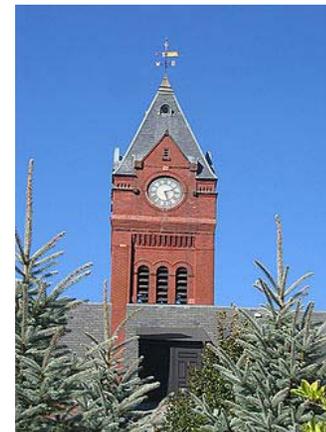


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Woburn to Wakefield Line Project and Mystic to Woburn Line Project



Town of Winchester Board of Selectmen
January 11, 2016

Tonight's Agenda

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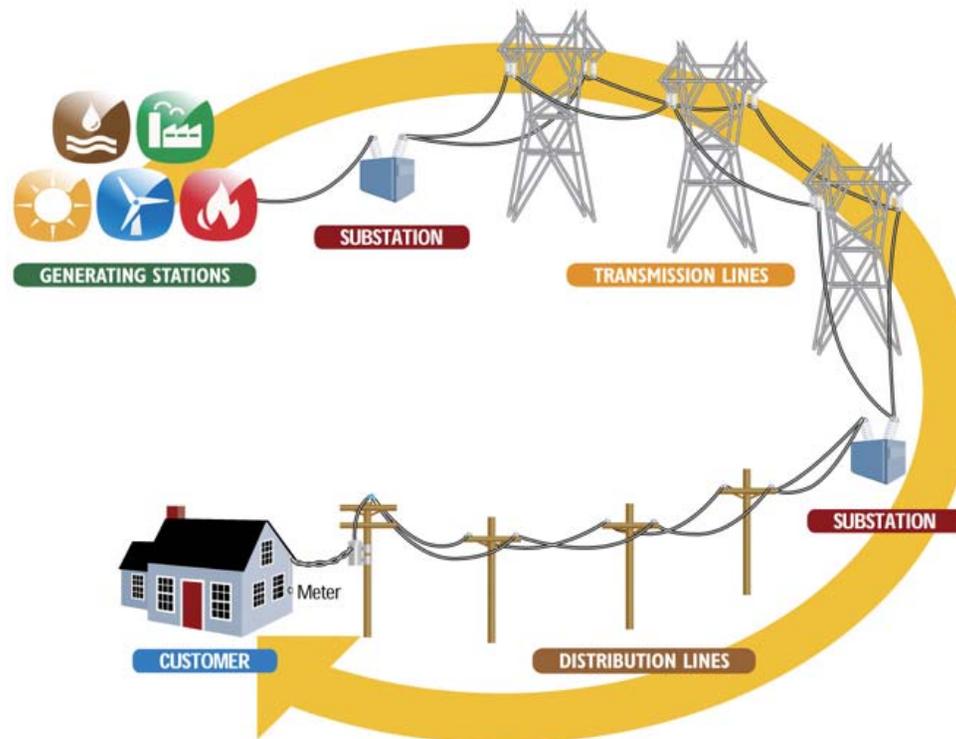
- Electric Transmission vs. Distribution
- Need for Both Projects
- Benefits of Both Projects for the Greater Boston Area
- Woburn to Wakefield Line Project
 - Overview & Maps
 - Analysis of Route Alternatives
 - Construction Process
 - Overall Schedule
- Mystic to Woburn Line Project
 - Overview & Maps
 - Analysis of Route Alternatives
 - Construction Process
 - Overall Schedule
- Managing Impacts During Construction (both Projects)
- Electric and Magnetic Fields (EMF)
- Proactive Project Outreach
- Project Contacts

