

# NEWINGTON-DOVER

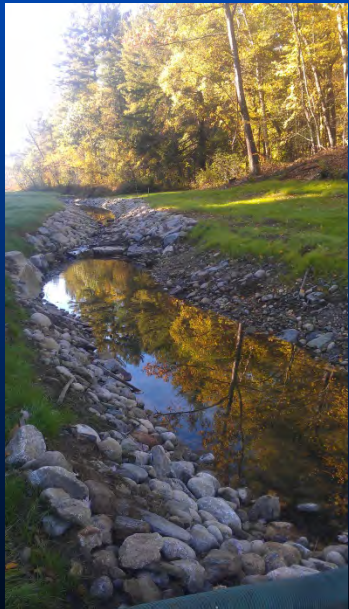
## Improvements to NH Rte. 16 / Spaulding Turnpike / Little Bay Bridges

Tenants Association at Pease

AT

Great Bay Community College

JUNE 9, 2015



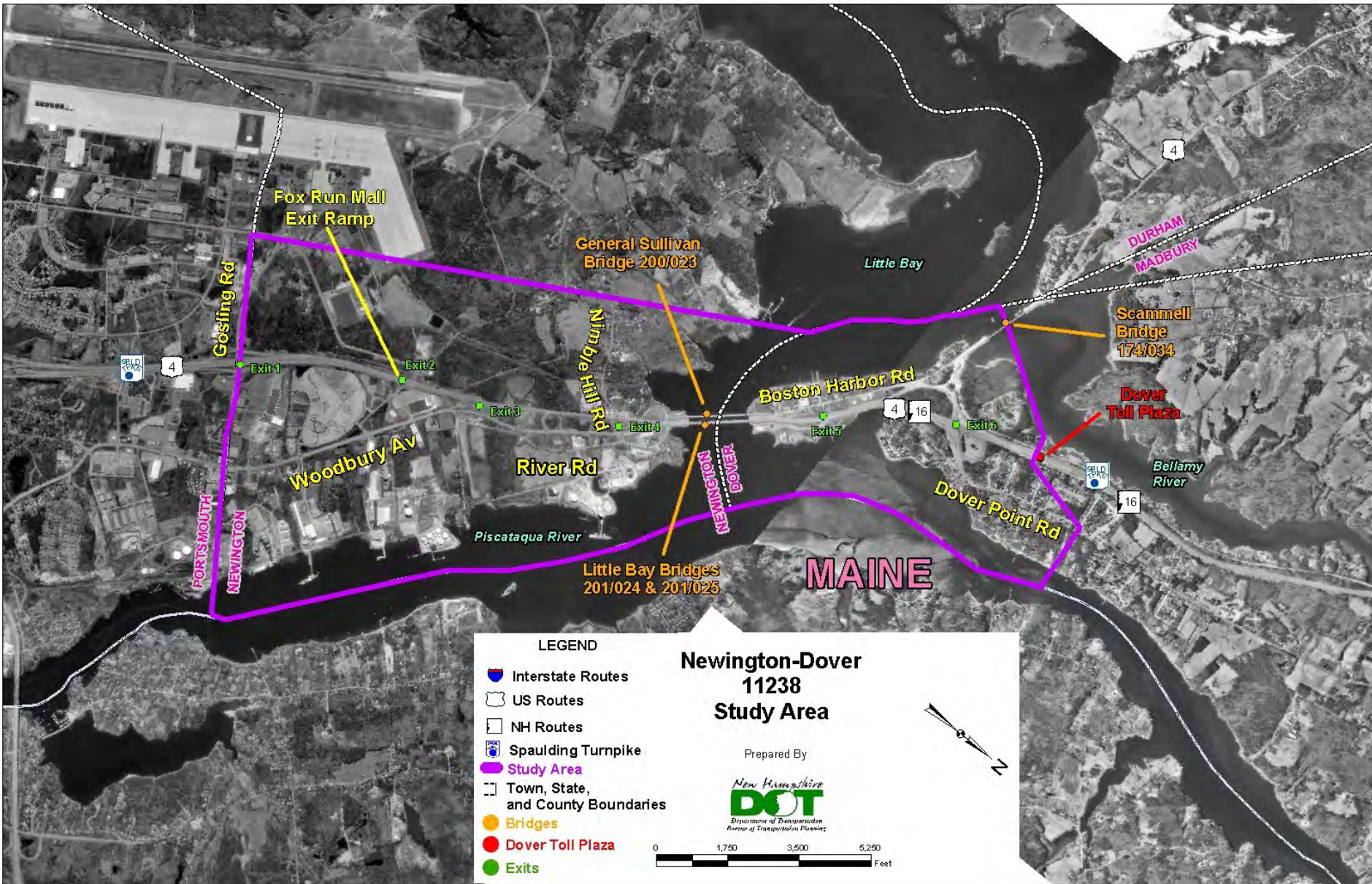
# Meeting Agenda

- **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**
    - **Condition & Status - General Sullivan Bridge**





# Project Area



**LEGEND**

- Interstate Routes
- US Routes
- NH Routes
- Spaulding Turnpike
- Study Area
- Town, State, and County Boundaries
- Bridges
- Dover Toll Plaza
- Exits

**Newington-Dover  
11238  
Study Area**

Prepared By

**DOT**  
Department of Transportation  
Bureau of Transportation Planning

0 1,750 3,500 5,250 Feet



# Project Need



16 4:49 PM

16 4:45 PM



# Project Need



# Project Funding & Estimated Cost

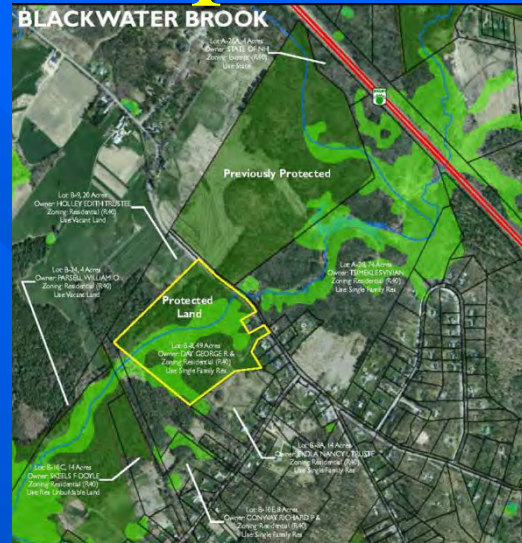


- Total Estimated Project Cost - \$269.7M
  - Engineering - \$20.4M
  - ROW - \$8.9M
  - Environmental Mitigation & TDM (Bus, Park'n'Rides) - \$20.9M (2010 Dollars)
    - ❖ \$12.66M federal CMAQ & Advanced ROW funding
  - Construction - \$207.2M (2010 Dollars)
    - \$219.5M (w/ inflation)
  
- Project 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).



# Environmental Mitigation

## Components



- Environmental Mitigation - \$4.37M (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)

# NEWINGTON-DOVER 11238

## Park 'n' Ride

- Park'n'Ride at Exit 9 in Dover – completed (\$3.49M)
- Park'n'Ride at Exit 13 in 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



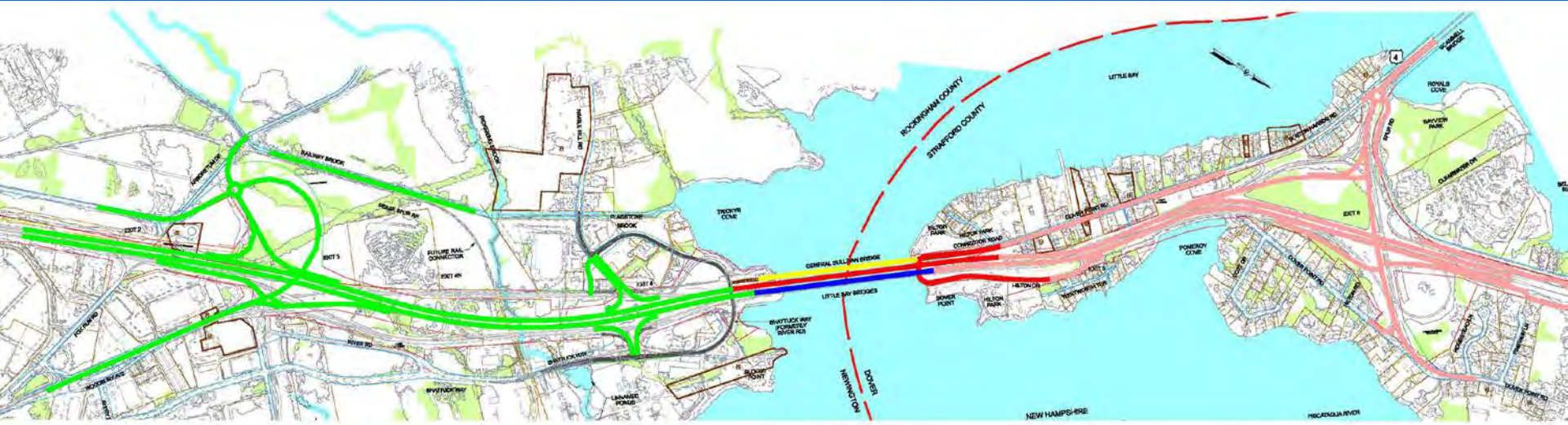
General  
Sullivan Bridge  
Rehabilitation  
*Contract S*

