



November 8, 2018

Ref: 12970.00

Michael S. Wierbonics
U.S. Army Corps of Engineers New England District
Regulatory Division
696 Virginia Road
Concord, MA 01742

**Re: Request for Permit Area Determination
NAE-2017-01406: Sudbury-Hudson Transmission Reliability Project**

Dear Mr. Wierbonics:

On behalf of NSTAR d/b/a Eversource Energy ("Eversource"), VHB is providing the enclosed project information to request a determination of permit areas. The Sudbury-Hudson Transmission Reliability Project (the "Project") involves the construction of a new 115-kV underground electric transmission line within paved roads and an inactive railroad right-of-way ("ROW") owned by the Massachusetts Bay Transportation Authority ("MBTA"). The Project is located between the existing Eversource substation in Sudbury, Massachusetts ("Sudbury Substation"), and the existing substation in Hudson, Massachusetts, owned by the Hudson Light and Power Department ("HLPD"). The Project route crosses portions of Sudbury, Marlborough, Stow, and Hudson, and is depicted on a United States Geological Survey ("USGS") quadrangle base map in Figure 1.

The Project must obtain a permit under Sections 404 and 10 of the Clean Water Act from the U.S. Army Corps of Engineers ("USACE") for wetland and surface water impacts required to construct and operate the new transmission line. Therefore, the Project is subject to review under Section 106 of the National Historic Preservation Act and USACE's Section 106 regulations at 33 CFR Part 325, Appendix C. The intent of this letter is to initiate Section 106 consultation with a request for permit area determination.

Existing Conditions and Land Uses on the Project Site

The Project is approximately 9 miles in length and will be installed primarily along an inactive ROW owned by the MBTA. The Project will extend northwest along the MBTA ROW from Eversource's Sudbury Substation on Boston Post Road (Route 20) in Sudbury, through Sudbury and Hudson and short sections of Marlborough and Stow. At Wilkins Street in Hudson, the route exits the MBTA ROW and travels underground within public roadways for 1.3 miles, terminating at an existing substation on Forest Avenue in Hudson, owned by the Hudson Light and Power Department. The Company's proposed route for the new transmission line and the location of the Sudbury and Hudson Substations are shown on a USGS base map provided in Figure 1.

Engineers | Scientists | Planners | Designers

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Land uses adjacent to the Project include forested areas, wetlands, open fields, and a mix of commercial/industrial and residential areas. In Sudbury, the ROW crosses several roadways including Landham Road, Route 20, Union Avenue, Horse Pond Road, Peakham Road, and Dutton Road, as well as the major waterbodies of Hop Brook and Dudley Brook. Landmarks and major conservation areas crossed in Sudbury include Great Meadows National Wildlife Refuge, the Coolidge at Sudbury apartment community, Wash Brook Parcel conservation land, Mill Village Shopping Center, Meadow Walk/Raytheon, Stone Farm, Hopbrook Marsh Conservation Land, Memorial Forest, and Assabet River National Wildlife Refuge. In Marlborough, the Project passes the Desert Conservation Area; and in Hudson, it crosses Fort Meadow Brook, the Assabet River National Wildlife Refuge, Marlborough-Sudbury State Forest, Charter Oak Country Club, Extra Space Storage, Ferjulian's Farm/Orchards, Forest Avenue Elementary School, and the Assabet River Rail Trail parking lot. A small portion of Ferjulian's Farm/Orchards is also located in Stow. Additionally, in Hudson, the ROW crosses several roadways including White Pond Road, Parmenter Road, Main Street, and Chestnut Street. Upon entering public roadways, the transmission line route travels along Wilkins Street and Forest Avenue.

Methodology for Identification of Archaeological Sensitivity

Commonwealth Heritage Group ("CHG") performed an initial cultural resources due diligence and archeological sensitivity assessment in order to identify archeologically sensitive areas within the vicinity of the Project. CHG identified properties by searching the Massachusetts Historical Commission's ("MHC's") Inventory of the Historic and Archeological Assets of the Commonwealth ("MHC Inventory"). A study area of a ¼-mile radius from the center of the Sudbury-Hudson Project area was designated for the purposes of this effort.

CHG then performed a Phase 1A Reconnaissance Survey to identify which, if any, parts of the Project are likely to contain sites of historical or archaeological significance. The survey involved a field walk of the Project route, including 40 feet to either side of the railbed centerline, to assess visible disturbance, rockiness, fill, presence of wetlands, and the soil characteristics along the proposed Project route. Special attention was given to extant historic railroad features such as granite mile markers; former station sites; the extant section house; stone, cement or concrete features such as culverts, markers, or foundations; and remnant electrical railroad components. Soil cores were collected in areas of apparent natural topography using an open-faced steel corer (3/4-inch) to identify natural soil horizons, evidence of disturbance, and soil characteristics. The results of the walkover were used to assess the archeological sensitivity of the Project corridor. Any artifacts recovered from the reconnaissance have been cleaned, identified, described, and entered into a computer cataloguing system for analysis. Once processed, they are stored appropriately at a curation facility. A technical report summarizing the results of the Phase 1A survey was provided to MHC on February 23, 2018, and MHC responded on March 19, 2018, indicating that intensive (locational) surveys were appropriate.

The Phase 1B intensive survey is currently in progress. Sensitive areas were identified in or near the limits of the Project ROW. In these areas, systematic testing took place with judgmentally-oriented transects with 50-by-50-centimeter standard test pits at 10-meter intervals focused around undisturbed portions of



the Project area within the limit of work. Additional testing took place at archeological site areas. Fieldwork has been completed, and CHG is currently processing the results.

Proposed Project Description

Construction of the Project will generally require a 22-foot-wide construction corridor along the MBTA ROW to be cleared of trees and woody shrubs to facilitate the installation of the duct bank and the access road. At select locations, where necessary to meet existing grade, satisfy DCR design criteria, accommodate stormwater management features, and manhole/splice vault construction, the proposed limits of disturbance will be wider than 22 feet. Figure 1 illustrates the limits of disturbance along the Project.

Within the footprint of the clearing, a construction platform will be developed that consists of:

- A 14-foot-wide access road;
- A 4-foot-wide duct bank (offset from the access road by 1 foot);
- Manholes (requiring additional workspace outlined below); and
- Three feet of additional construction area to facilitate installation of the duct bank

Figures 2-1 and 2-2 illustrate the configuration of the construction platform to accommodate the 14-foot-wide access road, the duct bank, and additional construction area for duct bank installation.

At each proposed manhole location, the limits of clearing will be temporarily expanded to an approximate width of 40 feet, for a length of 50 feet, to accommodate temporary work pads for the installation of the vault. Figure 1 illustrates the limits of disturbance including manhole locations (shown on the figure as areas with wider limits of disturbance). Following construction, these areas will be allowed to grow back to the final maintained ROW width of 19 feet. Each manhole will be approximately 8 feet wide by 8 feet high and 24 feet long (inside dimensions). Due to their size, most of the manholes will be located partially underneath the access road with the manhole covers adjacent to the road and in the shoulder. At each manhole, a precast communication handhole measuring 4 feet by 4 feet by 4 feet will be installed parallel to each manhole.

In total, the Project will result in approximately 23.93 acres of vegetation removal within the MBTA ROW. Following construction, DCR will maintain a 19-foot-wide corridor. Outside Eversource's 14-foot-wide gravel access road, the remaining corridor will be revegetated with native plant species with a focus on developing an herbaceous and low growing woody vegetation community over the duct bank (a 5-foot corridor) and allowing herbaceous and taller woody vegetation to revegetate in remaining areas. It is the Company's understanding that DCR will pave the center 10 feet of the gravel access road and will loam and seed the remaining 2-foot-wide shoulders on either side (Figure 2-3).

Summary of Wetland Impacts

The Company has minimized the footprint of the project by limiting the width of tree clearing to the limits needed for grading, making use of permanent sheeting instead of riprap or conventional retaining walls in areas with steep slopes, and narrowing the construction platform to 18 feet in select areas to avoid wetland resource areas and historic resources. Manholes have been placed outside of wetland resource



areas, and new bridge abutments will be installed behind the existing abutments to minimize impacts within the waterway. Permanent impacts are largely due to grading necessary to accommodate the multi-use path. Temporary impacts are due to the installation of sheeting to support new bridge abutments, and timber mats to support cranes needed for bridge work. There are no secondary wetland impacts as all tree clearing will occur within the limit of disturbance, which will result in permanent fill rather than conversion of wetland habitat types. Construction and vegetation removal crews will access the ROW primarily from public ways. However, once a contractor is on board the Company will work together to identify opportunities to minimize traffic impacts and expedite construction by evaluating potential alternative access points from abutting private properties where possible. The Company will direct the contractor to use only laydown areas and alternative access points that are located in previously disturbed areas and that will not require additional clearing nor result in additional impacts to wetlands or rare species habitat.

Summary of Wetland Impacts (as of October 25, 2018)*

Type of Wetland Impact	Hudson	Sudbury	Total
<i>Permanent Impact</i> Fill from grading to accommodate multi-use path	BVW: 109 sf	BVW: 177 sf	BVW: 287 sf
	IVW: 648 sf	IVW: 303 sf	IVW: 951 sf
	Bank: 0 lf	Bank: 40 lf	Bank: 40 lf
	LUW: 0 sf	LUW: 51 sf	LUW: 51 sf
<i>Temporary Impact</i> Placement of timber mats to support cranes for bridge work, and installation of sheeting to support new bridge abutments	BVW: 1,936 sf	BVW: 279 sf	BVW: 2,216 sf
	IVW: 0 sf	IVW: 0 sf	IVW: 0 sf
	Bank: 0 lf	Bank: 227 lf	Bank: 227 lf
	LUW: 0 sf	LUW: 1,137 sf	LUW: 1,137 sf

