



Connecticut Department of  
**Energy & Environmental Protection**  
 Bureau of Natural Resources  
 Wildlife Division

CPPU USE ONLY	
App #:	_____
Doc #:	_____
Check #: No fee required	
Program: Natural Diversity Database Endangered Species	
Hardcopy _____	Electronic _____

## Request for Natural Diversity Data Base (NDDDB) State Listed Species Review

Please complete this form in accordance with the [instructions](#) (DEEP-INST-007) to ensure proper handling of your request.

**There are no fees associated with NDDB Reviews.**

### Part I: Preliminary Screening & Request Type

<p>Before submitting this request, you must review the most current Natural Diversity Data Base "State and Federal Listed Species and Significant Natural Communities Maps" found on the <a href="#">DEEP website</a>. These maps are updated twice a year, usually in June and December.</p> <p>Does your site, including all affected areas, fall in an NDDDB Area according to the map instructions:  <input type="checkbox"/> Yes    <input checked="" type="checkbox"/> No        <b>Enter the date</b> of the map reviewed for pre-screening: June 2020 _____</p>	
This form is being submitted for a :	
<input checked="" type="checkbox"/> <i>New NDDDB request</i> <input type="checkbox"/> <i>Renewal/Extension of a NDDDB Request, <b>without</b> modifications and within <b>two years</b> of issued NDDDB determination (no attachments required)</i>	<input type="checkbox"/> <i>New <b>Safe Harbor Determination</b> (optional) must be associated with an application for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities</i> <input type="checkbox"/> <i>Renewal/Extension of an existing Safe Harbor Determination</i> <input type="checkbox"/> With modifications <input type="checkbox"/> Without modifications (no attachments required)
[CPPU Use Only - NDDDB-Listed Species Determination # 1736]	[CPPU Use Only - NDDDB-Safe Harbor Determination # 1736]
Enter NDDDB Determination Number for Renewal/Extension:	Enter Safe Harbor Determination Number for Renewal/Extension:

## Part II: Requester Information

*\*If the requester is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, the name shall be stated **exactly** as it is registered with the Secretary of State. Please note, for those entities registered with the Secretary of State, the registered name will be the name used by DEEP. This information can be accessed at the Secretary of the State's database CONCORD. ([www.concord-sots.ct.gov/CONCORD/index.jsp](http://www.concord-sots.ct.gov/CONCORD/index.jsp))*

*If the requester is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).*

*If there are any changes or corrections to your company/facility or individual mailing or billing address or contact information, please complete and submit the [Request to Change company/Individual Information](#) to the address indicated on the form.*

### 1. Requester\*

Company Name: Vanasse Hangen Brustlin, Inc

Contact Name: Jeffery Shamas

Address: 100 Great Meadows Road

City/Town: Wethersfield

State: CT

Zip Code: 06109

Business Phone: 860-807-4388

ext.

\*\*E-mail: [jshamas@vhb.com](mailto:jshamas@vhb.com)

\*\*By providing this email address you are agreeing to receive official correspondence from the department, at this electronic address, concerning this request. Please remember to check your security settings to be sure you can receive emails from "ct.gov" addresses. Also, please notify the department if your e-mail address changes

#### a) Requester can best be described as:

Individual       Federal Agency       State agency       Municipality       Tribal

\*business entity (\* if a business entity complete i through iii):

i) Check type  corporation       limited liability company       limited partnership  
 limited liability partnership       statutory trust       Other:

ii) Provide Secretary of the State Business ID #: 0236756 This information can be accessed at the

Secretary of the State's database (CONCORD). ([www.concord-sots.ct.gov/CONCORD/index.jsp](http://www.concord-sots.ct.gov/CONCORD/index.jsp))

iii)  Check here if your business is **NOT** registered with the Secretary of State's office.

#### b) Acting as (Affiliation), pick one:

Property owner       Consultant       Engineer       Facility owner       Applicant

Biologist       Pesticide Applicator       Other representative:

### 2. List Primary Contact to receive Natural Diversity Data Base correspondence and inquiries, if different from requester.

Company Name:

Contact Person:

Title:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.

\*\*E-mail:



## Part IV: Project Information (continued)

3. Give a detailed description of the activity which is the subject of this request and describe the methods and equipment that will be used. Include a description of steps that will be taken to minimize impacts to any known listed species.

The project owner, Clean Focus Renewables, is submitting this NDDB Review Request for the proposed installation of a 5 megawatt AC photovoltaic electric generating facility. The total parcel is approximately 104 acres, however, the client will be leasing 54 acres from the land owner. The development area is approximately 32 acres.

The proposed activities for this project include grading, topsoil removal and replacement, construction of a new gravel access road, installation of photovoltaic arrays, and equipment pads, and the installation of a chain-link security fence along the facility's perimeter. Soils will be stabilized with grass planting and stormwater will be controlled with structural BMPs designed by engineers. Temporary construction measures will follow 2002 Connecticut Guidelines for Soil Erosion and Sediment Control to minimize secondary impacts.

The future site plans will be designed to minimize potential impacts to wetlands or rare species. Incorporating appropriate species-specific avoidance measures into the construction methods to prevent potential impacts to listed species and habitat will be part of the design development.

A comprehensive wildlife study (enclosed herewith) was performed for the flora and fauna listed in the NDDB Preliminary Assessment No. 201908948 and a report prepared (enclosed herewith).

4. If this is a renewal or extension of an existing Safe Harbor request *with* modifications, explain what about the project has changed.

N/A

5. Provide a contact for questions about the project details if different from Part II primary contact.

Name:

Phone:

E-mail:

## Part V: Request Requirements and Associated Application Types

Check *one* box from either Group 1, Group 2 or Group 3, indicating the appropriate category for this request.

Group 1. If you check one of these boxes, complete Parts I – VII of this form and submit the required attachments A and B.

- Preliminary screening was negative but an NDDB review is still requested
- Request regards a municipally regulated or unregulated activity (no state permit/certificate needed)
- Request regards a preliminary site assessment or project feasibility study
- Request relates to land acquisition or protection
- Request is associated with a *renewal* of an existing permit or authorization, with no modifications

**Group 2.** If you check one of these boxes, complete Parts I – VII of this form and submit required attachments A, B, and C.

- Request is associated with a *new* state or federal permit or authorization application or registration
- Request is associated with modification of an existing permit or other authorization
- Request is associated with a permit enforcement action
- Request regards site management or planning, requiring detailed species recommendations
- Request regards a state funded project, state agency activity, or CEPA request

**Group 3.** If you are requesting a **Safe Harbor Determination**, complete Parts I-VII and submit required attachments A, B, and D. Safe Harbor determinations can only be requested if you are applying for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

If you are filing this request as part of a state or federal permit application(s) enter the application information below.

Permitting Agency and Application Name(s): \_\_\_\_\_

Related State DEEP Permit Number(s), if applicable: \_\_\_\_\_

State DEEP Enforcement Action Number, if applicable: \_\_\_\_\_

State DEEP Permit Analyst(s)/Engineer(s), if known: \_\_\_\_\_

Is this request related to a previously submitted NDDB request?  Yes  No

If yes, provide the previous NDDB Determination Number(s), if known: 201908948 \_\_\_\_\_


## Part VI: Supporting Documents

Check each attachment submitted as verification that *all* applicable attachments have been supplied with this request form. Label each attachment as indicated in this part (e.g., Attachment A, etc.) and be sure to include the requester's name, site name and the date. **Please note that Attachments A and B are required for all new requests and Safe Harbor renewals/extensions with modifications.** Renewals/Extensions with no modifications do not need to submit any attachments. Attachments C and D are supplied at the end of this form.

<input checked="" type="checkbox"/> Attachment A:	<b>Overview Map:</b> an 8 1/2" X 11" print/copy of the relevant portion of a USGS Topographic Quadrangle Map clearly indicating the exact location of the site.
<input checked="" type="checkbox"/> Attachment B:	<b>Detailed Site Map:</b> fine scaled map showing site boundary and area of work details on aerial imagery with relevant landmarks labeled. (Site and work boundaries in GIS [ESRI ArcView shapefile, in NAD83, State Plane, feet] format can be substituted for detailed maps, see instruction document)
<input checked="" type="checkbox"/> Attachment C:	<b>Supplemental Information, Group 2 requirement (attached, DEEP-APP-007C)</b> <input checked="" type="checkbox"/> Section i: Supplemental Site Information and supporting documents  <input checked="" type="checkbox"/> Section ii: Supplemental Project Information and supporting documents
<input type="checkbox"/> Attachment D:	<b>Safe Harbor Report Requirements, Group 3 (attached, DEEP-APP-007D)</b>

## Part VII: Requester Certification

The requester *and* the individual(s) responsible for actually preparing the request must sign this part. A request will be considered incomplete unless all required signatures are provided.

<p>"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief."</p>	
 Signature of Requester (a typed name will substitute for a handwritten signature)	August 28, 2020 Date
Jeffrey R. Shamas, CE, PWS, CSS Name of Requester (print or type)	Director of Env. Services Title (if applicable)
Signature of Preparer (if different than above)	Date
Name of Preparer (print or type)	Title (if applicable)

Note: Please submit the completed Request Form and all Supporting Documents to:

CENTRAL PERMIT PROCESSING UNIT  
 DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION  
 79 ELM STREET  
 HARTFORD, CT 06106-5127

Or email request to: [deep.nddbrequest@ct.gov](mailto:deep.nddbrequest@ct.gov)

# Attachment C: Supplemental Information, Group 2 requirement

## Section i: Supplemental Site Information

### 1. Existing Conditions

Describe all natural and man-made features including wetlands, watercourses, fish and wildlife habitat, floodplains and any existing structures potentially affected by the subject activity. Such features should be depicted and labeled on the site plan that must be submitted. Photographs of current site conditions may be helpful to reviewers.

The 54 acre lease area does not contain any wetlands or watercourses. VHB conducted a wildlife and habitat assessment in May, June, and July 2020. The report (enclosed herewith) provides an evaluation of potential wildlife and habitats within the site. Based on this report the property is assumed to include agricultural fields, unpaved farm roads, and tobacco barns.

- Site Photographs (optional) attached**
- Site Plan/sketch of existing conditions attached**

### 2. Biological Surveys

Has a biologist visited the site and conducted a biological survey to determine the presence of any endangered, threatened or special concern species  Yes  No

If yes, complete the following questions and submit any reports of biological surveys, documentation of the biologist's qualifications, and any NDDDB survey forms.

Biologist(s) name: Brett Trowbridge, Senior Ecologist \_\_\_\_\_

Habitat and/or species targeted by survey: Survey targeted species listed on NDDDB Preliminary Assessment No. 201908948. Please see attached report for the full species list. \_\_\_\_\_

Dates when surveys were conducted: May, June, and July 2020 \_\_\_\_\_

- Reports of biological surveys attached**
- Documentation of biologist's qualifications attached**
- [NDDDB Survey forms](#) for any listed species observations attached**

## Section ii: Supplemental Project Information

1. Provide a schedule for all phases of the project including the year, the month and/or season that the proposed activity will be initiated and the duration of the activity.

Perimeter sediment controls will be installed before grubbing and temporary sediment controls will be installed within the works site.

Project construction will likely take 6-8 months and is expected to begin late Winter 2020.

Construction will include the installation of solar panels, access road(s), and structural stormwater best management practices (BMPs).

Following the construction phase, the site will be maintained by mowing and vegetation maintenance outside of the array to avoid shading the panels and will incorporate any CT-DEEP required seasonal restrictions.

The anticipated project lifespan is 35 years and after that point the Project Area will be restored in accordance with a Decommissioning Plan.

2. Describe and quantify the proposed changes to existing conditions and describe any on-site or off-site impacts. In addition, provide an annotated site plan detailing the areas of impact and proposed changes to existing conditions.

The lease area is approximately 54 acres, 32 acres will be developed for the proposed facility. No project disturbance will occur in wetlands, watercourses, or within 100 feet of those features. No project disturbance will occur within suitable habitat for endangered, threatened, or special concern species.

**Annotated Site Plan attached**



# Attachment D: Safe Harbor Report Requirements

Submit a report, as Attachment D, that synthesizes and analyzes the information listed below. Those providing synthesis and analysis need appropriate qualifications and experience. A request for a safe harbor determination shall include:

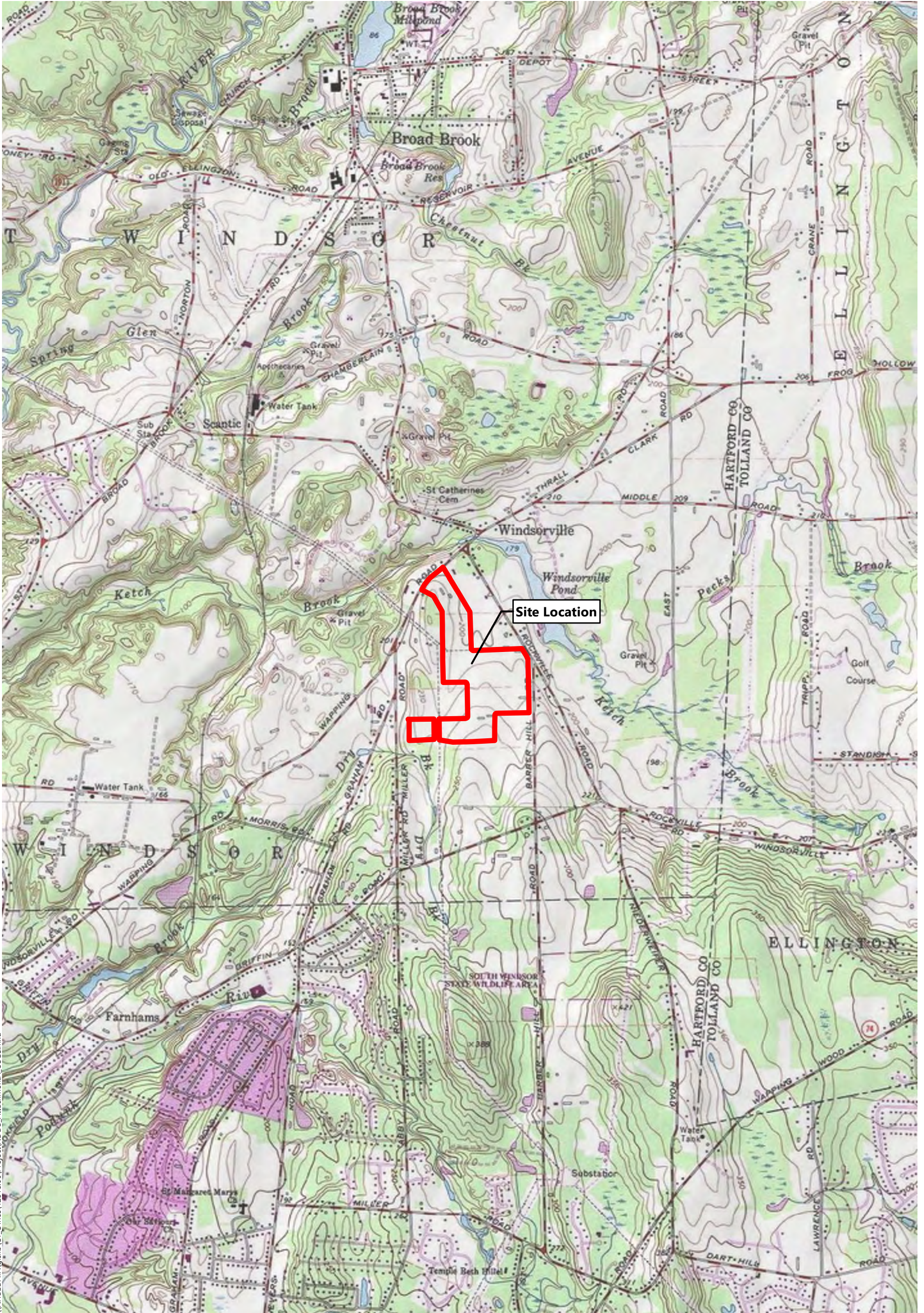
1. **Habitat Description and Map(s), including GIS mapping overlays, of a scale appropriate for the site, identifying:**
  - wetlands, including wetland cover types;
  - plant community types;
  - topography;
  - soils;
  - bedrock geology;
  - floodplains, if any;
  - land use history; and
  - water quality classifications/criteria.
2. **Photographs** - The report should include photographs of the site taken from the ground and also all reasonably available aerial or satellite photographs and an analysis of such photographs.
3. **Inspection** - A visual inspection(s) of the site should be conducted, preferably when the ground is visible, and described in the report. This inspection can be helpful in confirming or further evaluating the items noted above.
4. **Biological Surveys** - The report should include all biological surveys of the site where construction activity will take place that are reasonably available to a registrant. A registrant shall notify the Department's Wildlife Division of biological studies of the site where construction activity will take place that a registrant is aware of but are not reasonably available to the registrant.
5. **Based on items #1 through 4 above, the report shall include a Natural Resources Inventory of the site of the construction activity.** This inventory should also include a review of reasonably available scientific literature and any recommendations for minimizing adverse impacts from the proposed construction activity on listed species or their associated habitat.
6. **In addition, to the extent the following is available at the time a safe harbor determination is requested, a request for a safe harbor determination shall include and assess:**
  - Information on Site Disturbance Estimates/Site Alteration information
  - Vehicular Use
  - Construction Activity Phasing Schedules, if any; and
  - Alteration of Drainage Patterns