New Little Bay Bridge  
*Contract L*

Existing Little  
Bay Bridges  
Rehabilitation  
*Contract O*



# Current Contract Breakout & Schedule



CONSTRUCTION SCHEDULE

|            | 2010      | 2011 | 2012        | 2013 | 2014       | 2015     | 2016     | 2017       | 2018      | 2019         | 2020 | 2021      |           |
|------------|-----------|------|-------------|------|------------|----------|----------|------------|-----------|--------------|------|-----------|-----------|
| CONTRACT L | [Red bar] |      |             |      |            | \$54.1 M |          |            |           |              |      |           |           |
| CONTRACT M |           |      | [Green bar] |      |            |          | \$48.8 M |            |           |              |      |           |           |
| CONTRACT O |           |      |             |      | [Blue bar] |          |          |            | \$34.0 M* |              |      |           |           |
| CONTRACT Q |           |      |             |      |            |          |          | [Pink bar] |           |              |      | \$49.2 M* |           |
| CONTRACT S |           |      |             |      |            |          |          |            |           | [Yellow bar] |      |           | \$31.7 M* |

- **Contracts Q & S schedules subject to change**
- **Based upon Turnpike Funding Without Bonding**

# CONSTRUCTION OUTREACH



The screenshot shows a web browser window displaying the website for the Spaulding Turnpike Newington-Dover Project. The browser's address bar shows the URL <http://www.newington-dover.com/>. The website header features the New Hampshire Department of Transportation (DOT) logo and the text "an official NEW HAMPSHIRE government website". Below the header is a navigation menu with options: Air, Rail, Highway, Bike/Ped, and Public Transit. The main content area is titled "Welcome to Spaulding Turnpike Newington-Dover Project Website" and includes a large aerial photograph of the construction site. To the left of the main content is a sidebar menu with various project-related links. Below the main content, there is a section for "Construction Updates and Traffic Alerts" featuring a traffic cone icon. A "What's New..." section lists recent news items, including a major traffic impact on June 3 and 4, and planned lane closures. A "Major Project Elements:" section lists several key project components, such as lane configurations, interchange changes, and bridge rehabilitation. The website footer includes the NH Recovery logo and a circular logo with stars and a gear.

http://www.newington-dover.com/ Spaulding Turnpike - Newi... McAfee

an official NEW HAMPSHIRE government website

New Hampshire DOT Department of Transportation

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: Unitt'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)

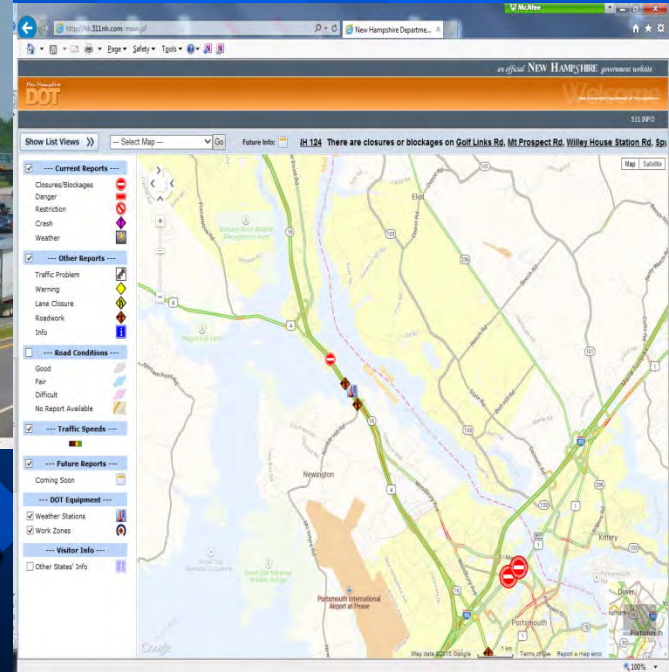
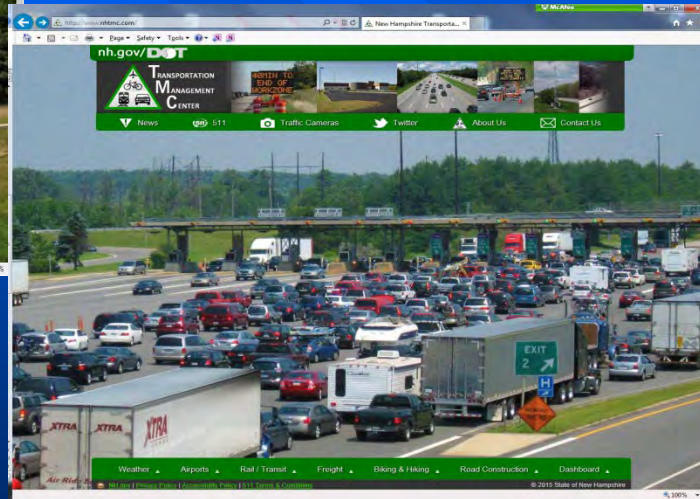
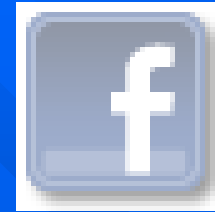
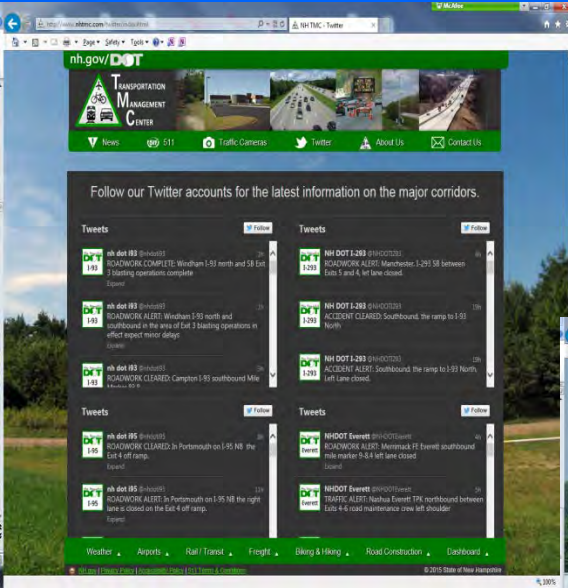
NHRECOVERY department of transportation