BVW = Bordering Vegetated Wetland

IVW = Isolated Vegetated Wetland

LUW = Land Under Water

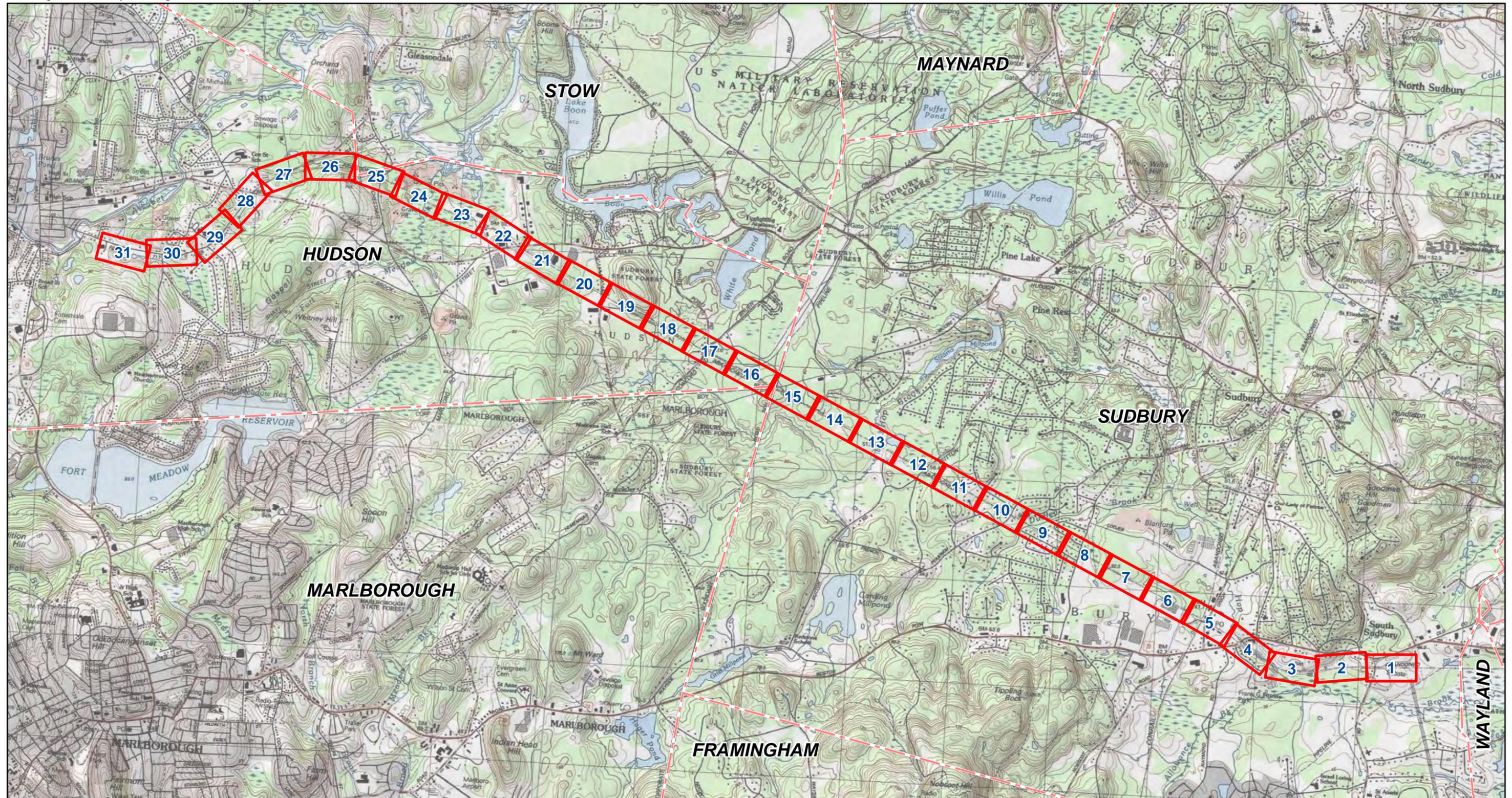
* There are no BVW or IVW impacts in Stow or Marlborough.

If additional project information is required, please contact me by phone at 508-513-2713 or by email at vkimball@vhb.com. You may also contact Denise Bartone at denise.bartone@eversource.com or (781) 441-8174.

Sincerely,

Vivian Kimball

Environmental Scientist
vkimball@vhb.com

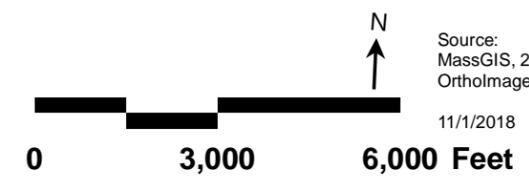


 Map Index
 Town Boundaries



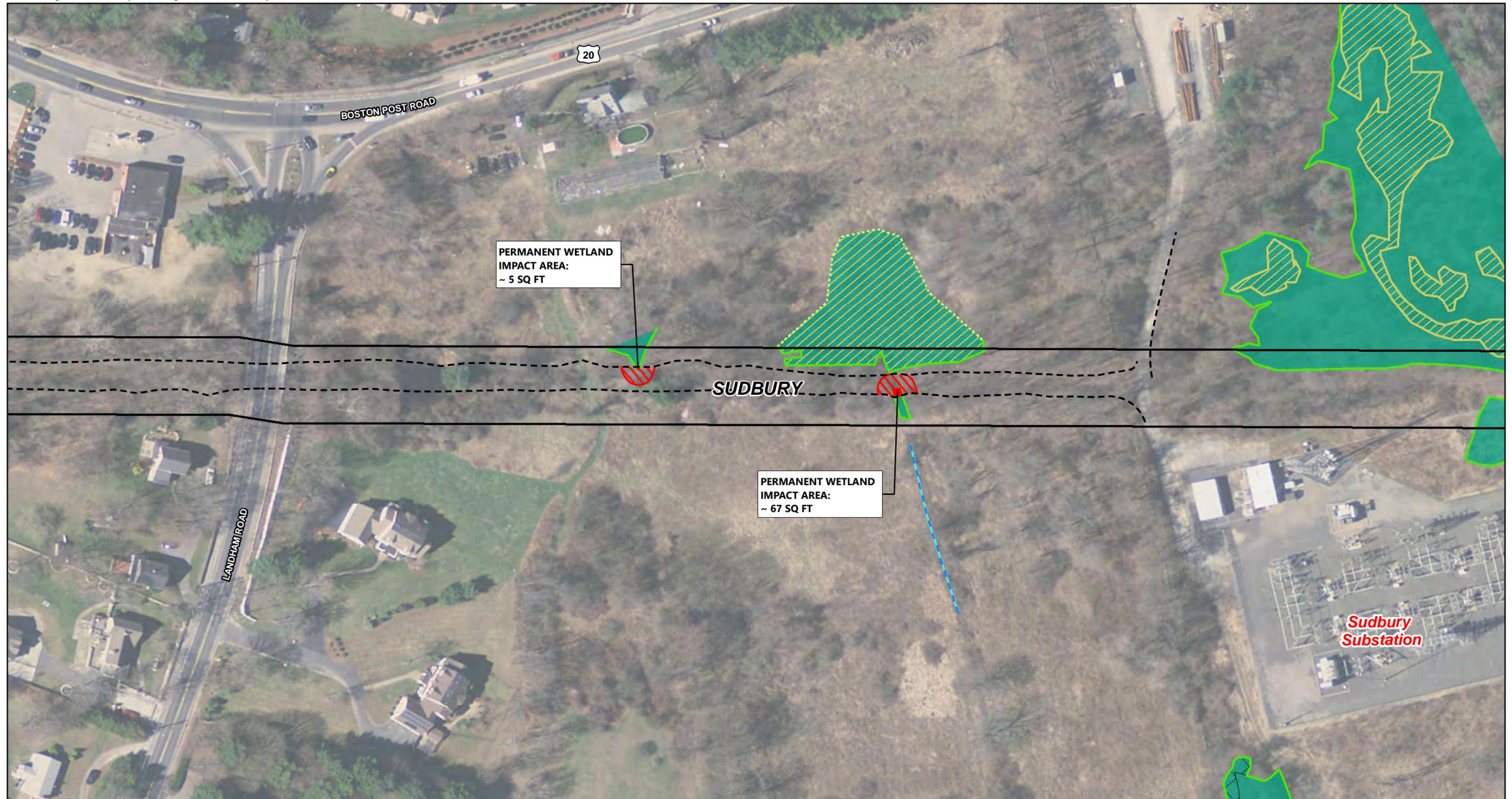
Sudbury-Hudson Transmission Reliability Project

Figure 1
USACE Permit Area Plans
Cover Sheet

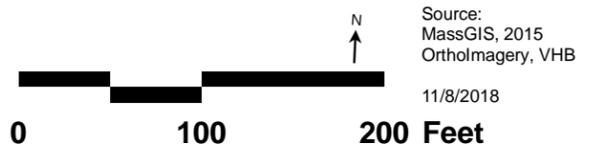


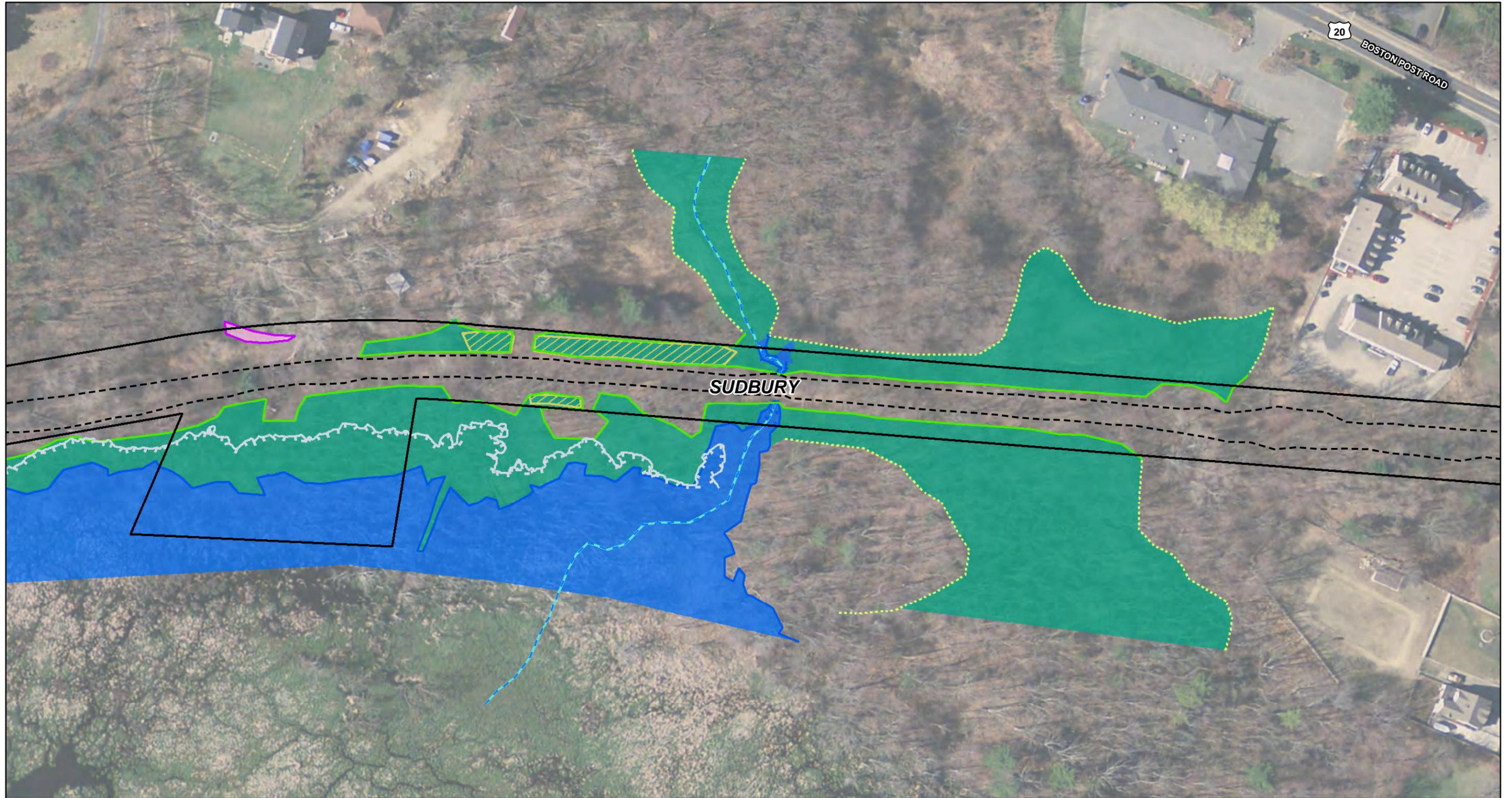
Source:
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- MBTA ROW Boundary
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- - - Limit of Grading
- In-Road Transmission Route
- 16-ft Permit Area Buffer
- ▨ Permit Areas
- Wetland Impact
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- Delineated Top of Bank
- Delineated Vernal Pool Edge
- Intermittent Stream
- Perennial Stream
- ▨ Vernal Pool Area
- ▨ Wetland Replication Area
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Sudbury-Hudson Transmission Reliability Project