Electric Transmission vs. Distribution

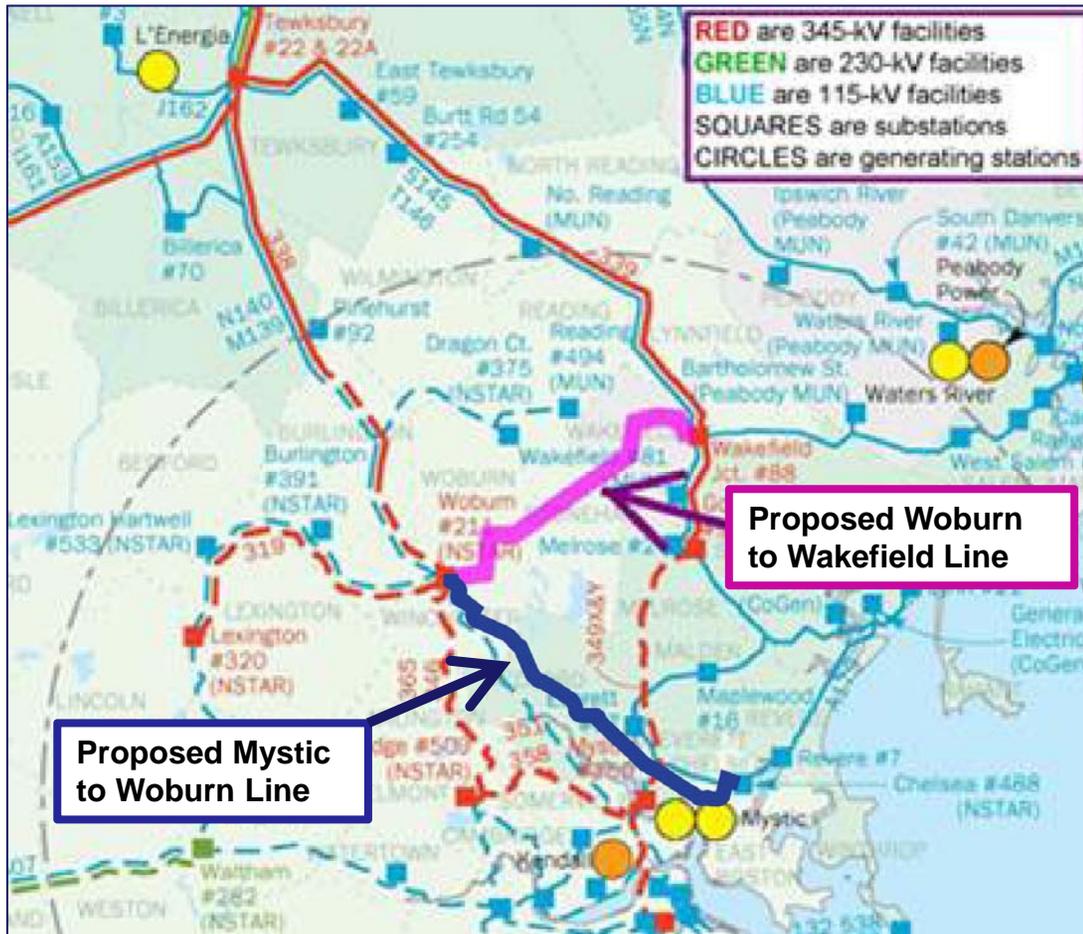
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- The Woburn to Wakefield and Mystic to Woburn Line Projects are underground electric transmission line projects.
- Transmission lines are like the interstate highway system - the backbone of the electric system carrying bulk supply of electricity.
- Distribution lines are lower voltage and carry power to local businesses and homes.



Need for Both Projects



- ISO-New England identified inadequate transmission resources to serve the Greater Boston area, including potential overloads to the existing 115-kV and 345-kV systems serving this area.
- The Woburn to Wakefield and Mystic to Woburn Line Projects are part of a suite of Projects designed to meet growing customer electricity demands and maintain system reliability in the Greater Boston and surrounding area.
- These new Projects were selected by ISO-New England as part of the “preferred solution” to solve this need.

Benefits of Both Projects for the Greater Boston Area

- Improves reliable electric service
- Reduces energy costs
- Creates economic benefit during construction: direct (construction jobs) and indirect (hotels, restaurants, etc.)
- Produces significant new property tax revenue for the towns in which the new facilities are located