100%

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

## 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

## Little Bay Bridge



**Temporary Trestle to Construct Phase I - Cost  
\$5 Million (2010-12)**



# Construction – Contract L

## Little Bay Bridge



**Deck Reinforcing Steel  
and Concrete Pour  
(2012)**



**Final Bridge Deck  
(2013)**

# Construction – Contract L

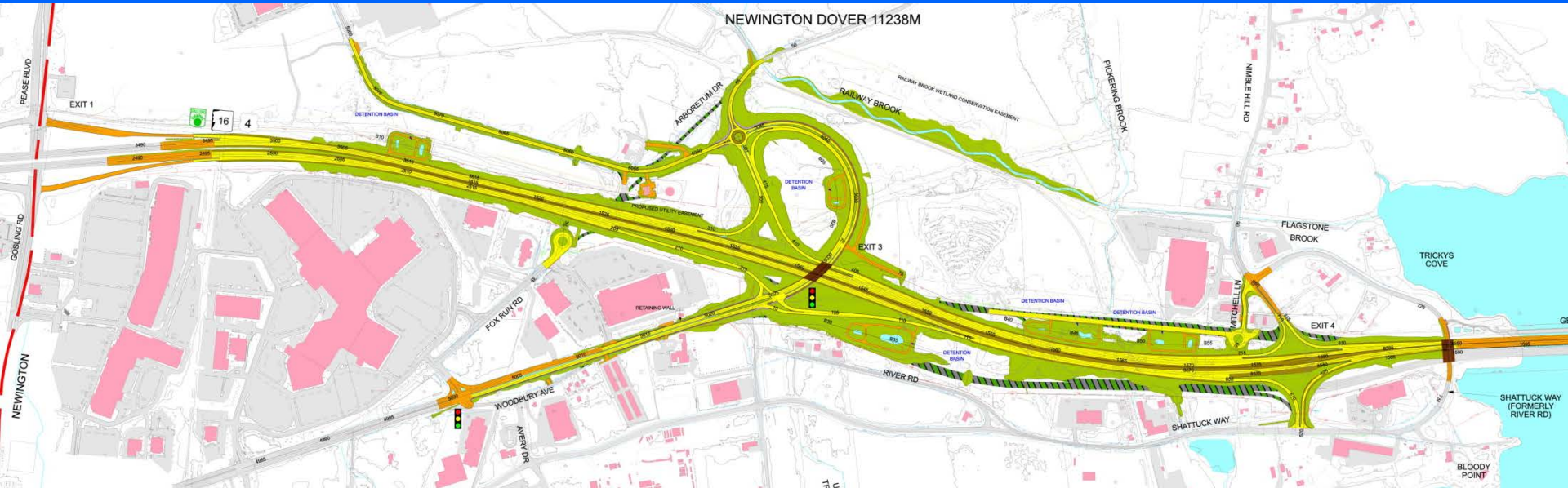
## Ped and Bikeway to GSB

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





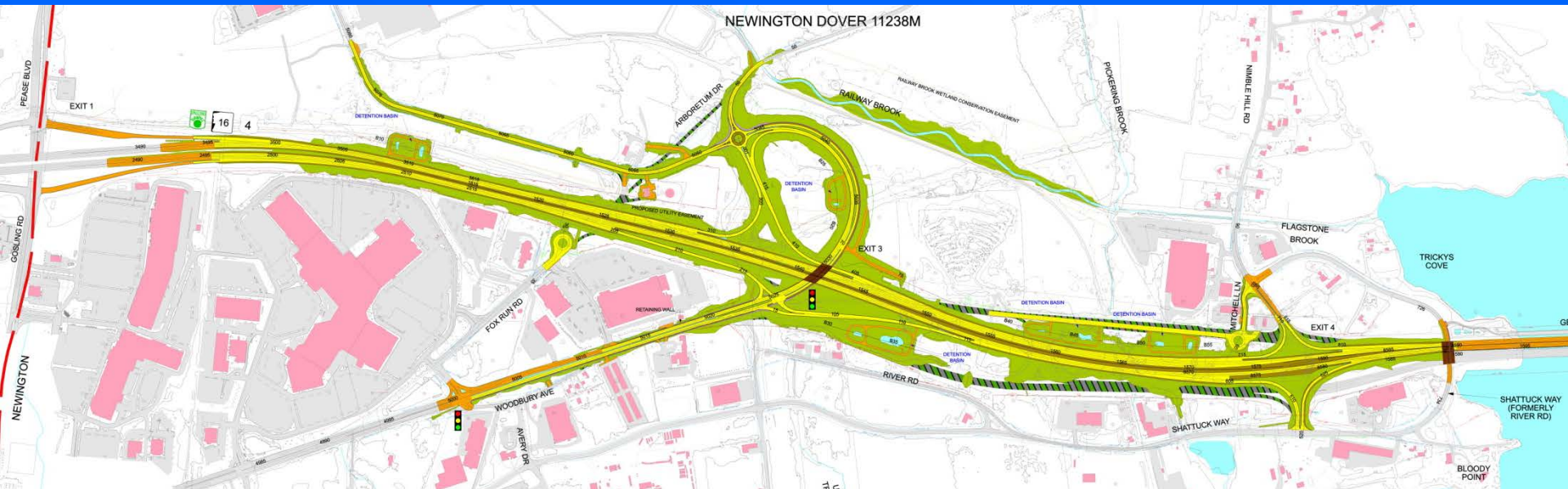
# Contract M



## Contract M Construction

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

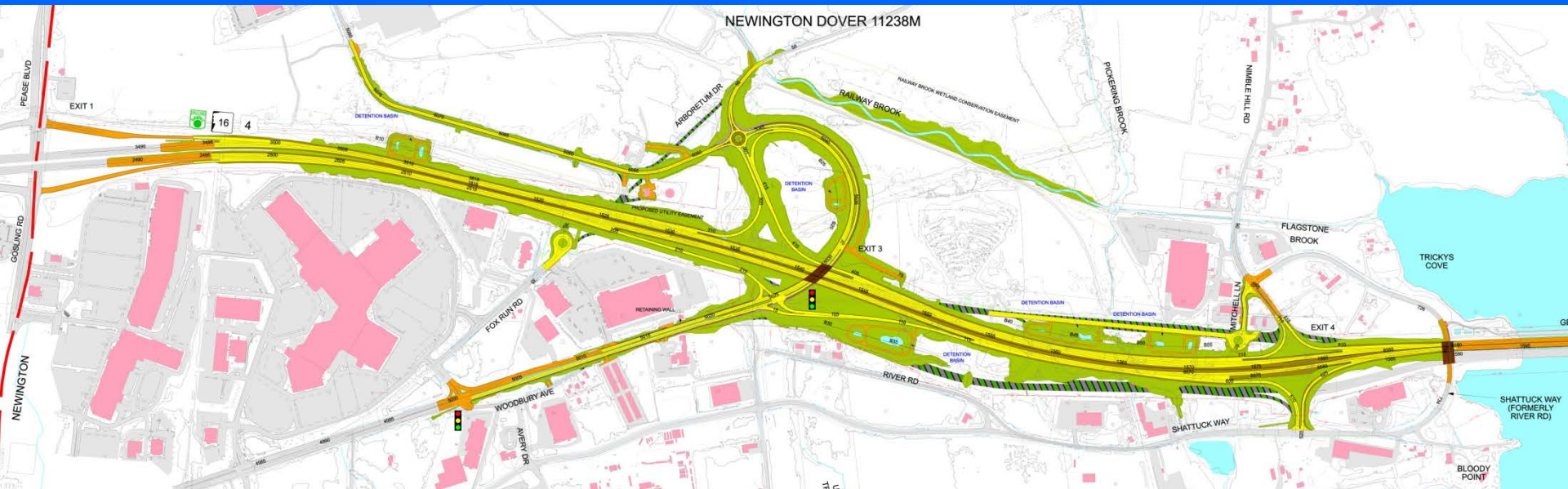
# Contract M (continued)



- **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
- Improves Stormwater Detention Basins for Water Quality Treatment
- Railway Brook Restoration (Wetland Mitigation)

# Construction – Contract M

## Construction Operations for 2015:

- Exit 2 Ramp Closure July/August 2015
- Exit 3 Ramp and Woodbury Avenue Bridge (Early Fall 2015)
- Exit 4 Ramp Construction (Summer 2015)
- Stormwater Detention Basin & Railway Brook Construction (Completed)
- Southbound Traffic Shifted to New LBB (Completed in Nov. 2014)
- Northbound Traffic Shifted to New LBB in June 2015
- Newington Turnpike ‘M’ Construction Completion Nov. 2015





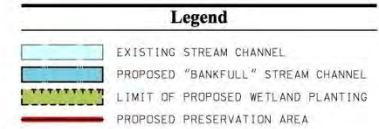
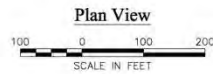
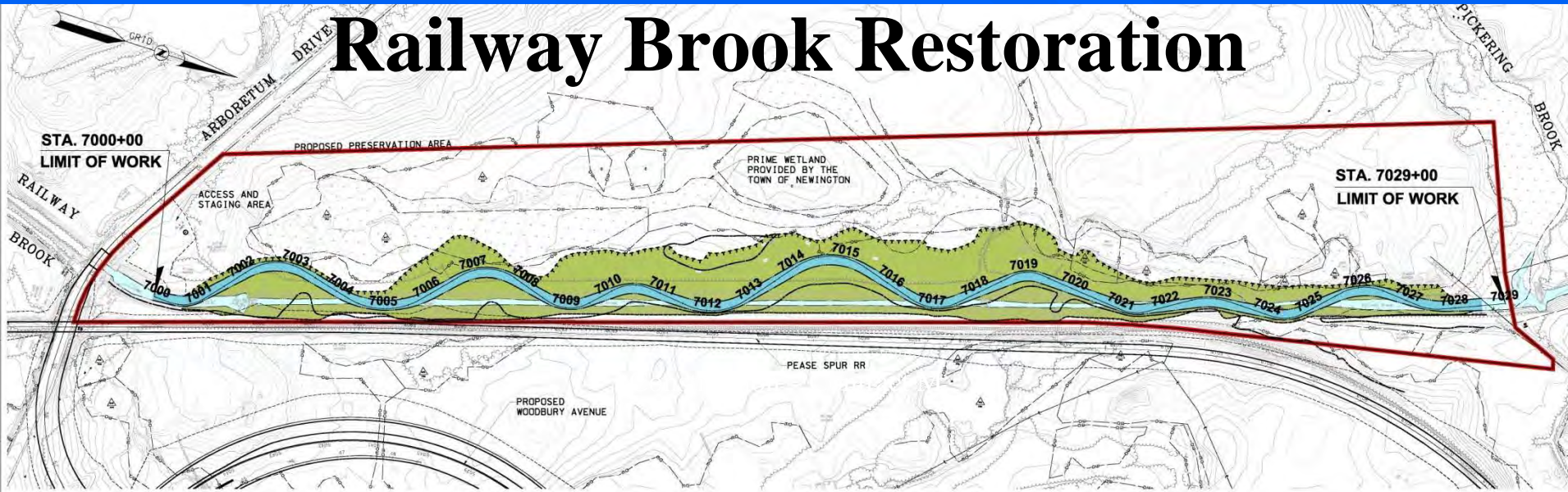
# Construction – Contract M



