

# **NEWINGTON-DOVER**

## **Improvements to NH Rte. 16 /**

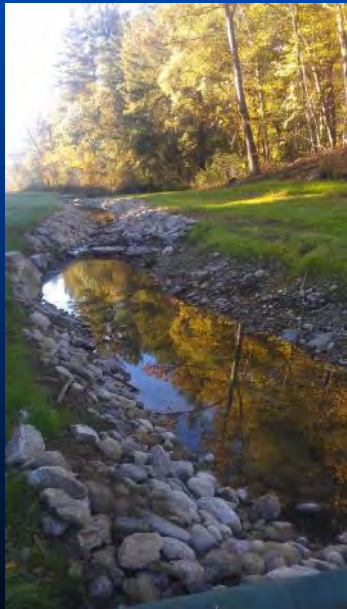
### **Spaulding Turnpike / Little Bay Bridges**

Public Informational Meeting

AT

Dover City Hall

**AUGUST 25, 2015**



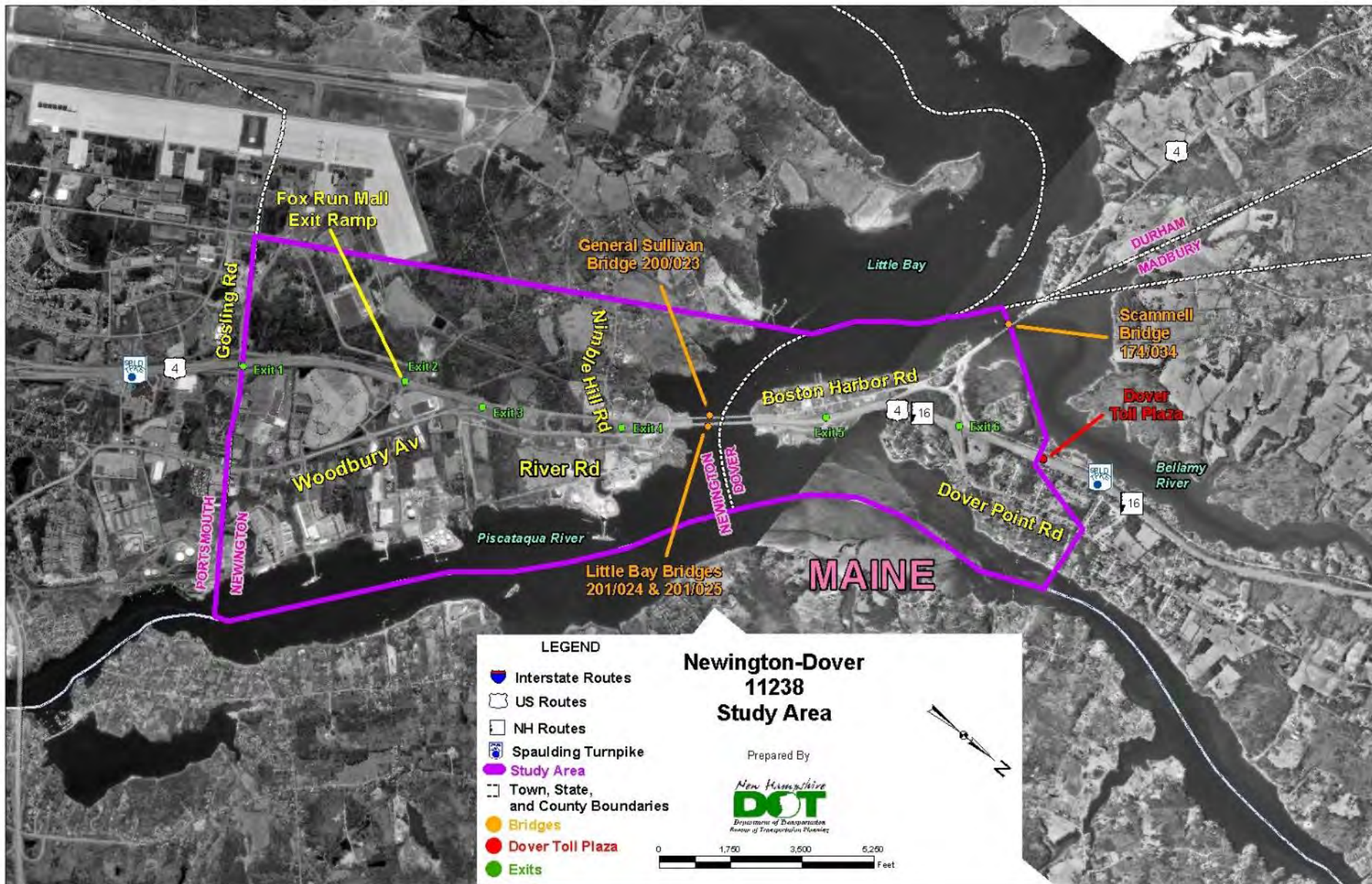
# Meeting Agenda

- Project Overview
- Status of Newington-Dover, 11238 Contracts
  - Contract L – New Little Bay Bridge SB
  - Contract M – Newington
  - Contract O – Little Bay Bridge NB Rehabilitation
  - Contract Q – Dover
  - Contract S – General Sullivan Bridge Rehabilitation
- Upcoming Turnpike Projects
  - Dover Open Road Tolling
  - Newington Maintenance Facility





# Project Area





# Project Need



16 4:49 PM

16 4:45 PM

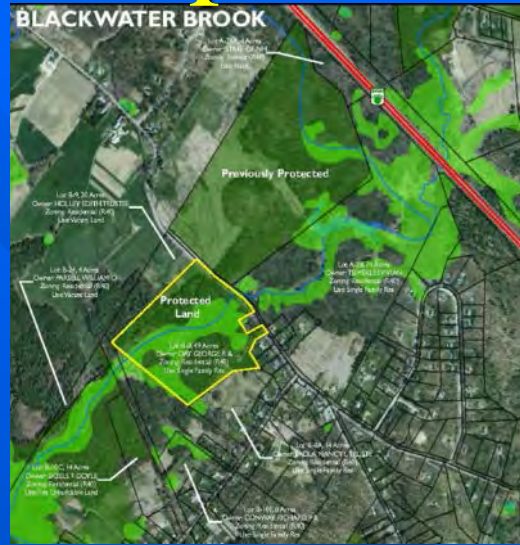


# Newington-Dover Project Funding & Estimated Cost



- Total Estimated Project Cost - \$269.7M
  - Engineering - \$20.4M
  - ROW - \$8.9M
  - Environmental Mitigation & TDM (Bus, Park'n'Rides) - \$20.9M (2010 Dollars)
    - ❖ \$12.66M federal CMAQ & Advanced ROW funding
  - Construction - \$207.2M (2010 Dollars)
    - \$219.5M (w/ inflation)
  
- Project Primarily Funded with Turnpike Toll Revenue & Bond Proceeds
  - \$31.4M dedicated Federal Earmarked Funds & Grants
  - CMAQ/Federal Funding for TDM Elements (P&R)
  - Final two contracts to be paid through combination of toll revenue and bonding, and is on schedule as approved through the State Ten Year Transportation Improvement Plan (STIP-2014).

# Components



- Environmental Mitigation - \$4.57M (224 acres)
  - 120-acre Preservation of Tuttle Farm (Joint Effort w/ City, SRC, DOT) – (\$1.34M)
  - 40-acre Preservation of Day Property in Blackwater Brook Watershed – (\$0.23M)
  - 64 acres of Preservation in Knight Brook Watershed – (\$2.0M)
  - Railway Brook Restoration – (\$1.0M)



# NEWINGTON-DOVER 11238

## Park 'n' Ride

- Park 'n' Ride at Exit 9 in Dover – Completed (\$3.49M)
- Rochester – Completed (\$1.35M)
- Multi-use Park 'n' Ride in Lee – CMAQ Location under Review (est. \$85k)



# NEWINGTON-DOVER 11238

## Improved Downeaster Rail Service

- CMAQ Investment of \$2.0 M with N-D Turnpike Match





# NEWINGTON-DOVER 11238

## Expanded Transit Service

- NH – Boston Bus Service (C&J)
- Express Coast Bus Service from Rochester, Dover, Somersworth/Berwick to Portsmouth Naval Shipyard
- Direct Bus Service – COAST Bus Service from Rochester to Pease



# NEWINGTON-DOVER 11238

## Transportation Demand Management

- Commute SMART Seacoast – a new Transportation Management Association (TMA) to promote:
  - Carpooling/vanpooling
  - Ride mass transit
  - Bicycle/walk
  - Telecommuting
  - Compressed work schedules
- Focus is employers and employees at Pease and within the Greater Seacoast
- More information at [www.commuteSMART.org](http://www.commuteSMART.org)





# NEWINGTON-DOVER 11238



Post Construction

Pre-Construction

NEWINGTON  
SOUTHERLY  
RENDERING



# NEWINGTON-DOVER 11238



Post Construction

Pre-Construction



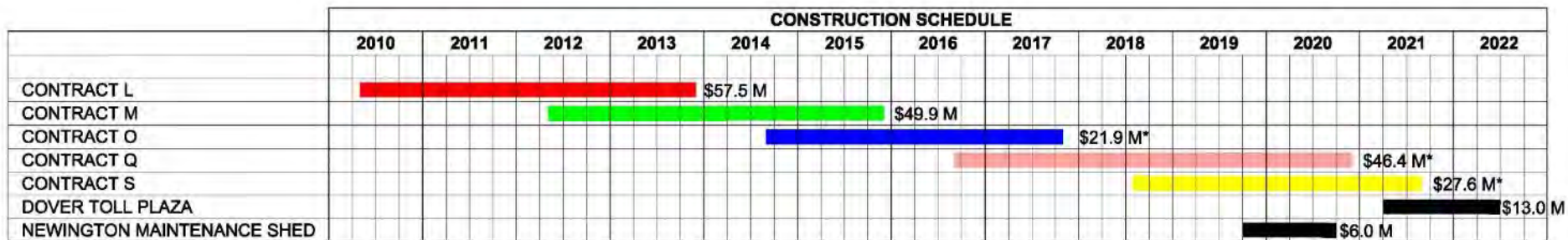
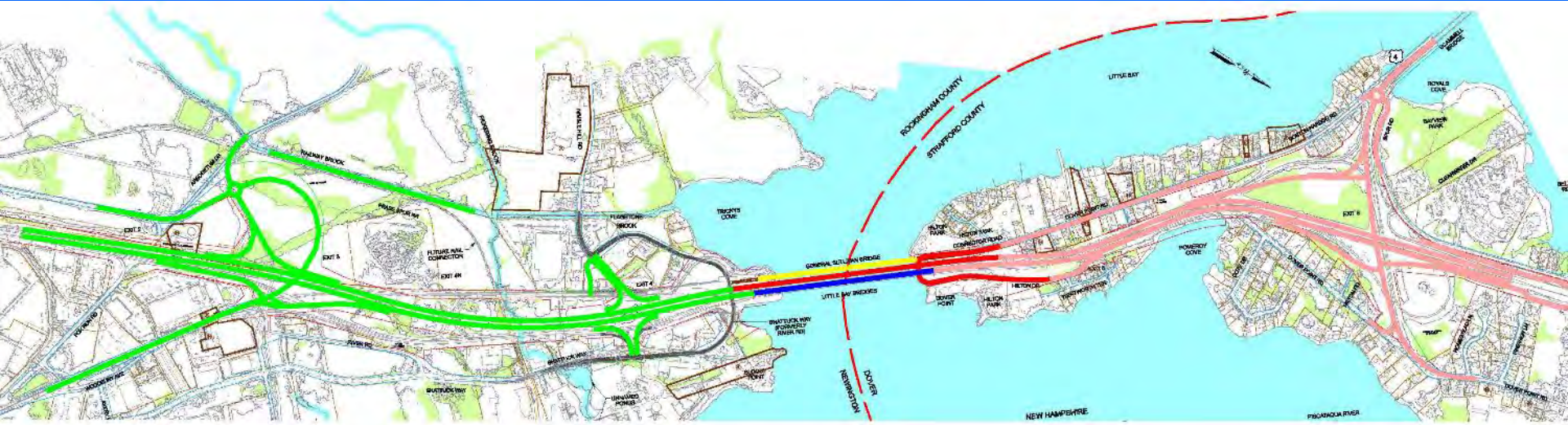
DOVER  
NORTHERLY  
RENDERING



# Little Bay Bridges Contracts L, O, & S



# Current Contract Breakout & Schedule





# CONSTRUCTION OUTREACH



The screenshot shows a web browser window displaying the official New Hampshire government website for the Spaulding Turnpike Newington-Dover Project. The browser's address bar shows the URL <http://www.newington-dover.com/>. The website features a green header with the New Hampshire Department of Transportation (DOT) logo and a navigation menu. The main content area is titled "Welcome to Spaulding Turnpike Newington-Dover Project Website" and includes a large aerial photograph of the project area. A sidebar on the left lists various project information, including Home, Project History, Project Information, Project Process, Details/Maps, Selected Alternatives, Schedule, Project Documents, Final Environmental Impact Statement, Roundabouts, Meetings, FAQs, Contact Us, Feedback/Mailing List, Newsletters/Fact Sheets, Construction Updates and Alerts, and Webpage Listing. The main content area also includes a "Construction Updates and Traffic Alerts" section with a traffic cone icon, a "What's New..." section with links to recent news items, and a "Major Project Elements:" section with a list of project details.