**Figure 1
USACE Permit Area Plans**

Source:
MassGIS, 2015
Orthomagery, VHB
11/8/2018



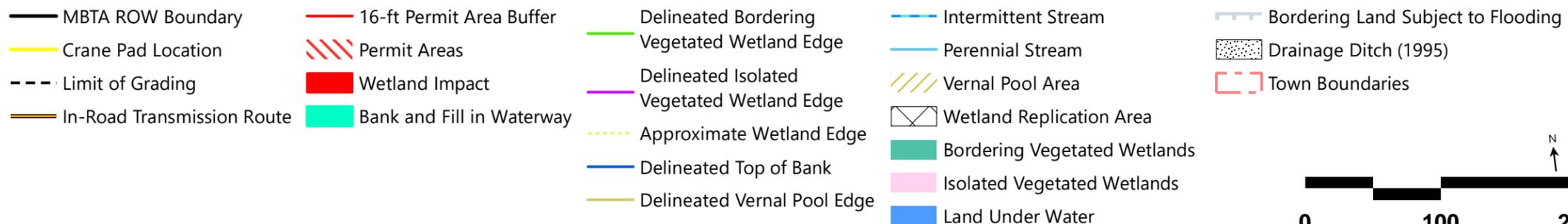
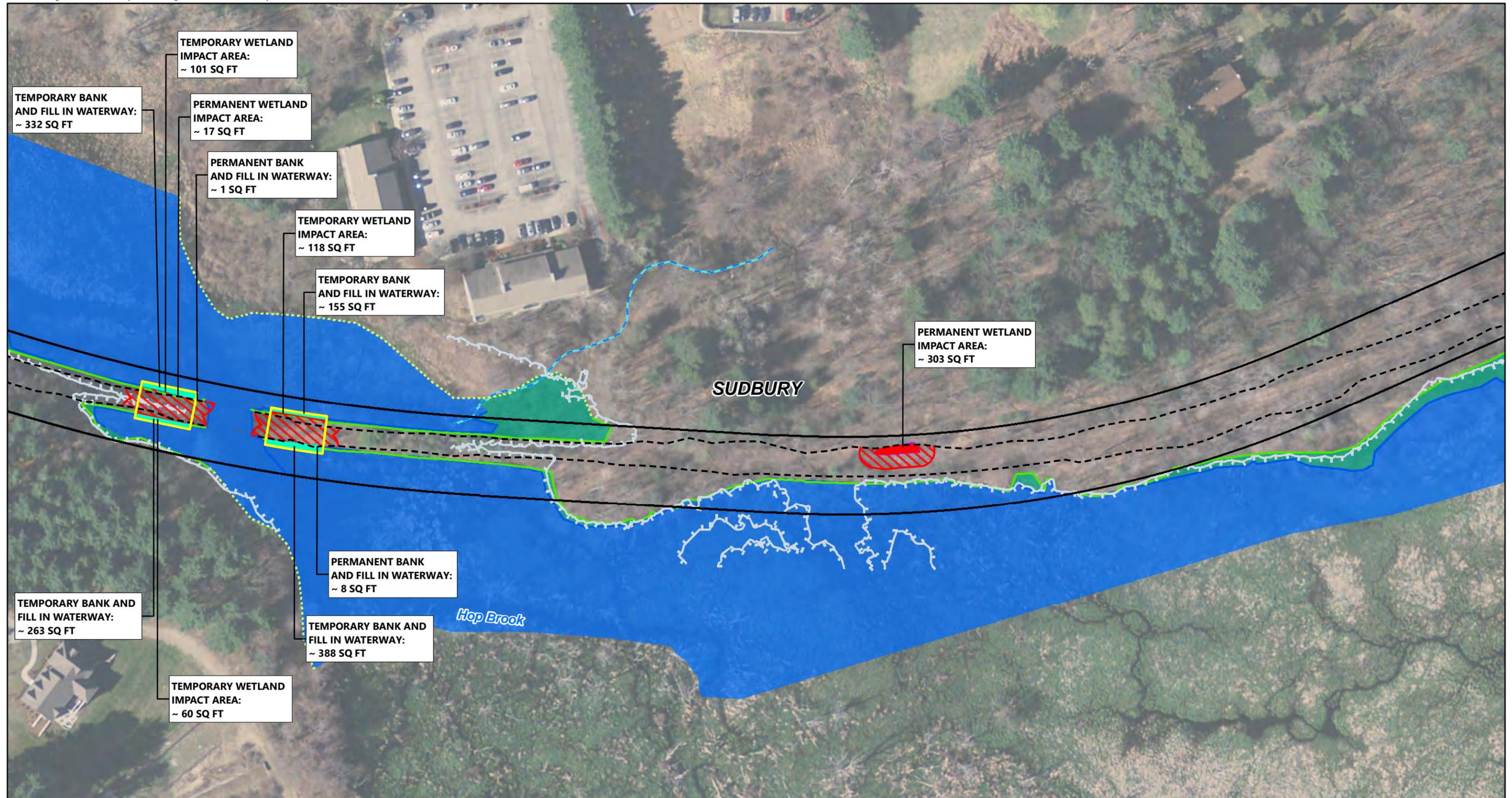
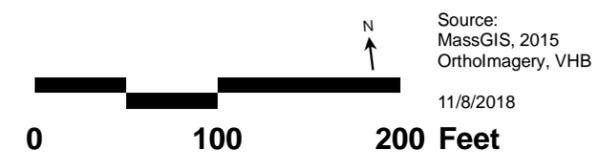
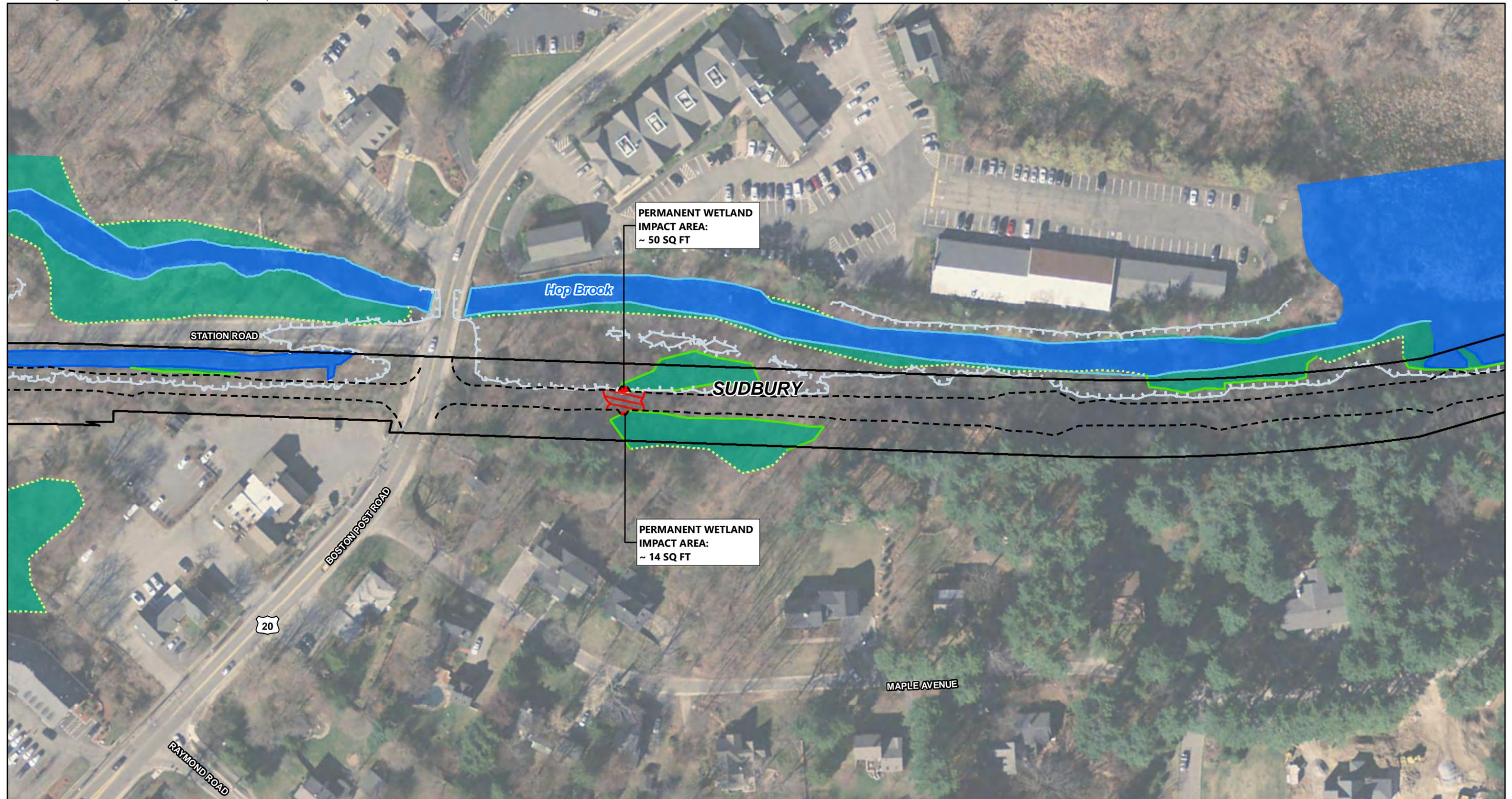


