAL HABITAT AREA (100-750 ft) CHARACTERISTICS (fill in all information known): 1. Landuse type and approximate percentage within the 100-ft vernal pool envelope: Forested: 100% (16 pts)
1. Landuse type and approximate percentage within the 100-ft vernal pool envelope: Forested: 100% (16 pts)
Forested: 100% (16 pts)
□ Shrub: ½ (10 pts) □ Developed: ½ (0 pts) 2. Landuse type and approximate percentage within the 100-750-ft vernal pool critical terrestrial habitat: □ Forested: 75½ (16 pts) □ Open (e.g., meadow, agriculture, golf course): ½ (4 pts) □ Shrub: ½ (10 pts) □ Developed: ½ (0 pts) □ Are there one or more barriers to vernal pool fauna movement within the envelope and/or critical terrestrial habitat? If so, check here and see directions for explanation of how to incorporate this information. □ Based on: □ Field estimate □ GIS ☑ Aerial photo estimate 20 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area (out of 32 max.) C. SPECIES PRESENT IN VERNAL POOL Vegetation type and percent cover IN THE POOL that can provide egg attachment or offer concealment to aquatic or developing larvae. □ Shrubs: □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □
2. Landuse type and approximate percentage within the 100-750-ft vernal pool critical terrestrial habitat: Forested: 75%
Forested: 75% (16 pts)
Shrub: ½ (10 pts) □ Developed: ½ (0 pts) Are there one or more barriers to vernal pool fauna movement within the envelope and/or critical terrestrial habitat? If so, check here and see directions for explanation of how to incorporate this information. Based on: □ Field estimate □ GIS ☑ Aerial photo estimate 20 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area (out of 32 max.) C. SPECIES PRESENT IN VERNAL POOL Vegetation type and percent cover IN THE POOL that can provide egg attachment or offer concealment to aquatic or developing larvae. Shrubs: □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □
Are there one or more barriers to vernal pool fauna movement within the envelope and/or critical terrestrial habitat? If so, check here and see directions for explanation of how to incorporate this information. Based on: Field estimate GIS Aerial photo estimate 20 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area (out of 32 max.) C. SPECIES PRESENT IN VERNAL POOL Vegetation type and percent cover IN THE POOL that can provide egg attachment or offer concealment to aquatic or developing larvae. Shrubs: Emergent vegetation (grasses, seges, rushes, cattails): Submergent vegetation: Dead branches and downed woody material (branches/twigs) available for egg attachment:
check here and see directions for explanation of how to incorporate this information. Based on: Field estimate GIS Aerial photo estimate 20 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area (out of 32 max.) C. SPECIES PRESENT IN VERNAL POOL Vegetation type and percent cover IN THE POOL that can provide egg attachment or offer concealment to aquatic or developing larvae. Shrubs: Emergent vegetation (grasses, seges, rushes, cattails): Submergent vegetation: Dead branches and downed woody material (branches/twigs) available for egg attachment:
20 TOTAL for Pool Envelope and Critical Terrestrial Habitat Area (out of 32 max.) C. SPECIES PRESENT IN VERNAL POOL Vegetation type and percent cover IN THE POOL that can provide egg attachment or offer concealment to aquatic or developing larvae. Shrubs: Emergent vegetation (grasses, seges, rushes, cattails): Submergent vegetation: Dead branches and downed woody material (branches/twigs) available for egg attachment: ———————————————————————————————————
C. SPECIES PRESENT IN VERNAL POOL Vegetation type and percent cover IN THE POOL that can provide egg attachment or offer concealment to aquatic or developing larvae. Shrubs: Emergent vegetation (grasses, seges, rushes, cattails): Submergent vegetation: Dead branches and downed woody material (branches/twigs) available for egg attachment:
Vegetation type and percent cover IN THE POOL that can provide egg attachment or offer concealment to aquatic or developing larvae. Shrubs: Emergent vegetation (grasses, seges, rushes, cattails): Submergent vegetation: Dead branches and downed woody material (branches/twigs) available for egg attachment:
Shrubs: Emergent vegetation (grasses, seges, rushes, cattails): Submergent vegetation: Dead branches and downed woody material (branches/twigs) available for egg attachment:
INDICATOR SPECIES DATE EGG MASSES (#) TADPOLES/LARVAE NOTES
Wood Frog 4/24/2015 12 Tadpoles
FACULTATIVE SPECIES DATE ABUNDANCE NOTES
Caddisflies 4/24/2015 Common
PREDATOR SPECIES DATE ABUNDANCE NOTES
OTHER SPECIES DATE ABUNDANCE NOTES
OTTIER OF EGIES DATE ADDITIONAL NOTES
Presence of Indicator Species ☑ Yes ☐ No
Presence of Indicator Species
Were spermatophores observed? ☐ Yes ☑ No
Were spermatophores observed? ☐ Yes ☑ No Were fish observed in the pool? ☑ Yes ☑ No





NW



Project File #60328763 Pro	ject Name: Northeast Energy Direct	ct Project Pool	ID: BL-AC3-VP0	800
Observer: CM-H		Phone or email:	503-318-5970	
Landowner/Applicant: THORNTON DAV	ID G REV TR & LYNDA J TR &	Phone or email:		
Address: 17 BIRCH KNOLL	. ROAD City: BL	OOMFIELD Sta	ate: CT	Zip:: 06002
Location of vernal pool:				
Survey date(s):: 4/23/2015	Longitude/Latitude (in decimal of	legrees): 41.8677210	02, -72.75679331	
A. VERNAL POOL CHARACTERISTICS (fi	II in all information known):			
1. Landscape Setting (check all that apply	/):			
☐ Upland depression (4 pts; if this is a	also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (within	1000 feet of one or more other ver	nal pools)(NA)		
Pool within larger wetland system (4 pts; if this is also in a floodplain,	use 2 pts)		
☐ Pool part of wildlife corridor (4 pts)				
☐ Other (variable pts):				
Pool Origin:				
2. Vernal pool condition:				
Describe any recent modifications to the p	ool and associated landscape:	NEAR DISTURBED RO	W	
3. Parent material:				
☐ Glacial fluvial ("outwash") ☐	Loose till	☐ Peat		
☑ Dense till □	Alluvium	☐ Coastal marine sed	liments	
4. Aquatic resource type that best applies	to this pool (choose dominant)	:		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Floodplain (ove	erflow/oxbow) (3pts	s)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable	points):	
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2)	pts)		
5. Pool canopy cover (%): <u>25%</u>				
6. Predominant substrate:				
☐ Mineral soil	Depth: 6			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepest	zone, edge,etc.): <u>DEE</u>	PEST ZONE	
7. Pool sizes:				
Approximate dimensions of pool (at max		<u>1620.03</u>		
Maximum depth at deepest point at time	of survey (include units):	<u>1.5'</u>		
8. Hydrology:a. Estimated hydroperiod (unless actual,	observed hydroneriod value(s) is(:	are) known lise the nrese	nce of these evami	nle
indicator species to best predict the expe		are, known, use the presen	nee of these examp	, SIC
Dries between early March and early	July (e.g., Thelypteris palustris, C	arex stricta, Impatiens cap	oensis, Ilex verticilla	ata)(6pts)
□ Dries between early July and early S	eptember (e.g., Sagittaria latifolia,	Scirpus cyperinus, Dulich	ium arundinaceum,	, Cephalanthus occ.)(8pts)
□ Dries between early September and	early November (e.g., <i>Eleocharis</i> p	palustris, Glyceria canader	nsis, Utricularia spp	o., Decodon vert.)(8pts)
□ Dries between early November and I	ate December, or intermittently exp	oosed (e.g., <i>Nuphar spp.,</i>	Potamogeton spp.)	(8pts)
How long does pool hold water?				
b. Inlet/Outlet (pick one):	-			
□ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (ch	າannel with well-defined ba	anks and permaner	nt flow) (2 pts)
✓ Temporary inlet/outlet (6 pts)				/ \ 1 ·-/



9. Water quality:				
☐ Clear ☐ High turbidity	☐ High algae co	ntent 🗹 Tannic		
20 TOTAL for Pool Characteri	istics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and approximate percent	tage within the 100)-ft vernal pool envelope	:	
✓ Forested: 50% (16 pts)	\square	Open (e.g., meadow, agric	culture, golf course): 50%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
2. Landuse type and approximate percent	tage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
▼ Forested: 85% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 15%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
Are there one or more barriers to v check here and see directions for e				oitat? If so,
Based on:	☐ GIS	Aerial photo	to estimate	
20 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THI	E POOL that can pro	ovide egg attachment or of	ffer concealment to aquatic or	developing larvae.
Shrubs:				
Emergent vegetation (grasses, seg	ges, rushes, cattails)):		
Submergent vegetation:	_			
Dead branches and downed woody mater	 rial (branches/twigs)	available for egg attachm	ent:	
	rial (branches/twigs)	available for egg attachm	ent: TADPOLES/LARVAE	NOTES
Dead branches and downed woody mater	, ,	1	_	NOTES
Dead branches and downed woody mater INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Dead branches and downed woody mater INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 4/24/2015 DATE	EGG MASSES (#) 60 ABUNDANCE	TADPOLES/LARVAE Tadpoles	DTES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog	DATE 4/24/2015	EGG MASSES (#) 60	TADPOLES/LARVAE Tadpoles	
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 4/24/2015 DATE	EGG MASSES (#) 60 ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	DTES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 4/24/2015 DATE DATE	EGG MASSES (#) 60 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	DTES DTES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES	DATE 4/24/2015 DATE DATE DATE	EGG MASSES (#) 60 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	DTES DTES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES SPOTTEDTURTLE	DATE 4/24/2015 DATE DATE DATE	EGG MASSES (#) 60 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	DTES DTES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES	DATE 4/24/2015 DATE DATE DATE 4/24/2015	EGG MASSES (#) 60 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	DTES DTES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES SPOTTEDTURTLE	DATE 4/24/2015 DATE DATE DATE 4/24/2015 ✓ Yes	EGG MASSES (#) 60 ABUNDANCE ABUNDANCE Few	TADPOLES/LARVAE Tadpoles NC	DTES DTES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES SPOTTEDTURTLE Presence of Indicator Species	DATE 4/24/2015 DATE DATE DATE 4/24/2015 ✓ Yes ☐ Yes	EGG MASSES (#) 60 ABUNDANCE ABUNDANCE Few	TADPOLES/LARVAE Tadpoles NC	DTES DTES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES SPOTTEDTURTLE Presence of Indicator Species Were spermatophores observed?	DATE 4/24/2015 DATE DATE DATE 4/24/2015 ✓ Yes ☐ Yes	EGG MASSES (#) 60 ABUNDANCE ABUNDANCE Few No	TADPOLES/LARVAE Tadpoles NC	DTES DTES
Dead branches and downed woody mater INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES SPOTTEDTURTLE Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 4/24/2015 DATE DATE DATE 4/24/2015 ✓ Yes ☐ Yes ☐ Yes ☐ Yes	EGG MASSES (#) 60 ABUNDANCE ABUNDANCE Few No No	TADPOLES/LARVAE Tadpoles NC	OTES OTES





W



Project File #60328763 Pr	roject Name: Northeast Energy Direct Project Pool ID: BL-AC3-VP009
Observer: C M-H	Phone or email: 503-318-5970
Landowner/Applicant: BLOOMFIELD To	OWN OF Phone or email:
Address: 800 BLOOMFIEL	LD AVENUE City: BLOOMFIELD State: CT Zip:: 06002
Location of vernal pool:	
Survey date(s):: 4/23/2015	Longitude/Latitude (in decimal degrees): 41.86529475, -72.75774925
A. VERNAL POOL CHARACTERISTICS (fill in all information known):
. Landscape Setting (check all that app	ly):
☐ Upland depression (4 pts; if this is	also in a floodplain, use 2 pts)
☐ Pool part of a pool complex (within	n 1000 feet of one or more other vernal pools)(NA)
Pool within larger wetland system	(4 pts; if this is also in a floodplain, use 2 pts)
☐ Pool part of wildlife corridor (4 pts)	
☐ Other (variable pts):	
Pool Origin:	
. Vernal pool condition:	
Describe any recent modifications to the	pool and associated landscape:
. Parent material:	
☐ Glacial fluvial ("outwash") [□ Loose till □ Peat
☑ Dense till [☐ Alluvium ☐ Coastal marine sediments
. Aquatic resource type that best applie	es to this pool (choose dominant):
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts) ☐ Floodplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts) ☐ Other (variable points):
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2pts)
i. Pool canopy cover (%): 85%	
. Predominant substrate:	
☐ Mineral soil	Depth: 6
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepest zone, edge,etc.): <u>DEEPEST ZONE</u>
'. Pool sizes:	
Approximate dimensions of pool (at ma	
Maximum depth at deepest point at time	e of survey (include units): 1.5
 B. Hydrology: a. Estimated hydroperiod (unless actual indicator species to best predict the exp 	I, observed hydroperiod value(s) is(are) known, use the presence of these example sected hydroperiod of the pool):
·	ly July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)
	September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)
_ , , ,	d early November (e.g., Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts)
_ , ,	late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)
	tate becomes, or intermitating expected (e.g., reapril app., retainegeter opp.)(opto)
How long does pool hold water?	_
b. Inlet/Outlet (pick one):	
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (channel with well-defined banks and permanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)	



9. Water quality:				
☐ Clear ☐ High turbidity	☐ High algae co	ntent 🗹 Tannic		
22 TOTAL for Pool Character	istics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	ID CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and approximate percen	tage within the 100	0-ft vernal pool envelope	:	
✓ Forested: 90% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 10%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
2. Landuse type and approximate percen	tage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: <u>75%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): 25%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: <u>%</u>	(0 pts)	
Are there one or more barriers to vecheck here and see directions for each				oitat? If so,
Based on:	☐ GIS	Aerial photo	to estimate	
20 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THI		ovide egg attachment or of	ffer concealment to aquatic or	developing larvae.
Shrubs:	,			3
Emergent vegetation (grasses, seg	ges, rushes, cattails)):		
Out an annual constation				
Submergent vegetation:				
Dead branches and downed woody mate	 rial (branches/twigs)) available for egg attachm	ent:	
-	rial (branches/twigs)) available for egg attachm	ent:	NOTES
Dead branches and downed woody mate				NOTES
Dead branches and downed woody mate INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Dead branches and downed woody mate INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog	DATE 4/24/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 4/24/2015 DATE	EGG MASSES (#) 5 ABUNDANCE	TADPOLES/LARVAE Tadpoles	
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 4/24/2015 DATE	EGG MASSES (#) 5 ABUNDANCE	TADPOLES/LARVAE Tadpoles	
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 4/24/2015 DATE 4/24/2015 DATE	EGG MASSES (#) 5 ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Tadpoles	DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies	DATE 4/24/2015 DATE 4/24/2015	EGG MASSES (#) 5 ABUNDANCE Few	TADPOLES/LARVAE Tadpoles	DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 4/24/2015 DATE 4/24/2015 DATE	EGG MASSES (#) 5 ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Tadpoles	DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 4/24/2015 DATE 4/24/2015 DATE DATE	EGG MASSES (#) 5 ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Tadpoles	DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES	DATE 4/24/2015 DATE 4/24/2015 DATE DATE DATE	EGG MASSES (#) 5 ABUNDANCE FeW ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles	DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 4/24/2015 DATE 4/24/2015 DATE DATE DATE ✓ Yes ☐ Yes	EGG MASSES (#) 5 ABUNDANCE FeW ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles	DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 4/24/2015 DATE 4/24/2015 DATE DATE DATE ✓ Yes ☐ Yes	EGG MASSES (#) 5 ABUNDANCE FeW ABUNDANCE ABUNDANCE No	TADPOLES/LARVAE Tadpoles	DTES DTES
Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 4/24/2015 DATE 4/24/2015 DATE DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	EGG MASSES (#) 5 ABUNDANCE FeW ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles	DTES DTES





