



October 30, 2020

Ref: 12970.00

Sudbury Historical Commission
Flynn Building
278 Old Sudbury Road
Sudbury, MA 01776

Re: Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project

Dear Members of the Sudbury Historical Commission,

On behalf of NSTAR Electric Company d/b/a Eversource Energy ("Eversource"), VHB is providing supplemental information in response to the requests for additional information dated September 24, 2020, and October 15, 2020, from the Sudbury Historical Commission. Requests made in the letters are set in bold and italic below, and responses are provided in plain text.

We also request a copy of the Memorandum of Understanding executed between Eversource and DCR.

When the MOU is finalized and signed by Eversource and DCR, it will be shared with the Commission.

The Historical Commission in its capacity as a Section 106 Consulting Party again requests the documents we requested in our June 17th letter under items 15, 16 and 17 to facilitate review and comment on avoidance/mitigation plans. We would like to be informed what plans have been formulated, and if any have not, advised when they will be prepared because the Massachusetts Historical Commission (MHC) has recommended that such plans be stipulated in the Memorandum of Agreement (MOA). The Commission would like the opportunity to review the draft plans prior to providing comments to MHC and the Army Corps.

15. The Massachusetts Historical Commission (MHC) in its December 18, 2019 letter to the US Army Corp of Engineers stated that the draft written site avoidance and protection plan for significant historic and archaeological resources, including the George Pitt Tavern Historic District ((SUD.P), the Boston and Maine Railroad Section Tool House (SUD.282) including stipulations for fencing, signage and constructor briefings should be submitted to the consulting parties for review and comment.

The draft written site avoidance and protection plan is attached.

16. The MHC also stated in its December 18, 2019 letter a recommendation that the Memorandum of Agreement include stipulations for the development and implementation of design specifications and

Engineers | Scientists | Planners | Designers

101 Walnut Street
PO Box 9151
Watertown, Massachusetts 02471
P 617.924.1770
F 617.924.2286



details for the proposed removal and resetting of railroad features (to include protection during removal and short term storage) to avoid adverse effects to the historic railroad features. The Commission as a consulting party requests a copy of the design specifications.

As described in the draft site avoidance and protection plan, all historic railroad features located within the limits of work and outside the limits of the 14-foot gravel base shall be retained and protected with construction fencing and signage that shall be installed in consultation with and approved by the cultural resources consultant given 24 hours advanced notice before any construction within the immediate vicinity of the feature occurs. If avoidance and protection measures are not prudent or feasible or the feature is located within the Project's direct area of impact, it shall be carefully removed and reset as close as possible to the original location. The removal and resetting of any historic railroad feature shall only be done after consultation with the cultural resources consultant, who shall specify the methodology used to remove, preserve, and reset the feature.

17. Further, the MHC also stated in the December 18, 2019 letter a recommendation that the Memorandum of Agreement (MOA) include a stipulation that a mitigation plan for the Massachusetts Central Railroad historic district including Hop Brook Bridges 127 and 128.

As mitigation for potential adverse effects to Bridges #127 and #128, Eversource and DCR propose to produce updated MHC Inventory forms and photodocumentation to HABS/HAER standards of the bridges and to develop and install interpretive signs at each bridge.

Also, please respond to our request via the Sudbury Town Planner's email on October 9, 2020 that the Historical Commission's historic preservation consultant, Ms. Stacy Spies, be granted permission to access the MBTA ROW for multiple site visits timed as feasible due to weather conditions. And please respond to our request that Eversource meet with the Commission at our November 9, 2020 virtual meeting. The Commission would like to receive all the information and answers to our questions at least a week prior to November 9th meeting.

As discussed via email, Ms. Spies may proceed with site visits to the MBTA ROW upon receipt of the signed Health and Safety Acknowledgement Form. We look forward to meeting with the Commission on November 9.

How will the railroad electrical boxes with open cabinet doors be preserved?

For any railroad electrical boxes that need to be removed and reset, if it is possible without damage to the boxes, the cabinet doors will be closed prior to removal and reset with the doors closed.



Clarify which granite embankment abutment blocks will be removed on Hop Brook Bridge #127 and #128 on a photo rendering with descriptions.

As shown on the previously provided photo renderings, at Bridge 127 the top two courses of the existing stone block backwall will be removed, and at Bridge 128 approximately 18" of the existing stone block backwall will be partially removed. In addition, the areas to be removed are shown on the attached plan sheets for both bridges.

If Bridge #127 is restored and rehabilitated to meet the US Secretary of the Interior's Standards for Rehabilitation what are the specific design and engineering issues which would prevent the raising of the bridge three (3) feet out of the water as described as design alternate five (5) in VHB's September 30, 2020 letter?

Raising the existing bridge by three feet would require that the profile of the bike path also be raised to meet the new bridge elevation. DCR's Trail Guidelines and Best Management Practices Manual specifies accessibility standards for trail grades that include maximums of 5% for any distance, 8.3% for a maximum of 200 feet, 10% for a maximum of 30 feet, and 12.5% for a maximum of 10 feet. The approaches to this bridge are on narrow peninsulas with wetlands on both sides, and raising the bike path to meet the new elevation on each side would result in wetland fill on both sides in order to accommodate the change in grade, a negative impact to the aquatic environment that would not be consistent with regulations under the Town of Sudbury Wetlands Administration Bylaw and Massachusetts Wetlands Protection Act that protect the natural resources of the Town and the Commonwealth.

The FEIR states with regard to Bridge #127 that the use of horizontal directional drilling " ... is feasible, but not practicable". Explain in specific detail why HDD is not practicable to use at the Bridge #127 location.

As described in Alternative 8 in the prior response letter dated September 30, 2020, this alternative would not provide DCR with a safe bridge for the MCRT. In addition, HDD would require staging areas on both sides of the crossing that are at least 50 feet wide; at the entry side of the drill it would need to be 100 feet long, and at the exit side it would need to be 50 feet long. Additional work area would also be required for pipe assembly (typically 20 to 25 feet wide and approximately the same length as the bore length, since the pipe must be pulled through in one pass). To provide sufficient staging space without causing wetland and waterway impacts and to avoid disturbing the existing bridge, the bore length at Bridge 127 would need to be approximately 1,300 linear feet, requiring an equally long pipe assembly area. Lastly, if a transmission line failure were to occur the failure would be harder to investigate, access, and repair.

Please confirm there are and will be no design changes in the future to the transmission line project and rail trail project north of the existing railroad ties in the immediate vicinity of the Section Tool House



(SUD.282) as was stated by an Eversource representative during the Historical Commission's MBTA ROW site visit on October 5th.

The Project team does not foresee any reason that the design would change in the future for either the transmission line or the rail trail in the location north of the existing railroad ties in the immediate vicinity of the Section Tool House.

We look forward to continued coordination so that the Commission can provide comment to the Massachusetts Historical Commission and US Army Corps of Engineers.

Sincerely,

A handwritten signature in black ink, appearing to read "Vivian Kimball", written in a cursive style.

Vivian Kimball

vkimball@vhb.com

CC: Denise Bartone, Eversource
Brooke Kenline-Nyman, Eversource
Paul Jahnige, DCR
Alan Anacheka-Nasemann, USACE
Brona Simon, Massachusetts Historical Commission

Attachments:

- Attachment A: Draft Site Avoidance and Protection Plan
- Attachment B: Bridge Photo Renderings and Plan Sheets

Attachment A

Draft Site Avoidance and Protection Plan

**ARCHAEOLOGICAL SITE
AVOIDANCE AND PROTECTION PLAN:**

**EVERSOURCE ENERGY'S SUDBURY-HUDSON
TRANSMISSION RELIABILITY PROJECT,
TOWNS OF HUDSON AND SUDBURY,
MIDDLESEX COUNTY, MASSACHUSETTS
MHC #RC.62384, EEA #15703.**

ARCHAEOLOGICAL SITE AVOIDANCE AND PROTECTION PLAN:

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TRANSMISSION RELIABILITY PROJECT,
TOWNS OF HUDSON AND SUDBURY,
MIDDLESEX COUNTY, MASSACHUSETTS
MHC #RC.62384, EEA #15703.**

Prepared for

**Eversource Energy
247 Station Drive, SE270
Westwood, MA 02090**

Submitted to

**The Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125**

By

Martin G. Dudek

**Commonwealth Heritage Group, Inc.
410 Great Road, Suite B14
Littleton, Massachusetts 01460**

October 27, 2020

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1.0 INTRODUCTION

Eversource Energy (Eversource) proposes to construct a new, approximately 9-mile, underground 115-kilovolt electric transmission line sited primarily within an unused railroad corridor/right-of-way (ROW) owned by the Massachusetts Bay Transportation Authority (MBTA). This “New Line” passes through the municipalities of Sudbury, Hudson, Marlborough, and Stow and will connect Eversource’s Sudbury Substation to Hudson Light and Power Department’s substation. The “Sudbury-Hudson Transmission Reliability Project” (the “Project”) consists of the New Line and necessary modifications at the Sudbury Substation. In addition, the access road has been designed to support the Massachusetts Department of Conservation and Recreation’s (DCR) regional Mass Central Rail Trail (MCRT) along the same alignment (Figures 1 and 2).

