

EcoTec, Inc.

ENVIRONMENTAL CONSULTING SERVICES

102 Grove Street
Worcester, MA 01605-2629
508-752-9666 – Fax: 508-752-9494

RECEIVED

DEC 17 2021

COMMUNITY DEVELOPMENT
AND PLANNING

December 9, 2021

Lancaster Conservation Commission
Prescott Building
701 Main Street, Suite 4
Lancaster, MA 01523

Re: Notice of Intent-Supplemental Information
580 Fort Pond Road, Lancaster
Applicant: RW Fort Pond Realty, LLC

Dear Commission Members:

Enclosed please find two (2) copies of a memo from Nutter regarding By-law jurisdiction and a Wildlife Habitat Evaluation submitted on behalf of the Applicant: RW Fort Pond Realty, LLC filed under the Massachusetts Wetlands Protection Act and the Town of Lancaster Wetlands Protection Bylaw for the above referenced property.

We look forward to meeting with the Commission regarding this project. If you have any questions, please feel free to contact me at any time.

Sincerely,



Scott M. Morrison, PWS
Senior Environmental Scientist



Michael E. Scott

Direct Line: (617) 439-2811

Fax: (617) 310-9811

E-mail: mscott@nutter.com

MEMORANDUM

December 9, 2021
120344-4

TO: Tom Christopher, Chair
Thomas Seidenberg
Donald Chaisson
James Lavallee
Bruce McGregor
Shawn Corbett
Greg Jackson

CC: David Koonce, Conservation Agent
Scott Morrison, EcoTec, Inc.

FROM: Michael E. Scott

RE: Notice of Intent- 580 Fort Pond Road

The Lancaster Wetlands Protection By-law, Chapter 215 of the By-laws, was adopted on October 15, 2007 by special town meeting. Section 5 of the Wetlands Protection By-law expressly sets forth the exemptions and the exceptions to the By-law. Paragraph A of Section 5 provides that:

Notwithstanding any provision of this chapter to the contrary, the alteration of any residential, business or institutional building or customary appurtenance thereto, such as lawns, gardens, landscaped or other developed areas, where such structure or appurtenance existed prior to the effective date of this bylaw, shall not be subject to this bylaw but shall be regulated exclusively by the provisions of MGL c. 131, § 40 (the Wetlands Protection Act.

According to the Town of Lancaster Assessor's records for 580 Fort Pond Road, the structure on the property was constructed in 1994. The existing structure which the applicant seeks to expand thus predates the enactment of the Wetlands Protection By-law by more than a decade. As set forth in section 5 of the Wetlands Protection By-law, the lawns, landscaped and other developed areas which are appurtenant to the existing structure are exempt from regulation under the Lancaster Wetlands Protection By-law in connection with the alteration of the existing structure.

Lancaster Conservation Commission
December 9, 2021
Page 2

The applicant has submitted aerial satellite images of the property dating back to 1995 showing the existing structure and the appurtenant lawns and other developed areas which establish the area which is not subject to the Conservation Commission's jurisdiction under section 5 of the Lancaster Wetlands Protection By-law.

EcoTec, Inc.
ENVIRONMENTAL CONSULTING SERVICES
102 Grove Street
Worcester, MA 01605-2629
508-752-9666 – Fax: 508-752-9494

WILDLIFE HABITAT EVALUATION:

Commercial Building Expansion
580 Fort Pond Road
Lancaster, Massachusetts

Prepared For:

RW Fort Pond Realty, LLC
1 Rand Whitney Way
Worcester, MA 01607

Prepared By:



Scott M. Morrison, RPSS, PWS
Senior Environmental Scientist

December 9, 2021

INTRODUCTION

The Lancaster Conservation Commission ("LCC") has requested supplemental information relative to the issue of impacts of the proposed commercial development expansion project to regulated wetland wildlife habitat. The regulatory background and performance standards for the evaluation and protection of wetland wildlife habitat under the Massachusetts Wetlands Protection Act (M.G.L. Ch. 131, § 40; the "Act") and its implementing regulations (310 CMR 10.00 *et seq.*; the "Regulations") and the Lancaster Wetlands Protection By-law ("the By-law") as administered by the LCC serve as the basis of this assessment. This Habitat Assessment was conducted for the proposed commercial building expansion project to evaluate the site as requested by the Lancaster Conservation Commission. This Habitat Assessment was conducted by Scott M. Morrison, RPSS, PWS. Brief description of my experience and qualifications are attached to this report. The author of this report meets the qualifications for conducting such assessments under the wildlife habitat section of the Wetlands Protection Act Regulations (310 CMR 10.60) as required by the Act and By-law.

The wetland resource areas were delineated by EcoTec on June 2nd and 4th, 2021. EcoTec's wetland resource evaluation report dated June 28, 2021, provides a detailed description of the jurisdictional wetlands. A copy of this report was submitted within the Notice of Intent application.

WETLANDS PROTECTION ACT JURISDICTION:

Under the Wetlands Protection Act ("WPA") regulations, the stream in the eastern portion of the site would be classified as intermittent and no WPA Riverfront Area would occur on the site. Therefore, the only work within the 100-foot Buffer Zone to Bordering Vegetated Wetland (BVW) at the southeastern portion of the proposed building, access driveway, and associated grading and stormwater discharge point. The vast majority of this work is located within areas that have been historically altered when the building was constructed in the late 1900's and maintained as lawn, landscaping and paved surfaces to the current date. Based upon review of aerial photos the building did not exist in the early 1990's but was fully constructed by 2001.

There are four (4) isolated wetlands in the southern and western portions of the site perimeter. These areas do not border upon a pond, lake, river or stream. As such, these areas would not be regulated as BVW. Rather, these areas may potentially be regulated under the WPA as Isolated Land Subject to Flooding (ILSF) depending upon the volume of ponding. ILSF's do not have Buffer Zones under the Wetlands Protection Act. Therefore, the jurisdiction under the Wetlands Protection Act is limited to small portions of the project footprint in the eastern portion of the site within BVW Buffer Zone. No work is proposed within BVW, ILSF or any other jurisdictional resource area under the WPA. Therefore, a wildlife habitat evaluation is not required under the Wetlands Protection Act and associated regulations.

BY-LAW JURISDICTION

Under the By-law, any wetlands are regulated. Therefore, the jurisdiction under the By-law will include the four (4) isolated vegetated wetlands in the southern and western portions of the site. The By-law would also regulate the Bordering Vegetated Wetland (BVW). A 100-foot Buffer Zone would extent outward from all wetlands. An intermittent stream is located within the A series BVW, all streams both perennial and intermittent contain Riverfront Area under the By-law. As such, the area within 200-feet of the intermittent stream would be regulated.

BY-LAW REQUIRMENTS:

The Town of Lancaster has a local Wetlands Protection By-law, which is utilized to *“protect the resource areas under the Wetlands Protection Act (M.G.L. c. 131 40; and “Act”) to a greater degree, to protect additional resource areas beyond the Act recognized by the Town as significant, to protect all resource areas for their additional values beyond those recognized in the Act, and to impose in local regulations and permits additional standards and procedures stricter than those of the Act and Regulations thereunder (310 CMR 10.00), subject, however, to the rights and benefits accorded to agricultural uses and structures of all kinds under the laws of the Commonwealth and other relevant bylaws of the Town of Lancaster.”* The Town of Lancaster has wetlands protection regulations. However, there are no standards or procedures to detail the regulatory requirements for projects or for requirements for the preparation of wildlife habitat evaluations. As such, EcoTec has based this assessment on assessments routinely conducted to meet the requirements of the Natural Heritage and Endangered Species Program (NHESP) through the Massachusetts Endangered Species Act (MESA). However, it is important to note that no portions of the site are located within any Estimated or Priority Habitat area or within approximately 5,000-feet of mapped habitat areas.