NE



Project File #60328763	Project Name: Northeast Energy Dir	rect Project	Pool ID: BL-AC3-VF	P010
Observer: C M-H		Phone or ema	ail: 503-318-5970	
Landowner/Applicant: BLOOMFIELD	TOWN OF	Phone or ema	ail:	
Address: 800 BLOOMFII	ELD AVENUE City: B	BLOOMFIELD	State: CT	Zip:: 06002
Location of vernal pool:				
Survey date(s):: 4/23/2015	Longitude/Latitude (in decima	degrees): 41.86	6455680, -72.75896582	2
A. VERNAL POOL CHARACTERISTICS	(fill in all information known):			
. Landscape Setting (check all that ap	ply):			
☐ Upland depression (4 pts; if this	is also in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (with	nin 1000 feet of one or more other v	ernal pools)(NA)		
Pool within larger wetland system	m (4 pts; if this is also in a floodplain	ı, use 2 pts)		
□ Pool part of wildlife corridor (4 pt	rs)			
☐ Other (variable pts):				
Pool Origin:				
. Vernal pool condition:				
Describe any recent modifications to the	e pool and associated landscape:	ADJACENT TO RO	WC	
. Parent material:				
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat		
☑ Dense till	☐ Alluvium	☐ Coastal marin	ne sediments	
. Aquatic resource type that best app	lies to this pool (choose dominan	ıt):		
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	s) 🔲 Floodplai	in (overflow/oxbow) (3p	ots)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (va	ariable points):	
☐ Peatland (acidic fen or bog) (4pts)	Intermittent stream reach	(2pts)		
i. Pool canopy cover (%): 95%				
. Predominant substrate:				
☐ Mineral soil	Depth: 6			
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepe	st zone, edge,etc.):	DEEPEST ZONE	
7. Pool sizes:				
Approximate dimensions of pool (at m	aximum capacity) (sq. feet):	<u>301.88</u>		
Maximum depth at deepest point at tir	ne of survey (include units):	<u>1.5'</u>		
B. Hydrology:	on the first of the state of th	- ()		
 a. Estimated hydroperiod (unless actu- indicator species to best predict the ex 		s(are) known, use the	presence of these exar	mpie
☑ Dries between early March and early	arly July (e.g., Thelypteris palustris,	Carex stricta, Impatier	ns capensis, llex vertic	illata)(6pts)
☐ Dries between early July and early	y September (e.g., Sagittaria latifolia	a, Scirpus cyperinus, E	Dulichium arundinaceui	m, Cephalanthus occ.)(8pts)
□ Dries between early September a	nd early November (e.g., Eleocharis	s palustris, Glyceria ca	nadensis, Utricularia s	pp., Decodon vert.)(8pts)
□ Dries between early November ar	nd late December, or intermittently e	exposed (e.g., Nuphar	spp., Potamogeton spr	o.)(8pts)
How long does pool hold water?	<u>—</u> .			
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (channel with well-defir	ned banks and perman	ent flow) (2 pts)
√ Temporary inlet/outlet (6 pts)				



9. Water quality:				
☐ Clear ☐ High turbidity	☐ High algae co	ontent 🗹 Tannic		
20 TOTAL for Pool Character	istics (out of 28 m	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	ID CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in al	information known):
1. Landuse type and approximate percen	tage within the 10	0-ft vernal pool envelope	:	
✓ Forested: 95% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 5%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: <u>%</u>	(0 pts)	
2. Landuse type and approximate percen	tage within the 10	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 90% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 10%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: <u>%</u>	(0 pts)	
Are there one or more barriers to vecheck here and see directions for				bitat? If so,
Based on:	☐ GIS	Aerial photo	to estimate	
20 TOTAL for Pool Envelope	e and Critical Terre	estrial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN TH Shrubs:			ner concealment to aquatic of	developing larvae.
Emergent vegetation (grasses, see Submergent vegetation: Dead branches and downed woody mate	<u> </u>	•	ent:	
Submergent vegetation:	<u> </u>	•	ent: TADPOLES/LARVAE	NOTES
Submergent vegetation: Dead branches and downed woody mate	 rial (branches/twigs) available for egg attachm		NOTES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog	rial (branches/twigs DATE 4/24/2015) available for egg attachm EGG MASSES (#) 11	TADPOLES/LARVAE Tadpoles	
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 4/24/2015 DATE	egg MASSES (#) 11 ABUNDANCE	TADPOLES/LARVAE Tadpoles	NOTES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog	rial (branches/twigs DATE 4/24/2015) available for egg attachm EGG MASSES (#) 11	TADPOLES/LARVAE Tadpoles	
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies	DATE 4/24/2015 DATE 4/24/2015	available for egg attachm EGG MASSES (#) 11 ABUNDANCE Few	TADPOLES/LARVAE Tadpoles	OTES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 4/24/2015 DATE	egg MASSES (#) 11 ABUNDANCE	TADPOLES/LARVAE Tadpoles	
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies	DATE 4/24/2015 DATE 4/24/2015	available for egg attachm EGG MASSES (#) 11 ABUNDANCE Few	TADPOLES/LARVAE Tadpoles N	OTES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 4/24/2015 DATE 4/24/2015 DATE 4/24/2015 DATE	available for egg attachm EGG MASSES (#) 11 ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Tadpoles N	OTES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	rial (branches/twigs DATE 4/24/2015 DATE 4/24/2015 DATE 4/24/2015 DATE DATE	available for egg attachm EGG MASSES (#) 11 ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Tadpoles N	OTES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES	rial (branches/twigs DATE 4/24/2015 DATE 4/24/2015 DATE DATE DATE VARIABLE DATE	available for egg attachm EGG MASSES (#) 11 ABUNDANCE Few ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles N	OTES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 4/24/2015 DATE 4/24/2015 DATE 4/24/2015 DATE DATE Ves Yes	available for egg attachm EGG MASSES (#) 11 ABUNDANCE Few ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles N	OTES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 4/24/2015 DATE 4/24/2015 DATE 4/24/2015 DATE DATE Ves Yes	available for egg attachm EGG MASSES (#) 11 ABUNDANCE FeW ABUNDANCE ABUNDANCE No No	TADPOLES/LARVAE Tadpoles N	OTES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	rial (branches/twigs DATE 4/24/2015 DATE 4/24/2015 DATE DATE DATE Ves Yes Yes Yes	available for egg attachm EGG MASSES (#) 11 ABUNDANCE Few ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles N	OTES OTES OTES





SW



Project File #60328763	Project Name: Northeast Energy Direct Project Pool ID: BL-AC3	-VP011
Observer: C M-H	Phone or email: 5033185970	
Landowner/Applicant: BLOOMFIELD 1	TOWN OF Phone or email:	
Address: 800 BLOOMFIE	ELD AVENUE City: BLOOMFIELD State: CT	Zip:: 06002
Location of vernal pool:		
Survey date(s):: 4/23/2015	Longitude/Latitude (in decimal degrees): 41.86417066, -72.75857	816
A. VERNAL POOL CHARACTERISTICS	(fill in all information known):	
. Landscape Setting (check all that app	ply):	
☐ Upland depression (4 pts; if this is	s also in a floodplain, use 2 pts)	
☐ Pool part of a pool complex (within)	in 1000 feet of one or more other vernal pools)(NA)	
Pool within larger wetland system	n (4 pts; if this is also in a floodplain, use 2 pts)	
□ Pool part of wildlife corridor (4 pts	s)	
☐ Other (variable pts):		
Pool Origin:		
. Vernal pool condition:		
Describe any recent modifications to the	e pool and associated landscape: NEXT TO ROW	
. Parent material:		
☐ Glacial fluvial ("outwash")	□ Loose till □ Peat	
✓ Dense till	☐ Alluvium ☐ Coastal marine sediments	
. Aquatic resource type that best appli	ies to this pool (choose dominant):	
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts) ☐ Floodplain (overflow/oxbow)	(3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts) ☐ Other (variable points):	
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2pts)	
5. Pool canopy cover (%): 95%		
. Predominant substrate:		
☐ Mineral soil	Depth: 6	
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepest zone, edge,etc.): <u>DEEPEST ZONE</u>	
7. Pool sizes:		
Approximate dimensions of pool (at ma		
Maximum depth at deepest point at tim B. Hydrology:	ne or survey (include units):	
•	al, observed hydroperiod value(s) is(are) known, use the presence of these expected hydroperiod of the pool):	example
☐ Dries between early March and ea	arly July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex ve	rticillata)(6pts)
☐ Dries between early July and early	r September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinac	eum, Cephalanthus occ.)(8pts)
_ , ,	nd early November (e.g., Eleocharis palustris, Glyceria canadensis, Utriculari	
☐ Dries between early November and	d late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton	spp.)(8pts)
How long does pool hold water? _	_	
b. Inlet/Outlet (pick one):	Demonstrialet er outlet /ehemmel with well defined have been de me	conent flow) (2 nt-)
☐ No inlet/outlet (8 pts)	Permanent inlet or outlet (channel with well-defined banks and perm	ianent now) (2 pts)
✓ Temporary inlet/outlet (6 pts)		



9. Water quality:				
☐ Clear ☐ High turbidity	☐ High algae co	ntent 🗹 Tannic		
20 TOTAL for Pool Chara	acteristics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 f	t) AND CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	nformation known):
1. Landuse type and approximate pe	rcentage within the 100)-ft vernal pool envelope	:	
✓ Forested: 90% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 10%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
2. Landuse type and approximate pe	rcentage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: <u>60%</u> (16 pts)	_	Open (e.g., meadow, agric	culture, golf course): 40%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
Are there one or more barrier check here and see directions			pe and/or critical terrestrial habition.	tat? If so,
Based on:	ate 🔲 GIS	Aerial pho	to estimate	
20 TOTAL for Pool Enve	elope and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL P	OOL			
Vegetation type and percent cover II	N THE POOL that can pro	ovide egg attachment or o	ffer concealment to aquatic or o	developing larvae.
Shrubs:				
Emergent vegetation (grasses	s codos rusbos cattails)			
Emergent vegetation (grasses	s, seges, rusiles, callalis)):		
Submergent vegetation:				
			nent:	
Submergent vegetation:			ent: TADPOLES/LARVAE	NOTES
Submergent vegetation: Dead branches and downed woody	material (branches/twigs)	available for egg attachm	_	NOTES
Submergent vegetation: Dead branches and downed woody INDICATOR SPECIES	material (branches/twigs)	available for egg attachm	TADPOLES/LARVAE	NOTES
Submergent vegetation: Dead branches and downed woody INDICATOR SPECIES	material (branches/twigs)	available for egg attachm	TADPOLES/LARVAE Tadpoles	NOTES TES
Submergent vegetation: Dead branches and downed woody INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 4/24/2015 DATE	e available for egg attachm EGG MASSES (#) 4 ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody INDICATOR SPECIES Wood Frog	material (branches/twigs) DATE 4/24/2015	e available for egg attachm EGG MASSES (#) 4	TADPOLES/LARVAE Tadpoles NO	
Submergent vegetation: Dead branches and downed woody INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 4/24/2015 DATE	e available for egg attachm EGG MASSES (#) 4 ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 4/24/2015 DATE DATE DATE	available for egg attachm EGG MASSES (#) 4 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 4/24/2015 DATE DATE DATE	available for egg attachm EGG MASSES (#) 4 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 4/24/2015 DATE DATE DATE DATE DATE	available for egg attachm EGG MASSES (#) 4 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES	DATE 4/24/2015 DATE DATE DATE DATE DATE DATE	available for egg attachm EGG MASSES (#) 4 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 4/24/2015 DATE DATE DATE DATE DATE DATE DATE PATE Ves Yes	ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 4/24/2015 DATE DATE DATE DATE DATE DATE DATE PATE Ves Yes	ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE No	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 4/24/2015 DATE DATE DATE DATE PATE DATE PATE PATE Yes Yes Yes Yes	ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE No No	TADPOLES/LARVAE Tadpoles NO	TES TES







Project File #60328763	Project Name: Northeast Energy Direct Project Pool ID: BL-AC3-VP012	
Observer: C M-H	Phone or email: 503-318-5970	
Landowner/Applicant: BLOOMFIELD 1	TOWN OF Phone or email:	
Address: 800 BLOOMFIE	ELD AVENUE City: BLOOMFIELD State: CT Zip:: 060)02
Location of vernal pool:		
Survey date(s):: 4/23/2015	Longitude/Latitude (in decimal degrees): 41.87273434, -72.75413726	
A. VERNAL POOL CHARACTERISTICS	(fill in all information known):	
. Landscape Setting (check all that app	oply):	
☐ Upland depression (4 pts; if this is	is also in a floodplain, use 2 pts)	
☐ Pool part of a pool complex (within the pool part of a pool complex (within the pool part of a pool complex (within the pool part of a	hin 1000 feet of one or more other vernal pools)(NA)	
Pool within larger wetland system	m (4 pts; if this is also in a floodplain, use 2 pts)	
□ Pool part of wildlife corridor (4 pts	ts)	
☐ Other (variable pts):		
Pool Origin:		
. Vernal pool condition:		
Describe any recent modifications to the	ne pool and associated landscape:	
. Parent material:		
☐ Glacial fluvial ("outwash")	☐ Loose till ☐ Peat	
✓ Dense till	☐ Alluvium ☐ Coastal marine sediments	
. Aquatic resource type that best appli	lies to this pool (choose dominant):	
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts) ☐ Floodplain (overflow/oxbow) (3pts)	
☐ Shrub wetland (4pts)	☐ Open water (2 pts) ☐ Other (variable points):	
☐ Peatland (acidic fen or bog) (4pts)) Intermittent stream reach (2pts)	
i. Pool canopy cover (%): 100%		
. Predominant substrate:		
☐ Mineral soil	Depth: 6	
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepest zone, edge,etc.): <u>DEEPEST ZONE</u>	
'. Pool sizes:		
Approximate dimensions of pool (at ma		
Maximum depth at deepest point at tim B. Hydrology:	me of survey (include units): 2'	
•	ual, observed hydroperiod value(s) is(are) known, use the presence of these example xpected hydroperiod of the pool):	
	arly July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)	
	y September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalant	hus occ.)(8pts)
	nd early November (e.g., Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon	, , , ,
_ , ,	nd late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)	/(- /
	3	
How long does pool hold water?		
b. Inlet/Outlet (pick one):		1-1
No inlet/outlet (8 pts)	Permanent inlet or outlet (channel with well-defined banks and permanent flow) (2 p	ts)
✓ Temporary inlet/outlet (6 pts)		



☐ CI	ear	□ ⊔;							
	oui	☐ !!!(gh turbidity	☐ High algae	content	✓ Tannic			
	<u>20</u> TOT	AL for F	Pool Character	istics (out of 28	max.)				
B. VERN	AL POOL I	ENVELO	OPE (100 ft) AN	ID CRITICAL HA	BITAT A	REA (100-750 ft) C	HARACTERISTICS (f	ill in all info	ormation known):
1. Landu	se type an	d appro	ximate percen	tage within the 1	00-ft ve	rnal pool envelope	:		
V	Forested:	<u>100%</u>	(16 pts)] Open	(e.g., meadow, agric	culture, golf course):	<u>%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)] Develo	oped: <u>%</u>	(0 pts)		
2. Landu:	se type an	d appro	ximate percen	tage within the 1	00-750-1	t vernal pool critic	al terrestrial habitat:		
	Forested:	<u>60%</u>	(16 pts)	Ū] Open	(e.g., meadow, agri	culture, golf course):	<u>20%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)	⊻] Devel	oped: <u>20%</u>	(0 pts)		
						nt within the envelor rporate this informat	pe and/or critical terres	strial habitat	? If so,
,	Based on:	☐ F	Field estimate	☐ GIS		Aerial pho	to estimate		
	<u>20</u> TO	TAL for	Pool Envelope	and Critical Ter	restrial	Habitat Area (out o	f 32 max.)		
C. SPECI	IES PRESE	ENT IN \	ERNAL POOL						
Vegeta	ition type a	nd perce	ent cover IN TH	E POOL that can	provide e	egg attachment or o	ffer concealment to aq	uatic or dev	reloping larvae.
;	Shrubs:								
J	Emergent v	egetation	on (grasses, seg	ges, rushes, catta	ls):	<u>—</u>			
	Submerger	Ū				.h.l. (
Dead b	orancnes ar	na aown	ea woody mate	riai (branches/twi	gs) avalla	able for egg attachm	ent:		
	INDICATO	OR SPE	CIES	DATE	E	GG MASSES (#)	TADPOLES/LAR	VAE	
	Spotted :						0220,2,	VAL	NOTES
		Salamar	nder	4/24/2015		1		VAL	NOTES
	Woo	Salamar od Frog	nder	4/24/2015 4/24/2015	+	40	Tadpoles	VAE	NOTES
	Woo		nder					VAE	NOTES
	Woo	od Frog						NOTE	
	FACULTA	od Frog		4/24/2015	,	40			
	FACULTA	od Frog		4/24/2015 DATE		40 ABUNDANCE		NOTE	S
	FACULTA	od Frog	ECIES	4/24/2015 DATE		40 ABUNDANCE			S
	FACULTATE Cad	od Frog FIVE SP Idisflies OR SPE	PECIES	4/24/2015 DATE 4/24/2015 DATE		ABUNDANCE Common ABUNDANCE		NOTE	S
	FACULTATE Cad	od Frog	PECIES	4/24/2015 DATE 4/24/2015		ABUNDANCE Common		NOTE	S
	FACULTATE Cad	od Frog FIVE SP Idisflies OR SPE	PECIES	4/24/2015 DATE 4/24/2015 DATE		ABUNDANCE Common ABUNDANCE		NOTE	S
	FACULTATE Cad	TIVE SP	CIES ES	4/24/2015 DATE 4/24/2015 DATE		ABUNDANCE Common ABUNDANCE ABUNDANCE		NOTE	S
Presence	FACULTATE Cad	TIVE SPECIES SPECIES OF SPECIES O	CIES ES	4/24/2015 DATE 4/24/2015 DATE DATE		ABUNDANCE Common ABUNDANCE ABUNDANCE		NOTE	S
Presence Were spe	PREDATO OTHER	TIVE SP Idisflies OR SPECI	CIES ES cies rved?	4/24/2015 DATE 4/24/2015 DATE DATE DATE ✓ Yes	□ No	ABUNDANCE Common ABUNDANCE ABUNDANCE		NOTE	S
Presence Were spe	PREDATO OTHER e of Indicatermatophore	TIVE SP Idisflies OR SPECI	CIES ES cies rved?	### 4/24/2015 DATE	□ N c	ABUNDANCE Common ABUNDANCE ABUNDANCE		NOTE	S
Presence Were spe Were fish	PREDATO OTHER e of Indicate ermatophore observed	TIVE SP disflies OR SPE SPECII SOPROBLE OF SPECII OF SPECII	CIES ES cies rved?	4/24/2015 DATE 4/24/2015 DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	□ N c	ABUNDANCE Common ABUNDANCE ABUNDANCE		NOTE	S S