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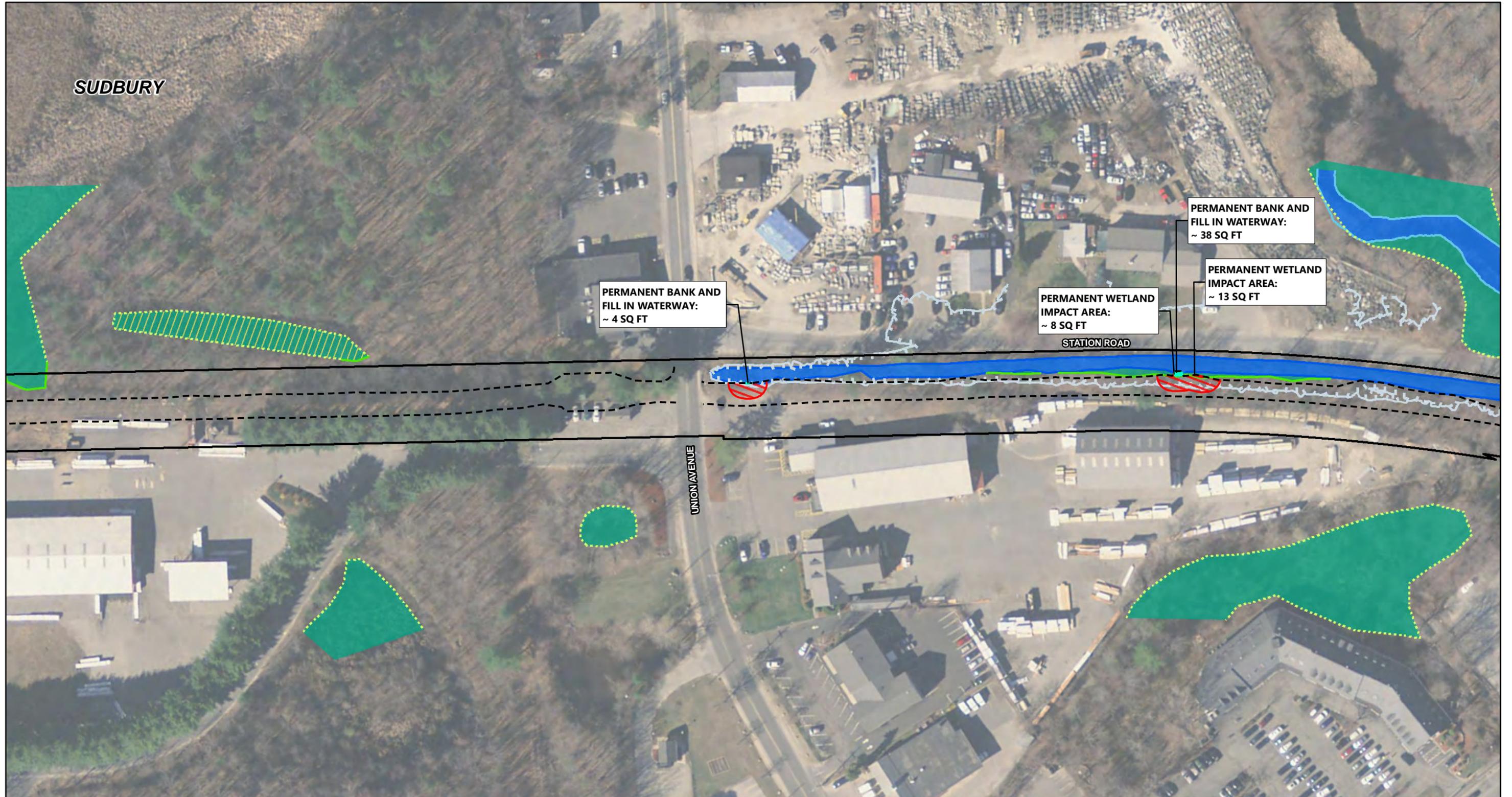


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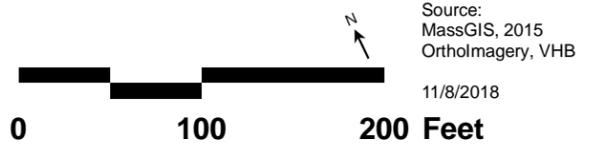
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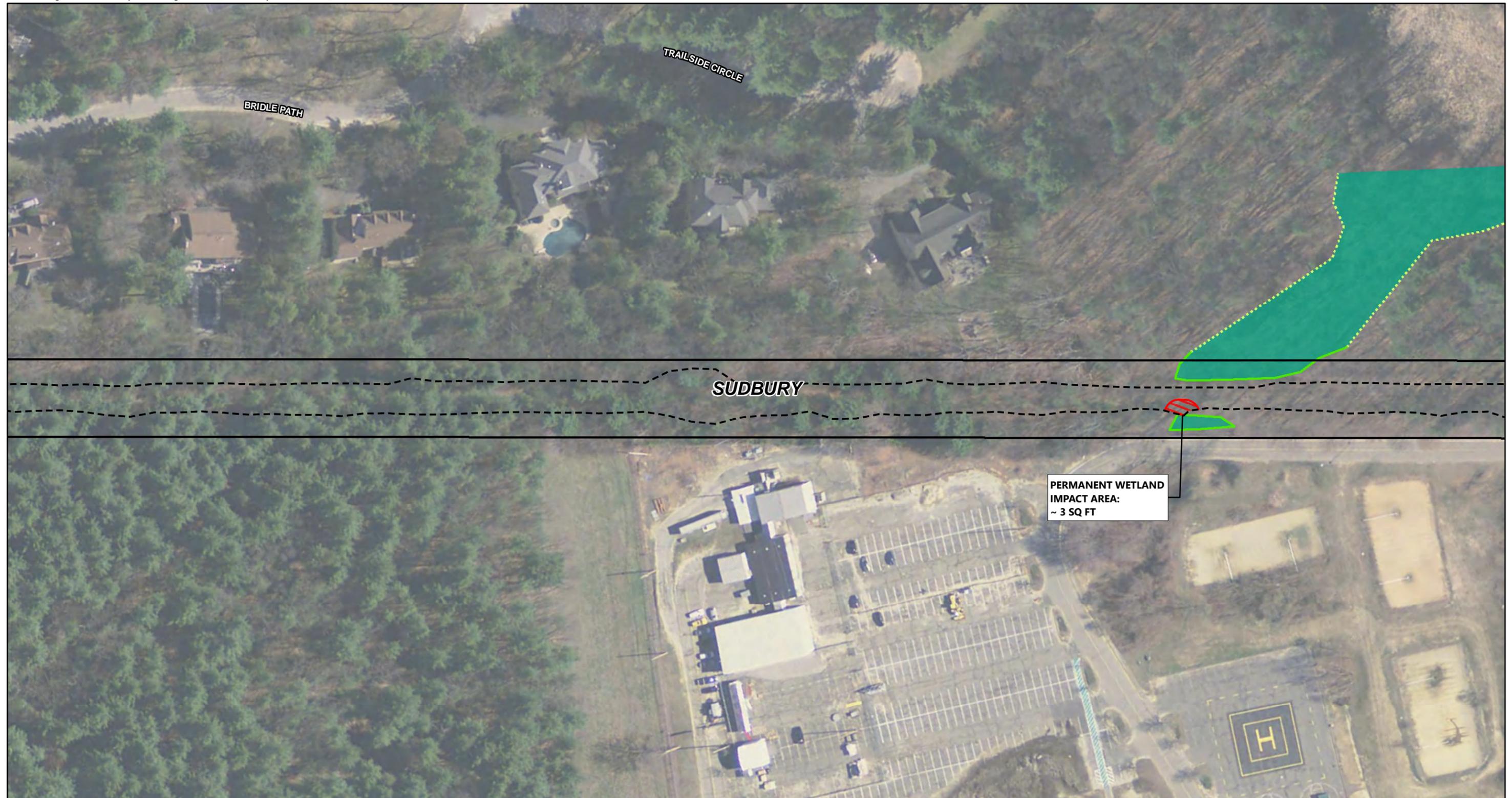
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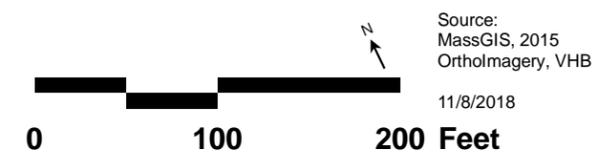


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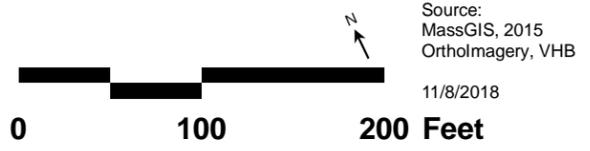
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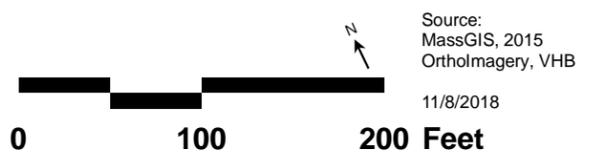


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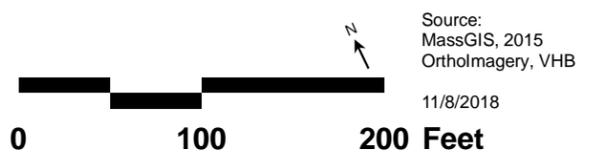


