

**NEWINGTON-DOVER**  
**Spaulding Turnpike / Little Bay**  
**Bridge Improvements**

**WELCOME**

**Public Informational Meeting**

**May 16, 2013**

**7:00 PM**

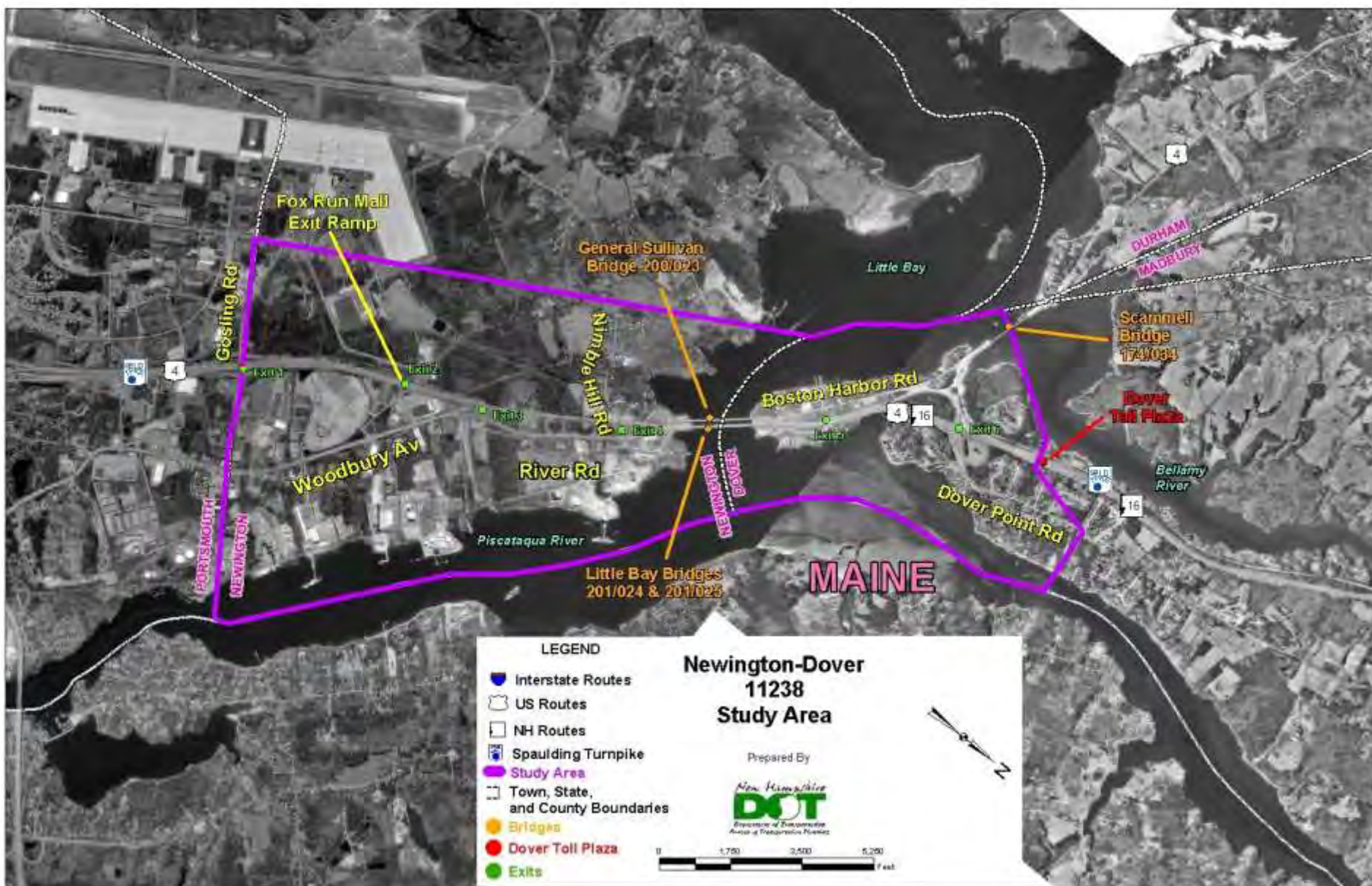


# Meeting Agenda

- **Introductions**
- **Project Overview**
- **Contract 11238 L – Little Bay Bridge SB Contract**
- **Contract 11238 M – Newington Contract**
- **Contract 11238 Q – Dover Contract**
- **Contract 11238 O – Little Bay Bridge NB Contract**
- **Contract 11238 S – General Sullivan Bridge**



# Project Area





# Project Need

## ■ Spaulding Turnpike

- **Limited Capacity – Chronic Congestion**
  - ❖ Four Lane Facility – 2 Lanes in each direction
  - ❖ High Traffic Volumes
  - ❖ 30,000 (1980)    70,650 (2003)    71,000 (2005)
  - ❖ Projected 94,300 (2025)
- **Level of Service E & F (during peak hours)**
- **High Number of Interchanges**
  - ❖ 5 Interchanges in 2 ½ miles
- **Geometric Deficiencies**
  - ❖ Substandard Shoulders (Little Bay Bridges)
  - ❖ Substandard Ramp Geometry, Accel & Decel Lanes
  - ❖ Inadequate Weave Areas
- **Poor Local & System Connectivity**
- **Accident Data – Long Delays**