**New Hampshire DOT**  
Department of Transportation

an official NEW HAMPSHIRE government website

Air Rail Highway Bike/Ped Public Transit

**Welcome to Spaulding Turnpike Newington-Dover Project Website**

From 2003 to 2008, the project team, advisory task force (ATF), and interested Seacoast stakeholders have evaluated a range of reasonable alternatives to identify a preferred alternative to improve long-term mobility and safety along the Spaulding Turnpike between Exit 1 and the Dover toll plaza, just north of Exit 6. The 3.5-mile stretch of the Turnpike in this area is characterized by closely spaced interchanges, substandard geometry and shoulder areas, and capacity constrained conditions during the weekday morning and evening commuter periods. Currently, the Turnpike carries in excess of 70,000 vehicles per day. Future travel demand projections (approximately 94,000 vehicles per day are forecasted in 2025) indicate that if the Turnpike is not improved, weekday traffic congestion will spread to additional hours of the morning and evening, and safety conditions will continue to deteriorate.

Following the completion of the Environmental Impact Statement (EIS), a successful Public Hearing and the Federal Highway Administration's issuance of the Record of Decision in October, 2008, the Selected Alternative was approved to advance into final design to be developed into contract plans. [Preliminary and Final design](#) of the [selected alternative](#) was initiated on December 18, 2008.

**Major Project Elements:**

- 4 lanes in each direction (3 general purpose and 1 auxiliary lane) between Exit 3 (Woodbury Avenue) and Exit 6 (U.S. Route 4/Dover Point Road)
- 3 lanes in each direction south of Exit 3 and north of Exit 6
- 5 interchanges consolidated or reconfigured – Exit 2 and 5 are eliminated with Exits 3, 4 and 6 providing full access in all directions
- Rehabilitation and widening of Little Bay Bridges to accommodate 4 lanes in each direction
- Future planning for an elevated rail connection from the Newington Branch Line into Pease Tradeport
- Rehabilitation of General Sullivan Bridge for pedestrian, bicycle, and recreational uses
- Park and ride facilities at Exit 9 in Dover, Exit 13 in Rochester, and along U.S. 4 in Lee

**Construction Updates and Traffic Alerts**

**What's New...**

**NEW:** [Northbound Traffic Shift onto New Little Bay Bridge - Major Traffic Impacts Anticipated on June 3 and 4](#) (posted May 26, 2015)

[Planned Northbound Lane Closure on Little Bay Bridge](#) - Pavement Repairs Scheduled (posted 04/03/2015)

[NIGHT WORK NEAR EXIT 4](#) - Lane closures for installation of overhead sign structure (posted 03/31/15)

[CLOSING OF EXIT 5 NORTHBOUND RAMP](#) - Detour for several months to allow for construction work (posted 03/31/15)

[VIDEO: Unilift's Gas Line Directional Drill Video Beneath Little Bay](#)

**PAST NEWS:**

[2014 Updated Financial Plan](#) (posted 10/09/2014)

[October 8, 2014 Work Update](#)

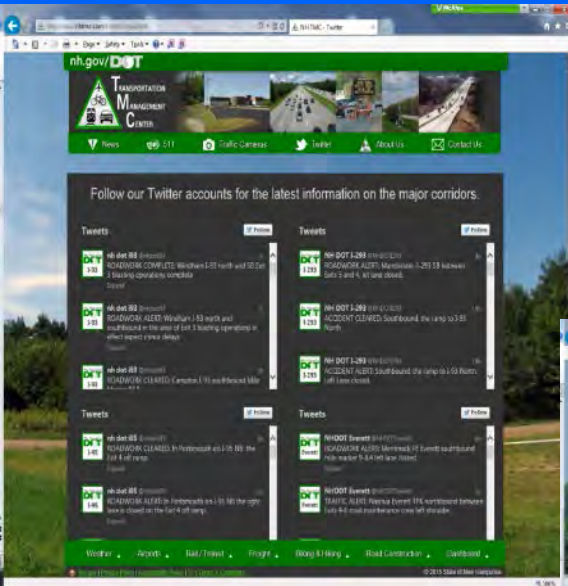
[Tenants Association at Pease Presentation - April 9, 2014](#) (posted 04/09/14)

[January 2014 Work Update](#) (posted 1/14/14)

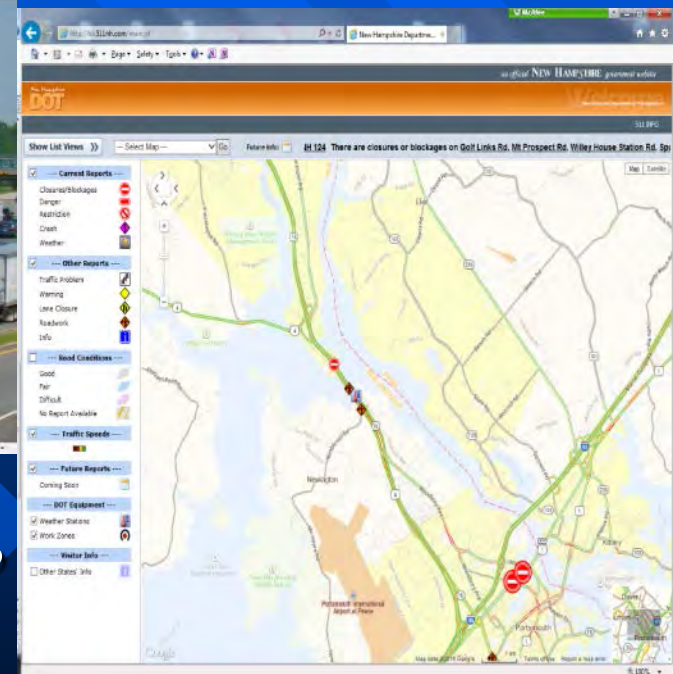
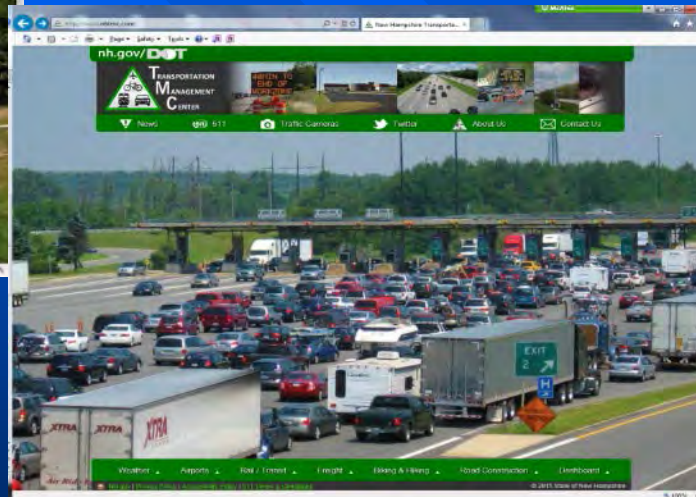
**NH RECOVERY**  
department of transportation

WEB SITE: [www.newington-dover.com](http://www.newington-dover.com)

# CONSTRUCTION OUTREACH



TWITTER



- For traveler/real-time information, please visit [www.nhtmc.com](http://www.nhtmc.com).

TRAFFIC CAMERAS



# Contract L (Completed)

## New Little Bay Bridge





## Contract L - SB New Little Bay Bridge Construction

- Project completed by Cainbro Contractors of Maine at cost of \$54.1M
- Construction Initiated in 2010 Completed in Fall 2013
- Spaulding Turnpike Dover Approach Work
- Spaulding Turnpike Newington Roadway Approach
- Wentworth Terrace - Now Opened for Two-way Traffic
- Pedestrian & Bicycle Structure (Approach to GSB)



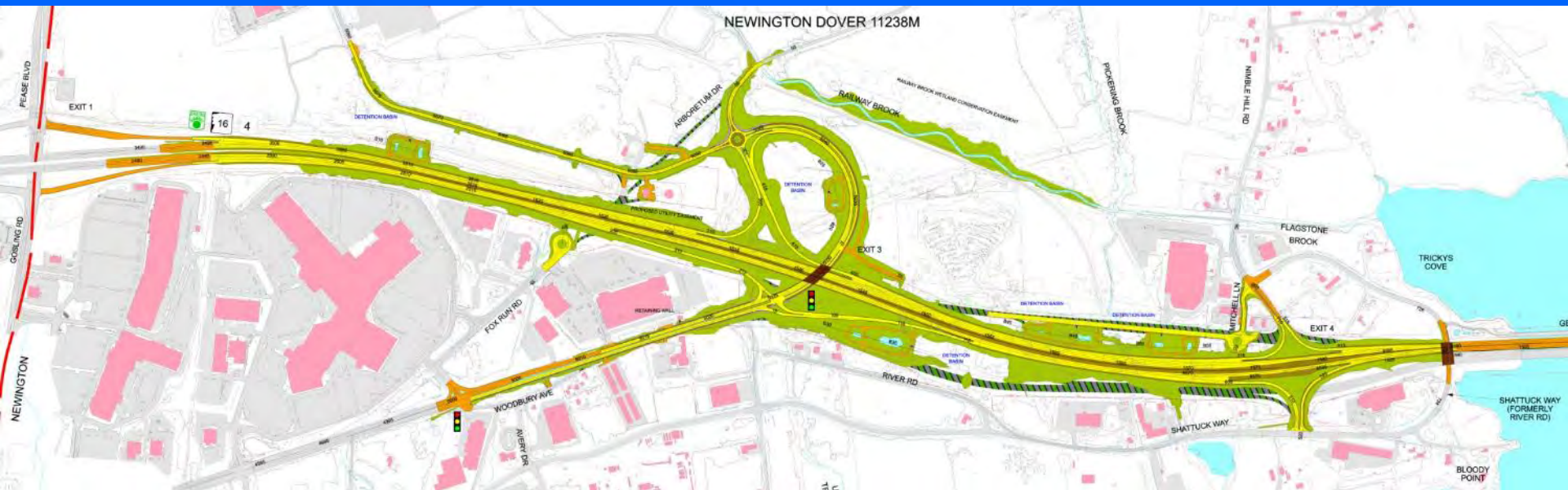
# Construction – Contract L

## Ped and Bikeway Access to GSB

- Pedestrian, Bicycle Access to GSB
- Wentworth Terrance/Hilton Park Access Under LBB's



# Contract M



## Contract M Construction (Ongoing)

- Contractor: A. J. Coleman
- Construction Cost: \$48.7M
- Construction Duration: 2012 – 2015



# Contract M (continued)



- Constructs Four Lanes NB & SB along Turnpike within Median of Existing Facility (Minimal ROW Impacts)
- Provides a Full Service Interchange at Exit 3 and Reconstructs Woodbury Avenue with Additional Access into Pease Development Authority
- Accommodates Future Consideration for Railroad Spur

# Contract M (continued)



- Exit 4 Ramp with New Mitchell Lane
- Approach Roadwork into Dover to Shift SB and NB Traffic onto LBB completed under Contract L (Completed)
- Improves Stormwater Detention Basins for Water Quality Treatment
- Railway Brook Restoration (Completed)