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**Figure 1**

**Site Locus**





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Site Location

Clean Focus

East Windsor, Connecticut

Overview Map



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Figure 2

NDDB Town Map- June 2020

# Natural Diversity Data Base Areas

EAST WINDSOR, CT

June 2020

-  State and Federal Listed Species
-  Critical Habitat
-  Town Boundary

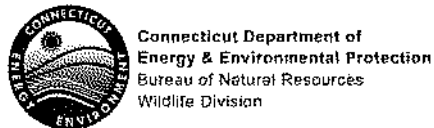
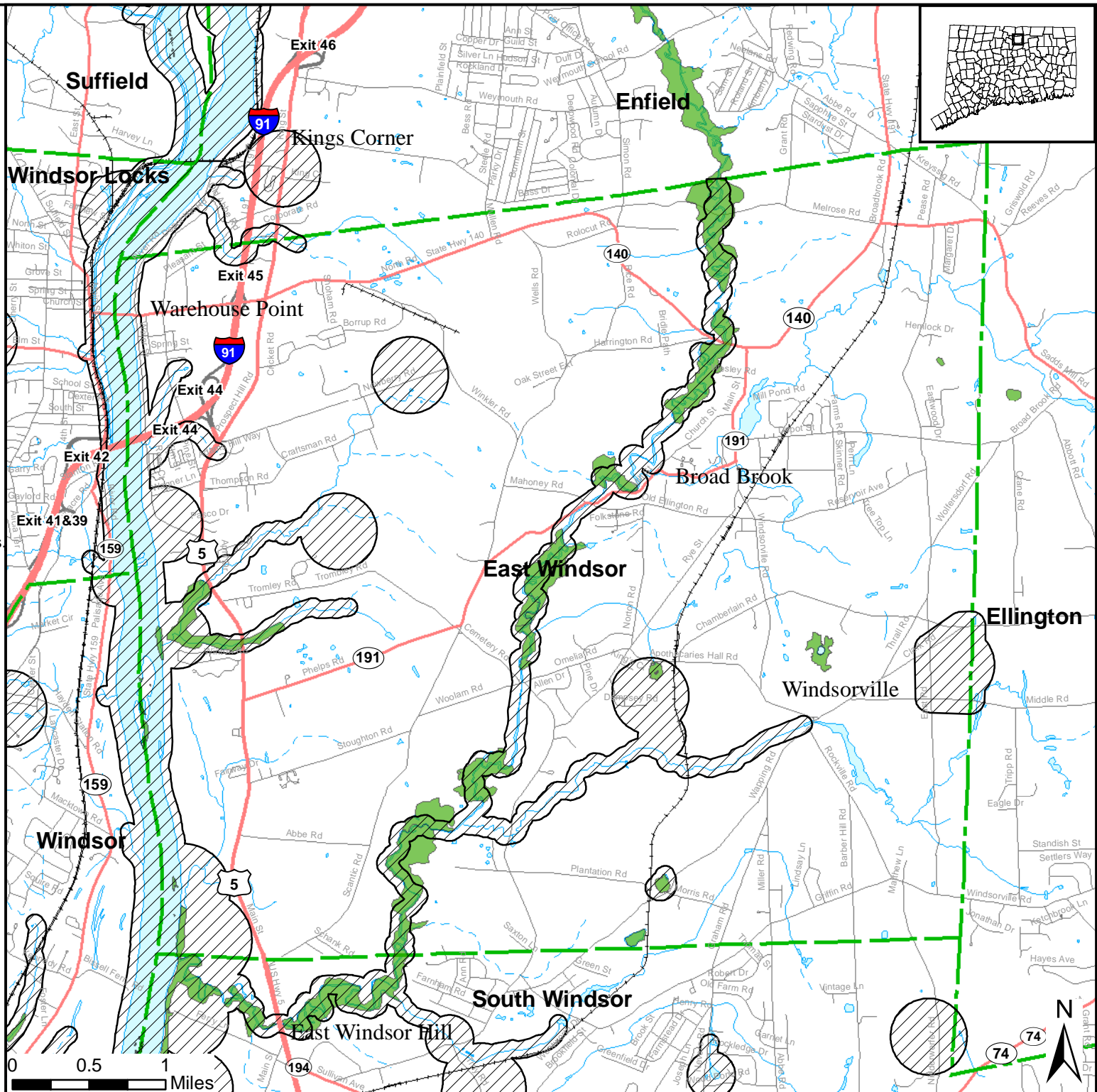
NOTE: This map shows general locations of State and Federal Listed Species and Critical Habitats. Information on listed species is collected and compiled by the Natural Diversity Data Base (NDDDB) from a variety of data sources. Exact locations of species have been buffered to produce the generalized locations.

This map is intended for use as a preliminary screening tool for conducting a Natural Diversity Data Base Review Request. To use the map, locate the project boundaries and any additional affected areas. If the project is within a hatched area there may be a potential conflict with a listed species. For more information, complete a Request for Natural Diversity Data Base State Listed Species Review form (DEP-APP-007), and submit it to the NDDDB along with the required maps and information. More detailed instructions are provided with the request form on our website.

[www.ct.gov/deep/nddbrequest](http://www.ct.gov/deep/nddbrequest)

Use the CTECO Interactive Map Viewers at <http://cteco.uconn.edu> to more precisely search for and locate a site and to view aerial imagery with NDDB Areas.

QUESTIONS: Department of Energy and Environmental Protection (DEEP)  
79 Elm St, Hartford, CT 06106  
email: [deep.nddbrequest@ct.gov](mailto:deep.nddbrequest@ct.gov)  
Phone: (860) 424-3011



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**Attachment 1**

**NDDB Preliminary Assessment-Aug. 20, 2020**



Connecticut Department of

ENERGY &  
ENVIRONMENTAL  
PROTECTION

August 20, 2019

Mr. Jeffrey Shamus  
Vanasse Hangen Brustlin, Inc.  
100 Great Meadows Road  
Wethersfield CT 06109  
[jshamas@vhb.com](mailto:jshamas@vhb.com)

Project: Preliminary Assessment for Clean Focus Renewable Solar Project, Wapping Rd, Rockville Rd, Miller Rd, Barber Hill Rd, East Windsor, Connecticut  
NDDDB Preliminary Assessment No.: 201908948

Dear Jeffrey Shamas,

I have reviewed Natural Diversity Data Base maps and files regarding the area delineated on the map provided for the Clean Focus Renewable Solar Project, Wapping Rd, Rockville Rd, Miller Rd, Barber Hill Rd, East Windsor, Connecticut.

According to our records there are known extant populations of State Listed Species known that occur within or close to the boundaries of this property. I have attached a list of these species to this letter. Please be advised that this is a preliminary review and not a final determination. A more detailed review will be necessary to move forward with any subsequent environmental permit applications submitted to DEEP for the proposed project. **This preliminary assessment letter cannot be used or submitted with your permit applications at DEEP.** This letter is valid for one year.

To prevent impacts to State-listed species, field surveys of the site should be performed by a qualified biologist when these target species are identifiable. A report summarizing the results of such surveys should include:

1. Survey date(s) and duration
2. Site descriptions and photographs
3. List of component vascular plant and animal species within the survey area (including scientific binomials). A complete ecological description of the habitats on site.
4. Data regarding population numbers and/or area occupied by State-listed species
5. Detailed maps of the area surveyed including the survey route and locations of State-listed species present on the site.
6. Statement/résumé indicating the biologist's qualifications. Please be sure when you hire a consulting qualified biologist to help conduct this site survey that they have the proper experience with target taxon and have a CT scientific collectors permit to work with state listed species for this specific project.

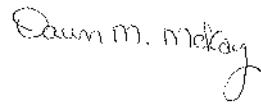
The site surveys report should be sent to our CT DEEP-NDDDB Program ([deep.nddbrequest@ct.gov](mailto:deep.nddbrequest@ct.gov)) for further review by our program biologists along with an updated request for another NDDDB review. Incomplete reports may not be accepted.

If you do not intend to do site surveys to determine the presence or absence of state-listed species, please let us know how you will protect the state-listed species from being impacted by this project. You may submit these protection plans with your new request for an NDDDB review.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits.

Please contact me if you have further questions at (860) 424-3592, or [dawn.mckay@ct.gov](mailto:dawn.mckay@ct.gov) . Thank you for consulting the Natural Diversity Data Base.

Sincerely,



Dawn M. McKay  
Environmental Analyst 3



# Species List for NDDB Request

Scientific Name	Common Name	State Status
<b>Invertebrate Animal</b>		
<i>Cicindela formosa generosa</i>	Big sand tiger beetle	SC
<i>Erynnis horatius</i>	Horace's duskywing	SC
<i>Margaritifera margaritifera</i>	Eastern pearlshell	SC
<i>Sympistis perscripta</i>	Scribbled sallow moth	SC
<b>Vascular Plant</b>		
<i>Alopecurus aequalis</i>	Short-awned meadow foxtail	T
<i>Gaylussacia bigeloviana</i>	Dwarf huckleberry	T
<i>Lygodium palmatum</i>	Climbing fern	SC
<i>Triosteum angustifolium</i>	Narrow-leaved horse gentian	E
<b>Vertebrate Animal</b>		
<i>Accipiter striatus</i>	Sharp-shinned hawk	E
<i>Asio flammeus</i>	Short-eared owl	T
<i>Falco sparverius</i>	American kestrel	SC
<i>Glyptemys insculpta</i>	Wood turtle	SC
<i>Melanerpes erythrocephalus</i>	Red-headed woodpecker	E
<i>Passerculus sandwichensis</i>	Savannah sparrow	SC

E = Endangered, T = Threatened, SC = Special Concern, \* Extirpated

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**Attachment 2**

**August 2020- Biologist Report**

To: Ms. Dawn M. McKay  
 CT DEEP  
 Natural Diversity Database Program  
 79 Elm Street  
 Hartford, CT 06106-5127

Date: August 26, 2020



Memorandum

Project #: 42517.01

From: Brett Trowbridge, Senior Ecologist  
 Jeffrey Shamas, CSS, CE, PWS

Re: 2020 Rare Species Summary  
 Greenskies Clean Energy LLC Solar Development Project  
 Wapping Road, Rockville Road, Miller Road, and Barber Hill Road  
 East Windsor, CT  
 NDDDB Preliminary Assessment No.: 201908948

Greenskies Clean Energy LLC is proposing an approximate 5-MW AC photovoltaic electric generating facility solar development of an approximate 32-acre site in East Windsor, CT (the Project). The Project has been sited on an approximately 54-acre property with frontage on Rockville Road and Barber Hill Road, located west of these roads, south of Wapping Road, east of Miller Road, and north of Griffin Road (the Site; see Figure 1).

An August 20, 2019 letter from the Connecticut Department of Energy and Environmental Protection (CT DEEP) Natural Diversity Data Base (NDDDB) indicated that field investigations should be conducted for 14 state-listed species from three taxonomic groups as part of the pre-construction environmental due-diligence and permitting for the Project. Table 1 lists the state-listed species that were requested for evaluation on the Site.

Table 1 State-listed Species Targeted for Investigation

Taxonomic Group	Scientific Name	Common Name	State Status
Invertebrate Animal	<i>Cicindela formosa generosa</i>	Big Sand Tiger Beetle	Special Concern
Invertebrate Animal	<i>Erynnis horatius</i>	Horace's Duskywing	Special Concern
Invertebrate Animal	<i>Margaritifera margaritifera</i>	Eastern Pearlshell	Special Concern
Invertebrate Animal	<i>Sympistis perscripta</i>	Scribbled Sallow Moth	Special Concern
Vertebrate Animal	<i>Accipiter striatus</i>	Sharp-shinned Hawk	Endangered
Vertebrate Animal	<i>Asio flammeus</i>	Short-eared Owl	Threatened
Vertebrate Animal	<i>Falco sparverius</i>	American Kestrel	Special Concern
Vertebrate Animal	<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker	Endangered
Vertebrate Animal	<i>Passerculus sandwichensis</i>	Savannah Sparrow	Special Concern
Vertebrate Animal	<i>Glyptemys insculpta</i>	Wood Turtle	Special Concern
Vascular Plant	<i>Alopecurus aequalis</i>	Short-awned Meadow Foxtail	Threatened
Vascular Plant	<i>Gaylussacia bigeloviana</i>	Dwarf Huckleberry	Threatened
Vascular Plant	<i>Lygodium palmatum</i>	Climbing Fern	Special Concern
Vascular Plant	<i>Triosteum angustifolium</i>	Narrow-leaved Horse Gentian	Endangered

During May, June, and July 2020, VHB's Senior Ecologist surveyed for state-listed birds and plants and evaluated whether suitable habitat conditions for state-listed invertebrates and Wood Turtle (*Glyptemys insculpta*) exist on the Site. A summary of Site conditions and the survey methodologies and findings of VHB's investigations are presented below.

## Site Description

The Site is currently comprised of agricultural fields and unpaved farm roads that border and bisect each field (see Photos 1-8). Three tobacco barns exist along the northeastern, southeastern, and southern Site boundaries (see Photos 1, 8, and 9). Topography on the Site is relatively flat. Elevations range roughly between 200 and 235 feet, and surficial geology consists of thin till (fine-grained, red till; Stone et al. 1992). No wetland features exist on the Site.

During 2020, the northern fields were planted with tobacco and the southern field, contained winter rye (*Secale cereale*; see Photos 1-8). The fields are actively cultivated, and the desirable crops dominate the internal field areas.