BY-LAW EXEMPTIONS:

As detailed in the memo dated December 9, 2021, from the proponent’s counsel, Nutter McClennen & Fish LLP, the Lancaster Wetlands Protection By-law provides an exemption as follows:

“5. Exemptions and Exceptions

A. Notwithstanding any provision of this chapter to the contrary, the alteration of any residential, business or institutional building or customary appurtenance thereto, such as lawns, gardens, landscaped or other developed areas, where such structure or appurtenance existed prior to the effective date of this Bylaw, shall not be subject to this Bylaw but shall be regulated exclusively by the provisions of M.G.L c. 131, §40 (the Wetlands Protection Act).”

The Town of Lancaster Wetlands Protection By-law was approved on 9/13/2007. As such, EcoTec assessed aerial photos before and after 2007 to determine the extent of lawns, gardens, landscaped or other developed areas to determine if portions of the site are exempted or excepted from regulation under the By-law. A copy of the 2007-2008 aerial photo of the site is appended to this report. The entire area beneath the proposed building addition, loading docks, parking lot, southwestern access roadway and majority of the eastern access roadway are located within area that is "not subject to" the By-law or otherwise outside of jurisdiction. As noted above, the By-law states that these areas "shall be regulated exclusively by the provisions of M.G.L c. 131, §40 (the Wetlands Protection Act)." Therefore, this wildlife habitat assessment does not include these areas, since the Wetlands Protection Act regulations would apply, and no assessment is required. We note further that maintained lawn and landscaped areas provide little habituate value.

WILDLIFE HABITAT ASSESSMENT:

EcoTec obtained a site plan from VHB, which included aerial photography, the boundaries of BVW, Isolated Wetlands, and By-law-only Riverfront Area. This plan, and field observations made on December 1, 2021, were utilized by EcoTec to provide the following site descriptions and wildlife habitat evaluation.

The habitat on the Site includes five distinct wetland resource areas and adjacent upland cover types including:

1. By-law Riverfront Area (excludes previously developed areas as noted above)
2. Wetland B and Buffer Areas
3. Wetland C and Buffer Areas
4. Wetland D and Buffer Areas
5. Wetland E and Buffer Areas.

Representative photographs of the various cover types found on the Site are attached to this report.

A discussion of cover type distribution, the typical dominant vegetation observed within each cover type, and other features pertinent to the habitat assessment are provided below. It is also worth noting that EcoTec reviewed the nearest USGS groundwater station, located in Acton on the date of the habitat evaluation, and groundwater is well above average as detailed below.

This analysis includes a description of the Buffer Zone, which is defined as:
"Buffer zones are presumed significant to the protection of wetland resources and interests because activities undertaken in close proximity to resource areas have a high likelihood of adverse impact upon the wetland or other resources, either immediately, as a consequence of construction, or over time, as a consequence of daily operations or maintenance of such activities. Such adverse impacts from construction and use include,

without limitation, erosion, siltation, loss of groundwater recharge, degradation of water quality and loss of wildlife habitat.”

Cover Types:

The upland cover types observed on the Site have been classified in accordance with DeGraaf and Rudis (1983) and are described below.

By-law Riverfront Area:

Upland forest cover type located within the By-law only Riverfront Area, which covers a total of approximately 9.7 acres of the Site, is best categorized as Northern Red Oak Forest with saplings and trees in the sawtimber to large sawtimber timber class per DeGraaf and Rudis (1983). This forest cover type is dominated by northern red oak (*Quercus rubra*), with lesser amounts of white oak (*Quercus alba*), red maple (*Acer rubrum*), black birch (*Betula lenta*) and eastern white pine (*Pinus strobus*) trees and saplings; highbush blueberry (*Vaccinium corymbosum*), witch-hazel (*Hamamelis virginia*) and mountain laurel (*Kalmia latifolia*) shrubs; and partridge berry (*Mitchella repens*), tree clubmoss (*Lycopodium obscurum*), and sheep laurel (*Kalmia angustifolia*) ground cover. This forest cover type contains a minimal amount of wood debris with 3 to 4 inches of leaf litter. This upland forest is located adjacent to the BVW bordering the intermittent stream in the eastern portion of the Site and occurs on a flat to gradual sloping land. This forest consists of a relatively uniform-aged stand that is estimated to be 40 to 50 years of age, which provides 80 to 100% cover within this area, with a minimal to moderate understory. The proposed project proposes to impact 7,987 square feet or 0.18 acres of the By-law Riverfront Area for grading and a stormwater discharge. This work includes eliminating the existing untreated surface water discharge and providing stormwater BMP's to pre-treat stormwater prior to discharge. Therefore, the proposed project will impact approximately 1.4% of the total undisturbed By-law Riverfront Area allowing 422,059 square feet (98.6%) to remain natural. The By-law requires that (1) there be no alternative to the proposed project with less adverse effects, and (2) such activities, including proposed mitigation measures will have no significant adverse impact on the areas or values protected by the By-law.

Wetland B and Buffer Zone

Wetland B is located along the property line in the southwestern portion of the site. This area consists of a large bowl-shaped depression. Based upon the site drainage, it appears that this wetland receives runoff from the parking lots and building and possibly groundwater. Therefore, EcoTec suspects that the hydrology of this area is highly influenced by the amount of precipitation and runoff throughout the year. This isolated depression contained no standing water on December 1, 2021. EcoTec observed approximately 12-inches of water in the most low-lying portion of wetland B during the delineation on June 2 and 4, 2021. During this inspection, EcoTec conducted visual observations while delineating the wetland to determine if the ponding area contained any vernal pool indicator species. Water quality was very clear providing good visibility and no vernal pool indicators were observed. As noted above, ground water elevations

are within 6-inches of the yearly high-water table based upon the USGS groundwater data for Acton. As such, it is EcoTec's opinion that it is unlikely that this wetland provides adequate hydroperiod for vernal pool breeding habitat.

The Buffer Zone to the east of the B series wetland is best categorized as Oak-Pine deciduous forest with saplings and trees in the sawtimber to large sawtimber class per DeGraaf and Rudis (1983). This forest cover type is dominated eastern white pine (*Pinus strobus*) and northern red oak (*Quercus rubra*), with lesser amounts of red maple (*Acer rubrum*) and white oak (*Quercus alba*), trees and saplings; eastern white pine (*Pinus strobus*), and red maple (*Acer rubrum*) shrubs; and no observed ground cover. This forest cover type contains a minimal to moderate amount of woody debris with 1 to 2 inches of leaf litter. This upland forest is located in the southwestern portion of the site and occurs on a level to gentle slope. The upland Oak-Pine Forest on the Site consists of a relatively uniform-aged stand that is estimated to be 40 to 60 years of age, which provides 80 to 100% cover within this area. This forest has a closed canopy with a sparse understory.

The proposed project will impact 9,371 square feet of the Buffer Zone for grading associated with a banked parking lot and subsurface infiltration system. Portions of this disturbance area consist of deposits of eroded material from the existing stormwater discharge. This will be corrected by the proposed project improvements. Once grading work has been completed, the slope will be replanted with native saplings and shrubs to allow the entire Buffer Zone to be restored upon completion of the project. The work area will maintain a minimum 40-foot undisturbed natural Buffer Zone from the delineated wetland boundary.