# Construction – Contract M

## Construction Operations for 2015:

- Exit 2 Ramps and Exit 3 SB Off Ramp Closed - July 2015
- Exit 3 Ramps and Woodbury Avenue Bridge (October Opening)
- Exit 4 Ramps Construction (Ongoing)
- Stormwater Detention Basin & Railway Brook Construction (Completed)
- Mainline Traffic Shifted to New LBB (Completed)
- Newington Turnpike 'M' Construction Completion Nov. 2015





# Exit 2 Closure - NB



- Utilize Exit 1 Off Ramp to Access Fox Run Road and Woodbury Avenue
- Utilize Exit 3 On Ramp to Access Northbound Barrel



# Exit 3 SB Detour



- Utilize Exit 1 Off Ramp to Access Gosling Road, Woodbury Avenue, and Fox Run Road



# Construction – Contract M



Exit 3 NB On Ramp



Exit 3 SB

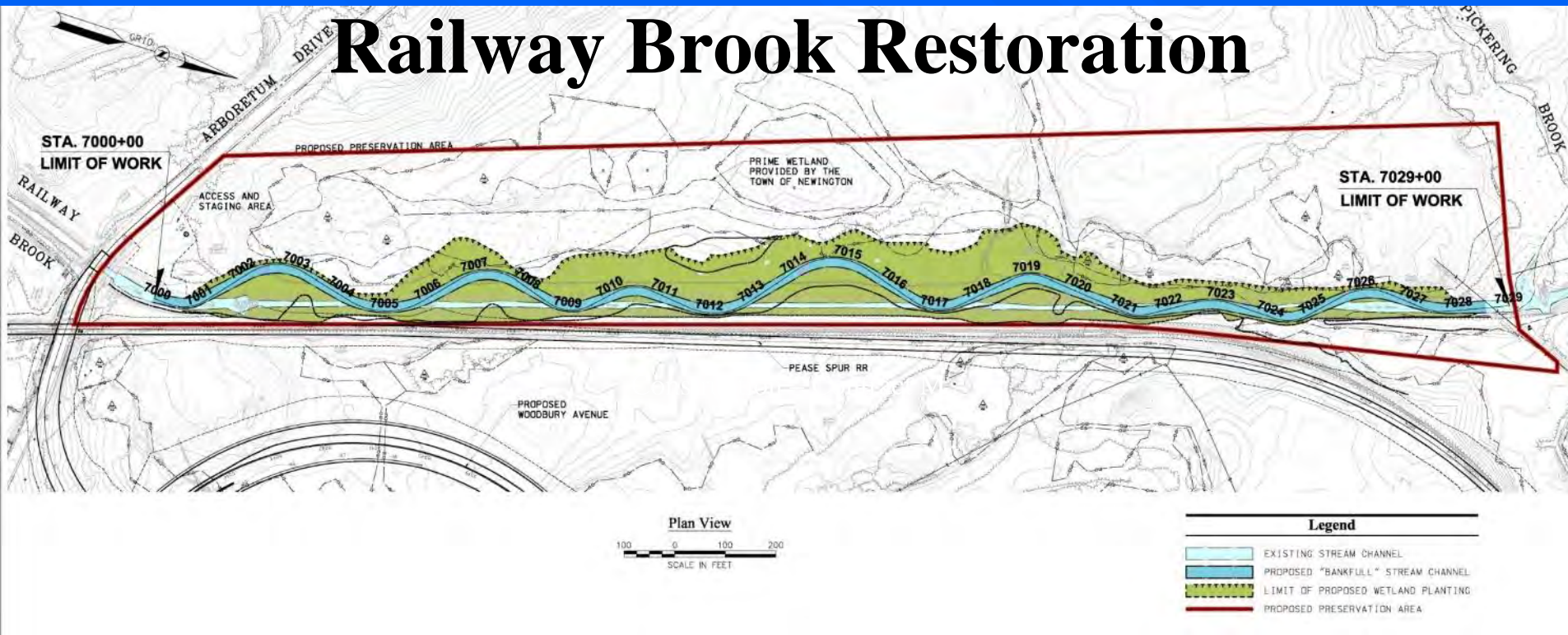


Woodbury Avenue  
Bridge – looking  
NB

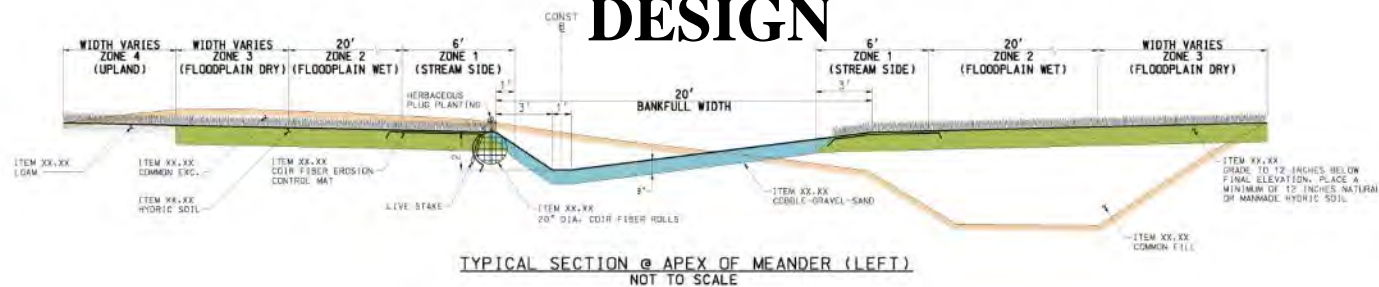


# Construction – Contract M

## Railway Brook Restoration



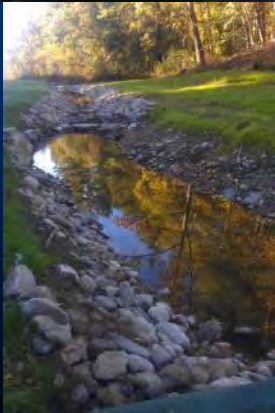
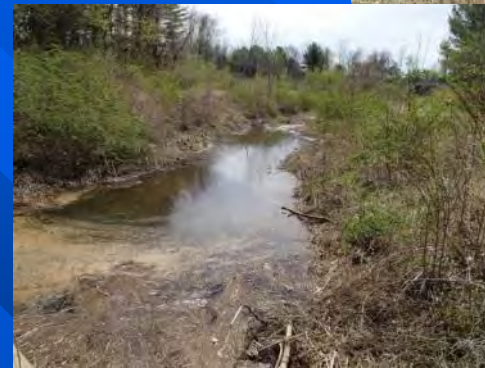
## DESIGN



# Construction – Contract M

## Railroad Brook Restoration

- Initiated in Summer 2014
- Completed in Summer 2015
- Cost: \$1.0M

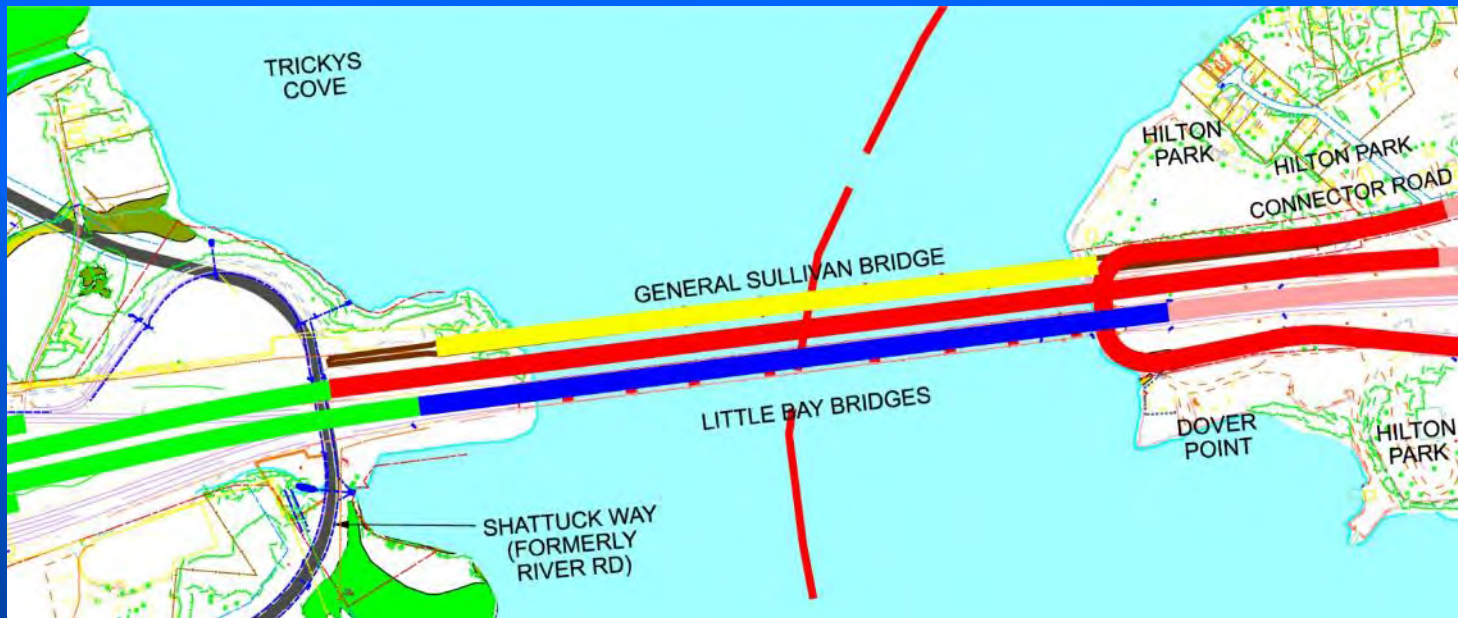


AFTER

BEFORE



# Construction - Contract O



## Contract O – Existing Little Bay Bridges Rehabilitation

- Opened Bids on October 23, 2014 (\$20.4M)
- Contractor: R. S. Audley, Inc.
- Construction Duration: 2015 – 2017
- Concurrent Construction with Contracts M and Q

The image contains two technical drawings for the Sullivan Bridge rehabilitation project.

**GENERAL PLAN:** This drawing shows the bridge layout from station 1593 to 1611. It includes the existing general Sullivan Bridge (SBB) No. 200/023, existing bridge No. 201/024 (Contract 11235L), and the proposed northbound bridge No. 201/025. Key features include:
 

- SB (Southbound) and NB (Northbound) traffic directions.
- Stationing from 1593 to 1611.
- Bridge abutments (A, B) and piers (1-8).
- Construction areas for widening and full-depth reconstruction.
- Navigation channel and median barrier details.
- Location of minimum vertical clearance.
- Approach rail T2 (East Faiscia) and T1 (West Faiscia).

**ELEVATION:** This drawing shows the bridge structure in elevation, including spans, piers, and abutments. Key features include:
 

- Span lengths: 125'-0" (Span 1), 168'-0" (Span 2), 168'-0" (Span 3), 200'-0" (Span 4), 200'-0" (Span 5), 200'-0" (Span 6), 168'-0" (Span 7), 168'-0" (Span 8), 125'-0" (Span 9).
- Bridge rail T2 (East Faiscia) and T1 (West Faiscia).
- Navigation channel and median barrier details.
- Location of minimum vertical clearance.
- Approach rail T2 (East Faiscia) and T1 (West Faiscia).