Many of the farm roads are subject to frequent travel by farm vehicles and equipment during the growing season and most are hard packed from the repeated compaction (see Photos 9-15). Farm roads through coarser substrate containing softer, loose sand were observed along the southern property boundary and offsite to the north. The farm roads and field edges are sparsely to moderately vegetated with a mix of native and non-native weedy, herbaceous species such as shepherd's-purse (*Capsella bursa-pastoris*), Deptford pink (*Dianthus armeria*), fleabanes (*Erigeron annuus*, *E. canadensis*, and *E. strigosus*), yellow hawkweed (*Hieracium caespitosum*), St. John's-worts (*Hypericum perforatum* and *H. punctatum*), path rush (*Juncus tenuis*), pepperweeds (*Lepidium campestre* and *L. virginicum*), bladder-pod lobelia (*Lobelia inflata*), Italian rye grass (*Lolium multiflorum*), common evening-primrose (*Oenothera biennis*), slender yellow wood sorrel (*Oxalis dillenii*), common Timothy (*Phleum pratense*), plantains (*Plantago lanceolata* and *P. rugelii*), blue grasses (*Poa annua*, *P. compressa*, and *P. nemoralis*), common cinquefoil (*Potentilla simplex*), common selfheal (*Prunella vulgaris*), common sheep sorrel (*Rumex acetosella*), tall rye grass (*Schedonorus arundinaceus*), little bluestem (*Schizachyrium scoparium*), clovers (*Trifolium arvense*, and *T. pratense*), and speedwells (*Veronica arvensis* and *V. peregrina* ssp. *xalapensis*).

Trees on offsite properties line the western and southeastern margins of the Site and hedgerows exist between the northern fields and line portions of the northern Site boundary (see Photos 14 and 15). These wooded and/or thicketed areas include species such as Norway maple (*Acer platanoides*), Amur peppervine (*Ampelopsis glandulosa*), birches (*Betula papyrifera* and *B. populifolia*), hickories (*Carya glabra* and *C. tomentosa*), Asian bittersweet (*Celastrus orbiculatus*), autumn-olive (*Elaeagnus umbellata*), burning-bush (*Euonymus alatus*), white ash (*Fraxinus americana*), Morrow's honeysuckle (*Lonicera morrowii*), Virginia creeper (*Parthenocissus quinquefolia*), cherries (*Prunus pensylvanica* and *P. serotina*), oaks (*Quercus alba* and *Q. velutina*), sumacs (*Rhus glabra* and *R. hirta*), black locust (*Robinia pseudoacacia*), multiflora rose (*Rosa multiflora*), raspberries (*Rubus allegheniensis*, *R. idaeus* and *R. occidentalis*), sassafras (*Sassafras albidum*), poison ivy (*Toxicodendron radicans*), and grapes (*Vitis labrusca* and *V. riparia*).

## Surrounding Land Use

Land use surrounding the Site includes agricultural land and sparse residential developments to the north and south, an off-road vehicle course, woodlands, sparse residential developments to the west, and sparse residential developments to the east across Rockville and Barber Hill Roads. Windsorville Pond and its water source, Ketch Brook, are located offsite across Rockville and Barber Hill Roads to the east and across Wapping Road to the north. Dry Brook is located offsite to the southwest.

## Rare Species Investigation Methodology

VHB's Senior Ecologist conducted visual, walking, surveys throughout the Site on May 20, May 26, June 8, and July 15, 2020 to survey for state-listed plants and investigate habitat conditions for state-listed animals. Two Savannah Sparrow (*Passerculus sandwichensis*) call survey events were conducted during non-rain conditions starting at 6:30 AM on May 26 and June 8 (i.e., within the late May to late June breeding period per Mass Audubon 2020). Six monitoring stations were established throughout the Site and adjacent fields (See Figure 3). The following procedure was used at each bird monitoring location:

- Record all birds heard or seen for the first 5 minutes;
- Play Savannah Sparrow call recording three times at one-minute intervals; and
- Record all birds responding to the call recording.

Pertinent field notes, such as birds heard or seen throughout the survey area and a list of observed vascular plant species were recorded during investigations and representative photographs were taken. Salient feature locations were recorded using a GPS device. Habitat requirements and life histories were considered for each of the NDDB-identified state-listed species during each site investigation event.

## Invertebrate Findings

### Big Sand Tiger Beetle (State Special Concern)

The Big Sand Tiger Beetle (*Cicindela formosa* ssp. *generosa*), one of the largest North American tiger beetles, inhabits dry areas of loose sand that are barren or sparsely vegetated (Pearson et al. 2015). Dry barren areas occur within the Site's farm roads, however, many of these roads contain compacted soil or are heavily used by farm vehicles (see Photos 9-15). No tiger beetles were observed within the hard-packed roads or within well-trafficked roads containing looser soils. These areas do not provide exemplary habitat for Big Sand Tiger Beetles, because of their unsuitable physical characteristics and/or the frequent disruption from passing vehicles (i.e., direct mortality via crushing or repeated collapsing of burrows and interruption of hunting). Less traveled farm roads with loose, sandy soil were observed along the southern Site boundary and offsite to the north (see Photos 16-18; Figure 2). Tiger beetles from at least two taxa of were observed within these areas, however, the beetles were not captured or identified to species (see Photos 19-21).

To ensure protection of the state-listed Big Sand Tiger Beetle, VHB recommends that the tiger beetle habitat areas shown on Figure 2 be protected during construction by avoiding the use of those farm roads for construction access during the late spring to early fall Big Sand Tiger Beetle flight period.

### Horace's Duskywing (State Special Concern)

Horace's Duskywing (*Erynnis horatius*), a spread-wing skipper (Family Hesperidae, Subfamily Pyrginae) is known to occur within various open habitats including fields, clearings, open woodlands, roadsides, and utility rights-of-way (Butterflies and Moths of America 2020). Red and black oaks (*Quercus rubra* and *Q. velutina*) are the preferred host plants for Horace's Duskywing larvae (Mello and Hansen 2004).

The various herbs that border the agricultural field offer foraging opportunities. Black and white oak (*Q. alba*) trees (i.e., potential larval host plants) exist within the wooded areas west of the Site and occasionally within hedgerows. However, the Project does not include tree cutting. Therefore, potential habitat conditions along the borders of the

Site will be unaffected by proposed Site development. Protection measures are not proposed for Horace's Duskywing since the observed potential habitat are outside of the site development boundaries.

#### **Eastern Pearlshell (State Special Concern)**

The Eastern Pearlshell (*Margaritifera margaritifera*) is a relatively large freshwater mussel that occurs within cold, well-oxygenated streams and rivers, typically with sand, gravel, and/or cobble bottoms (NH F&G 2015 and 2020). No suitable habitat for the Eastern Pearlshell exists on the Site and protection measures are not proposed for this species.

#### **Scribbled Sallow Moth (State Special Concern)**

The Scribbled Sallow Moth (*Sympistis perscripta*) is known to occur in dry open areas (i.e., fields, outcrops, dunes, disturbance areas, etc.) that support larval food plants. In the northeast, Scribbled Sallow Moth feed on the reproductive parts of old-field toadflax (*Nuttallanthus canadensis*; NY NHP 2020), a common annual or biennial plant of dry, sandy areas and anthropogenic habitats (Fernald 1950, Gleason and Cronquist 1991, Haines 2011).

Old-field toadflax was found to occur along the eastern edge of the farm road located along the western Site boundary, within the farm road in the southern portion of the Site, and within a farm road offsite to the south (see Photos 22-24 and Figure 2). These areas provide suitable potential habitat for the Scribbled Sallow Moth. Each of these areas are subject to periodic disturbance, which both causes destruction of these plants (see Photo 25) and maintains habitat conditions for the plant population to persist. The Site is expected to continue to support old-field toadflax following Site development and protection measures are not proposed for the Scribbled Sallow Moth.

### **Bird Findings**

Photographs numbers 7 and 26 through 30 show conditions from each bird call survey station. Bird observations (visual or calls heard) throughout the Site and adjacent survey areas indicated use by a mix of species that prefer edges and various open habitats including areas of human habitation. Cosmopolitan species such as American robin (*Turdus migratorius*), blue jay (*Cyanocitta cristata*), and mourning dove (*Zenaida macroura*) were observed frequently. Commonly encountered open habitat species included barn swallow (*Hirundo rustica*), northern flicker (*Colaptes auratus*), and song sparrow (*Melospiza melodia*). Birds preferring thickets, forest edges, and woodlands, such as common yellowthroat (*Geothlypis trichas*), eastern towhee (*Pipilo erythrophthalmus*), gray catbird (*Dumetella carolinensis*), yellow warbler (*Dendroica petechial*), were regularly heard or seen beyond agricultural field areas in the hedgerow vegetation patches. Table 2 provides a complete list of bird species observed during 2020 monitoring.

A Brown Thrasher (*Toxostoma rufum*; CT Species of Special Concern) was observed calling from within a hedgerow along the northern Site boundary on May 26, 2020. The bird was heard calling from a perch in a tree (see Photo 31) before a short flight to the ground along the hedgerow. It ran and hopped along the ground for a few moments before retreating into the hedgerow. This somewhat secretive species inhabits edges and scrub habitats such as primary regrowth areas after deforestation (Cornell Lab of Ornithology 2019b). Whereas the Project does not involve removal of hedgerows, habitat for this species will not be altered by the Site development. Protection measures are therefore not proposed for the Brown Thrasher.

Table 2 2020 Bird Observation Summary

Common Name	Scientific Name	Date		26 May 2020						8 Jun 2020						20 May – 15 July 2020
				Monitoring Area						Monitoring Area						Outside monitoring area
		1	2	3	4	5	6	1	2	3	4	5	6			
American goldfinch	<i>Spinus tristis</i>	x						x			x				x	
American robin	<i>Turdus migratorius</i>	x	x		x	x	x	x	x	x	x	x	x	x	x	
barn swallow	<i>Hirundo rustica</i>					x	x				x	x			x	
blue jay	<i>Cyanocitta cristata</i>	x	x	x		x	x	x	x	x	x	x	x	x	x	
brown thrasher	<i>Toxostoma rufum</i>														x	
Canada goose	<i>Branta canadensis</i>									x					x	
Carolina wren	<i>Thryothorus ludovicianus</i>								x	x						
chipping sparrow	<i>Spizella passerina</i>					x					x					
common grackle	<i>Quiscalus quiscula</i>	x		x	x										x	
common yellowthroat	<i>Geothlypis trichas</i>	x	x									x	x			
cowbird	<i>Molothrus sp.</i>				x	x								x	x	
crow	<i>Corvus sp.</i>											x			x	
downy woodpecker	<i>Picoides pubescens</i>				x											
eastern phoebe	<i>Sayornis phoebe</i>						x							x	x	
eastern towhee	<i>Pipilo erythrophthalmus</i>			x	x				x	x					x	
eastern wood pewee	<i>Contopus virens</i>														x	
European starling	<i>Sturnus vulgaris</i>														x	
gray catbird	<i>Dumetella carolinensis</i>	x	x	x	x	x	x	x					x	x	x	
great blue heron	<i>Ardea herodias</i>					x									x	
house finch	<i>Haemorhous mexicanus</i>	x				x										
house sparrow	<i>Passer domesticus</i>														x	
indigo bunting	<i>Passerina cyanea</i>														x	
killdeer	<i>Charadrius vociferous</i>										x					
mourning dove	<i>Zenaida macroura</i>		x	x			x		x					x	x	
northern cardinal	<i>Cardinalis cardinalis</i>			x					x	x					x	
northern flicker	<i>Colaptes auratus</i>			x	x		x							x		
northern mockingbird	<i>Mimus polyglottos</i>			x												
purple finch	<i>Haemorhous purpureus</i>				x											
red-eyed vireo	<i>Vireo olivaceus</i>						x									
red-tailed hawk	<i>Buteo jamaicensis</i>						x							x	x	
red-winged blackbird	<i>Agelaius phoeniceus</i>														x	
song sparrow	<i>Melospiza melodia</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
tree swallow	<i>Tachycineta bicolor</i>														x	
turkey vulture	<i>Cathartes aura</i>												x		x	
wood thrush	<i>Hylocichla mustelina</i>	x	x										x		x	
yellow warbler	<i>Dendroica petechial</i>			x	x		x	x	x		x					

### **Sharp-shinned Hawk (State Endangered)**

The Sharp-shinned Hawk (*Accipiter striatus*), a relatively small, secretive raptor which preys primarily on small birds and mammals, nests within intact mixed coniferous-deciduous forested areas, and hunts within various open areas including residential lawns containing bird feeders (CT DEEP 1999a, Cornell Lab of Ornithology 2019e, Mass Audubon 2020d). Nesting habitat does not exist on the Site and any potential hunting habitat will not be altered by Site development; therefore, protection measures are not proposed for the Sharp-shinned Hawk.

### **Short-eared Owl (State Threatened)**

The ground-nesting Short-eared Owl (*Asio flammeus*) inhabits various open habitats and preys on small mammals, small birds, and insects (CT DEEP 1999b, Cornell Lab of Ornithology 2019f, Mass Audubon 2020e). The agricultural fields found on the Site do not provide suitable nesting habitat for Short-eared Owls, and because potential hunting habitat along the margins of the Site will persist after Site development, Short-eared Owl protection measures are not proposed.

### **American Kestrel (State Special Concern)**

American Kestrel (*Falco sparverius*) is a small, cavity-nesting falcon that occupies various open habitats where it hunts within areas of sparse and/or low vegetation from fence posts, utility poles, and isolated tree and snags (Cornell Lab of Ornithology 2019a, Mass Audubon 2020a). Although the Site's agriculture fields are open (non-canopied), areas of sparse or low vegetation are limited to the margins. The agricultural crops observed within and adjacent to the Site during VHB's 2020 investigations (tobacco, winter rye, and corn) are tall at maturity and unsuitable for foraging by American Kestrels. Potential nesting cavities, a bird box in the north, a tree cavity in hedgerow, and a southwestern woodland edge, are limited to the margins of the Site (see Photos 32-34 and Figure 3) will be unaffected by Site development. Protection measures are not proposed for American Kestrel.

### **Red-headed Woodpecker (State Endangered)**

Open deciduous forest, groves of large trees bordering open areas, and wooded swamps provide typical habitats for the cavity-nesting Red-headed Woodpecker (*Melanerpes erythrocephalus*; CT DEEP 2016, Cornell Lab of Ornithology 2019c, Mass Audubon 2020b). Acorns from offsite oaks provide a potential food source for Red-headed Woodpeckers and the previously noted nesting cavities along the margins of the Site (see Photos 32-34 and Figure 3) provide potential nesting opportunities. However, these potential habitat features will be unaffected by Site development and protection measures are not proposed for Red-headed Woodpecker.

### **Savannah Sparrow (State Special Concern)**

The Savannah Sparrow (*Passerculus sandwichensis*) is a ground-nesting bird of open habitats such as grasslands, pastures, saltmarshes, and agricultural fields planted with low crops (Cornell Lab of Ornithology 2019d, Mass Audubon 2020c). Because of the associated disturbance from cultivation activities, the northern tobacco fields did not provide suitable Savannah Sparrow nesting habitat during 2020. Marginal potential nesting habitat was available within the southern field, which included winter rye cover during VHB's 2020 investigations. However, the rye grass in this area was uniformly tall, which did not offer exemplary conditions for nesting by this species. In addition, Savannah Sparrow were not detected during dedicated surveys for this species. Given the active agricultural use and variable treatment of the Site's fields, there are only limited, somewhat unpredictable opportunities for successful nesting by Savannah Sparrows on the Site. Therefore, protection measures are not proposed for Savannah Sparrow.



## Wood Turtle Findings (State Special Concern)

Wood Turtle (*Glyptemys insculpta*) habitat use is centered around perennial streams, where they overwinter. This species uses a variety of habitats during spring and summer for foraging including woodlands, grassy fields, and wetland edges. Man-made habitat features such as utility corridors, gravel extraction sites, fields, and lawns are used for nesting by Wood Turtles (CT DEEP 2011, Klemens 1993, MA NHESP 2015a). No overwintering habitat exists on the Site. The active agriculture on the Site does not provide suitable foraging habitat. The open (non-planted), well-drained areas of the Site provide suitable potential nesting habitat for Wood Turtles.