# Newington-Dover

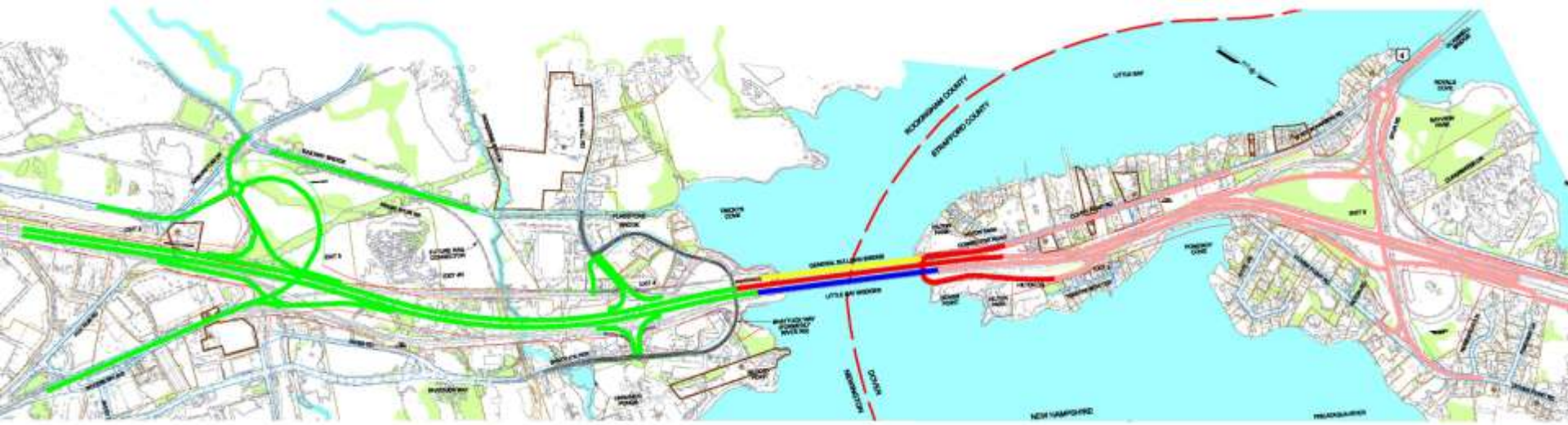
## Record of Decision (2008)

### Selected Alternative



- **Reconstructs & Widens Turnpike**
  - 8 Lanes – Exit 3 to Exit 6
  - 6 Lanes south of Exit 3 (match into 6 lanes at Exit 1)
  - 6 Lanes north of Exit 6 (match into width at Toll Plaza)
- **Consolidates & Reconfigures the Interchanges**
  - Eliminate Exit 2 (Fox Run Road ramps)
  - Reconstruct Exit 3 (Full service interchange with northern access into Pease)
  - Maintain Exit 4 Ramps (Nimble Hill Road & Shattuck Way)
  - Eliminate Exit 5 (Hilton Park & Wentworth Terrace)
  - Reconstruct Exit 6 (Full service interchange with US 4 & Dover Point Road)





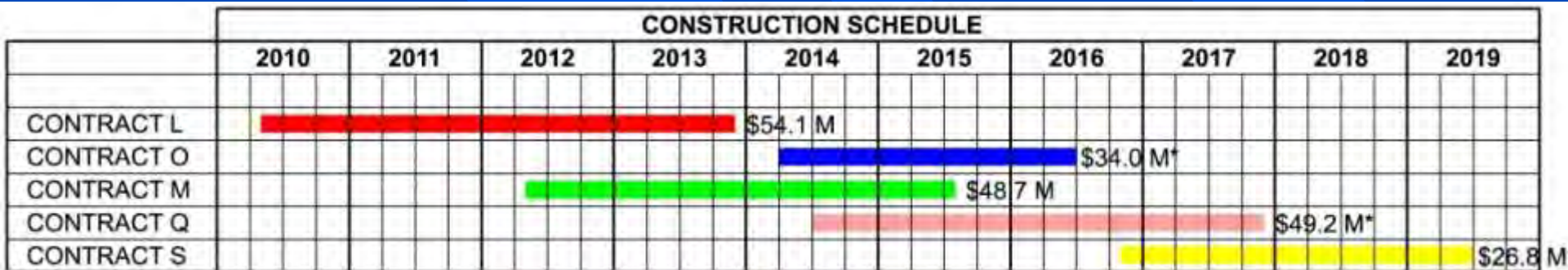
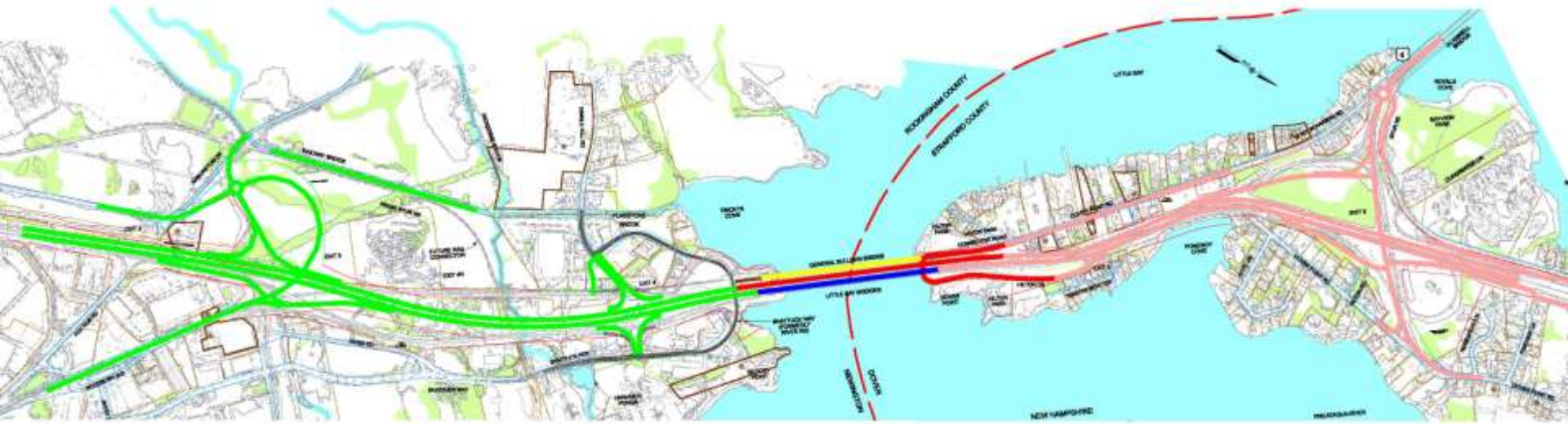
## ■ Construction Contract Breakouts

- Contract L – SB Little Bay Bridge - \$54.1M - Anticipated Construction Completion **Fall 2013**
- Contract M – Exits 3 & 4 - \$48.7M - Anticipated Construction Completion **Summer 2015**
- Contract O – Existing LBB Rehabilitation - \$34.0M – Design Ongoing
- Contract Q – Exit 6, Dover Mainline & Soundwalls - \$49.2M - Design Ongoing
- Contract S – GSB Rehabilitation - \$26.8 M - Design Ongoing