**NOTES:**

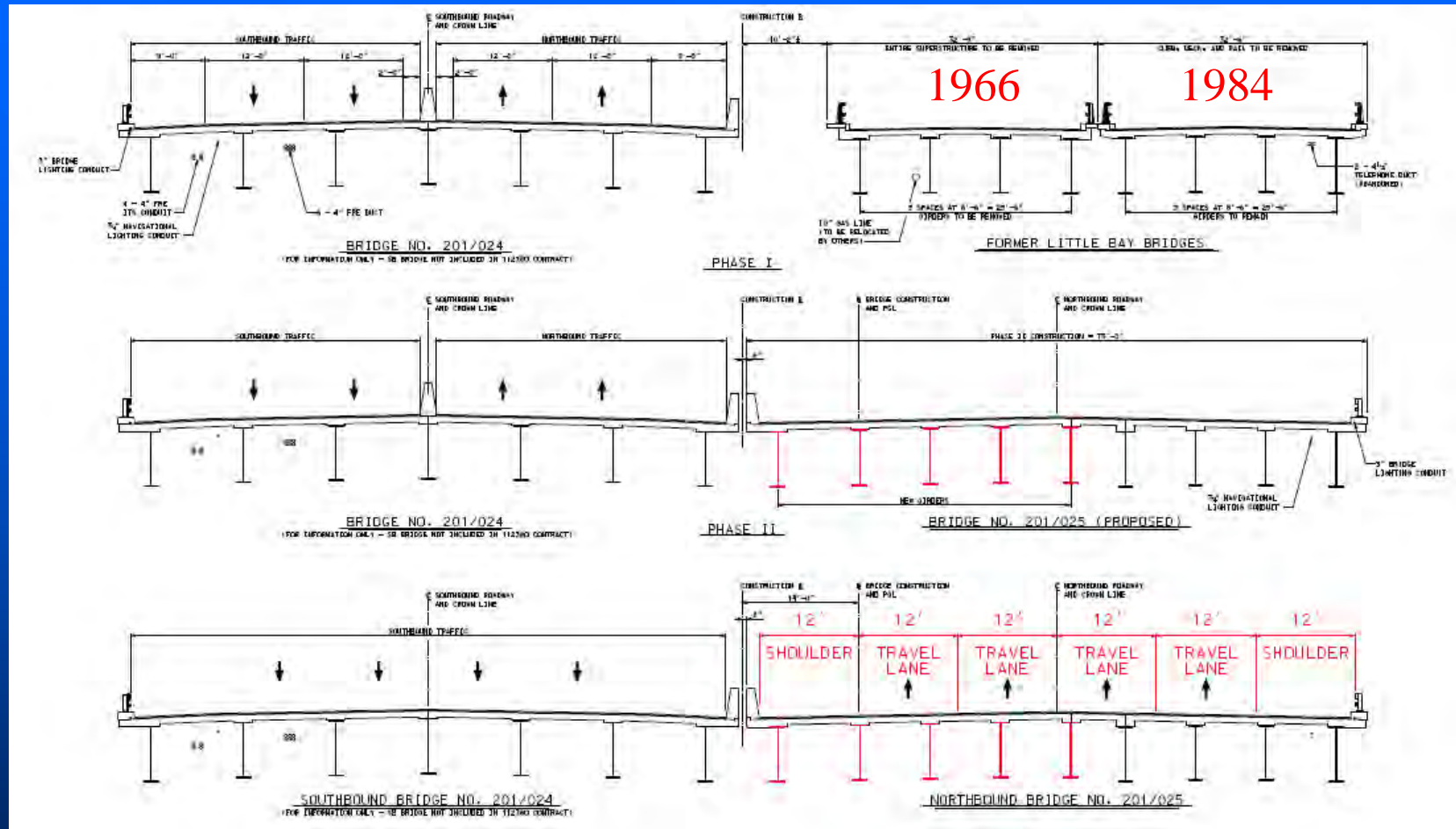
- VERTICAL NAVIGATION CLEARANCE EQUALS OR EXCEEDS EXISTING.
- ULTIMATE ROADWAY AND LANE USAGE CONFIGURATION SHOWN.

**LEGEND - NAVIGATION LIGHTING**

- 360° GREEN - CHANNEL CENTER NAVIGATION LIGHT
- 180° RED - CHANNEL MARGIN NAVIGATION LIGHT



# Construction – Contract O



- Older Structural Steel Members being Replaced to Meet Current Standards
- Utilize 1984 Superstructure as Work Platform to Replace 1966 Beams & Deck
- Utilize New Beams & Concrete Deck as Work Platform to Replace 1984 Deck
- Reconstruct Wentworth Terrace Retaining Wall Beneath Bridge

# Contract Q



## Contract Q - Dover

- Advertising Date: July 2016
- Construction: 2016 - 2020
- Completes and Opens All Spaulding Turnpike Improvements
- Concurrent Construction with Contracts O and S



# Contract Q (continued)



- Provides a Full Service Interchange at Exit 6
- Eliminates Exit 5
- Introduces 2 Signalized Intersections for Exit 6 Ramps
- Roundabout Replaces Signalized Intersection at Boston Harbor Rd.
- Constructs 4 Sections of Soundwall – North and South of Exit 6 and Dover Toll Plaza

# Contract Q – Boston Harbor Rd.

- Roundabout Replaces Signalized Intersection at Boston Harbor Rd.
- Two-Lane Hybrid Roundabout
- Pedestrian Hybrid Beacon Signal West of Roundabout
- Roundabout Website Link:

<http://www.nh.gov/dot/org/projectdevelopment/highwaydesign/roundabouts/index.htm>





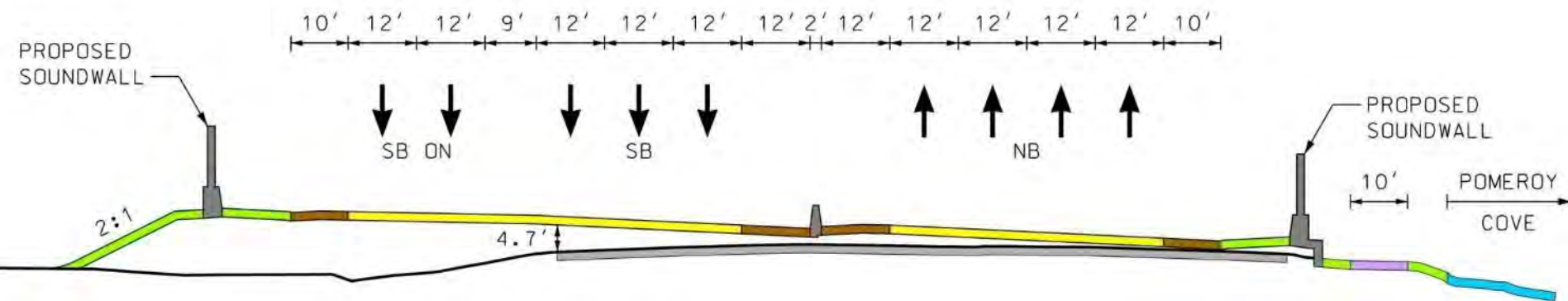
# Contract Q - Exit 6

- New Bridge South of Existing
- Signalized Intersection at Exit 6 NB Ramps
- New Eastbound Access Along Route 4
- Pavement Overlay Along Dover Point Road East



# Contract Q

## Spaulding Turnpike

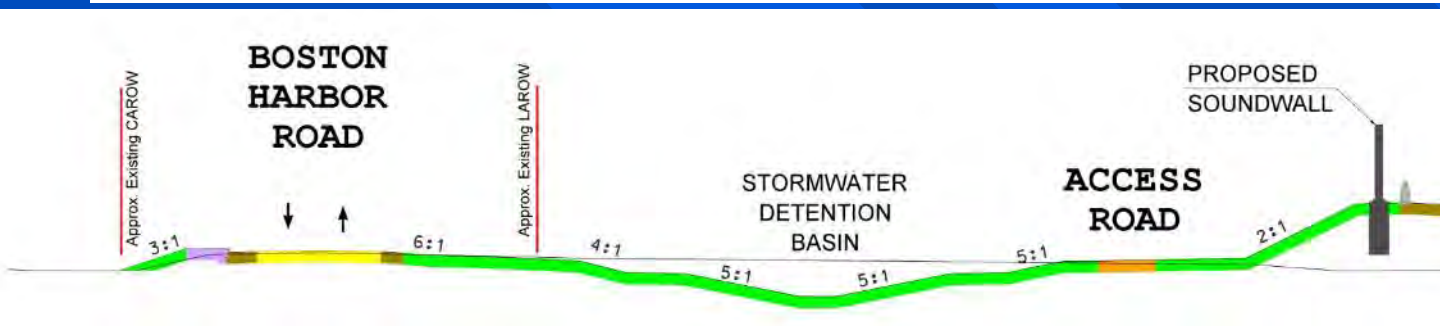
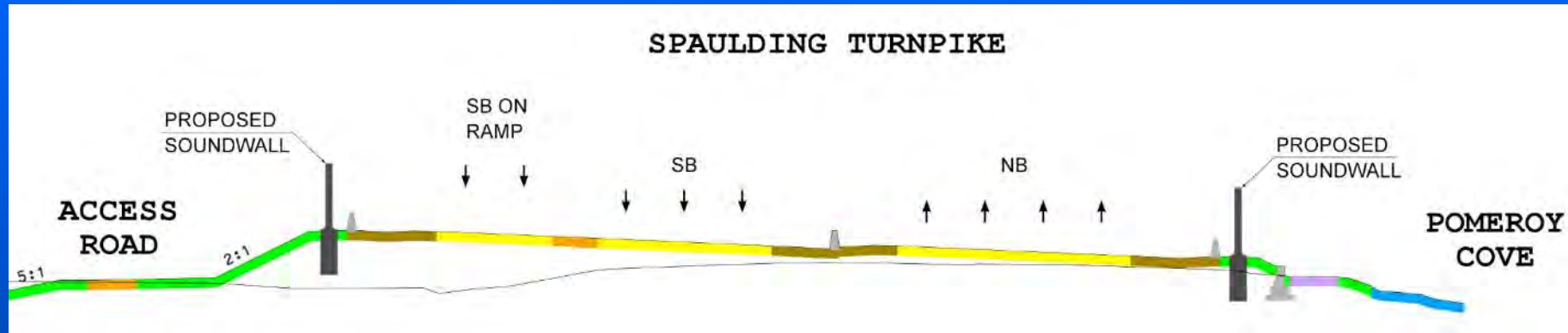


- 40' of Spaulding Turnpike Widening
- SB Raise in Elevation
- Soundwalls along NB and SB
- Pomeroy Cove Bike and Pedestrian Paved Pathway (10' wide) is maintained