Windsorville Pond, part of the Ketch Brook wetland system which could provide potential primary aquatic habitat for Wood Turtles, is located approximately 500 feet east of the Site across Rockville Road. And Dry Brook, located approximately 1,300 feet to the southwest of the Site, may also provide suitable primary potential aquatic habitat. Because suitable nesting habitats exist in closer proximity to the Ketch Brook wetland system (i.e., fields and residential lawns) it is unlikely that Wood Turtle would migrate across Rockville Road to nest on the Site. Likewise, because suitable potential nesting habitat (i.e., edges of offsite agricultural fields or an electrical transmission corridor) exists in closer proximity to Dry Brook, it is unlikely that Wood Turtles would migrate to the Site for nesting. Therefore, protection measures for Wood Turtle are not proposed.

## Vascular Plant Survey Findings

No state-listed plants were detected on the Site during 2020 surveys. Approximately 184 vascular plant taxa were observed, and a list of the vascular plant species observed on and near the Site is presented within Appendix 2.

### Short-awned Meadow Foxtail (State Threatened)

Short-awned Meadow Foxtail (*Alopecurus aequalis*) is a perennial grass with an obligate wetland classification designation that typically occurs within shallow water, wet meadows, ditches, shorelines, and wet disturbed areas (Fernald 1950, Gleason and Cronquist 1991, Haines 2011). This species was not detected during VHB's surveys and habitat for this species does not occur on the Site. Protection measures for Short-awned Meadow Foxtail are not proposed.

### Dwarf Huckleberry (State Threatened)

Dwarf Huckleberry (*Gaylussacia bigeloviana*) is a rhizomatous, low heath with an obligate wetland classification designation that occurs within wet sandy soil, peatlands (bogs and fens), and heathlands (Fernald 1950, Gleason and Cronquist 1991, Haines 2011). This species was not detected during VHB's surveys and habitat for this species does not occur on the Site. Protection measures for Dwarf Huckleberry are not proposed.

### Climbing Fern (State Special Concern)

Climbing Fern (*Lygodium palmatum*) occurs within acidic soils of moist thickets, forest edges, open mixed woods (Fernald 1950, Gleason and Cronquist 1991, Haines 2011, MA NHESP 2015b). This species occurs primarily within wetlands (i.e., FACW wetland classification designation) and habitat for this species does not occur on the Site. Climbing Fern was not detected during VHB's surveys. Climbing plants observed along the edges of the Site along forest edges or within hedgerows included Amur peppervine, Asian bittersweet, Virginia creeper, poison ivy, and fox and river grapes. Protection measures for Climbing Fern are not proposed.

### Narrow-leaved Horse Gentian (State Endangered)

Narrow-leaved Horse Gentian (*Triosteum angustifolium*) is a perennial herb that occurs within rocky woodlands and thickets, ledges, and along railroads (Fernald 1950, Gleason and Cronquist 1991, Haines 2011). This species was not detected during VHB's surveys and rocky habitat for this species does not occur on the Site. Protection measures for Narrow-leaved Horse Gentian are not proposed.

Several invasive plants were observed on or near the Site including Amur peppervine, Japanese barberry (*Berberis thunbergii*), Asian bittersweet, autumn-olive, burning-bush, gill-over-the-ground (*Glechoma hederacea*), honeysuckles (*L. morrowii* and *L. x bella*), purple loosestrife (*Lythrum salicaria*), reed canary grass (*Phalaris arundinacea*), flat-stemmed blue grass (*P. compressa*), black locust, multiflora rose, and common sheep sorrel.

### Conclusions

Over several days during 2020, VHB's biologist investigated the Site for state-listed species, which resulted in the detection of a single state-listed animal species: Brown Thrasher. Several species listed within CT DEEP's preliminary response letter were either not detected or suitable habitat conditions do not exist on the Site. Table 3 summarizes VHB's 2020 state-listed species findings and suggested protection measures.

▪ **Table 3 State-listed Species Investigation Summary**

Scientific Name	Common Name	Suitable Habitat Present	Detected during 2020	Protection Recommended
<i>Cicindela formosa generosa</i>	Big Sand Tiger Beetle	Yes	No	Avoid suitable habitat or presence/absence surveys
<i>Erynnis horatius</i>	Horace's Duskywing	Offsite	No	None
<i>Margaritifera margaritifera</i>	Eastern Pearlshell	No	No	None
<i>Sympistis perscripta</i>	Scribbled Sallow Moth	Yes	No	None
<i>Accipiter striatus</i>	Sharp-shinned Hawk	Hunting	No	None
<i>Asio flammeus</i>	Short-eared Owl	Hunting	No	None
<i>Falco sparverius</i>	American Kestrel	Nesting	No	None
<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker	Yes	No	None
<i>Passerculus sandwichensis</i>	Savannah Sparrow	No	No	None
<i>Toxostoma rufum</i>	Brown Thrasher	Yes	Yes	None
<i>Glyptemys insculpta</i>	Wood Turtle	Nesting	No	None
<i>Alopecurus aequalis</i>	Short-awned Meadow Foxtail	No	No	None
<i>Gaylussacia bigeloviana</i>	Dwarf Huckleberry	No	No	None

<i>Lygodium palmatum</i>	Climbing Fern	No	No	None
<i>Triosteum angustifolium</i>	Narrow-leaved Horse Gentian	No	No	None

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## Figures

- Figure 1 Site Locus
- Figure 2 State-listed Invertebrate Findings
- Figure 3 State-listed Bird Findings

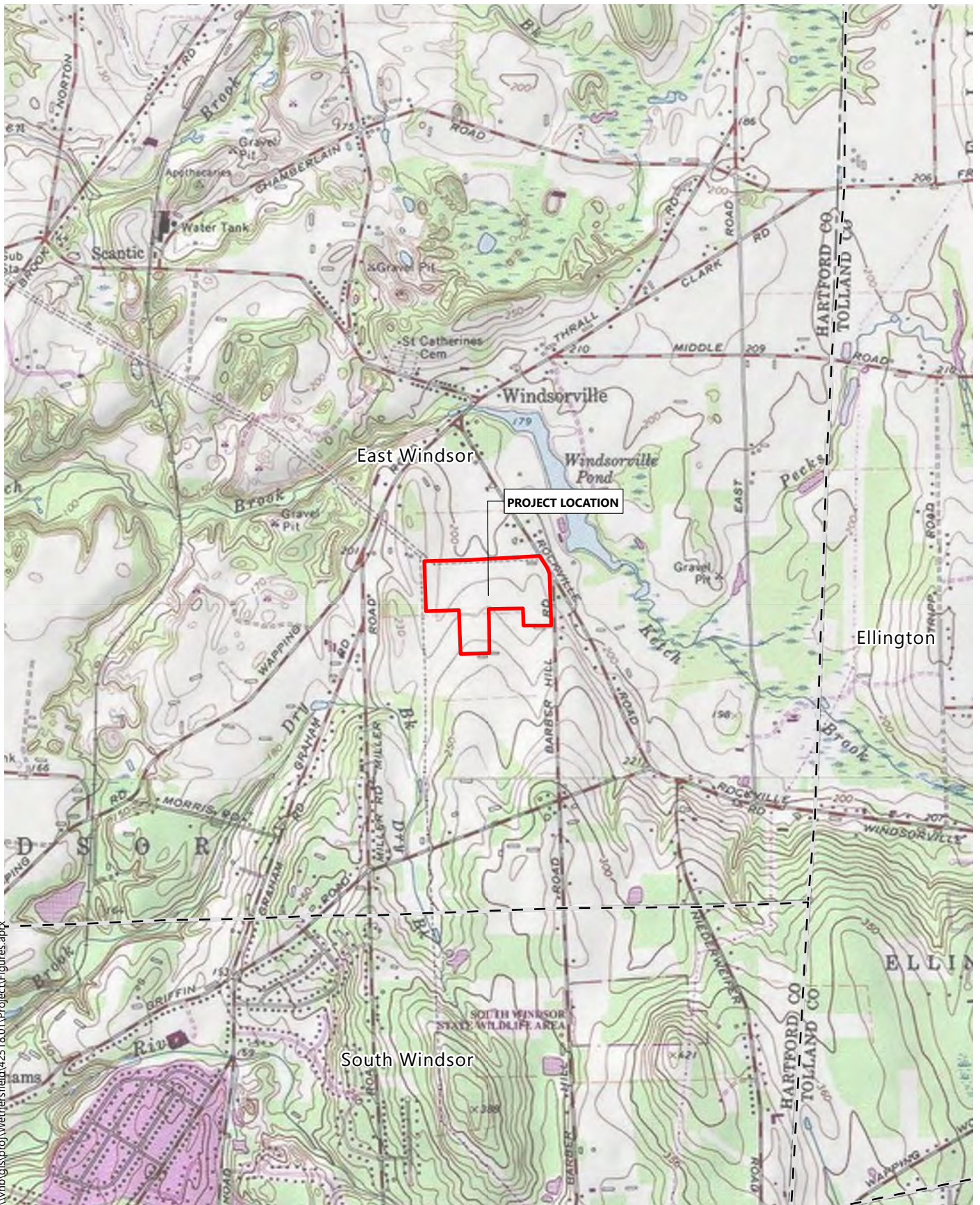
## Attachments

- Attachment 1 Site Photographs
- Attachment 2 Observed Vascular Plant List
- Attachment 3 Biologist Qualifications  
Brett Trowbridge, Senior Ecologist

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## Figure 1 Site Locus





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- Property Boundary
- Town Boundary

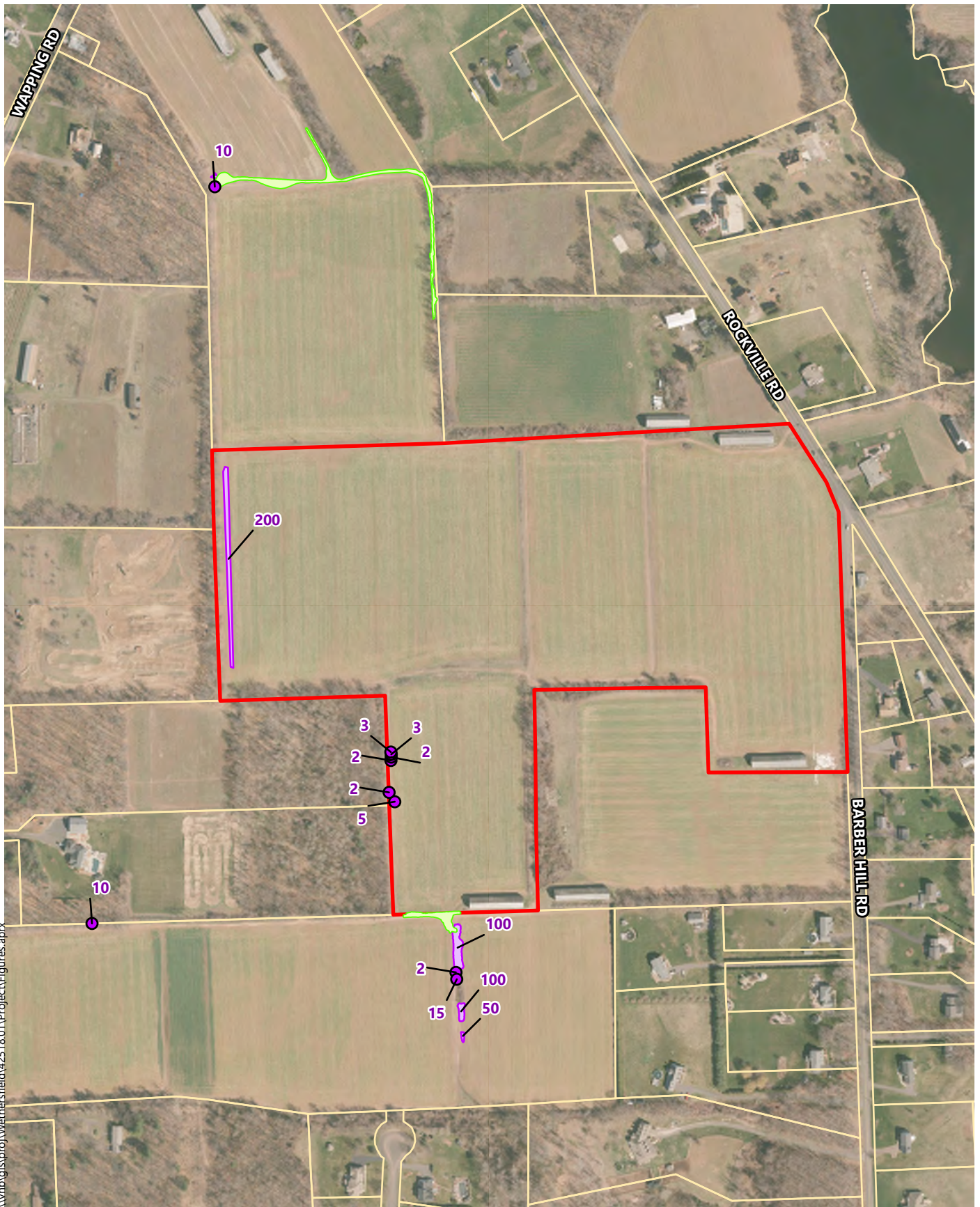
Mulnite Farms | East Windsor, Connecticut

USGS Locus Map

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## Figure 2 State-listed Invertebrate Findings





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Mulnite Farms

East Windsor, Connecticut

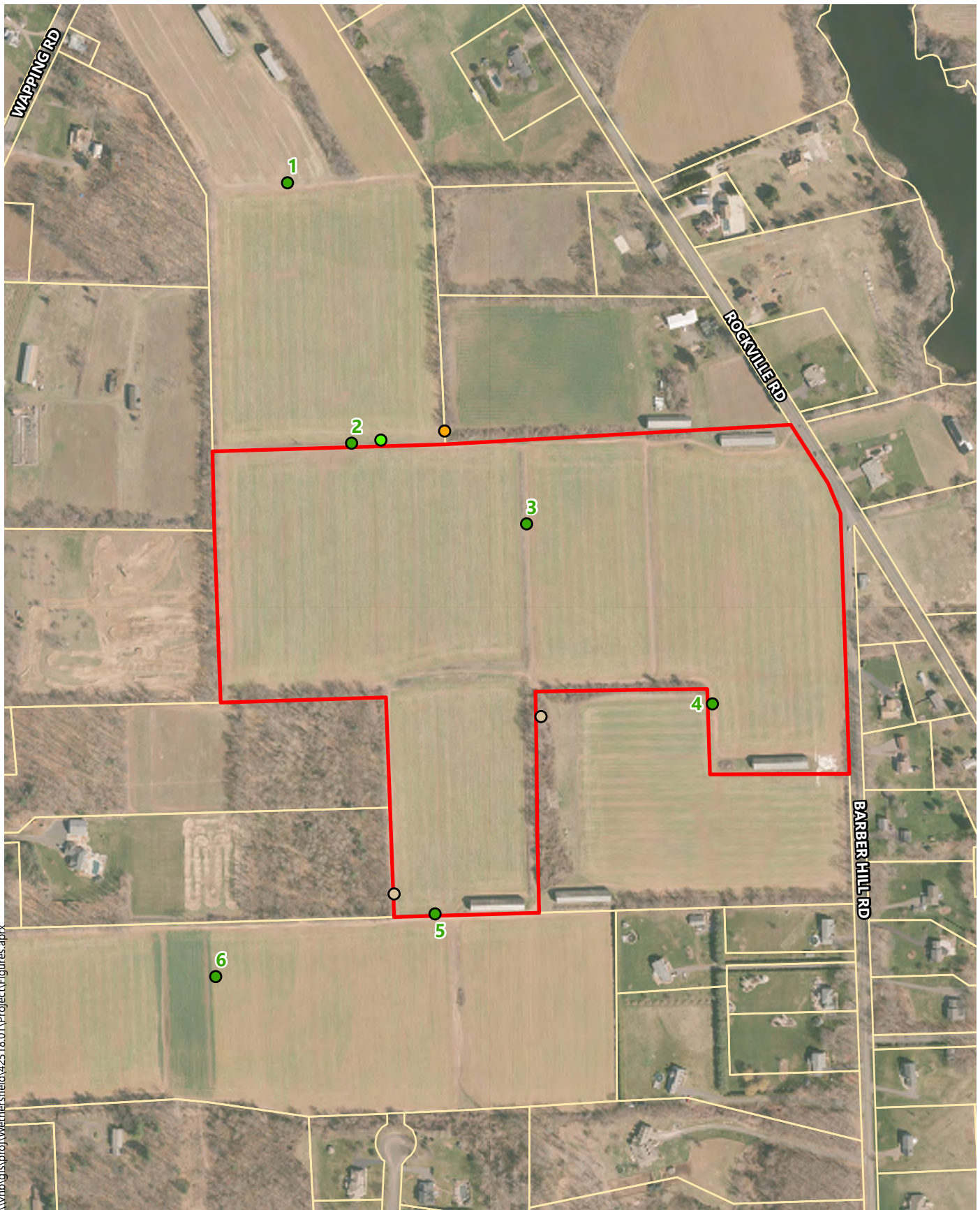
- Property Boundary
- Parcel Boundaries
- *Nuttalanthus canadensis* (July 2020)
- Nuttalanthus canadensis* (July 2020)
- Tiger Beetle Habitat (July 2020)