Project File #60328763 Pr	roject Name: Northeast Energy Direct Project Pool ID: BL-AC3-VP013
Observer: C M-H	Phone or email: 5033185970
Landowner/Applicant: BLOOMFIELD T	OWN OF Phone or email:
Address: 800 BLOOMFIEL	LD AVENUE City: BLOOMFIELD State: CT Zip:: 06002
Location of vernal pool:	
Survey date(s):: 4/23/2015	Longitude/Latitude (in decimal degrees): 41.87374363, -72.75389188
A. VERNAL POOL CHARACTERISTICS (fill in all information known):
. Landscape Setting (check all that app	ıly):
☐ Upland depression (4 pts; if this is	also in a floodplain, use 2 pts)
☐ Pool part of a pool complex (within	n 1000 feet of one or more other vernal pools)(NA)
Pool within larger wetland system	(4 pts; if this is also in a floodplain, use 2 pts)
☐ Pool part of wildlife corridor (4 pts)	
☐ Other (variable pts):	
Pool Origin:	
. Vernal pool condition:	
Describe any recent modifications to the	pool and associated landscape:
. Parent material:	
☐ Glacial fluvial ("outwash") [□ Loose till □ Peat
☑ Dense till [☐ Alluvium ☐ Coastal marine sediments
. Aquatic resource type that best applie	es to this pool (choose dominant):
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts) ☐ Floodplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts) ☐ Other (variable points):
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2pts)
i. Pool canopy cover (%): 20%	
. Predominant substrate:	
☐ Mineral soil	Depth: 6
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepest zone, edge,etc.): <u>DEEP ZONE</u>
'. Pool sizes:	
Approximate dimensions of pool (at ma	
Maximum depth at deepest point at time B. Hydrology:	e of survey (include units): 1.5'
•	il, observed hydroperiod value(s) is(are) known, use the presence of these example pected hydroperiod of the pool):
	rly July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)
	September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)
_	d early November (e.g., Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts)
_ ,	Hate December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)
How long does pool hold water?	_
b. Inlet/Outlet (pick one):	
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (channel with well-defined banks and permanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)	



9. Water quality:					
☐ Clear ☐ Hig	gh turbidity 🔲 Hi	igh algae conten	t 🗹 Tannic		
22 TOTAL for F	Pool Characteristics (c	out of 28 max.)			
B. VERNAL POOL ENVELO	PE (100 ft) AND CRIT	TCAL HABITAT	AREA (100-750 ft) C	HARACTERISTICS (fill in all i	nformation known):
1. Landuse type and appro	ximate percentage wi	ithin the 100-ft v	vernal pool envelope	:	
✓ Forested: 100%	(16 pts)	☐ Ope	en (e.g., meadow, agri	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u>	(10 pts)	☐ Dev	reloped: <u>%</u>	(0 pts)	
2. Landuse type and appro	ximate percentage wi	thin the 100-750	0-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 70%	(16 pts)	☐ Ope	en (e.g., meadow, agri	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u>	(10 pts)	☐ Dev	reloped: <u>%</u>	(0 pts)	
	ore barriers to vernal po e directions for explanat			oe and/or critical terrestrial habi iion.	tat? If so,
Based on: F	Field estimate] GIS	Aerial pho	to estimate	
20 TOTAL for	Pool Envelope and C	ritical Terrestria	al Habitat Area (out c	of 32 max.)	
C. SPECIES PRESENT IN V	/ERNAL POOL				
Vegetation type and perce	ent cover IN THE POOL	that can provide	e egg attachment or o	ffer concealment to aquatic or o	developing larvae.
Shrubs:					
Emergent vegetation	on (grasses, seges, rust	hes, cattails):			
Submergent vegeta	ation:				
Dead branches and down	ed woody material (brai	nches/twigs) ava	ailable for egg attachm	nent:	
INDICATOR SPE	CIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPEC		DATE 124/2015	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
	nder 4/2			TADPOLES/LARVAE Tadpoles	NOTES
Spotted Salamar	nder 4/2	24/2015	2		NOTES
Spotted Salamar Wood Frog FACULTATIVE SP	4/2 ECIES	24/2015 24/2015 DATE	2 25 ABUNDANCE	Tadpoles	NOTES TES
Spotted Salamar Wood Frog	4/2 ECIES	24/2015 24/2015	2 25	Tadpoles	
Spotted Salamar Wood Frog FACULTATIVE SP	### ##################################	24/2015 24/2015 DATE	2 25 ABUNDANCE	Tadpoles	
Spotted Salamar Wood Frog FACULTATIVE SP Fingernail Clan Caddisflies	ECIES I 4/2 4/2 4/2 4/2	24/2015 24/2015 DATE 24/2015 24/2015	2 25 ABUNDANCE Common Few	Tadpoles NO	TES
Spotted Salamar Wood Frog FACULTATIVE SP Fingernail Clan	ECIES I 4/2 4/2 4/2 4/2	24/2015 24/2015 DATE 24/2015	2 25 ABUNDANCE Common	Tadpoles NO	
Spotted Salamar Wood Frog FACULTATIVE SP Fingernail Clan Caddisflies	ECIES 1	24/2015 24/2015 DATE 24/2015 24/2015	2 25 ABUNDANCE Common Few	Tadpoles NO	TES
Spotted Salamar Wood Frog FACULTATIVE SP Fingernail Clan Caddisflies PREDATOR SPE	ECIES 1	24/2015 24/2015 DATE 24/2015 24/2015 DATE	2 25 ABUNDANCE Common Few ABUNDANCE	Tadpoles NO	TES
Spotted Salamar Wood Frog FACULTATIVE SP Fingernail Clan Caddisflies PREDATOR SPECIE OTHER SPECIE	ECIES	24/2015 24/2015 DATE 24/2015 24/2015 DATE DATE	2 25 ABUNDANCE Common Few ABUNDANCE ABUNDANCE	Tadpoles NO	TES
Spotted Salamar Wood Frog FACULTATIVE SP Fingernail Clan Caddisflies PREDATOR SPE	ECIES	24/2015 24/2015 DATE 24/2015 24/2015 DATE DATE	2 25 ABUNDANCE Common Few ABUNDANCE ABUNDANCE	Tadpoles NO	TES
Spotted Salamar Wood Frog FACULTATIVE SP Fingernail Clan Caddisflies PREDATOR SPECIE OTHER SPECIE	ECIES	24/2015 24/2015 DATE 24/2015 24/2015 DATE DATE DATE	2 25 ABUNDANCE Common Few ABUNDANCE ABUNDANCE	Tadpoles NO	TES
Spotted Salamar Wood Frog FACULTATIVE SP Fingernail Clan Caddisflies PREDATOR SPECIE OTHER SPECIE Presence of Indicator Species	ECIES 1	24/2015 24/2015 DATE 24/2015 DATE DATE DATE DATE DATE DATE DATE DATE DATE	2 25 ABUNDANCE Common Few ABUNDANCE ABUNDANCE No	Tadpoles NO	TES
Spotted Salamar Wood Frog FACULTATIVE SP Fingernail Clan Caddisflies PREDATOR SPECIL OTHER SPECIL Presence of Indicator Special Were spermatophores observed.	ECIES 1	24/2015 24/2015 DATE 24/2015 DATE DATE DATE DATE DATE DATE DATE DATE DATE DATE	2 25 ABUNDANCE Common Few ABUNDANCE ABUNDANCE No	Tadpoles NO	TES
FACULTATIVE SP Fingernail Clan Caddisflies PREDATOR SPECIL OTHER SPECIL Presence of Indicator Specilish observed in the policy of the polic	A/2 A/2	24/2015 24/2015 DATE 24/2015 DATE DATE DATE DATE DATE DATE DATE DATE DATE DATE	2 25 ABUNDANCE Common Few ABUNDANCE ABUNDANCE NO NO NO	Tadpoles NO	TES TES
Spotted Salamar Wood Frog FACULTATIVE SP Fingernail Clan Caddisflies PREDATOR SPECIFICATION SPECIF	A/2 A/2	24/2015 24/2015 DATE 24/2015 DATE DATE DATE DATE DATE DATE DATE DATE DATE DATE	2 25 ABUNDANCE Common Few ABUNDANCE ABUNDANCE NO NO NO	Tadpoles NO NO	TES TES





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Project File #60328763	Project Name: Northeast Energy Dire	rect Project Pool ID: BL-AC3-VP014
Observer: C M-H		Phone or email: 503-318-5970
Landowner/Applicant: BLOOMFIELD	TOWN OF	Phone or email:
Address: 800 BLOOMFIE	ELD AVENUE City: B	BLOOMFIELD State: CT Zip:: 06002
Location of vernal pool:		
Survey date(s):: 4/23/2015	Longitude/Latitude (in decimal	degrees): 41.87451086, -72.75394708
A. VERNAL POOL CHARACTERISTICS	(fill in all information known):	
. Landscape Setting (check all that ap	ply):	
☐ Upland depression (4 pts; if this	is also in a floodplain, use 2 pts)	
☐ Pool part of a pool complex (with	nin 1000 feet of one or more other ve	ernal pools)(NA)
Pool within larger wetland syster	m (4 pts; if this is also in a floodplain,	ı, use 2 pts)
□ Pool part of wildlife corridor (4 pt	s)	
☐ Other (variable pts):		
Pool Origin:		
. Vernal pool condition:		
Describe any recent modifications to th	e pool and associated landscape:	
. Parent material:		
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat
✓ Dense till	□ Alluvium	☐ Coastal marine sediments
. Aquatic resource type that best appl	lies to this pool (choose dominant	ut):
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	Floodplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	Other (variable points):
☐ Peatland (acidic fen or bog) (4pts)	Intermittent stream reach ((2pts)
i. Pool canopy cover (%): <u>15%</u>		
. Predominant substrate:		
☐ Mineral soil	Depth: 6	
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepes	est zone, edge,etc.): <u>DEEP ZONE</u>
'. Pool sizes:		
Approximate dimensions of pool (at m	aximum capacity) (sq. feet):	<u>1406.67</u>
Maximum depth at deepest point at tir	ne of survey (include units):	<u>1'</u>
B. Hydrology:		
a. Estimated hydroperiod (unless actu- indicator species to best predict the ex-		s(are) known, use the presence of these example
☑ Dries between early March and early	arly July (e.g., Thelypteris palustris, o	Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)
□ Dries between early July and early	/ September (e.g., Sagittaria latifolia	a, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)
☐ Dries between early September a	nd early November (e.g., Eleocharis	s palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts)
☐ Dries between early November an	d late December, or intermittently ex	exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)
How long does pool hold water?	<u></u>	
b. Inlet/Outlet (pick one):		
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (c	channel with well-defined banks and permanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)		



9. Water quality:				
☐ Clear ☐ High turbidity	☐ High algae co	ntent 🗹 Tannic		
22 TOTAL for Pool Character	istics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	ID CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and approximate percen	ntage within the 100	0-ft vernal pool envelope		
✓ Forested: 100% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: <u>%</u>	(0 pts)	
2. Landuse type and approximate percen	tage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: <u>90%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): 10%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
Are there one or more barriers to vecheck here and see directions for				itat? If so,
Based on:	☐ GIS	Aerial photo	o estimate	
22 TOTAL 6 D 15 1	10 11 17			
20 TOTAL for Pool Envelope	e and Critical Terre	estrial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN TH	E POOL that can pr	ovide egg attachment or of	fer concealment to aquatic or	developing larvae.
Shrubs:				
Emergent vegetation (grasses, seg	ges, rushes, cattails)):		
Submergent vegetation:				
Dead branches and downed woody mate	rial (branches/twigs)) available for egg attachm	ent:	
Dead branches and downed woody mate				
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
				NOTES
INDICATOR SPECIES Wood Frog	DATE 4/24/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES
INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 4/24/2015 DATE	EGG MASSES (#) 6 ABUNDANCE	TADPOLES/LARVAE Tadpoles	
INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 4/24/2015 DATE	EGG MASSES (#) 6 ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	
INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies	DATE 4/24/2015 DATE 4/24/2015	6 ABUNDANCE Common	TADPOLES/LARVAE Tadpoles NC	DTES
INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies	DATE 4/24/2015 DATE 4/24/2015	6 ABUNDANCE Common	TADPOLES/LARVAE Tadpoles NC	DTES
INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 4/24/2015 DATE 4/24/2015 DATE	EGG MASSES (#) 6 ABUNDANCE Common ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	OTES
INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 4/24/2015 DATE 4/24/2015 DATE DATE	EGG MASSES (#) 6 ABUNDANCE Common ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	OTES
INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 4/24/2015 DATE 4/24/2015 DATE DATE DATE ✓ Yes	EGG MASSES (#) 6 ABUNDANCE Common ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	OTES
INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 4/24/2015 DATE 4/24/2015 DATE DATE DATE ✓ Yes ☐ Yes	EGG MASSES (#) 6 ABUNDANCE Common ABUNDANCE ABUNDANCE No No	TADPOLES/LARVAE Tadpoles NC	OTES
INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 4/24/2015 DATE 4/24/2015 DATE DATE DATE ✓ Yes ☐ Yes	EGG MASSES (#) 6 ABUNDANCE Common ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NC	OTES
INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool? SUMMARY	DATE 4/24/2015 DATE 4/24/2015 DATE DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	EGG MASSES (#) 6 ABUNDANCE Common ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles NC	OTES OTES
INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 4/24/2015 DATE 4/24/2015 DATE DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	EGG MASSES (#) 6 ABUNDANCE Common ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles NC	OTES OTES





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Project File #60328763	Project Name: Northeast Energy Dir	rect Project Pool ID: BL-AC3-VP015	
Observer: CM-H		Phone or email: 5033185970	
Landowner/Applicant: CASEY WILLIA	\M JR &	Phone or email:	
Address: 41 HABITAT LA	ANE City: B	BLOOMFIELD State: CT Zip:: 060	002
Location of vernal pool:			
Survey date(s):: 4/23/2015	Longitude/Latitude (in decima	l degrees): 41.87476286, -72.75356359	
A. VERNAL POOL CHARACTERISTICS	(fill in all information known):		
. Landscape Setting (check all that ap	pply):		
☐ Upland depression (4 pts; if this	is also in a floodplain, use 2 pts)		
☐ Pool part of a pool complex (with	nin 1000 feet of one or more other v	ernal pools)(NA)	
Pool within larger wetland syster	m (4 pts; if this is also in a floodplain	ı, use 2 pts)	
□ Pool part of wildlife corridor (4 pt	ts)		
☐ Other (variable pts):			
Pool Origin:			
. Vernal pool condition:			
Describe any recent modifications to the	e pool and associated landscape:		
. Parent material:			
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat	
✓ Dense till	☐ Alluvium	☐ Coastal marine sediments	
. Aquatic resource type that best app	lies to this pool (choose dominan	t):	
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts	Floodplain (overflow/oxbow) (3pts)	
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable points):	
☐ Peatland (acidic fen or bog) (4pts)) Intermittent stream reach	(2pts)	
i. Pool canopy cover (%): 70%			
. Predominant substrate:			
☐ Mineral soil	Depth: 6		
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepe	est zone, edge,etc.): <u>DEEP ZONE</u>	
7. Pool sizes:			
Approximate dimensions of pool (at m	naximum capacity) (sq. feet):	<u>802.16</u>	
Maximum depth at deepest point at tir	ne of survey (include units):	<u>2'</u>	
B. Hydrology:			
a. Estimated hydroperiod (unless actu- indicator species to best predict the ex-		s(are) known, use the presence of these example	
☑ Dries between early March and ea	arly July (e.g., Thelypteris palustris,	Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)	
☐ Dries between early July and early	y September (e.g., Sagittaria latifolia	a, Scirpus cyperinus, Dulichium arundinaceum, Cephalant	hus occ.)(8pts)
☐ Dries between early September a	nd early November (e.g., Eleocharis	s palustris, Glyceria canadensis, Utricularia spp., Decodon	vert.)(8pts)
□ Dries between early November an	nd late December, or intermittently e	exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)	
How long does pool hold water?	<u> </u>		
b. Inlet/Outlet (pick one):			
✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (channel with well-defined banks and permanent flow) (2 p	ts)
☐ Temporary inlet/outlet (6 pts)			