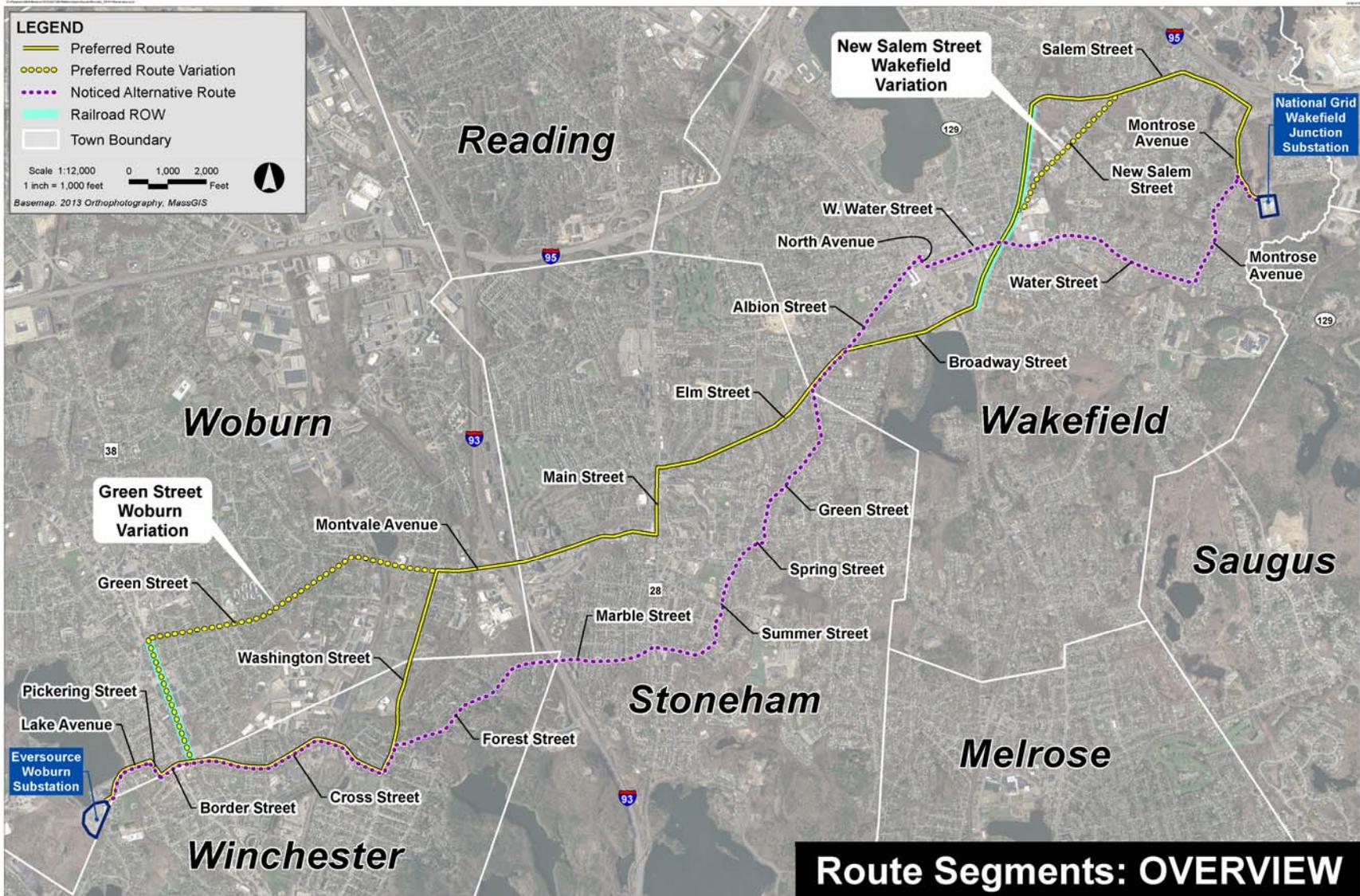
Woburn to Wakefield Line Project

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- Proposed new 345-kilovolt (kV) underground transmission line.
- Connects the Eversource Woburn Substation in Woburn with the National Grid Wakefield Junction Substation in Wakefield.
- Approximately 8.4 miles through Woburn (1.4 mi), Winchester (1.6 mi), Stoneham (1.8 mi), and Wakefield (3.6 mi).
- Includes improvements within the existing Woburn and Wakefield Junction substation properties.
- Overall project investment of approximately \$107 million.
- Coordinating closely with towns in planning, construction and restoration phases.

