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Via Electronic Mail

May 15, 2025

Dean Tagliaferro
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c/o HDR, Inc.
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**Re: GE-Pittsfield/Housatonic River Site
Rest of River (GECD850)
Pre-Design Investigation Work Plan for Rail Transload Areas in Reaches 5 and 6**

Dear Mr. Tagliaferro:

In accordance with EPA's April 29, 2025 conditional approval letter for GE's October 2024 *Revised On-Site and Off-Site Transportation and Disposal Plan*, enclosed for EPA's review and approval is GE's *Pre-Design Investigation Work Plan for Rail Transload Areas in Reaches 5 and 6*. This work plan describes GE's proposed pre-design investigations for the approved rail transload locations at Utility Drive and the Woods Pond Spur to support rail transport of removed materials.

Please let me know if you have any questions about this work plan.

Very truly yours,

Matthew Calacone
Senior Project Manager
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Enclosure

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General Electric Company

Pre-Design Investigation Work Plan for Rail Transload Areas in Reaches 5 and 6

**Housatonic River – Rest of River
Pittsfield, Massachusetts**

May 2025

Pre-Design Investigation Work Plan for Rail Transload Areas in Reaches 5 and 6

Housatonic River – Rest of River Pittsfield, Massachusetts

May 2025

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Abbreviations

APE	area of potential effects
ARAR	Applicable or Relevant and Appropriate Requirement
ASTM	ASTM International
CD	Consent Decree
CRS	cultural resource survey
EPA	United States Environmental Protection Agency
GE	General Electric Company
IPaC	Information for Planning and Consultation
LiDAR	Light detection and ranging
MESA	Massachusetts Endangered Species Act
mg/kg	milligrams per kilogram
MNHESP	Massachusetts Natural Heritage and Endangered Species Program
PCB	polychlorinated biphenyl
PDI	pre-design investigation
RA	remedial action
Reach 6 BRA	Baseline Restoration Assessment Report for Housatonic Rest of River Reach 6
Revised Final Permit	GE's Resource Conservation and Recovery Act Corrective Action Permit
RCRA	Resource Conservation and Recovery Act
Revised T&D Plan	Revised On-Site and Off-Site Transportation and Disposal Plan
ROR	Rest of River
RU	remediation unit
SPT	standard penetration test
STP	shovel test pit
UDF	Upland Disposal Facility
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

1 Introduction and Background

On December 16, 2020, pursuant to the 2000 Consent Decree (CD) for the GE-Pittsfield/Housatonic River Site, the United States Environmental Protection Agency (EPA) issued to the General Electric Company (GE) a final revised modification of GE's Resource Conservation and Recovery Act (RCRA) Corrective Action Permit (Revised Final Permit; EPA 2020) for the Housatonic Rest of River (ROR), which required GE to implement the Remedial Action (RA) selected by EPA to address polychlorinated biphenyls (PCBs) in the ROR. The ROR is that portion of the Housatonic River and its backwaters and floodplain (excluding certain residential lawn areas) located downstream of the confluence of the East and West Branches of the Housatonic River, in Pittsfield, Massachusetts. The ROR has been segmented into separate remediation units (RUs), or reaches, to manage workflow and schedule for the ROR RA. The ROR RA also includes the construction and operation of the on-site Upland Disposal Facility (UDF) for the disposal of a portion of the sediments and soils removed from the ROR area.

On October 15, 2024, GE submitted the *Revised On-Site and Off-Site Transportation and Disposal Plan* (Revised T&D Plan; Arcadis 2024), which described GE's plans for the transportation and disposal of excavated material from the ROR. In that Revised T&D Plan, GE proposed to use rail transport for some of the materials removed during the RA and, to support that mode of transport, proposed the construction of three rail loading and/or unloading areas (referred to herein as rail transload areas) at the following locations:

- **Utility Drive**, located adjacent to Reach 5A in the City of Pittsfield, near the Pittsfield Wastewater Treatment Plant;
- **Woods Pond Spur**, located adjacent to Reach 6 in the Town of Lenox, at a railway museum property; and
- **Rising Pond Property**, located adjacent to Reach 8 in the Town of Great Barrington.

These three locations are illustrated on Figure 1, which shows the extent of the ROR RA activities and the separate RUs that comprise the ROR. It is intended that the design for each rail transload area will include a rail spur or siding and an associated support/operational area.

On April 29, 2025, EPA issued a conditional approval letter for the Revised T&D Plan. That letter approved the three above-described locations for rail transload areas. It also directed GE to submit pre-design investigation (PDI) work plans to describe the necessary investigations to support the design of these rail transload areas, with the initial work plan to address the Utility Drive and Woods Pond Spur locations and a later plan to address the Rising Pond Property location. In response to that directive, this *Pre-Design Investigation Work Plan for Rail Transload Areas in Reaches 5 and 6* has been prepared on behalf of GE to present the proposed PDI activities for the Utility Drive and Woods Pond Spur rail transload areas. These areas are shown on Figures 2 and 3, respectively, including preliminary anticipated layouts of those areas, which are subject to modification in the design. In accordance with EPA's letter, the Utility Drive rail transload area will be temporary and will be removed after use for the ROR RA, while it is anticipated the rail enhancements made for the Woods Pond Spur rail transload area will be made permanent, subject to coordination with the property owner. The current and anticipated future uses of the subject properties have been considered in designing the PDI for the transload areas and will be considered in the forthcoming design documents for the transloading areas.

In accordance with EPA's April 29, 2025 letter, the PDI activities for the Rising Pond Property rail transload area will be presented in a later PDI work plan as part of the pre-design or design documents for Reach 7 and/or Reach 8 of the ROR.

2 Pre-Design Investigations

To prepare for the design, construction, and operation of the temporary rail transload area at Utility Drive and the rail transload area at the Woods Pond Spur location, PDI activities will be performed at each property to address known data gaps and confirm the current understanding of the site conditions. The following PDI activities will be conducted, as described in greater detail in the following subsections:

- Topographic field survey;
- Soil geotechnical investigation;
- Baseline restoration assessment, including a wetland survey if needed and a survey of potential habitat for federal and/or state-listed threatened, endangered, and special concern species;
- Cultural resources surveys (CRSs); and
- Consultation with relevant parties (e.g., property owners, relevant municipalities).

A revised *Site Health and Safety Plan* (Arcadis 2023a) has been submitted to EPA to establish health and safety procedures and requirements to protect workers during the ROR RA activities. The PDI field activities for the rail transload areas will be performed in accordance with that plan.

Standard operating procedures to be used during the PDI activities will be in accordance with the applicable provisions of the December 21, 2023 revised *Field Sampling Plan/Quality Assurance Project Plan* (Arcadis 2023b), which was conditionally approved by EPA on March 21, 2024.

The two properties on which PDI activities are proposed are not owned by GE, and access will be required to conduct the PDI. Thus, signed property owner access agreements will be needed. GE will contact the property owners to notify them of the anticipated PDI work and request that they sign an access agreement or consent form allowing GE and the regulatory agencies, including EPA, access permission to perform and oversee that work. The CD requires GE to make best efforts to obtain access to implement response actions; however, if GE is unsuccessful in obtaining an access agreement or consent form from a property owner after making several attempts to do so, GE will notify EPA and provide support for future attempts by EPA to obtain access permission for GE.