9. Water quality:				
☐ Clear ☐ High turbidity	☐ High algae co	ntent 🗹 Tannic		
22 TOTAL for Pool Character	istics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	ID CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	information known):
1. Landuse type and approximate percen	tage within the 100	0-ft vernal pool envelope	:	
✓ Forested: 100% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
2. Landuse type and approximate percen	tage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
▼ Forested: 80% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)	\square	Developed: 20%	(0 pts)	
Are there one or more barriers to vecheck here and see directions for example.				itat? If so,
Based on:	☐ GIS	Aerial photo	to estimate	
16 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN TH	E POOL that can pro	ovide egg attachment or of	ffer concealment to aquatic or o	developing larvae.
Shrubs:				
Emergent vegetation (grasses, seg	ges, rushes, cattails)):		
Submergent vegetation:	<u> </u>			
	<u> </u>		ent:	
Submergent vegetation:	<u> </u>		ent: TADPOLES/LARVAE	NOTES
Submergent vegetation: Dead branches and downed woody mate	rial (branches/twigs)) available for egg attachm	_	NOTES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES	rial (branches/twigs)	available for egg attachm	TADPOLES/LARVAE	NOTES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog	rial (branches/twigs) DATE 4/24/2015	available for egg attachm EGG MASSES (#) 28	TADPOLES/LARVAE	NOTES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog	rial (branches/twigs) DATE 4/24/2015	available for egg attachm EGG MASSES (#) 28	TADPOLES/LARVAE Tadpoles	NOTES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES	DATE 4/24/2015 4/24/2015 DATE	egg MASSES (#) 28 9 ABUNDANCE	TADPOLES/LARVAE Tadpoles	TES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog Spotted Salamander	DATE 4/24/2015 4/24/2015	available for egg attachm EGG MASSES (#) 28 9	TADPOLES/LARVAE Tadpoles	
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES	DATE 4/24/2015 4/24/2015 DATE DATE	available for egg attachm EGG MASSES (#) 28 9 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES	DATE 4/24/2015 4/24/2015 DATE	egg MASSES (#) 28 9 ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES	DATE 4/24/2015 4/24/2015 DATE DATE	available for egg attachm EGG MASSES (#) 28 9 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES	rial (branches/twigs) DATE 4/24/2015 4/24/2015 DATE DATE DATE	available for egg attachm EGG MASSES (#) 28 9 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES	rial (branches/twigs) DATE 4/24/2015 4/24/2015 DATE DATE DATE DATE VYes	available for egg attachm EGG MASSES (#) 28 9 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 4/24/2015 4/24/2015 DATE DATE DATE DATE DATE Ves Yes	available for egg attachm EGG MASSES (#) 28 9 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 4/24/2015 4/24/2015 DATE DATE DATE DATE DATE Ves Yes	available for egg attachm EGG MASSES (#) 28 9 ABUNDANCE ABUNDANCE ABUNDANCE No No	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed woody mate INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	rial (branches/twigs) DATE 4/24/2015 4/24/2015 DATE DATE DATE VYes Yes Yes Yes	available for egg attachm EGG MASSES (#) 28 9 ABUNDANCE ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles NO	TES TES







Project File #60328763 Project File #60328763	oject Name: Northeast Energy Direct	t Project Pool ID:	BL-AC3-VP016
Observer: C M-H		Phone or email: 50337	185970
Landowner/Applicant: BLOOMFIELD TO	OWN OF	Phone or email:	
Address: 800 BLOOMFIEL	D AVENUE City: BLO	OOMFIELD State: C	CT Zip:: 06002
Location of vernal pool:			
Survey date(s):: 4/23/2015	Longitude/Latitude (in decimal de	egrees): 41.88089876, -72	2.74858651
A. VERNAL POOL CHARACTERISTICS (f	ill in all information known):		
. Landscape Setting (check all that appl	y):		
☐ Upland depression (4 pts; if this is	also in a floodplain, use 2 pts)		
☐ Pool part of a pool complex (within	1000 feet of one or more other verna	al pools)(NA)	
☐ Pool within larger wetland system	(4 pts; if this is also in a floodplain, us	se 2 pts)	
□ Pool part of wildlife corridor (4 pts)			
✓ Other (variable pts): SC	COURED OUT CULVERT OUTLET		
Pool Origin:			
. Vernal pool condition:			
Describe any recent modifications to the	pool and associated landscape:	DRAINS MANMADE RETENT	ON POND
. Parent material:			
☐ Glacial fluvial ("outwash") ☐	Loose till	☐ Peat	
☑ Dense till □] Alluvium	☐ Coastal marine sediments	S
. Aquatic resource type that best applie	s to this pool (choose dominant):		
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Floodplain (overflow/	oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☑ Other (variable points)	s): MANMADE
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2pt	ts)	
5. Pool canopy cover (%): 90%			
. Predominant substrate:			
✓ Mineral soil	Depth:		
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepest z	zone, edge,etc.):	
. Pool sizes:			
Approximate dimensions of pool (at max	. ,,,,,,	<u>69.30</u>	
Maximum depth at deepest point at time B. Hydrology:	or survey (include units).	∠	
a. Estimated hydroperiod (unless actual indicator species to best predict the exp.)		re) known, use the presence of	these example
✓ Dries between early March and earl	y July (e.g., <i>Thelypteris palustris, Ca</i>	arex stricta, Impatiens capensis	, llex verticillata)(6pts)
☐ Dries between early July and early S	September (e.g., Sagittaria latifolia, S	Scirpus cyperinus, Dulichium ar	rundinaceum, Cephalanthus occ.)(8pts)
☐ Dries between early September and	l early November (e.g., Eleocharis pa	alustris, Glyceria canadensis, L	Itricularia spp., Decodon vert.)(8pts)
☐ Dries between early November and	late December, or intermittently expo	osed (e.g., Nuphar spp., Potam	nogeton spp.)(8pts)
How long does pool hold water?			
b. Inlet/Outlet (pick one):	_		
□ No inlet/outlet (8 pts)	Permanent inlet or outlet (cha	annel with well-defined banks a	and permanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)		and a sum of the sum o	(- Fre)
_ ` ` ` ` ` ` ` '			



9. Water quality:				
☐ Clear ☐ High turbid	ity 🔲 High algae co	ntent 🗹 Tannic		
8 TOTAL for Pool Cha	aracteristics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100) ft) AND CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type and approximate	percentage within the 100	0-ft vernal pool envelope	:	
✓ Forested: 70% (16 pt)	rs)	Open (e.g., meadow, agri-	culture, golf course): 30%	(4 pts)
☐ Shrub: <u>%</u> (10 pt	rs)	Developed: %	(0 pts)	
2. Landuse type and approximate	percentage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 60% (16 pt)	rs)	Open (e.g., meadow, agri-	culture, golf course): 10%	(4 pts)
☐ Shrub: <u>%</u> (10 pt	is)	Developed: 35%	(0 pts)	
Are there one or more barri check here and see direction			oe and/or critical terrestrial hab iion.	itat? If so,
Based on:	mate GIS	Aerial pho	to estimate	
20 TOTAL for Pool En	velope and Critical Terre	estrial Habitat Area (out o	of 32 max.)	
C. SPECIES PRESENT IN VERNAL	. POOL			
Vegetation type and percent cover		ovide egg attachment or o	ffer concealment to aquatic or	developing larvae.
Shrubs:	,			3
Emergent vegetation (grass	ses, seges, rushes, cattails): <u> </u>		
Emergent vegetation (grass Submergent vegetation:	ses, seges, rushes, cattails):		
			nent:	
Submergent vegetation:			nent: TADPOLES/LARVAE	NOTES
Submergent vegetation: Dead branches and downed wood	y material (branches/twigs) available for egg attachm	_	NOTES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES	ly material (branches/twigs) available for egg attachm	_	NOTES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES	ly material (branches/twigs) available for egg attachm	TADPOLES/LARVAE	NOTES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES	DATE 4/25/2015 DATE	available for egg attachm EGG MASSES (#) 18 ABUNDANCE	TADPOLES/LARVAE	DTES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Spotted Salamander	DATE 4/25/2015) available for egg attachm EGG MASSES (#) 18	TADPOLES/LARVAE	
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES	DATE 4/25/2015 DATE DATE DATE	available for egg attachm EGG MASSES (#) 18 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE NO	DTES DTES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES	DATE 4/25/2015 DATE	available for egg attachm EGG MASSES (#) 18 ABUNDANCE	TADPOLES/LARVAE NO	DTES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES	DATE 4/25/2015 DATE DATE DATE	available for egg attachm EGG MASSES (#) 18 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE NO	DTES DTES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 4/25/2015 DATE DATE DATE DATE DATE DATE	ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE NO	DTES DTES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 4/25/2015 DATE DATE DATE DATE DATE DATE	available for egg attachm EGG MASSES (#) 18 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE NO	DTES DTES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 4/25/2015 DATE DATE DATE DATE Ves Yes	ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE NO	DTES DTES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE A/25/2015 DATE DATE DATE DATE VYes Yes Yes Yes	ABUNDANCE ABUNDANCE ABUNDANCE No No No	NC NC	OTES OTES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Spotted Salamander FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE A/25/2015 DATE DATE DATE DATE VYes Yes Yes Yes	ABUNDANCE ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE NO	OTES OTES





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Project File #60328763	Project Name: Northeast Energy Dire	ect Project Pool ID: BL-AC3-VP017
Observer: C M-H		Phone or email: 5033185970
Landowner/Applicant: BLOOMFIELD	TOWN OF	Phone or email:
Address: 800 BLOOMF	IELD AVENUE City: BL	LOOMFIELD State: CT Zip:: 06002
Location of vernal pool:		
Survey date(s):: 4/24/2015	Longitude/Latitude (in decimal	degrees): 41.88118815, -72.74848105
A. VERNAL POOL CHARACTERISTIC	S (fill in all information known):	
1. Landscape Setting (check all that a	pply):	
☐ Upland depression (4 pts; if this	s is also in a floodplain, use 2 pts)	
☐ Pool part of a pool complex (wire)	thin 1000 feet of one or more other ve	rnal pools)(NA)
☐ Pool within larger wetland system	em (4 pts; if this is also in a floodplain,	use 2 pts)
☐ Pool part of wildlife corridor (4 p	ots)	
✓ Other (variable pts):	MANMADE IMPOUNDMENT	
Pool Origin:		
2. Vernal pool condition:		
Describe any recent modifications to t	he pool and associated landscape:	MANMADE DRAINS HOUSING DEVELOPMENT
3. Parent material:		
☐ Glacial fluvial ("outwash")	☐ Loose till	☐ Peat
✓ Dense till	☐ Alluvium	☐ Coastal marine sediments
4. Aquatic resource type that best app	olies to this pool (choose dominant)):
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Floodplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☑ Other (variable points): MANMADE WETLAND
☐ Peatland (acidic fen or bog) (4pts	s) Intermittent stream reach (2	2pts)
5. Pool canopy cover (%): 0%		
6. Predominant substrate:		
✓ Mineral soil	Depth:	
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepes	st zone, edge,etc.):
7. Pool sizes:		
Approximate dimensions of pool (at r	maximum capacity) (sq. feet):	<u>2558.31</u>
Maximum depth at deepest point at t	ime of survey (include units):	1'
8. Hydrology: a Estimated hydroperiod (unless act	tual observed hydroneriod value(s) is((are) known, use the presence of these example
indicator species to best predict the		(are) known, use the presence of these example
✓ Dries between early March and early March early March and early March early March early March early Marc	early July (e.g., <i>Thelypteris palustris,</i> (Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)
□ Dries between early July and ear	ly September (e.g., Sagittaria latifolia,	, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)
☐ Dries between early September a	and early November (e.g., Eleocharis	palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts)
□ Dries between early November a	and late December, or intermittently ex	xposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)
How long does pool hold water?	_	
b. Inlet/Outlet (pick one):		
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (c	channel with well-defined banks and permanent flow) (2 pts)
✓ Temporary inlet/outlet (6 pts)		



9. Water quality:				
☐ Clear ☑ High turbidity	☐ High algae co	ntent Tannic		
12 TOTAL for Pool Characteri	istics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	ID CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	nformation known):
1. Landuse type and approximate percent	tage within the 100	0-ft vernal pool envelope	:	
✓ Forested: 5% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 95%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: %	(0 pts)	
2. Landuse type and approximate percent	tage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: <u>55%</u> (16 pts)		Open (e.g., meadow, agric	culture, golf course): 10%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 35%	(0 pts)	
Are there one or more barriers to v check here and see directions for ex				tat? If so,
Based on: Field estimate	☐ GIS	Aerial photo	to estimate	
20 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THI		ovide egg attachment or of	ffer concealment to aquatic or o	developing larvae.
Shrubs:	·	30	·	1 0
Emergent vegetation (grasses, seg	ges, rushes, cattails)):		
Submergent vegetation:				
Dead branches and downed woody mater	rial (branches/twigs)) available for egg attachm	ent:	
Dead branches and downed woody mater INDICATOR SPECIES	rial (branches/twigs) DATE	egg MASSES (#)	ent: TADPOLES/LARVAE	NOTES
,				NOTES
INDICATOR SPECIES	DATE	EGG MASSES (#)		NOTES
INDICATOR SPECIES Spotted Salamander	DATE 4/25/2015	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Spotted Salamander	DATE 4/25/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES TES
INDICATOR SPECIES Spotted Salamander Wood Frog	DATE 4/25/2015 4/25/2015	EGG MASSES (#) 3 9	TADPOLES/LARVAE Tadpoles	
INDICATOR SPECIES Spotted Salamander Wood Frog	DATE 4/25/2015 4/25/2015	EGG MASSES (#) 3 9	TADPOLES/LARVAE Tadpoles NO	
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 4/25/2015 4/25/2015 DATE DATE	EGG MASSES (#) 3 9 ABUNDANCE ABUNDANCE	Tadpoles Tadpoles NO	TES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES	DATE 4/25/2015 4/25/2015 DATE	EGG MASSES (#) 3 9 ABUNDANCE	Tadpoles Tadpoles NO	TES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 4/25/2015 4/25/2015 DATE DATE	EGG MASSES (#) 3 9 ABUNDANCE ABUNDANCE	Tadpoles Tadpoles NO	TES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 4/25/2015 4/25/2015 DATE DATE DATE	EGG MASSES (#) 3 9 ABUNDANCE ABUNDANCE	Tadpoles Tadpoles NO	TES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES	DATE 4/25/2015 4/25/2015 DATE DATE DATE DATE	EGG MASSES (#) 3 9 ABUNDANCE ABUNDANCE	Tadpoles Tadpoles NO	TES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 4/25/2015 4/25/2015 DATE DATE DATE ✓ Yes ☐ Yes	BGG MASSES (#) 3 9 ABUNDANCE ABUNDANCE ABUNDANCE	Tadpoles Tadpoles NO	TES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 4/25/2015 4/25/2015 DATE DATE DATE ✓ Yes ☐ Yes	BGG MASSES (#) 3 9 ABUNDANCE ABUNDANCE ABUNDANCE No	Tadpoles Tadpoles NO	TES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 4/25/2015 4/25/2015 DATE DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	BGG MASSES (#) 3 9 ABUNDANCE ABUNDANCE ABUNDANCE No No No	Tadpoles Tadpoles NO	TES TES