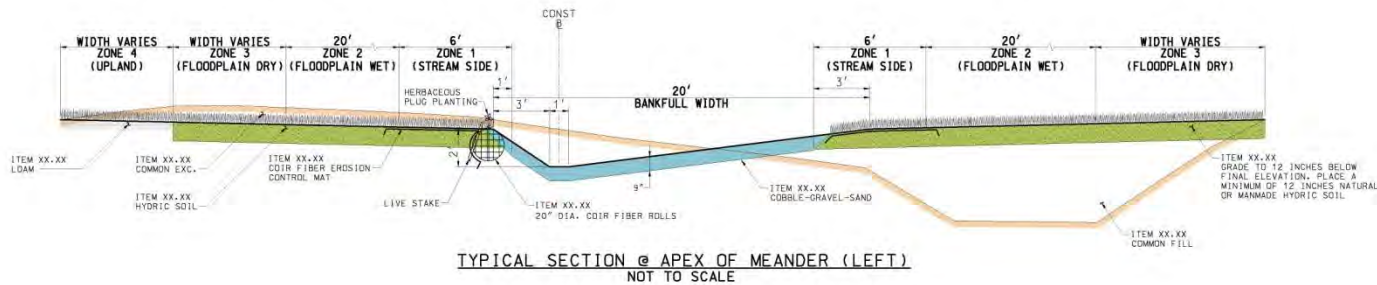


# Construction – Contract M

## Railway Brook Restoration



## CONCEPTUAL DESIGN

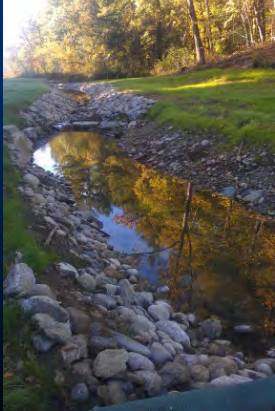




# Construction – Contract M

## Railroad Brook Restoration

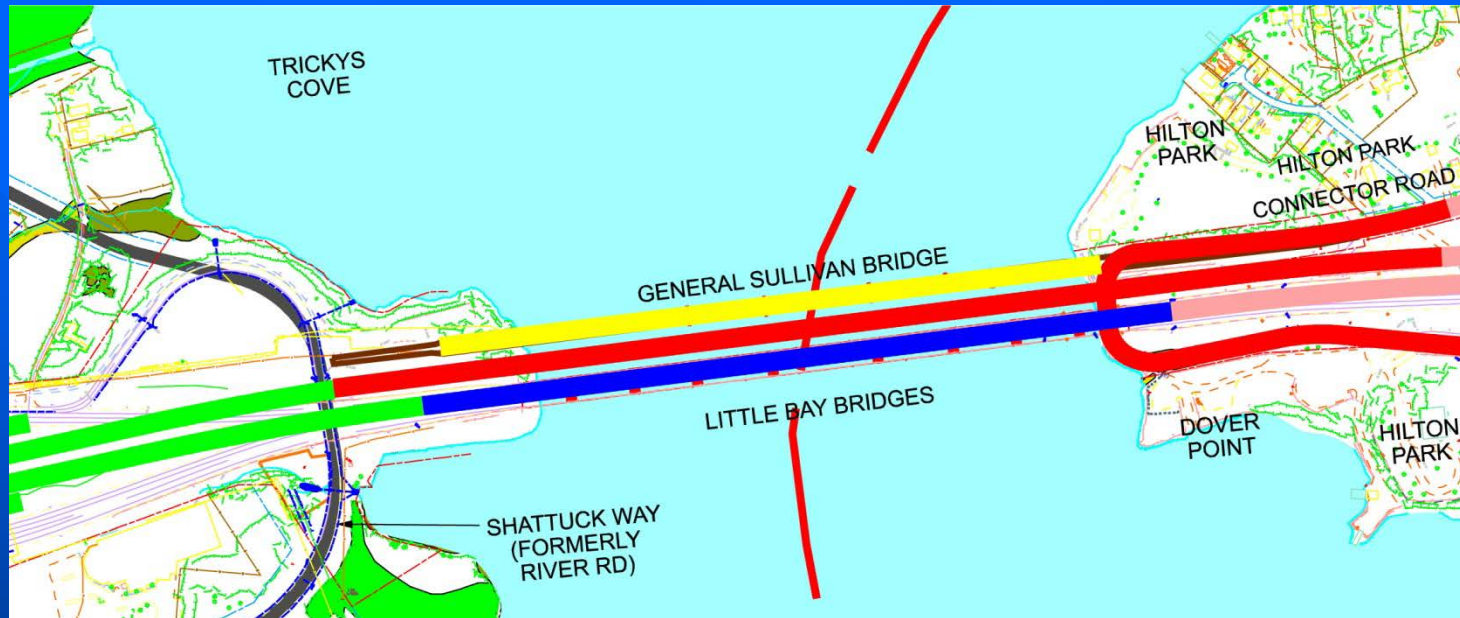
- Initiated in Summer 2014
- Completion Summer 2015
- Cost: \$800K



BEFORE

AFTER

# Construction - Contract O

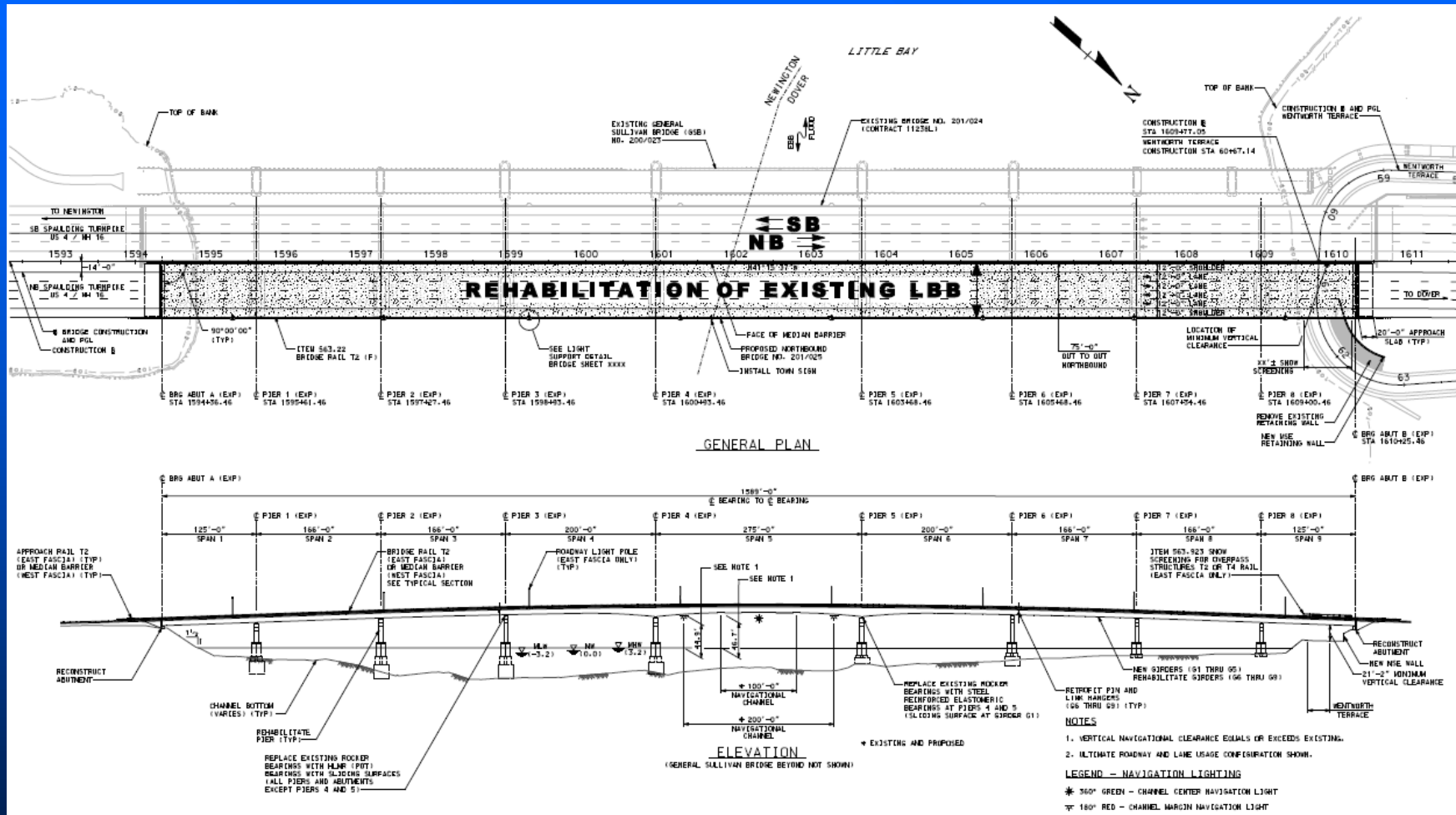


## Contract O – Existing Little Bay Bridges Rehabilitation

- Opened Bids on October 23, 2014 (\$20,444,479.01)
- Contractor: A. R. S. Audley, Inc.
- Construction Duration: 2015 – 2017
- Concurrent Construction with Contracts M and Q