2.1 Topographic Field Survey

A topographic survey will be conducted to accurately document existing conditions and to support detailed design at the properties containing the Utility Drive and Woods Pond Spur rail transload areas. For each property, the survey area will encompass the portion to be developed for the rail transload area, including peripheral areas planned to contain roads, drainage features, and utilities. The topographic survey is anticipated to consist of a traditional field survey combined with an aerial survey using LiDAR (light detection and ranging) technology, as appropriate. Topographic survey shots will document the following within each survey area, where applicable:

- Property boundaries and easements;
- Ground elevation data and surface topography/slopes;
- The embankment of the existing railroad mainline;

- The top of track for both tracks of the railroad mainline, extending the full length of the proposed transload area and 500 feet in either direction from the edge of the proposed construction area;
- Linear features such as fence lines;
- Utilities;
- Drainage features and wet areas;
- Edge of vegetation and large trees; and
- Roads, structures, and other relevant site features.

All surveying work will be performed under the supervision of a Professional Land Surveyor registered in the Commonwealth of Massachusetts.

2.2 Soil Geotechnical Investigation

Soil geotechnical investigations are required to support the evaluations and design of the rail transload areas. The investigation activities will accomplish the following objectives:

- Characterize the variability, depth, and engineering properties of the site soils; and
- Collect soil data through field and laboratory testing to support and identify geotechnical design considerations, such as settlement and stability, which will be addressed in the engineering design of the rail spur or siding and associated support/operational area at each rail transload area.

The proposed locations of the geotechnical borings are shown on Figures 2 and 3 for the Utility Drive and Woods Pond Spur conceptual rail transload areas, respectively. A total of four borings are planned, two at each property, and the proposed borings are positioned within the anticipated limits of the proposed rail spur or siding and associated support/operational area. Final locations may be adjusted in the field based on review of information gathered during the topographic field survey discussed in Section 2.1. The borings will each be advanced to a target depth of approximately 15 to 20 feet below ground surface, and the final locations will be surveyed. Borings will be terminated at a shallower depth if refusal is encountered. Upon encountering bedrock or refusal-to-drilling conditions, rock coring may be performed at one or more of the test borings at the discretion of the geotechnical engineer overseeing the work. Where rock coring is performed, a minimum length of five feet of rock coring will likely be targeted. Water will be used as a drilling fluid for rock coring and the spent water will be discharged on site in a controlled manner.

The geotechnical borings will be completed with a drill rig mounted on an all-terrain vehicle using continuous flight augers, rotary wash boring techniques, or a combination of each, depending on the subsurface conditions encountered. Continuous soil sampling will be performed using split-barrel sampling procedures, with continuous sampling at standard intervals to the full depth of each boring. All sampling will be completed using a split-spoon sampler and standard penetration tests (SPTs) following ASTM International standard ASTM D1586. The drillers will log the borehole, record groundwater elevations, and document details related to the advancement and sampling of each boring (e.g., penetration lengths). Field logs will also include visual classifications of materials encountered during drilling (e.g., color, texture, and moisture content) and interpretation of subsurface conditions between samples.

Sufficient soil from the split spoons (or from a combination of split spoons) will be provided to an appropriate geotechnical laboratory for completing the index property testing in accordance with the ASTM standards noted below. The samples for laboratory testing will be chosen from depths and locations within each soil layer to confirm the observed stratigraphy noted in the boring logs and from zones of loose or soft soils. The exact types and number of tests will be determined based on field observations and at the discretion of the geotechnical engineer overseeing the work. It is anticipated that material composited from representative intervals will be submitted for analysis of the following, and final analysis will be determined based on field observations and at the discretion of the geotechnical engineer overseeing the work:

- California bearing ratio;
- Grain size;
- Atterberg (liquid and plastic) limits; and
- Moisture content.

The SPT data, field descriptions, and laboratory data will be used in the geotechnical evaluations for the design of each rail transload area. Soil descriptions in the boring logs will be updated where needed to conform to the laboratory-determined soil classifications.

Boreholes will be backfilled with the soil cuttings and/or sand after completion. Excess soil cuttings will be dispersed on site in the general vicinity of the borehole. Other investigation-derived waste (e.g., PPE) will be managed and disposed of in an appropriate manner in accordance with GE's Waste Characterization Plan, which is Appendix A of GE's latest revised *Project Operations Plan* (POP) for the site (Arcadis 2025).

2.3 Baseline Restoration Assessment

A baseline restoration assessment will be conducted to obtain a detailed baseline ecological inventory and evaluation of existing conditions at the rail transload areas and to serve as the foundation for the design of the rail transload facilities, including potential locations for construction of the transload areas and eventual restoration and/or reuse of those areas. The baseline restoration assessments of the Utility Drive temporary rail transload area and the Woods Pond Spur rail transload area will include similar components, as applicable, depending upon the setting and identified existing conditions. These components include identification, delineation, and inventory of vegetated habitat cover types (including wetlands); assessment of rare species habitat; and identification of soil types and invasive species. The habitat assessments to be performed for each of the two rail transload area sites are described below and are based on previous reviews conducted during the preparation of the Revised T&D Plan and the *Baseline Restoration Assessment Report for Housatonic Rest of River Reach 6* (Reach 6 BRA Report; AECOM 2024a).¹

2.3.1 Utility Drive Temporary Rail Transload Area

As noted in the Revised T&D Plan, based on previous/preliminary reviews, the anticipated layout for the Utility Drive temporary rail transload area, which is located outside the floodplain as defined by the 1 mg/kg PCB isopleth, consists of an open field that appears to be mowed at least annually (and possibly more often). Although

¹ The Reach 6 BRA Report was submitted to EPA on October 31, 2024, and is currently under EPA review and discussion with GE.

most of this open field area appears to be upland habitat, a small portion may consist of a wetland (or poorly drained soils) associated with seasonal drainage from the fields to the west of the site.² There are no potential vernal pools in this area. The entirety of this field is mapped by the Massachusetts Natural Heritage and Endangered Species Program (MNHESP) of the Massachusetts Division of Fisheries and Wildlife as “Priority Habitat” of state-listed threatened, endangered, or special concern species; and MNHESP has designated a “Core Area 2” zone through roughly two-thirds of the eastern portion of the field (including an overlap with the preliminary anticipated rail transload area layout in the southern part) (see Figure 2).³ Based on Species Habitat mapping provided by MNHESP in March 2025, the Utility Drive rail transload area overlaps with the mapped habitat of three species: wood turtle, American bittern, and mustard white butterfly. The mapped species habitat of the latter two species overlaps with the entirety of the rail transload area layout as currently anticipated, whereas the mapped habitat of the wood turtle overlaps with just the northern portion of the rail transload area layout. The species habitat mapping of two other state-listed species (the common gallinule and wapato) overlaps the adjacent floodplain within the 1 mg/kg PCB isopleth but does not extend into the rail transload area.

Considering this background information on habitat conditions pertinent to the Utility Drive rail transload area, the following habitat investigations will be conducted in that area as part of the PDI:

- Any areas meeting state or federal wetland criteria will be identified, delineated, and inventoried. This will include completing, for those identified features, the U.S. Army Corps of Engineers (USACE) Wetland Determination Data Form – Northcentral and Northeast Region, which is provided in Appendix A.
- All distinct vegetated cover types in the area will be classified, delineated, and inventoried. This process will include producing cover type mapping using the community type classification mapping that was used in the *Ecological Characterization of the Housatonic River* (Woodlot Alternatives, Inc. 2002), as updated through review of the more recent *Classification of Natural Communities of Massachusetts* (Swain 2020). The mapping will be produced with the aid of aerial photographs, and these preliminary delineations will be transferred onto the updated topographic mapping resulting from the topographic field survey described in Section 2.1. Field investigations will then be conducted over the entirety of the area to review and verify or adjust the habitat cover type delineations.
- During the field surveys, each discrete cover type unit will be subject to a detailed inventory using the Habitat Inventory Form provided in Appendix B. This form will record a broad range of habitat parameters to characterize structural, physical, hydrologic, and biological conditions within each habitat cover unit. The characterization will include measurements of substrate/soil characteristics, plant species composition, a broad range of habitat features, and habitat degradation. In addition, based on the information collected, the ecological functions and values of the affected habitats will be identified and qualified.
- The presence, location, and abundance of federally listed threatened or endangered species and their habitats will be identified through review of the information on the U.S. Fish and Wildlife Service (USFWS)

² As shown on Figure 2, a fairly large area in the eastern portion of the property containing this transload area has been mapped as part of the National Wetland Inventory. However, that area does not extend to the planned conceptual rail spur and rail loading operational areas, and no work will be conducted in that area. This is separate from the small portion of the actual rail transload area layout that may consist of wetland soils, as noted in the text.

