

Sudbury to Hudson Transmission Reliability Project

Hudson, Massachusetts Board of Selectmen Presentation

February 22, 2016

Revised 3-24-16

- Page 4 – revised last bullet on Route Analysis Process.
- Page 9 – revised preferred route (overhead) visual simulation (panned to the right to include the house)
- Page 10 – revised noticed variation design (underground) visual simulation (panned to the right to include the house)



- Greater Boston and New Hampshire Energy Solutions
- Sudbury to Hudson Transmission Reliability Project
 - ✓ Energy Solutions
 - ✓ Project Need and Benefits
 - ✓ Route Analysis Process
 - ✓ Candidate Routes Selected for Scoring
 - ✓ Proposed Project Summary
 - ✓ Proposed Route Maps (Overall Project and Sudbury)
 - ✓ MBTA Multi-Use Path & Photo Simulation
 - ✓ Environmental Permitting
- Next Steps
- Proactive Municipal and Community Outreach throughout Project Duration
- Contact Information

- A strong electrical transmission grid is vital to the safety, security, and economic prosperity of the region. The transmission system serves a critical role to ensure that electricity flows with a high degree of reliability to where power is needed.
- In a recent study, ISO-New England, the independent system operator for New England, concluded that there are inadequate transmission resources to serve the electricity needs in the Greater Boston and Southern New Hampshire area.
- To proactively address these deficiencies and the growing customer demands on the electric system, ISO-New England has directed utilities to implement a series of transmission projects as needed.
- One of the projects to come out of the solution to solve the identified system reliability problems is a new power line between existing substations in Sudbury and Hudson.

Sudbury to Hudson Transmission Reliability Project

Project Need & Benefits

The new 115-kV power line between Sudbury and Hudson will provide a separate transmission path to supplement the existing system and address the identified thermal and voltage problems in the area:

- ✓ Hudson Light & Power is currently supplied by two transmission lines from the same substation (National Grid's Northboro Road Substation in Southborough). Adding a 3rd line from a different substation, would provide redundancy to their current transmission supply.
- ✓ Currently, a contingency involving the loss of a double circuit tower would result in loss of power to the Hudson substation.
- ✓ Under other contingencies, the Hudson substation would lose power due to voltage collapse and approximately 550 MW of load would be lost throughout the area.

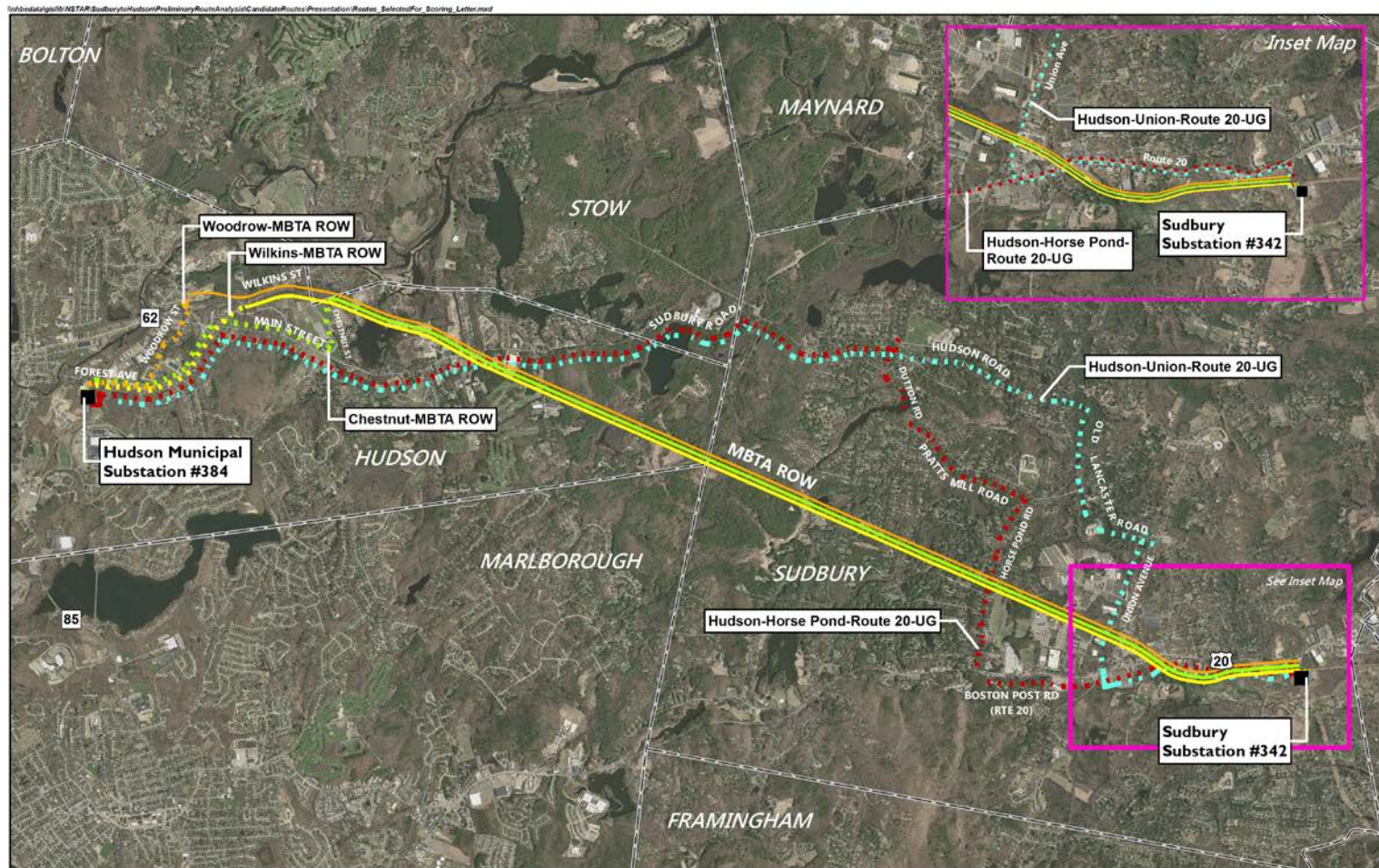
Sudbury to Hudson Transmission Reliability Project