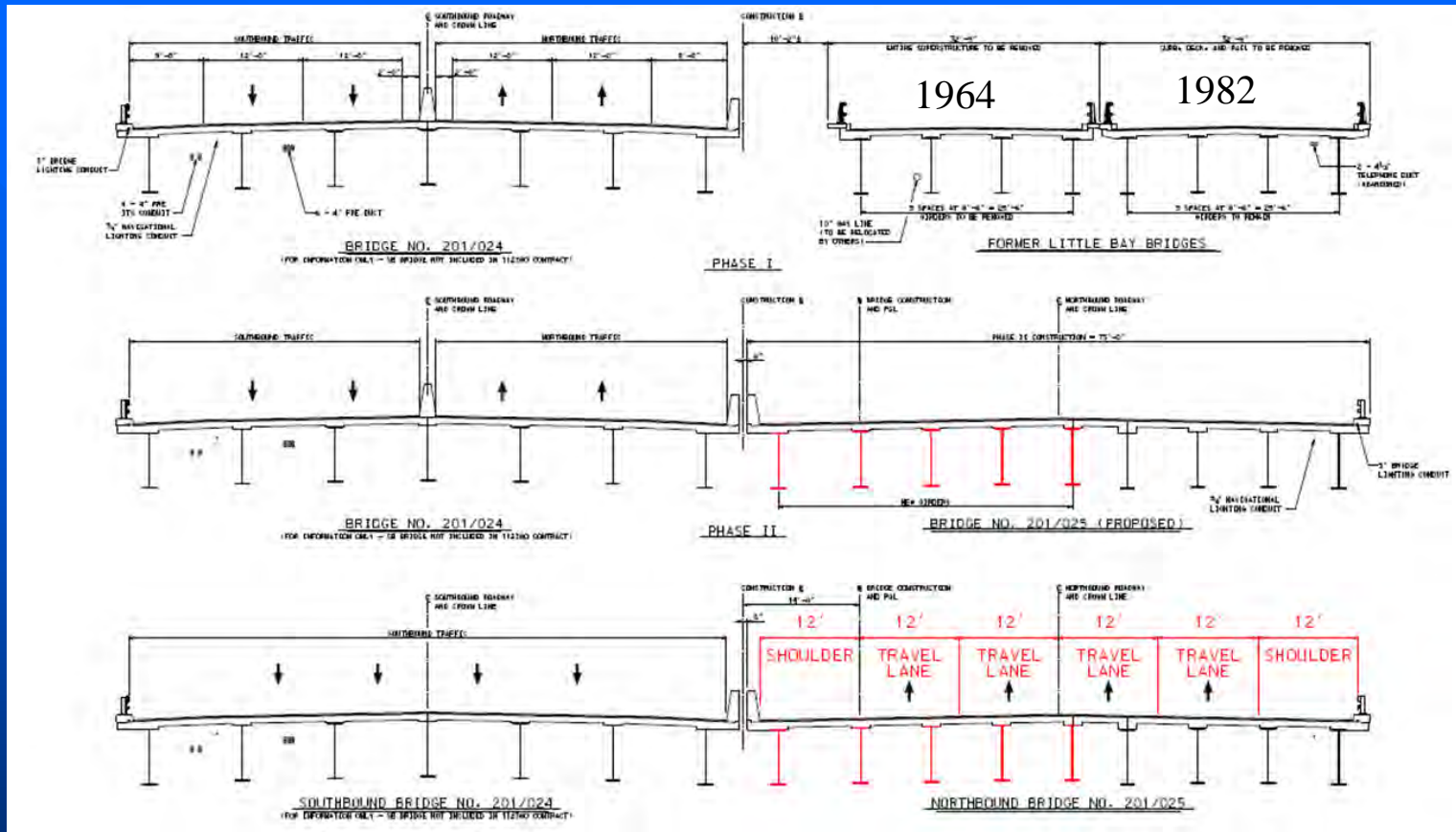


# Construction - Contract O



- Rehabilitates Existing 9 Span 1,589' Little Bay Bridges to provide Four Lanes of NB Traffic

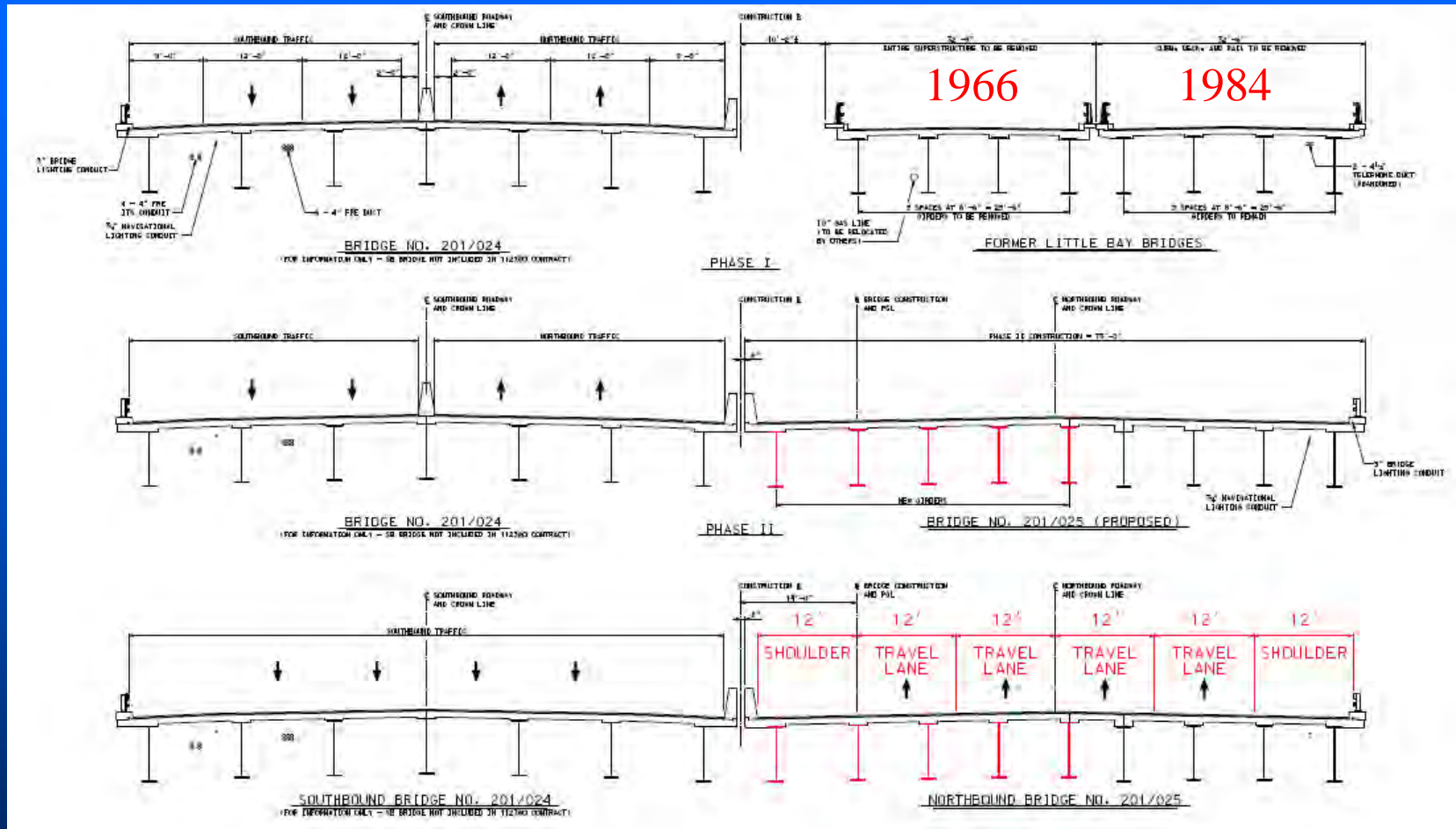
# Construction - Contract O



- Original Bridge Opened to NB Traffic in 1964 for NB Traffic with SB Traffic on General Sullivan Bridge
- Easterly Half of Bridge Opened to NB Traffic in 1982, SB Shifted to 1964 Bridge and General Sullivan Bridge Closed to Vehicular Traffic