³ Core Area 2 designations were identified by MNHESP in a July 2012 letter to EPA, in which MNHESP defined these areas as the highest quality habitat for more mobile species that may be less vulnerable to remediation impacts than Core Area 1 species (those most likely to be adversely affected by remediation, consisting mainly of stationary species such as plants), species where the habitat is likely to be somewhat more easily restored, and listed species that may be of somewhat lower conservation concern than Core Area 1 species given their state-wide distribution.

Information for Planning and Consultation (IPaC) website (USFWS 2025). For state-listed species, as noted above, MNHESP has recently provided Species Habitat mapping covering this site, which indicates there is mapped habitat for three state-listed species within the currently anticipated rail transload area layout. To the extent appropriate and practicable, these data will be verified via field investigations. This field verification will consist of evaluating the identified habitat characteristics at the area for suitability for any federal or state-listed species that have mapped habitat covering the area. Also, in accordance with EPA's April 15, 2025 conditional approval of the Revised T&D Plan, GE will conduct a thorough evaluation of potential impacts of rail transload activities on the identified federal and state-listed rare species habitats, including direct, indirect, and short-term impacts on those species and their habitats, and will conduct the activities necessary to comply with the substantive requirements of the Massachusetts Endangered Species Act (MESA) and the regulations under it to the extent applicable. To the extent that unavoidable impacts will result in a "take" of a state-listed species, this will include the substantive MESA requirements relating to development of a conservation and management plan providing a long-term net benefit to the affected species (which may address "takes" in more than just this rail spur area).

- The presence, location, abundance, and condition of invasive species as listed by the USACE New England District or the Massachusetts Invasive Plant Advisory Group (including "likely invasive" species) will be identified through base mapping and aerial photograph reviews in combination with field verification.

2.3.2 Woods Pond Spur Rail Transload Area

As described in the Reach 6 BRA Report (Section 6.3), much of the Woods Pond Spur transload area has been previously developed for industrial/commercial uses, with an existing building pad and gravel surface areas remaining at the area from past uses. Several scattered trees exist in the southern half of the area, with secondary growth woodland developing over portions of the northern half of the area. No wetland areas (including vernal pools) are indicated to occur at this site (see Figure 3). The Reach 6 BRA Report provides a list of plant species observed in this area based on a brief field review on October 15, 2024 (see Table 6-2 of the Reach 6 BRA Report); no rare plant species were observed during that review. The current MNHESP "Priority Habitat" mapping does not include the currently anticipated preliminary rail layout area but instead is confined to the area to the east (encompassing the northern part of Woods Pond and its floodplain on the eastern side of the existing rail line). MNHESP has included the northern portion of this area within Core Area 2 (see Figure 3), but this may be a mapping/delineation issue rather than actually reflecting habitat conditions for Core Area 2 species. This area does not appear to provide habitat suitable for any of the Core Area 2 designated species (American bittern, common gallinule, mustard white butterfly, and wood turtle), considering both the existing habitat conditions and the long-term industrial use of the site along the railway. The Species Habitat mapping provided by MNHESP in March of 2025 does not show mapped habitat for any state-listed species within any portion of the Woods Pond Spur rail transload area.

Considering this background information on habitat conditions pertinent to the Woods Pond Spur transload area, the following habitat investigations will be conducted at this area as part of the PDI:

- GE will confirm that there are no areas meeting state or federal wetland criteria at this site.
- All distinct vegetated cover types in the area will be classified, delineated, and inventoried. This process will include producing cover type mapping using the community type classification mapping that was used in the Woodlot (2002) *Ecological Characterization of the Housatonic River*, as updated through review of the Swain (2020) *Classification of Natural Communities of Massachusetts*. The mapping will be produced with the aid of

aerial photographs, and these preliminary delineations will be transferred onto the updated topographic mapping resulting from the topographic field survey described in Section 2.1. Field investigations will then be conducted over the entirety of the Woods Pond Spur transload area to review and verify or adjust the habitat cover type delineations.

- During the field surveys, each discrete cover type unit will be subject to a detailed inventory using the Habitat Inventory Form included in Appendix B (as described above).
- The presence, location, and abundance of federally listed threatened or endangered species and their habitats will be identified through review of the information on the USFWS IPaC website. For state-listed species, as noted above, MNHESP has recently provided Species Habitat mapping covering this site, which indicates that there is no mapped habitat for any state-listed species at the Woods Pond Spur transload area. To the extent practicable, the habitat surveys for this area will be conducted to support these determinations.
- The presence, location, abundance, and condition of invasive species as listed by the USACE New England District or the Massachusetts Invasive Plant Advisory Group (including “likely invasive” species) will be identified through base mapping and aerial photograph reviews in combination with field verification.

2.4 Phase IB Cultural Resources Surveys

Phase IB CRSs will be conducted at the Utility Drive temporary rail transload area adjacent to Reach 5A and at the Woods Pond Spur rail transload area adjacent to Reach 6. The proposed methodology for the Phase IB CRS at the Utility Drive rail transload area is described in Section 2.4.1. The methodology for the Phase IB CRS at the Woods Pond Spur rail transload area was previously described and approved by EPA through the *Phase IB Cultural Resources Survey Work Plan for Reach 6* (Reach 6 CRS Work Plan), submitted in November 2024 (AECOM 2024b) and conditionally approved by EPA on March 31, 2025, and is summarized in Section 2.4.2.

2.4.1 Utility Drive Rail Temporary Transload Area Survey

This section describes the areas of potential effects (APEs) and the proposed Phase IB CRS methodology for the Utility Drive temporary rail transload area.

2.4.1.1 Areas of Potential Effects

The archaeological APE for the Utility Drive rail transload area encompasses the anticipated rail spur or siding, the rail operational area, and a preliminary access road to the public road, for a total of 4.075 acres. That APE is shown on Figure 4. An archaeological survey was completed previously on the Utility Drive access road (along with an associated staging area), as described in the *Phase IB Cultural Resources Survey Report for Reach 5A* (AECOM 2025), so the proposed survey will include only the rail spur/siding and the rail operational area.

The historic architectural APE encompasses the locations adjacent to the archaeological APE that are visible from areas involved in the rail transload area construction and operation. This APE includes areas that could be indirectly impacted by factors such as noise, vibration from equipment, or vehicle movements associated with the RA activities.

2.4.1.2 Phase IB Methodology

This section describes the proposed survey work that will be conducted in the Utility Drive rail transload area to determine whether it contains potentially significant cultural resources that could be affected by the rail transload area construction and operation.⁴ All field work will be conducted in accordance with Massachusetts Historical Commission archaeological guidelines (950 CMR 70.00).