On behalf of Eversource, the following Archaeological Site Avoidance and Protection Plan (ASAPP) has been developed by Commonwealth Heritage Group, Inc. (Commonwealth) to protect significant historic and archaeological resources in proximity to the Project’s Limit of Work. The ASAPP has been requested by the Massachusetts Historical Commission (MHC) for submittal to the MHC (MHC Review Letter to the US Army Corps of Engineers dated December 18, 2019).

This ASAPP consists of three sections: Introduction, Prior Cultural Resources Investigations, and the Avoidance and Protection Plan. The latter includes subsections that address Pre-Construction, Construction and Post-Construction Activities.

2.0 PRIOR CULTURAL RESOURCE STUDIES

The Project requires review and permitting by the US Army Corps of Engineers (USACE) and is being reviewed by the MHC under Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800). The MHC has determined that the project impact area is within and adjacent to historic and archaeological resources included in the MHC’s Inventory of Historic Assets of the Commonwealth and/or State and/or National Registers of Historic Places (MHC letter dated June 30, 2017). A reconnaissance-level historic properties survey and archaeological reconnaissance survey (under MHC Permit #3783) were conducted by Commonwealth and final reports submitted (Myruski and Meyer 2017; Dudek and Donohue 2018). Based on the results of the reconnaissance surveys, an archaeological intensive (locational) survey was recommended for archaeologically sensitive portions of the Project. The archaeological intensive (locational) survey was conducted under Permit #3828 issued by the State Archaeologist. Field work was conducted during the summer of 2018 and the final report submitted (Dudek and Donohue 2019).

The archaeological intensive (locational) survey field work identified ten archaeological sites that are considered to be potentially significant (i.e., having the potential to meet the criteria of eligibility for listing on the National Register of Historic Places). Two of the archaeological sites are precontact Native American sites and both sites will be avoided: The Ordway Locus 2 Precontact Site (19-MD-1208) in Hudson consists of a quartz tool, a rhyolite flake, four fire-cracked rocks and a possible fire-related feature; The Ordway Locus 3 Precontact Site (19-MD-1209), also in Hudson, consists of ten pieces of stone chipping debris from tool making and two fire-cracked rocks.

In addition, eight of the ten sites consist of historic archaeological sites. Five railroad station sites and a railroad section tool house associated with ca. 1881 Central Mass. Railroad are present in the Project ROW and include the Gleasondale Station (HUD-HA-8) and the Ordway Station (HUD-HA-9) in Hudson; the Wayside Inn Station (SUD-HA-38), the South Sudbury Station (SUD-HA-26), the Boston & Maine Railroad Section Tool House (SUD-HA-37) and the East Sudbury Station (SUD-HA-39) in Sudbury. The Boston &

Maine Railroad Section Tool House site (SUD-HA-37) includes the standing ca. 1890 section tool house (SUD.282). Intact yard deposits associated with two colonial sites that are primarily located outside of the ROW - the Memorial Forest Cellar Hole (SUD-HA-36) and the Walker Garrison House (SUD-HA-30) - were also identified.

Avoidance and protection of the potentially significant archaeological sites was recommended (Dudek and Donohue 2019). The MHC commented that: “A draft written archaeological site avoidance and protection plan, including stipulations for fencing, signage and contractor briefings, should be prepared by CHG and submitted to the MHC for review and comment” (MHC Review Letter to the USACE dated April 3, 2019).

3.0 AVOIDANCE AND PROTECTION PLAN OF CULTURAL RESOURCES

Table 1 lists the ten archaeological sites recommended for avoidance and protection and the proposed measures to be taken.

Table 1. Identified potentially significant archaeological sites and proposed action.

Affected Property			Proposed Action		
Archaeological Site	Site # and town	Segment	Avoidance measures during construction	Burial of site under fill/ geotextile fabric	Figure
Ordway Locus 2 Precontact Site	19-MD-1208 Hudson	5 Main Street to Parmenter Road	Yes		Figure 3
Ordway Locus 3 Precontact Site	19-MD-1209 Hudson	5 Main Street to Parmenter Road	Yes		Figure 3
Gleasondale Station site	HUD-HA-8 Hudson	3 Chestnut Street to Fort Meadow Brook	Partial	X	Figure 4
Ordway Station site	HUD-HA-9 Hudson	6 Parmenter Road to White Pond Road	Yes		Figure 5
Memorial Forest cellar hole	SUD-HA-36 Sudbury	8 Hudson Town Line to Dutton Road	Yes		Figure 7
Walker Garrison House	SUD-HA-30 Sudbury	8 Hudson Town Line to Dutton Road	Yes		Figure 8
Wayside Inn Station site	SUD-HA-38 Sudbury	8 Hudson Town Line to Dutton Road	Yes		Figure 9
South Sudbury Station	SUD-HA-26 Sudbury	11 Horse Pond Road to Union Avenue	Yes		Figure 10
Boston & Maine Railroad Section Tool House	SUD-HA-37 Sudbury	12 Route 20 to Landham Road	Yes		Figure 11
East Sudbury Station site	SUD-HA-39 Sudbury	13 Landham Road to Sudbury Substation	Partial	X	Figure 12

While some of the archaeological sites are located outside of the Project's Limit of Work (Sites 19-MD-1208, 19-MD-1209, SUD-HA-30, and SUD-HA-36), modifications to the Project route and the Limit of Work have been made to completely avoid four additional sites: HUD-HA-9, SUD-HA-26, SUD-HA-37, and SUD-HA-38. Sites HUD-HA-8 and SUD-HA-39 are partially within the limit of the Limit of Work but are being protected from grading or excavation; these sites will be protected by burial of the site within the Limit of Work under the installation of geotextile fabric with clean road-grade fill over the geotextile fabric.

The South Sudbury Railroad Station site (SUD-HA-26) is located west of Union Avenue and south of the railroad under an asphalt-paved driveway and parking area. The 1888 by Victorian-style station was demolished in the mid 1950s and no impact to the site is proposed; the site will be protected by the pavement. Prior to demolition of the station, a small Colonial-style depot was constructed in 1952 south of the rail line and east of the former South Sudbury Depot. The 1952 depot was retired from service on January 17, 1965; it is still intact. Avoidance and protection of the ca. 1952 Colonial-style depot is recommended (Figure 10); presently the building has been vacated from the business that was located there recently, but fencing may need to be modified to take into account access to the building or business owner concerns if a business is present at the time of construction.

Railroad Features

All historic railroad features including whistle posts, rail rests, auto highway flashers, block signals, and mile markers, etc. located within the limit of work and outside the limits of the 14' gravel base shall be retained and protected with construction fencing and signage that shall be installed in consultation with and approved by the cultural resources consultant given 24 hours advanced notice before any construction within the immediate vicinity of the feature occurs. If avoidance and protection measures are not prudent or feasible or the feature is located within the Project's direct area of impact, it shall be carefully removed and reset as close as possible to the original location. The removal and resetting of any historic railroad feature shall only be done after consultation with the cultural resources consultant, who shall specify the methodology used to remove, preserve, and reset the feature. If any railroad features are significantly damaged during removal/resetting, Eversource will consult with the MHC to determine appropriate next steps.