NW



Charge with PHPHY-HAGAN Phone or email: 503-318-5970	Project File #60328763 Pro	pject Name: Northeast Energy Dire	ect Project Pool ID: CT300-VP0	001
Address: \$36 SIMSBURY RD City: BLOOMFIELD State: CT Zip:: 06002 Location of vernal pool: 200' NORTH OF NATURAL GAS COMPRESSION STATION OFF ROUTE 185 Survey date(s): 4/21/2015 Longitude/Lalitude (in decimal degrees): 41.83602097, -72.77954758 A VERNAL POOL CHARACTERISTICS (fill in all information known): 1. Landscape Setting (check all that apply): Upland depression (4 pts: if this is also in a floodplain, use 2 pts) Pool part of a pool complex (within 1000 feet of one or more other vernal pools)(NA) Pool part of a pool complex (within 1000 feet of one or more other vernal pools)(NA) Pool part of wildlife corridor (4 pts) Pool part of wildlife corridor (4 pts) Pool part of wildlife corridor (4 pts) Pool Origin: 2. Vernal pool condition: Describe any recent modifications to the pool and associated landscape: NATURAL/ UNDISTURBED 3. Parent material: Glacial fluvial ("outwash") Loose till Peat Coastal marine sediments 4. Aquatic resource type that best applies to this pool (choose dominant): Forested wetland (4pts) Pherbaceous wetland (4pts) Floodplain (overflow/oxbow) (3pts) Shrub wetland (4pts) Open water (2 pts) Other (variable points): 5. Pool canopy cover (%): 80% 6. Predominant substrate: Mineral soil Depth:	Observer: CLARE MURPHY-HAGAN		Phone or email: 503-318-5970	
Location of vernal pool: 200' NORTH OF NATURAL GAS COMPRESSION STATION OFF ROUTE 185 Survey date(s): 4/21/2015	Landowner/Applicant: OCONNELL JOH	NFJR&	Phone or email:	
A. VERNAL POOL CHARACTERISTICS (fill in all information known): 1. Landscape Setting (check all that apply): Upland depression (4 pts; if this is also in a floodplain, use 2 pts) Pool part of a pool complex (within 1000 feet of one or more other vernal pools)(NA) Pool part of a pool complex (within 1000 feet of one or more other vernal pools)(NA) Pool part of wildlife corridor (4 pts) Other (variable pts): Pool origin: Vernal pool condition: Describe any recent modifications to the pool and associated landscape: NATURAL/ UNDISTURBED 3. Parent material: Peat Peat Claical fluvial ("outwash") Loose till Peat Dense till Alluvium Pool spatial (4 pts) Peat Dense till Porested wetfand (4pts) Pleatand (4pts) Plea	Address: 536 SIMSBURY F	RD City: BL	LOOMFIELD State: CT	Zip:: 06002
A. VERNAL POOL CHARACTERISTICS (fill in all information known): 1. Landscape Setting (check all that apply): Upland depression (4 pts.; if this is also in a floodplain, use 2 pts) Pool part of a pool complex (within 1000 feet of one or more other vernal pools)(NA) Pool part of within larger wetland system (4 pts.; if this is also in a floodplain, use 2 pts) Pool part of within larger wetland system (4 pts.; if this is also in a floodplain, use 2 pts) Pool part of within larger wetland system (4 pts.) Other (variable pts): Pool Origin: 2. Vernal pool condition: Describe any recent modifications to the pool and associated landscape: NATURAL/ UNDISTURBED 3. Parent material: Glacial fluvial ("outwash") Loose till Peat Coastal marine sediments Aquatic resource type that best applies to this pool (choose dominant): Forested wetland (4pts) Herbaceous wetland (4pts) Floodplain (overflow/oxbow) (3pts) Shrub wetland (4pts) Open water (2 pts) Other (variable points): Peatland (acidic fen or bog) (4pts) Intermittent stream reach (2pts) Peatland (acidic fen or bog) (4pts) Intermittent stream reach (2pts) Organic matter (peat/muck) Sampling location (e.g.,deepest zone, edge,etc.):	Location of vernal pool: 200' NORTH	OF NATURAL GAS COMPRESS	ION STATION OFF ROUTE 185	
1. Landscape Setting (check all that apply): Upland depression (4 pts; if this is also in a floodplain, use 2 pts) Pool part of a pool complex (within 1000 feet of one or more other vernal pools)(NA) Pool within larger wetland system (4 pts; if this is also in a floodplain, use 2 pts) Pool port of wildlife corridor (4 pts) Other (variable pts): Pool Origin: 2. Vernal pool condition: Describe any recent modifications to the pool and associated landscape: NATURAL/ UNDISTURBED Poals and thivial ("outwash") Loose till Peat Dense till Alluvium Coastal marine sediments Forested wetland (4pts) Herbaceous wetland (4pts) Floodplain (overflow/oxbow) (3pts) Shrub wetland (4pts) Intermittent stream reach (2pts) Other (variable points): Peatland (acidic fen or bog) (4pts) Intermittent stream reach (2pts) Other (variable points): Mineral soil Depth: Organic matter (peat/muck) Sampling location (e.g.,deepest zone, edge,etc.): Approximate dimensions of pool (at maximum capacity) (sq. feet): 1142.75 Maximum depth at deepest point at time of survey (include units): 2.5: B. Hydrology: a Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): D ries between early March and early July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata) (6pts) D ries between early July and early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ) (8pts)	Survey date(s):: 4/21/2015	Longitude/Latitude (in decimal of	degrees): 41.83602097, -72.77954758	3
Upland depression (4 pts; if this is also in a floodplain, use 2 pts) Pool part of a pool complex (within 1000 feet of one or more other vernal pools)(NA) Pool within larger wetland system (4 pts; if this is also in a floodplain, use 2 pts) Pool part of wildlife corridor (4 pts) Other (variable pts): Pool Origin: Vernal pool condition: Describe any recent modifications to the pool and associated landscape: NATURAL/ UNDISTURBED NATURAL/ UNDISTURBED Peat	A. VERNAL POOL CHARACTERISTICS (f	II in all information known):		
Pool part of a pool complex (within 1000 feet of one or more other vernal pools)(NA) Pool within larger wetland system (4 pts; if this is also in a floodplain, use 2 pts) Other (variable pts): Other (variable pts): Pool Origin: Z. Vernal pool condition: Describe any recent modifications to the pool and associated landscape: NATURAL/UNDISTURBED Peat	1. Landscape Setting (check all that apply	y):		
Pool within larger wetland system (4 pts; if this is also in a floodplain, use 2 pts) Pool part of wildlife corridor (4 pts) Other (variable pts): Pool Origin: Vernal pool condition: Describe any recent modifications to the pool and associated landscape: NATURAL/ UNDISTURBED NATURAL/ UNDISTURBED NATURAL/ UNDISTURBED Peat	✓ Upland depression (4 pts; if this is a	also in a floodplain, use 2 pts)		
Pool part of wildlife corridor (4 pts) Other (variable pts): Pool Origin: 2. Vernal pool condition: Describe any recent modifications to the pool and associated landscape: NATURAL/ UNDISTURBED Alluvian	☐ Pool part of a pool complex (within	1000 feet of one or more other ver	rnal pools)(NA)	
Other (variable pts): Pool Origin: 2. Vernal pool condition: Describe any recent modifications to the pool and associated landscape: NATURAL/ UNDISTURBED 3. Parent material: Glacial fluvial ("outwash")	☐ Pool within larger wetland system (4 pts; if this is also in a floodplain,	use 2 pts)	
Pool Origin: 2. Vernal pool condition: Describe any recent modifications to the pool and associated landscape: NATURAL/ UNDISTURBED 3. Parent material: Glacial fluvial ("outwash") Loose till Peat Dense till Rivial ("outwash") Herbaceous wetland (4pts) Floodplain (overflow/oxbow) (3pts) Forested wetland (4pts) Open water (2 pts) Other (variable points): Peatland (acidic fen or bog) (4pts) Intermittent stream reach (2pts) 5. Pool canopy cover (%): 80% 6. Predominant substrate: Mineral soil Depth: Organic matter (peat/muck) Sampling location (e.g.,deepest zone, edge,etc.): 7. Pool sizes: Approximate dimensions of pool (at maximum capacity) (sq. feet): 1142.75 Maximum depth at deepest point at time of survey (include units): 2.5' 8. Hydrology: a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): Dries between early March and early July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticiliata)(6pts) Dries between early July and early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)	☐ Pool part of wildlife corridor (4 pts)			
2. Vermal pool condition: Describe any recent modifications to the pool and associated landscape: NATURAL/UNDISTURBED 3. Part material: Glacial fluvial ("outwash")	☐ Other (variable pts):			
2. Vermal pool condition: Describe any recent modifications to the pool and associated landscape: NATURAL/UNDISTURBED 3. Part material: Glacial fluvial ("outwash")	Pool Origin:			
3. Parent material: Glacial fluvial ("outwash")				
Glacial fluvial ("outwash")	Describe any recent modifications to the	oool and associated landscape:	NATURAL/ UNDISTURBED	
Glacial fluvial ("outwash")				
_ Dense till _ Alluvium _ Coastal marine sediments 4. Aquatic resource type that best applies to this pool (choose dominant): _ Forested wetland (4pts)	3. Parent material:			
4. Aquatic resource type that best applies to this pool (choose dominant): Forested wetland (4pts) Herbaceous wetland (4pts) Floodplain (overflow/oxbow) (3pts) Shrub wetland (4pts) Open water (2 pts) Other (variable points): Peatland (acidic fen or bog) (4pts) Intermittent stream reach (2pts) 5. Pool canopy cover (%): 80% 6. Predominant substrate: Mineral soil Depth: Organic matter (peat/muck) Sampling location (e.g.,deepest zone, edge,etc.): 7. Pool sizes: Approximate dimensions of pool (at maximum capacity) (sq. feet): 1142.75 Maximum depth at deepest point at time of survey (include units): 2.5' 8. Hydrology: a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): Dries between early March and early July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts) Dries between early July and early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)	☐ Glacial fluvial ("outwash") ☑	Loose till	☐ Peat	
Forested wetland (4pts)	☐ Dense till ☐	Alluvium	☐ Coastal marine sediments	
Shrub wetland (4pts)	4. Aquatic resource type that best applies	s to this pool (choose dominant)) :	
□ Peatland (acidic fen or bog) (4pts) □ Intermittent stream reach (2pts) 5. Pool canopy cover (%): 80% 6. Predominant substrate: □ Mineral soil □ Depth: □ □ Organic matter (peat/muck) Sampling location (e.g.,deepest zone, edge,etc.): □ □ The stream reach (2pts) 7. Pool sizes: Approximate dimensions of pool (at maximum capacity) (sq. feet): 1142.75 Maximum depth at deepest point at time of survey (include units): 2.5¹ 8. Hydrology: a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): □ Dries between early March and early July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts) □ Dries between early July and early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)	✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pts)	☐ Floodplain (overflow/oxbow) (3p	ts)
5. Pool canopy cover (%): 80% 6. Predominant substrate: ☑ Mineral soil	☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable points):	
6. Predominant substrate: ☑ Mineral soil	☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2	2pts)	
✓ Mineral soil Depth: Organic matter (peat/muck) Sampling location (e.g.,deepest zone, edge,etc.): 7. Pool sizes: Approximate dimensions of pool (at maximum capacity) (sq. feet): 1142.75 Maximum depth at deepest point at time of survey (include units): 2.5′ 8. Hydrology: a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): ✓ Dries between early March and early July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts) ☐ Dries between early July and early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts) 	5. Pool canopy cover (%): 80%			
Organic matter (peat/muck) Sampling location (e.g.,deepest zone, edge,etc.): 7. Pool sizes: Approximate dimensions of pool (at maximum capacity) (sq. feet): Maximum depth at deepest point at time of survey (include units): 8. Hydrology: a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): □ Dries between early March and early July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts) □ Dries between early July and early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)	6. Predominant substrate:			
7. Pool sizes: Approximate dimensions of pool (at maximum capacity) (sq. feet): 1142.75 Maximum depth at deepest point at time of survey (include units): 2.5' 8. Hydrology: a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): ☑ Dries between early March and early July (e.g., <i>Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata</i>)(6pts) ☐ Dries between early July and early September (e.g., <i>Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.</i>)(8pts)	✓ Mineral soil	Depth:		
Approximate dimensions of pool (at maximum capacity) (sq. feet): Maximum depth at deepest point at time of survey (include units): 8. Hydrology: a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): Dries between early March and early July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts) Dries between early July and early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)	☐ Organic matter (peat/muck)	Sampling location (e.g.,deepest	t zone, edge,etc.):	
Maximum depth at deepest point at time of survey (include units): 8. Hydrology: a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): □ Dries between early March and early July (e.g., <i>Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata</i>)(6pts) □ Dries between early July and early September (e.g., <i>Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.</i>)(8pts)	7. Pool sizes:			
8. Hydrology: a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): ☑ Dries between early March and early July (e.g., <i>Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata</i>)(6pts) ☐ Dries between early July and early September (e.g., <i>Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.</i>)(8pts)	, , , ,	, . ,		
a. Estimated hydroperiod (unless actual, observed hydroperiod value(s) is(are) known, use the presence of these example indicator species to best predict the expected hydroperiod of the pool): ☑ Dries between early March and early July (e.g., <i>Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata</i>)(6pts) ☐ Dries between early July and early September (e.g., <i>Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.</i>)(8pts)		of survey (include units):	<u>2.5'</u>	
indicator species to best predict the expected hydroperiod of the pool): ☑ Dries between early March and early July (e.g., <i>Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata</i>)(6pts) ☐ Dries between early July and early September (e.g., <i>Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.</i>)(8pts)	•	observed hydroneriod value(s) is(are) known use the presence of these exar	nnle
□ Dries between early July and early September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)			are, known, use the presence of these exam	пріс
	Dries between early March and early	July (e.g., <i>Thelypteris palustris, C</i>	Carex stricta, Impatiens capensis, Ilex vertici	illata)(6pts)
☐ Dries between early September and early November (e.g., Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts)	□ Dries between early July and early S	eptember (e.g., Sagittaria latifolia,	Scirpus cyperinus, Dulichium arundinaceur	m, Cephalanthus occ.)(8pts)
	□ Dries between early September and	early November (e.g., Eleocharis p	palustris, Glyceria canadensis, Utricularia s _l	pp., Decodon vert.)(8pts)
☐ Dries between early November and late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)	□ Dries between early November and l	ate December, or intermittently ex	posed (e.g., Nuphar spp., Potamogeton spp	o.)(8pts)
How long does pool hold water?	How long does pool hold water?			
b. Inlet/Outlet (pick one):	- ,	-		
	✓ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (cl	hannel with well-defined banks and permane	ent flow) (2 pts)
√ No injet/outlet (8 pts) Permanent injet or outlet (channel with well-defined banks and permanent flow) (2 pts)	☐ Temporary inlet/outlet (6 pts)	(0.	poma.	- / \ 1/
✓ No inlet/outlet (8 pts) ☐ Permanent inlet or outlet (channel with well-defined banks and permanent flow) (2 pts)	☐ Temporary inlet/outlet (6 pts)			