**Total Construction Cost = \$212.8M (2012 Dollars)**



# Current Contract Breakout & Schedule



\* Contract Q & O schedules subject to change





## **Contract L - SB Little Bay Bridge Construction**

- **Construction Initiated in 2010 with Completion in Fall 2013**
  - – Cianbro Contractors, Maine
- **SB Little Bay Bridge**
- **Spaulding Turnpike Dover Approach Work**
- **Spaulding Turnpike Newington Roadway Approach**
- **Exit 5 Ramp Reconstruction (Within Contract M)**
- **Wentworth Terrace**
- **General Sullivan Bridge Dover Abutment**
- **Pedestrian & Bicycle Structure**



# Construction – Contract L

Ground Breaking  
Celebration in  
September 2010





# General Sullivan Bridge Access

**General Sullivan Bridge Access Closure**

**Dover side - November 1, 2010 to May 1, 2011**

**Newington side – occasionally**

**Sidewalk beneath GSB and LBB closed during construction**



Pedestrian / Bicycle Access to  
General Sullivan Bridge  
Option 2



# Construction – Contract L

## Pedestrian Bike Pathway to GSB





# Construction – Contract L

## Little Bay Bridge



**Temporary Trestle to Construct Phase 1 – Cost  
\$6 Million (2010 – 2012)**



# Construction – Contract L

## Little Bay Bridge



**Temporary Trestle to Construct Bay Piers and  
Set Steel (2010 - 2012)**



# Construction – Contract L

## Little Bay Bridge



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



# Construction – Contract L

## Little Bay Bridge

**Construction  
Operations for  
2013:**

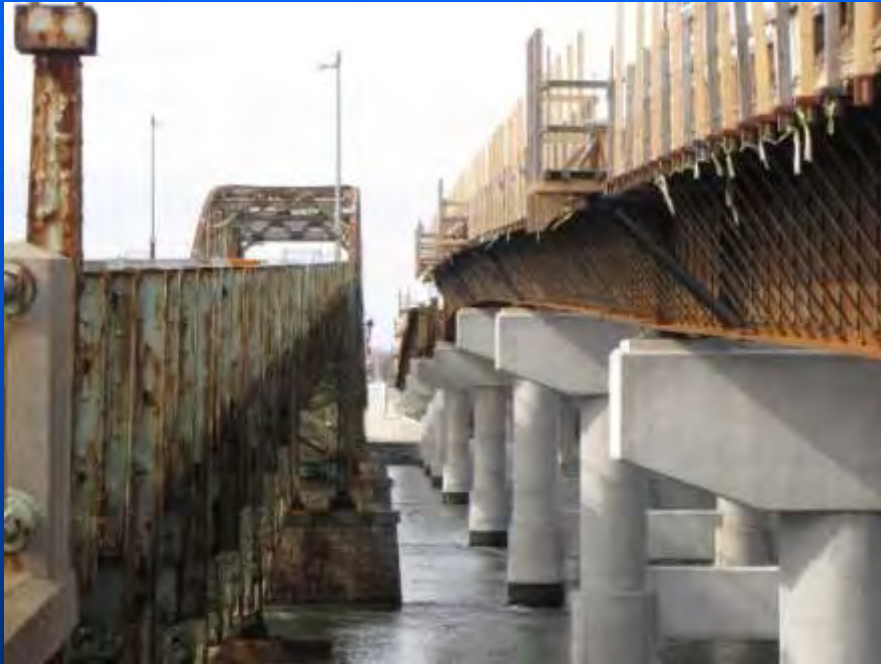
- **Completion of  
Southbound  
Little Bay Bridge**





# Construction – Contract L

## Little Bay Bridge



**Westerly Placement of Final Mid-Span Girder  
(March 13, 2013)**



# Construction – Contract L

## Little Bay Bridge



**Wentworth Terrace Open to Public in October**



# Contract M



## Contract M Construction

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



# Contract M



- Discontinues Exit 2 and Replaces it with Cul-de-Sac
- Provides a Full Service Interchange at Exit 3 and Reconstructs Woodbury Avenue
- Provides Additional Access into Pease
- Provides Future Consideration for Railroad Spur
- Eliminates Maintenance and Incident Management Reverse Direction Ramps Between Exits 3 and 4



# Contract M (Cont'd)



- **Exit 4 Reconstruction**
- **Roadwork Extends into Dover to Match into Existing Spaulding Turnpike**
- **Shifts SB and NB Traffic onto SB LBB**
- **Railway Brook Restoration**
- **Stormwater Detention Basins for Water Quality and Pollutant Loading Treatment**







# **Construction - Contract M**

## **Pre-Construction Prior to Contract M:**

- 30" M&N Gas Line - Exit 3 and Arboretum Drive Area (Completed By Others in 2012)

## **Concurrent Construction**

- Contract L - ongoing through 2013
- Unutil - River Directional Drill – ongoing through 2013
- Contract Q – Anticipated Start in 2014
- Contract O – Anticipated Start in 2015



# **Construction - Contract M**

## **Current Construction Operations:**

- **Exit 3 Embankment Area Including Roundabout and Arboretum Drive**
- **Woodbury Avenue Bridge - Western Abutment**
- **Unitil Gas Line Relocation SB Barrel - Exit 1 to Exit 3 (By Others)**
- **Water Line Relocation SB Barrel - Exit 1 to Exit 3**
- **Traffic Remains on Existing Roadways**



# Construction – Contract M

## Pre-Construction Operations:

- 30 Inch Diameter  
High Pressure  
M&N Gas Line  
Relocation  
(Completed By  
Others in 2012)





# Construction – Contract M

## Current Construction Operations:

- Staging Area at Former Drive-in Theater
- Future Site for Turnpike Maintenance Facility





# Construction – Contract M

## Current Construction Operations:

- Woodbury Avenue Bridge - Western Abutment





# Construction – Contract M

## Current Construction Operations:

- Unitil Gas Line Relocation SB Barrel - Exit 1 to Exit 3 (By Others)
- Water Line Relocation SB Barrel - Exit 1 to Exit 3