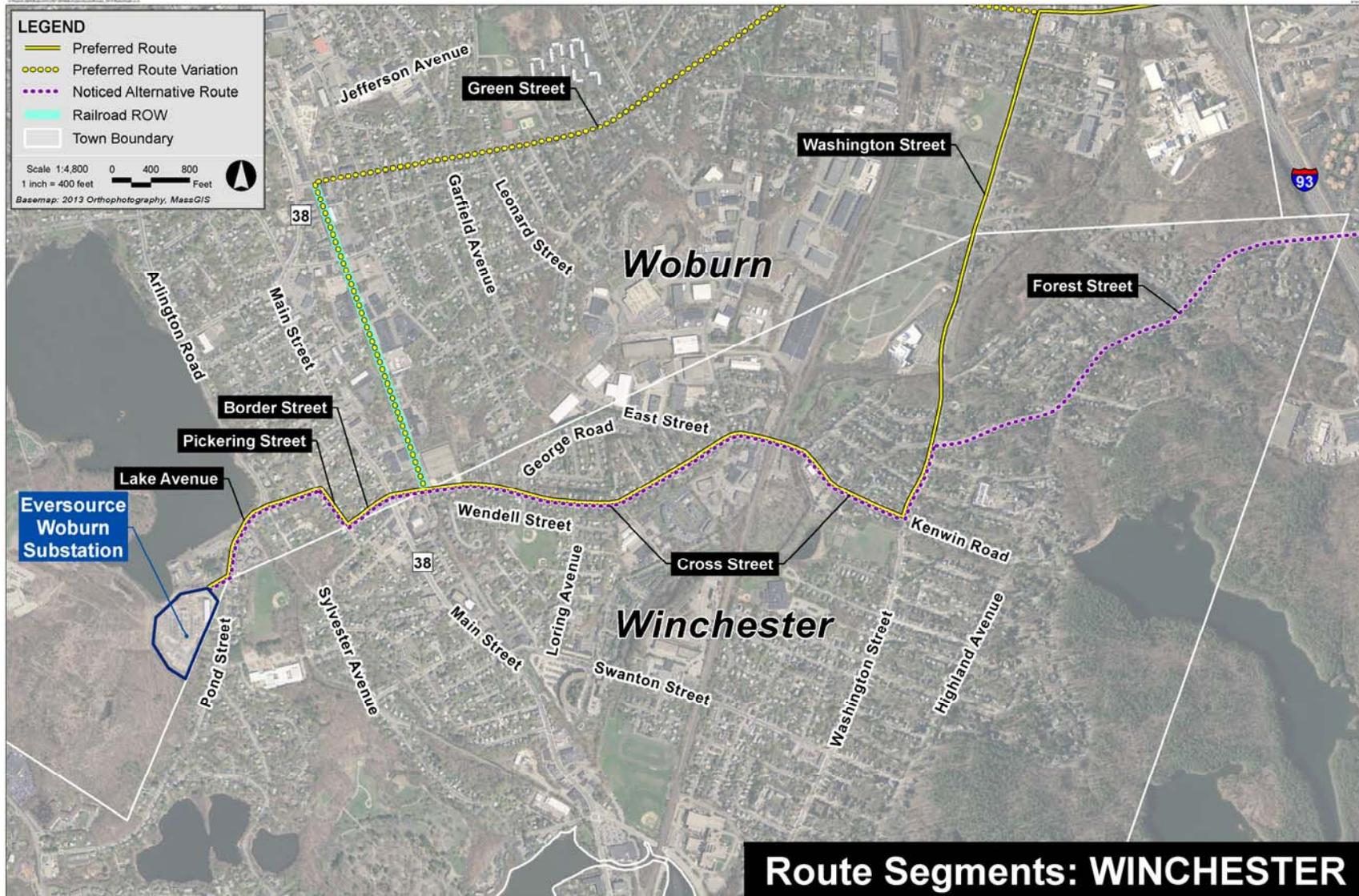
Woburn to Wakefield Line Project



Woburn to Wakefield Line Project

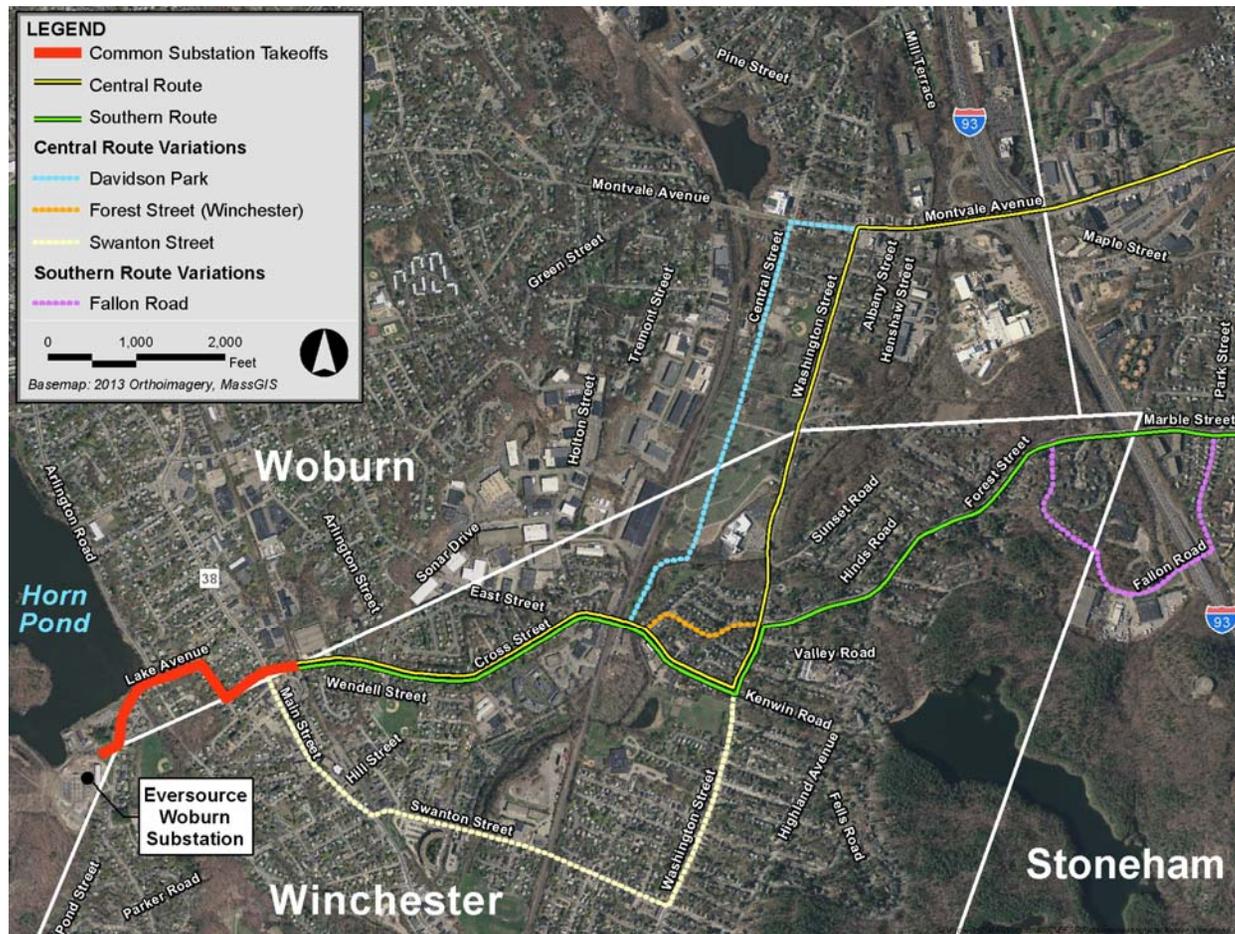
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Woburn to Wakefield Line Project: Analysis of Route Alternatives