9. Water quality:				
☐ Clear ☐ High turbidity	☐ High algae co	ntent 🗹 Tannic		
22 TOTAL for Pool Character	istics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	ID CRITICAL HABI	TAT AREA (100-750 ft) CI	HARACTERISTICS (fill in all i	information known):
1. Landuse type and approximate percen	tage within the 100)-ft vernal pool envelope:	:	
✓ Forested: 95% (16 pts)		Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: <u>5%</u>	(0 pts)	
2. Landuse type and approximate percen	tage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 60% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 5%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: 35%	(0 pts)	
Are there one or more barriers to vecheck here and see directions for example.				itat? If so,
Based on:	☐ GIS	Aerial phot	o estimate	
20 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN TH	E POOL that can pro	ovide egg attachment or of	fer concealment to aquatic or o	developing larvae.
Shrubs:				
Emergent vegetation (grasses, seg	ges, rushes, cattails)):		
Submergent vegetation:	— rial (branchas/twigs)	available for aga attachm	ont:	
Dead branches and downed woody mate	nai (branches/twigs)	avaliable for egg attachin	епі	
INDICATOR SPECIES	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Fairy Shrimp	DATE 4/21/2015	EGG MASSES (#)	TADPOLES/LARVAE Common	NOTES
		EGG MASSES (#)		NOTES
Fairy Shrimp FACULTATIVE SPECIES	4/21/2015 DATE	ABUNDANCE	Common	NOTES
Fairy Shrimp	4/21/2015		Common	
Fairy Shrimp FACULTATIVE SPECIES	4/21/2015 DATE	ABUNDANCE	Common	
Fairy Shrimp FACULTATIVE SPECIES	4/21/2015 DATE	ABUNDANCE	Common	
Fairy Shrimp FACULTATIVE SPECIES Fingernail Clams PREDATOR SPECIES	4/21/2015 DATE 4/21/2015 DATE	ABUNDANCE Few ABUNDANCE	Common	TES
Fairy Shrimp FACULTATIVE SPECIES Fingernail Clams PREDATOR SPECIES OTHER SPECIES	4/21/2015 DATE 4/21/2015 DATE DATE	ABUNDANCE ABUNDANCE ABUNDANCE	Common	TES
Fairy Shrimp FACULTATIVE SPECIES Fingernail Clams PREDATOR SPECIES OTHER SPECIES NORTHERN LEOPARD FROG	4/21/2015 DATE 4/21/2015 DATE DATE 4/21/2015	ABUNDANCE ABUNDANCE ABUNDANCE Few	Common	TES
Fairy Shrimp FACULTATIVE SPECIES Fingernail Clams PREDATOR SPECIES OTHER SPECIES	4/21/2015 DATE 4/21/2015 DATE DATE	ABUNDANCE ABUNDANCE ABUNDANCE	Common	TES
Fairy Shrimp FACULTATIVE SPECIES Fingernail Clams PREDATOR SPECIES OTHER SPECIES NORTHERN LEOPARD FROG WATER STRIDER	### A/21/2015 DATE	ABUNDANCE Few ABUNDANCE Few Few	Common	TES
Fairy Shrimp FACULTATIVE SPECIES Fingernail Clams PREDATOR SPECIES OTHER SPECIES NORTHERN LEOPARD FROG WATER STRIDER MOSQUITO	### A/21/2015 DATE 4/21/2015 DATE DATE 4/21/2015 4/21/2015 4/21/2015 4/21/2015	ABUNDANCE Few ABUNDANCE Few Few Many	Common	TES
Fairy Shrimp FACULTATIVE SPECIES Fingernail Clams PREDATOR SPECIES OTHER SPECIES NORTHERN LEOPARD FROG WATER STRIDER	### A/21/2015 DATE 4/21/2015 DATE DATE 4/21/2015 4/21/2015 4/21/2015 4/21/2015	ABUNDANCE Few ABUNDANCE Few Few	Common	TES
Fairy Shrimp FACULTATIVE SPECIES Fingernail Clams PREDATOR SPECIES OTHER SPECIES NORTHERN LEOPARD FROG WATER STRIDER MOSQUITO	4/21/2015 DATE 4/21/2015 DATE DATE 4/21/2015 4/21/2015 4/21/2015 4/21/2015 ✓ Yes	ABUNDANCE Few ABUNDANCE Few Few Many	Common	TES
Fairy Shrimp FACULTATIVE SPECIES Fingernail Clams PREDATOR SPECIES OTHER SPECIES NORTHERN LEOPARD FROG WATER STRIDER MOSQUITO Presence of Indicator Species	### A/21/2015 DATE	ABUNDANCE FeW ABUNDANCE FeW FeW Many	Common	TES
Fairy Shrimp FACULTATIVE SPECIES Fingernail Clams PREDATOR SPECIES OTHER SPECIES NORTHERN LEOPARD FROG WATER STRIDER MOSQUITO Presence of Indicator Species Were spermatophores observed?	### A/21/2015 DATE	ABUNDANCE FeW ABUNDANCE FeW FeW Many No	Common	TES
Fairy Shrimp FACULTATIVE SPECIES Fingernail Clams PREDATOR SPECIES OTHER SPECIES NORTHERN LEOPARD FROG WATER STRIDER MOSQUITO Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	### A/21/2015 DATE	ABUNDANCE FeW ABUNDANCE FeW FeW Many No No	Common	TES TES





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Project File	e #60328763	Project Name: North	east Energy Direct Proje	ct Pool ID:	: EG-AC3-VP	001	
Observer:	C M-H			Phone or email: 50	3-318-5970		
Landowne	r/Applicant: KINSLEY L	LC		Phone or email:			
Address:	14 CONNE	CTICUT SOUTH DRIVE	City: EAST GR	ANBY State:	CT	Zip:: (06026
Location of	f vernal pool:						
Survey da	te(s):: 4/27/2015	Longitude/Latit	ude (in decimal degrees	41.92884728,	-72.71734584		
A. VERNAL	POOL CHARACTERIST	TICS (fill in all informati	on known):				
1. Landscap	e Setting (check all that	it apply):					
☐ Upl	and depression (4 pts; if t	this is also in a floodplair	ı, use 2 pts)				
☐ Poo	ol part of a pool complex ((within 1000 feet of one of	or more other vernal poo	ls)(NA)			
☑ Poo	ol within larger wetland sy	stem (4 pts; if this is also	in a floodplain, use 2 p	ts)			
☐ Poo	ol part of wildlife corridor ((4 pts)					
☐ Oth	er (variable pts):						
Pool Origi	n:						
_	ol condition:						
Describe a	any recent modifications t	to the pool and associate	ed landscape: NONI	≣			
3. Parent ma	aterial:						
☐ Glacia	al fluvial ("outwash")	□ Loose till		Peat			
✓ Dens	e till	☐ Alluvium		Coastal marine sedime	ents		
4. Aquatic re	esource type that best a	applies to this pool (ch	oose dominant):				
✓ Fores	sted wetland (4pts)	☐ Herbaceou	s wetland (4pts)	☐ Floodplain (overflo	ow/oxbow) (3pts	s)	
☐ Shru	b wetland (4pts)	□ Open wate	r (2 pts)	☐ Other (variable po	ints):		
☐ Peat	and (acidic fen or bog) (4	4pts) 🔲 Intermittent	stream reach (2pts)				
5. Pool can	opy cover (%): 60%	1					
6. Predomin	ant substrate:						
✓ Mine	ral soil	Depth:					
☐ Orga	nic matter (peat/muck)	Sampling locat	ion (e.g.,deepest zone,	edge,etc.):			
7. Pool size	s:						
	nate dimensions of pool (a			<u>3.69</u>			
	n depth at deepest point a	at time of survey (include	units): <u>1'</u>				
8. Hydrolog	y: ited hydroperiod (unless a	actual observed hydron	eriod value(s) is(are) kn	own lise the presence	of these exam	nle	
	species to best predict th			wii, doe tile presente	, or these examp	pic	
✓ Dries	between early March an	nd early July (e.g., <i>Thely</i>	oteris palustris, Carex st	ricta, Impatiens capen	sis, llex verticilla	<i>ata</i>)(6pts))
☐ Dries	between early July and	early September (e.g., S	agittaria latifolia, Scirpus	s cyperinus, Dulichium	arundinaceum,	, Cephala	anthus occ.)(8pts)
☐ Dries	between early September	er and early November (e.g., <i>Eleocharis palustri</i> :	s, Glyceria canadensis	s, Utricularia spr	p., Decod	lon vert.)(8pts)
☐ Dries	between early Novembe	er and late December, or	intermittently exposed (e.g., <i>Nuphar spp., Pot</i>	amogeton spp.))(8pts)	
How lor	ng does pool hold water?						
		_					
	let/outlet (8 pts)	☐ Permanent	inlet or outlet (channel v	with well-defined bank	s and permaner	nt flow) (2	2 pts)
_	porary inlet/outlet (6 pts)		(21.21.00)			/ (=	/
b. Inlet/O	ng does pool hold water? utlet (pick one):		inlet or outlet (channel)	with well-defined hank	s and nermane	nt flow) (S	2 nts)
☐ Temp	oorary inlet/outlet (6 pts)						



☑ Clear ☐ High turbidity ☐ High algae content ☐ Ta	annic
22 TOTAL for Pool Characteristics (out of 28 max.)	
B. VERNAL POOL ENVELOPE (100 ft) AND CRITICAL HABITAT AREA (100	7-750 ft) CHARACTERISTICS (fill in all information known):
1. Landuse type and approximate percentage within the 100-ft vernal pool	envelope:
✓ Forested: 100% (16 pts) ☐ Open (e.g., mea	adow, agriculture, golf course): % (4 pts)
☐ Shrub: ½ (10 pts) ☐ Developed:	<u>%</u> (0 pts)
2. Landuse type and approximate percentage within the 100-750-ft vernal p	pool critical terrestrial habitat:
✓ Forested: 60% (16 pts) ✓ Open (e.g., mea	adow, agriculture, golf course): 5% (4 pts)
☐ Shrub: ½ (10 pts) ☑ Developed:	35% (0 pts)
Are there one or more barriers to vernal pool fauna movement within the check here and see directions for explanation of how to incorporate this	he envelope and/or critical terrestrial habitat? If so, is information.
Based on: ☐ Field estimate ☐ GIS ☑ /	Aerial photo estimate
20 TOTAL for Pool Envelope and Critical Terrestrial Habitat A	rea (out of 32 max.)
C. SPECIES PRESENT IN VERNAL POOL	
Vegetation type and percent cover IN THE POOL that can provide egg attach Shrubs: Emergent vegetation (grasses, seges, rushes, cattails): Submergent vegetation: Dead branches and downed woody material (branches/twigs) available for egg	
, , , , , , ,	,e
INDICATOR SPECIES DATE EGG MASS	EFS (#) TADPOLES/LARVAE NOTES
INDICATOR SPECIES DATE EGG MASS Wood Frog 4/27/2015 11	SES (#) TADPOLES/LARVAE NOTES Tadpoles
Wood Frog 4/27/2015 11	
Wood Frog 4/27/2015 11 Spotted Salamander 4/27/2015 24	Tadpoles
Wood Frog 4/27/2015 11 Spotted Salamander 4/27/2015 24 FACULTATIVE SPECIES DATE ABUNDAL	Tadpoles
Wood Frog 4/27/2015 11 Spotted Salamander 4/27/2015 24	Tadpoles
Wood Frog 4/27/2015 11 Spotted Salamander 4/27/2015 24 FACULTATIVE SPECIES DATE ABUNDAI Caddisflies 4/27/2015 Few	Tadpoles NCE NOTES
Wood Frog 4/27/2015 11 Spotted Salamander 4/27/2015 24 FACULTATIVE SPECIES DATE ABUNDAL	Tadpoles NCE NOTES
Wood Frog 4/27/2015 11 Spotted Salamander 4/27/2015 24 FACULTATIVE SPECIES DATE ABUNDAL Caddisflies 4/27/2015 Few PREDATOR SPECIES DATE ABUNDAL	NCE NOTES NCE NOTES
Wood Frog 4/27/2015 11 Spotted Salamander 4/27/2015 24 FACULTATIVE SPECIES DATE ABUNDAI Caddisflies 4/27/2015 Few	NCE NOTES NCE NOTES
Wood Frog 4/27/2015 11 Spotted Salamander 4/27/2015 24 FACULTATIVE SPECIES DATE ABUNDAL Caddisflies 4/27/2015 Few PREDATOR SPECIES DATE ABUNDAL	NCE NOTES NCE NOTES
Wood Frog 4/27/2015 11 Spotted Salamander 4/27/2015 24 FACULTATIVE SPECIES DATE ABUNDAL Caddisflies 4/27/2015 Few PREDATOR SPECIES DATE ABUNDAL OTHER SPECIES DATE ABUNDAL	NCE NOTES NCE NOTES
Wood Frog 4/27/2015 11 Spotted Salamander 4/27/2015 24 FACULTATIVE SPECIES DATE ABUNDAL Caddisflies 4/27/2015 Few PREDATOR SPECIES DATE ABUNDAL OTHER SPECIES DATE ABUNDAL OTHER SPECIES DATE ABUNDAL Presence of Indicator Species Yes No	NCE NOTES NCE NOTES
Wood Frog 4/27/2015 11 Spotted Salamander 4/27/2015 24 FACULTATIVE SPECIES DATE ABUNDAL Caddisflies 4/27/2015 Few PREDATOR SPECIES DATE ABUNDAL OTHER SPECIES DATE ABUNDAL OTHER SPECIES DATE ABUNDAL Presence of Indicator Species Yes No Were spermatophores observed? Yes No	NCE NOTES NCE NOTES
Wood Frog 4/27/2015 11 Spotted Salamander 4/27/2015 24 FACULTATIVE SPECIES DATE ABUNDAL Caddisflies 4/27/2015 Few PREDATOR SPECIES DATE ABUNDAL OTHER SPECIES DATE ABUNDAL OTHER SPECIES DATE ABUNDAL Presence of Indicator Species Yes No Were spermatophores observed? Yes No Were fish observed in the pool? Yes No SUMMARY	NCE NOTES NCE NOTES





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Project File #60328763	Project Name: Northeast Energy D	Direct Project Pool ID: EG-AC3-VP002
Observer: C M-H		Phone or email: 503-318-5970
Landowner/Applicant: KINSLEY LL	C	Phone or email:
Address: 14 CONNEC	CTICUT SOUTH DRIVE City:	EAST GRANBY State: CT Zip:: 06026
Location of vernal pool:		
Survey date(s):: 4/27/2015	Longitude/Latitude (in decim	al degrees): 41.92851388, -72.71746022
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):	
1. Landscape Setting (check all that	apply):	
☐ Upland depression (4 pts; if the	nis is also in a floodplain, use 2 pts)	
☐ Pool part of a pool complex (v	vithin 1000 feet of one or more other	vernal pools)(NA)
Pool within larger wetland sys	tem (4 pts; if this is also in a floodplain	in, use 2 pts)
□ Pool part of wildlife corridor (4)	pts)	
☐ Other (variable pts):		
Pool Origin:		
2. Vernal pool condition:		
Describe any recent modifications to	the pool and associated landscape:	NONE
3. Parent material:		
☐ Glacial fluvial ("outwash")	□ Loose till	☐ Peat
✓ Dense till	☐ Alluvium	☐ Coastal marine sediments
4. Aquatic resource type that best a	oplies to this pool (choose domina	nt):
✓ Forested wetland (4pts)	☐ Herbaceous wetland (4pt	ts) ☐ Floodplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	Other (variable points):
☐ Peatland (acidic fen or bog) (4p	ots)	n (2pts)
5. Pool canopy cover (%): 95%		
6. Predominant substrate:		
✓ Mineral soil	Depth:	
☐ Organic matter (peat/muck)	Sampling location (e.g.,deep	est zone, edge,etc.):
7. Pool sizes:		
Approximate dimensions of pool (at	: maximum capacity) (sq. feet):	<u>845.32</u>
Maximum depth at deepest point at	time of survey (include units):	<u>8"</u>
8. Hydrology:	ctual observed hydroperiod value(s)	is(are) known, use the presence of these example
	e expected hydroperiod of the pool):	is(are) known, use the presence of these example
Dries between early March and	early July (e.g., Thelypteris palustris	s, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)
□ Dries between early July and early	arly September (e.g., Sagittaria latifo	lia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)
□ Dries between early Septembe	r and early November (e.g., <i>Eleochar</i>	ris palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently	exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)
How long does pool hold water?		
b. Inlet/Outlet (pick one):	_	
□ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet	(channel with well-defined banks and permanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)	_ · · · · · · · · · · · · · · · · · · ·	(



9. Water quality:					
✓ Clear	☐ High turbidity	☐ High algae cor	ntent		
<u>20</u> TOT	AL for Pool Character	istics (out of 28 ma	x.)		
B. VERNAL POOL	ENVELOPE (100 ft) AN	ID CRITICAL HABIT	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
1. Landuse type an	d approximate percen	tage within the 100	-ft vernal pool envelope	:	
✓ Forested:	95% (16 pts)	☑ (Open (e.g., meadow, agric	culture, golf course): 5%	(4 pts)
☐ Shrub:	<u>%</u> (10 pts)		Developed: <u>%</u>	(0 pts)	
2. Landuse type an	d approximate percen	tage within the 100	-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested:	70% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 15%	(4 pts)
☐ Shrub:	<u>%</u> (10 pts)		Developed: 15%	(0 pts)	
			vement within the envelop o incorporate this informat	pe and/or critical terrestrial hab ion.	sitat? If so,
Based on:	☐ Field estimate	☐ GIS	Aerial pho	to estimate	
<u>20</u> TO	TAL for Pool Envelope	e and Critical Terres	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESE	ENT IN VERNAL POOL				
Shrubs:	nd percent cover IN TH vegetation (grasses, se			ffer concealment to aquatic or	developing larvae.
•	nt vegetation: nd downed woody mate	 rial (branches/twigs)	available for egg attachm	ent:	
Dead branches ar	•	rial (branches/twigs)	available for egg attachm	ent: TADPOLES/LARVAE	NOTES
Dead branches an	nd downed woody mate				NOTES
Dead branches an INDICATO	nd downed woody mate	DATE	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Dead branches an INDICATO	nd downed woody mate OR SPECIES od Frog	DATE 4/27/2015	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
Dead branches at INDICATO Wood Spotted	nd downed woody mate OR SPECIES od Frog	DATE 4/27/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES
Dead branches at INDICATO Wood Spotted	nd downed woody mate OR SPECIES od Frog Salamander	DATE 4/27/2015 4/27/2015	EGG MASSES (#) 8 4	TADPOLES/LARVAE Tadpoles	
Dead branches and INDICATO Wood Spotted FACULTA	nd downed woody mate OR SPECIES od Frog Salamander	DATE 4/27/2015 4/27/2015	EGG MASSES (#) 8 4	TADPOLES/LARVAE Tadpoles	
Dead branches at INDICATO Wood Spotted FACULTA	ond downed woody mate OR SPECIES od Frog Salamander TIVE SPECIES OR SPECIES	DATE 4/27/2015 4/27/2015 DATE DATE	EGG MASSES (#) 8 4 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	DTES DTES
Dead branches at INDICATO Wood Spotted FACULTA	or SPECIES od Frog Salamander TIVE SPECIES	DATE 4/27/2015 4/27/2015 DATE	EGG MASSES (#) 8 4 ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	DTES
Dead branches at INDICATO Wood Spotted FACULTA	nd downed woody mate OR SPECIES od Frog Salamander TIVE SPECIES OR SPECIES	DATE 4/27/2015 4/27/2015 DATE DATE DATE	EGG MASSES (#) 8 4 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	DTES DTES
Presence of Indicate	nd downed woody mate OR SPECIES od Frog Salamander TIVE SPECIES OR SPECIES R SPECIES	DATE 4/27/2015 4/27/2015 DATE DATE DATE ✓ Yes [BGG MASSES (#) 8 4 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	DTES DTES
Dead branches at INDICATO Wood Spotted FACULTA PREDATO	nd downed woody mate OR SPECIES od Frog Salamander TIVE SPECIES OR SPECIES tor Species es observed?	DATE 4/27/2015 4/27/2015 DATE DATE DATE ✓ Yes ☐ Yes	8 4 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	DTES DTES
Presence of Indicate Were spermatophor	nd downed woody mate OR SPECIES od Frog Salamander TIVE SPECIES OR SPECIES tor Species es observed?	DATE 4/27/2015 4/27/2015 DATE DATE DATE ✓ Yes ☐ Yes	BGG MASSES (#) 8 4 ABUNDANCE ABUNDANCE ABUNDANCE No No	TADPOLES/LARVAE Tadpoles NO	DTES DTES
Presence of Indicate Were spermatophor Were fish observed	nd downed woody mate OR SPECIES od Frog Salamander TIVE SPECIES OR SPECIES tor Species es observed?	DATE 4/27/2015 4/27/2015 DATE DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes ☐ Yes	BGG MASSES (#) 8 4 ABUNDANCE ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles NO	OTES OTES