# 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

# 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



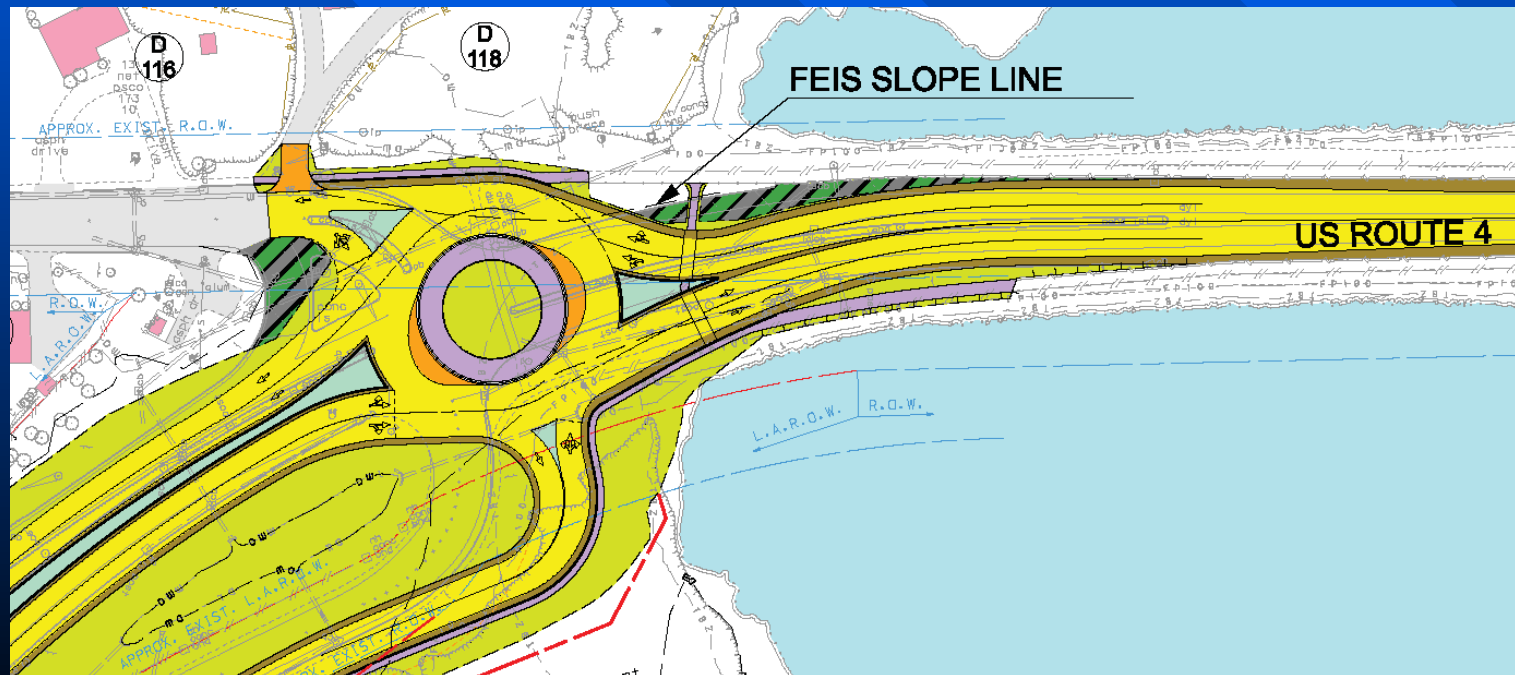
# Contract Q (continued)



- 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.

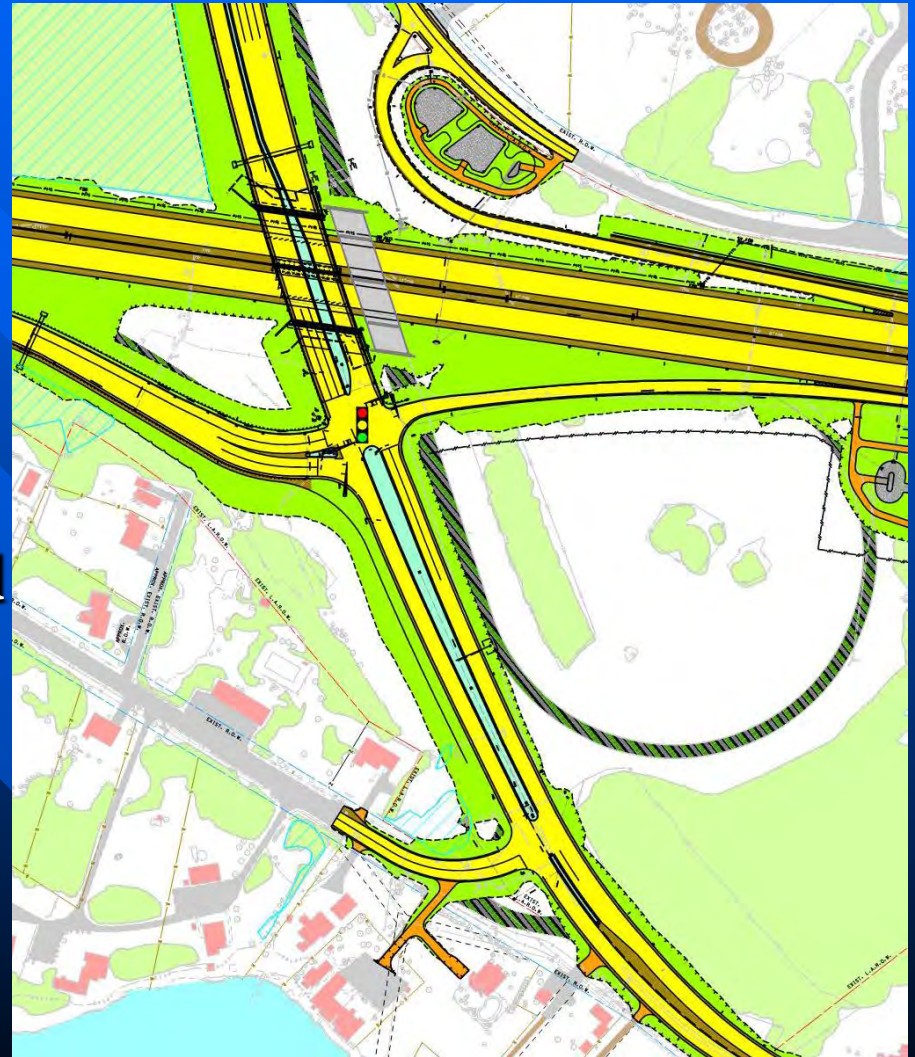
- Roundabout Replaces Signalized Intersection at Boston Harbor Rd.
- Two-Lane Hybrid Roundabout





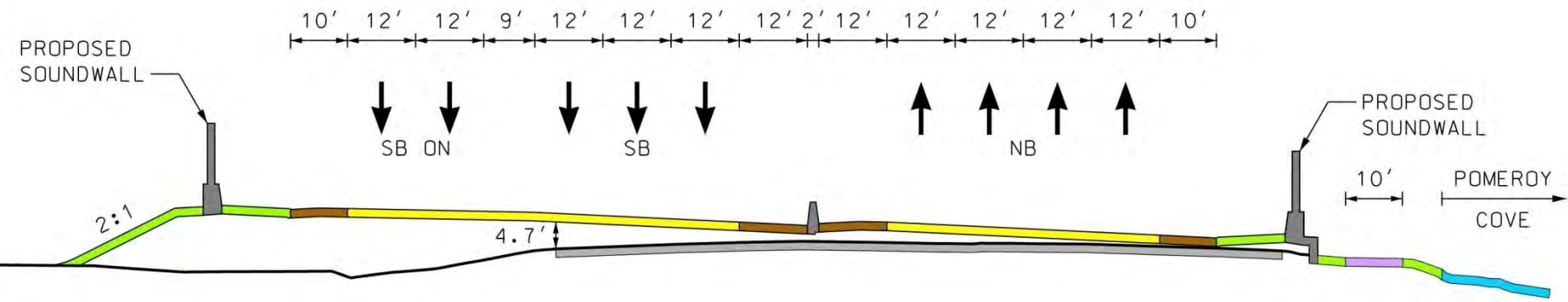
# Contract Q - Exit 6

- New Bridge South of Existing
- Signalized Intersection at Exit 6 NB Ramps
- New Eastbound Access Along Dover Point Road



# Contract Q

## Spaulding Turnpike



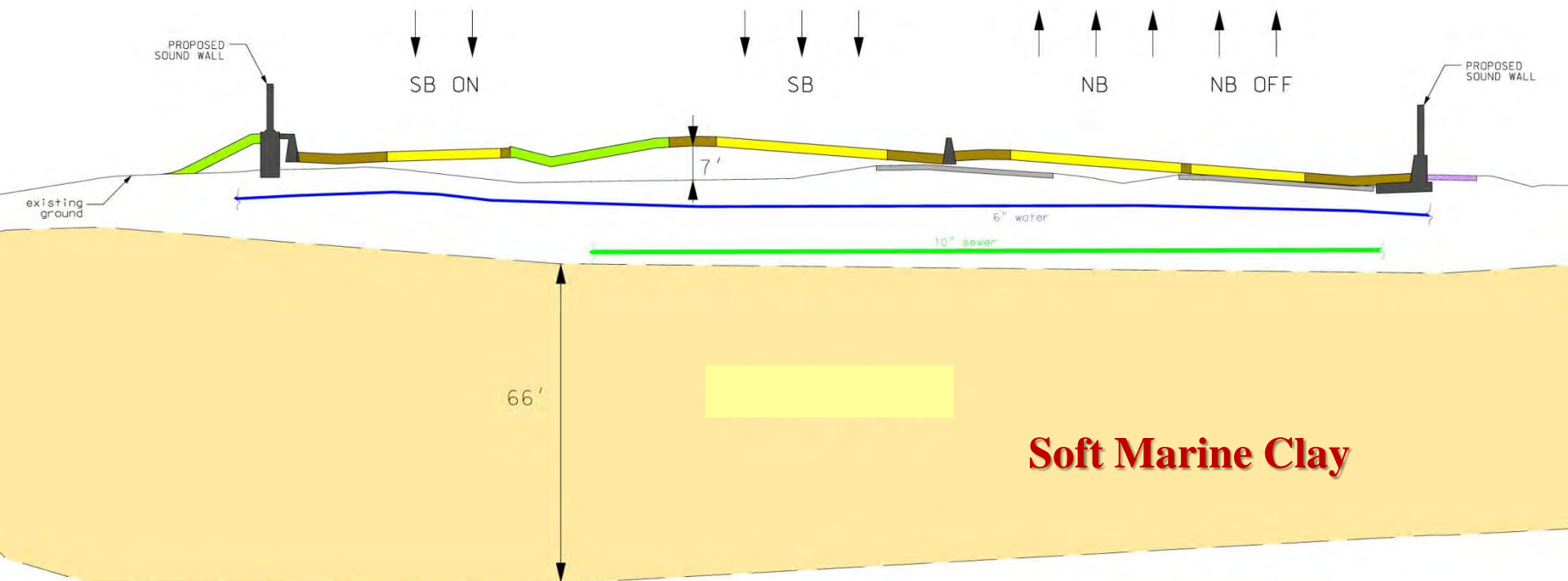
- 40' of Spaulding Turnpike Widening
- SB Raise in Elevation
- Soundwalls along NB and SB
- Pomeroy Cove Bike and Pedestrian Paved Pathway (10' wide) is maintained