As detailed in the Buffer Zone definition, provided above, the proposed project will maintain a 40-foot no disturb Buffer Zone, employ erosion control measures, and fully comply with the Massachusetts Stormwater Management Standards including infiltration systems. As such, the proposed project will prevent adverse impacts from construction and use including, erosion, siltation, loss of groundwater recharge, degradation of water quality and loss of wildlife habitat.

Wetland C and Buffer Zone

Wetland C is located to the west of the property line in the western portion of the site. This area consists of a shallow bowl-shaped depression. Based upon the site drainage, it appears that this wetland receives runoff from the adjacent forest, with the majority of the wetland hydrology resulting from high groundwater. This isolated depression contained no standing water on December 1, 2021. While delineating the wetland, EcoTec observed approximately 1 to 2-inches of water during the delineation on June 2 and 4, 2021 in the lowest portion of the wetland. There was less than 200-square feet of ponding. During this inspection, EcoTec conducted visual observations of the area to determine if the ponding area contained any vernal pool indicator species. None were observed. As noted above, ground water elevations are within 4-inches of the yearly

high-water table based upon the USGS groundwater data for Acton. This combined with the minimal depth of water observed during the spring of 2021 is the basis for EcoTec's opinion that it is unlikely that this wetland provides vernal pool breeding habitat.

The Buffer Zone to the east of the C series wetland is best categorized as Northern Red Oak forest with saplings and trees in the sawtimber to large sawtimber class per DeGraaf and Rudis (1983). This forest cover type is dominated by northern red oak (*Quercus rubra*), with lesser amounts of white oak (*Quercus alba*), red maple (*Acer rubrum*), black birch (*Betula lenta*) and eastern white pine (*Pinus strobus*) trees and saplings; highbush blueberry (*Vaccinium corymbosum*), witch-hazel (*Hamamelis virginia*) and mountain laurel (*Kalmia latifolia*) shrubs; and partridge berry (*Mitchella repens*), tree clubmoss (*Lycopodium obscurum*), and sheep laurel (*Kalmia angustifolia*) ground cover. This forest cover type contains a minimal amount of wood debris with 3 to 4 inches of leaf litter. This upland forest occurs on a gentle to moderate slope. The upland Northern Red Oak Forest on the Site consists of a relatively uniform-aged stand that is estimated to be 40 to 60 years of age, which provides 80 to 100% cover within this area. This forest has a closed canopy with a sparse understory.

The proposed project will not impact the isolated wetland or any portion of the 100-foot Buffer Zone. As such, there will be no adverse impacts from construction and use including, erosion, siltation, loss of groundwater recharge, degradation of water quality or loss of wetland wildlife habitat.

Wetland D and Buffer Zone

Wetland D is located along the property line in the northwestern portion of the site. This wetland consists of a shallow bowl-shaped depression that extends off site to the north and northwest. Based upon the site drainage, it appears that this wetland receives runoff mainly from the adjacent forest and mowed areas, with most of the hydrology likely resulting from high groundwater. This isolated depression contained no standing water on December 1, 2021. EcoTec observed approximately 6-inches of water during the delineation on June 2 and 4, 2021. During this inspection, while delineating the wetland, EcoTec conducted visual observations of the area to determine if the ponding area contained any vernal pool indicator species. None were observed. As noted above, ground water elevations are within 6-inches of the yearly high-water table based upon the USGS groundwater data for Acton. This combined with the minimal depth of water observed during the spring of 2021, is the basis for EcoTec's opinion that it is unlikely that this wetland provides vernal pool habitat.

The Buffer Zone to the east of the D series wetland is best categorized as Northern Red Oak forest with saplings and trees in the sawtimber to large sawtimber class per DeGraaf and Rudis (1983). This forest cover type is dominated by northern red oak (*Quercus rubra*), with lesser amounts of white oak (*Quercus alba*), red maple (*Acer rubrum*), black birch (*Betula lenta*) and eastern white pine (*Pinus strobus*) trees and saplings; highbush blueberry (*Vaccinium corymbosum*), witch-hazel (*Hamamelis virginia*)

and mountain laurel (*Kalmia latifolia*) shrubs; and partridge berry (*Mitchella repens*), tree clubmoss (*Lycopodium obscurum*), and sheep laurel (*Kalmia angustifolia*) ground cover. This forest cover type contains a minimal amount of wood debris with 3 to 4 inches of leaf litter. This upland forest occurs on a gentle to moderate slopes. The upland Northern Red Oak Forest on the Site consists of a relatively uniform-aged stand that is estimated to be 40 to 60 years of age, which provides 80 to 100% cover within this area. This forest has a closed canopy with a sparse understory.

The area to the south and southeast of the D series wetland appears to have been regraded when the original building was constructed. This area is currently maintained grass with sporadic white pine (*Pinus strobus*) saplings and autumn olive (*Elaeagnus umbellata*) shrubs. This altered area falls under the By-law exemptions and exceptions noted above.

The proposed project will impact a 7,713 square foot portion of the forested Buffer located to the east of the D series wetland. The proposed project will maintain a 35-foot no disturb Buffer Zone, employ erosion control measures, and fully comply with the Massachusetts Stormwater Management Standards including infiltration systems. As such, the proposed project will prevent adverse impacts from construction and use including, erosion, siltation, loss of groundwater recharge, degradation of water quality and loss of wetland wildlife habitat.

Wetland E and Buffer Zone

Wetland E is located in the southern portion of the site and similar to the B series received runoff directly from the parking lot. In fact, this area appears to have been created during building construction as a stormwater management BMP. Wetland E consists of a small bowl-shaped depression. Based upon the site drainage, it appears that this wetland receives runoff from the parking lots and possibly groundwater. Therefore, EcoTec suspects that the hydrology of this area is highly influenced by the amount of precipitation and runoff throughout the year. This isolated depression contained approximately 10-inches of standing water on December 1, 2021. EcoTec observed approximately 12 to 16-inches of water during the delineation on June 2 and 4, 2021. During this inspection, while delineating the wetland, EcoTec conducted visual observations of the area to determine if the ponding area contained any vernal pool indicator species. None were observed. As noted above, ground water elevations are within 6-inches of the yearly high-water table based upon the USGS groundwater data for Acton. As such, it is EcoTec's opinion that it is possible that this wetland provides vernal pool habitat. However, given the likelihood that this area was created as a stormwater management BMP, and the source of much of its water is runoff from a parking lot, it should not qualify for certification as a vernal pool.

The Buffer Zone to the south, northeast of the E series wetland is best categorized as Oak-Pine deciduous forest with saplings and trees in the sawtimber to large sawtimber class per DeGraaf and Rudis (1983). This forest cover type is dominated eastern white

pine (*Pinus strobus*) and northern red oak (*Quercus rubra*), with lesser amounts of red maple (*Acer rubrum*), pitch pine (*Pinus rigida*) and white oak (*Quercus alba*), trees and saplings; eastern witch-hazel (*Hamamelis virginia*), and mountain laurel (*Kalmia latifolia*) shrubs; and haircap moss (*Polytrichum* sp.) ground cover. This forest cover type contains a minimal to moderate amount of woody debris with 1 to 2 inches of leaf litter. This upland forest is located in the southwestern portion of the site and occurs on a level to gentle slope. The upland Oak-Pine Forest on the Site consists of a relatively uniform-aged stand that is estimated to be 40 to 60 years of age, which provides 80 to 100% cover within this area. This forest has a closed canopy with a sparse understory.