A review of any historic architectural resources in the historic architectural APE will be undertaken based on the current design plans, but a new historic architecture survey will not be conducted. Any historic structures that could be negatively affected by the rail transloading and associated activities in this area will be identified and described.

The archaeological field work for the Utility Drive rail transload area will begin with a pedestrian inspection of the areas proposed for survey to visually assess environmental characteristics, search for visible above-ground cultural resources, and assess evidence of prior disturbances and land modifications within areas designated as having high archaeological sensitivity, as shown on Figure 4.⁵ In addition, the boundaries of the archaeologically sensitive zones will be ground-truthed during a visual field assessment for the presence of disturbance areas, saturated soils, landforms, etc. prior to performing more detailed investigations.

Once the limits of areas requiring a systematic survey are more precisely defined in the field, the standard approach will be to excavate shovel test pits (STPs) measuring 50 centimeters by 50 centimeters, spaced at 10-meter intervals across the areas to be investigated (i.e., approximately 50 STPs per acre). Based on this spacing and the current preliminary layout of the rail transload area as shown on Figure 4, up to approximately 235 total STPs would be excavated to investigate the areas to be used for a rail spur/siding and a rail operational area.⁶ However, the conceptual footprint of the rail transload area will be further evaluated after review of the topographic field survey results; and if the area is reduced in size, the number of STPs to be excavated will be adjusted to maintain the approximate spacing of 50 STPs per acre. Each STP will be excavated as 10-centimeter-thick arbitrary levels within natural soil strata into undisturbed subsoils or into the first C-horizon, but in no case deeper than three feet.

If potential cultural features are encountered, they will be cleaned and documented in plan-view drawings and in photographs. In such cases, excavations will then be halted and the STP backfilled for feature preservation for potential future archaeological investigation if needed. All excavated soil will be screened through 1/4-inch mesh hardware cloth for systematic artifact recovery. All artifacts will be bagged and labeled by provenience, including the STP number, soil horizon, level, depth, date, and excavator initials. Each bag will be given a field specimen number for tracking purposes and will be documented on a field specimen log. Following excavation, STPs will be

⁴ As in GE's prior cultural resource submissions, potentially significant cultural resources consist of archaeological and historic architectural resources that are subject to the applicable or relevant and appropriate requirements (ARARs) relating to such resources, as listed in Attachment C to the Revised Final Permit – namely, the National Historic Preservation Act of 1996, as amended, and its regulations, the federal Archaeological and Historic Preservation Act of 1974, and the Massachusetts Historical Commission Act and Massachusetts Historical Resources Protection Act and regulations (950 CMR 70.00 and 71.00).

⁵ The determination of high archaeological sensitivity was based on the same factors and procedures approved by EPA in the *Revised Supplemental Phase IA Cultural Resources Assessment Report for the Housatonic Rest of River* (AECOM 2023), which was approved by EPA on March 27, 2023.

⁶ As noted above, the Reach 5A access road and associated staging area in this area were subject to a prior survey in 2024, as shown on Figure 4, and thus will not be included in the proposed survey for the rail transload area.

completely backfilled, and the backfill will be compacted, the sod replaced (if present), and the area revegetated (if it was previously vegetated).

All STPs will be documented using field site forms to record stratigraphic profiles, including a description of the soil type, texture, and color using the Munsell color chart. Measurements will be provided in metric units. Artifacts recovered will also be documented per excavated level and characterized. The locations of all STPs and identified surface features will be mapped using a hand-held global positioning system unit with sub-meter accuracy.

Archaeological site boundaries will be defined by excavating short-interval STPs at five-meter (16.4-foot) intervals in a cruciform pattern to the exterior boundaries of the site until two consecutive negative STPs are encountered. Temporary site numbers will be assigned to all locations where short-interval STPs were excavated.

A distinction will be made between post-contact field scatters and artifacts that may indicate the presence of a definitive post-contact archaeological site. For the purposes of the Phase IB CRS of this area, a field scatter is defined as a low-density distribution of post-contact artifacts, either isolated or in small, dispersed concentrations. No temporary site numbers will be assigned to definitive isolated post-contact artifacts that are categorized as field scatter, and no short-interval STPs will be excavated around these finds. A post-contact archaeological site will be assigned a temporary site number if the artifact concentration is deemed to potentially represent an organized and significant area possibly containing features or structural remnants. Previously identified field scatter artifacts will not be included in the site boundary unless they are specifically part of the site delineation strategy.

Photographs documenting the work will be taken. These will include photographs of sample STPs, including, but not limited to, all STPs with positive findings. Field photography will conform to the state archaeologist's memorandum on improving photography and cartography (Simon 2014). This includes the use of a north arrow, a metric scale, and sign board in all plan view and profile photographs. Photos will be taken in consistent lighting, whenever possible, with any distracting items removed from the surrounding area. General photographs of the project area, however, will be taken without horizontal or vertical scales or sign boards to provide an overall view of the conditions of the project area at the time of the archaeological investigations.

In the case of an unanticipated discovery of human remains during the Phase IB CRS activities, the investigators will follow all relevant state and federal laws and recommendations regarding treatment of human remains and the protocols described in Section 3.5 of the approved Reach 6 CRS Work Plan. For human remains determined to be Native American, these laws include, but are not limited to, M.G.L. Chapter 7, § 38A ("Preservation, Excavation, and Analysis of Native American Human Remains").

2.4.2 Woods Pond Spur Rail Transload Area Survey

CRS plans and methods for the Woods Pond Spur, including pertinent figures, were presented in the November 2024 Reach 6 CRS Work Plan and approved by EPA through its March 31, 2025 conditional approval letter A summary is provided below.

The Woods Pond Spur is an area to the west of Woods Pond (outside 1 mg/kg isopleth) that will be used for the construction of a rail transload area, as described in GE's Revised T&D Plan, submitted on October 15, 2024, as well as the *Conceptual Remedial Design/Remedial Action Work Plan for Reach 6* (Anchor QEA et al. 2024). The Woods Pond Spur archaeological APE includes the proposed rail transload area, as shown in the Reach 6 CRS Work Plan. A total of 50 STPs will be excavated in the archaeological APE, as also described in that work plan. A

separate historic architectural APE will encompass the one known historic structure in the area, the Lenox Railroad Station, as well as any other historic structures that may be identified adjacent to the rail transload area.

2.5 Consultations with Relevant Parties

In addition to the results from the field PDI activities described above, information will be obtained from relevant parties to inform the design for each transload area, including the design layout of necessary infrastructure and desired restoration design. Specifically, for the Utility Drive temporary rail transload area, GE has consulted with the Massachusetts Division of Fisheries and Wildlife (MassDFW), a division of the Massachusetts Department of Fish and Game (MassDFG), which owns the subject property, including at a teleconference meeting on April 29, 2025. GE will continue to consult with MassDFW as it undertakes the PDI activities at this transload area.

For the Woods Pond Spur rail transload area, the following relevant parties have been or will be consulted:

- The owner of the property;
- The Massachusetts Department of Transportation, the owner of the railroad mainline; and
- The Housatonic Railroad Corporation, Inc., the operator of the railroad mainline.

In addition, GE will consult with the Town of Lenox, the municipality in which the Woods Pond Spur property is located, on the restoration design for potential future use of that rail transload area.

As appropriate, GE will schedule additional meetings with the relevant parties leading up to and during the PDI and design activities for the rail transload areas. In addition, property owners and the owner and operator of the railroad mainline will receive copies of the Conceptual Design Plan for the Utility Drive and the Woods Pond rail transload areas (discussed in Section 3).