The Companies used various criteria to evaluate many routes within the Project area, along with input from municipalities and state agencies. Most routes used public roadways, but railroad ROWs, parkland, and some private lands were also considered in the route selection analysis. Of the dozens of potential routes initially identified, the Companies completed in-depth analyses of three primary routes and several variations to the primary routes, as presented in the Project's Petition submitted to the EFSB in September, 2015.



Woburn to Wakefield Construction Process



- Manhole installation (approx. 8'x8'x30' long).
- Trench excavation, conduit installation, backfill and temporary paving.
- River and railroad 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 concurrent with cable construction.

Woburn to Wakefield Project

Overall Schedule

- Regional Public Open Houses to seek community input:
 - ✓ Woburn – April 27
 - ✓ Stoneham – April 28 and May 18
 - ✓ Winchester – April 29
 - ✓ Wakefield – April 30
- Massachusetts Energy Facility Siting Board (EFSB) Petition: Filed Sept 25, 2015
- EFSB Public Hearing: Held November 18, 2015
- EFSB Evidentiary hearings: expected in March, 2016 *
- EFSB Decision: anticipated around 1st Quarter 2017 *
- Start of Construction (pending EFSB approval): 2017 **
- Estimated Project In-Service Date: 2018 **

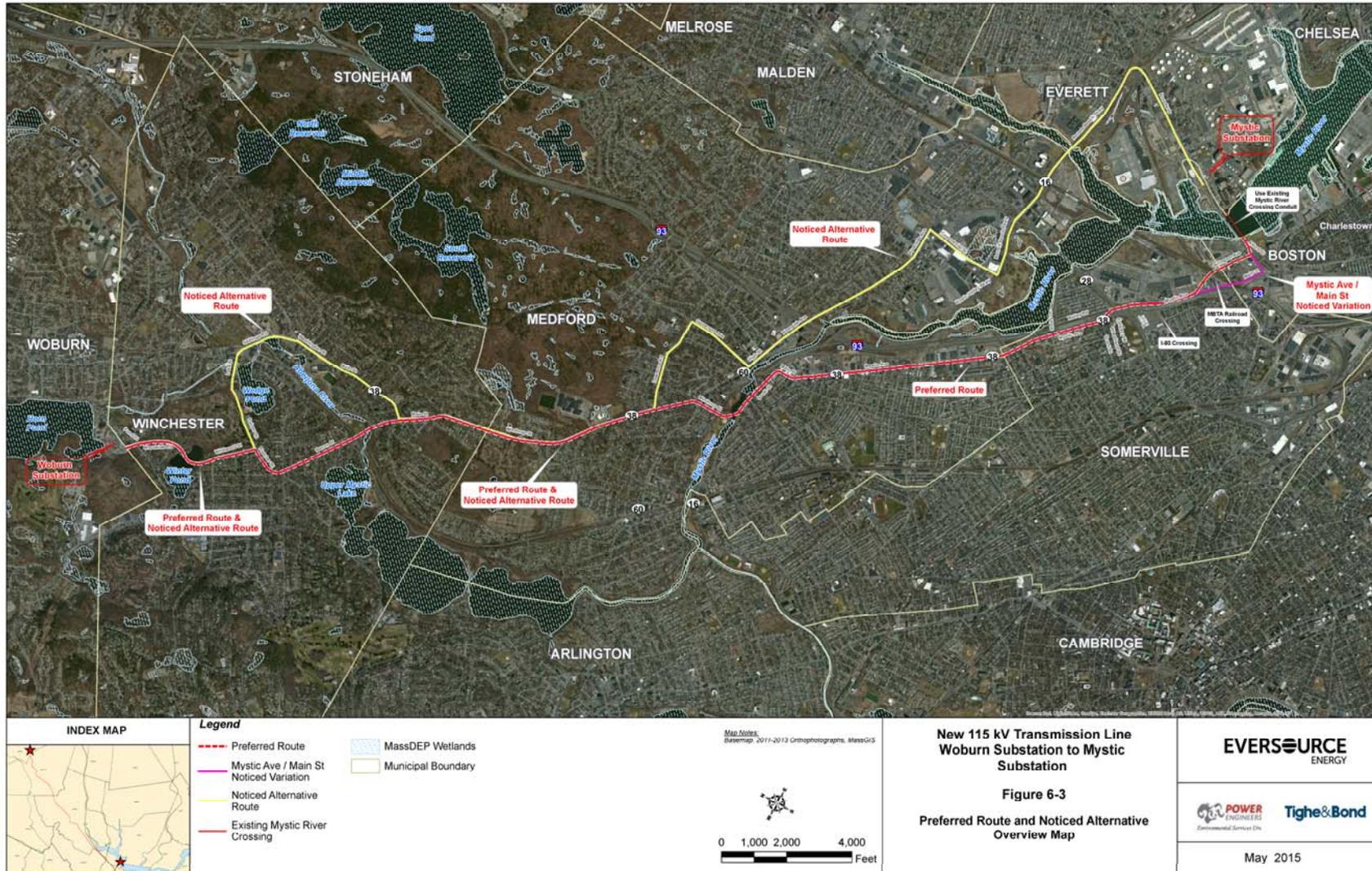
* Date to be determined by the EFSB

** Pending EFSB approval

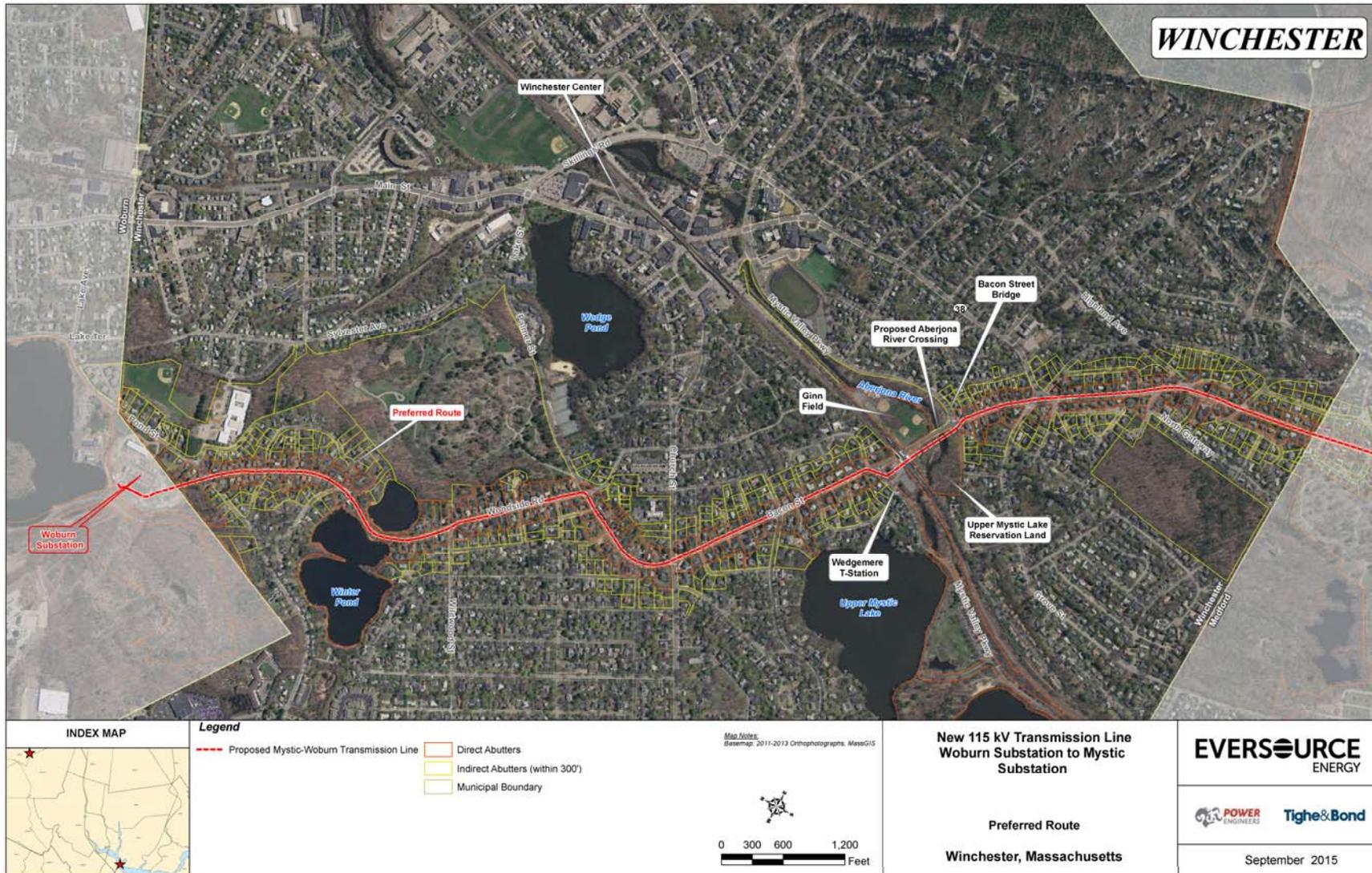
Mystic to Woburn Line Project

- Proposed new 115-kilovolt (kV) underground transmission line.
- Connects the Eversource Mystic Substation in Everett and the Eversource Woburn Substation in Woburn.
- Approximately 7.2 miles through Boston (0.3 mi), Somerville (1.4 mi), Medford (3.2 mi), Winchester (2.3 mi) and short distances in Everett and Woburn.
- Includes improvements within the existing Woburn and Mystic Substations.
- Initial project investment estimate: approximately \$70 million.
- Coordinating closely with town in planning, construction and restoration phases.