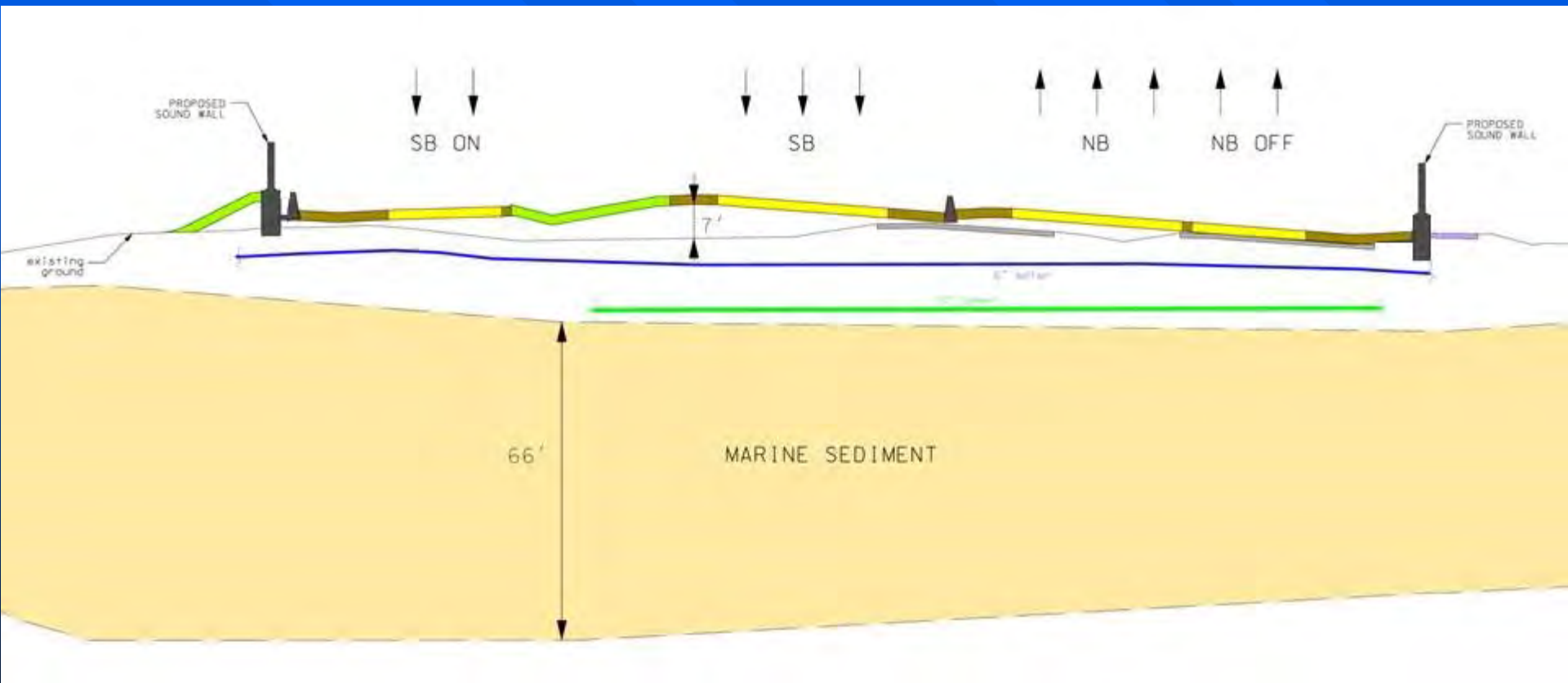
# Contract Q

## Spaulding Turnpike



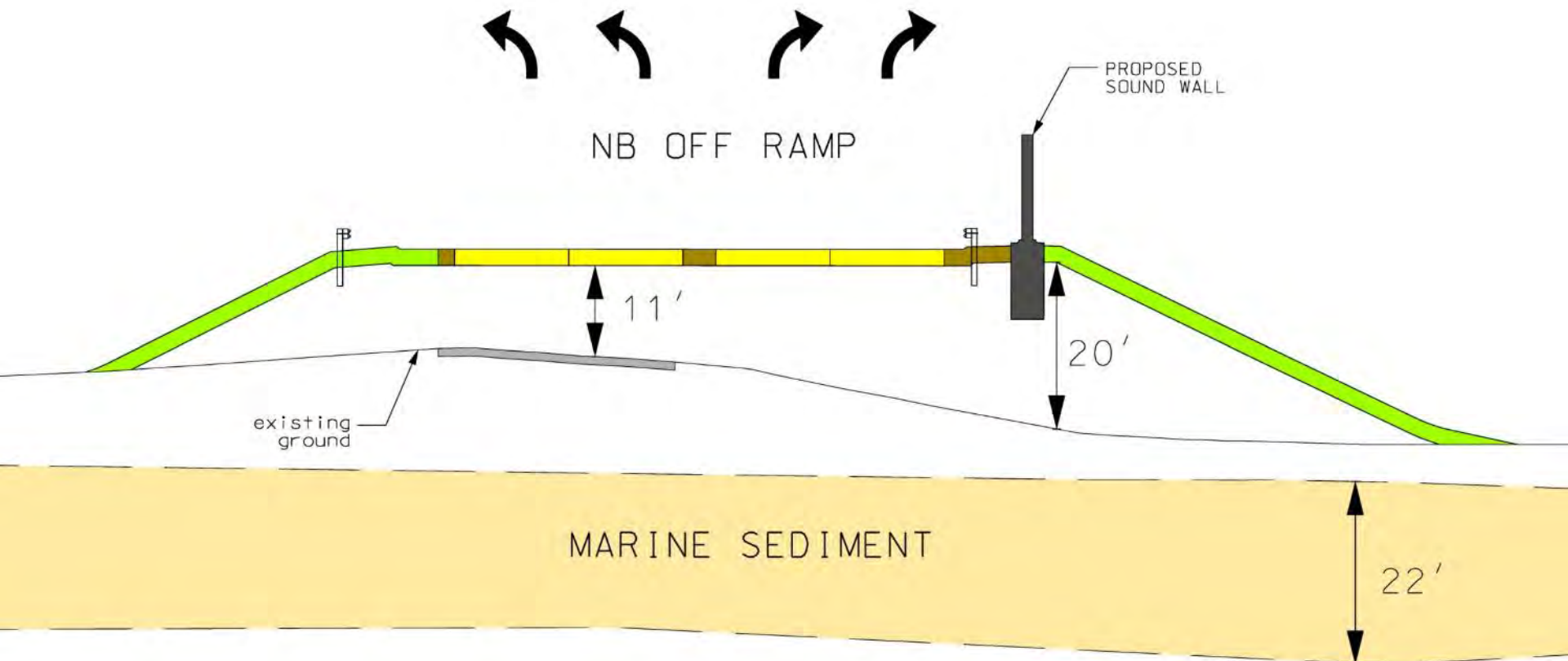
- Stormwater Detention Basins
- Boston Harbor Road Rehabilitation
- Boston Harbor Road Sidewalk

# Engineering Challenges Cross Section Just North of Pomeroy Cove





# Cross Section NB Off Ramp



# Settlement Platform Constructed under Contract M



## Initial Construction Phase

- Exit 6 Test Embankment Area
- Settlement Testing
- UNH Study



# Settlement Platform

## Embankment Area

- Installation of Sand Drains



Settlement  
Monitors

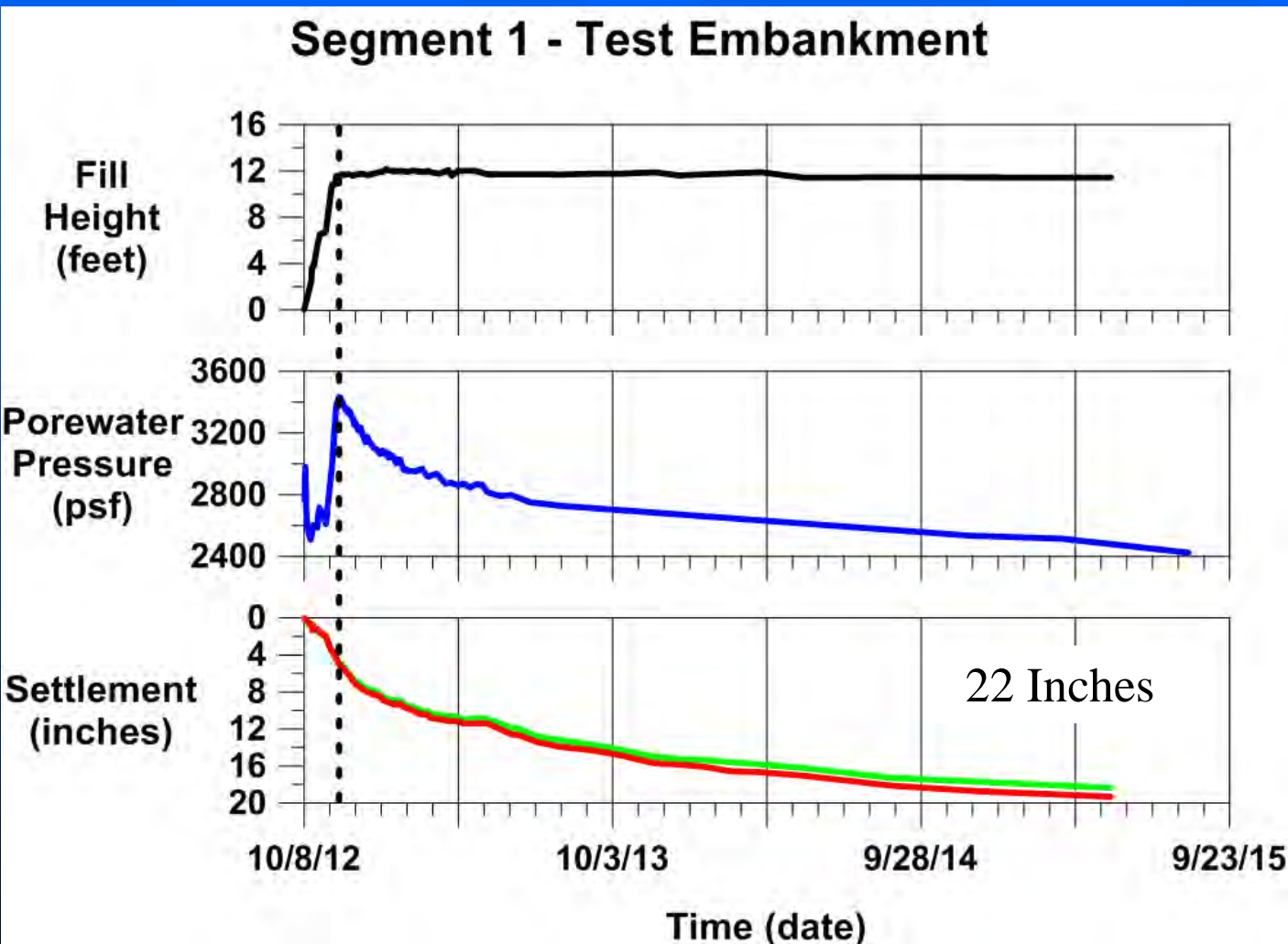


Sand Wick Drains



# Contract Q

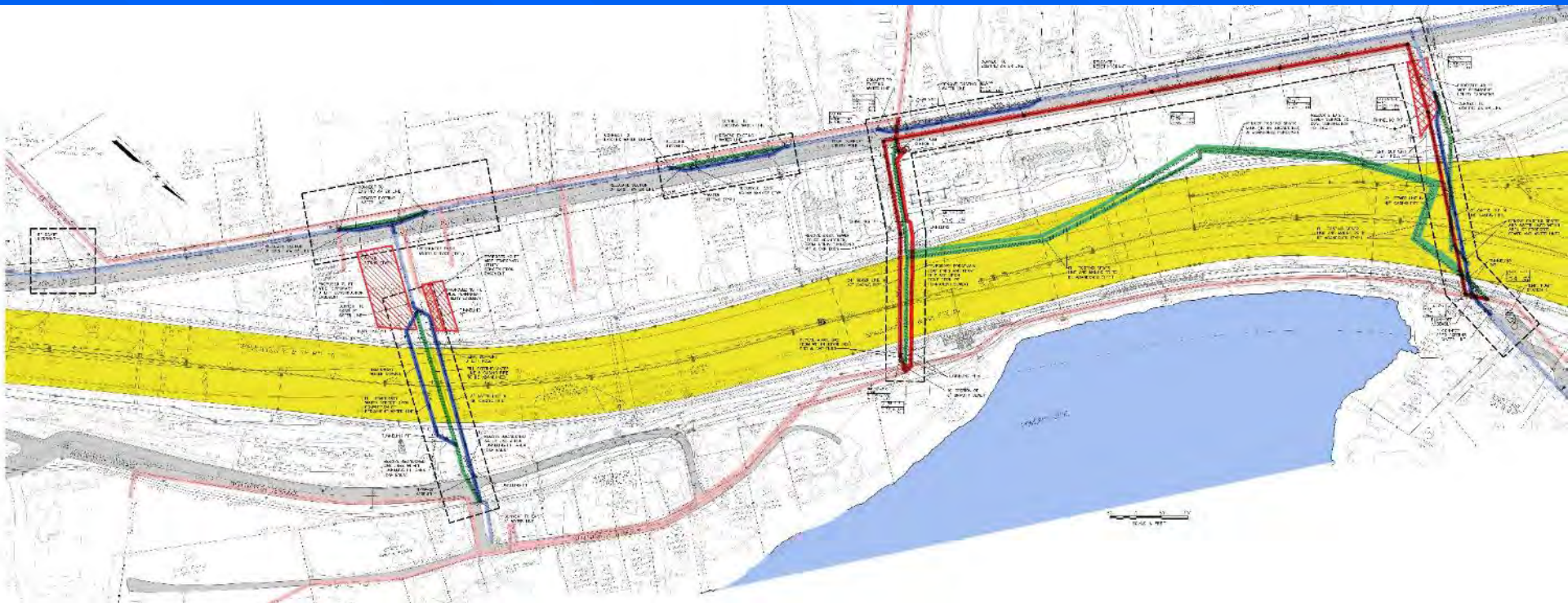
## Soft Soil Settlement Predictions



- Have seen over 22 inches of settlement
- Anticipate settlement periods of a minimum 45 days to be included in each construction phase