Northerly of the E series wetland is the existing loading dock and parking lot. No work is proposed proximate to this wetland. As such, there will be no impacts to the wetland wildlife habitat in this area.

Rare Species:

The Wetlands Protection Act Regulations require that no project may be permitted that will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species, as identified by procedures set forth at 310 CMR 10.59. Based upon a review of the *Massachusetts Natural Heritage Atlas*, 15th edition, Priority Habitats and Estimated Habitats from the NHESP Interactive Viewer, valid from August 1, 2021, and Certified Vernal Pools from MassGIS, there are no Estimated Habitats [for use with the Act and Regulations (310 CMR 10.00 *et seq.*)], Priority Habitats [for use with Massachusetts Endangered Species Act (M.G.L. Ch. 131A; "MESA") and MESA Regulations (321 CMR 10.00 *et seq.*)], or Certified Vernal Pools on or within approximately 5,000 feet of the site. The regulations at 310 CMR 10.59 states "*Any proposed project which would alter a resource area that is not located on the most recent Estimated Habitat Map (if any) provided to the conservation commission, shall be presumed not to be within a rare species' habitat.*" Therefore, the regulations presume that no rare species habitat exists on the site.

Potential Habitat Utilization and Project Impacts Evaluation:

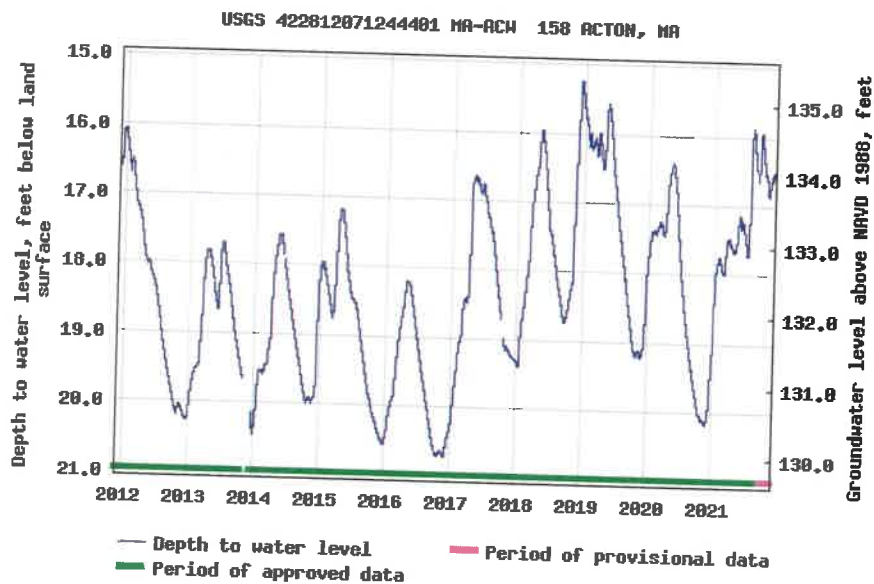
As noted above, this habitat assessment follows the outline for conducting a habitat assessment within Priority Habitat under MESA. Typically under MESA, after stand mapping, the habitat value of the existing site and proposed alterations to each stand type are then evaluated in the context of a particular state-listed species for which the habitat assessment is conducted. In the current case, the site is not subject to MESA, and thus no particular species focus is required. Therefore, this assessment considers more general habitat utilization as requested by the Conservation Commission even though the vast majority of the proposed project is located outside State and local Wetlands jurisdiction.

The Commission has raised the question whether these isolated wetlands may be vernal pools. Because the habitat assessment was conducted outside of the vernal pool observation season, EcoTec evaluated the closest USGS Groundwater monitoring data

to determine the groundwater elevations compared with normal conditions. Based upon the nearest groundwater monitoring station in Acton, Massachusetts the groundwater is 16.66' below the ground surface. The table from the USGS station in Acton is provided below. This is within one foot of the maximum elevation during the past 10-years and higher than any water table elevation between 2013 and 2018. As such, given the excessive rainfall over the past 6 months, groundwater elevations are well above normal. This is important because if these areas were to provide hydrology required for vernal pool habitat, it would be expected that these areas would contain standing water.

Depth to water level, feet below land surface

Most recent instantaneous value: 16.66 12-03-2021 09:30 EST



Create [presentation-quality](#) / [stand-alone](#) graph. Subscribe to [WaterAlert](#)

It is also noteworthy that, based upon the precipitation totals from the Worcester Airport (see below), there was 4 inches of precipitation that occurred between May 28 and June 2nd just prior to the EcoTec delineation that occurred on June 2nd and 4th. This is more rainfall than the average month of May occurring in 3 days just prior to the June inspection. This is likely why the areas contained shallow ponding during the inspection.

NOWData - NOAA Online Weather Data								Enlarge results	Print
2021-05-10	59	45	52.0	-3.2	13	0	0.49	0.0	
2021-05-11	59	45	52.0	-3.5	13	0	0.00	0.0	
2021-05-12	63	41	52.0	-3.7	13	0	T	0.0	
2021-05-13	67	47	57.0	1.0	8	0	0.00	0.0	
2021-05-14	73	50	61.5	5.2	3	0	T	0.0	
2021-05-15	75	56	65.5	9.0	0	1	0.00	0.0	
2021-05-16	74	56	65.0	8.2	0	0	0.07	0.0	
2021-05-17	75	52	63.5	6.4	1	0	T	0.0	
2021-05-18	79	58	68.5	11.2	0	4	0.00	0.0	
2021-05-19	82	54	68.0	10.4	0	3	0.00	0.0	
2021-05-20	78	54	66.0	8.2	0	1	0.00	0.0	
2021-05-21	82	53	67.5	9.4	0	3	T	0.0	
2021-05-22	86	62	74.0	15.7	0	9	T	0.0	
2021-05-23	83	55	69.0	10.4	0	4	0.04	0.0	
2021-05-24	68	49	58.5	-0.3	6	0	0.00	0.0	
2021-05-25	75	48	61.5	2.4	3	0	0.00	0.0	
2021-05-26	89	60	74.5	15.2	0	10	0.93	0.0	
2021-05-27	75	54	64.5	4.9	0	0	T	0.0	
2021-05-28	60	42	51.0	-8.9	14	0	1.17	0.0	
2021-05-29	44	41	42.5	-17.6	22	0	0.84	0.0	
2021-05-30	47	43	45.0	-15.4	20	0	0.58	0.0	
2021-05-31	58	45	51.5	-9.2	13	0	0.48	0.0	
Sum	2097	1506	-	-	241	35	5.95	0.0	
Average	67.6	48.6	58.1	1.4	-	-	-	-	
Normal	66.6	46.8	56.7	-	278	21	3.56	0.0	

The WPA regulations define vernal pools as:

“Vernal Pool Habitat means 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, as well as the area within 100 feet of the mean annual boundaries of such depressions, to the extent that such habitat is within an Area Subject to Protection under M.G.L. c. 131, § 40 as specified in 310 CMR 10.02(1). These areas are essential breeding habitat, and provide other extremely important wildlife habitat functions during non breeding season as well, for a variety of amphibian species such as wood frog (Rana sylvatica) and the spotted salamander (Ambystoma maculatum), and are important habitat for other wildlife species.”