**State-listed Invertebrate Findings**

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## Figure 3 State-listed Bird Findings





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**Mulnite Farms**

East Windsor, Connecticut



- Property Boundary
- Parcel Boundaries
- Bird Call Survey Stations
- Bird Box
- Tree Cavities
- Brown Thrasher (May 26, 2020)

**State-listed Bird Findings**



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## Attachment 1      Site Photographs



<p>Photo 1.</p> 	<p>Description:</p> <p>Northerly view of the eastern agricultural field and Site access from Barber Hill Road. At the time of the photo, the field had been recently planted with tobacco. The tobacco barns on the left in the background are along the northern Site boundary.</p> <p>May 20, 2020</p>
<p>Photo 2.</p> 	<p>Description:</p> <p>Easterly view of the eastern tobacco field and the hardpacked access road and hedgerow along the Site boundary. The structures in the background are houses along Barber Hill and Rockville Roads.</p> <p>July 15, 2020</p>



<p>Photo 3.</p>  A photograph showing a northern view of two tobacco fields separated by a hedgerow. The fields are filled with rows of tobacco plants, and the hedgerow is a dense line of green shrubs. A utility pole is visible on the left side of the hedgerow. The sky is clear and blue.	<p>Description:</p> <p>Northerly view of the western (left) and eastern (right) tobacco fields and the hedgerow between them. The utility pole on left and shrubby hedgerow at midframe are located along the northern Site boundary</p> <p>June 8, 2020</p>
<p>Photo 4.</p>  A photograph showing a northwesterly view of two tobacco fields separated by a hedgerow. The fields are filled with rows of tobacco plants, and the hedgerow is a dense line of green shrubs. The sky is overcast with grey clouds.	<p>Description:</p> <p>Northwesterly view of the western (left) and eastern (right) tobacco fields and the hedgerow between them.</p> <p>July 15, 2020</p>





<p>Photo 5.</p> 	<p>Description:</p> <p>Southeasterly view of the Site from its northwestern corner. The western field in the foreground was recently planted with tobacco when the photo was taken. The wooded area on the right is an offsite forest area. The southern agricultural field (planted with rye during 2020) is the green open area seen at center.</p> <p>May 26, 2020</p>
<p>Photo 6.</p> 	<p>Description:</p> <p>Southeasterly view of the Site from just beyond its northwestern corner. The offsite field on left was planted with corn and the western tobacco field is seen at midframe. The southern agricultural field its drying winter rye is the tan open area seen at center beyond the tobacco field.</p> <p>July 15, 2020</p>

<p>Photo 7.</p>  A wide-angle photograph showing a vast field of tall, green agricultural crops, likely rye, under a clear blue sky. A dense line of green trees is visible on the left side, and a small building is partially visible in the distance.	<p>Description:</p> <p>Northerly view of the southern agricultural field (planted within rye during 2020) from bird call survey station 5 along the southern Site boundary.</p> <p>June 8, 2020</p>
<p>Photo 8.</p>  A photograph of a green agricultural field from a different angle. A large, dark wooden barn is visible on the left side. A line of trees is in the background under a cloudy sky.	<p>Description:</p> <p>Southwesterly view of the southern agricultural field from along its easterly hedgerow. The trees at right and in the background are offsite. The tobacco barn on the left is located along the southern Site boundary.</p> <p>May 26, 2020</p>





<p>Photo 9.</p> 	<p>Description:</p> <p>Easterly view of the heavily used farm road and tobacco barn along the southeastern Site boundary.</p> <p>May 20, 2020</p>
<p>Photo 10.</p> 	<p>Description:</p> <p>Northerly view of hardpacked farm road and low hedgerow between the western (left) and eastern (right) tobacco fields.</p> <p>May 20, 2020</p>



<p>Photo 11.</p> 	<p>Description:</p> <p>Southerly view of the farm road and hedgerows located east of the southern agricultural field.</p> <p>May 20, 2020</p>
<p>Photo 12.</p> 	<p>Description:</p> <p>Easterly view of the farm road and utility alignment along the northern Site boundary from bird call survey station 2.</p> <p>June 8, 2020</p>



<p>Photo 13.</p> 	<p>Description:</p> <p>Westerly view of the farm road and tobacco barn along the northern Site boundary near the Site access from Rockville Road.</p> <p>July 15, 2020</p>
<p>Photo 14.</p> 	<p>Description:</p> <p>Southerly view of the wooded edge, farm road, and western tobacco field along the western Site boundary. The strip between the farm road and the agricultural field was recently mown when the photograph was taken.</p> <p>July 15, 2020</p>





<p>Photo 15.</p> 	<p>Description:</p> <p>Southerly view of the wooded edge, farm road, and western side of the southern field along the southeastern Site boundary.</p> <p>July 15, 2020</p>
<p>Photo 16.</p> 	<p>Description:</p> <p>Easterly view of tiger beetle habitat within the farm road located along the southern Site boundary.</p> <p>July 15, 2020</p>



Photo 17.



Description:

Northerly view of the loose sandy tiger beetle habitat located along the southern Site boundary.

July 15, 2020

Photo 18.



Description:

Easterly view of tiger beetle habitat located within an offsite farm road north of the Site.

May 20, 2020



Photo 19.



Description:

Tiger beetle copulation observed within a farm road north of the Site.

May 20, 2020

Photo 20.



Description:

Tiger beetle copulation observed within the farm road located along the southern Site boundary.

July 15, 2020



Photo 21.



Description:

Long-legged tiger beetle without distinctive elytral maculations observed within the northern offsite habitat area.

July 15, 2020

Photo 22.



Description:

Old-field toadflax in flower along the eastern edge of the farm road located along the western Site boundary.

June 8, 2020



Photo 23.



Description:

Old-field toadflax along the eastern edge of the farm road located along the western Site boundary.

June 8, 2020

Photo 24.



Description:

Old-field toadflax with fruiting capsules located offsite near the southern Site boundary.

July 15, 2020



Photo 25.



Description:

Old-field toadflax mowed down during vegetation management around the western edge of the western tobacco field.

July 15, 2020

Photo 26.



Description:

Southerly view from bird call survey station 1. The offsite field seen here was recently sprayed with herbicide prior to planting corn.

May 26, 2020



<p>Photo 27.</p> 	<p>Description:</p> <p>Southerly view of the western tobacco field from bird call survey station 2.</p> <p>June 8, 2020</p>
<p>Photo 28.</p> 	<p>Description:</p> <p>Northwesterly view from bird call survey station 3.</p> <p>May 20, 2020</p>



<p>Photo 29.</p> 	<p>Description:</p> <p>Northerly view of the eastern tobacco field from bird call survey station 4.</p> <p>June 8, 2020</p>
<p>Photo 30.</p> 	<p>Description:</p> <p>Easterly view from bird call survey station 6. The offsite agricultural field seen here was recently planted with corn after the winter rye cover was sprayed with herbicide.</p> <p>June 8, 2020</p>



Photo 31.



Description:

Brown thrasher heard calling from a perch in a tree within a hedgerow north of the Site.

May 26, 2020

Photo 32.





Description:

Northerly view of a bird box on a utility pole along the northern Site boundary. No activity was observed at this box during site investigations.

May 26, 2020



Photo 33.	Description:
	<p>Westerly view of a tree cavity within an offsite hedgerow. No activity was observed at this cavity during site investigations.</p> <p>May 26, 2020</p>
Photo 34.	Description:
	<p>Westerly view of a tree cavity offsite along the southeastern Site boundary. No activity was observed at this cavity during site investigations.</p> <p>June 8, 2020</p>

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## Attachment 2    Observed Vascular Plant List



	<i>Scientific Name</i>	<i>Common Name</i>	<i>Status</i>
1	<i>Acer rubrum</i>	red maple	Native
2	<i>Acer platanoides</i>	Norway maple	Non-native
3	<i>Acer saccharinum</i>	silver maple	Native
4	<i>Acer saccharum</i>	sugar maple	Native
5	<i>Achillea millefolium</i>	common yarrow	Native
6	<i>Agrostis capillaris</i>	colonial bentgrass	Non-native
7	<i>Agrostis scabra</i>	rough bentgrass	Native
8	<i>Alliaria petiolata</i>	garlic-mustard	Non-native
9	<i>Amaranthus hybridus</i>	green amaranth	Non-native
10	<i>Ambrosia artemisiifolia</i>	common ragweed	Native
11	<i>Amelanchier laevis</i>	smooth serviceberry	Native
12	<i>Ampelopsis glandulosa</i>	Amur peppervine	Invasive
13	<i>Anthoxanthum odoratum</i>	sweet vernalgrass	Non-Native
14	<i>Apocynum cannabinum</i>	hemp dogbane	Native
15	<i>Arabidopsis thaliana</i>	mouse-ear thale-cress	Non-native
16	<i>Arisaema triphyllum ssp. triphyllum</i>	Jack-in-the-pulpit	Native
17	<i>Artemisia vulgaris</i>	common wormwood	Non-native
18	<i>Asclepias syriaca</i>	common milkweed	Native
19	<i>Barbarea verna</i>	early yellow-rocket	Non-native
20	<i>Barbarea vulgaris</i>	garden yellow-rocket	Non-native
21	<i>Berberis thunbergii</i>	Japanese barberry	Invasive
22	<i>Betula papyrifera</i>	paper birch	Native
23	<i>Betula populifolia</i>	gray birch	Native
24	<i>Bromus commutatus</i>	meadow brome	Non-native
25	<i>Bromus tectorum</i>	cheat brome	Non-native
26	<i>Bulbostylis capillaris</i>	tufted hair-sedge	Native
27	<i>Capsella bursa-pastoris</i>	shepherd's-purse	Non-native
28	<i>Carex annectens</i>	yellow-fruited sedge	Native
29	<i>Carex normalis</i>	greater straw sedge	Native
30	<i>Carex pensylvanica</i>	Pennsylvania sedge	Native
31	<i>Carex scoparia</i>	pointed broom sedge	Native
32	<i>Carex vulpinoidea</i>	common fox sedge	Native
33	<i>Carya glabra</i>	pignut hickory	Native
34	<i>Carya tomentosa</i>	mockernut hickory	Native
35	<i>Catalpa speciosa</i>	northern catalpa	Non-native
36	<i>Celastrus orbiculatus</i>	Asian bittersweet	Invasive
37	<i>Cerastium arvense</i>	field chickweed	Non-native
38	<i>Chenopodium album</i>	lambsquarters	Non-native
39	<i>Corylus americana</i>	American hazelnut	Native
40	<i>Crataegus sp.</i>	hawthorn	
41	<i>Crepis tectorum</i>	narrow-leaved hawk's-beard	Non-native
42	<i>Dactylis glomerata</i>	orchard grass	Non-native
43	<i>Daucus carota</i>	wild carrot	Non-native
44	<i>Dennstaedtia punctilobula</i>	eastern hay-scented fern	Native
45	<i>Desmodium perplexum</i>	perplexed tick-trefoil	Native
46	<i>Dianthus armeria</i>	Deptford pink	Non-native

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47	<i>Dichanthelium clandestinum</i>	deer-tongue rosette-panicgrass	Native
48	<i>Draba verna</i>	spring draba	Non-native
49	<i>Dryopteris intermedia</i>	evergreen wood fern	Native
50	<i>Elaeagnus umbellata</i>	autumn-olive	Invasive
51	<i>Eleusine indica</i>	goosegrass	Non-native
52	<i>Erigeron annuus</i>	annual fleabane	Native
53	<i>Erigeron canadensis</i>	Canada fleabane	Native
54	<i>Erigeron strigosus</i>	rough fleabane	Native
55	<i>Euonymus alatus</i>	burning-bush	Invasive
56	<i>Fallopia convolvulus</i>	black bindweed	Non-native
57	<i>Fragaria virginiana</i>	common strawberry	Native
58	<i>Fraxinus americana</i>	white ash	Native
59	<i>Galinsoga quadriradiata</i>	common quickweed	Non-native
60	<i>Galium aparine</i>	scratch bedstraw	Native
61	<i>Galium mollugo</i>	whorled bedstraw	Non-native
62	<i>Glechoma hederacea</i>	gill-over-the-ground	Invasive
63	<i>Gypsophila muralis</i>	low baby's-breath	Non-native
64	<i>Hieracium caespitosum</i>	yellow hawkweed	Non-native
65	<i>Houstonia caerulea</i>	little bluet	Native
66	<i>Hypericum perforatum</i>	common St. John's-wort	Non-native
67	<i>Hypericum punctatum</i>	spotted St. John's-wort	Native
68	<i>Ilex verticillata</i>	common winterberry	Native
69	<i>Impatiens capensis</i>	jewelweed	Native
70	<i>Juglans cinerea</i>	butternut	Native
71	<i>Juncus effusus</i>	common soft rush	Native
72	<i>Juncus tenuis</i>	path rush	Native
73	<i>Juniperus virginiana</i>	eastern red cedar	Native
74	<i>Lactuca biennis</i>	tall blue lettuce	Native
75	<i>Lechea mucronata</i>	hairy pinweed	Native
76	<i>Lepidium campestre</i>	field pepperweed	Non-native
77	<i>Lepidium virginicum</i>	poor-man's pepperweed	Native
78	<i>Lespedeza capitata</i>	round-headed bush-clover	Native
79	<i>Lespedeza hirta</i>	hairy bush-clover	Native
80	<i>Leucanthemum vulgare</i>	ox-eye daisy	Non-native
81	<i>Lobelia inflata</i>	bladder-pod lobelia	Native
82	<i>Lolium multiflorum</i>	Italian rye grass	Non-native
83	<i>Lonicera morrowii</i>	Morrow's honeysuckle	Invasive
84	<i>Lonicera X bella</i>	showy fly honeysuckle	Invasive
85	<i>Luzula multiflora</i>	common wood rush	Native
86	<i>Lythrum salicaria</i>	purple loosestrife	Invasive
87	<i>Maianthemum canadense</i>	Canada-mayflower	Native
88	<i>Maianthemum racemosum</i>	feathery false Solomon's-seal	Native
89	<i>Malus</i> sp.	apple	
90	<i>Matricaria discoidea</i>	rayless chamomile	Non-native
91	<i>Morella caroliniensis</i>	small bayberry	Native
92	<i>Muhlenbergia</i> sp.	muhly	
93	<i>Nuttallanthus canadensis</i>	oldfield-toadflax	Native