Mystic to Woburn Line Project Overview



Mystic to Woburn Line Project



Mystic to Woburn Line Project Analysis of Route Alternatives

Various criteria (including residential/commercial land uses, parks, hospitals, environmental, and project length, as examples) were used in the analysis of potential Project routes, along with input from municipalities and state agencies. These criteria were used to compare and rank the Project's impacts on the natural and manmade environments. The routing analysis is presented in the Project's Petition submitted to the EFSB in May, 2015.



Mystic to Woburn Construction Process



- Manhole installation (approx. 10'x9.5'x24' long).
- Trench excavation, conduit installation, backfill and temporary paving.
- River and railroad crossings
- Install cables between manholes.
- Cable splicing and testing in manholes
- Final pavement and other Project restorations completed per municipal agreements.
- Construction at substations concurrent with cable construction.

- Regional Public Open Houses to seek community input:
 - ✓ Woburn – April 27, 2015
 - ✓ Winchester – April 29, 2015
 - ✓ Somerville – May 4, 2015
 - ✓ Medford – May 11, 2015
- Massachusetts Energy Facility Siting Board (EFSB) Petition: Filed May 20, 2015
- EFSB Public Hearing: July 15, 2015 in Medford
- EFSB Evidentiary hearings: beginning January 20, 2016
- EFSB Decision: anticipated around 1st Quarter 2017 *
- Start of Construction (pending EFSB approval): 2017 **
- Estimated Project In-Service Date: 2018 **

* Date to be determined by the EFSB

** Pending EFSB approval

Managing Impacts During Construction (both Projects)

- Traffic Management
 - ✓ Traffic Management Plan developed jointly with municipalities.
 - ✓ Police details paid by Project
 - ✓ Maintaining access
 - ✓ Hours of Construction
- Eversource and National Grid will communicate and work closely with neighbors and businesses in the communities throughout the process by providing:
 - ✓ Door-to-door outreach materials
 - ✓ Informational mailings
 - ✓ Project website with progress updates
 - ✓ Project hotline and e-mail