Based upon EcoTec’s inspection and lack of any ponded water in the three western isolated wetlands it is unlikely that any of these areas have the necessary hydrology (hold water for two continuous months) to provide vernal pool breeding habitat. However, for the purpose of this assessment, this report includes an assessment should one or more of these wetlands be found to be a vernal pool. Most vernal pool amphibians (e.g., spotted salamanders, wood frogs) migrate to flooded pools in the

spring to mate and deposit eggs. Larvae develop in flooded pools, and emerge to spend the majority of the year in upland areas, typically forested areas.

Juvenile and adult amphibians may utilize the upland forest, forested swamp, and shrub swamp surrounding the site vernal pools for feeding and overwintering habitat. Salamanders will often utilize small animal burrows, but can also be found beneath surface materials including leaf litter, logs, bark, rocks, and drift for cover, feeding and overwintering. Salamanders may use all cover types on the Site including the meadow areas for migration. Also that habitat value of such areas is limited to potential migration habitat, however none of the developed areas is located such that it might connect areas of more functional habitat.

Areas of the Site that may provide potential habitat for each of the life requisites for the vernal pool amphibians are discussed above. Given that vernal pool indicator species utilize wetlands and adjacent forest, the vast majority of the forest and connections between wetlands in the eastern portion of the site will remain upon completion of the proposed project. As detailed above, the developed areas including lawns and landscaped areas are excluded or exempted by the By-law.

Other species: As noted above, detailed discussion is provided in the context of vernal pool species. Clearly there are numerous other wildlife species that could occur in the site vicinity. For example, the Commission asked whether turtles might move from Bow Brook and use the site as nesting habitat. The Commission asked specifically about wood turtles (*Glyptemys insculpta*). Wood turtles are a species of special concern by the Massachusetts Natural Heritage and Endangered Species Program. If these turtles were known to be present within Bow Brook, the area would likely have been mapped by the NHESP. It is not. If they were present, wood turtles will travel large distances (average 800-feet based upon NHESP factsheet) to reach suitable nesting habitat. It is important to note that there is an existing gravel pit located between the site and Bow Brook. As such, there are 50-acres or more of suitable turtle nesting habitat that would likely be utilized before turtles would reach the proposed work area, which is located 1,500 -feet southeast of Bow Brook (nearly twice the average distance such turtles will travel to reach suitable nesting habitat according to NHESP). The gravel pit is being developed with solar arrays. Therefore, significant areas of suitable nesting habitat between the site and Bow Brook will remain available for turtle nesting. Furthermore, the areas on the site that are most likely to provide suitable turtle nesting habitat are within areas that are not subject to jurisdiction under the local By-law. To the best of the proponent's knowledge, there are no known observations of wood turtles on the site.

The proposed project proposes the conversion of some undeveloped areas to developed conditions, and this change would result in the loss of some terrestrial habitat for those species as well. However, EcoTec has observed no noteworthy unique terrestrial habitat on the site. As noted above, there are a number of different habitat cover types, and none of those cover types would be eliminated or reduced by a

significant percentage by the proposed project. Rather, as noted, the project design results in the preservation of significant forested areas on the site as open space. Thus, while the proposed project development would eliminate some terrestrial upland, that upland is not rare or otherwise of special importance on the site, locally, regionally or as Priority Habitat under the MESA. The primary migration corridors (running from south to north) along the eastern and western portions of the site would be preserved and maintained by the project.

Summary:

Based upon the above, the eastern and western portions of the site serve as potential habitat for various species. The projects maintains all but a small percentage of these areas and all potential forested wildlife corridors.

Based upon site inspections and review of the aerial photographs, from a regional perspective, preservation of the western and eastern portions of the Site offers connectivity to undeveloped habitat to the north. Route 2 and Fort Pond Road and highway fencing serve as a major wildlife habitat restriction to the south of the site.

In summary the proposed project would:

- Utilize areas that provide little or no habitat value and are exempted or excepted from regulation to the extent practicable
- Maintains the hydrology of the site by complying with Stormwater Management Standards and providing infiltration in several locations across the site.
- Impacts only 1.4% of the By-law Riverfront Area.
- Protects the majority of the habitat surrounding the stream, BVW and Isolated Wetlands.
- Proposes to restore the entire impacted Buffer Zone to the B series wetland.
- Eliminates impacts to the C & E series wetlands and their 100-foot Buffer Zones.
- Maintains the habitat corridors running north-south along the eastern and western portions of the property.
- Impacts 6.9% of the total Buffer Zone and following the proposed mitigation the project only impacts 4.2% of the Buffer Zones

ATTACHMENTS:

1. Resume for Scott M. Morrison, PWS
2. Aerial Photos
3. Site Photographs
4. By-law Jurisdiction and Mitigation Plan by VHB dated December 2021

EcoTec, Inc.

ENVIRONMENTAL CONSULTING SERVICES

102 Grove Street

Worcester, MA 01605-2629

508-752-9666 – Fax: 508-752-9494

Scott M. Morrison, PWS, RPSS, SE Senior Environmental Scientist

Scott Morrison is a Senior Environmental Scientist with EcoTec, Inc. Since joining EcoTec in 2000, Mr. Morrison's project experience include wetland resource evaluation, delineation, and permitting at the local, state, and federal levels; wildlife habitat evaluation; pond and stream evaluation; vernal pool evaluation, monitoring, and certification; wetland replacement, replication, and restoration area design, construction, and monitoring; soil evaluations to determine infiltration rates and seasonal high groundwater elevations for detention basin construction; environmental sampling and analysis tasks, including soil and groundwater sample collection and handling; and expert testimony preparation. He has conducted rare species habitat assessments for the eastern box turtle, wood turtle, Blanding's turtle, spotted turtle, and marbled salamander. He has participated in rare species studies for rare species including the marbled salamander, piping plover, eastern box turtle, and northern diamondback terrapin and developed mitigation strategies for the marbled salamander, spotted turtle, eastern box turtle and wood turtle. He has participated in visual preconstruction sweeps for the wood turtle and both preconstruction and research projects for the eastern box turtle. He has served as a consultant to municipalities, conservation commissions, engineering and survey firms. He has completed numerous wetland related projects including environmental impact assessments for proposed development, erosion control and environmental monitoring for subdivisions, commercial developments, golf courses and landfills. He has prepared Massachusetts Environmental Policy Act (MEPA) documentation, including Environmental Notification Forms (ENFs), Notice of Project Changes (NPCs), and Draft and Final Environmental Impact Reports (EIRs) including Green House Gas Assessments for various projects including subdivisions, commercial buildings, and dredging projects. Prior to joining EcoTec, Inc. Mr. Morrison worked for the Massachusetts Department of Environmental Management (currently the Department of Conservation and Recreation) where he was involved with the monitoring and protection of endangered species and rare old growth forest. He was an active member of the Spencer Conservation Commission from 1998 to 2000 where he provided oversight of proposed wetland replication projects and review of projects submitted for wetland permitting. His educational background includes courses in forestry, ecology, chemistry, soils, and natural resource policy. His prior research experience includes research on forest succession and field research on nesting piping plovers, an endangered coastal shore bird.