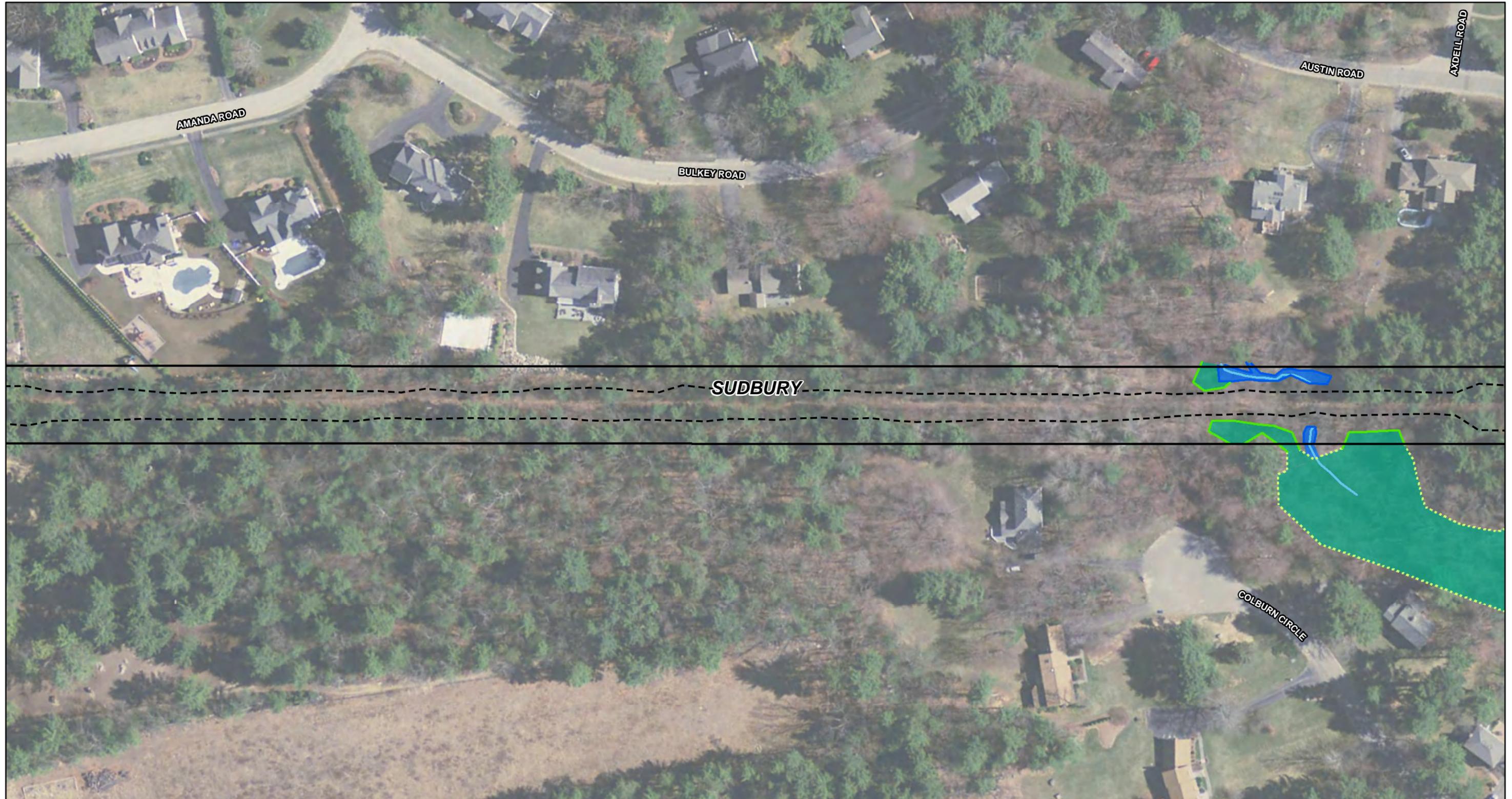
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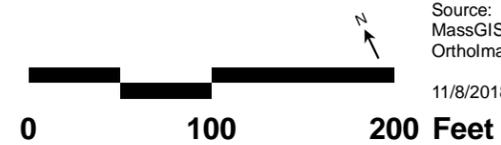


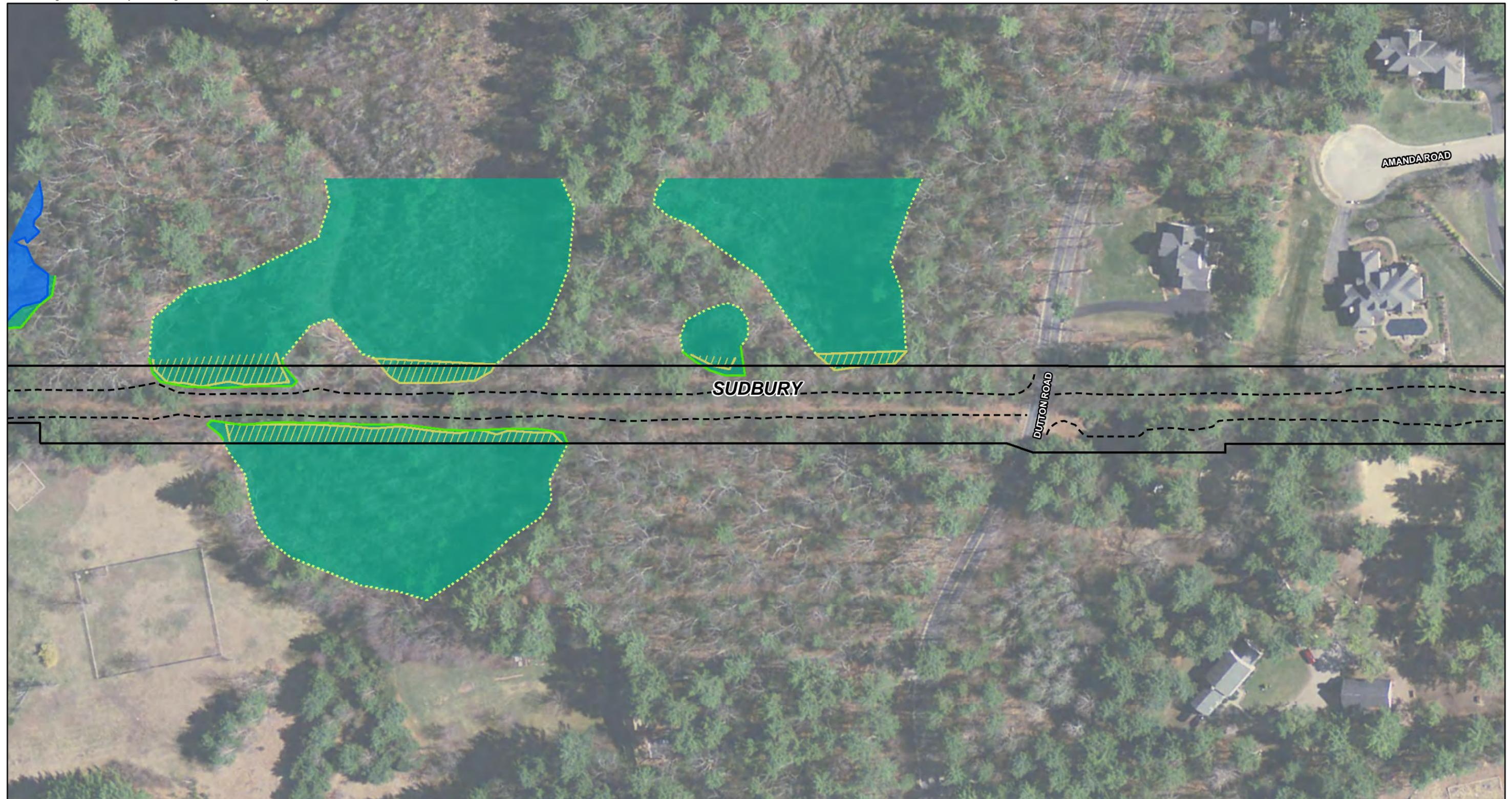
Sudbury-Hudson Transmission Reliability Project

**Figure 1
USACE Permit Area Plans**

Source:
MassGIS, 2015
Orthomagery, VHB

11/8/2018



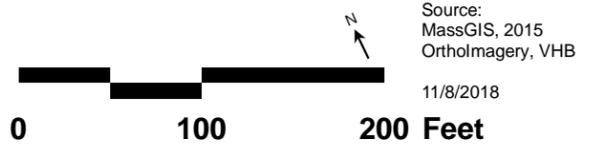


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Sudbury-Hudson Transmission Reliability Project

Figure 1
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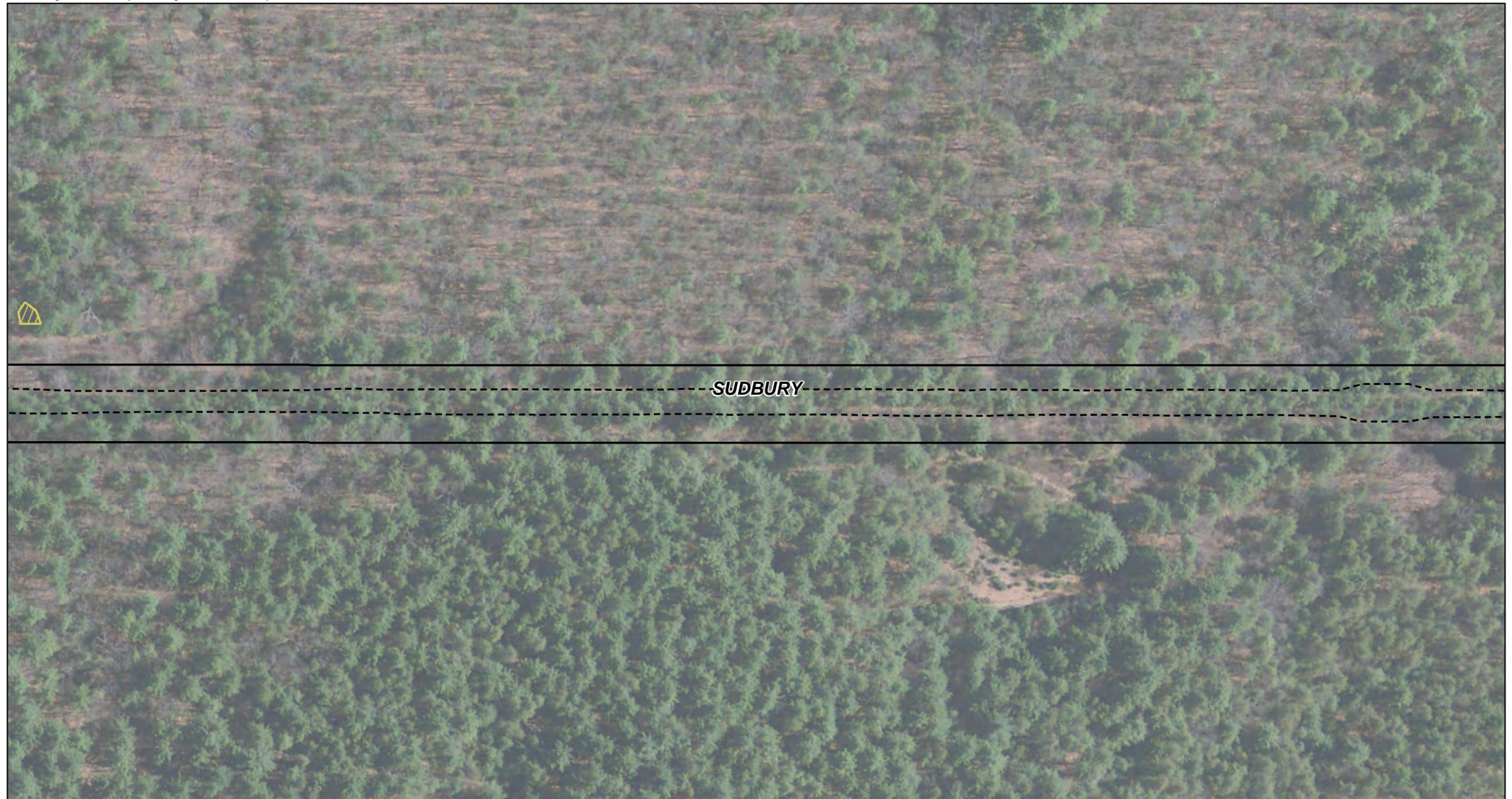