GRANITE TOWN-LINE MARKER

In addition to the ten archaeological sites that are covered under the ASAPP, the Sudbury-Hudson-Marlborough town boundary marker near Old Concord Road is also covered under the ASAPP (Figure 13). The town boundary location is presently marked with a granite post measuring 10 inches on a side and with a height of 47 inches above the ground surface. The post is marked on the west with the date of "1993"; on the north side with "H" for Hudson; on the east side with "S" for Sudbury; and on the south side with "M" for Marlborough. No railroad ties and tracks are in this area and the present marker was presumably installed around 1993, as the date on the stone suggests. Since the present granite marker is less than 50 years of age, it is not considered to be potentially eligible for the National Register of Historic Places. However, avoidance and protection of the town boundary stone is planned as the marker is protected under Massachusetts General Laws Chapter 42, Boundaries of Cities and Town, Sections 1-12 (www.massachusettsgenerallaws.com/generallaws.htm). Modifications to the Project route and the Limit of Work have been made to avoid the marker (Figure 13).

Avoidance and Protection Measures: Avoidance and protection of the cultural resources is recommended with high-visibility temporary fencing (i.e., orange construction fence) along the Project's Limit of Work and the sensitive cultural resource area, as noted in Figures 3 to 13. Signs with *No Trespassing* should be posted along the fence to indicate that these are off-limits areas. The fenced areas shall remain in their

existing natural condition, and no access or impacts are allowed within the fencing. Construction personnel and contractors should neither perform nor permit any construction, excavation, grading, tree stumping, filling, dumping, or the storage or staging of equipment vehicles, or supplies within the boundaries of the fenced area. Monitoring or flagging of the areas by the Commonwealth can assist in facilitating the employment of protection measures – (i.e., placement of fencing). For sites HUD-HA-8 and SUD-HA-39 a Commonwealth Project Archaeologist will monitor the installation of geotextile fabric and clean road-grade fill as necessary to assist in the accurate placement of protective fill over the archaeological sites.

Commonwealth cultural resource personnel will make field visits to ensure that the avoidance and protective measures are carried out as specified, with photographic documentation prior to, during and after construction. The pre-construction, construction, and post-construction elements of the ASAPP for the Project are detailed below:

3.1 PRE-CONSTRUCTION PHASE

A pre-construction meeting will be held with Project personnel and contractors and Commonwealth's Principal Investigator to review these measures.

The pre-construction activities will involve the following:

- Pre-construction site inspection;
- Photography;
- Construction personnel briefing;
- High-visibility fencing with No Trespassing signs along the sensitive cultural resource areas to be protected; and
- Monitoring of the installation of geotextile fabric and clean road-grade fill at Sites HUD-HA-8 and SUD-HA-39.

3.2 CONSTRUCTION PHASE

Commonwealth cultural resource personnel will be available during the course of the construction work as needed, which may include monitoring during construction activities in proximity to sensitive cultural resource areas if requested by Eversource. Monitoring is not considered necessary, but may be considered prudent by Eversource.

The construction activities will include the following:

- Avoidance of the fenced sensitive cultural resource areas; and
- Response, reporting and corrective actions if these conditions are not met.

3.3 POST-CONSTRUCTION PHASE

Commonwealth cultural resource personnel will conduct a post-construction inspection immediately after the construction phase of the Project to evaluate the condition of the archeologically sensitive areas and whether or not project-related impacts had taken place within the protected areas. The findings of the inspection will be reported to the MHC and the USACE via a memorandum.

The post-construction activities will include the following:

- Fence and sign removal;
- Post-construction site inspection;
- Photography; and
- Post-construction memorandum.

4.0 REFERENCES CITED

Dudek, Martin G. and Barbara Donohue

2018 *Archaeological Reconnaissance Survey for the Sudbury-Hudson Transmission Reliability Project, Towns of Sudbury, Hudson, Marlborough, and Stow, Middlesex County, Massachusetts*. Report submitted to the Massachusetts Historical Commission, Boston, MA.

Dudek, Martin G. and Barbara Donohue

2019 *Archaeological Intensive (Locational) Survey for the Sudbury-Hudson Transmission Reliability Project, Towns of Sudbury, Hudson, Marlborough, and Stow, Middlesex County, Massachusetts*. Report submitted to the Massachusetts Historical Commission, Boston, MA.

Myruski, Candice N. and Richard Meyer

2017 *Sudbury-Hudson Transmission Reliability Project Town of Sudbury, City of Marlborough, Town of Stow, and Town of Hudson, Middlesex County, Massachusetts MHC No. RC.62384; EEA No. 15703 Reconnaissance-Level Historic Properties Survey*. Report submitted to the Massachusetts Historical Commission, Boston, MA.