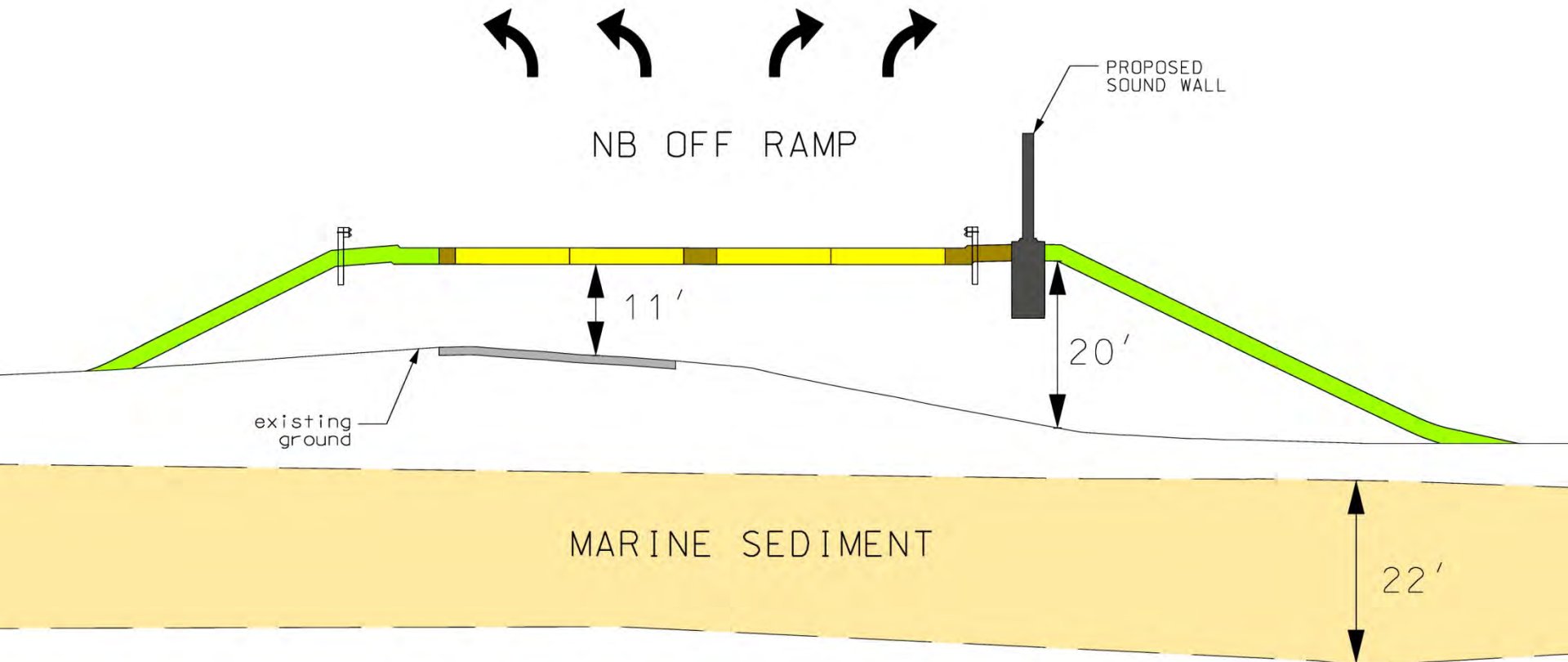
# Engineering Challenges

## Cross Section

### Just North of Pomeroy Cove



# Cross Section NB Off Ramp





# Settlement Platform Constructed under Contract M



## Initial Construction Phase

- Exit 5 Test Embankment Area
- Settlement Testing
- UNH Study

# Settlement Platform

## Embankment Area

- Installation of Sand Drains





# Settlement Platform

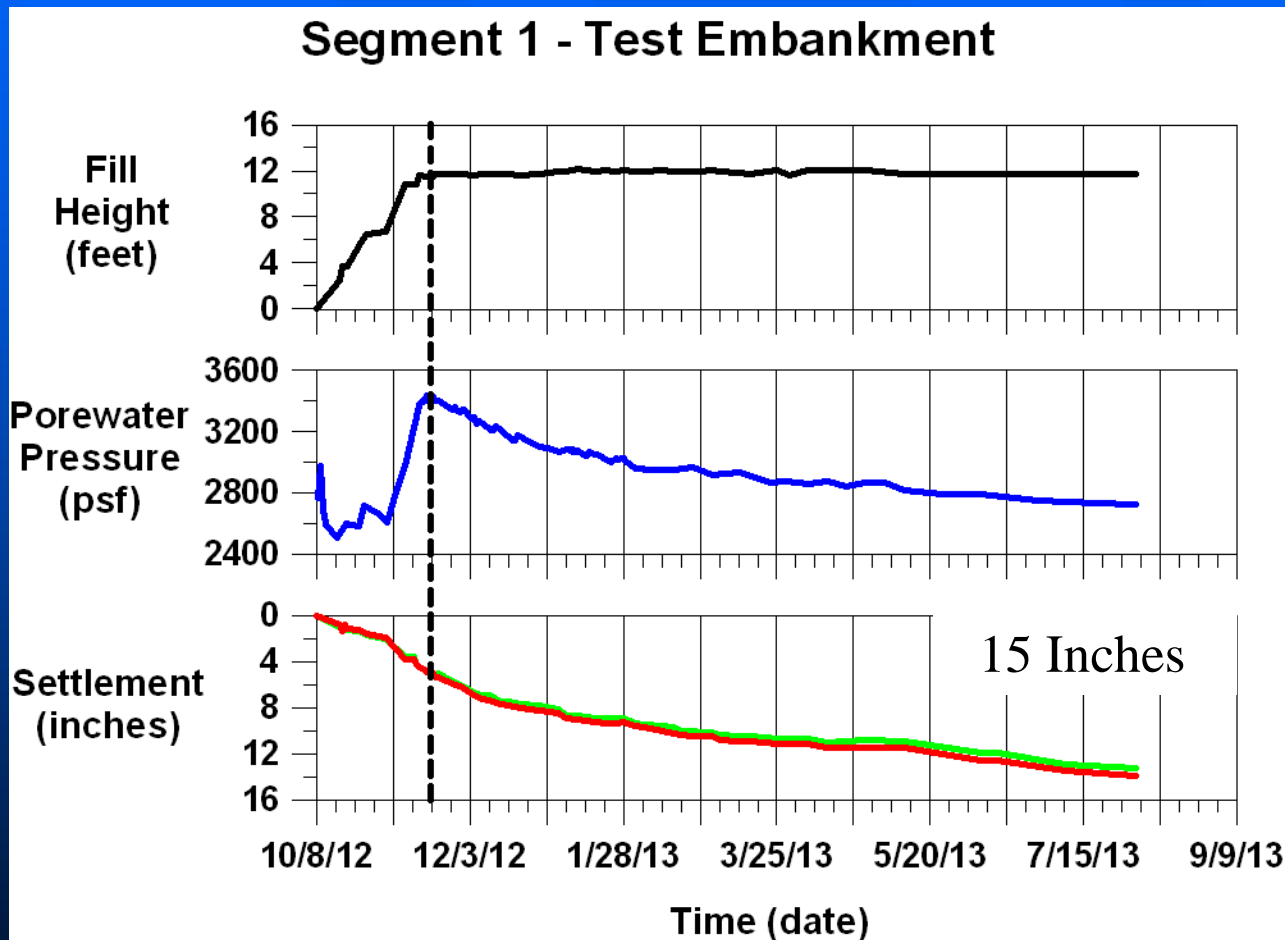
## Embankment Area

- Installation of Sand Drains



# Contract Q

## Soft Soil Settlement Predictions



- Over eight months, have seen over 15 inches of settlement
- Anticipate settlement periods of 45 days to be included in each construction phase