## Attachment 2. Observed Vascular Plant List

94	<i>Oenothera biennis</i>	common evening-primrose	Native
95	<i>Onoclea sensibilis</i>	sensitive fern	Native
96	<i>Osmunda claytoniana</i>	interrupted fern	Native
97	<i>Oxalis dillenii</i>	slender yellow wood sorrel	Native
98	<i>Panicum philadelphicum</i> var. <i>campestre</i>	Philadelphia panicgrass	Native
99	<i>Parthenocissus quinquefolia</i>	Virginia creeper	Native
100	<i>Phalaris arundinacea</i>	reed canary grass	Invasive
101	<i>Phleum pratense</i>	common Timothy	Non-native
102	<i>Phytolacca americana</i>	American pokeweed	Native
103	<i>Pilea pumila</i>	Canada clearweed	Native
104	<i>Pinus strobus</i>	eastern white pine	Native
105	<i>Plantago lanceolata</i>	English plantain	Non-native
106	<i>Plantago rugelii</i>	Rugel's plantain	Native
107	<i>Poa annua</i>	annual blue grass	Non-native
108	<i>Poa compressa</i>	flat-stemmed blue grass	Invasive
109	<i>Poa nemoralis</i>	wood blue grass	Non-native
110	<i>Poa pratensis</i> ssp. <i>pratensis</i>	Kentucky blue grass	Non-native
111	<i>Polystichum acrostichoides</i>	Christmas fern	Native
112	<i>Populus deltoides</i>	eastern cottonwood	Native
113	<i>Populus grandidentata</i>	bigtooth aspen	Native
114	<i>Populus tremuloides</i>	quaking aspen	Native
115	<i>Potentilla canadensis</i>	dwarf cinquefoil	Native
116	<i>Potentilla recta</i>	sulphur cinquefoil	Non-native
117	<i>Potentilla simplex</i>	common cinquefoil	Native
118	<i>Prunella vulgaris</i>	common selfheal	Native
119	<i>Prunus pensylvanica</i>	pin cherry	Native
120	<i>Prunus serotina</i>	black cherry	Native
121	<i>Pteridium aquilinum</i>	bracken fern	Native
122	<i>Pycnanthemum tenuifolium</i>	narrow-leaved mountain-mint	Native
123	<i>Quercus alba</i>	eastern white oak	Native
124	<i>Quercus prinoides</i>	dwarf chestnut oak	Native
125	<i>Quercus velutina</i>	black oak	Native
126	<i>Ranunculus abortivus</i>	kidney-leaved crowfoot	Native
127	<i>Rhus glabra</i>	smooth sumac	Native
128	<i>Rhus hirta</i>	staghorn sumac	Native
129	<i>Robinia pseudoacacia</i>	black locust	Invasive
130	<i>Rorippa palustris</i>	common yellow-cress	Native
131	<i>Rosa multiflora</i>	multiflora rose	Invasive
132	<i>Rubus allegheniensis</i>	common blackberry	Native
133	<i>Rubus flagellaris</i>	northern blackberry	Native
134	<i>Rubus idaeus</i>	red raspberry	Native
135	<i>Rubus occidentalis</i>	black raspberry	Native
136	<i>Rumex acetosella</i>	common sheep sorrel	Invasive
137	<i>Rumex crispus</i>	curly dock	Non-native
138	<i>Rumex obtusifolius</i>	bitter dock	Non-native
139	<i>Salix alba</i>	white willow	Non-native
140	<i>Salix discolor</i>	pussy willow	Native

## Attachment 2. Observed Vascular Plant List

141	<i>Salix nigra</i>	black willow	Native
142	<i>Sambucus nigra</i>	black elderberry	Native
143	<i>Sassafras albidum</i>	sassafras	Native
144	<i>Schedonorus arundinaceus</i>	tall rye grass	Non-native
145	<i>Schizachyrium scoparium</i>	little bluestem	Native
146	<i>Setaria faberi</i>	Chinese foxtail	Non-native
147	<i>Silene antirrhina</i>	sleepy campion	Native
148	<i>Silene dioica</i>	red campion	Non-native
149	<i>Silene latifolia</i>	white campion	Non-native
150	<i>Sisymbrium officinale</i>	common hedge-mustard	Non-native
151	<i>Solanum dulcamara</i>	climbing nightshade	Non-native
152	<i>Solidago canadensis</i>	Canada goldenrod	Native
153	<i>Solidago gigantea</i>	smooth goldenrod	Native
154	<i>Solidago nemoralis</i>	gray goldenrod	Native
155	<i>Solidago rugosa</i>	common wrinkle-leaved goldenrod	Native
156	<i>Solidago juncea</i>	early goldenrod	Native
157	<i>Stellaria media</i>	common starwort	Non-native
158	<i>Swida amomum</i>	silky dogwood	Native
159	<i>Swida racemosa</i>	gray dogwood	Native
160	<i>Symphyotrichum</i> sp.	american-aster	
161	<i>Taraxacum officinale</i>	dandelion	Non-native
162	<i>Taxus</i> sp.	yew	
163	<i>Thuja occidentalis</i>	northern white-cedar	Native
164	<i>Toxicodendron radicans</i>	poison ivy	Native
165	<i>Trifolium arvense</i>	rabbit-foot clover	Non-native
166	<i>Trifolium pratense</i>	red clover	Non-native
167	<i>Trifolium repens</i>	white clover	Non-native
168	<i>Triodanis perfoliata</i>	clasping-leaved Venus'-looking-glass	Native
169	<i>Turritis glabra</i>	tower-mustard	Native
170	<i>Ulmus rubra</i>	slippery elm	Native
171	<i>Urtica dioica</i>	stinging nettle	Native
172	<i>Vaccinium corymbosum</i>	highbush blueberry	Native
173	<i>Verbascum thapsus</i>	common mullein	Non-native
174	<i>Verbena urticifolia</i>	white vervain	Native
175	<i>Veronica arvensis</i>	corn speedwell	Non-native
176	<i>Veronica peregrina</i>	purslane speedwell	Native
177	<i>Viburnum acerifolium</i>	maple-leaved viburnum	Native
178	<i>Viburnum dentatum</i> var. <i>lucidum</i>	smooth arrowwood	Native
179	<i>Vicia cracca</i>	cow vetch	Non-native
180	<i>Vicia tetrasperma</i>	four-seeded vetch	Non-native
181	<i>Viola sororia</i>	woolly blue violet	Native
182	<i>Viola tricolor</i>	garden violet	Non-native
183	<i>Vitis labrusca</i>	fox grape	Native
184	<i>Vitis riparia</i>	river grape	Native

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## **Attachment 3      Biologist Qualifications**

# Brett Trowbridge

## Senior Ecologist



### Education

BS, Biotechnology, Worcester Polytechnic Institute, 2002

### Affiliations/ Memberships

New England Botanical Club (NEBC) Councillor (2019-present)

New England Botanical Club President (2017-2019)

NEBC Herbarium Volunteer

New England Plant Conservation Program (NEPCoP) Task Force Member

NEPCoP Plant Conservation Volunteer Corps Member

Botanical Club of Cape Cod and the Islands

Torrey Botanical Society

New York Flora Association

Timber Rattlesnake Recovery Group

Massachusetts Association of Conservation Commissioners

Association of Massachusetts Wetland Scientists

Conservation Commissioner Princeton, MA (2014-2017)

Brett is a Senior Ecologist in the Natural Sciences Group in VHB's Worcester, Massachusetts, office. He has a diverse background in environmental services, specializing in botanical inventories, wildlife surveys, habitat assessments, vernal pool ecology, wetland delineation, wetlands and wildlife permitting, mitigation, and construction monitoring. Brett has successfully contributed to numerous local, state, and federal environmental permit applications in the Northeast. He frequently integrates Global Positioning System (GPS) and Global Information System (GIS) technologies into his field work and permitting.

*17 years of professional experience*

### Solar Project (GRE Gacurux LLC), Waterford CT

Brett surveyed for state-listed and federally-listed plants (needlegrass, Small Whorled Pogonia, and Nuttall's Milkwort) and conducted habitat evaluations for Spotted Turtle, Smooth Green Snake, Eastern Box Turtle, and Eastern Ribbon Snake throughout a 150-acre site. He subsequently prepared a rare species survey summary for CT DEEP review.

### Putnam Park Marina, Wethersfield, CT

Brett surveyed a 9.4-acre site for state-listed plants (Wiegand's Wild Rye and Northern Arrowhead) and evaluated habitat for state-listed amphibians and fish (Mudpuppy, Northern Leopard Frog, Shortnose Sturgeon, and Atlantic Sturgeon). After the field work was conducted, Brett prepared a state-listed species summary for CT DEEP review and identified rare species protection methods during construction of a new marina along the Connecticut River.

### The Ridge at Talcott Mountain, Simsbury, CT

Brett conducted vernal pool evaluations throughout wetlands on a 173-acre site and performed habitat assessments, and surveys for several CT state-listed herpetological (*Ambystoma jeffersonianum*, *Ambystoma laterale*, *Clemmys guttata*, *Heterodon platirhinos*, *Lithobates pipiens*, *Terrapene carolina*, and *Thamnophis sauritus*) and vascular plant species (*Carex davisii*, *Desmodium glabellum*, *Drymocallis arguta*, *Elymus wiegandii*, *Hydrophyllum virginianum*, and *Silene stellata*). He subsequently prepared a Habitat Assessment & Project Description for CT DEEP review and submitted observation records for each observed rare species.

### Solar Project (Next ERA), Montville, CT

Brett conducted survey transects throughout a 136-acre site to identify potential vernal pool habitat. Subsequently, he conducted wading surveys within potential vernal pool areas to document conditions and evaluate whether conditions are suitable for breeding by vernal pool species. Brett prepared a vernal pool summary memorandum along with vernal pool data sheets and photographs of two cryptic vernal pools that were identified on the site CT DEEP review.

### Solar Project (Well Road intermediate School), Granby, CT

As part of the pre-construction environmental due-diligence and permitting for a photovoltaic development, Brett investigated a 15-acre site for vernal pools. He identified four cryptic vernal pools and prepared a summary report and associated vernal pool data sheets for CT DEEP review.



**New England Power Company Transmission Line Reliability Project, Tewksbury, Pelham, Windham, Hudson, Londonderry, NH**

For this interstate transmission reliability project, Brett performed due-diligence field work and negotiated approvals to work within state-listed species habitat areas with the NH Fish and Game and the NH Natural Heritage Bureau. His field work entailed pre-construction surveys and habitat evaluations for NH state-listed reptiles (black racer, spotted, wood, and Blanding's turtles) and pre-construction botanical surveys. He subsequently prepared state-listed snake, turtle, and plant protection plans to be implemented during construction. Brett provided environmental monitoring to ensure on-site compliance with permit conditions during ~12 months of construction, including capturing and translocating rare herpetiles away from work zones. He is currently monitoring project work areas to document restoration of rare plant habitat areas.

**Substation Upgrades and Transmission Line Reconfiguration, Adams, MA**

Brett assisted with permitting under MA Division of Fisheries and Wildlife, MA Department of Environmental Protection, and US Army Corps of Engineers regulations for this transmission reliability project, which included work within rare species habitat and involved temporary and permanent impacts to wetlands and rare species. He performed pre-construction, due-diligence botanical surveys, and prepared a rare plant protection plan and a comprehensive 2-acre wetland rehabilitation plan, which included tree and shrub plantings, mowing, and treatment of invasive plants. Brett provided construction monitoring during site work and wetland rehabilitation. He commenced long-term monitoring of the site during 2019 to document effectiveness of treatments and confirm that site conditions meet wetland rehabilitation goals.

**Solar Development, Merrimack, NH**

Brett conducted weekly surveys for eastern hognose snake and black racers prior to commencement of construction for a 12-acre, ground-mounted solar array involving tree removal and grading. His field work also included surveys for vascular plants: bird-foot violet and red threeawn. Brett documented snake and rare plant observations throughout the site and prepared report materials for NHF&G.

**Granite Bridge Pipeline and Liquefied Natural Gas Facility, Manchester, Auburn, Candia, Raymond, Epping, Brentwood, Exeter, and Stratham, NH**

Brett identified areas of suitable turtle nesting along the 27-mile project alignment to be surveyed for state-listed turtle nesting during and in advance of construction. Brett worked with NHF&G to establish an appropriate snake survey protocol and conducted fall and spring snake surveys within areas that were identified as potential habitat for black racers.

**Eversource New Right-of-way, Hudson, Stowe, Marlborough, Sudbury, MA**

For this ± 7.6-mile-long, new transmission line project, Brett conducted vernal pool evaluations and habitat assessments for MA state-listed whip-poor-will, wood turtle, eastern box turtle, and blue-spotted salamander. Brett prepared Massachusetts Endangered Species Act (MESA) Project Review Checklist for the project review by the MA Division of Fisheries and Wildlife (MA DFW).

**Town Well Testing, Maynard, MA**

Brett generated a Blanding's turtle protection plan for the Town of Maynard Department of Public Works for groundwater pump testing associated with a potential new Town public water supply well. After receiving approval from the MA DFW to serve

## Brett Trowbridge

as the qualified biologist for the project and obtaining a Scientific Collection Permit from the MA DFW, Brett conducted a turtle training session for project workers and conducted turtle surveys throughout the work area immediately prior to the daily construction.

### **Wellesley College Science Center Renovations, Wellesley, MA**

For this three-year, multi-phase renovation and construction project, Brett performed a habitat assessment within the wetland buffer zone on the project site. After field inspection, Brett documented the site conditions and habitat features and made recommendations pertaining to wildlife within a letter to the Wellesley Natural Resources Commission (WNRC). Subsequently, Brett met the WNRC agent at the project site to discuss wildlife considerations for the project.

### **Eversource Line 312 Structure Replacement, Montague, MA**

Brett generated an Eastern Box Turtle protection plan and obtained a Scientific Collection Permit for handling this state-listed species during project construction. Brett also conducted surveys for American Bittersweet for this transmission infrastructure project. Following construction, Brett provided a summary of protection plan activities and submitted rare species observation records to the MA DFW.

### **Stone Ridge, Milford, MA**

This project entailed updating wetlands and wildlife permits for commercial development of an 80-acre property located within wood turtle habitat. Brett prepared permit amendment requests for review by the MA Department of Environmental Protection, the Milford Conservation Commission, and the MA DFW based on updated project design plans. Brett also generated a wood turtle protection plan to be implemented during project construction.

### **Rumney Salt Marsh Restoration Monitoring, Saugus, MA**

DEP Wetland Variance and USACE Section 404/Section 10 Permits for Logan Runway Safety Area projects require post-construction monitoring of a 4.2-acre salt marsh restoration area of Rumney Marsh. Brett implemented the post-construction monitoring protocol, including establishment of monitoring locations, installation of permanent markers, accretion sampling stations, and a tide staff gauge. Brett has conducted 2 years of vegetation, accretion, and hydrology monitoring, and prepared associated memoranda and annual reports. Brett will continue monitoring marsh reestablishment during 2019.