Figures

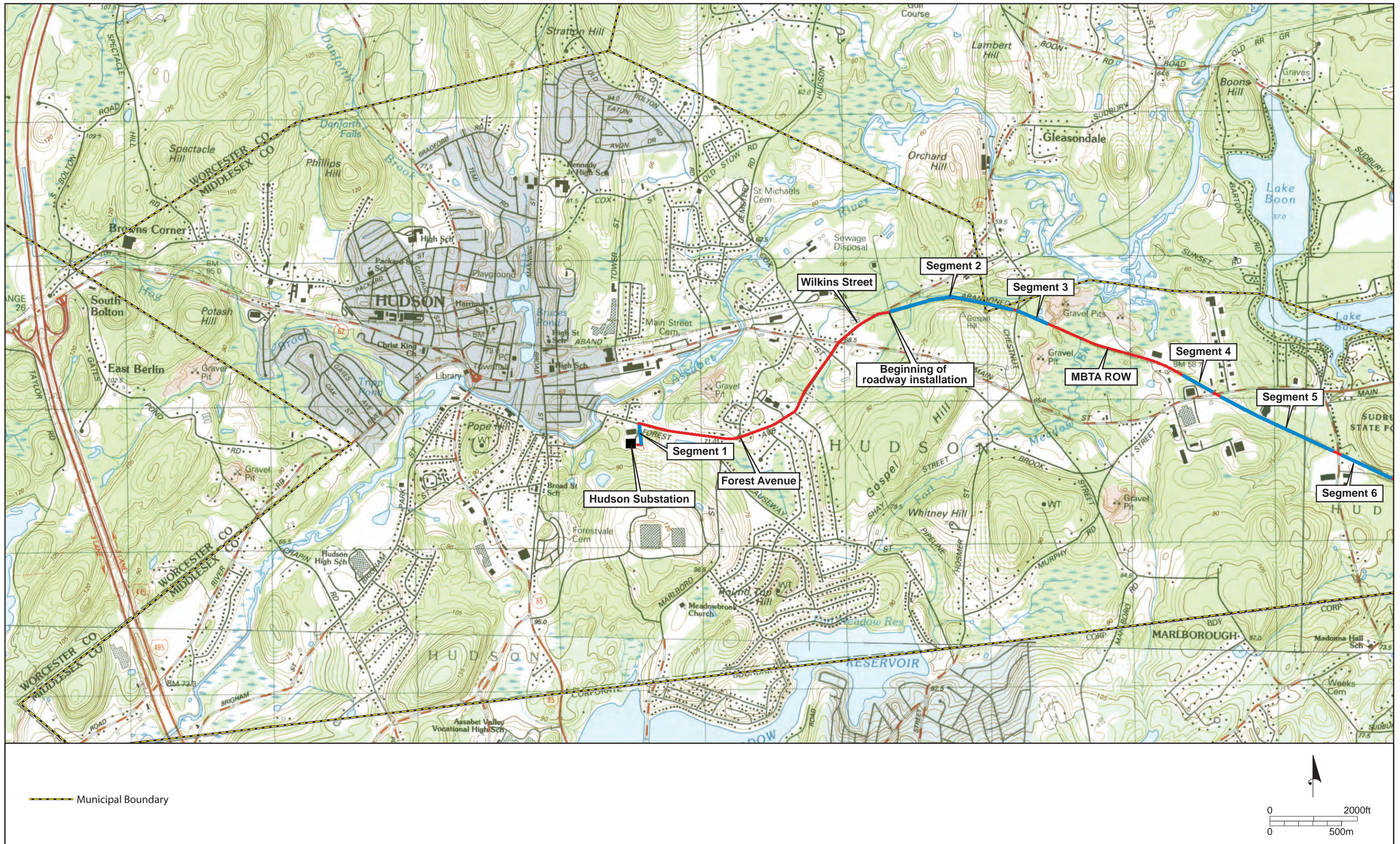
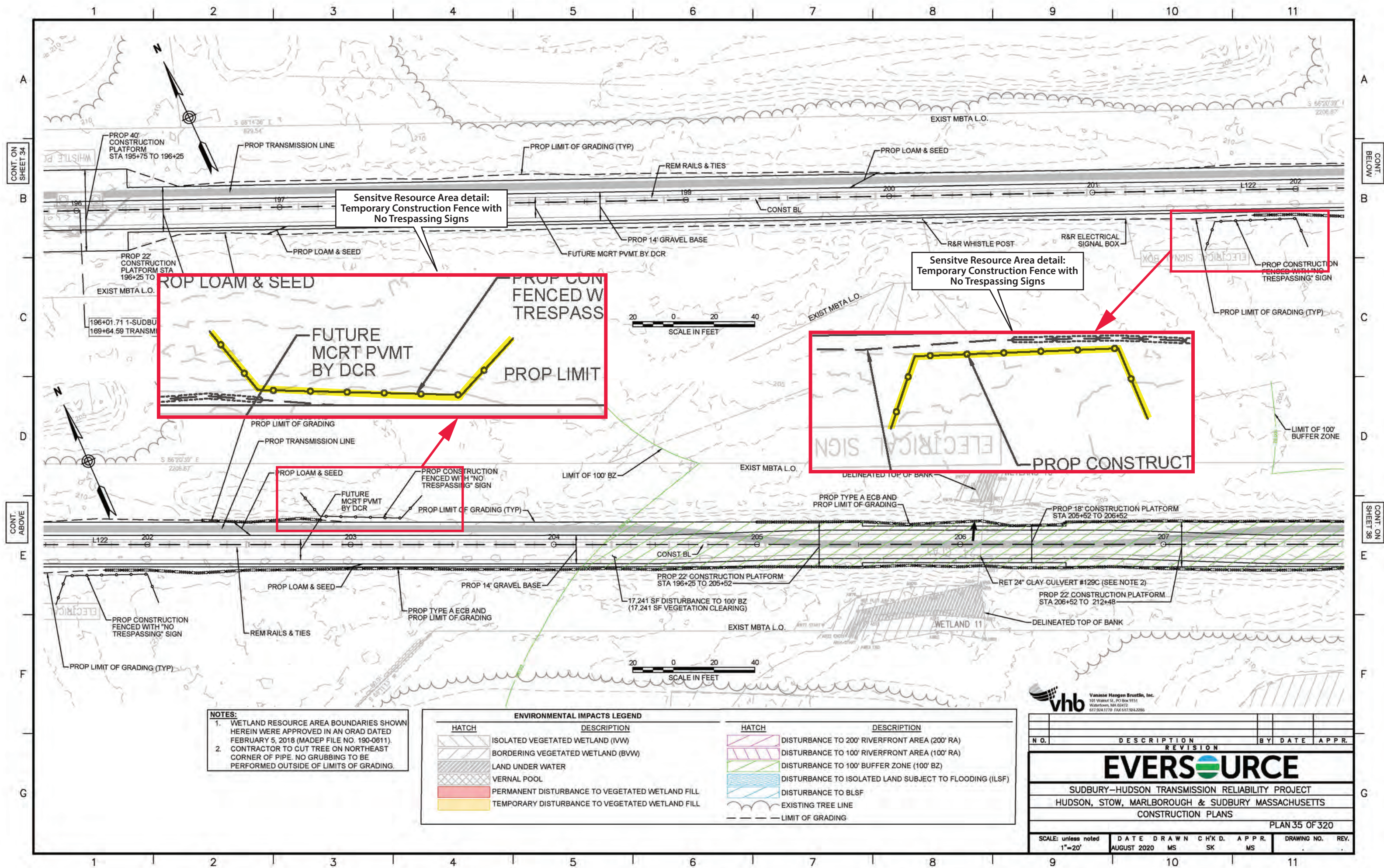


Figure 1. Proposed route of the Sudbury-Hudson Transmission Reliability Project in Hudson and Stow on current USGS Quadrangle.



Figure 2. Proposed route of the Sudbury-Hudson Transmission Reliability Project in Sudbury, Marlborough, and Hudson on current USGS Quadrangle.



- NOTES:**
1. WETLAND RESOURCE AREA BOUNDARIES SHOWN HEREIN WERE APPROVED IN AN ORAD DATED FEBRUARY 5, 2018 (MADEP FILE NO. 190-0611).
 2. CONTRACTOR TO CUT TREE ON NORTHEAST CORNER OF PIPE. NO GRUBBING TO BE PERFORMED OUTSIDE OF LIMITS OF GRADING.

ENVIRONMENTAL IMPACTS LEGEND		ENVIRONMENTAL IMPACTS LEGEND	
HATCH	DESCRIPTION	HATCH	DESCRIPTION
[Hatch: Diagonal lines, top-left to bottom-right]	ISOLATED VEGETATED WETLAND (IWW)	[Hatch: Diagonal lines, top-right to bottom-left]	DISTURBANCE TO 200' RIVERFRONT AREA (200' RA)
[Hatch: Diagonal lines, bottom-left to top-right]	BORDERING VEGETATED WETLAND (BVW)	[Hatch: Horizontal lines]	DISTURBANCE TO 100' RIVERFRONT AREA (100' RA)
[Hatch: Stippled pattern]	LAND UNDER WATER	[Hatch: Vertical lines]	DISTURBANCE TO 100' BUFFER ZONE (100' BZ)
[Hatch: Dotted pattern]	VERNAL POOL	[Hatch: Blue wavy lines]	DISTURBANCE TO ISOLATED LAND SUBJECT TO FLOODING (ILSF)
[Hatch: Red solid fill]	PERMANENT DISTURBANCE TO VEGETATED WETLAND FILL	[Hatch: Blue wavy lines]	DISTURBANCE TO BLSF
[Hatch: Yellow solid fill]	TEMPORARY DISTURBANCE TO VEGETATED WETLAND FILL	[Hatch: Dashed line]	EXISTING TREE LINE
		[Hatch: Dashed line]	LIMIT OF GRADING

vhb Vanasse Hangen Brustlin, Inc.
 101 Walnut St., PO Box 9151
 Watertown, MA 02472
 617.924.3179 FAX 617.924.2986

N.O.	DESCRIPTION	REVISION	BY	DATE	APPR.