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Project File #60328763	Project Name: Northeast Energy Direct Project Pool ID: WI-AC3-VP001
Observer: C M-H	Phone or email: 503-318-5970
Landowner/Applicant: LONEWSKI, EU	JGENE T. Phone or email:
Address: 15 STONE ROA	AD City: WINDSOR State: CT Zip:: 06095
Location of vernal pool:	
Survey date(s):: 4/27/2015	Longitude/Latitude (in decimal degrees): 41.92703261, -72.71884356
A. VERNAL POOL CHARACTERISTICS	(fill in all information known):
. Landscape Setting (check all that ap	ply):
Upland depression (4 pts; if this i	s also in a floodplain, use 2 pts)
Pool part of a pool complex (with	in 1000 feet of one or more other vernal pools)(NA)
☐ Pool within larger wetland system	n (4 pts; if this is also in a floodplain, use 2 pts)
□ Pool part of wildlife corridor (4 pt	s)
☐ Other (variable pts):	
Pool Origin:	
. Vernal pool condition:	
Describe any recent modifications to the	e pool and associated landscape: NONE
. Parent material:	
☐ Glacial fluvial ("outwash")	□ Loose till □ Peat
✓ Dense till	☐ Alluvium ☐ Coastal marine sediments
. Aquatic resource type that best appl	ies to this pool (choose dominant):
☐ Forested wetland (4pts)	☐ Herbaceous wetland (4pts) ☐ Floodplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts) ☐ Other (variable points): UPLAND FOREST
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2pts)
5. Pool canopy cover (%): 40%	
. Predominant substrate:	
☐ Mineral soil	Depth: 6
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepest zone, edge,etc.): <u>DEEPEST ZONE</u>
'. Pool sizes:	
Approximate dimensions of pool (at m	
Maximum depth at deepest point at tin	ne of survey (include units): 2'
Hydrology: a. Estimated hydroneriod (unless actus	al, observed hydroperiod value(s) is(are) known, use the presence of these example
indicator species to best predict the ex	
Dries between early March and early	urly July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)
□ Dries between early July and early	September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)
□ Dries between early September ar	nd early November (e.g., Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts)
□ Dries between early November an	d late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)
How long does pool hold water?	
b. Inlet/Outlet (pick one):	
✓ No inlet/outlet (8 pts)	Permanent inlet or outlet (channel with well-defined banks and permanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)	
_ : : : /	



9. Water quality:				
☑ Clear ☐ High turbid	ity High algae co	ntent Tannic		
18 TOTAL for Pool Cha	aracteristics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100	0 ft) AND CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all i	nformation known):
1. Landuse type and approximate	percentage within the 100	0-ft vernal pool envelope	:	
✓ Forested: 100% (16 pm)	ts)	Open (e.g., meadow, agric	culture, golf course): %	(4 pts)
☐ Shrub: <u>%</u> (10 pt	ts)	Developed: %	(0 pts)	
2. Landuse type and approximate	percentage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 80% (16 pt)	ts)	Open (e.g., meadow, agric	culture, golf course): 20%	(4 pts)
☐ Shrub: <u>%</u> (10 pt	ts)	Developed: %	(0 pts)	
Are there one or more barri check here and see direction			pe and/or critical terrestrial habition.	tat? If so,
Based on: Field esti	imate GIS	Aerial pho	to estimate	
20 TOTAL for Pool Er	nvelope and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL	. POOL			
Vegetation type and percent cover	r IN THE POOL that can pr	ovide egg attachment or o	ffer concealment to aquatic or o	developing larvae.
Shrubs:				
Emorgant vagatation (grace	ana angga ruphan anttaila'			
Emergent vegetation (grass	ses, seges, rushes, cattails)): <u> </u>		
Submergent vegetation:	<u> </u>			
	<u> </u>		nent:	
Submergent vegetation:	<u> </u>		rent: TADPOLES/LARVAE	NOTES
Submergent vegetation: Dead branches and downed wood	dy material (branches/twigs)) available for egg attachm	_	NOTES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES	dy material (branches/twigs)	available for egg attachm	TADPOLES/LARVAE	NOTES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES	dy material (branches/twigs)	available for egg attachm	TADPOLES/LARVAE Tadpoles	NOTES TES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 4/27/2015 DATE	available for egg attachm EGG MASSES (#) 1 ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Wood Frog	dy material (branches/twigs) DATE 4/27/2015	available for egg attachm EGG MASSES (#) 1	TADPOLES/LARVAE Tadpoles NO	
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 4/27/2015 DATE DATE DATE	available for egg attachm EGG MASSES (#) 1 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES	DATE 4/27/2015 DATE	available for egg attachm EGG MASSES (#) 1 ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 4/27/2015 DATE DATE DATE	available for egg attachm EGG MASSES (#) 1 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES	DATE 4/27/2015 DATE DATE DATE DATE DATE	available for egg attachm EGG MASSES (#) 1 ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES	DATE 4/27/2015 DATE DATE DATE DATE DATE DATE	available for egg attachm EGG MASSES (#) 1 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 4/27/2015 DATE DATE DATE DATE DATE DATE DATE Ves Yes	available for egg attachm EGG MASSES (#) 1 ABUNDANCE ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 4/27/2015 DATE DATE DATE DATE DATE DATE DATE Ves Yes	available for egg attachm EGG MASSES (#) 1 ABUNDANCE ABUNDANCE ABUNDANCE No No	TADPOLES/LARVAE Tadpoles NO	TES
Submergent vegetation: Dead branches and downed wood INDICATOR SPECIES Wood Frog FACULTATIVE SPECIES PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 4/27/2015 DATE DATE DATE DATE Ves Yes Yes Yes	ABUNDANCE ABUNDANCE ABUNDANCE No No No	TADPOLES/LARVAE Tadpoles NO	TES TES







Project File #60328763 Proj	ect Name: Northeast Energy Dire	ect Project Po	ol ID: WI-AC3-VF	2002
Observer: C M-H		Phone or email:	503-318-5970	
Landowner/Applicant: LONEWSKI, EUGE	ENE T.	Phone or email:		
Address: 15 STONE ROAD	City: W	INDSOR S	State: CT	Zip:: 06095
Location of vernal pool:				
Survey date(s):: 4/27/2015	Longitude/Latitude (in decimal	degrees): 41.92688	8802, -72.71817871	i
A. VERNAL POOL CHARACTERISTICS (fill	in all information known):			
1. Landscape Setting (check all that apply)):			
☐ Upland depression (4 pts; if this is a	so in a floodplain, use 2 pts)			
☐ Pool part of a pool complex (within 1	000 feet of one or more other ve	rnal pools)(NA)		
☑ Pool within larger wetland system (4)	pts; if this is also in a floodplain,	use 2 pts)		
☐ Pool part of wildlife corridor (4 pts)				
☐ Other (variable pts):				
Pool Origin:				
2. Vernal pool condition:				
Describe any recent modifications to the po	ool and associated landscape:	IN ROW COMPACTE CLEARING	D SOIL, RECENTL'	Y MOWED, AND TREE
3. Parent material:				
Glacial fluvial ("outwash")	Loose till	☐ Peat		
✓ Dense till	Alluvium	☐ Coastal marine se	ediments	
4. Aquatic resource type that best applies		_	24	
☐ Forested wetland (4pts)	✓ Herbaceous wetland (4pts)		overflow/oxbow) (3p	ots)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variab		
Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2	_ `	no pointo).	
5. Pool canopy cover (%): 5%				
6. Predominant substrate:				
Mineral soil	Depth:			
☐ Organic matter (peat/muck)	Sampling location (e.g.,deepes	t zone. edae.etc.):		
7. Pool sizes:	(3 ,	<u> </u>	_	
Approximate dimensions of pool (at maxir	num capacity) (sg. feet):	<u>772.75</u>		
Maximum depth at deepest point at time of	, . ,	<u>1'</u>		
8. Hydrology:				
 a. Estimated hydroperiod (unless actual, of indicator species to best predict the expectation) 		(are) known, use the pres	sence of these exar	nple
☑ Dries between early March and early	July (e.g., <i>Thelypteris palustris</i> , C	Carex stricta, Impatiens c	apensis, Ilex vertici	illata)(6pts)
□ Dries between early July and early Se	ptember (e.g., Sagittaria latifolia,	Scirpus cyperinus, Dulid	chium arundinaceur	n, Cephalanthus occ.)(8pts)
□ Dries between early September and expression of the control	arly November (e.g., Eleocharis	palustris, Glyceria canad	lensis, Utricularia s _i	pp., Decodon vert.)(8pts)
☐ Dries between early November and la	te December, or intermittently ex	posed (e.g., <i>Nuphar spp</i>	., Potamogeton spp).)(8pts)
How long does pool hold water?				
b. Inlet/Outlet (pick one):				
☐ No inlet/outlet (8 pts)	☐ Permanent inlet or outlet (c	hannel with well-defined	banks and perman	ent flow) (2 pts)
✓ Temporary inlet/outlet (6 pts)	_		,	, , , ,



9. Water quality:				
☑ Clear ☐ High turbidity	☐ High algae cor	ntent Tannic		
20 TOTAL for Pool Characteri	istics (out of 28 ma	x.)		
B. VERNAL POOL ENVELOPE (100 ft) AN	D CRITICAL HABIT	TAT AREA (100-750 ft) CI	HARACTERISTICS (fill in a	II information known):
1. Landuse type and approximate percent	tage within the 100	-ft vernal pool envelope:		
✓ Forested: 60% (16 pts)	$ \mathbf{\nabla}$	Open (e.g., meadow, agric	culture, golf course): 40%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: <u>%</u>	(0 pts)	
2. Landuse type and approximate percent	tage within the 100	-750-ft vernal pool critica	al terrestrial habitat:	
✓ Forested: 70% (16 pts)		Open (e.g., meadow, agric	culture, golf course): 30%	(4 pts)
☐ Shrub: <u>%</u> (10 pts)		Developed: <u>%</u>	(0 pts)	
Are there one or more barriers to v check here and see directions for e	ernal pool fauna mo explanation of how to	vement within the envelop o incorporate this informati	e and/or critical terrestrial ha	abitat? If so,
Based on:	☐ GIS	Aerial phot	o estimate	
20 TOTAL for Pool Envelope	and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL POOL				
Vegetation type and percent cover IN THE Shrubs:	·		fer concealment to aquatic o	or developing larvae.
Emergent vegetation (grasses, seg Submergent vegetation:	<u> </u>		ont:	
Submergent vegetation: Dead branches and downed woody mater	rial (branches/twigs)	available for egg attachm		
Submergent vegetation: Dead branches and downed woody mater INDICATOR SPECIES	rial (branches/twigs)	available for egg attachmi	TADPOLES/LARVAE	NOTES
Submergent vegetation: Dead branches and downed woody mater INDICATOR SPECIES Wood Frog	DATE 4/28/2015	available for egg attachme EGG MASSES (#) 16		NOTES
Submergent vegetation: Dead branches and downed woody mater INDICATOR SPECIES	rial (branches/twigs)	available for egg attachmi	TADPOLES/LARVAE	NOTES
Submergent vegetation: Dead branches and downed woody mater INDICATOR SPECIES Wood Frog	DATE 4/28/2015	available for egg attachme EGG MASSES (#) 16	TADPOLES/LARVAE	NOTES
Submergent vegetation: Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES	DATE 4/28/2015	available for egg attachme EGG MASSES (#) 16	TADPOLES/LARVAE Tadpoles	NOTES
Submergent vegetation: Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander	DATE 4/28/2015 4/28/2015	available for egg attachme EGG MASSES (#) 16 5	TADPOLES/LARVAE Tadpoles	
Submergent vegetation: Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES	DATE 4/28/2015 4/28/2015 DATE	available for egg attachme EGG MASSES (#) 16 5 ABUNDANCE	TADPOLES/LARVAE Tadpoles	
Submergent vegetation: Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES	DATE 4/28/2015 4/28/2015 DATE	available for egg attachme EGG MASSES (#) 16 5 ABUNDANCE	TADPOLES/LARVAE Tadpoles	
Submergent vegetation: Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 4/28/2015 4/28/2015 DATE 4/28/2015 DATE 4/28/2015	available for egg attachments	TADPOLES/LARVAE Tadpoles	NOTES
Submergent vegetation: Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies	DATE 4/28/2015 4/28/2015 DATE 4/28/2015	available for egg attachments EGG MASSES (#) 16 5 ABUNDANCE Many	TADPOLES/LARVAE Tadpoles	NOTES
Submergent vegetation: Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 4/28/2015 4/28/2015 DATE 4/28/2015 DATE 4/28/2015	available for egg attachments	TADPOLES/LARVAE Tadpoles	NOTES
Submergent vegetation: Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 4/28/2015 4/28/2015 DATE 4/28/2015 DATE 4/28/2015 DATE DATE	available for egg attachments	TADPOLES/LARVAE Tadpoles	NOTES
Submergent vegetation: Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES	DATE 4/28/2015 4/28/2015 DATE 4/28/2015 DATE 4/28/2015 DATE DATE VERNO Verno	available for egg attachments attachments at the second se	TADPOLES/LARVAE Tadpoles	NOTES
Submergent vegetation: Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 4/28/2015 4/28/2015 DATE 4/28/2015 DATE 4/28/2015 DATE Ves Yes Yes	available for egg attachments and the segg masses (#) 16 5 ABUNDANCE Many ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles	NOTES
Submergent vegetation: Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 4/28/2015 4/28/2015 DATE 4/28/2015 DATE 4/28/2015 DATE Ves Yes Yes	available for egg attachments EGG MASSES (#) 16 5 ABUNDANCE Many ABUNDANCE ABUNDANCE No No	TADPOLES/LARVAE Tadpoles	NOTES
Submergent vegetation: Dead branches and downed woody mater INDICATOR SPECIES Wood Frog Spotted Salamander FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 4/28/2015 4/28/2015 DATE 4/28/2015 DATE 4/28/2015 DATE Ves Yes Yes Yes Yes Yes	available for egg attachments and the seggent and segget	TADPOLES/LARVAE Tadpoles	NOTES