# Construction – Contract M

## 2013 Construction Operations:

- Shattuck Way Bridge Widening





# Construction – Contract M

## 2013 Construction Operations:

- Stormwater Detention Basin





# **Construction – Contract M**

## **Anticipated Construction Operations for 2013:**

- **Exit 3 Embankment Area, Roundabout and Arboretum Drive**
- **SB Barrel Ledge Excavation**
- **SB Traffic Shift Exit 1 through Exit 3**
- **Woodbury Avenue Bridge Pier Construction**
- **Shattuck Way Bridge Widening**
- **Railway Brook Restoration**
- **NB and SB Barrel Construction in Existing Median Area**



# **Construction – Contract M**

## **Anticipated Construction Operations for 2014/2015:**

- **Phased Construction of Turnpike**
- **Multiple Traffic Shifts along Turnpike**
- **Exit 3 Interchange Phased Construction**
  - **Exit 3 SB Off Ramp Temporary Closures**
    - **Detours Traffic to Exit 1**
    - **Multiple Closures for Durations from 3 Days to 3 Months (2013 – 2015)**
  - **Exit 2 Discontinuance (2015)**
    - **Detours Traffic to Exit 1**
    - **Full Ramp Access to Woodbury Avenue and Retail Area with Completion of Exit 3 (2015)**



# **Construction – Contract M**

## **Anticipated Construction Operations for 2014/2015 (cont'd):**

- **Exit 4 Construction**
- **Woodbury Avenue Bridge Completion**
- **Stormwater Detention Basin Construction**
- **2015 Traffic Shift onto SB LBB**



# Contract Q



## Contract Q- Dover- \$49.2 M

- Tentative Advertising Date: July 2014
- Tentative Construction: 2014 - 2017
- Completes and Opens All Spaulding Turnpike Improvements
- Concurrent Construction with Contracts M, O and S



# Contract Q



- Provides a Full Service Interchange at Exit 6
- Eliminates Exit 5
- Provides Two-way Connection via Wentworth Terrace
- Introduces 2 Signalized Intersections for Exit 6 Ramps
- Roundabout Replaces Signalized Intersection at Boston Harbor Road
- Constructs 4 Sections of Soundwall – North and South of Exit 6



# Contract Q

- Roundabout
- Pedestrian Signal and Cross Walk
- Additional Parking along Spur Road
- Sidewalk Extension on Boston Harbor Road and Dover Point Road (West)
- Signalized Intersection at Exit 6 SB On Ramp
- Soundwall Extended towards Roundabout





# Contract Q

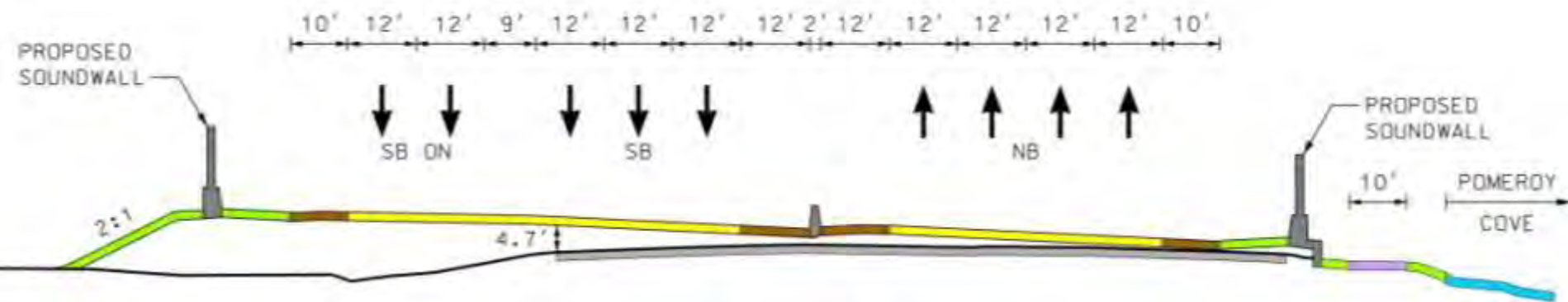
- **New Bridge South of Existing**
- **Signalized Intersection at Exit 6 NB Ramps**
- **Conduit and Pullboxes Installed at Dover Point Road (East) for Future Signals when Warranted**