3 Schedule, Data Evaluation, and Reporting

GE is currently working to procure a surveyor to satisfy the ROR-related survey requirements, including to support the topographic field survey activities for the rail transload areas. If possible, the topographic field survey will be initiated in spring 2025, possibly before EPA approval of this work plan, such that preliminary information from the survey may be available in time to inform appropriate field locations for the soil geotechnical investigation. GE will notify EPA of the anticipated schedule, once a survey contractor is selected by GE and their schedule is developed. Similarly, the field surveys for rare species (wood turtle, American bittern, and mustard white butterfly) are expected to begin as soon as possible in May 2025, also likely before EPA approval of this work plan, due to seasonal constraints relating to those species. GE will notify EPA of that schedule.

For the remainder of the PDI activities described herein, GE will initiate the field activities after EPA approval of this work plan and subject to weather constraints. It is anticipated that the geotechnical field investigations described in Section 2.2 will be conducted in late spring/early summer 2025 and will be completed within a week, and that the associated laboratory and geotechnical evaluations can be completed within one to two months after sample collection.

The baseline restoration assessment activities described in Section 2.3, apart from the rare species surveys (discussed above), are also anticipated to commence after approval of this work plan and to be complete by the end of summer 2025 (September 20, 2025). Similarly, the Phase IB CRS activities described in Section 2.4 are anticipated to commence as soon as possible after approval of this work plan and be completed by the end of August 2025.

Following completion of the PDI field work, completion of the laboratory analyses, and receipt of the data, an evaluation will be performed on the data obtained for each rail transload area. The evaluations to be performed depend on the nature of the data collected as described below:

- The topographic field survey will be used to yield a continuous model for the top of the existing ground surface. The ground-surface model resulting from the PDI survey will be digital and will be used for the design of the rail areas.
- The soil geotechnical investigation data will be used to derive engineering properties for site soils. These properties will be used in the design to evaluate slope stability, settlement, and other geotechnical performance aspects.
- The results of the baseline restoration assessment will be used to describe ecological conditions and functions within the rail transload areas, including the presence of habitat for federal or state-listed species, to identify appropriate avoidance and minimization efforts that could be implemented to preserve significant or critical habitat (if any), and to develop restoration plans for these areas (discussed further below).
- The results of the Phase IB CRS activities will be used to assess whether construction and use of the rail transload areas will result in an adverse effect on any potentially significant cultural resources (as defined above). If the Phase IB CRS assessments indicate that construction and use of either of the rail transload areas would result in an adverse effect on potentially significant archaeological or historic structural resources that cannot be avoided, and that additional information is necessary to determine whether the resources to be affected are in fact significant, GE will submit and implement a separate Phase II CRS work plan to evaluate if the resource is significant. Further, if it is determined that the transload activities would affect significant cultural resources, GE will evaluate whether those resources can be protected during such activities. In the event that the transload activities at a given area would result in unavoidable adverse effects on significant

cultural resources, mitigation activities may be necessary. If necessary, proposed mitigation activities will be included in the Final Remedial Design/Remedial Action Work Plan for Reach 5A or Reach 6, as applicable.

Based on the results from the PDI activities, including consultations with relevant parties (as described in Section 2.5), GE will prepare and submit to EPA a Conceptual Design Plan for the Utility Drive and the Woods Pond Spur rail transload areas. The Conceptual Design Plan will include the following information:

- Applicable or relevant and appropriate requirements (ARARs) for the construction, use, and restoration of the rail transload areas will be identified and evaluated. These will include the substantive requirements of ARARs related to wetlands (including the Massachusetts Wetlands Protection Act and regulations), cultural resources (including the laws and regulations listed in footnote 4 above), and habitat and federal and state-listed rare species (including the Endangered Species Act and MESA). This evaluation will include a thorough assessment of direct, indirect, and both short-term impacts and long-term impacts (if any) to federal and state-listed rare species and their habitats (if present in the subject transload area). To the extent that unavoidable impacts will result in a “take” of a state-listed species, this evaluation will include a discussion of how GE will comply the substantive MESA requirements relating to development of a conservation and management plan providing a long-term benefit to the affected species. Any such plan may be comprehensive and address “takes” of the species in more than one affected area if appropriate.
- The design of each transload area will include a preliminary layout of tracks, switches, staging areas, areas to be disturbed, and all infrastructure necessary to perform the required operations. This preliminary layout will be based on review of the site topography identified during the field survey and the results of the soil geotechnical investigation, and will consider input from the relevant parties.
- The plan will present the anticipated capacity in cubic yards per day of the rail spur or siding and rail support/operational area in each transload area.
- For the Utility Drive temporary rail transload area, an initial restoration plan will be presented that details removal of the rail area infrastructure (i.e., spur or siding and operational laydown area) from the property and how the affected areas will be restored in a manner consistent with the Restoration Performance Standards in Section II.B.1.c of the Revised Final Permit, taking into account consultations with the property owner (MassDFW), as described in Section 2.5.
- For the Woods Pond Spur rail transload location, an initial restoration and reuse plan will be presented that details which rail area infrastructure items will remain in place and which will be removed from the property, based on compliance with ARARs and in consultation with the relevant parties described in Section 2.5.
- The Conceptual Design Plan will include a proposed schedule for submission of a Final Design Plan for the Utility Drive and Woods Pond Spur rail transload areas.

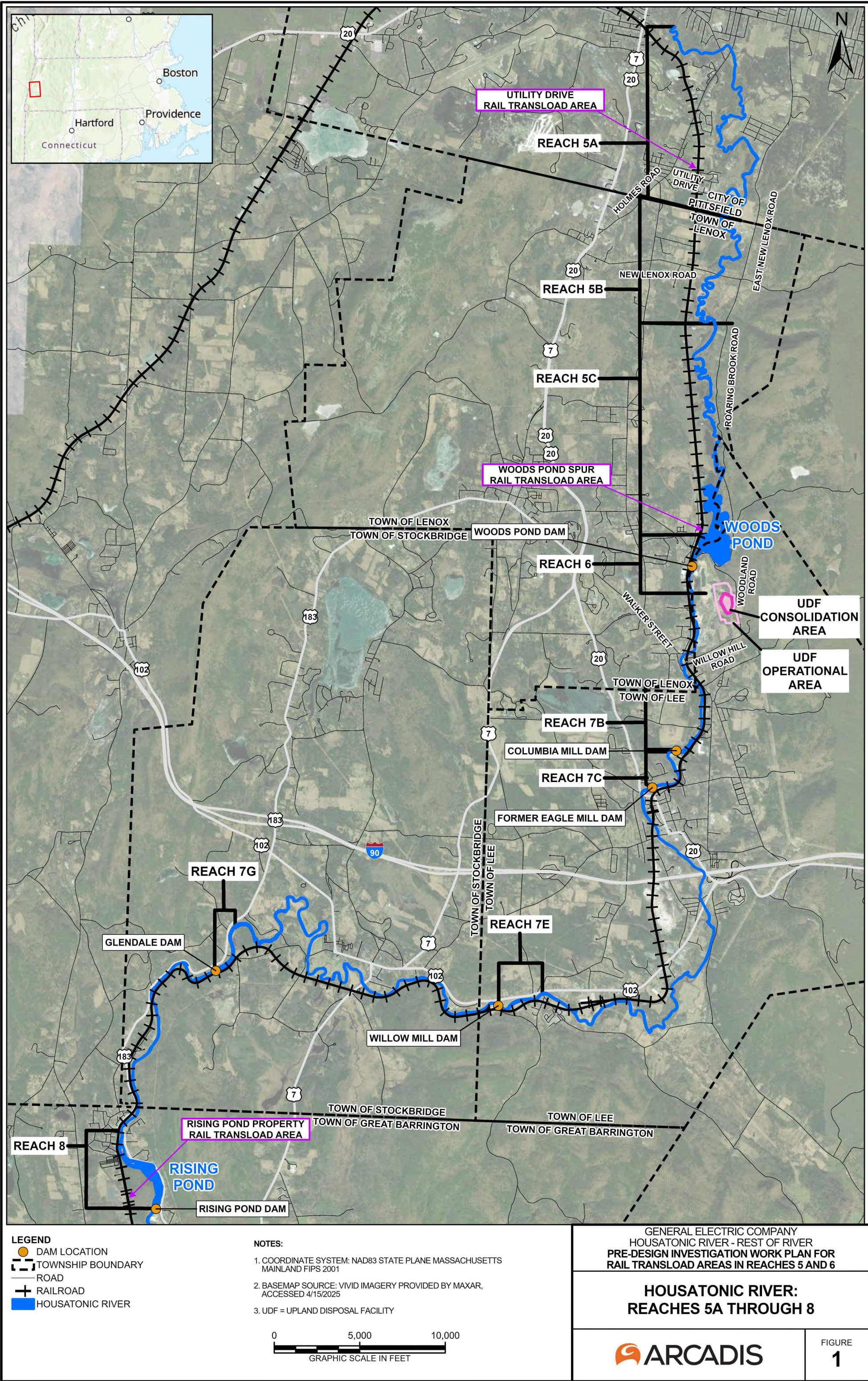
It is anticipated that this Conceptual Design Plan will be submitted in late fall 2025; however, the precise timing is dependent on the timing of approval of this work plan and the duration of the PDI activities. Copies of the Conceptual Design Plan will be provided to the relevant property owners and the owner and operator of the railroad.