### **Worcester Airport CAT III ILS & Taxiway Improvements, Worcester, MA**

The CAT-III ILS and Taxiway Project at the Worcester Airport resulted in the permanent loss of bordering vegetated wetlands and Massport designed and constructed a 7,320 square foot compensatory wetland. Habitat for grasshopper sparrow was also altered during the project and a Conservation and Management Permit was issued by the MA DFW. During 2018, Brett conducted multiple vegetation monitoring events, preparing interim reports after each, and prepared an annual year end summary report. He will monitor the restored wetland again during fall 2019. During spring 2019, Brett generated a vascular plant species list of the airports grasslands and conducted follow-up monitoring for grasshopper sparrows, with positive findings for this species.

---

## **Attachment 3**

### **Previously Submitted NDDB Application**



Connecticut Department of  
 Energy & Environmental Protection  
 Bureau of Natural Resources  
 Wildlife Division

CPPU USE ONLY	
App #:	_____
Doc #:	_____
Check #:	No fee required
Program:	Natural Diversity Database Endangered Species
Hardcopy _____	Electronic _____

## Request for Natural Diversity Data Base (NDDB) State Listed Species Review

Please complete this form in accordance with the [instructions](#) (DEEP-INST-007) to ensure proper handling of your request.

**There are no fees associated with NDDB Reviews.**

### Part I: Preliminary Screening & Request Type

Before submitting this request, you must review the most current Natural Diversity Data Base "State and Federal Listed Species and Significant Natural Communities Maps" found on the [DEEP website](#). These maps are updated twice a year, usually in June and December.

Does your site, including all affected areas, fall in an NDDB Area according to the map instructions:

Yes     No    **Enter the date of the map reviewed for pre-screening: Reviewed August 2019 using CTDEEP NDDB December 2018 map.**

This form is being submitted for a :

*New NDDB request*  
 *Renewal/Extension of a NDDB Request, **without modifications and within two years of issued NDDB determination** (no attachments required)*

[CPPU Use Only - NDDB-Listed Species Determination # 1736]

*New **Safe Harbor Determination** (optional) must be associated with an application for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities*  
 *Renewal/Extension of an existing Safe Harbor Determination*  
 *With modifications*  
 *Without modifications (no attachments required)*

[CPPU Use Only - NDDB-Safe Harbor Determination # 1736]

Enter NDDB Determination Number for Renewal/Extension:

Enter Safe Harbor Determination Number for Renewal/Extension:



## Part II: Requester Information

*\*If the requester is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, the name shall be stated **exactly** as it is registered with the Secretary of State. Please note, for those entities registered with the Secretary of State, the registered name will be the name used by DEEP. This information can be accessed at the Secretary of the State's database CONCORD.*

[www.concord-sots.ct.gov/CONCORD/index.jsp](http://www.concord-sots.ct.gov/CONCORD/index.jsp)

*If the requester is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).*

*If there are any changes or corrections to your company/facility or individual mailing or billing address or contact information, please complete and submit the [Request to Change company/Individual Information](#) to the address indicated on the form.*

### 1. Requester\*

Company Name: **Vanasse Hangen Brustlin, Inc**

Contact Name: **Jeffrey Shamas**

Address: **100 Great Meadows Road**

City/Town: **Wethersfield**

State: **CT**

Zip Code: **06109**

Business Phone: **860-807-4388**

ext.

\*\*E-mail: **jshamas@vhb.com**

**\*\*By providing this email address you are agreeing to receive official correspondence from the department, at this electronic address, concerning this request. Please remember to check your security settings to be sure you can receive emails from "ct.gov" addresses. Also, please notify the department if your e-mail address changes**

a) Requester can best be described as:

Individual       Federal Agency       State agency       Municipality       Tribal

\*business entity (\* if a business entity complete i through iii):

i) Check type  corporation       limited liability company       limited partnership

limited liability partnership       statutory trust       Other:

ii) Provide Secretary of the State Business ID #: \_\_\_\_\_ This information can be accessed at the Secretary of the State's database (CONCORD). ([www.concord-sots.ct.gov/CONCORD/index.jsp](http://www.concord-sots.ct.gov/CONCORD/index.jsp))

iii)  Check here if your business is **NOT** registered with the Secretary of State's office.

b) Acting as (Affiliation), pick one:

Property owner       Consultant       Engineer       Facility owner       Applicant

Biologist       Pesticide Applicator       Other representative:

### 2. List Primary Contact to receive Natural Diversity Data Base correspondence and inquiries, if different from requester.

Company Name:

Contact Person:

Title:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.

\*\*E-mail:

### Part III: Site Information

This request can only be completed for one site. A separate request must be filed for each additional site.

<p><b>1. SITE NAME AND LOCATION</b></p> <p>Site Name or Project Name: <b>Clean Focus Renewable Solar Project</b></p> <p>Town(s): <b>East Windsor</b></p> <p>Street Address or Location Description: <b>Wapping Rd, Rockville Rd, Miller Rd, and Barber Hill Rd</b></p> <p>Size in acres, or site dimensions: <b>104 acres</b></p> <p>Latitude and longitude of the center of the site in decimal degrees (e.g., 41.23456 -71.68574):</p> <p>Latitude: <b>41.882742</b> Longitude: <b>72.53625</b></p> <p>Method of coordinate determination (check one):</p> <p><input type="checkbox"/> GPS    <input type="checkbox"/> Photo interpolation using <a href="#">CTECO map viewer</a>    <input checked="" type="checkbox"/> Other (specify): <b>Google Earth</b></p> <p>2a. Describe the current land use and land cover of the site.</p> <p><b>The project site is currently comprised of approximately 104 acres of an active agricultural farmland. The Site will be utilized for an approximate 20 megawatt AC Solar photovoltaic electric generating facility. Based on review of the December 2018 NDDB map, the proposed site is not located in an overlay representing endangered, threatened and/or special concern species. There is a a polygon located immediately east of the northern parcel boundary.</b></p> <p>b. Check all that apply and enter the size in acres or % of area in the space after each checked category.</p> <table><tr><td><input type="checkbox"/> Industrial/Commercial _____</td><td><input type="checkbox"/> Residential _____</td><td><input type="checkbox"/> Forest _____</td></tr><tr><td><input checked="" type="checkbox"/> Wetland <u>5</u></td><td><input type="checkbox"/> Field/grassland _____</td><td><input checked="" type="checkbox"/> Agricultural <u>95</u></td></tr><tr><td><input type="checkbox"/> Water _____</td><td><input type="checkbox"/> Utility Right-of-way _____</td><td></td></tr><tr><td><input type="checkbox"/> Transportation Right-of-way _____</td><td><input type="checkbox"/> Other (specify): _____</td><td></td></tr></table>	<input type="checkbox"/> Industrial/Commercial _____	<input type="checkbox"/> Residential _____	<input type="checkbox"/> Forest _____	<input checked="" type="checkbox"/> Wetland <u>5</u>	<input type="checkbox"/> Field/grassland _____	<input checked="" type="checkbox"/> Agricultural <u>95</u>	<input type="checkbox"/> Water _____	<input type="checkbox"/> Utility Right-of-way _____		<input type="checkbox"/> Transportation Right-of-way _____	<input type="checkbox"/> Other (specify): _____	
<input type="checkbox"/> Industrial/Commercial _____	<input type="checkbox"/> Residential _____	<input type="checkbox"/> Forest _____										
<input checked="" type="checkbox"/> Wetland <u>5</u>	<input type="checkbox"/> Field/grassland _____	<input checked="" type="checkbox"/> Agricultural <u>95</u>										
<input type="checkbox"/> Water _____	<input type="checkbox"/> Utility Right-of-way _____											
<input type="checkbox"/> Transportation Right-of-way _____	<input type="checkbox"/> Other (specify): _____											

### Part IV: Project Information

<p><b>1. PROJECT TYPE:</b></p> <p>Choose Project Type: Other , If other describe: <b>Solar Photovoltaic Development</b></p>
<p>2. Is the subject activity limited to the maintenance, repair, or improvement of an existing structure within the existing footprint?    <input type="checkbox"/> Yes    <input checked="" type="checkbox"/> No    If yes, explain.</p>

## Part IV: Project Information (continued)

3. Give a detailed description of the activity which is the subject of this request and describe the methods and equipment that will be used. Include a description of steps that will be taken to minimize impacts to any known listed species.

**The Project owner, Clean Focus Renewables is submitting this NDDB Review Request for the proposed installation of an approximate 20 megawatt AC photovoltaic electric generating facility. The total lease area is comprised of approximately 104 acres.**

**The proposed activities for this project include: grading, top soil removal and replacement, construction of a new gravel access road, installation of photovoltaic arrays and equipment pads, and the installation of a chain-link security fence along the facility's perimeter. Soils will be stabilized with grass planting and stormwater will be controlled with structural BMP designed by engineers. This project is intended to participate in Connecticut's Virtual Net Metering program. Temporary construction measures will follow 2002 Connecticut Guidelines for Soil Erosion and Sediment Control to minimize secondary impacts.**

4. If this is a renewal or extension of an existing Safe Harbor request *with* modifications, explain what about the project has changed.

**N/A**

5. Provide a contact for questions about the project details if different from Part II primary contact.

Name:

Phone:

E-mail:



## Part V: Request Requirements and Associated Application Types

Check *one* box from either Group 1, Group 2 *or* Group 3, indicating the appropriate category for this request.

Group 1. If you check one of these boxes, complete Parts I – VII of this form and submit the required attachments A and B.

- Preliminary screening was negative but an NDDB review is still requested
- Request regards a municipally regulated or unregulated activity (no state permit/certificate needed)
- Request regards a preliminary site assessment or project feasibility study
- Request relates to land acquisition or protection
- Request is associated with a *renewal* of an existing permit or authorization, with no modifications

**Group 2.** If you check one of these boxes, complete Parts I – VII of this form and submit required attachments A, B, *and* C.

- Request is associated with a *new* state or federal permit or authorization application or registration
- Request is associated with modification of an existing permit or other authorization
- Request is associated with a permit enforcement action
- Request regards site management or planning, requiring detailed species recommendations
- Request regards a state funded project, state agency activity, or CEPA request

**Group 3.** If you are requesting a **Safe Harbor Determination**, complete Parts I-VII and submit required attachments A, B, and D. Safe Harbor determinations can only be requested if you are applying for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

If you are filing this request as part of a state or federal permit application(s) enter the application information below.

Permitting Agency and Application Name(s):

**Connecticut Siting Council**

Related State DEEP Permit Number(s), if applicable: \_\_\_\_\_

State DEEP Enforcement Action Number, if applicable: \_\_\_\_\_

State DEEP Permit Analyst(s)/Engineer(s), if known: \_\_\_\_\_

Is this request related to a previously submitted NDDB request?  Yes  No

If yes, provide the previous NDDB Determination Number(s), if known: \_\_\_\_\_

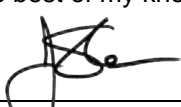
## Part VI: Supporting Documents

Check each attachment submitted as verification that *all* applicable attachments have been supplied with this request form. Label each attachment as indicated in this part (e.g., Attachment A, etc.) and be sure to include the requester's name, site name and the date. **Please note that Attachments A and B are required for all new requests and Safe Harbor renewals/extensions with modifications.** Renewals/Extensions with no modifications do not need to submit any attachments. Attachments C and D are supplied at the end of this form.

<input checked="" type="checkbox"/> Attachment A:	<b>Overview Map:</b> an 8 1/2" X 11" print/copy of the relevant portion of a USGS Topographic Quadrangle Map clearly indicating the exact location of the site.
<input checked="" type="checkbox"/> Attachment B:	<b>Detailed Site Map:</b> fine scaled map showing site boundary and area of work details on aerial imagery with relevant landmarks labeled. (Site and work boundaries in GIS [ESRI ArcView shapefile, in NAD83, State Plane, feet] format can be substituted for detailed maps, see instruction document)
<input checked="" type="checkbox"/> Attachment C:	<b>Supplemental Information, Group 2 requirement (attached, DEEP-APP-007C)</b> <input checked="" type="checkbox"/> Section i: Supplemental Site Information and supporting documents <input type="checkbox"/> Section ii: Supplemental Project Information and supporting documents
<input type="checkbox"/> Attachment D:	<b>Safe Harbor Report Requirements, Group 3 (attached, DEEP-APP-007D)</b>

## Part VII: Requester Certification

The requester *and* the individual(s) responsible for actually preparing the request must sign this part. A request will be considered incomplete unless all required signatures are provided.

<p>"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief."</p>	
 _____ Signature of Requester (a typed name will substitute for a handwritten signature)	_____ Date
<b>Jeffrey R. Shamas</b> _____ Name of Requester (print or type)	<b>Director of Env. Services</b> _____ Title (if applicable)
_____ Signature of Preparer (if different than above)	_____ Date
_____ Name of Preparer (print or type)	_____ Title (if applicable)

Note: Please submit the completed Request Form and all Supporting Documents to:

CENTRAL PERMIT PROCESSING UNIT  
 DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION  
 79 ELM STREET  
 HARTFORD, CT 06106-5127

Or email request to: [deep.nddbrequest@ct.gov](mailto:deep.nddbrequest@ct.gov)

# Attachment C: Supplemental Information, Group 2 requirement

## Section i: Supplemental Site Information

### 1. Existing Conditions

Describe all natural and man-made features including wetlands, watercourses, fish and wildlife habitat, floodplains and any existing structures potentially affected by the subject activity. Such features should be depicted and labeled on the site plan that must be submitted. Photographs of current site conditions may be helpful to reviewers.

**The wetland delineation is underway and should be completed the week of August 5<sup>th</sup> 2019. The solar array will be designed to avoid and minimize impacts to field delineated wetlands.**

- Site Photographs (optional) attached**
- Site Plan/sketch of existing conditions attached**

### 2. Biological Surveys

Has a biologist visited the site and conducted a biological survey to determine the presence of any endangered, threatened or special concern species  Yes  No

If yes, complete the following questions and submit any reports of biological surveys, documentation of the biologist's qualifications, and any NDDB survey forms.

Biologist(s) name: \_\_\_\_\_

Habitat and/or species targeted by survey: \_\_\_\_\_

Dates when surveys were conducted: \_\_\_\_\_

- Reports of biological surveys attached**
- Documentation of biologist's qualifications attached**
- [NDDB Survey forms](#) for any listed species observations attached**

## Section ii: Supplemental Project Information

1. Provide a schedule for all phases of the project including the year, the month and/or season that the proposed activity will be initiated and the duration of the activity.

**Perimeter sediment controls will be installed before grubbing and temporary structural sediment controls will be installed within the work site.**

**Project construction will likely take 6-8 months and is expected to begin late Winter 2020. Construction will include the installation of the solar panels, access road(s), and structural stormwater best management practices (BMPs).**

**Following the construction phase, the site will be maintained by mowing and vegetation maintenance outside of the array to avoid shading panels and will incorporate any CT DEEP-required seasonal restrictions.**

**The anticipated project lifespan is 35 years and after that point the Project Area will be restored in accordance with a Decommissioning Plan.**



2. Describe and quantify the proposed changes to existing conditions and describe any on-site or off-site impacts. In addition, provide an annotated site plan detailing the areas of impact and proposed changes to existing conditions.