Route Analysis Process

- Evaluations were performed to determine the Preferred and potential Alternative routes.
- Eversource, with environmental consultant VHB, Inc. established route selection guidelines to identify all potentially feasible routes between the Sudbury and Hudson substations.
- Routes with obvious flaws were eliminated.
- The candidate routes were evaluated, scored and ranked by applying detailed environmental, constructability, community impact, and conceptual cost estimate criteria.
- Eversource used the scoring and ranking system to select a Preferred Route and a potential Alternative Route, as previously included in Energy Facilities Siting Board (EFSB) petitions.
- At the November 15, 2015 meeting with the towns of Hudson and Sudbury, it was requested that Eversource evaluate an underground MBTA route.
- Eversource continues to consider alternative routes, including potential Noticed Alternative routes, to ensure that its route selection process is complete and consistent with Siting Board standards.

Sudbury to Hudson Transmission Reliability Project

Candidate Routes Selected For Scoring



Candidate Routes/Design Options Selected for Scoring

- Wilkins-MBTA ROW-UG
- Chestnut-MBTA ROW-UG
- Wilkins-MBTA ROW-OH
- Chestnut-MBTA ROW-OH
- Woodrow-MBTA ROW-UG
- Hudson-Horse Pond-Route 20-UG
- Woodrow-MBTA ROW-OH
- Hudson-Union-Route 20-UG

NOTE: Not to scale. Alignments shown are for graphical purposes only.
Lines that appear immediately adjacent to each other should be assumed to follow the same alignment.

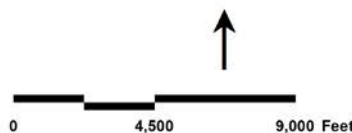
Source:
MassGIS, VHB

DRAFT

EVERSOURCE
ENERGY

Proposed 115 kV Line Sudbury Substation 342
to Hudson Municipal Substation 384

Candidate Routes/Design Options Selected for Scoring



DRAFT subject to change

Sudbury to Hudson Transmission Reliability Project

Proposed Project Summary

Install a new 115-kV transmission line between Station 342, Sudbury, MA and the Hudson Light and Power substation in Hudson, MA between the towns of Sudbury, Hudson and Stow, and the City of Marlborough.