Sudbury-Hudson Transmission Reliability Project

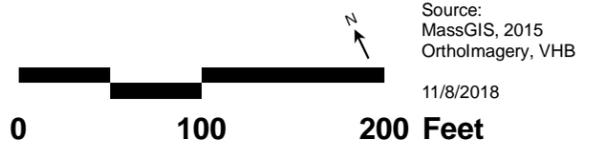
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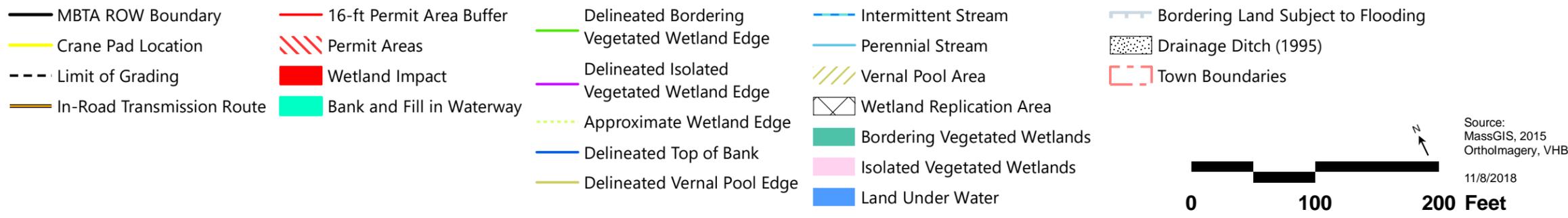
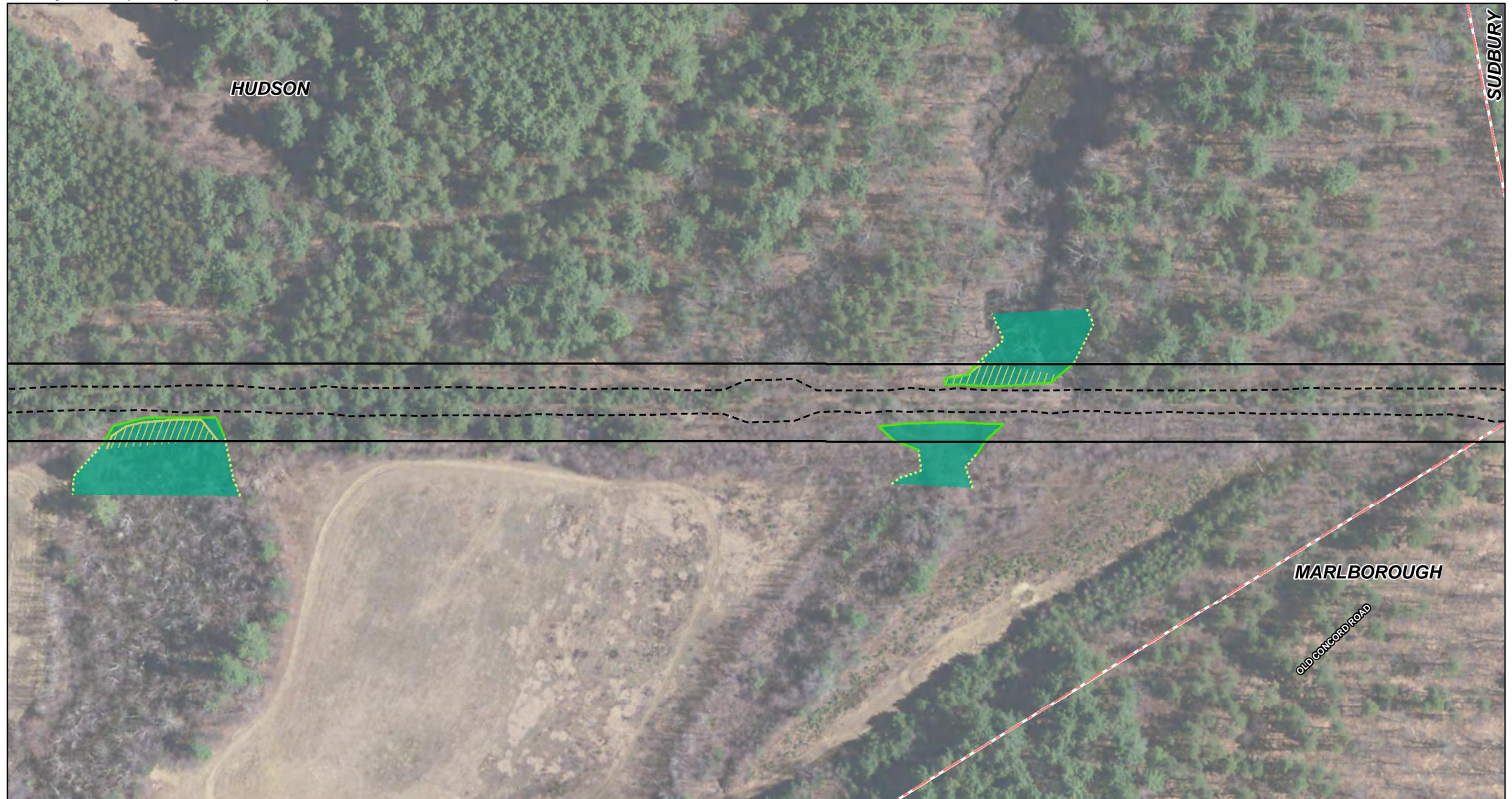


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USACE Permit Area Plans**

Source:
MassGIS, 2015
Orthomagey, VHB
11/8/2018





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Sudbury-Hudson Transmission Reliability Project

Figure 1
USACE Permit Area Plans

Source:
MassGIS, 2015
Orthomagery, VHB
11/8/2018

0 100 200 Feet

Sheet 16 of 31

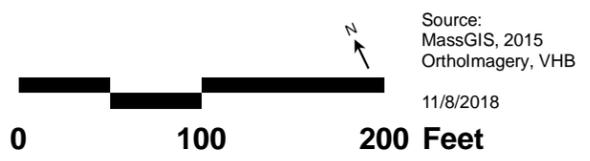


- MBTA ROW Boundary
- 16-ft Permit Area Buffer
- Delineated Bordering Vegetated Wetland Edge
- Intermittent Stream
- Bordering Land Subject to Flooding
- Crane Pad Location
- Permit Areas
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- Perennial Stream
- Drainage Ditch (1995)
- Limit of Grading
- Wetland Impact
- Delineated Top of Bank
- Vernal Pool Area
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- In-Road Transmission Route
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Sudbury-Hudson Transmission Reliability Project

Figure 1
USACE Permit Area Plans



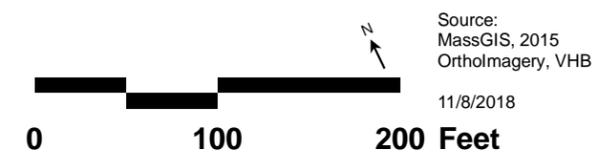


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Sudbury-Hudson Transmission Reliability Project

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USACE Permit Area Plans



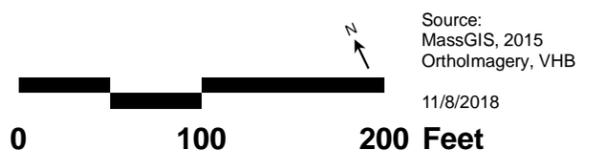


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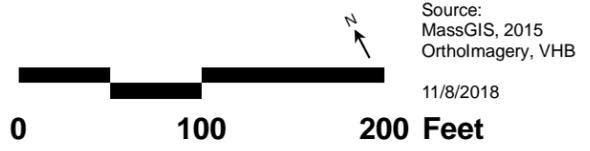
Sudbury-Hudson Transmission Reliability Project

Figure 1
USACE Permit Area Plans





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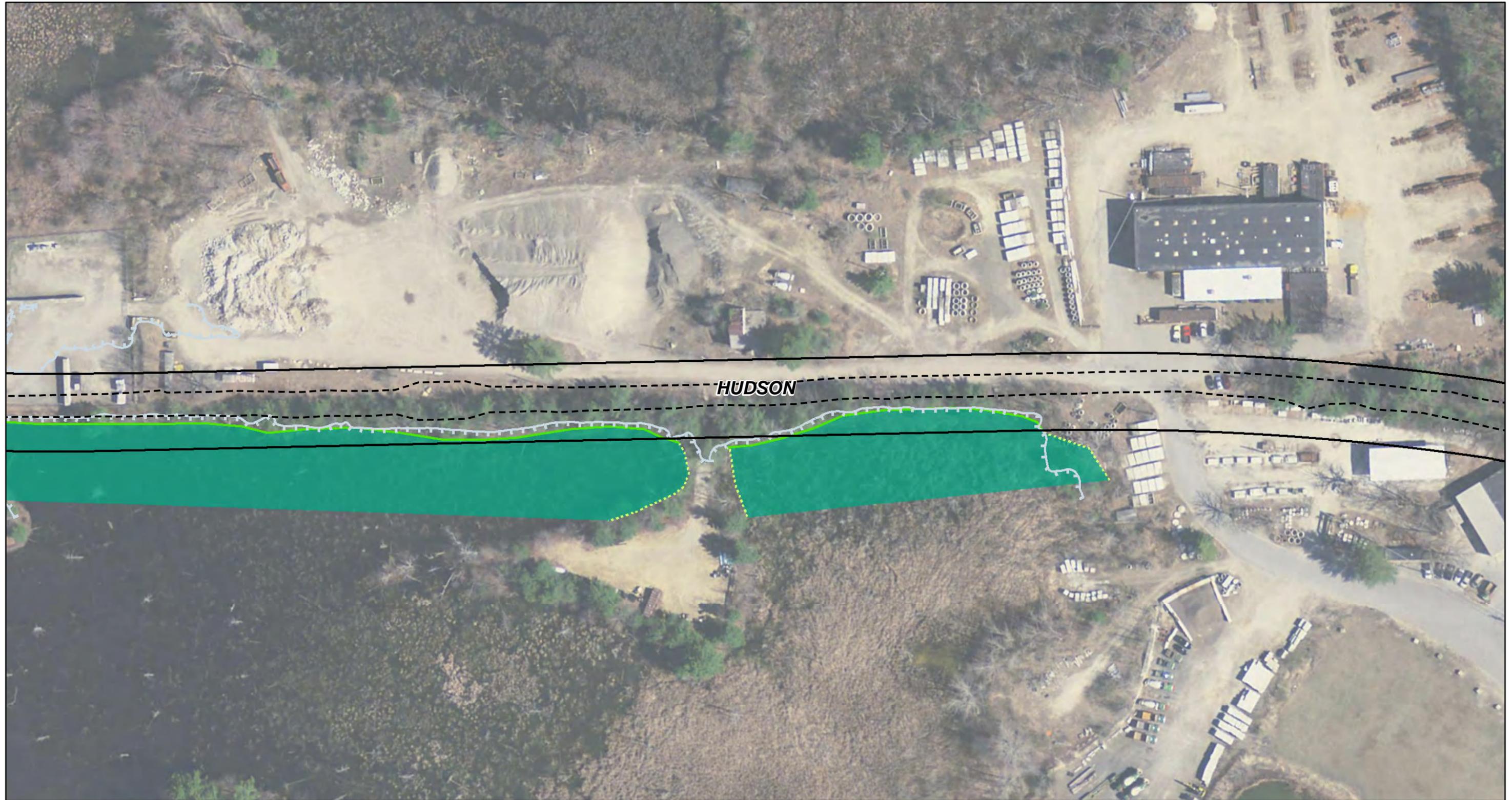
Sudbury-Hudson Transmission Reliability Project