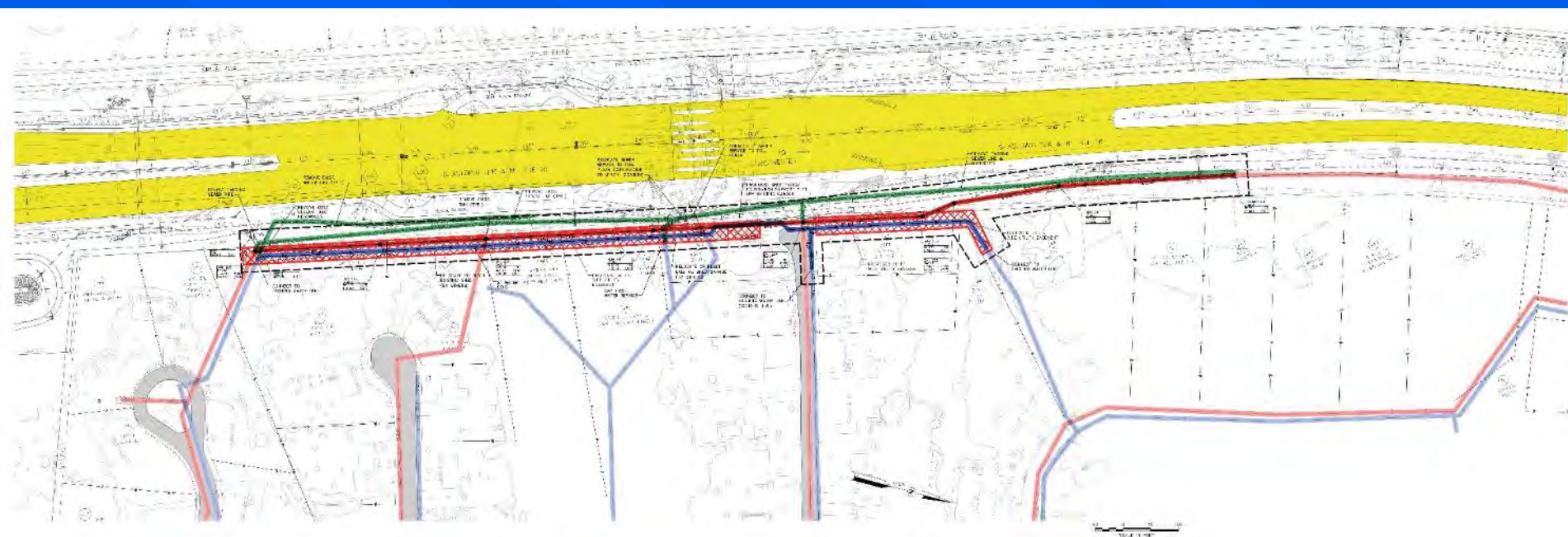


# Water and Sewer Improvements



- Boston Harbor Road Locations
- Wentworth Terrace Crossing
- Pomeroy Cove Area Locations

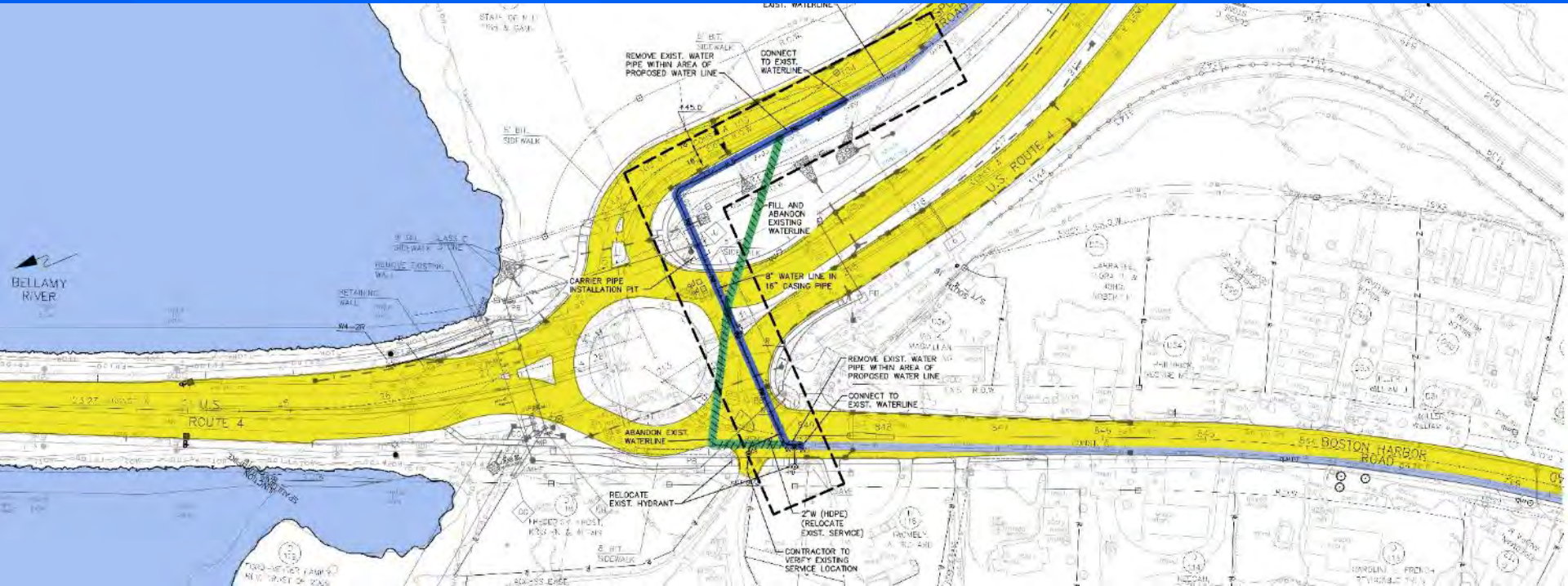
# Water and Sewer Improvements



■ Dover Toll Plaza Location



# Water and Sewer Improvements



## ■ Roundabout Location

# Unitil Gas Relocations

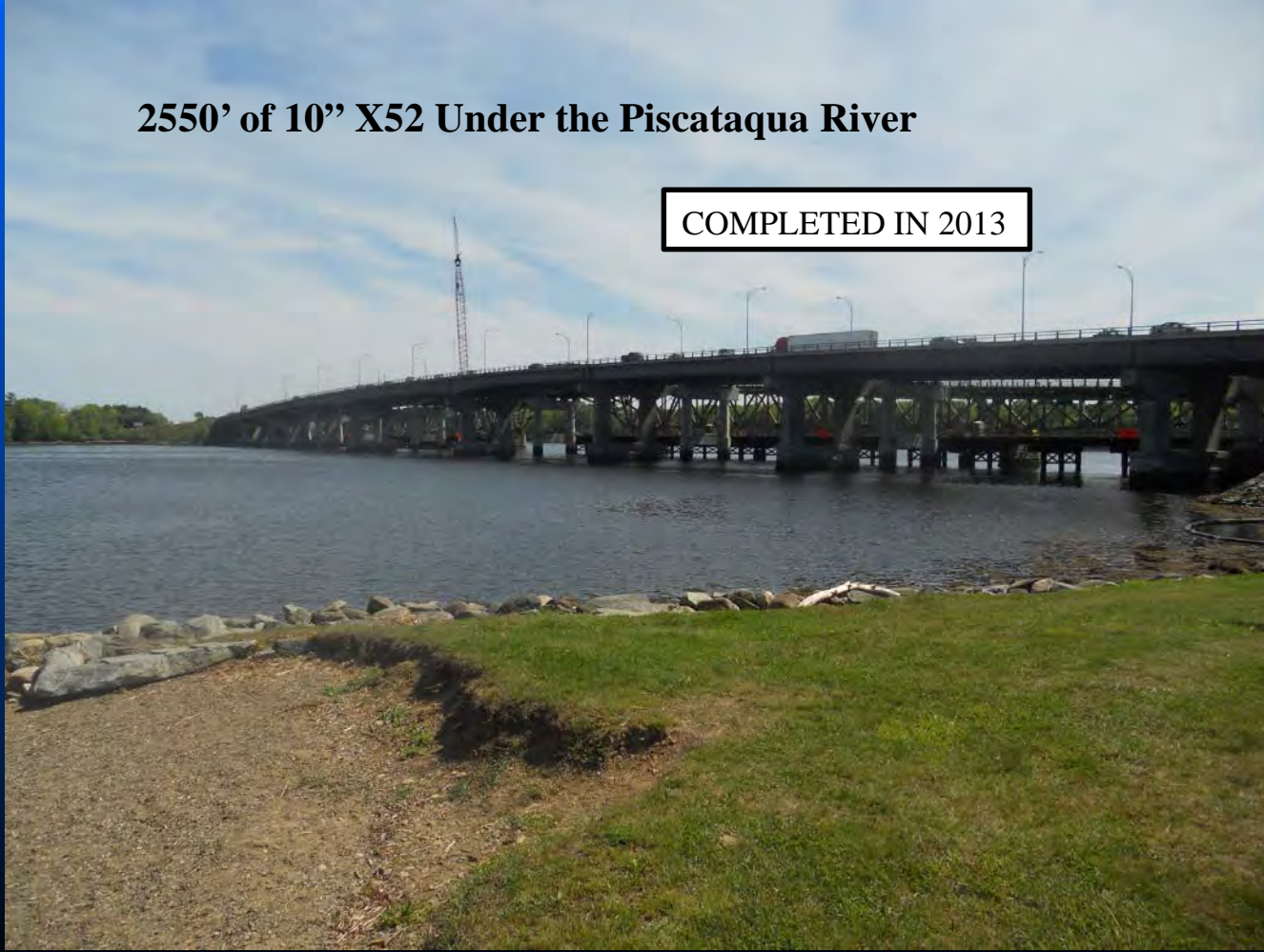
Unitil Gas Engineer: Mark Dupuis



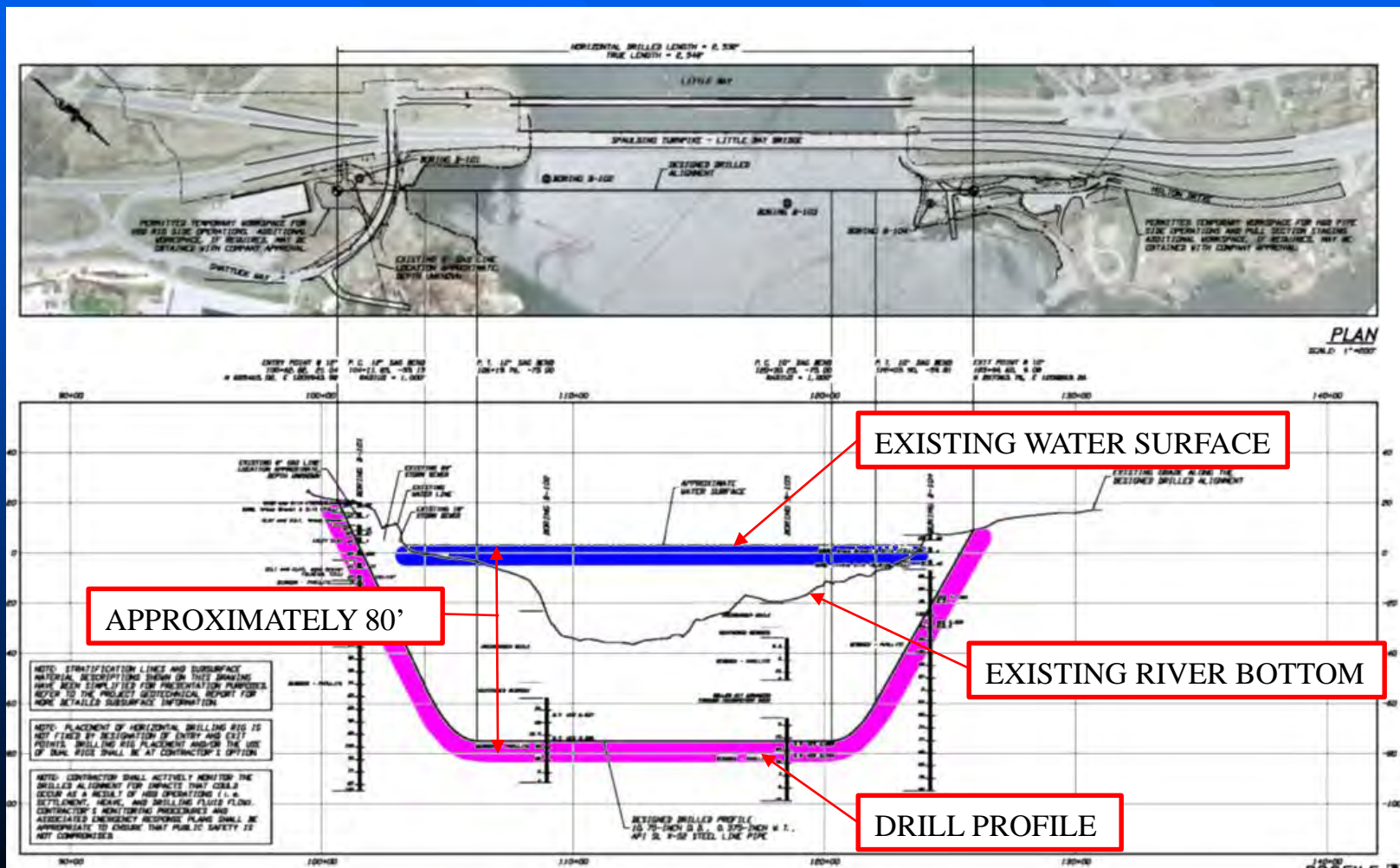
# Unitil Gas Line Improvements Little Bay Crossing Horizontal Directional Drill