# Contract Q

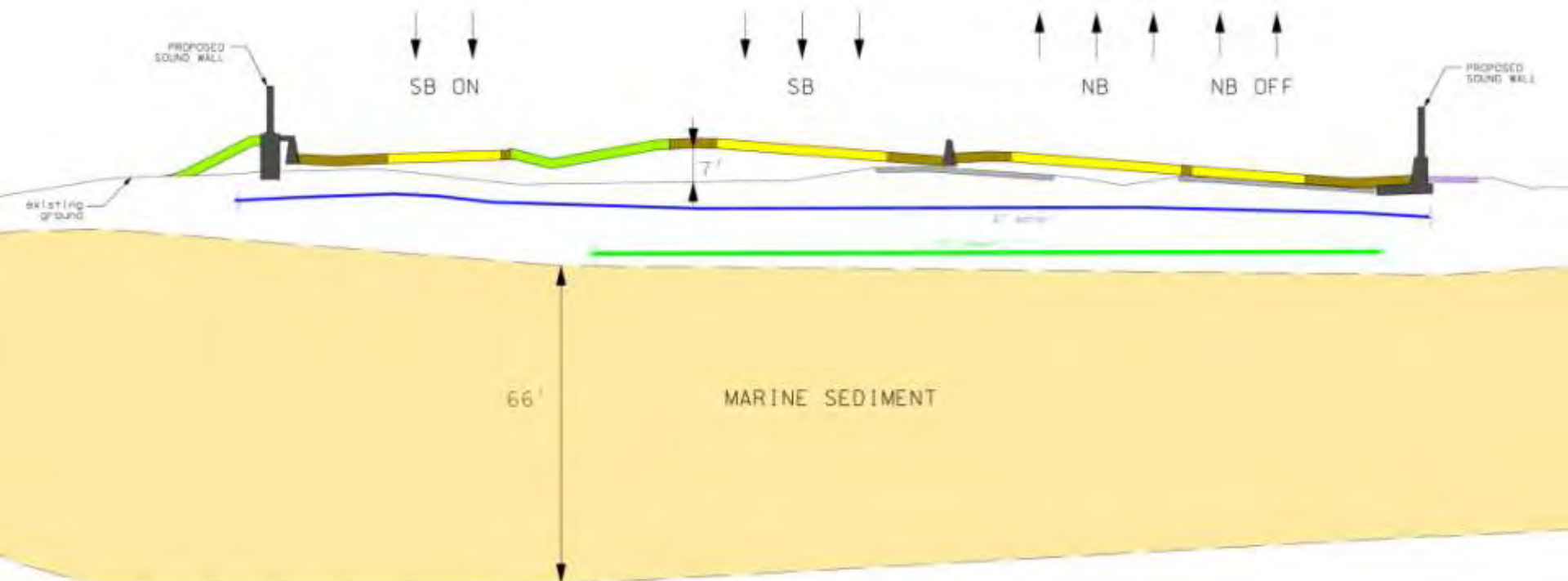
## Spaulding Turnpike Cross Section



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

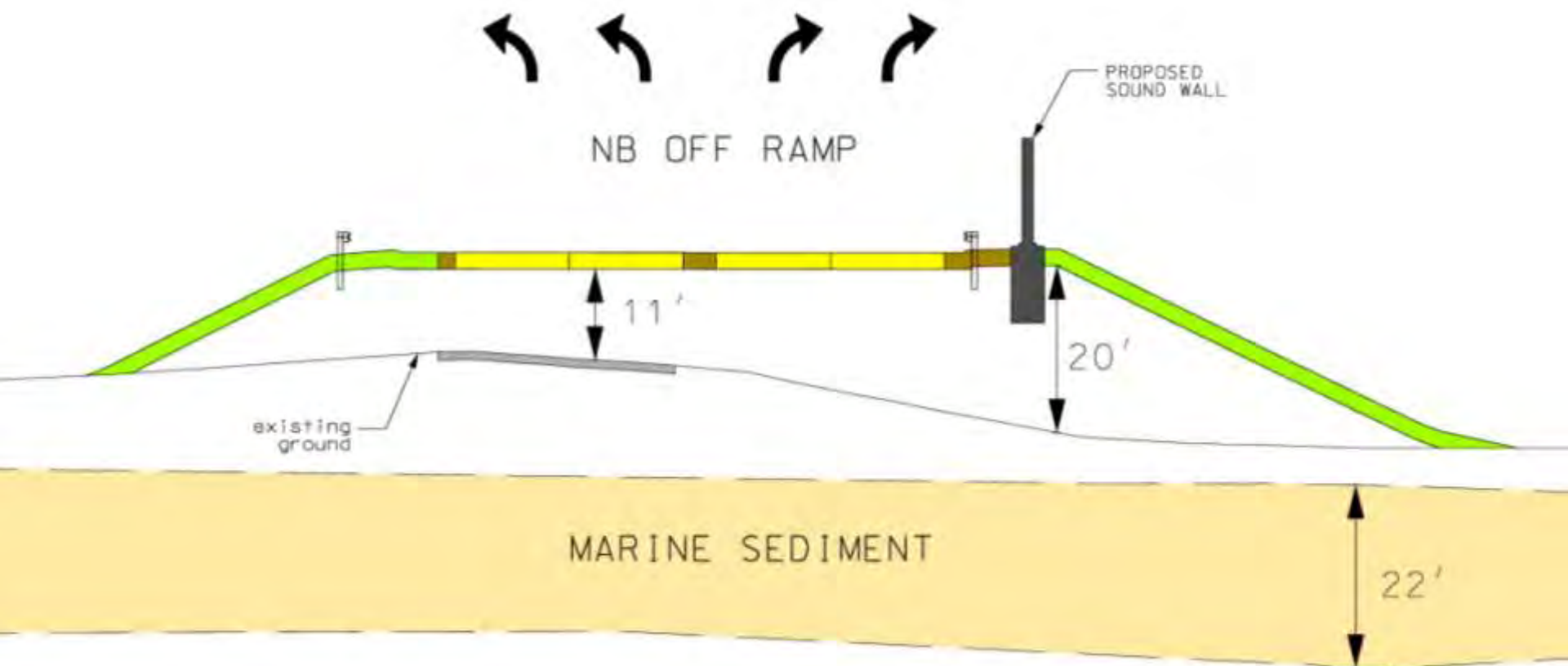


# Cross Section Just North of Pomeroy Cove





# Cross Section NB Off Ramp





# **Contract Q Soundwall Locations**

## **Southbound**

- Begins 0.5 miles north of Dover Toll Plaza and ends at Exit 6 SB off ramp
- Begins near the roundabout and continues to Exit 6 SB on ramp and SB turnpike to the Little Bay Bridge

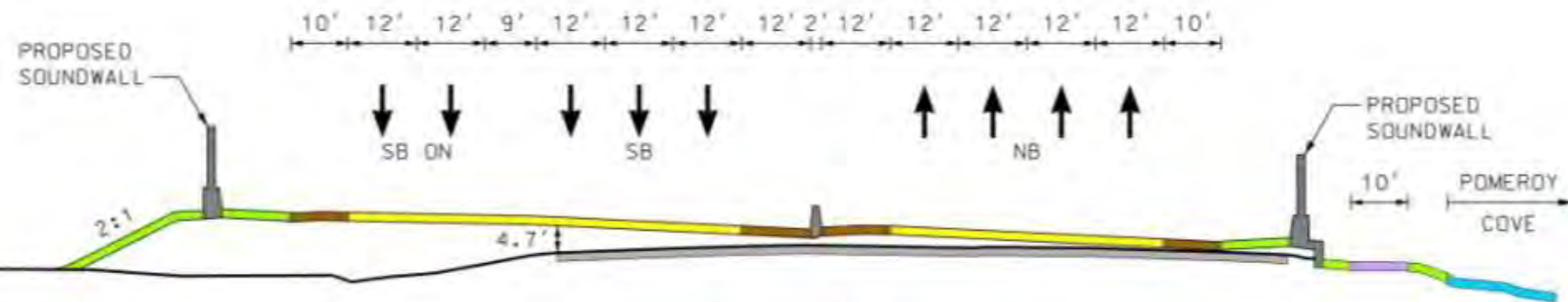
## **Northbound**

- Begins 1,200' north of Little Bay Bridge and continues along NB and Exit 6 NB off ramp to the intersection of Dover Point Road (East)
- Begins at the Exit 6 NB on ramp and ends 0.5 miles north of the Dover Toll Plaza