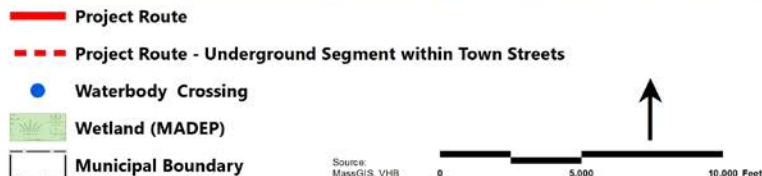
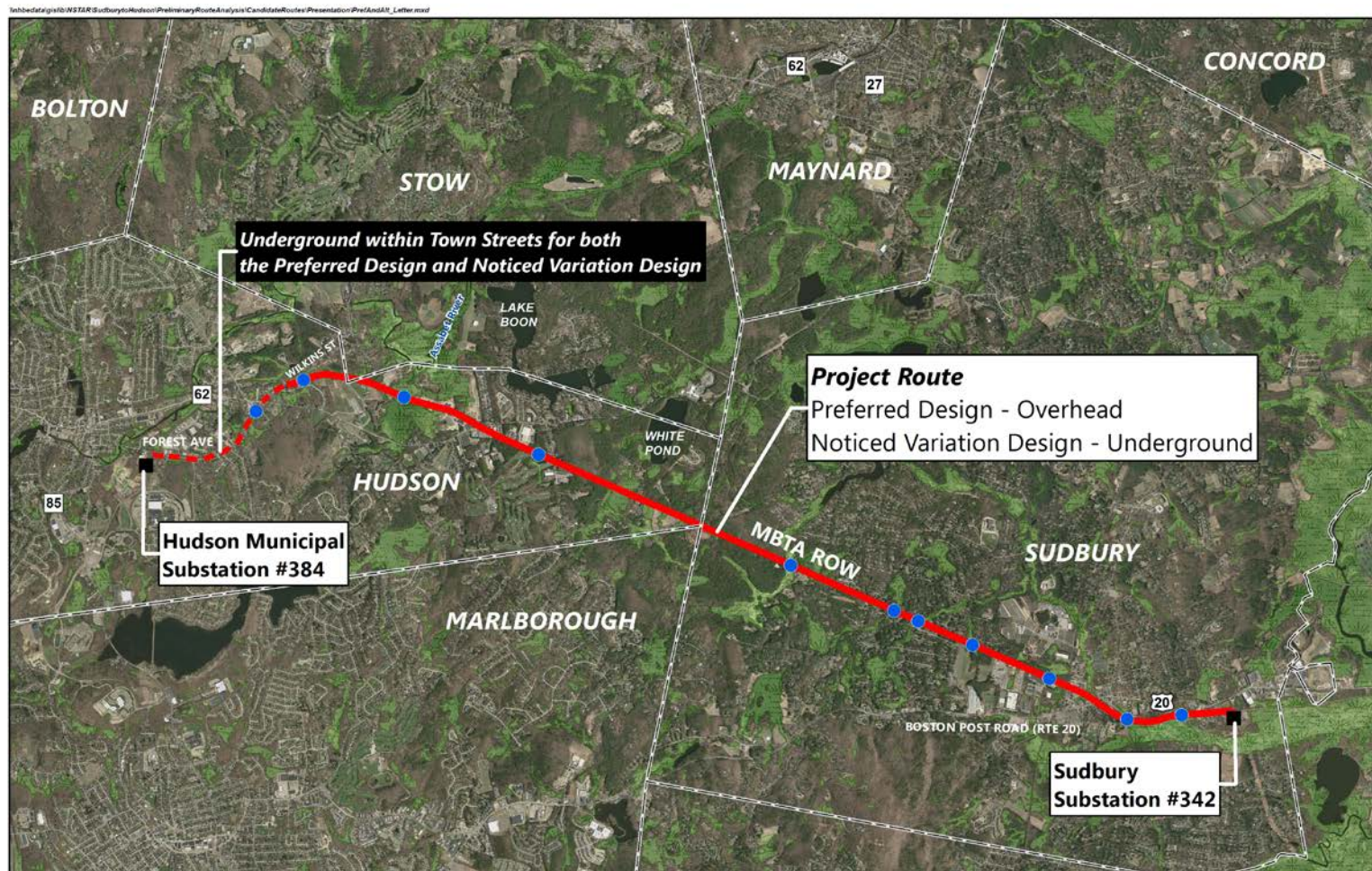
- **Preferred Route :**

- ✓ New overhead line utilizes an existing abandoned MBTA railroad bed (MBTA owned property) which runs adjacent to the Sudbury substation for approximately 7.6 miles into the town of Hudson. The remaining 1.3 miles to Hudson substation will be underground within Hudson city street limits.
- ✓ The total length of the new line is estimated to be 8.9 miles, of which approximately 4.3 miles will be in Sudbury and 4.6 miles in Hudson. The proposed route also includes small portions within Marlborough and Stow.
- ✓ As part of construction of the Project, a 12 foot wide access road will be created which may be used by others as a bike path after Project construction is complete.