**2550' of 10" X52 Under the Piscataqua River**

**COMPLETED IN 2013**



# Unitil Gas Line Improvements Little Bay Crossing Design

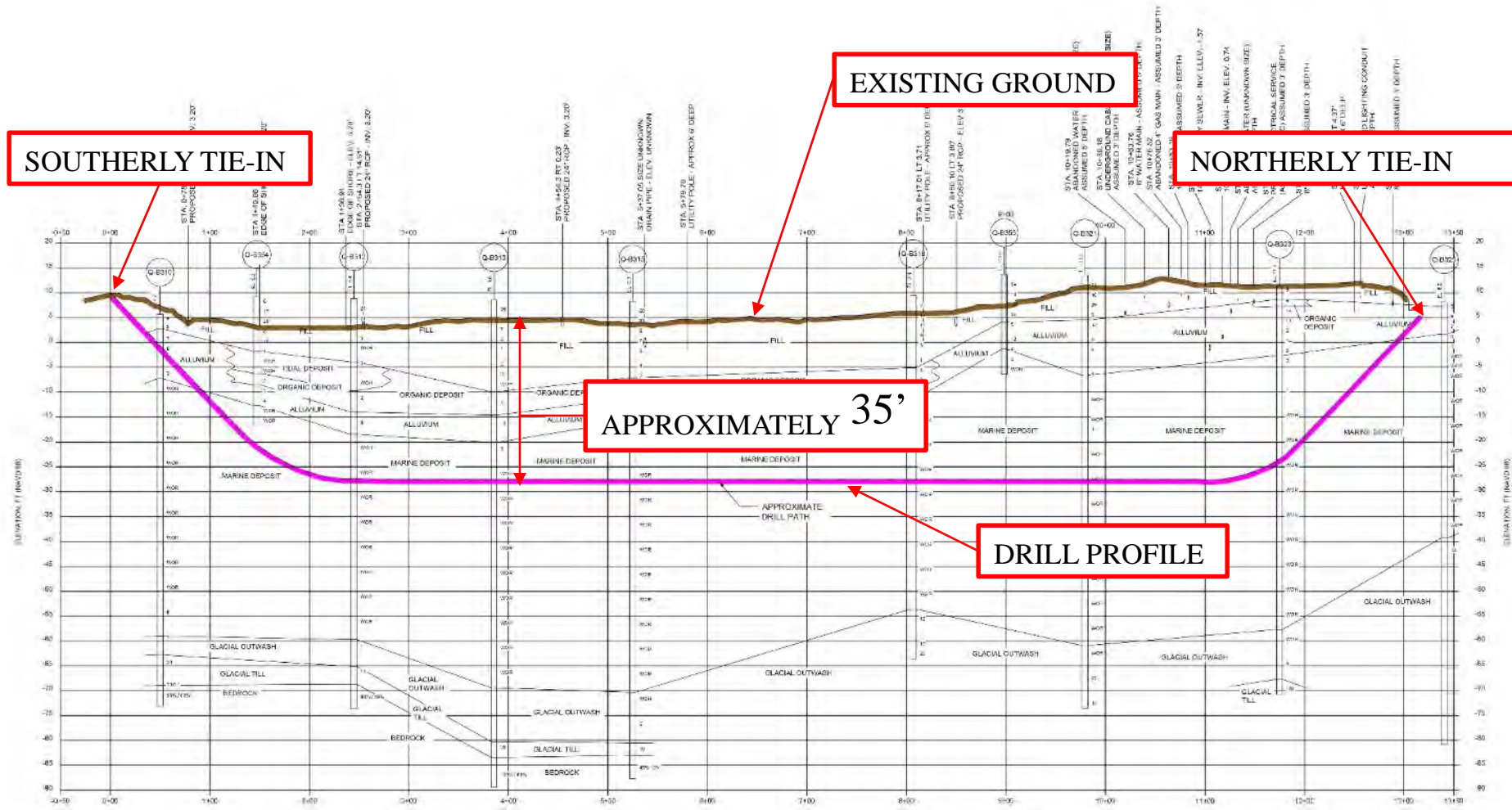




# Unitil Gas Line Improvements



## SOUTHERLY TIE-IN





# Contract Q

## Construction Milestones



- Temporary Exit 6 Two Lane NB Off Ramp with Temporary Signal
- Exit 6 NB Off Ramp Closure Detour (Spring 2017)
- Cote Drive NB On Ramp Closed (Summer 2018)
- Exit 6 NB Off Ramp Open (Summer 2018)
- Exit 6 NB On Ramp Open (Fall 2018)

# Contract Q

## Construction Milestones



- Exit 5 NB On Ramp Closed (Fall 2018)
- Exit 6 NB On Ramp Opens (Fall 2018)



# Contract Q

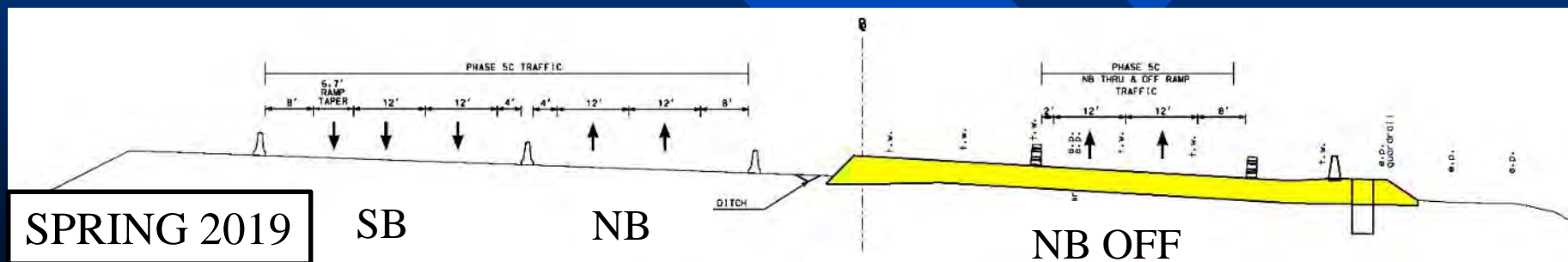
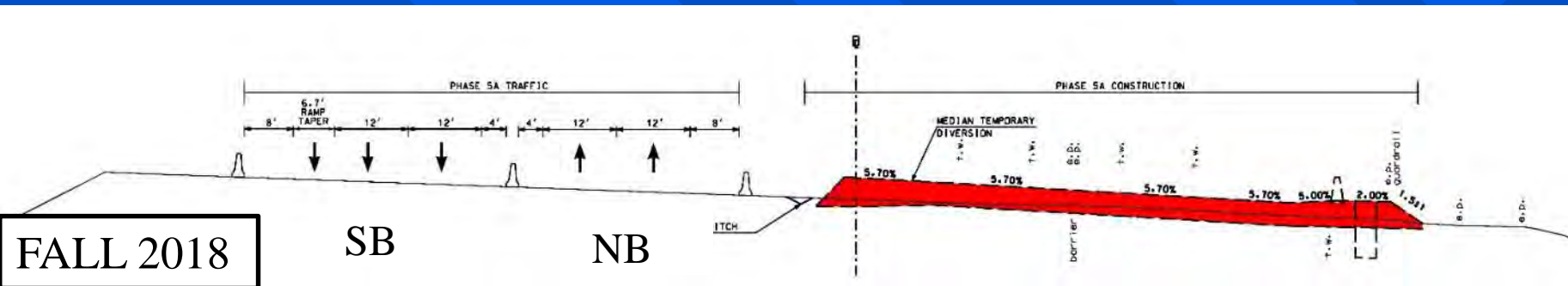
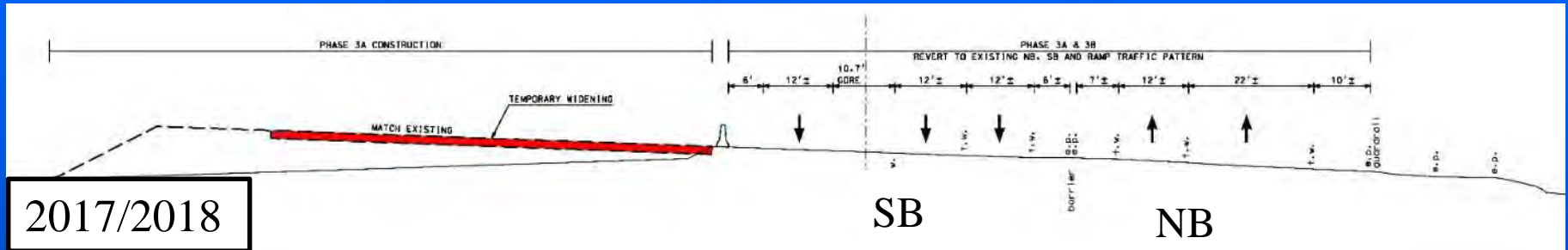
## Construction Milestones



- Exit 5 NB Off Ramp Closure (Fall 2018)