**The lease area is approximately 104 acres to be developed for the proposed facility. Wetlands on the Site will be an assigned nominal 100-foot buffer. No project disturbance will occur in wetlands, watercourses or within 100 feet of these features.**

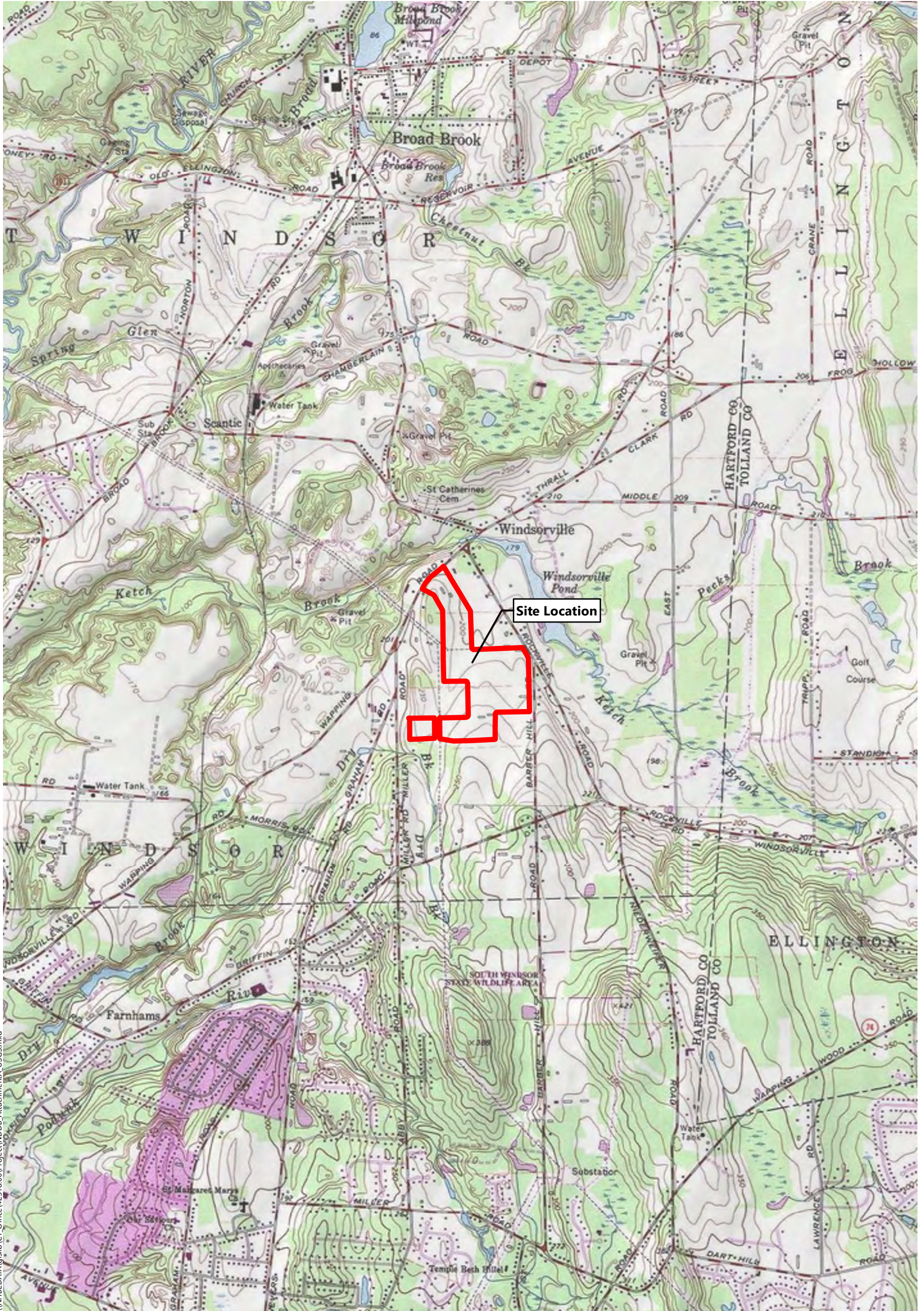
**Annotated Site Plan attached**

# Attachment D: Safe Harbor Report Requirements

Submit a report, as Attachment D, that synthesizes and analyzes the information listed below. Those providing synthesis and analysis need appropriate qualifications and experience. A request for a safe harbor determination shall include:

- 1. Habitat Description and Map(s), including GIS mapping overlays, of a scale appropriate for the site, identifying:**
  - wetlands, including wetland cover types;
  - plant community types;
  - topography;
  - soils;
  - bedrock geology;
  - floodplains, if any;
  - land use history; and
  - water quality classifications/criteria.
- 2. Photographs** - The report should include photographs of the site taken from the ground and also all reasonably available aerial or satellite photographs and an analysis of such photographs.
- 3. Inspection** - A visual inspection(s) of the site should be conducted, preferably when the ground is visible, and described in the report. This inspection can be helpful in confirming or further evaluating the items noted above.
- 4. Biological Surveys** - The report should include all biological surveys of the site where construction activity will take place that are reasonably available to a registrant. A registrant shall notify the Department's Wildlife Division of biological studies of the site where construction activity will take place that a registrant is aware of but are not reasonably available to the registrant.
- 5. Based on items #1 through 4 above, the report shall include a Natural Resources Inventory of the site of the construction activity.** This inventory should also include a review of reasonably available scientific literature and any recommendations for minimizing adverse impacts from the proposed construction activity on listed species or their associated habitat.
- 6. In addition, to the extent the following is available at the time a safe harbor determination is requested, a request for a safe harbor determination shall include and assess:**
  - Information on Site Disturbance Estimates/Site Alteration information
  - Vehicular Use
  - Construction Activity Phasing Schedules, if any; and
  - Alteration of Drainage Patterns





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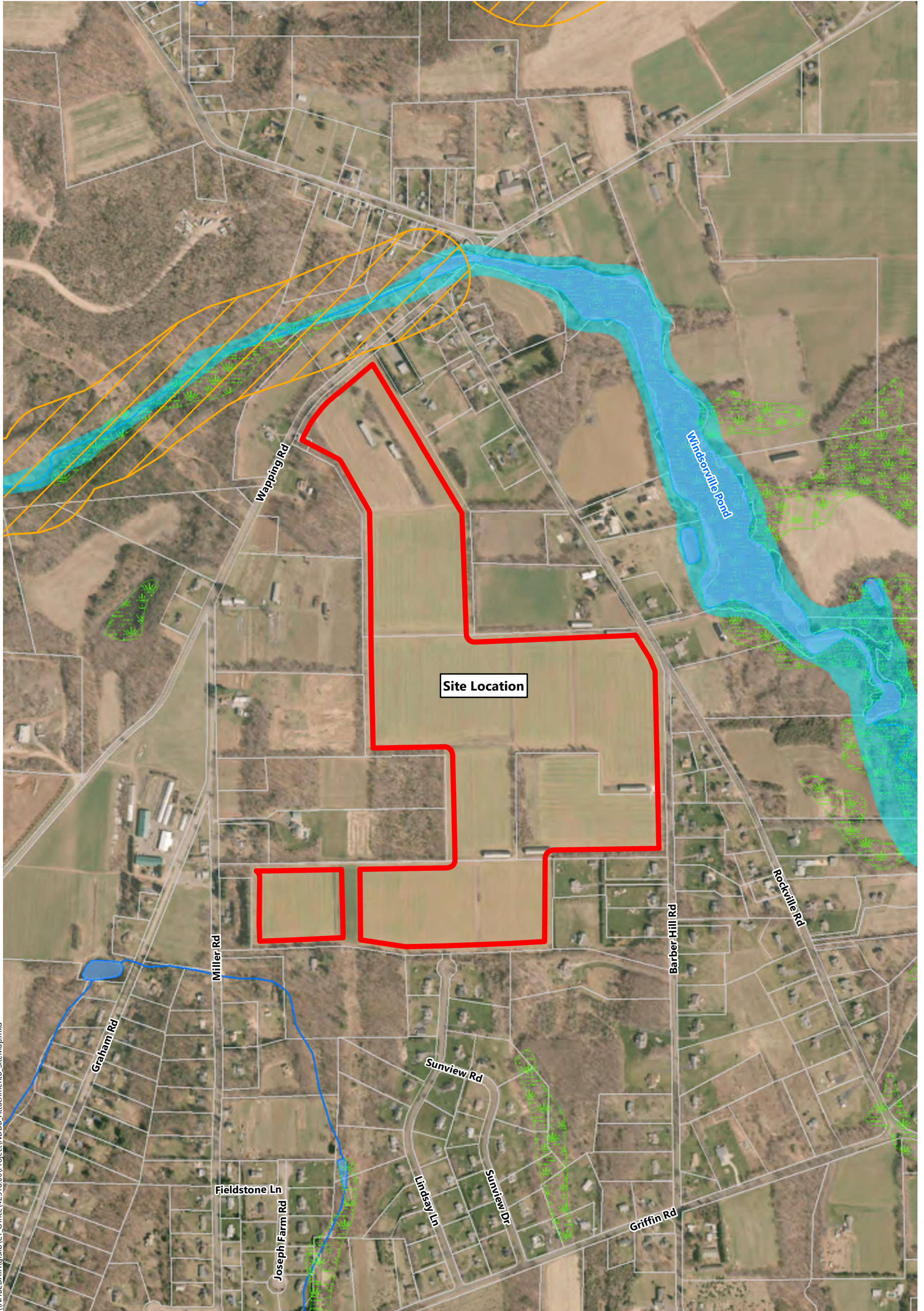
Site Location

Clean Focus

East Windsor, Connecticut

Overview Map





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**Clean Focus**

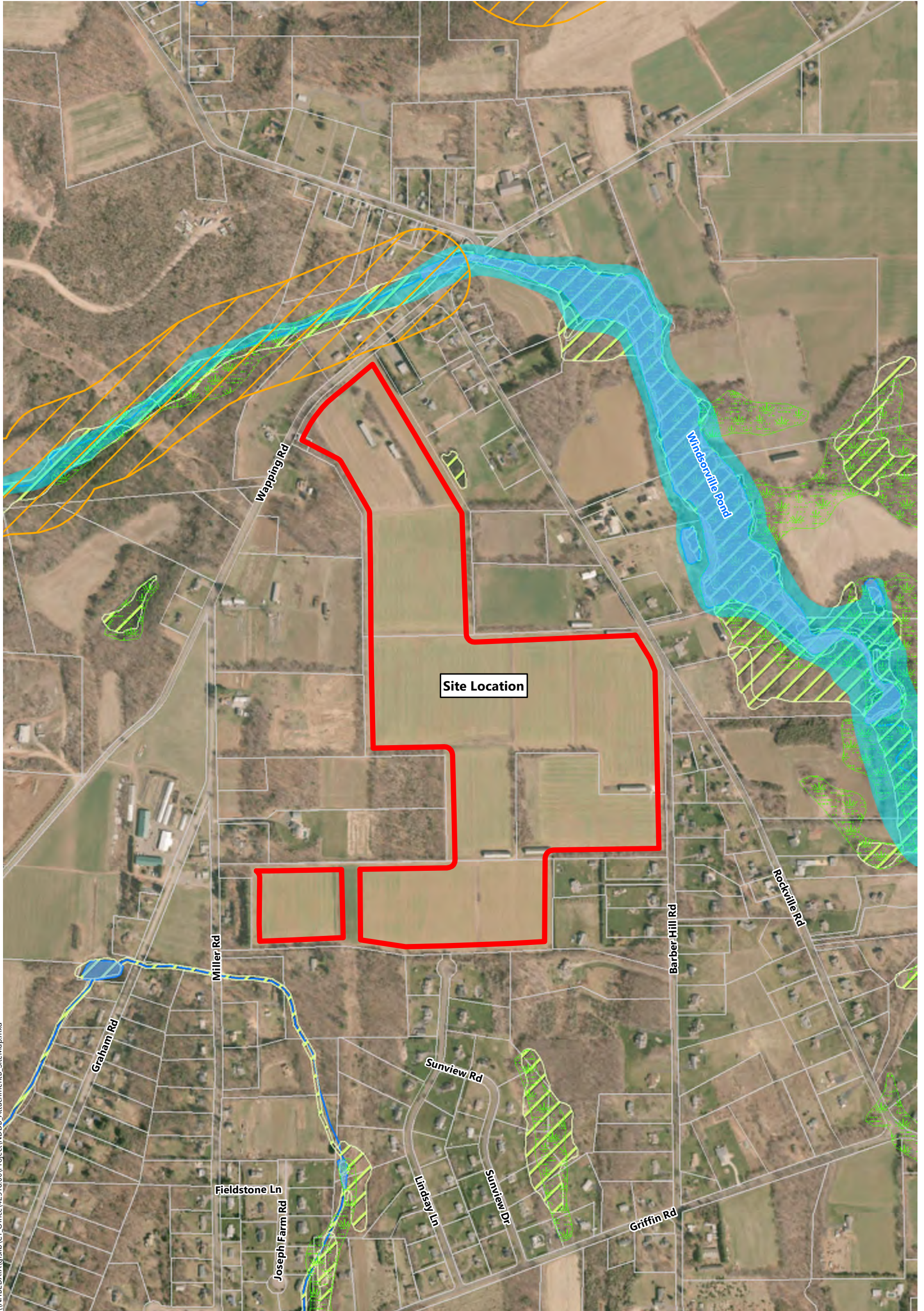
East Windsor, Connecticut

- Site Location
- Parcel Boundary
- NDDB Area (CTDEEP, 12/20/2018)
- Hydrography
- Wetlands (CTDEEP, 2005)
- Open Water
- 100 Year Flood Zone

Resources not Present at Current Extent:  
 - Critical Habitat (CTDEEP, 12/20/2018)  
 - National Wetland Inventory Wetlands

**Detailed Site Map**





\\NH\B\DATA\GIS\lib\CT\_Office\42518.00\Project\NDDDB\_AttachmentB\_SiteMap.mxd



**Clean Focus**

East Windsor, Connecticut

- Site Location
- Parcel Boundary
- NDDDB Area (CTDEEP, 12/20/2018)
- Hydrography
- Wetlands (CTDEEP, 2005)
- National Wetland Inventory Wetlands
- Open Water
- 100 Year Flood Zone

Resources not Present at Current Extent:  
- Critical Habitat (CTDEEP, 12/20/2018)

**Detailed Site Map**


Source Info: VHB, CTDEEP, USFWS, USGS



# Natural Diversity Data Base Areas

EAST WINDSOR, CT

December 2018

 State and Federal Listed Species & Significant Natural Communities

 Town Boundary

NOTE: This map shows general locations of State and Federal Listed Species and Significant Natural Communities. Information on listed species is collected and compiled by the Natural Diversity Data Base (NDDB) from a number of data sources. Exact locations of species have been buffered to produce the general locations. Exact locations of species and communities occur somewhere in the shaded areas, not necessarily in the center. A new mapping format is being employed that more accurately models important riparian and aquatic areas and eliminates the need for the upstream/downstream searches required in previous versions.

This map is intended for use as a preliminary screening tool for conducting a Natural Diversity Data Base Review Request. To use the map, locate the project boundaries and any additional affected areas. If the project is within a shaded area there may be a potential conflict with a listed species. For more information, complete a Request for Natural Diversity Data Base State Listed Species Review form (DEP-APP-007), and submit it to the NDDB along with the required maps and information. More detailed instructions are provided with the request form on our website.

[www.ct.gov/deep/nddbrequest](http://www.ct.gov/deep/nddbrequest)

Use the CTECO Interactive Map Viewers at [www.cteco.uconn.edu](http://www.cteco.uconn.edu) to more precisely search for and locate a site and to view aerial imagery with NDDB Areas.

QUESTIONS: Department of Energy and Environmental Protection (DEEP)  
79 Elm St., Hartford CT 06106  
Phone (860) 424-3011



Connecticut Department of Energy & Environmental Protection  
Bureau of Natural Resources  
Wildlife Division