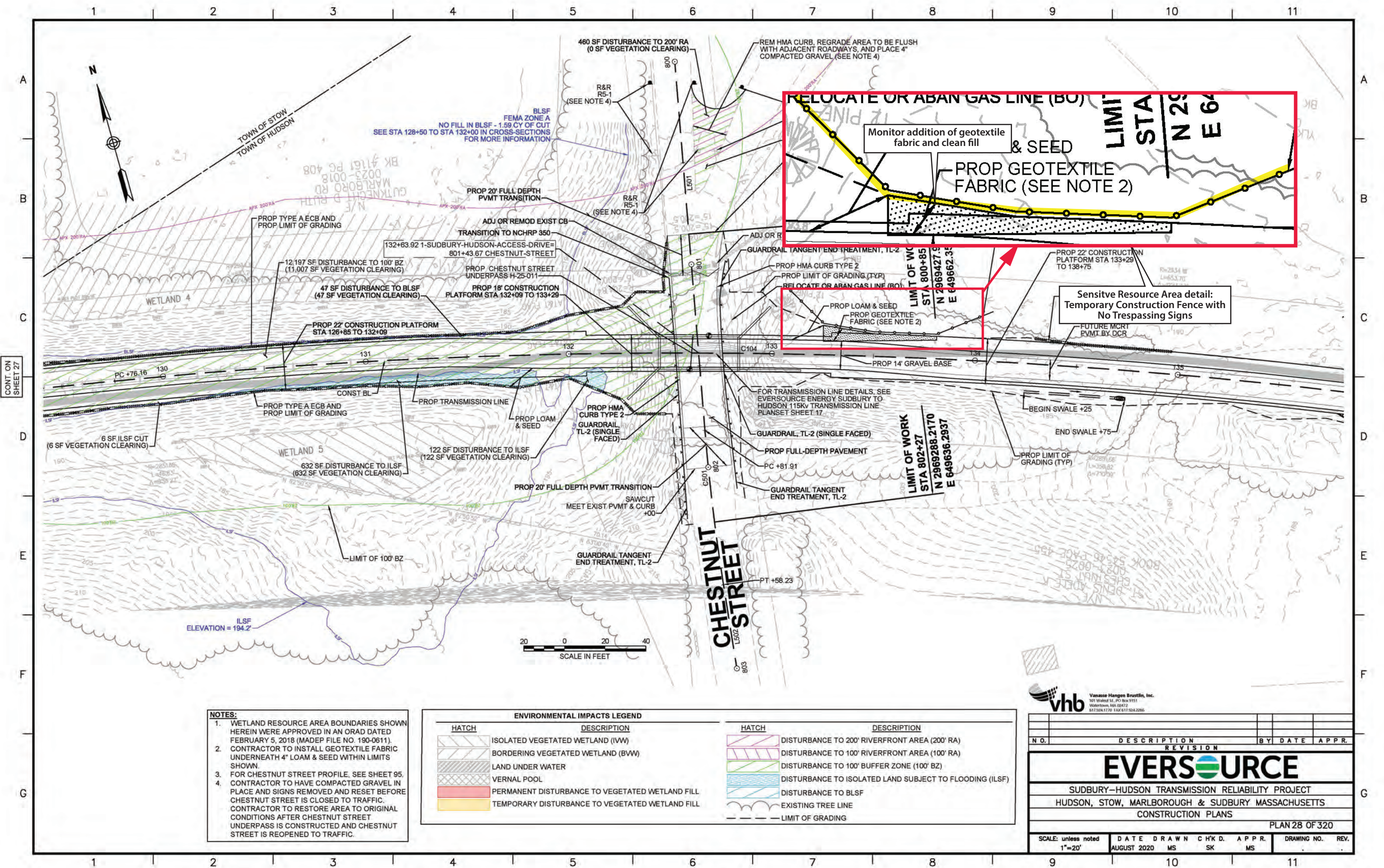
EVERSOURCE

SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT
 HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS
 CONSTRUCTION PLANS

PLAN 35 OF 320

SCALE: unless noted	DATE	DRAWN	CHK'D.	APPR.	DRAWING NO.	REV.
1"=20'	AUGUST 2020	MS	SK	MS		

Figure 3. Avoidance and protection measures for sensitive cultural resource areas 19-MD-1208 and 19-MD-1209.



- NOTES:**
1. WETLAND RESOURCE AREA BOUNDARIES SHOWN HEREIN WERE APPROVED IN AN ORAD DATED FEBRUARY 5, 2018 (MADEP FILE NO. 190-0611).
 2. CONTRACTOR TO INSTALL GEOTEXTILE FABRIC UNDERNEATH 4" LOAM & SEED WITHIN LIMITS SHOWN.
 3. FOR CHESTNUT STREET PROFILE, SEE SHEET 95.
 4. CONTRACTOR TO HAVE COMPACTED GRAVEL IN PLACE AND SIGNS REMOVED AND RESET BEFORE CHESTNUT STREET IS CLOSED TO TRAFFIC. CONTRACTOR TO RESTORE AREA TO ORIGINAL CONDITIONS AFTER CHESTNUT STREET UNDERPASS IS CONSTRUCTED AND CHESTNUT STREET IS REOPENED TO TRAFFIC.

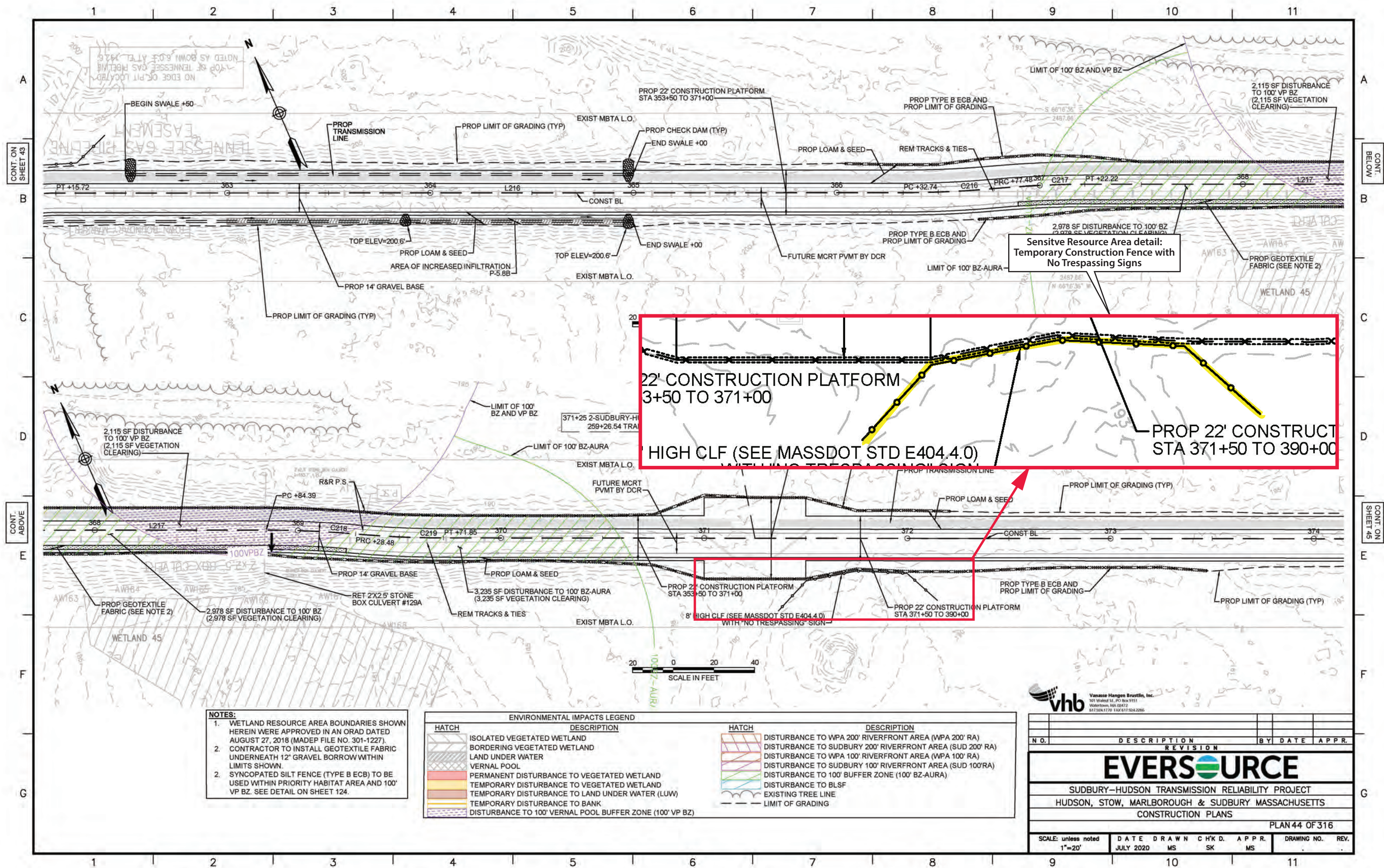
HATCH	DESCRIPTION
	ISOLATED VEGETATED WETLAND (IWW)
	BORDERING VEGETATED WETLAND (BVW)
	LAND UNDER WATER
	VERNAL POOL
	PERMANENT DISTURBANCE TO VEGETATED WETLAND FILL
	TEMPORARY DISTURBANCE TO VEGETATED WETLAND FILL

HATCH	DESCRIPTION
	DISTURBANCE TO 200' RIVERFRONT AREA (200' RA)
	DISTURBANCE TO 100' RIVERFRONT AREA (100' RA)
	DISTURBANCE TO 100' BUFFER ZONE (100' BZ)
	DISTURBANCE TO ISOLATED LAND SUBJECT TO FLOODING (ILSF)
	DISTURBANCE TO BLSF
	EXISTING TREE LINE
	LIMIT OF GRADING

vhb Vanasse Hangen Brustlin, Inc.
101 Wakefield St., PO Box 9151
Watertown, MA 02472
617.254.1170 FAX 617.524.2266

NO.	DESCRIPTION	BY	DATE	APPR.
REVISION				
EVERSOURCE				
SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT				
HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS				
CONSTRUCTION PLANS				
PLAN 28 OF 320				
SCALE: unless noted 1"=20'	DATE AUGUST 2020	DRAWN MS	CHK'D. SK	APPR. MS
DRAWING NO.	REV.			