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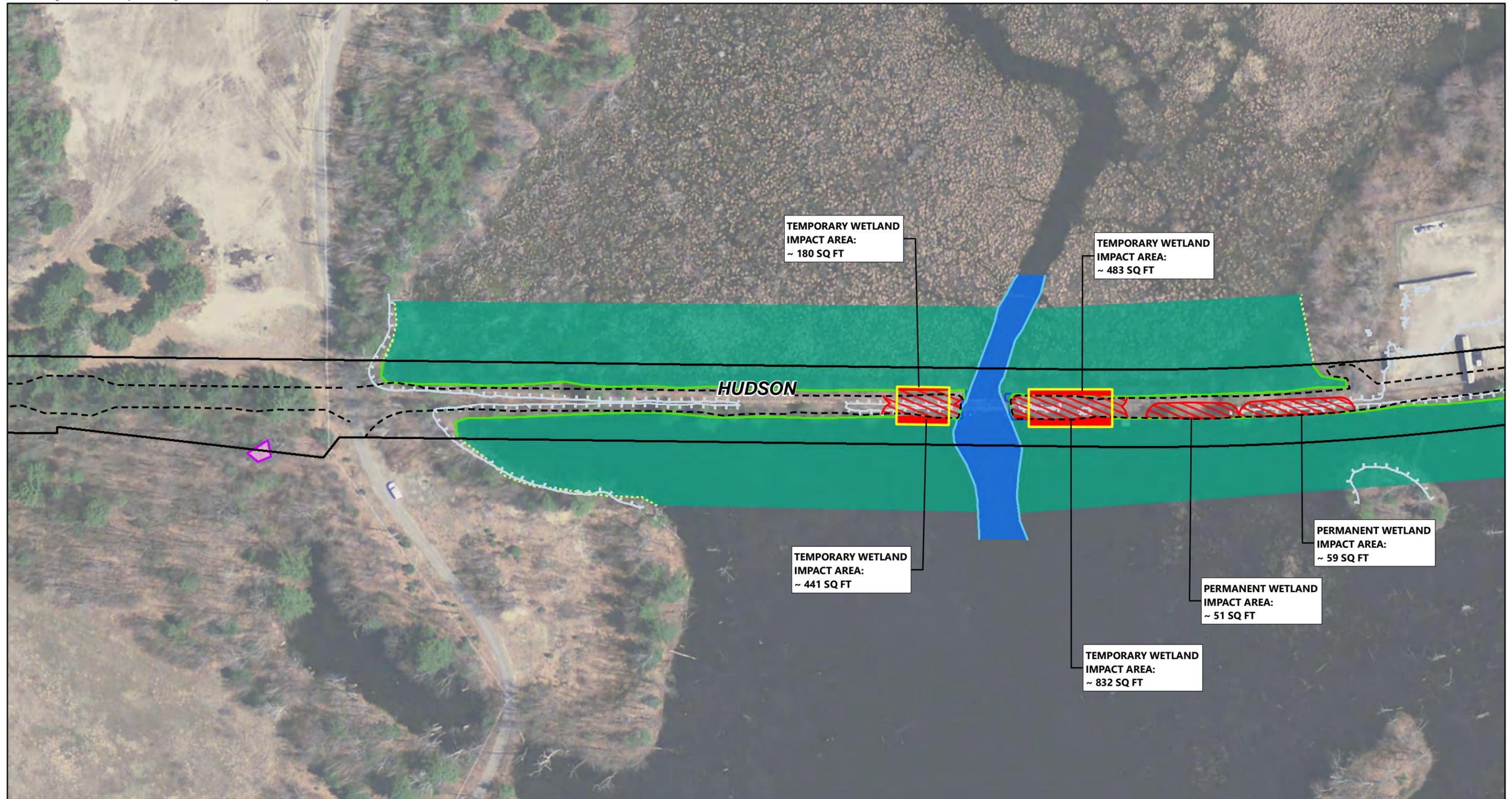
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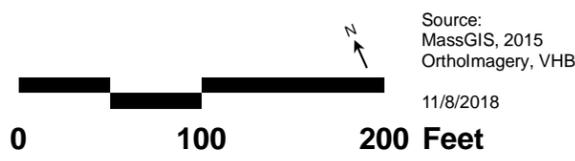


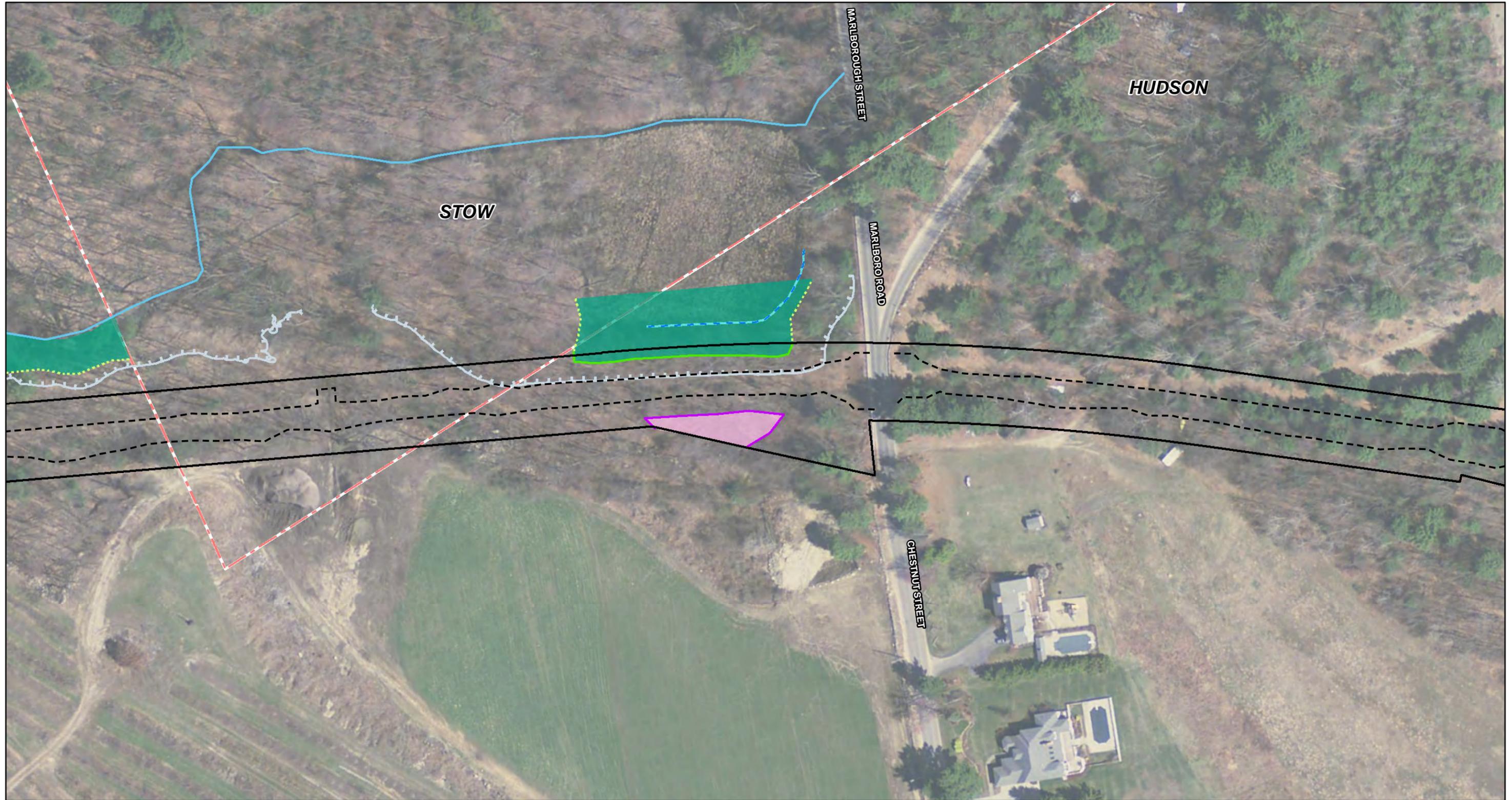
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Sudbury-Hudson Transmission Reliability Project