# Contract Q

## Spaulding Turnpike Cross Section South of Exit 6 at Pomeroy Cove



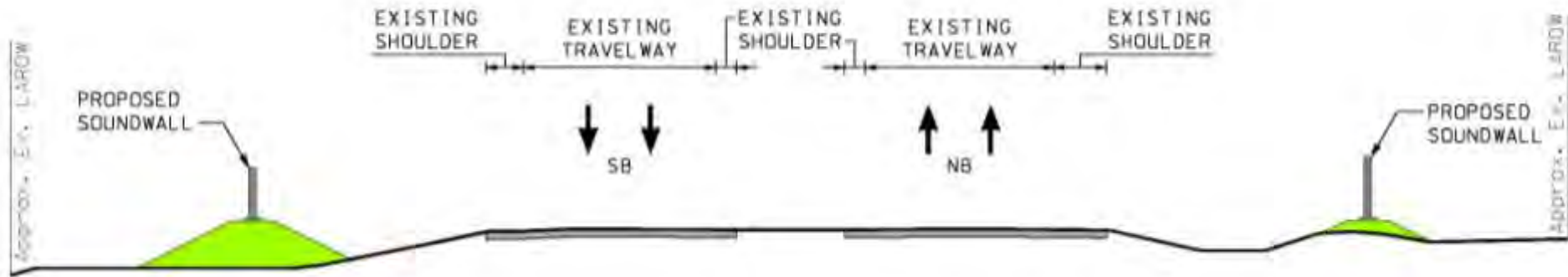
- 40' of Spaulding Turnpike Widening
- SB Raise in Elevation
- Soundwalls along NB and SB
- Pomeroy Cove Pathway (10' wide) is Maintained



# Contract Q

## Soundwalls North of Dover

### Toll Plaza

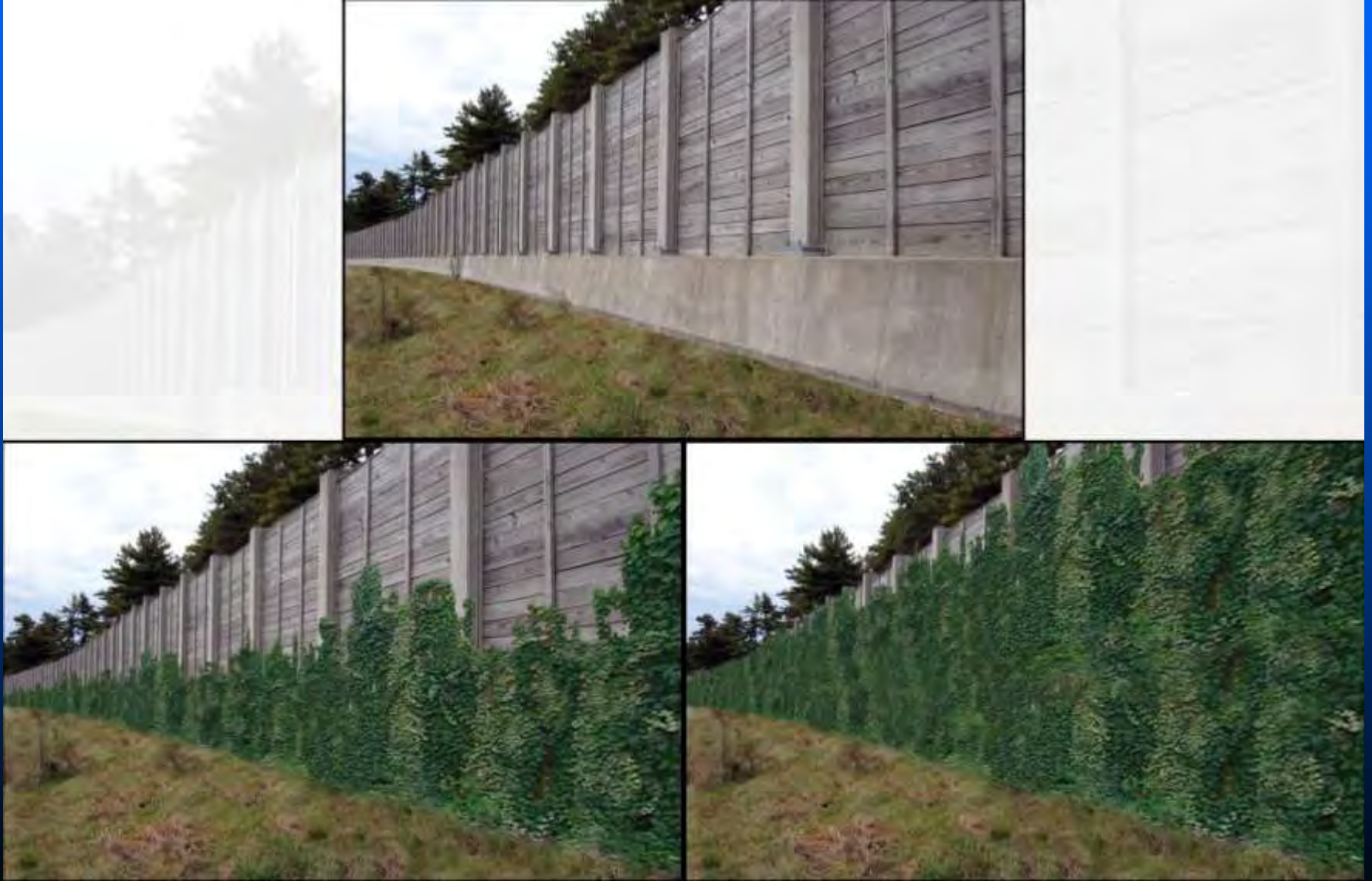


- No Spaulding Turnpike Work Proposed
- Soundwalls Located Near Right-of-Way to Accommodate Potential Third Lane