Figure 4. Avoidance and protection measures for sensitive cultural resource area HUD-HA-8.



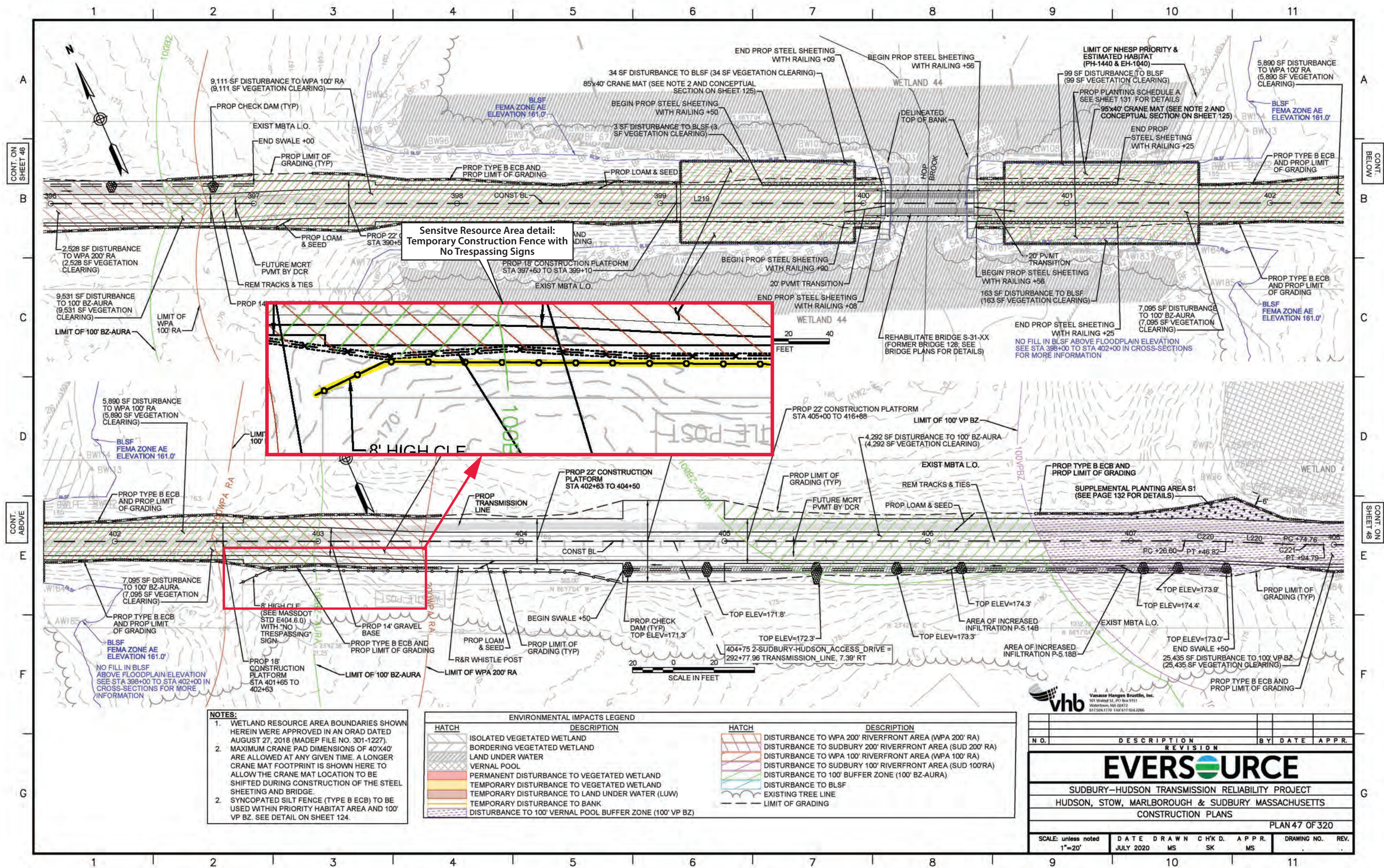
- NOTES:**
1. WETLAND RESOURCE AREA BOUNDARIES SHOWN HEREIN WERE APPROVED IN AN ORAD DATED AUGUST 27, 2018 (MADEP FILE NO. 301-1227).
 2. CONTRACTOR TO INSTALL GEOTEXTILE FABRIC UNDERNEATH 12" GRAVEL BORROW WITHIN LIMITS SHOWN.
 2. SYNCOPATED SILT FENCE (TYPE B ECB) TO BE USED WITHIN PRIORITY HABITAT AREA AND 100' VP BZ. SEE DETAIL ON SHEET 124.

ENVIRONMENTAL IMPACTS LEGEND	
HATCH	DESCRIPTION
[Hatch pattern]	ISOLATED VEGETATED WETLAND
[Hatch pattern]	BORDERING VEGETATED WETLAND
[Hatch pattern]	LAND UNDER WATER
[Hatch pattern]	VERNAL POOL
[Hatch pattern]	PERMANENT DISTURBANCE TO VEGETATED WETLAND
[Hatch pattern]	TEMPORARY DISTURBANCE TO VEGETATED WETLAND
[Hatch pattern]	TEMPORARY DISTURBANCE TO LAND UNDER WATER (LUW)
[Hatch pattern]	TEMPORARY DISTURBANCE TO BANK
[Hatch pattern]	DISTURBANCE TO 100' VERNAL POOL BUFFER ZONE (100' VP BZ)
[Hatch pattern]	DISTURBANCE TO WPA 200' RIVERFRONT AREA (WPA 200' RA)
[Hatch pattern]	DISTURBANCE TO SUDBURY 200' RIVERFRONT AREA (SUD 200' RA)
[Hatch pattern]	DISTURBANCE TO WPA 100' RIVERFRONT AREA (WPA 100' RA)
[Hatch pattern]	DISTURBANCE TO SUDBURY 100' RIVERFRONT AREA (SUD 100' RA)
[Hatch pattern]	DISTURBANCE TO 100' BUFFER ZONE (100' BZ-AURA)
[Hatch pattern]	DISTURBANCE TO BLSF
[Hatch pattern]	EXISTING TREE LINE
[Hatch pattern]	LIMIT OF GRADING

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101 Wakefield St., PO Box 9151
Watertown, MA 02472
617.254.1170 FAX 617.524.2266

N.O.	DESCRIPTION	REVISION	BY	DATE	APPR.
EVERSOURCE					
SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT					
HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS					
CONSTRUCTION PLANS					
PLAN 44 OF 316					
SCALE: unless noted 1"=20'	DATE JULY 2020	DRAWN MS	C'H'K D. SK	APPR. MS	DRAWING NO. REV.

Figure 6. Avoidance and protection measures for sensitive cultural resource area SUD-HA-36.



- NOTES:**
1. WETLAND RESOURCE AREA BOUNDARIES SHOWN HEREIN WERE APPROVED IN AN ORAD DATED AUGUST 27, 2018 (MADEP FILE NO. 301-1227). MAXIMUM CRANE PAD DIMENSIONS OF 40'X40' ARE ALLOWED AT ANY GIVEN TIME. A LONGER CRANE MAT FOOTPRINT IS SHOWN HERE TO ALLOW THE CRANE MAT LOCATION TO BE SHIFTED DURING CONSTRUCTION OF THE STEEL SHEETING AND BRIDGE.
 2. SYNCOPATED SILT FENCE (TYPE B ECB) TO BE USED WITHIN PRIORITY HABITAT AREA AND 100' VP BZ. SEE DETAIL ON SHEET 124.