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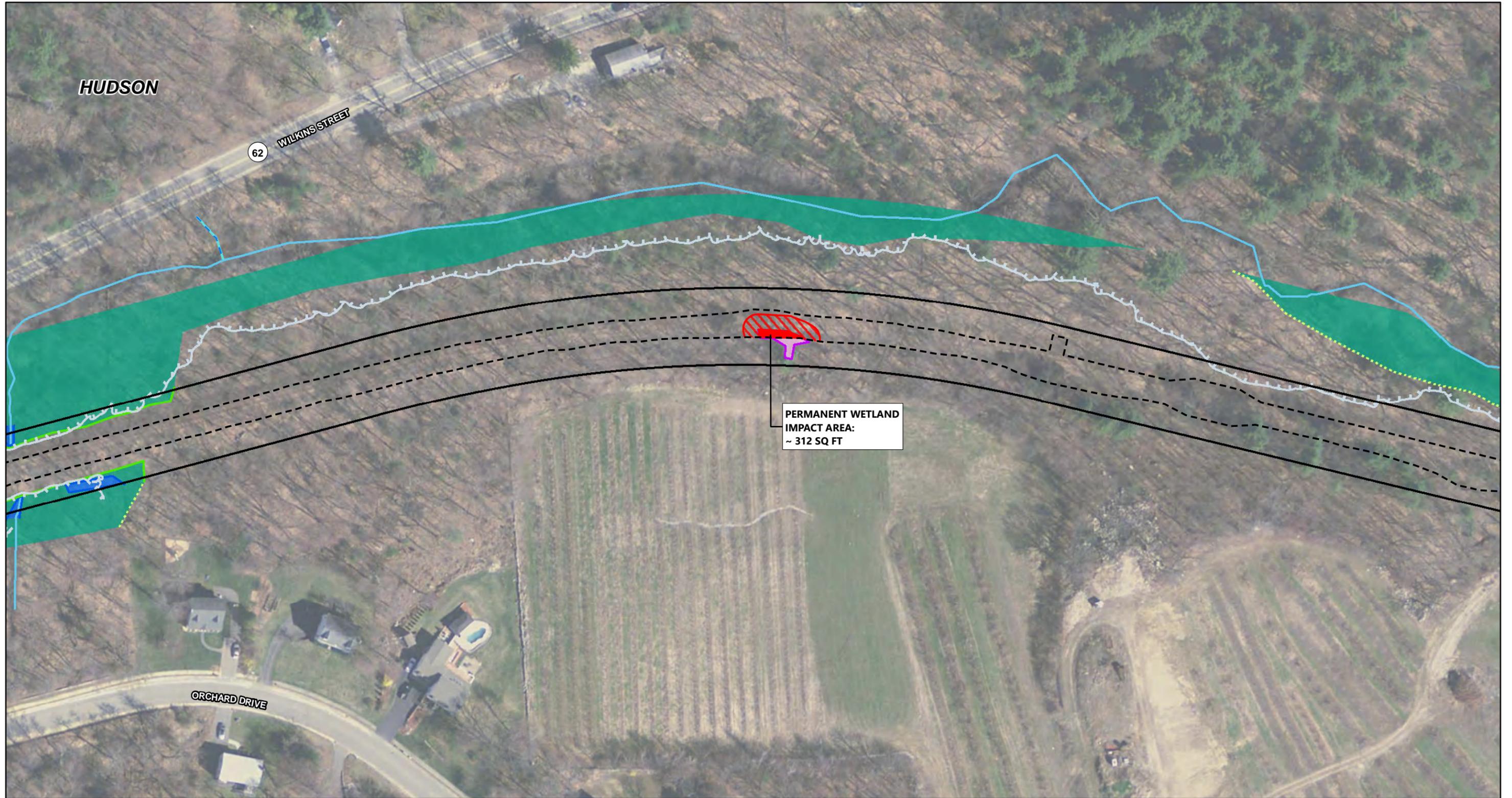
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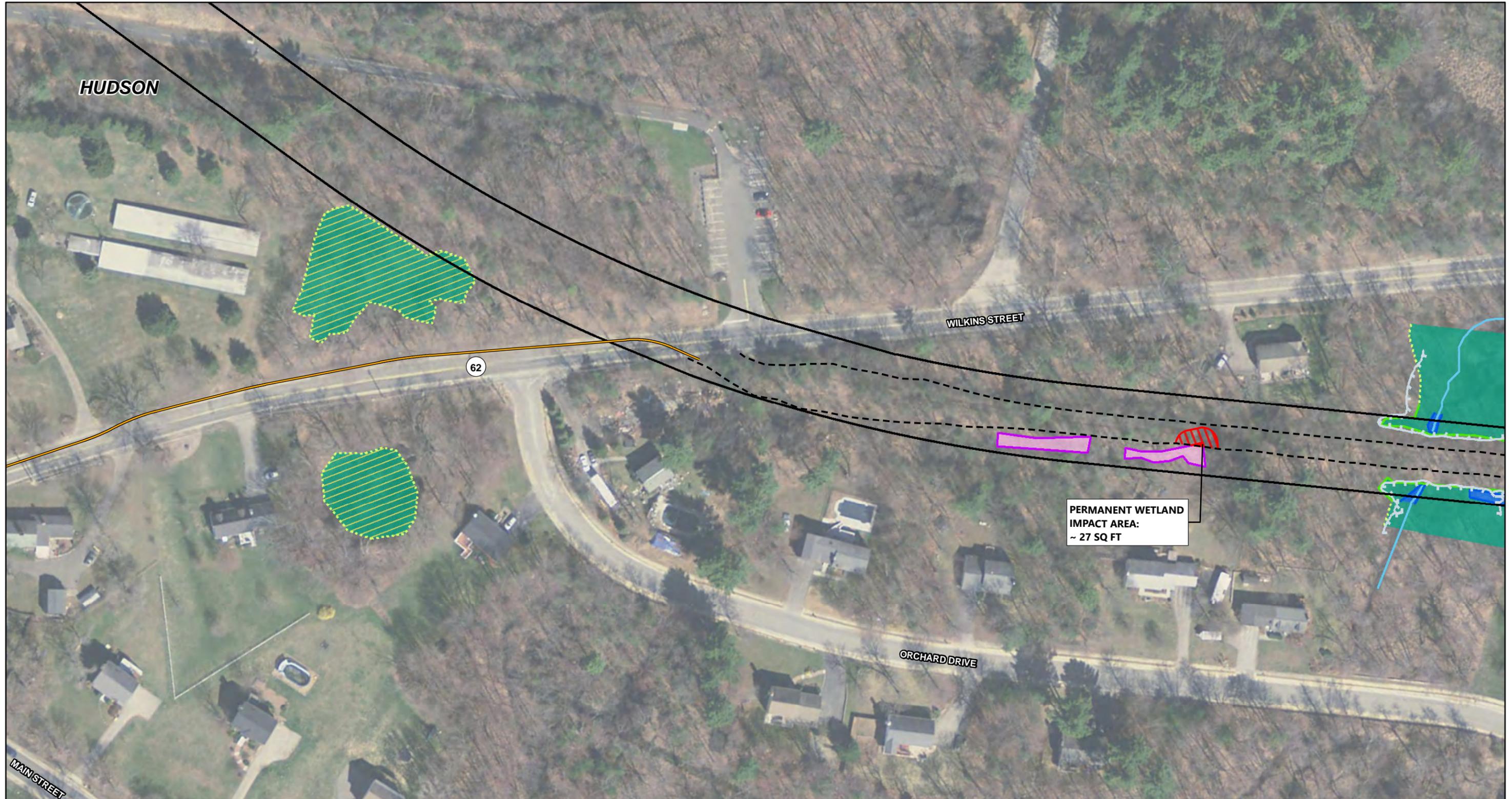


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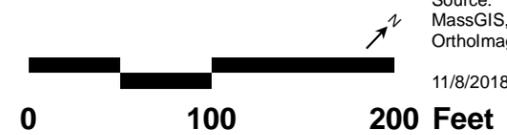
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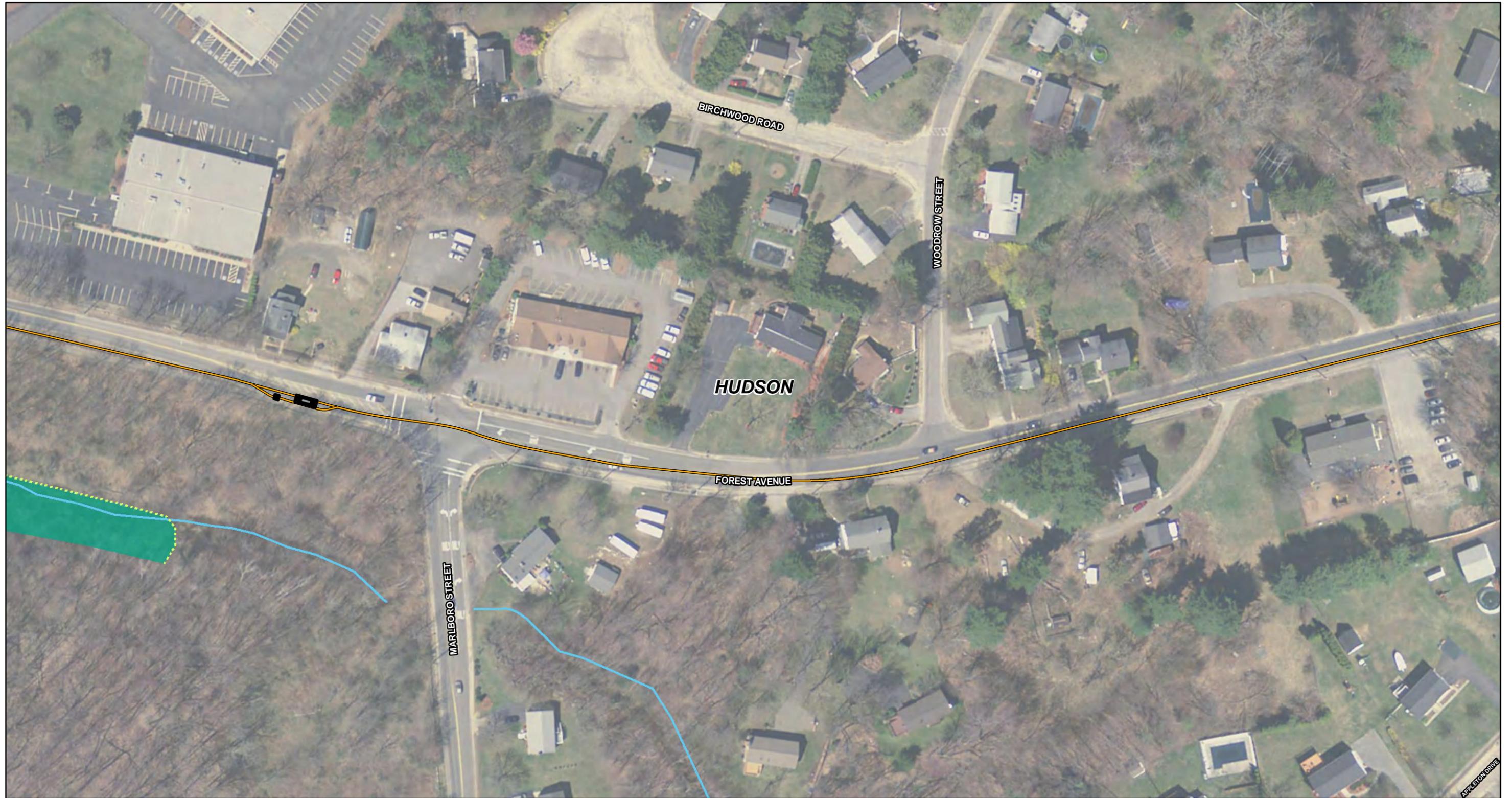


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Limits of Clearing (Varies up to 60')

22' Typical Construction Platform

Existing steel tracks, ballast, and paths to be removed/graded



FIGURE 2-1
Eversource Construction Conditions
Sudbury-Hudson Transmission Reliability Project



FIGURE 2-2
Post-Eversource Construction Conditions
Sudbury-Hudson Transmission Reliability Project



FIGURE 2-3
Post-DCR Construction Conditions
Sudbury-Hudson Transmission Reliability Project