MUTCD TEMPORARY TRAFFIC CONTROL ROAD SIGNS

REVISIONS DURING CONSTRUCTION					
NO.	DATE	BY	CHK	APP	APP
1	10-29-13				
2	10-29-13				
3	10-29-13				
4	10-29-13				

Northeast Utilities Service Co.
CONNECTICUT LIGHT & POWER COMPANY
LINE 1151 SOUTH END - GLENBROOK
115-kV UNDERGROUND TRANSMISSION LINE
TRAFFIC CONTROL GENERAL NOTES
STAMFORD, CONNECTICUT

SCALE: 1" = 100'
DATE: 10-29-13
PROJECT: 000-01-208
DRAWING: 23370P1
PROJECT NUMBER: 000-01-208
DRAWING NUMBER: 01515-70001PG01

Electric and Magnetic Field (EMF)

- As the proposed transmission lines are underground, the ground will shield the electric field completely. Magnetic fields are not shielded by the earth or by most materials, but they rapidly decrease in magnitude with increasing distance from the source.
- To help put the exposure in context, residents are exposed to magnetic fields from a variety of everyday sources, including household appliances such as microwave ovens when warming their morning coffee, refrigerators, electric can openers, hair dryers, etc. While these everyday exposures are well within recommended ranges, the level of magnetic fields is often much stronger than the level from transmission lines. Electric and magnetic fields associated with this transmission facility are well below established, scientifically based limits on EMF exposure.
- As a matter of course, Eversource and National Grid designs its new transmission facilities to mitigate the potential for EMF exposure. For this Project, the projected EMF levels, as analyzed and corroborated by an independent industry expert, fall well below the accepted health guidelines for magnetic field exposure.

Massachusetts

- Lower SEMA
- Boston-Stoughton
- Greater Springfield Reliability Project

Connecticut

- Interstate Reliability Project (joint with National Grid)
- Greater Springfield Reliability Project
- Middletown-Norwalk (joint with United Illuminating)

New Hampshire

- Merrimack Valley Reliability Project (joint with National Grid-currently under review)

Proactive Project Outreach

Stakeholders

- Municipal officials
- State and federal elected officials and regulators
- Regional Planners
- Property owners and tenants
- Businesses
- Community Groups

Project Communication for Municipalities

- Briefings and Presentations
- E-mail updates

Public

- Door to door outreach
- News Releases/Media Advisories
- Informational mailings
- Dedicated 1-800# and email address
- Door hangers
- Project Website



Project Contacts

Welcome

Need &
Benefits

Siting
Process

Project
Pages



Electricity 101

Newsroom

Connect
with Us

Email Us
844-646-8427

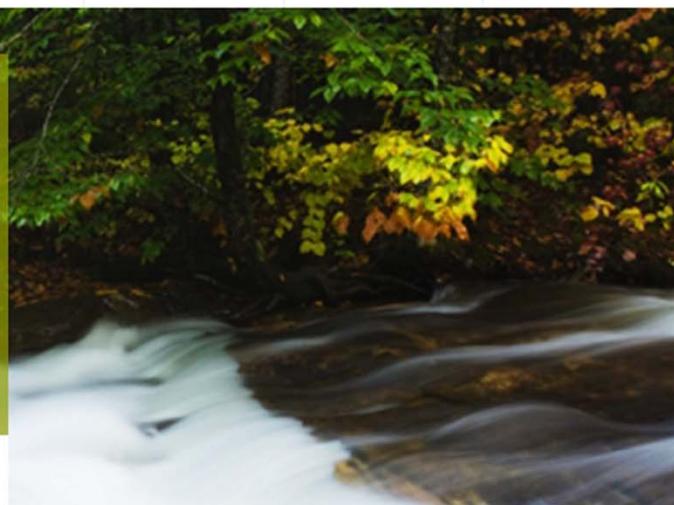
A strong electrical transmission system is vital to our region's safety, security, and economic prosperity. National Grid and Eversource are combining our decades of experience and commitment to customers to bring you the most cost-effective and readily implementable solution.

The proposed projects will meet system reliability needs and support current and future economic growth in Massachusetts and New Hampshire.

Solution Overview

Chosen by ISO New England (ISO-NE), the area's independent power system operator, as the preferred solution to address identified transmission reliability needs, the [Greater Boston and New Hampshire Solution](#) will use existing rights-of-way and roadways to minimize impact on our customers and provide the region with reliable power for years to come.

The Solution comprises various projects, each with individual merit, that will together meet the region's needs and improve the transmission grid. We look forward to putting our proven energy solutions to work for you!



Helpful Links

[Frequently Asked Questions >](#)

[National Grid Website](#)

[Eversource Website](#)

Project Hotline: **1-844-646-8427**

Project Website: **www.MA-NHSolution.com**

Project E-mail: **Info@MA-NHSolution.com**