Based on further design evaluations and comments on the Conceptual Design Plan, a Final Design Plan for the Utility Drive and Woods Pond Spur rail transload areas will be prepared and submitted on the schedule in the Conceptual Design Plan, as approved by EPA. That plan will include an updated restoration plan for the Utility Drive location and an updated restoration and reuse plan for the Woods Pond Spur location. The rail transload areas will be constructed and operational before remediation activities in Reach 5A begin.

4 References

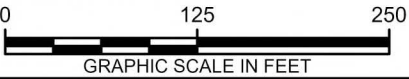
- AECOM. 2023. *Revised Supplemental Phase IA Cultural Resources Assessment Report for the Housatonic Rest of River*. Prepared for General Electric Company, Pittsfield, MA. March.
- AECOM. 2024a. *Baseline Restoration Assessment Report for Housatonic Rest of River Reach 6*. Prepared for General Electric Company, Pittsfield, MA. October.
- AECOM. 2024b. *Housatonic River – Rest of River, Phase IB Cultural Resources Survey Work Plan for Reach 6*. Prepared for General Electric Company, Pittsfield, Massachusetts. November.
- AECOM. 2025. *Housatonic River – Rest of River, Phase IB Cultural Resources Survey Report for Reach 5A*. Prepared for General Electric Company, Pittsfield, Massachusetts. January.
- Anchor QEA, AECOM, and Arcadis. 2024. *Conceptual Remedial Design/Remedial Action Work Plan for Reach 6*. Prepared for General Electric Company, Pittsfield, Massachusetts. October 31.
- Arcadis. 2023a. *Site Health and Safety Plan*. Prepared for General Electric Company, Pittsfield, Massachusetts. Revised July 17.
- Arcadis. 2023b. *Field Sampling Plan/Quality Assurance Project Plan*. Prepared for General Electric Company, Pittsfield, Massachusetts. Revised December 21.
- Arcadis. 2024. *Revised On-Site and Off-Site Transportation and Disposal Plan*. Prepared for General Electric Company, Pittsfield, Massachusetts. October 15.
- Arcadis. 2025. *Project Operations Plan*. Prepared for General Electric Company, Pittsfield, Massachusetts. Revised May 15.
- EPA. 2020. Revised Final Permit Modification to the 2016 Reissued RCRA Permit and Selection of CERCLA Remedial Action and Operation & Maintenance for Rest of River. December 16.
- Simon, Brona. 2014. *Improving Technical Photography and Cartography*. Memorandum from the Massachusetts State Archaeologist.
- Swain, P. C. 2020. *Classification of the Natural Communities of Massachusetts*. Massachusetts Division of Fisheries and Wildlife, Westborough, MA.
- USFWS. 2025. Information, Planning, and Consultation System. Available on-line at: <https://ecos.fws.gov/ipac>.
- Woodlot Alternatives, Inc. 2002. *Ecological Characterization of the Housatonic River*. Prepared for EPA Region 1, Boston. Contract No. DACW33-94-D-0009/032. September.