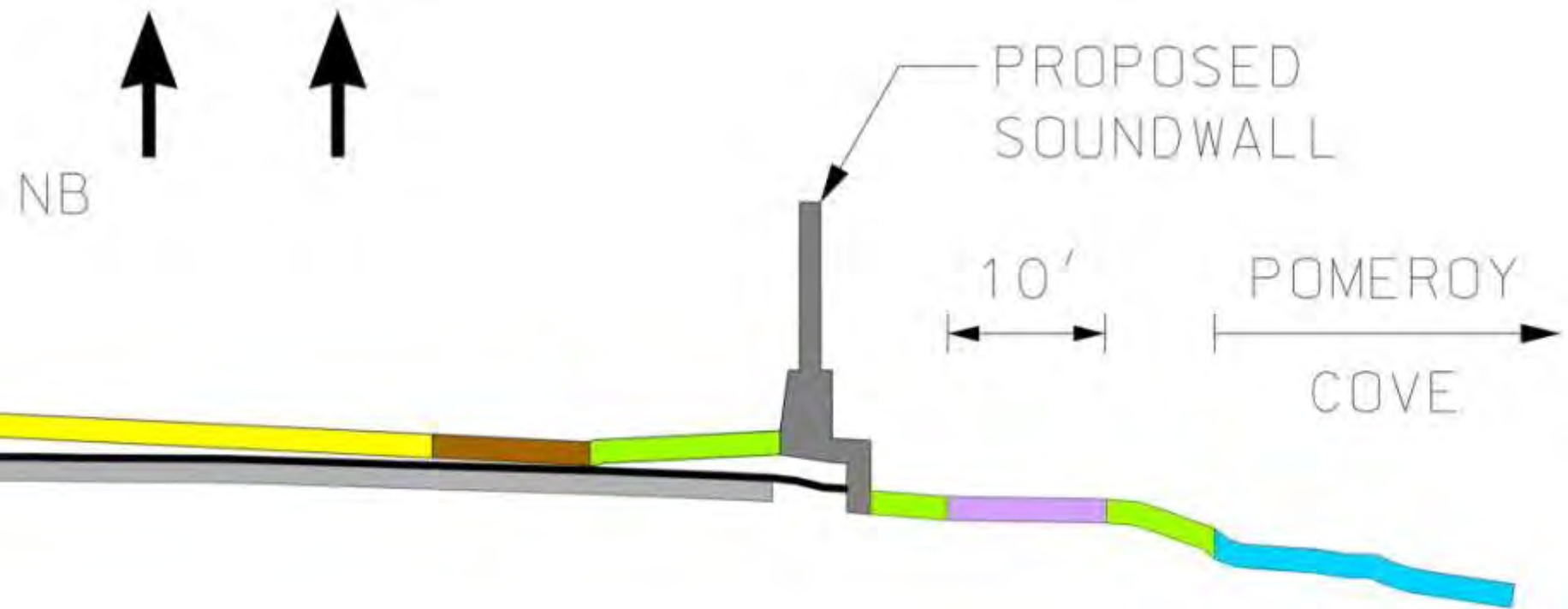
# Contract Q

## Soundwall with Ivy





# Special Consideration for Pomeroy Cove Soundwall Area





# Pomeroy Cove Transparent Soundwall Alternative



Pomeroy Cove - Looking Northwest from Exit 5 On-Ramp



Pomeroy Cove - Looking East from Exit 6 On-Ramp



Looking North Adjacent to Pomeroy Cove



Pomeroy Cove - Looking East from Exit 6 On-Ramp



# **Pomeroy Cove Soundwall Alternatives**

## **Soundwall Type Study Completed in 2009**

- Wood soundwall is NHDOT standard at a cost of approximately \$23/sf
- Transparent soundwall estimated costs approximately double the cost of wood at \$46/sf

## **Neighborhood Soundwall Meeting in March 2010**

- Transparent soundwall considered along Pomeroy Cove only (1,000 lf)
- Concerns raised include: Headlight glare, graffiti, birds, and discoloration
- Wentworth Terrace residents support wood soundwall



# Pomeroy Cove Soundwall Alternatives

## 2012 Additional Study and Design

- Transparent wall types vary in safety performance and cost
- Safety considerations for pedestrians and bicyclists along Pomeroy Cove
- Soundwall with Integrated Fragment Retention System retains fragments from falling
- Crashworthy transparent soundwall costs approximately \$115/sf compared to the \$30/sf for wood – resulting in an estimated increased cost of \$850,000 (\$1,150,000 vs \$300,000)



# Crashworthy Soundwall





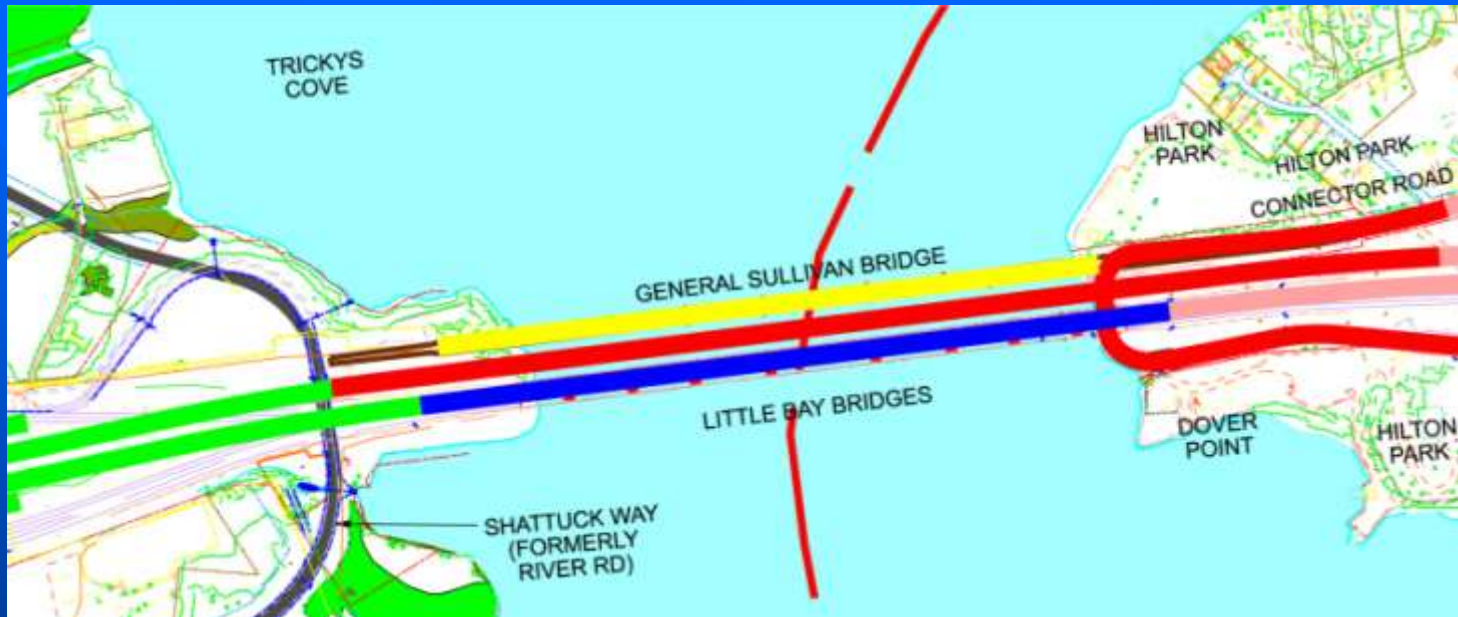
# **Pomeroy Cove Soundwall Recommendations**