# Contract Q

## Construction Milestones





# Contract Q

## Construction Milestones

SUMMER 2019

SB

NB

SPRING 2020

SB

NB

FALL 2020

SB

NB

# Contract S

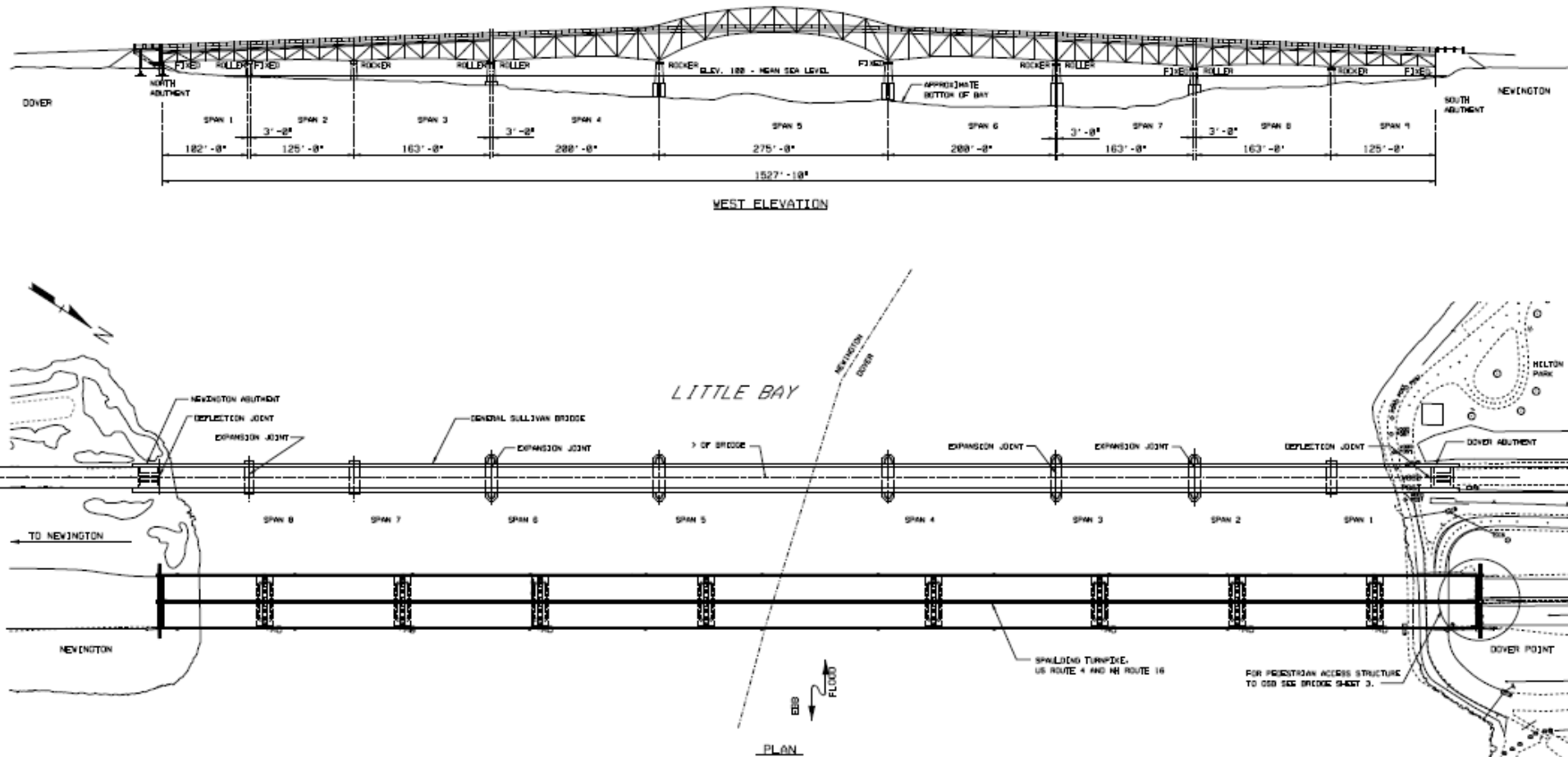


## Contract S – General Sullivan Bridge Rehabilitation

- Tentative Advertising Date: Summer 2018
- Tentative Construction: 2018 – 2021
- Concurrent Construction with Contract Q



# Contract S - General Sullivan Bridge



- Rehabilitates Existing 9-Span (1527 ft.) General Sullivan Bridge for Pedestrian and Bicycle Use

# Contract S - General Sullivan Bridge Pedestrian and Bicycle Construction Access

- Temporary Shuttle Service During Closure Period
- Hilton Park Area in Dover to Shattuck Way  
Area in Newington





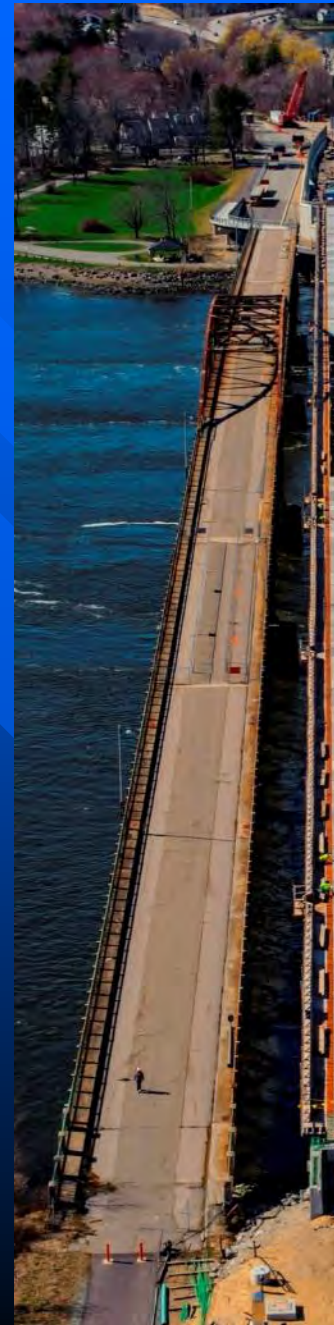
# General Sullivan Bridge - Work To Date



- First Detailed Inspection Completed in 2009
- Underwater Inspection Completed in 2011
- New Dover Approach Bridge Constructed in 2013 (Contract L)
- Dover Abutment Rehabilitated 2013 (Contract L)
- In-Depth, Hands-On Inspection Completed in May 2014
- Capacity Load Rating Completed September 2014



# General Sullivan Bridge – Preliminary Results from 2014 Inspection



- Deterioration Continues - Worse than 5 Years Ago
- Deck Concrete Significantly Spalled on Underside
- Outside Stringers Critically Deteriorated
- Interior Three Stringers in Fair to Good Condition
- Floor Beams Fair to Poor
- Span 7 (previously fenced) Span - Truss Limited Capacity
- Lattice Trusses for All Other Spans Fair to Poor



# General Sullivan Bridge - Overview





# General Sullivan Bridge - Next Steps

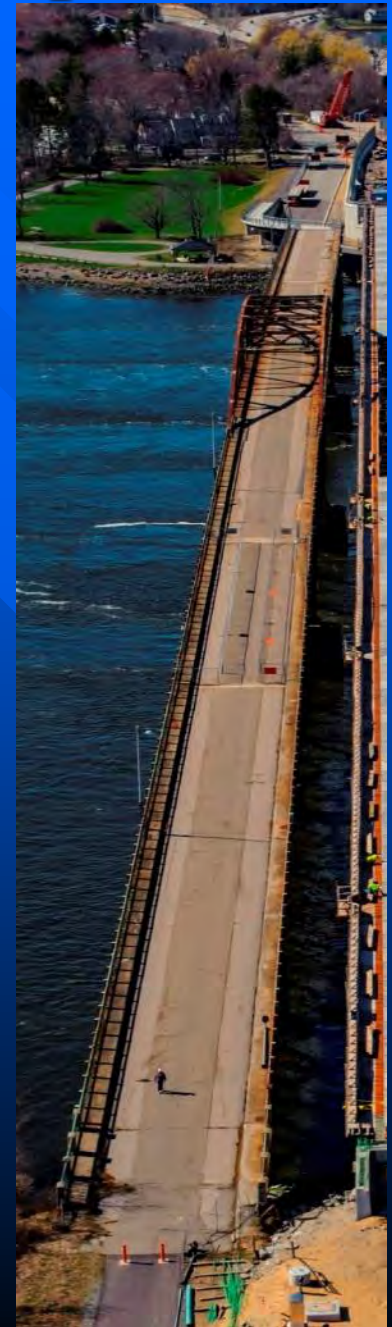


**Install 15' Wide Fencing Full Length of Bridge**



# General Sullivan Bridge - Next Steps

- Detailed Structural Analysis/Evaluation Continues
- Evaluate Environmental Commitments (Historic Preservation) – Fall 2015
- Assess Rehabilitation/Replacement Options - Winter 2015-2016
- Develop Rehabilitation or Replacement Plans – 2016-2017
- Follow-up Inspection in 2016



# Upcoming Turnpike Projects

Turnpikes Assistant Administrator: Dave Smith



# Dover Toll Plaza

## Existing Conditions

- Existing Facility  
Built in 1956
- Operational  
Challenges Exist  
with Exit 6 at  
Current Location
- Rehabilitation  
Results in No  
Realized  
Benefits to  
Customers





# Dover Toll Plaza Conversion to Open Road Tolling (ORT)

- Increase Mobility
- Improved Safety for Employees
- Reduction in Accidents
- Reduce Energy Consumption



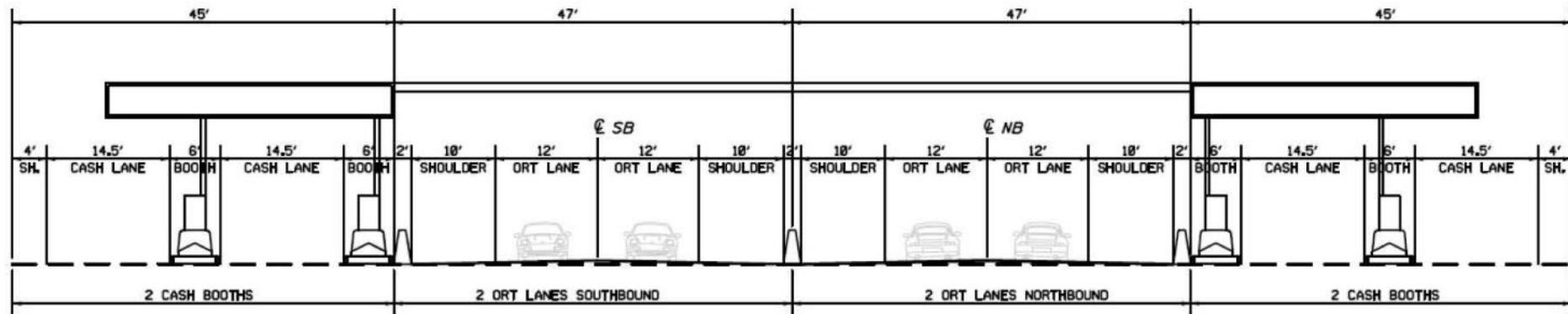


# Dover Toll Plaza Conversion to Open Road Tolling (ORT)



- Option 1 – Reconstruction at Current Location
- Option 2 – Construction of New Toll Plaza 1.25 miles North of Existing Toll Plaza

# Dover Toll Plaza ORT Typical Section



- 2 Open Road Tolling (ORT) Lanes in Each Direction (E-ZPass only)
- 2 Conventional Toll Plaza Lanes in Each Direction (E-ZPass and Cash)



# Dover Toll Plaza Schedule

- Funded in Ten Year Plan 2015 – 2024
- Anticipated Start of Construction Spring 2021
- Anticipated Completion of Construction Fall 2022

# Newington Maintenance Facility

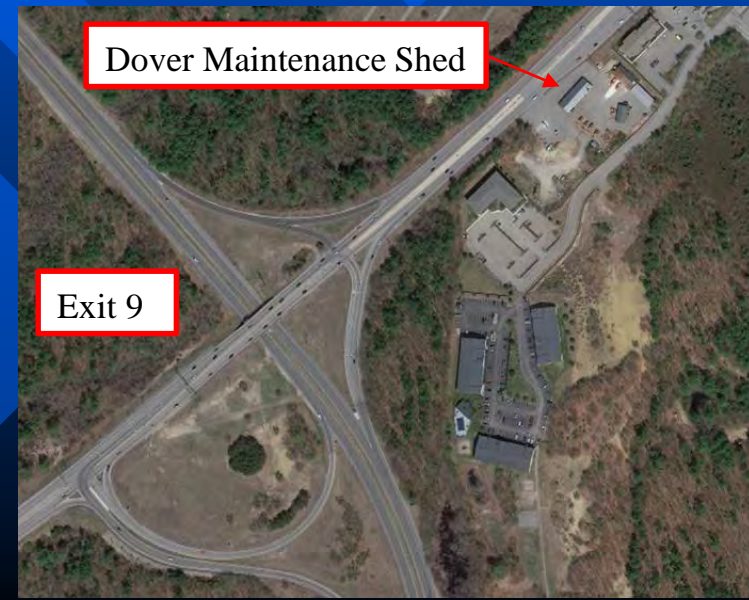


- Need Results from Expansion of Spaulding Turnpike
- Proposed Location on Turnpike Owned Parcel
- Between Exits 3 and 4 on West Side of Spaulding Turnpike (Former Drive-in Site)



# Newington Maintenance Facility

- Funded in Ten Year Plan  
2015 - 2024
- Anticipated Start of  
Construction – Fall 2019
- Anticipated Completion of  
Construction – Fall 2020
- Existing Dover  
Maintenance Shed  
Discontinued in Fall 2020



# Contact Information

## Newington-Dover

Keith Cota, PE

Chief Project Manager

NH Dept. of Transportation

J.O. Morton Building

7 Hazen Drive

PO Box 483

Concord, NH 03302-0483

Phone : (603) 271-1615

Email: **Kcota@dot.state.nh.us**

<http://www.Newington-dover.com/>

## Upcoming Turnpike Projects

Dave Smith, PE

Asst. Administrator of Turnpikes

NH Dept. of Transportation

I-93 Exit 11 (Hooksett)

PO Box 2950

Concord, NH 03302-2950

Phone : (603) 485-3806

Email: **Dssmith@dot.state.nh.us**





<http://www.newington-dover.com/>

**THANK YOU**

**Questions/Comments**