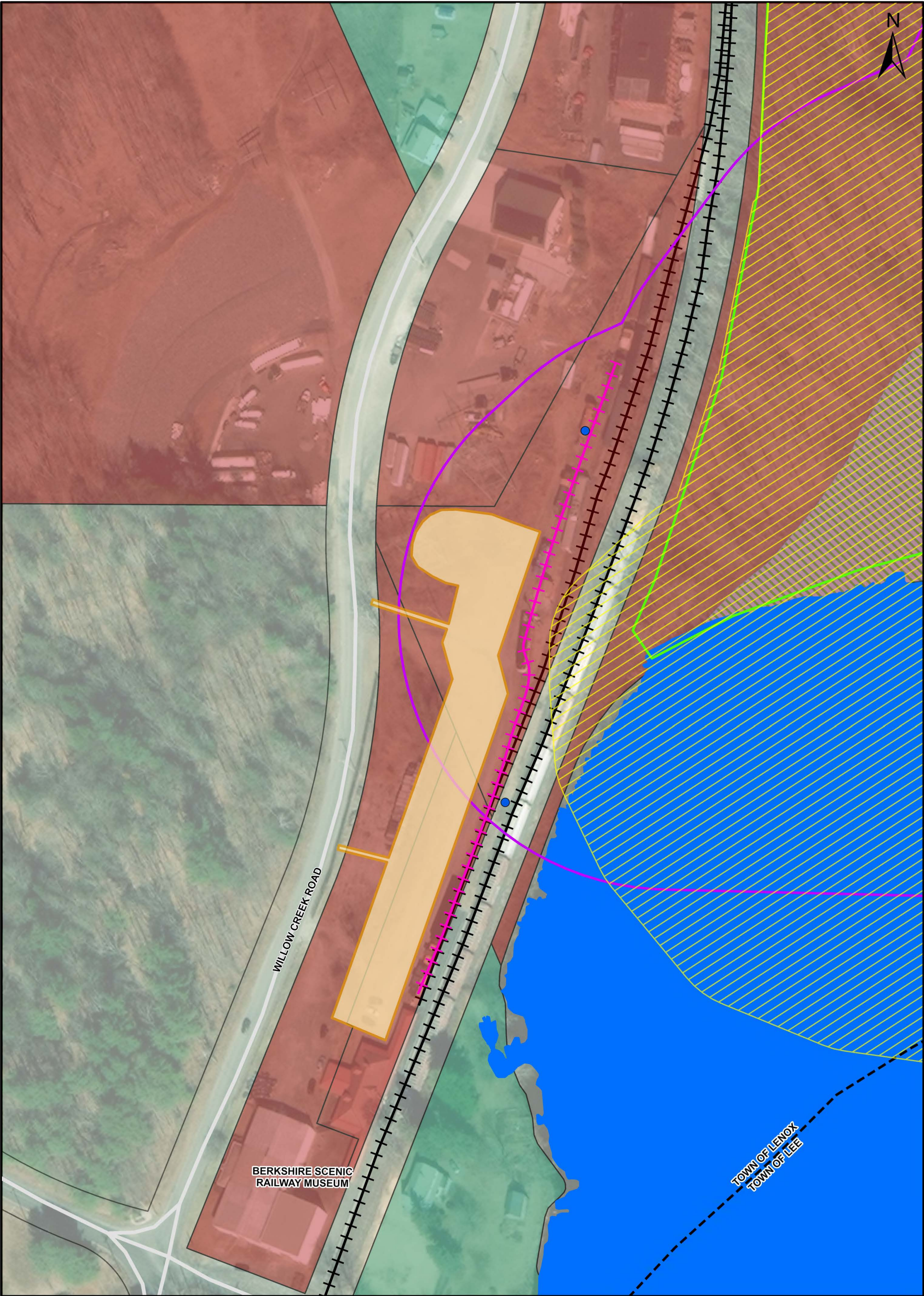
Figures





LEGEND [Symbol] TOWNSHIP BOUNDARY [Symbol] ROAD [Symbol] RAILROAD [Symbol] PRELIMINARY ACCESS ROAD TO PUBLIC ROAD [Symbol] PROPERTY BOUNDARY [Symbol] CORE AREA 2 [Symbol] CORE AREA 3 [Symbol] NATIONAL WETLAND INVENTORY [Symbol] NHESP PRIORITY HABITAT OF RARE SPECIES	● PROPOSED GEOTECHNICAL BORING LOCATION ✚ CONCEPTUAL LOCATION OF RAIL SPUR/SIDING [Orange Outline] CONCEPTUAL LOCATION OF RAIL LOADING OPERATIONAL AREA [Green Hatched] PARCELS WITHIN 500 FEET OF RAIL [Blue Hatched] RESIDENTIAL [Brown Hatched] AGRICULTURAL/HORTICULTURAL [Red Hatched] INDUSTRIAL [Purple Hatched] COMMONWEALTH OF MASSACHUSETTS	NOTES: 1. COORDINATE SYSTEM: NAD83 STATE PLANE MASSACHUSETTS MAINLAND FIPS 2001 2. BASEMAP SOURCE: VIVID IMAGERY PROVIDED BY MAXAR, ACCESSED 4/16/2025 3. NATIONAL WETLAND INVENTORY AND NHESP PRIORITY HABITATS DOWNLOADED FROM MASS.GOV. 4. NHESP = NATURAL HERITAGE & ENDANGERED SPECIES PROGRAM	GENERAL ELECTRIC COMPANY HOUSATONIC RIVER - REST OF RIVER PRE-DESIGN INVESTIGATION WORK PLAN FOR RAIL TRANSLOAD AREAS IN REACHES 5 AND 6 UTILITY DRIVE TEMPORARY RAIL TRANSLOAD LOCATION ARCADIS		FIGURE 2
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- LEGEND**
- TOWNSHIP BOUNDARY
 - ROAD
 - RAILROAD
 - HOUSATONIC RIVER
 - PROPERTY BOUNDARY
 - CONCEPTUAL LOCATION OF RAIL SPUR/SIDING
 - CONCEPTUAL LOCATION OF RAIL LOADING/OFF-LOADING OPERATIONAL AREA
 - NATIONAL WETLAND INVENTORY

- PROPOSED GEOTECHNICAL BORING LOCATION
- NHESP PRIORITY HABITAT OF RARE SPECIES
- CORE AREA 1
- CORE AREA 2
- PARCELS WITHIN 500 FEET OF RAIL
- RESIDENTIAL
- INDUSTRIAL

- NOTES:**
- COORDINATE SYSTEM: NAD83 STATE PLANE MASSACHUSETTS MAINLAND FIPS 2001
 - BASEMAP SOURCE: VIVID IMAGERY PROVIDED BY MAXAR, ACCESSED 4/15/2025
 - NATIONAL WETLAND INVENTORY AND NHESP PRIORITY HABITATS DOWNLOADED FROM MASS.GOV.
 - NHESP = NATURAL HERITAGE & ENDANGERED SPECIES PROGRAM
- 0 100 200
GRAPHIC SCALE IN FEET

GENERAL ELECTRIC COMPANY
HOUSATONIC RIVER - REST OF RIVER
**PRE-DESIGN INVESTIGATION WORK PLAN FOR
RAIL TRANSLOAD AREAS IN REACHES 5 AND 6**

**WOODS POND RAIL SPUR
TRANSLOAD LOCATION**





Utility Drive
Archaeological
APE

Subject to
Archaeological
Survey in 2024

High
Archaeological
Sensitivity

Access Road



0 50 100 Feet



0 20 40 Meters

AECOM

12420 Milestone Center Dr.
Germantown, MD 20876

Cultural Resources Survey Area for Utility Drive Temporary Rail Transload Location

Source: ESRI World Imagery 2025

Project No.
60669900

Prepared by
NSP

Date
5/6/2025

Figure 4

Appendix A

USACE Wetland Determination Data Form for the Northeast Region

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _____ City/County: _____ Sampling Date: _____
Applicant/Owner: _____ State: _____ Sampling Point: _____
Investigator(s): _____ Section, Township, Range: _____
Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

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

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: _____

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

SOIL

Sampling Point: _____

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

[illegible]¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

☐ Histosol (A1)	☐ Polyvalue Below Surface (S8) (LRR R,
☐ Histic Epipedon (A2)	MLRA 149B)
☐ Black Histic (A3)	☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1) (LRR K, L)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)
☐ Depleted Below Dark Surface (A11)	☐ Depleted Matrix (F3)
☐ Thick Dark Surface (A12)	☐ Redox Dark Surface (F6)
☐ Sandy Mucky Mineral (S1)	☐ Depleted Dark Surface (F7)
☐ Sandy Gleyed Matrix (S4)	☐ Redox Depressions (F8)
☐ Sandy Redox (S5)	
☐ Stripped Matrix (S6)	
☐ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

Appendix B

Habitat Inventory Form

**General Electric Housatonic Rest of River
Appendix B: Habitat Inventory Form**

I. General Information

Site Name

Location/Physical Description

Date(s) of Site Visit(s) and Data Collection

Weather Conditions During Site Visit

Field Staff Performing Evaluation

Date this form was completed

II. Site Description

A. Hydrology/Water Regime

☐ Permanently flooded

☐ Saturated

☐ Intermittently exposed

☐ Temporarily flooded

☐ Semi-permanently flooded

☐ Intermittently flooded

☐ Seasonally flooded

☐ Artificially flooded

☐ Upland

B. Community Cover Type(s)

Wetland

☐ Transitional floodplain forest

☐ High terrace floodplain forest

☐ Red maple swamp

☐ Vernal pool

☐ Black ash-red maple-tamarack calcareous seepage swamp

☐ Deep emergent marsh

☐ Shallow emergent marsh

☐ Shrub swamp

☐ Wet meadow

Upland

☐ Northern Hardwoods-Hemlock-White Pine Forest

☐ Rich mesic forest

☐ Red Oak-Sugar Maple Transition Forest

☐ Agricultural fields

☐ Cultural grassland

☐ Successional northern hardwoods

☐ Spruce-fir-northern hardwood forest

☐ Developed/disturbed cover types

☐

Bordering Riverine/Aquatic Habitat

☐ High-gradient stream

☐ Low-gradient stream

☐ Medium-gradient stream

☐ Moderately alkaline lake/pond

General Electric Housatonic Rest of River
Appendix B: Habitat Inventory Form

☐ Backwater

☐

C. Inventory (Plant community)

% Cover:

Trees (> 20')