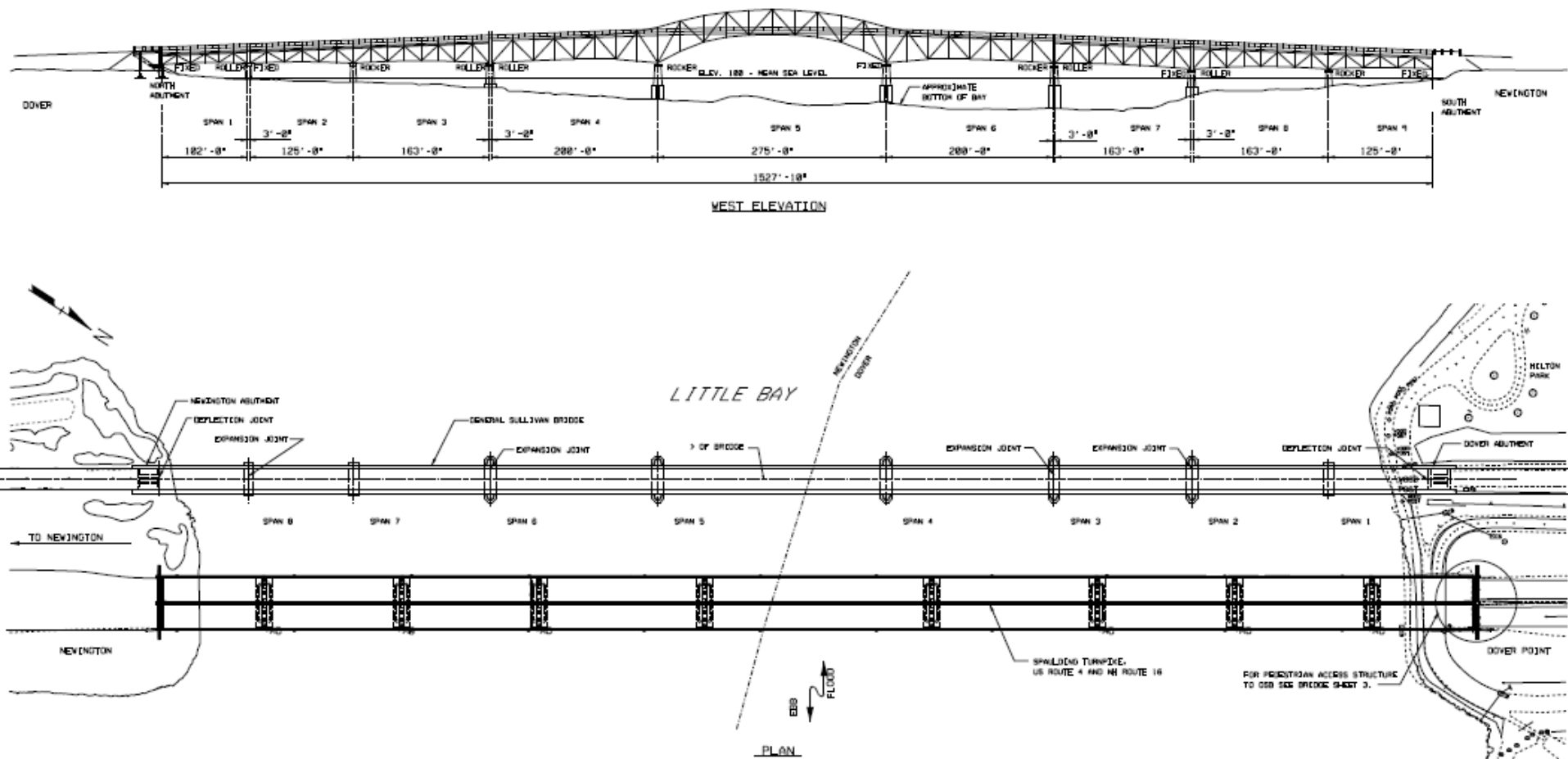
# Contract S



## Contract S – General Sullivan Bridge Rehabilitation

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

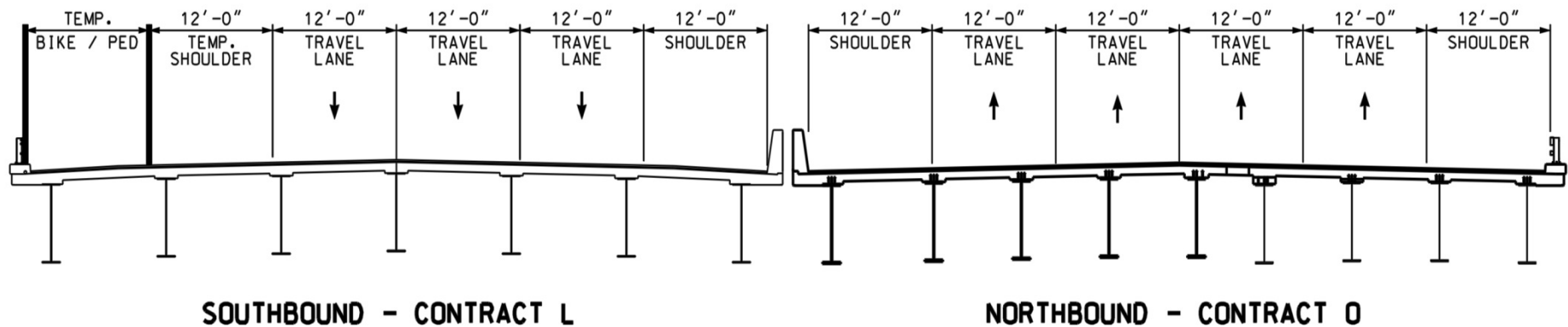
# Contract S - General Sullivan Bridge



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



# Contract S - General Sullivan Bridge

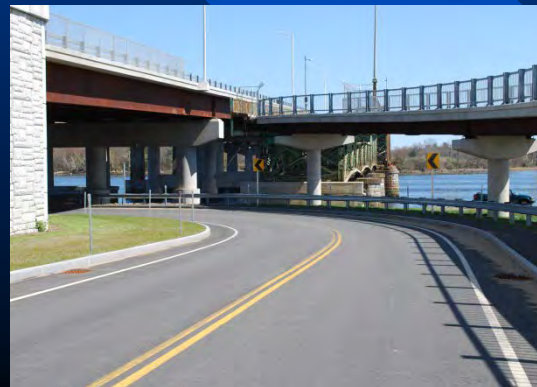


- Includes Temporary Relocation of Pedestrians and Bicycles on New Little Bay Bridge during GSB Rehabilitation or Possible Use of a Temporary Bus Service During Closure Period

# General Sullivan Bridge - Work To Date

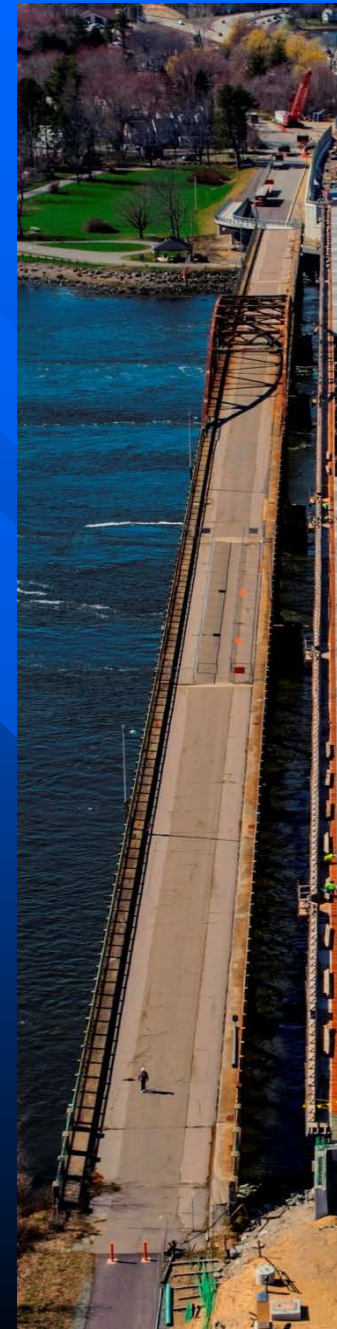


- First Detailed Inspection Completed in 2009
- Underwater Inspection Completed in 2011
- New Dover Approach Bridge Constructed in 2013 (Contract L)
- Dover Abutment Rehabilitated 2013 (Contract L)
- In-Depth, Hands-On Inspection Completed in May 2014
- Capacity Load Rating Completed Sept. 2014





# 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



**Spans 1-2-3 (Dover)**



**Spans 7-8-9 (Newington)**



**Spans 4-5-6 (Center Spans)**



# General Sullivan Bridge

## 2014 Inspection Overview





# General Sullivan Bridge 2014 Inspection Deck





# General Sullivan Bridge 2014 Inspection

## Stringers





# General Sullivan Bridge 2014 Inspection

## Truss Members





# General Sullivan Bridge - Next Steps



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

# General Sullivan Bridge - Next Steps

- Fence Entire Deck to 15'+/- wide  
(Completed in December 2014)
- Detailed Structural Analysis & Evaluation  
Continues
- Evaluate Environmental Commitments  
(Historic Preservation) – Summer 2015
- Assess Rehabilitation & Replacement  
Options - Winter 2015-2016
- Develop Rehabilitation or Replacement  
Plans – 2016 - 17
- Follow-up Inspection in 2016
- Tentative Advertising Date: Late 2018
- Tentative Construction: 2019 – 2021/22





# Contact Information

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**NH Department of Transportation**

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**Concord, NH 03302-0483**

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



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**THANK YOU**

**Questions/Comments**