ENVIRONMENTAL IMPACTS LEGEND	
HATCH	DESCRIPTION
[Hatched pattern]	ISOLATED VEGETATED WETLAND
[Hatched pattern]	BORDERING VEGETATED WETLAND
[Hatched pattern]	LAND UNDER WATER
[Hatched pattern]	VERNAL POOL
[Hatched pattern]	PERMANENT DISTURBANCE TO VEGETATED WETLAND
[Hatched pattern]	TEMPORARY DISTURBANCE TO VEGETATED WETLAND
[Hatched pattern]	TEMPORARY DISTURBANCE TO LAND UNDER WATER (LUW)
[Hatched pattern]	TEMPORARY DISTURBANCE TO BANK
[Hatched pattern]	DISTURBANCE TO 100' VERNAL POOL BUFFER ZONE (100' VP BZ)
[Hatched pattern]	DISTURBANCE TO WPA 200' RIVERFRONT AREA (WPA 200' RA)
[Hatched pattern]	DISTURBANCE TO SUDBURY 200' RIVERFRONT AREA (SUD 200' RA)
[Hatched pattern]	DISTURBANCE TO WPA 100' RIVERFRONT AREA (WPA 100' RA)
[Hatched pattern]	DISTURBANCE TO SUDBURY 100' RIVERFRONT AREA (SUD 100'RA)
[Hatched pattern]	DISTURBANCE TO 100' BUFFER ZONE (100' BZ-AURA)
[Hatched pattern]	DISTURBANCE TO BLSF
[Hatched pattern]	EXISTING TREE LINE
[Hatched pattern]	LIMIT OF GRADING

vhb Vanasse Hangen Brustlin, Inc.
101 Wakefield St., PO Box 9151
Watertown, MA 02472
617.224.1170 FAX 617.624.2266

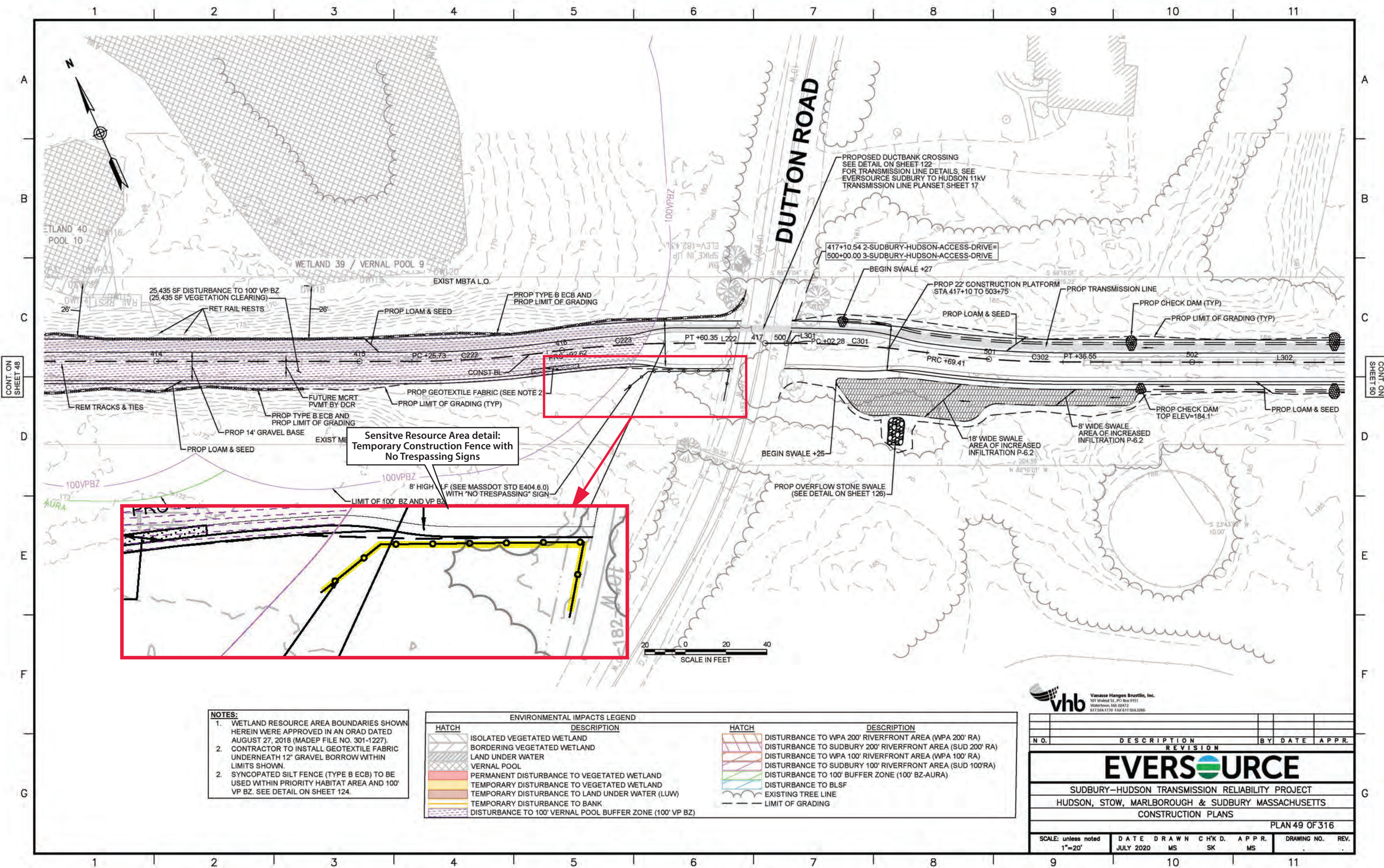
N.O.	DESCRIPTION	REVISION	BY	DATE	APPR.

EVERSOURCE

SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT
HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS
CONSTRUCTION PLANS
PLAN 47 OF 320

SCALE: unless noted	DATE	DRAWN	CHK'D.	APPR.	DRAWING NO.	REV.
1"=20'	JULY 2020	MS	SK	MS		

Figure 7. Avoidance and protection measures for sensitive cultural resource area SUD-HA-30.