Shrubs (< 20')

Woody vines

Mosses

Herbaceous

Plant Lists (species that comprise 10% or more of the vegetative cover in each strata; “*” designates a dominant plant species for the strata):

Strata	Plant Species	Strata	Plant Species

D. Inventory (Soils)

Soil Survey Unit

Drainage Class

Texture (upper part)

Depth

Representative Soil Pit Log

Soil Horizon	Depth (inches)	Color	Soil Texture	Mottling
Notes:				

III. Important Habitat Features

Wildlife Food

Important Wetland/Aquatic Food Plants (smartweeds, pondweeds, wild rice, bulrush, wild celery)

☐ Abundant

☐ Present

☐ Absent

☐ Not Applicable

Important Upland/Wetland Food Plants (hard mast and fruit/berry producers)

General Electric Housatonic Rest of River
Appendix B: Habitat Inventory Form

☐ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Shrub thickets or streambeds with abundant earthworms (American woodcock)

☐ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Cover/Perches/Basking/Denning/Nesting Habitat

Shrub and/or herbaceous vegetation suitable for veery nesting

☐ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Trees (live or dead) > 30" DBH

☐ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Standing Dead Trees (potential for cavities and perches):

☐ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Tree Cavities in trunks or limbs:

☐ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Small mammal burrows:

☐ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Dense herbaceous cover (voles, small mammals, amphibians & reptiles)

☐ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Large woody debris on the ground (small mammals, mink, amphibians & reptiles)

☐ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Rocks, crevices, logs, tree roots or hummocks under water's surface (turtles, snakes, frogs)

☐ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Rocks, crevices, fallen logs, overhanging branches or hummocks at, or within 1m above the water's surface (turtles, snakes, frogs, wading birds, wood duck, mink, raccoon)

☐ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Rock piles, crevices, or hollow logs suitable for:

☐ otter ☐ mink ☐ porcupine ☐ bear ☐ bobcat ☐ turkey vulture

Live or dead standing vegetation overhanging water or offering good visibility of open water (e.g., osprey, kingfisher, flycatchers, cedar waxwings)

☐ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Depressions that may serve as seasonal (vernal/autumnal) pools

☐ Abundant ☐ Present ☐ Absent ☐ Not Applicable

Standing water present at least part of the growing season, suitable for use by

General Electric Housatonic Rest of River
Appendix B: Habitat Inventory Form

- | | |
|--|---|
| ☐ Breeding amphibians | ☐ Non-breeding amphibians (foraging, re-hydration) |
| ☐ Turtles | ☐ Foraging waterfowl |

Sphagnum hummocks or mats, moss-covered logs or saturated logs, overhanging or directly adjacent to pools of standing water in spring (four-toed salamander)

- | | | | |
|-----------------------------------|----------------------------------|---------------------------------|---|
| ☐ Abundant | ☐ Present | ☐ Absent | ☐ Not Applicable |
|-----------------------------------|----------------------------------|---------------------------------|---|

Important habitat characteristics

Medium to large (> 6"), flat rocks within a stream (cover for stream salamanders and nesting habitat for spring & two-lined salamanders)

- | | | | |
|-----------------------------------|----------------------------------|---------------------------------|---|
| ☐ Abundant | ☐ Present | ☐ Absent | ☐ Not Applicable |
|-----------------------------------|----------------------------------|---------------------------------|---|

Flat rocks and logs on banks or within exposed portions of streambeds (cover for stream salamanders and nesting habitat for dusky salamanders)

- | | | | |
|-----------------------------------|----------------------------------|---------------------------------|---|
| ☐ Abundant | ☐ Present | ☐ Absent | ☐ Not Applicable |
|-----------------------------------|----------------------------------|---------------------------------|---|

Underwater banks of fine silt and/or clay (beaver, muskrat, otter)

- | | | | |
|-----------------------------------|----------------------------------|---------------------------------|---|
| ☐ Abundant | ☐ Present | ☐ Absent | ☐ Not Applicable |
|-----------------------------------|----------------------------------|---------------------------------|---|

Undercut or overhanging banks (small mammals, mink, weasels)

- | | | | |
|-----------------------------------|----------------------------------|---------------------------------|---|
| ☐ Abundant | ☐ Present | ☐ Absent | ☐ Not Applicable |
|-----------------------------------|----------------------------------|---------------------------------|---|

Vertical sandy banks (bank swallow, kingfisher)

- | | | | |
|-----------------------------------|----------------------------------|---------------------------------|---|
| ☐ Abundant | ☐ Present | ☐ Absent | ☐ Not Applicable |
|-----------------------------------|----------------------------------|---------------------------------|---|

Areas of ice-free open water in winter

- | | | | |
|-----------------------------------|----------------------------------|---------------------------------|---|
| ☐ Abundant | ☐ Present | ☐ Absent | ☐ Not Applicable |
|-----------------------------------|----------------------------------|---------------------------------|---|

Mud flats

- | | | | |
|-----------------------------------|----------------------------------|---------------------------------|---|
| ☐ Abundant | ☐ Present | ☐ Absent | ☐ Not Applicable |
|-----------------------------------|----------------------------------|---------------------------------|---|

Exposed areas of well-drained, sandy soil suitable for turtle nesting

- | | | | |
|-----------------------------------|----------------------------------|---------------------------------|---|
| ☐ Abundant | ☐ Present | ☐ Absent | ☐ Not Applicable |
|-----------------------------------|----------------------------------|---------------------------------|---|

Wildlife dens/nests (if observed)

Turtle nesting sites

- | | | | |
|-----------------------------------|----------------------------------|---------------------------------|---|
| ☐ Abundant | ☐ Present | ☐ Absent | ☐ Not Applicable |
|-----------------------------------|----------------------------------|---------------------------------|---|

Bank swallow colony

- | | | | |
|-----------------------------------|----------------------------------|---------------------------------|---|
| ☐ Abundant | ☐ Present | ☐ Absent | ☐ Not Applicable |
|-----------------------------------|----------------------------------|---------------------------------|---|

Nest(s) present of ☐ Bald Eagle ☐ Osprey ☐ Great Blue Heron ☐ NLE Bat ☐ Other

Den(s) present of ☐ Otter ☐ Mink ☐ Beaver

General Electric Housatonic Rest of River
Appendix B: Habitat Inventory Form

Emergent Wetlands (if Applicable)

Emergent wetland vegetation at least seasonally flooded during the growing season (wood duck, green heron, black-crowned night heron, king rail, Virginia rail, coot, etc.)

Flooded > 5 cm ☐ Present ☐ Absent

Flooded > 25 cm (pied-billed grebe) ☐ Present ☐ Absent

Persistent emergent wetland vegetation at least seasonally flooded during the growing season (mallard, American bittern, sora, common snipe, red-winged blackbird, swamp sparrow, marsh wren)

Flooded > 5 cm ☐ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☐ Absent

Cattail emergent wetland vegetation at least seasonally flooded during the growing season

Flooded > 5 cm (marsh wren) ☐ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☐ Absent

Fine-leaved emergent vegetation (grasses and sedges) at least seasonally flooded during the growing season (common snipe, spotted sandpiper, sedge wren)

Flooded > 5 cm ☐ Present ☐ Absent

Flooded > 25 cm (least bittern, common moorhen) ☐ Present ☐ Absent

V. Habitat Degradation

☐ Evidence of significant levels of dumping

☐ Evidence of significant erosion or sedimentation problems

☐ Significant invasion of exotic plants (e.g., purple loosestrife, *Phragmites*, glossy buckthorn)

☐ Disturbance from roads or highways

☐ Evidence of fire

☐ Evidence of other human disturbance

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