Education:

Graduate Soil Science Certificate Program
University of Massachusetts at Amherst, 2006
Bachelor of Science: Natural Resource Studies
University of Massachusetts at Amherst, 1998
Associate of Science: Business Administration
Quinsigamond Community College, 1996

Professional Affiliations: Registered Professional Soil Scientist, Society of Soil Scientists of Southern New England (SSSSNE)
Massachusetts Association of Conservation Commissioners
Association of Massachusetts Wetland Scientists
Society of Wetland Scientists

Certifications:

Society of Wetlands Scientists Professional Wetland Scientist,
Certification Number 2583
Massachusetts Department of Environmental Protection Soil Evaluator,
Certification Number SE 13766
OSHA Health and Safety Training, 40-Hour, 29 CFR 1910.120
University of Massachusetts Extension, Invasive Species Management

1995

Legend



580 Fort Pond Rd

580 Fort Pond Rd



1000 ft

Google Earth

Image U.S. Geological Survey

Legend

580 Fort Pond Rd


2001




Google Earth

Image: MassGIS, Commonwealth of Massachusetts; EOEA

Legend

 580 Fort Pond Rd

2003

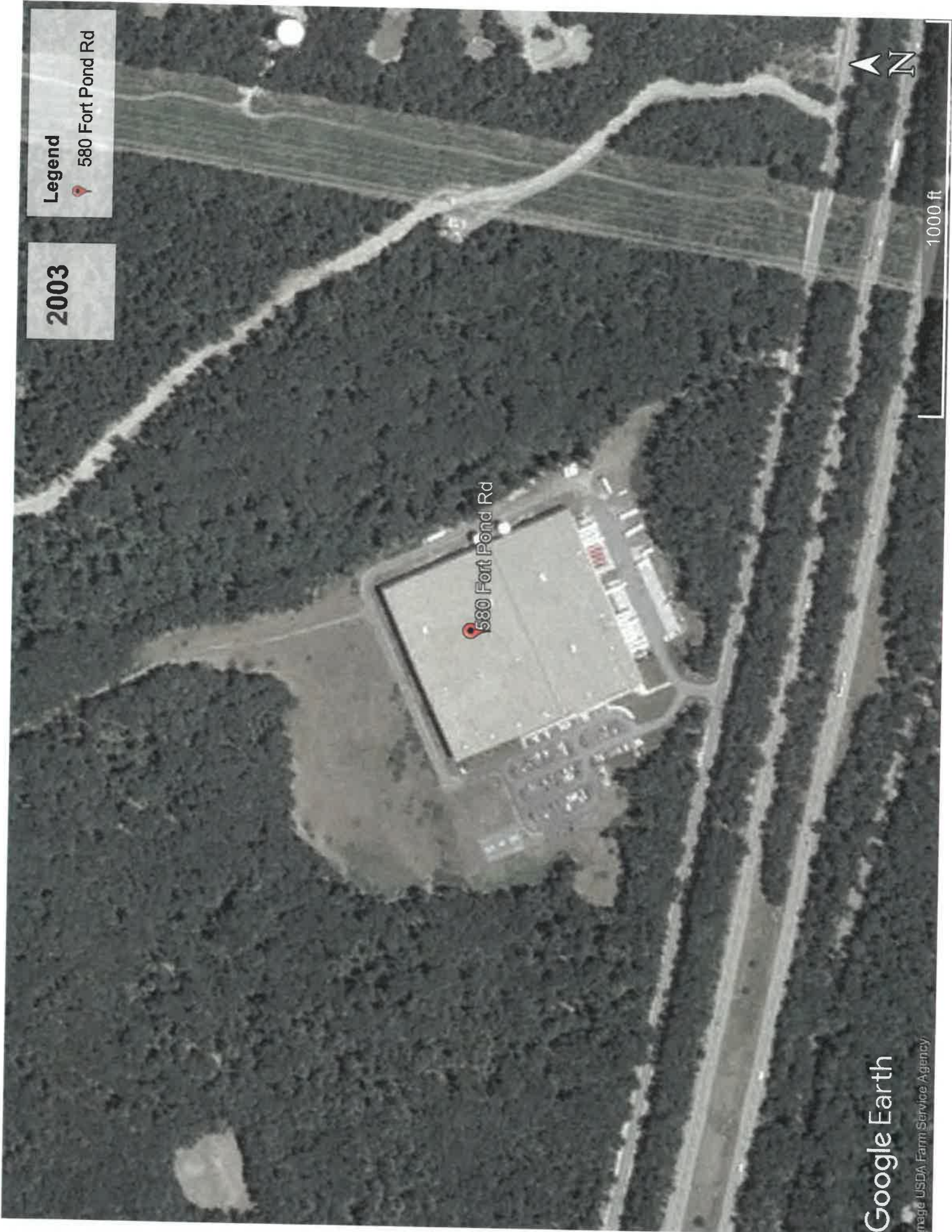
 580 Fort Pond Rd



1000 ft

Google Earth

Image USDA Farm Service Agency



Legend

580 Fort Pond Rd

2004

580 Fort Pond Rd



1000 ft

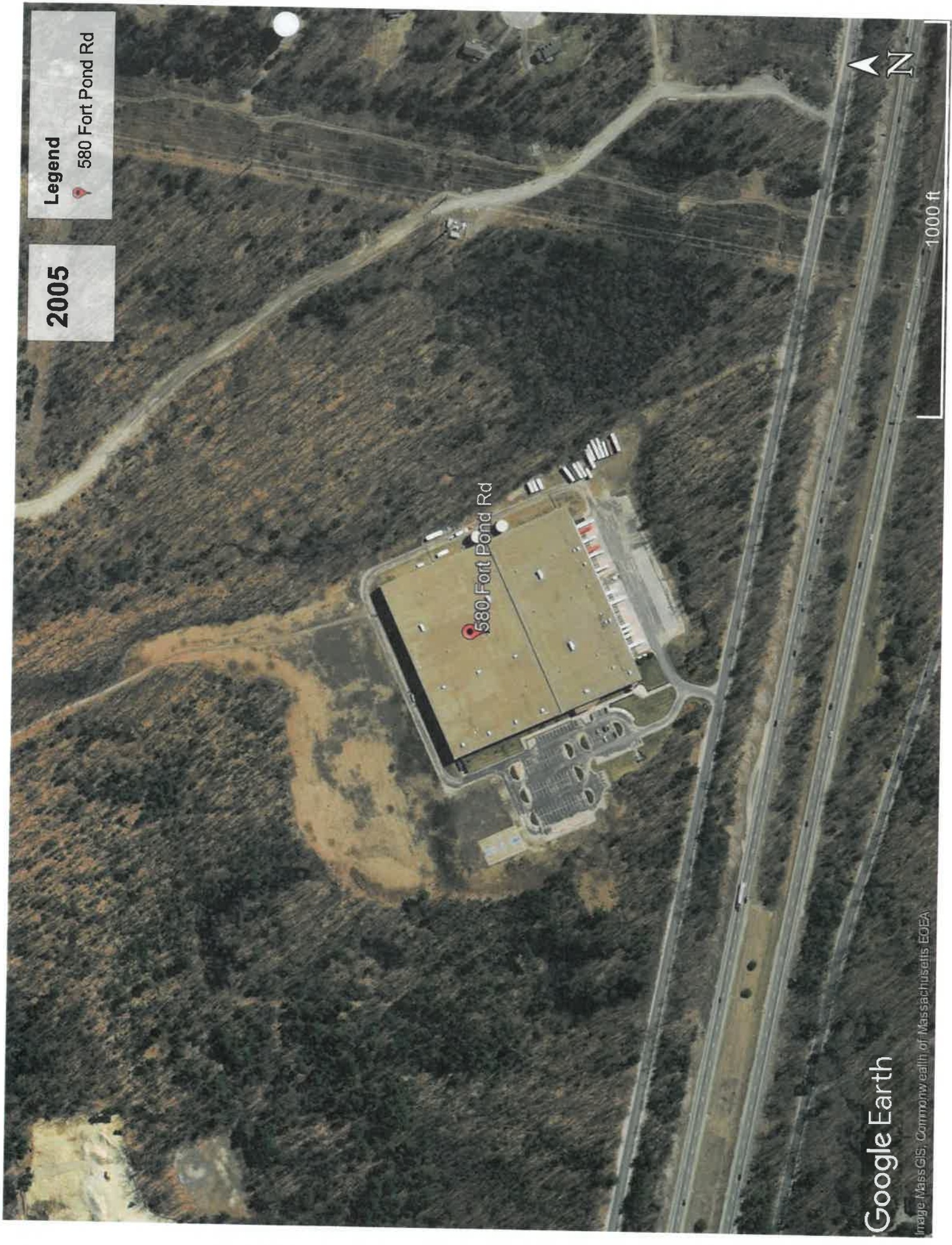
Google Earth

Image USDA Farm Service Agency

Legend

580 Fort Pond Rd


2005



Google Earth

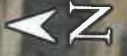
Image: MassGIS, Commonwealth of Massachusetts EOEPA