- **Noticed Variation Design:**

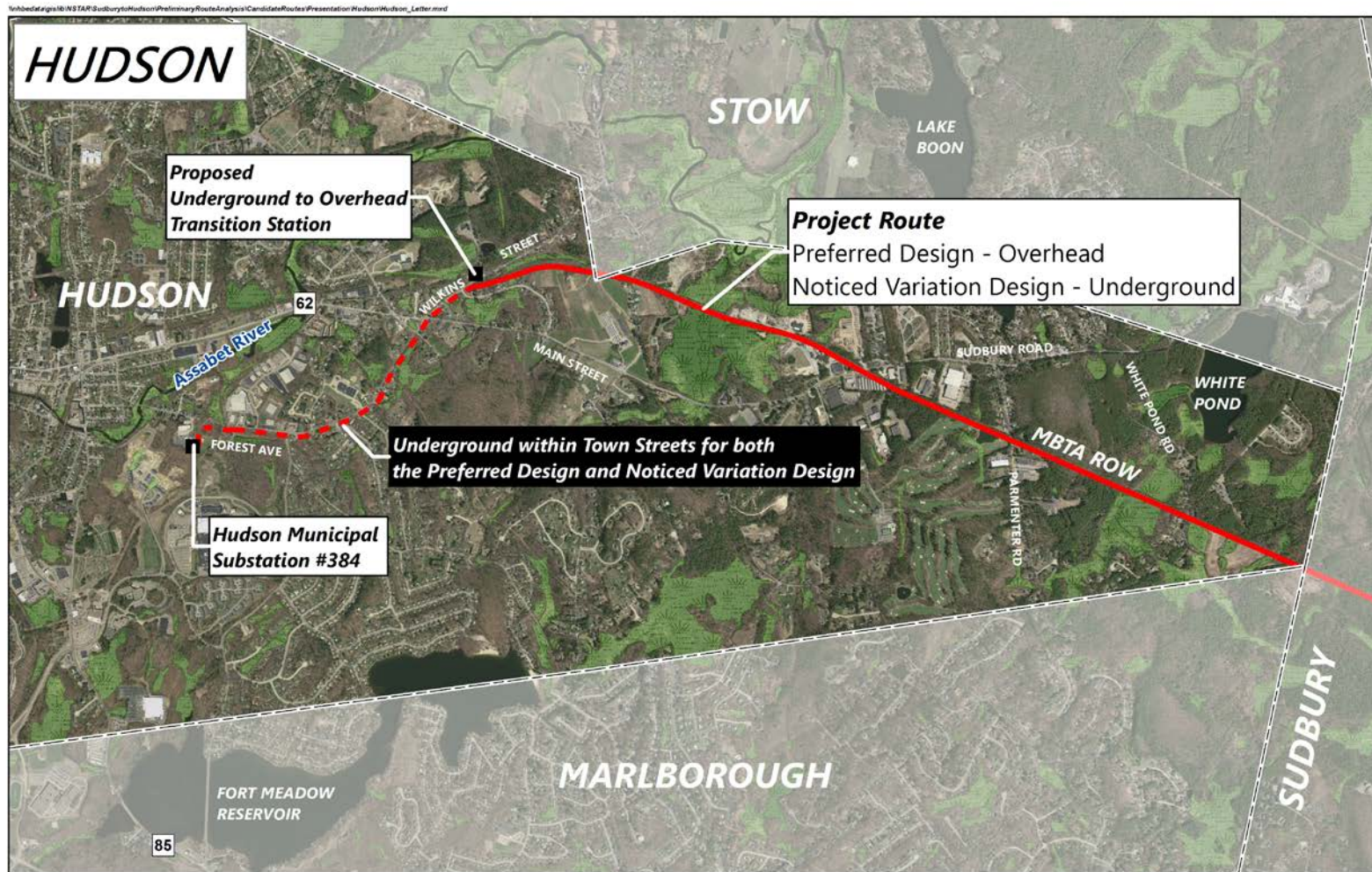
- ✓ The Noticed Variation Design route utilizes the same route as the Preferred Route above, except the route will be underground in the MBTA owned Right-of-Way.