NE



Project File #60328763	Project Name: Northeast Energy Direct Project Pool ID: WI-AC3-VP003
Observer: C M-H	Phone or email: 503-318-5970
Landowner/Applicant: KIMBERLY EDI	ITH MAYRAND FAMILY TRUST Phone or email:
Address: 73 WADSWOR	TH ST. City: WINDSOR State: CT Zip:: 06095
Location of vernal pool:	
Survey date(s):: 4/27/2015	Longitude/Latitude (in decimal degrees): 41.92707843, -72.71800873
A. VERNAL POOL CHARACTERISTICS	(fill in all information known):
. Landscape Setting (check all that ap	ply):
☐ Upland depression (4 pts; if this i	s also in a floodplain, use 2 pts)
☐ Pool part of a pool complex (with	in 1000 feet of one or more other vernal pools)(NA)
Pool within larger wetland system	n (4 pts; if this is also in a floodplain, use 2 pts)
□ Pool part of wildlife corridor (4 pts	s)
☐ Other (variable pts):	
Pool Origin:	
. Vernal pool condition:	
Describe any recent modifications to the	e pool and associated landscape: IN ROW COMPACTED SOILS DISTURBED VEG
. Parent material:	
☐ Glacial fluvial ("outwash")	□ Loose till □ Peat
✓ Dense till	☐ Alluvium ☐ Coastal marine sediments
. Aquatic resource type that best appl	ies to this pool (choose dominant):
☐ Forested wetland (4pts)	☑ Herbaceous wetland (4pts) □ Floodplain (overflow/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts) ☐ Other (variable points):
☐ Peatland (acidic fen or bog) (4pts)	☐ Intermittent stream reach (2pts)
5. Pool canopy cover (%): 5%	
. Predominant substrate:	
☐ Mineral soil	Depth: 6
✓ Organic matter (peat/muck)	Sampling location (e.g.,deepest zone, edge,etc.): <u>DEEP ZONE</u>
7. Pool sizes:	
Approximate dimensions of pool (at ma	
Maximum depth at deepest point at tin B. Hydrology:	ne of survey (include units):
•	al, observed hydroperiod value(s) is(are) known, use the presence of these example spected hydroperiod of the pool):
·	arly July (e.g., Thelypteris palustris, Carex stricta, Impatiens capensis, Ilex verticillata)(6pts)
_ ,	September (e.g., Sagittaria latifolia, Scirpus cyperinus, Dulichium arundinaceum, Cephalanthus occ.)(8pts)
_ , , ,	nd early November (e.g., Eleocharis palustris, Glyceria canadensis, Utricularia spp., Decodon vert.)(8pts)
_ , ,	d late December, or intermittently exposed (e.g., Nuphar spp., Potamogeton spp.)(8pts)
_	σ του στο γ το στο στο στο στο στο στο στο στο στο
How long does pool hold water?	
b. Inlet/Outlet (pick one):	
No inlet/outlet (8 pts)	Permanent inlet or outlet (channel with well-defined banks and permanent flow) (2 pts)
✓ Temporary inlet/outlet (6 pts)	



9. Water	quality:								
☑ C	lear	☐ Hi	gh turbidity	☐ High alga	ae conter	nt 🔲 Tannic			
	<u>20</u> TOT	AL for I	Pool Character	istics (out of 2	28 max.)				
B. VERN	AL POOL I	ENVELO	OPE (100 ft) AN	ID CRITICAL F	IABITAT	AREA (100-750 ft)	CHARACTERISTICS (fill in all ir	nformation known):
1. Landu	se type an	d appro	oximate percen	tage within the	e 100-ft	vernal pool envelo	pe:		
$\overline{\checkmark}$	Forested:	<u>60%</u>	(16 pts)		☑ Ope	en (e.g., meadow, aç	griculture, golf course):	<u>40%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)		☐ Dev	veloped: <u>%</u>	(0 pts)		
2. Landu	se type an	d appro	oximate percen	tage within the	e 100-75	0-ft vernal pool cri	tical terrestrial habitat	:	
$\overline{\mathbf{A}}$	Forested:	<u>70%</u>	(16 pts)		☑ Ope	en (e.g., meadow, aç	griculture, golf course):	<u>30%</u>	(4 pts)
	Shrub:	<u>%</u>	(10 pts)		☐ Dev	veloped: <u>%</u>	(0 pts)		
						nent within the enve corporate this inform	lope and/or critical terre nation.	strial habit	at? If so,
	Based on:		Field estimate	☐ GIS		Aerial pl	hoto estimate		
	<u>20</u> TO	TAL for	Pool Envelope	e and Critical 1	Terrestri:	al Habitat Area (ou	t of 32 max.)		
C. SPEC	IES PRESE	ENT IN	VERNAL POOL						
	Shrubs:			ges, rushes, ca		o ogg allaoillioill oi	r offer concealment to a	qualio or a	evoloping larvae.
	Submerger	nt veget	ation:		·	ailable for egg attach	hment:		
	Submerger	nt veget	ation:		·	ailable for egg attach	nment: TADPOLES/LAF	RVAE	NOTES
	Submerger oranches ar	nt vegetand down	ation:	rial (branches/t	wigs) ava			RVAE	NOTES
	Submerger oranches ar	nt vegetand down	ation:	rial (branches/t	wigs) ava	EGG MASSES (#)		RVAE	NOTES
Dead t	Submerger oranches ar	nt veget nd down OR SPE Salamai	ation: ed woody mate CIES nder	rial (branches/t	wigs) ava	EGG MASSES (#)		RVAE NOT	
Dead t	Submerger pranches ar INDICATO Spotted S	nt veget nd down OR SPE Salamai	ation: ed woody mate CIES nder	rial (branches/t	wigs) ava	EGG MASSES (#)			
Dead t	Submerger pranches ar INDICATO Spotted S	nt vegetand down OR SPE Salamai	ation: ed woody mate CIES nder	DATE 4/28/2015	wigs) ava	EGG MASSES (#) 4 ABUNDANCE			
Dead t	Submerger pranches ar INDICATO Spotted S	nt vegetind down OR SPE Salamai TIVE SF	ation: ned woody mate CIES nder PECIES	DATE 4/28/2015	wigs) ava	EGG MASSES (#) 4 ABUNDANCE			ΓES
Dead t	Submerger pranches ar INDICATO Spotted S	nt veget nd down OR SPE Salaman TIVE SF Idisflies	ation: ned woody mate CIES nder PECIES	DATE 4/28/2015 DATE 4/28/2015 DATE 4/28/2015	wigs) ava	ABUNDANCE ABUNDANCE ABUNDANCE		NOT	res
Dead t	Submerger oranches are INDICATO Spotted S	nt veget nd down OR SPE Salaman TIVE SF Idisflies	ation: ned woody mate CIES nder PECIES	DATE 4/28/2015 DATE 4/28/2015	wigs) ava	ABUNDANCE Common		NOT	res
Dead b	Submerger pranches ar INDICATO Spotted S	nt veget and down on SPE Salaman TIVE SF Idisflies OR SPE	ation: ned woody mate ccies nder PECIES CIES	DATE 4/28/2015 DATE 4/28/2015 DATE 4/28/2015	wigs) ava	ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE		NOT	res
Presence	Submerger oranches ar INDICATO Spotted S FACULTAT Cad PREDATO	nt veget and down on SPE Salaman TIVE SF Idisflies OR SPE	ation: ned woody mate ccies nder CIES nder CIES CIES CIES CIES CIES CIES	DATE 4/28/2015 DATE 4/28/2015 DATE 4/28/2015 DATE DATE	wigs) ava	ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE		NOT	res
Presence Were spe	Submerger pranches ar INDICATO Spotted STACULTA Cad OTHER	nt veget: nd down OR SPE Salaman TIVE SF Idisflies OR SPE R SPECI tor Species obse	ation: ned woody mate CIES nder PECIES CIES	DATE 4/28/2015 DATE 4/28/2015 DATE 4/28/2015 DATE DATE DATE	wigs) ava	ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE ABUNDANCE No		NOT	res
Presence Were spe Were fish	Submerger pranches are INDICATO Spotted Signature of Spotted Signature o	nt veget and down on SPE Salaman TIVE SPE Idisflies OR SPECIAL SPECI	ation: ned woody mate cles nder PECIES CIES CIES	DATE 4/28/2015 DATE 4/28/2015 DATE 4/28/2015 DATE Ves Yes Yes Yes	wigs) ava	EGG MASSES (#) 4 ABUNDANCE Common ABUNDANCE ABUNDANCE No No	TADPOLES/LAF	NOT NOT	TES TES
Presence Were spe Were fish	Submerger pranches are INDICATO Spotted Signature Cad PREDATO OTHER e of Indicate ermatophoren observed	nt veget and down on SPE Salaman TIVE SPE Idisflies OR SPECIAL SPECI	ation: ned woody mate CIES nder PECIES CIES	DATE 4/28/2015 DATE 4/28/2015 DATE 4/28/2015 DATE Ves Yes Yes Yes	wigs) ava	EGG MASSES (#) 4 ABUNDANCE Common ABUNDANCE ABUNDANCE No No	TADPOLES/LAF	NOT NOT	res

VP IS ON A NO ACCESS PARCEL #758 HOWEVER POOL IS LOCATED IN THE ROW





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Project File #60328763	Project Name: Northeast Energy D	Direct Project Pool ID:	WI-AC3-VP004
Observer: C M-H		Phone or email: 503-3	318-5907
Landowner/Applicant: LONEWSKI,	EUGENE T.	Phone or email:	
Address: 15 STONE R	ROAD City:	WINDSOR State: 0	CT Zip:: 06095
Location of vernal pool:			
Survey date(s):: 4/27/2015	Longitude/Latitude (in decim	nal degrees): 41.92731564, -7	2.71778343
A. VERNAL POOL CHARACTERISTIC	CS (fill in all information known):		
1. Landscape Setting (check all that	apply):		
☐ Upland depression (4 pts; if the	is is also in a floodplain, use 2 pts)		
☐ Pool part of a pool complex (was pool part of a pool pool part of a pool complex (was pool pool pool pool part of a pool pool part of a pool pool pool part of a pool pool pool pool pool pool pool po	vithin 1000 feet of one or more other	vernal pools)(NA)	
Pool within larger wetland sys	tem (4 pts; if this is also in a floodpla	in, use 2 pts)	
□ Pool part of wildlife corridor (4	pts)		
☐ Other (variable pts):			
Pool Origin:			
2. Vernal pool condition:			
Describe any recent modifications to	the pool and associated landscape:	IN ROW DISTURBED SOIL A	AND VEG
3. Parent material:			
☐ Glacial fluvial ("outwash")	□ Loose till	□ Peat	
✓ Dense till	☐ Alluvium	□ Coastal marine sediment	ts
4. Aquatic resource type that best ap	pplies to this pool (choose domina	int):	
☐ Forested wetland (4pts)	✓ Herbaceous wetland (4p)	ts)	/oxbow) (3pts)
☐ Shrub wetland (4pts)	☐ Open water (2 pts)	☐ Other (variable point	ts):
☐ Peatland (acidic fen or bog) (4p	ots)	ı (2pts)	
5. Pool canopy cover (%): <u>5%</u>			
6. Predominant substrate:			
☐ Mineral soil	Depth: 6		
✓ Organic matter (peat/muck)	Sampling location (e.g.,deep	pest zone, edge,etc.): <u>DEEP ZC</u>	<u>NE</u>
7. Pool sizes:			
Approximate dimensions of pool (at	. ,,, ,	<u>345.15</u>	
Maximum depth at deepest point at	time of survey (include units):	<u>8"</u>	
8. Hydrology: a Estimated hydroneriod (unless as	ctual, observed hydroperiod value(s)	is(are) known use the presence of	f these evample
indicator species to best predict the		is(are) known, use the presence of	Those example
Dries between early March and	early July (e.g., Thelypteris palustris	s, Carex stricta, Impatiens capensis	s, llex verticillata)(6pts)
□ Dries between early July and early	arly September (e.g., Sagittaria latifo	lia, Scirpus cyperinus, Dulichium a	rundinaceum, Cephalanthus occ.)(8pts)
□ Dries between early September	and early November (e.g., Eleocha	ris palustris, Glyceria canadensis, l	Utricularia spp., Decodon vert.)(8pts)
□ Dries between early November	and late December, or intermittently	exposed (e.g., Nuphar spp., Potan	nogeton spp.)(8pts)
How long does pool hold water?			
b. Inlet/Outlet (pick one):	_		
□ No inlet/outlet (8 pts)	□ Permanent inlet or outlet	(channel with well-defined banks a	and permanent flow) (2 pts)
☐ Temporary inlet/outlet (6 pts)		,	



9. Water quality:				
☐ Clear ☐ High turbidit	y High algae co	ntent 🗹 Tannic		
20 TOTAL for Pool Cha	racteristics (out of 28 ma	ax.)		
B. VERNAL POOL ENVELOPE (100	ft) AND CRITICAL HABI	TAT AREA (100-750 ft) C	HARACTERISTICS (fill in all	information known):
Landuse type and approximate p	ercentage within the 100)-ft vernal pool envelope	:	
✓ Forested: 60% (16 pts)	s)	Open (e.g., meadow, agric	culture, golf course): 40%	(4 pts)
☐ Shrub: <u>%</u> (10 pts	s) 🗆	Developed: %	(0 pts)	
2. Landuse type and approximate p	ercentage within the 100	0-750-ft vernal pool critic	al terrestrial habitat:	
✓ Forested: 70% (16 pts)	s)	Open (e.g., meadow, agric	culture, golf course): 30%	(4 pts)
☐ Shrub: <u>%</u> (10 pts	s)	Developed: %	(0 pts)	
Are there one or more barrie check here and see direction	ers to vernal pool fauna mons for explanation of how t	ovement within the envelop o incorporate this informat	pe and/or critical terrestrial hab ion.	itat? If so,
Based on:	nate 🔲 GIS	Aerial photo	to estimate	
20 TOTAL for Pool En	velope and Critical Terre	strial Habitat Area (out o	f 32 max.)	
C. SPECIES PRESENT IN VERNAL	POOL			
Vegetation type and percent cover	IN THE POOL that can pro	ovide egg attachment or of	ffer concealment to aquatic or	developing larvae.
Shrubs:				
Emergent vegetation (grasse	es, seges, rushes, cattails)):		
Submergent vegetation:				
Dood branches and downed woods	material (branches/twice)	available for eag attachm	ont:	
Dead branches and downed woody	material (branches/twigs)) available for egg attachm	ent:	
INDICATOR SPECIES	DATE	EGG MASSES (#)	ent: TADPOLES/LARVAE	NOTES
-				NOTES
INDICATOR SPECIES	DATE	EGG MASSES (#)		NOTES
INDICATOR SPECIES Spotted Salamander	DATE 4/28/2015	EGG MASSES (#)	TADPOLES/LARVAE	NOTES
INDICATOR SPECIES Spotted Salamander	DATE 4/28/2015	EGG MASSES (#)	TADPOLES/LARVAE Tadpoles	NOTES
INDICATOR SPECIES Spotted Salamander Wood Frog	DATE 4/28/2015 4/28/2015	EGG MASSES (#) 1 11	TADPOLES/LARVAE Tadpoles	
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES	DATE 4/28/2015 4/28/2015 DATE	EGG MASSES (#) 1 11 ABUNDANCE	TADPOLES/LARVAE Tadpoles	
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES	DATE 4/28/2015 4/28/2015 DATE	EGG MASSES (#) 1 11 ABUNDANCE	TADPOLES/LARVAE Tadpoles	
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 4/28/2015 4/28/2015 DATE 4/28/2015 DATE	EGG MASSES (#) 1 11 ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	DTES DTES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Caddisflies	DATE 4/28/2015 4/28/2015 DATE 4/28/2015	EGG MASSES (#) 1 11 ABUNDANCE Few	TADPOLES/LARVAE Tadpoles NO	DTES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 4/28/2015 4/28/2015 DATE 4/28/2015 DATE	EGG MASSES (#) 1 11 ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	DTES DTES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES	DATE 4/28/2015 4/28/2015 DATE 4/28/2015 DATE DATE	EGG MASSES (#) 1 11 ABUNDANCE Few ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	DTES DTES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES	DATE 4/28/2015 4/28/2015 DATE 4/28/2015 DATE DATE DATE DATE	EGG MASSES (#) 1 11 ABUNDANCE FeW ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	DTES DTES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species	DATE 4/28/2015 4/28/2015 DATE 4/28/2015 DATE DATE DATE □ Yes	EGG MASSES (#) 1 11 ABUNDANCE FeW ABUNDANCE ABUNDANCE	TADPOLES/LARVAE Tadpoles NO	DTES DTES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed?	DATE 4/28/2015 4/28/2015 DATE 4/28/2015 DATE DATE DATE □ Yes	EGG MASSES (#) 1 11 ABUNDANCE FeW ABUNDANCE ABUNDANCE No	TADPOLES/LARVAE Tadpoles NO	DTES DTES
INDICATOR SPECIES Spotted Salamander Wood Frog FACULTATIVE SPECIES Caddisflies PREDATOR SPECIES OTHER SPECIES Presence of Indicator Species Were spermatophores observed? Were fish observed in the pool?	DATE 4/28/2015 4/28/2015 DATE 4/28/2015 DATE DATE ✓ Yes ☐ Yes ☐ Yes ☐ Yes	EGG MASSES (#) 1 11 ABUNDANCE FeW ABUNDANCE ABUNDANCE No No	TADPOLES/LARVAE Tadpoles NO	DTES DTES





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