Legend

 580 Fort Pond Rd

2006

 580 Fort Pond Rd




1000 ft

Google Earth


Image USDA Farm Service Agency



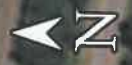
Legend

 580 Fort Pond Rd

2008

 580 Fort Pond Rd

1000 ft



Google Earth

Image USDA Farm Service Agency

Legend

580 Fort Pond Rd

2010

580 Fort Pond Rd



1000 ft

Google Earth

Image © 2010 USDA Farm Service Agency



Legend

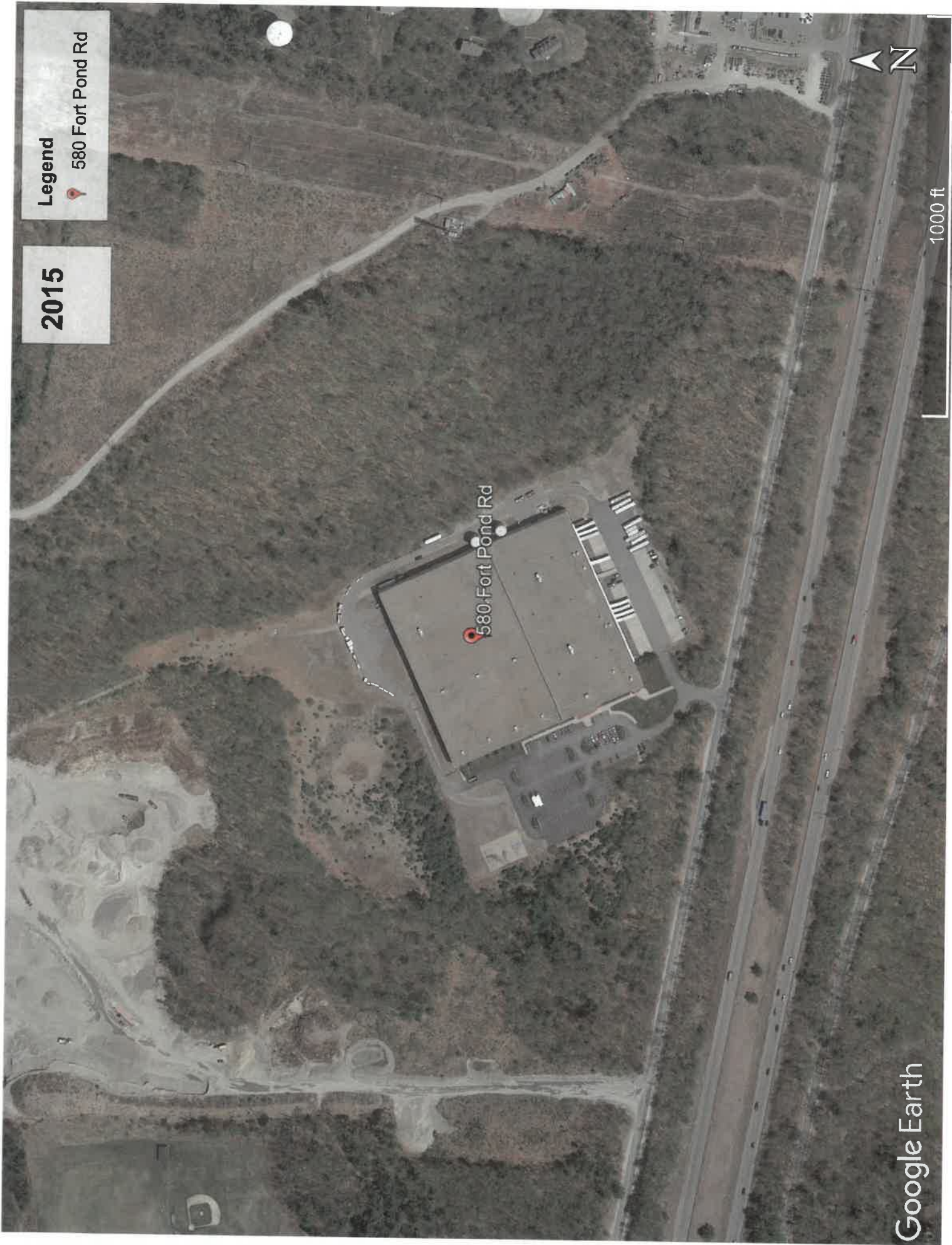
580 Fort Pond Rd

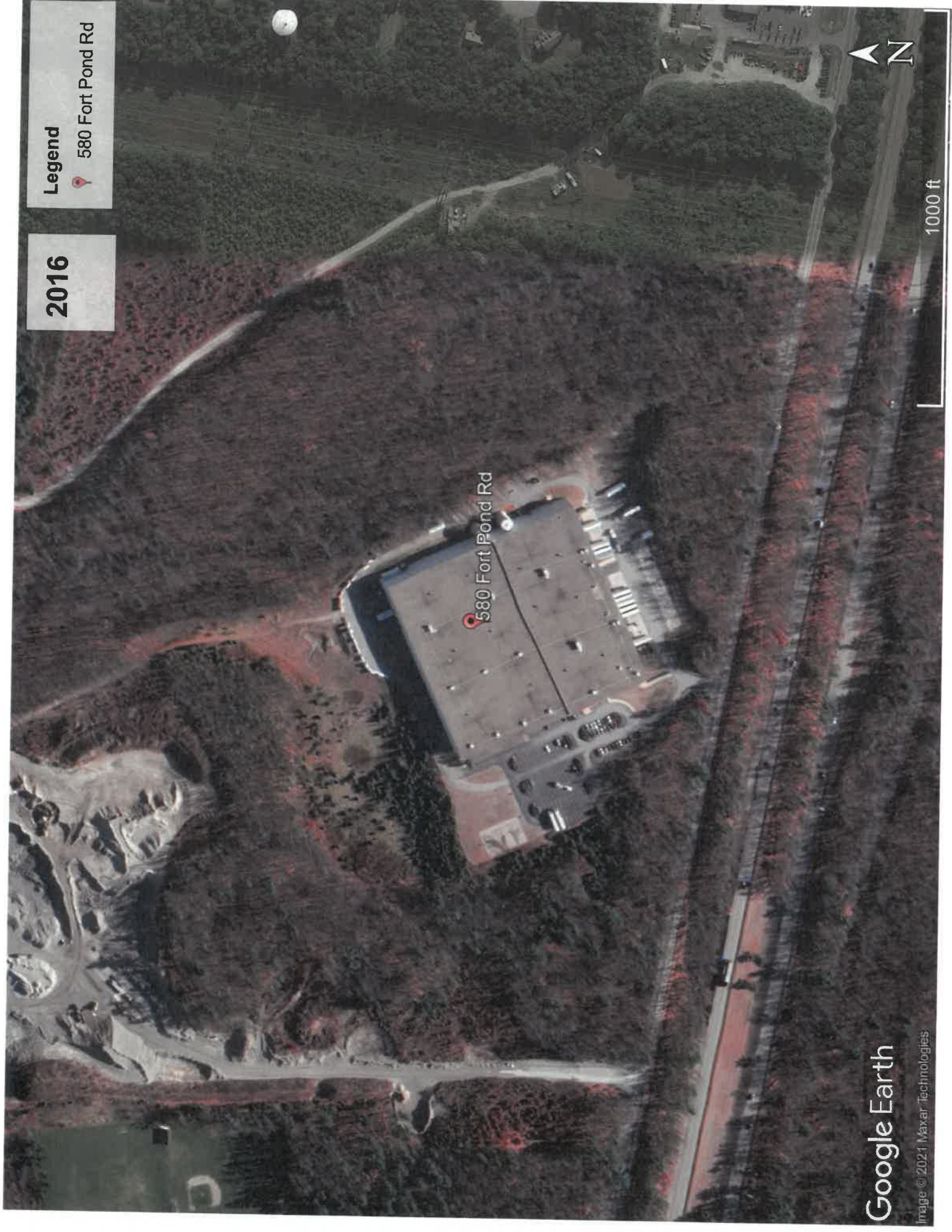
2015

580 Fort Pond Rd

Google Earth

1000 ft





Legend

📍 580 Fort Pond Rd

2016

580 Fort Pond Rd

1000 ft



Google Earth

Image © 2021 Maxar Technologies



2017

Legend
📍 580 Fort Pond Rd

Google Earth

1000 ft



Legend

580 Fort Pond Rd

2019

Google Earth

1000 ft

PHOTOGRAPHS TAKEN DURING INSPECTION ON DECEMBER 1, 2021



Wetland Area B



View across wetland B toward existing building



Buffer Zone of Wetland B



Wetland Area C

PHOTOGRAPHS TAKEN DURING INSPECTION ON DECEMBER 1, 2021



Buffer Zone of Area C



Buffer Zone (east) of Area D



Wetland Area D



Buffer Zone (south) of Area D

PHOTOGRAPHS TAKEN DURING INSPECTION ON DECEMBER 1, 2021



View south of the Buffer Zone to the south of wetland D



Area to the north of the existing building



View south of building from the northern property line



View of proposed stormwater discharge to Bylaw Riverfront Area

PHOTOGRAPHS TAKEN DURING INSPECTION ON DECEMBER 1, 2021



Typical forested Riverfront Area



View north of the eastern side of the building



Typical forested Riverfront Area



Wetland Area E

PHOTOGRAPHS TAKEN DURING INSPECTION ON DECEMBER 1, 2021



Buffer Zone (south) of wetland E



Buffer Zone to the north of Wetland Area E



Mitigation Planting Plan for Buffer Zone

SPECIES; SIZE; SPACING	NUMBER
<p>Saplings: 4-6 height, potted or balled, burlapped;</p> <p>Red oak (<i>Quercus rubra</i>)</p> <p>Sugar maple (<i>Acer saccharum</i>)</p> <p>Black birch (<i>Betula lenta</i>)</p> <p>Gray birch (<i>Betula populifolia</i>)</p> <p>White pine (<i>Pinus strobus</i>)</p> <p>Shrubs</p> <p>Witch hazel (<i>Hamamelis virginiana</i>)</p> <p>Gray dogwood (<i>Cornus racemosa</i>)</p> <p>Sweet pepperbush (<i>Clethra alnifolia</i>)</p> <p>Sweet fern (<i>Comptonia peregrina</i>)</p> <p>Herbaceous:</p> <p>New England Wetland Plants, New England Conservation/Wildlife</p> <p>(or equivalent)</p>	15
<p>* Depending upon availability from local nursery stock, species may be substituted with similar native plants.</p>	20
<p>2 lbs.</p>	2 lbs.

Bylaw Jurisdiction and Mitigation Plan 580 Fort Pond Road, Lancaster, MA

Source: Local Approvals
Prepared for: Local Approvals
Date: December 2021



Mitigation Planting Plan for Buffer Zone