Sudbury to Hudson Transmission Reliability Project Overview Map



Sudbury to Hudson Transmission Reliability Project

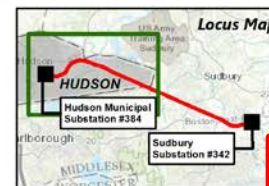
Hudson Map



- Project Route
- Project Route - Underground Segment within Town Streets
- Wetland (MADEP)
- Municipal Boundary

Source: MassGIS, VHB

0 2,500 5,000 Feet



Sudbury to Hudson Transmission Reliability Project

Photo Simulation of MBTA Multi-Use Path

Boston Post Road & Station Road, Sudbury (Facing East)
Sudbury-Hudson Line and Proposed Rail Trail



Sudbury to Hudson Transmission Reliability Project

Photo Simulation of MBTA Multi-Use Path

Boston Post Road & Station Road, Sudbury (Facing East)

Sudbury-Hudson Line and Proposed Rail Trail



Sudbury to Hudson Transmission Reliability Project

MBTA Multi-Use Path

The Project intends to coordinate with the proposed rail trail project along the MBTA corridor.

The Project has begun to reach out to the following identified rail to trail organizations to keep them informed of proposed Project:

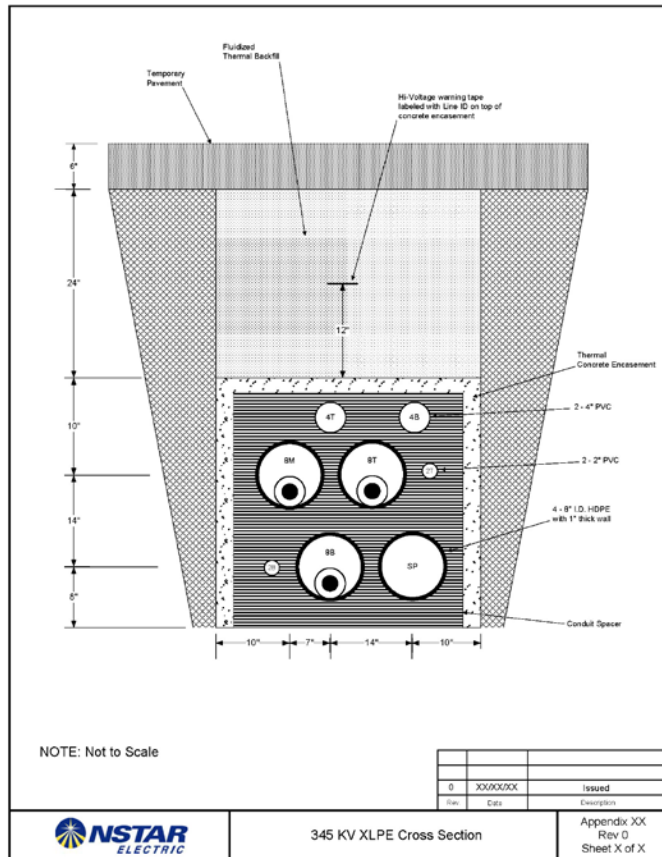
- Sudbury Valley Trustees (Sudbury-Marlborough)
- Friends of Bruce Freeman Trail (Sudbury)
- Sudbury Greenways (Sudbury)
- Assabet River Rail Trail (Hudson)
- Track Road Committee (Stow)