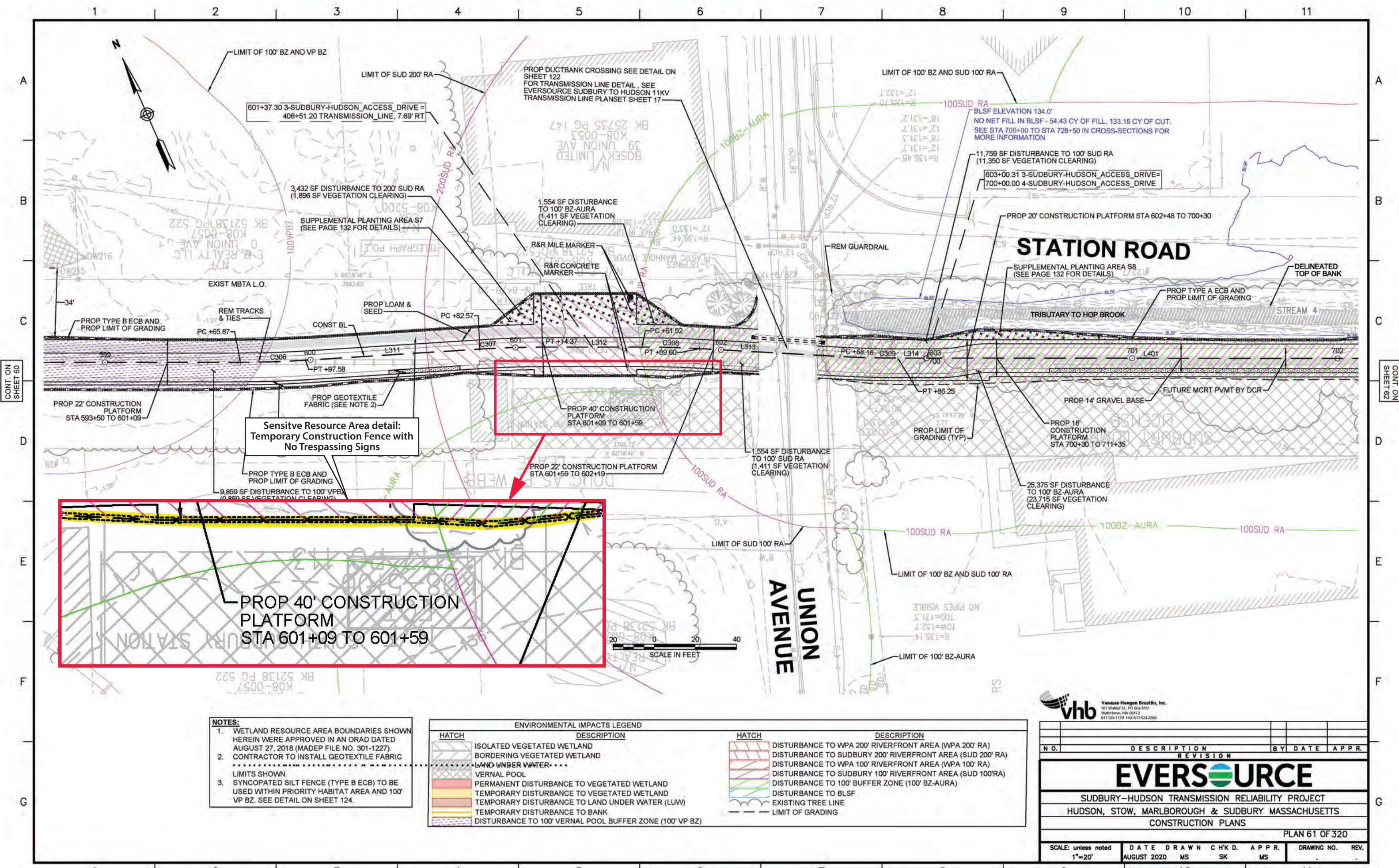
- NOTES:**
1. WETLAND RESOURCE AREA BOUNDARIES SHOWN HEREIN WERE APPROVED IN AN ORAD DATED AUGUST 27, 2018 (MADEP FILE NO. 301-1227).
 2. CONTRACTOR TO INSTALL GEOTEXTILE FABRIC UNDERNEATH 12" GRAVEL BORROW WITHIN LIMITS SHOWN.
 2. SYNCOPATED SILT FENCE (TYPE B ECB) TO BE USED WITHIN PRIORITY HABITAT AREA AND 100' VP BZ. SEE DETAIL ON SHEET 124.

ENVIRONMENTAL IMPACTS LEGEND	
HATCH	DESCRIPTION
[Hatch: Isolated Vegetated Wetland]	ISOLATED VEGETATED WETLAND
[Hatch: Bordering Vegetated Wetland]	BORDERING VEGETATED WETLAND
[Hatch: Land Under Water]	LAND UNDER WATER
[Hatch: Vernal Pool]	VERNAL POOL
[Hatch: Permanent Disturbance to Vegetated Wetland]	PERMANENT DISTURBANCE TO VEGETATED WETLAND
[Hatch: Temporary Disturbance to Vegetated Wetland]	TEMPORARY DISTURBANCE TO VEGETATED WETLAND
[Hatch: Temporary Disturbance to Land Under Water (LUW)]	TEMPORARY DISTURBANCE TO LAND UNDER WATER (LUW)
[Hatch: Temporary Disturbance to Bank]	TEMPORARY DISTURBANCE TO BANK
[Hatch: Disturbance to 100' Vernal Pool Buffer Zone (100' VP BZ)]	DISTURBANCE TO 100' VERNAL POOL BUFFER ZONE (100' VP BZ)
[Hatch: Disturbance to WPA 200' Riverfront Area (WPA 200' RA)]	DISTURBANCE TO WPA 200' RIVERFRONT AREA (WPA 200' RA)
[Hatch: Disturbance to Sudbury 200' Riverfront Area (SUD 200' RA)]	DISTURBANCE TO SUDBURY 200' RIVERFRONT AREA (SUD 200' RA)
[Hatch: Disturbance to WPA 100' Riverfront Area (WPA 100' RA)]	DISTURBANCE TO WPA 100' RIVERFRONT AREA (WPA 100' RA)
[Hatch: Disturbance to Sudbury 100' Riverfront Area (SUD 100' RA)]	DISTURBANCE TO SUDBURY 100' RIVERFRONT AREA (SUD 100' RA)
[Hatch: Disturbance to 100' Buffer Zone (100' BZ-AURA)]	DISTURBANCE TO 100' BUFFER ZONE (100' BZ-AURA)
[Hatch: Disturbance to BLSF]	DISTURBANCE TO BLSF
[Hatch: Existing Tree Line]	EXISTING TREE LINE
[Hatch: Limit of Grading]	LIMIT OF GRADING

vhb Vanasse Hangen Brustlin, Inc.
 101 Walnut St., PO Box 9151
 Watertown, MA 02472
 617.254.1770 FAX 617.254.2286

NO.	DESCRIPTION	REVISION	BY	DATE	APPR.
EVERSOURCE					
SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT					
HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS					
CONSTRUCTION PLANS					
PLAN 49 OF 316					
SCALE: unless noted 1"=20'	DATE JULY 2020	DRAWN MS	CHK'D. SK	APPR. MS	DRAWING NO. REV.

Figure 8. Avoidance and protection measures for sensitive cultural resource area SUD-HA-38.



- NOTES:**
1. WETLAND RESOURCE AREA BOUNDARIES SHOWN HEREIN WERE APPROVED IN AN ORAD DATED AUGUST 27, 2018 (MADEP FILE NO. 301-1227). CONTRACTOR TO INSTALL GEOTEXTILE FABRIC LIMITS SHOWN.
 2. SYNCOPATED SILT FENCE (TYPE B ECB) TO BE USED WITHIN PRIORITY HABITAT AREA AND 100' VP BZ. SEE DETAIL ON SHEET 124.

ENVIRONMENTAL IMPACTS LEGEND	
HATCH	DESCRIPTION
[Hatched pattern]	ISOLATED VEGETATED WETLAND
[Hatched pattern]	BORDERING VEGETATED WETLAND
[Hatched pattern]	LAND UNDER WATER
[Hatched pattern]	VERNAL POOL
[Hatched pattern]	PERMANENT DISTURBANCE TO VEGETATED WETLAND
[Hatched pattern]	TEMPORARY DISTURBANCE TO VEGETATED WETLAND
[Hatched pattern]	TEMPORARY DISTURBANCE TO LAND UNDER WATER (LUW)
[Hatched pattern]	TEMPORARY DISTURBANCE TO BANK
[Hatched pattern]	DISTURBANCE TO 100' VERNAL POOL BUFFER ZONE (100' VP BZ)
[Hatched pattern]	DISTURBANCE TO WPA 200' RIVERFRONT AREA (WPA 200' RA)
[Hatched pattern]	DISTURBANCE TO SUDBURY 200' RIVERFRONT AREA (SUD 200' RA)
[Hatched pattern]	DISTURBANCE TO WPA 100' RIVERFRONT AREA (WPA 100' RA)
[Hatched pattern]	DISTURBANCE TO SUDBURY 100' RIVERFRONT AREA (SUD 100'RA)
[Hatched pattern]	DISTURBANCE TO 100' BUFFER ZONE (100' BZ-AURA)
[Hatched pattern]	DISTURBANCE TO BLSF
[Hatched pattern]	EXISTING TREE LINE
[Hatched pattern]	LIMIT OF GRADING

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Watertown, MA 02472
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NO.	DESCRIPTION	REVISION	BY	DATE	APPR.
EVERSOURCE					
SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT					
HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS					
CONSTRUCTION PLANS					
PLAN 61 OF 320					
SCALE: unless noted 1"=20'	DATE AUGUST 2020	DRAWN MS	CHECKED SK	APPROVED MS	DRAWING NO. REV.

Figure 9. Avoidance and protection measures for sensitive cultural resource area SUD-HA-26.