SPECIES, SIZE, SPACING	NUMBER
Striped maple (Acer pennsylvanicum)	15
Red oak (Quercus rubra)	
Sugar maple (Acer saccharum)	
Black birch (Betula lenta)	
Gray birch (Betula populifolia)	
White pine (Pinus strobus)	20
Witch hazel (Hamamelis virginiana)	
Gray dogwood (Cornus rostrata)	
Sweetgum (Liquidambar styraciflua)	
Sweet fern (Comptonia perennans)	
New England Wetland Plants, New England Conservation Wildlife for Equivalents	2 lbs.

* Dependent upon availability from local nursery stock, species may be substituted with similar native plants.



DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Form

Applicant: [Redacted] Prepared by: EcoTec, Inc Project Location: Roys Drive, Spencer DEP File # [Redacted]

Section I. Vegetation Number: TPU @ A4 Transect # Upland Date of Delin: 12/7/2021

A. Sample layer and plant species (Enter largest to smallest % cover by layer)		Percent Cover (or basal area)	Percent Dominance	Plant?	Indicator
Tree	Red maple	20	40.0	YES	FAC *
	Norway maple	10	20.0	YES	NL
	White pine	20	40.0	YES	FACU
Sapling	Staghorn sumac	10	66.7	YES	NL
	Black cherry	5	33.3	YES	FACU
Shrub	White oak	5	20.0	YES	FACU-
	Tartarian honeysuckle	10	40.0	YES	FACU
	Norway maple	10	40.0	YES	NL
Ground	None				
Vine					

Vegetation Conclusions	
Number of dominant wetland indicator plants	1
Is the number of dominant wetland plants equal or greater than the number of dominant non-wetland plants?	No
Number of dominant non-wetland indicator plants	7

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Form

Applicant: EcoTec, Inc Project Location: Roys Drive, Spencer DEP File # _____
 Section II. Indicators of Hydrology Number: TPU @ A4 Transect # Upland Date of Delin: 12/7/2021

1. Soil Survey

Is there a published soil survey for this site?

title/date _____
 map number _____
 soil type mapped _____
 hydric soil inclusions _____

Are field observations consistent with soil survey?

Remarks:

2. Soil Description

Horizon	Depth (inches)	Matrix Color	Mottle Color
A	0-4	10YR 2/2	
Bw	4-12+	10YR 4/6	

Remarks stony fine sandy loam

3. Other

Conclusion: Is the soil hydric? No

Other Indicators of hydrology (check all that apply):

- Site Inundated
- Depth to free water in observation hole
- Depth to soil saturation in observation hole
- Water marks
- Drift lines
- Sediment Deposits
- Drainage patterns in BVWs
- Oxidized rhizospheres
- Water stained leaves
- Recorded data (stream, lake, or tidal gauge; aerial photo; other):
- Other:

Vegetation and Hydrology Conclusion

- Number of wetland indicator plants ≥ number of non-wetland indicator plants Yes No
- Wetland hydrology present:
 - Hydric soil present
 - Other indicators of hydrology present
- Sample Location is in a BVW