Sudbury to Hudson In-Street Construction Process



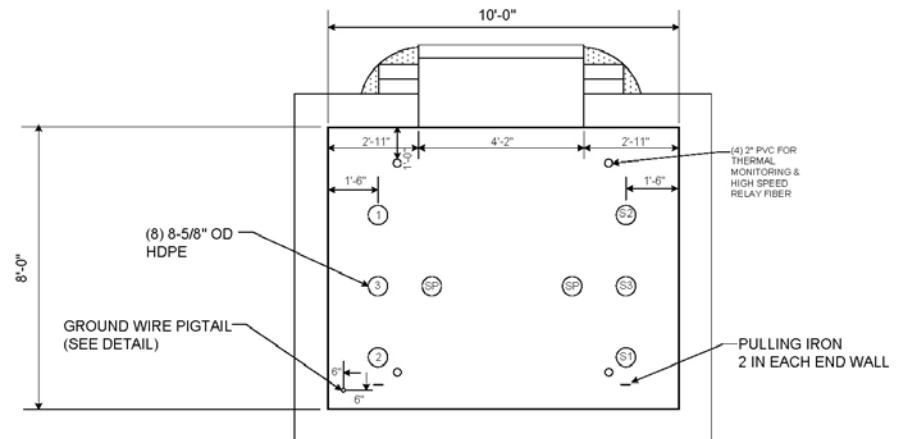
- Splice Vault/Manhole installation
- Trench excavation, conduit installation, backfill and temporary paving.
- Waterway crossings
- Install cables between each manhole.
- Cable splicing and testing in manholes.
- Final pavement and other Project restorations completed per municipal town agreements.
- Construction at substations will be concurrent with cable construction.

Cable Installation



3' x 3' along the underground route

Splice Vault/Manhole



10' tall x 12' wide x 30' long
(approx. 1500'-1800' apart along the underground route)

Managing Impacts During Construction

- Traffic Management
 - ✓ Traffic Management Plan to be developed jointly with municipalities.
 - ✓ Police details paid by Project
 - ✓ Maintaining access
 - ✓ Hours of Construction
 - ✓ Maintain pedestrian safety
- Eversource will communicate and work closely with neighbors in the communities throughout the process by providing:
 - ✓ Door-to-door outreach
 - ✓ Informational mailings via town certified abutting property owner list
 - ✓ Project website with progress updates
 - ✓ Project hotline and e-mail



MUTCD TEMPORARY TRAFFIC CONTROL ROAD SIGNS

REVISIONS DURING CONSTRUCTION			
NO.	DATE	BY	CHK
1	10-29-12	ISSUED FOR REVIEW	DMF TSB LUT
2	10-29-12	ISSUED FOR REVIEW	DMF TSB LUT
3	10-29-12	ISSUED FOR REVIEW	DMF TSB LUT
4	10-29-12	ISSUED FOR REVIEW	DMF TSB LUT

Northeast Utilities Service Co.
CONNECTICUT LIGHT & POWER COMPANY

LINE 1151 SOUTH END - GLENBROOK
115-HV UNDERGROUND TRANSMISSION LINE
TRAFFIC CONTROL GENERAL NOTES
STAMFORD, CONNECTICUT

SCALE: 1" = 100'

DATE: 06-21-2013
BY: LUT
CHECKED: 06-21-2013
DATE: 06-21-2013
BY: DMF

PROJECT NUMBER: 000-01-206
DRAWING NUMBER: 01515-70001PG01

POWER ENGINEERS
www.powereng.com

Sudbury to Hudson Transmission Reliability Project

Environmental Permitting

- Local Conservation Commissions
- State Review and Permitting:
 - MEPA
 - Mass Historic Commission
 - Natural Heritage Endangered Species Program
 - Mass DEP Water Quality
- Federal Review and Permitting:
 - Army Corps of Engineers
 - US Fish and Wildlife Service
 - US Environmental Protection Agency

Sudbury to Hudson Transmission Reliability Project

Next Steps



First Step (ongoing)

Solicit municipal input regarding proposed project and potential routes.

Hudson Board of Selectman – February 22

Second Step

Conduct Open Houses to gather community input. All property owners abutting the proposed route will be invited to both open houses.

Hudson Town Hall Auditorium – March 15

Sudbury Town Hall – March 16

Third Step

File an application with the Energy Facilities Siting Board (EFSB) – early Q2 2016

After we file, the EFSB will conduct a local public hearing, offering additional opportunity for community input. Abutters will be notified.

Fourth Step

EFSB issues its Decision – estimated 2017

Construction start (pending approvals) -- 2017

In-Service (pending approvals) – estimated 2019

Proactive Municipal and Community Outreach Throughout Project Duration

Stakeholders

- Municipal officials
- State and federal elected officials and regulators
- Property owners & tenants
- Businesses
- Community Groups
- Rail to Trail organizations

Project Communication for Municipalities

- Briefings & Presentations
- E-mail updates

Project Communication for the Public

- Releases/Media Advisories
- Door to door outreach, including door hangers
- Project Hotline: 1-800-793-2202
- E-Mail: TransmissionInfo@Eversource.com
- Project webpage: under development



Sudbury to Hudson Transmission Line Project - Project Manager

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