## **Selection Considerations**

- **Cost differential for crashworthy transparent wall is almost 4 times that of wood**
- **Wentworth Terrace Neighborhood previously supported wood soundwall**
- **NHDOT currently contemplating soundwall alternatives**
- **NHDOT soliciting public feedback**



# Contract O

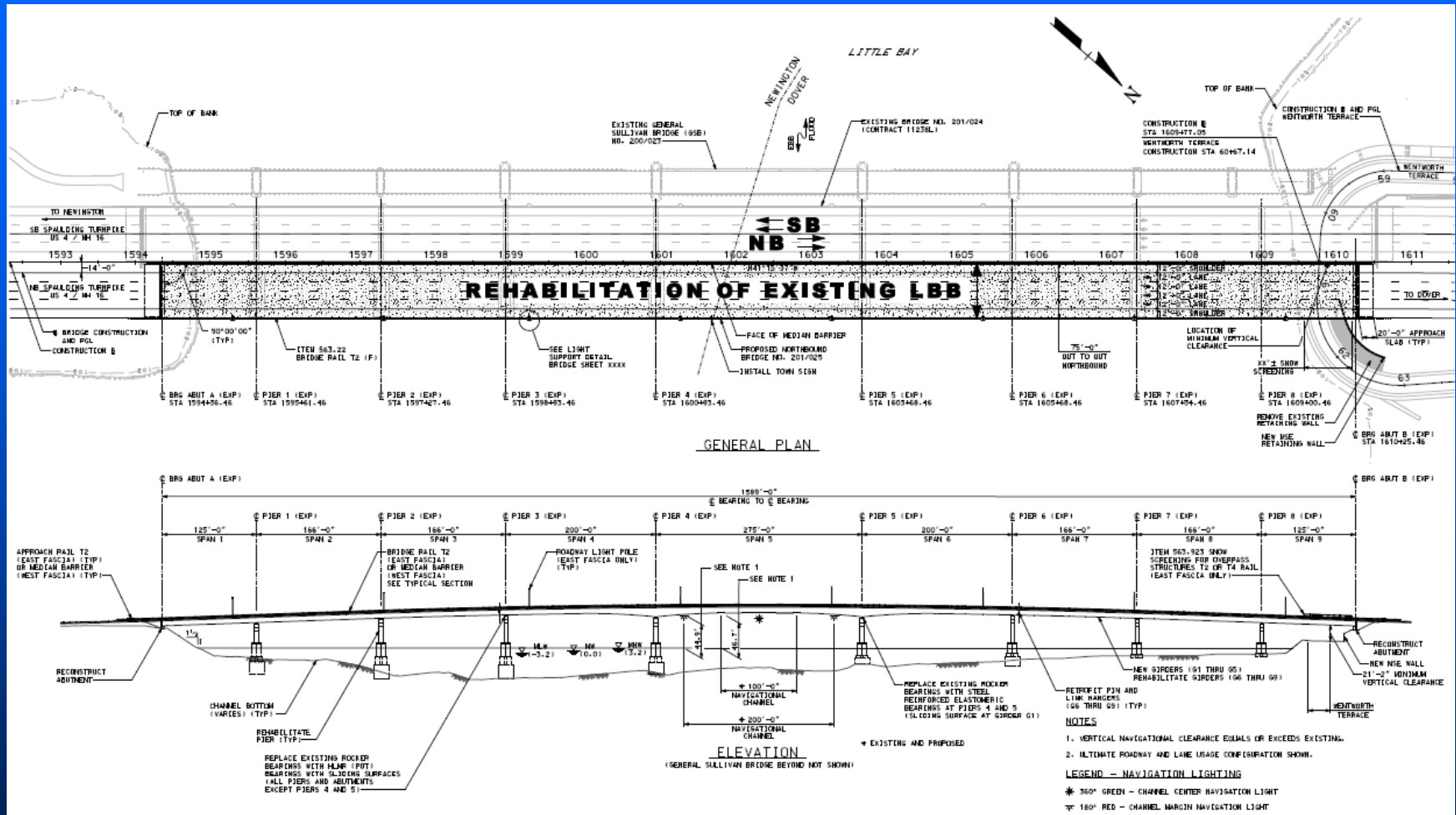


## Contract O – Existing Little Bay Bridge Rehabilitation - \$ 34M

- Tentative Advertising Date: April 2014
- Tentative Construction: 2015 – 2016
- Concurrent Construction with Contracts M and Q



# Contract O



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



**GENERAL PLAN**

**ELEVATION**

**LEGEND - NAVIGATION LIGHTING**

**NOTES**

- VERTICAL NAVIGATION LIGHTS, CLEARANCE SIGNALS OR EXISTING EXISTING.
- ULTIMATE ROADWAY AND LANE USAGE COORDINATION SHOWN.

**LEGEND - NAVIGATION LIGHTING**

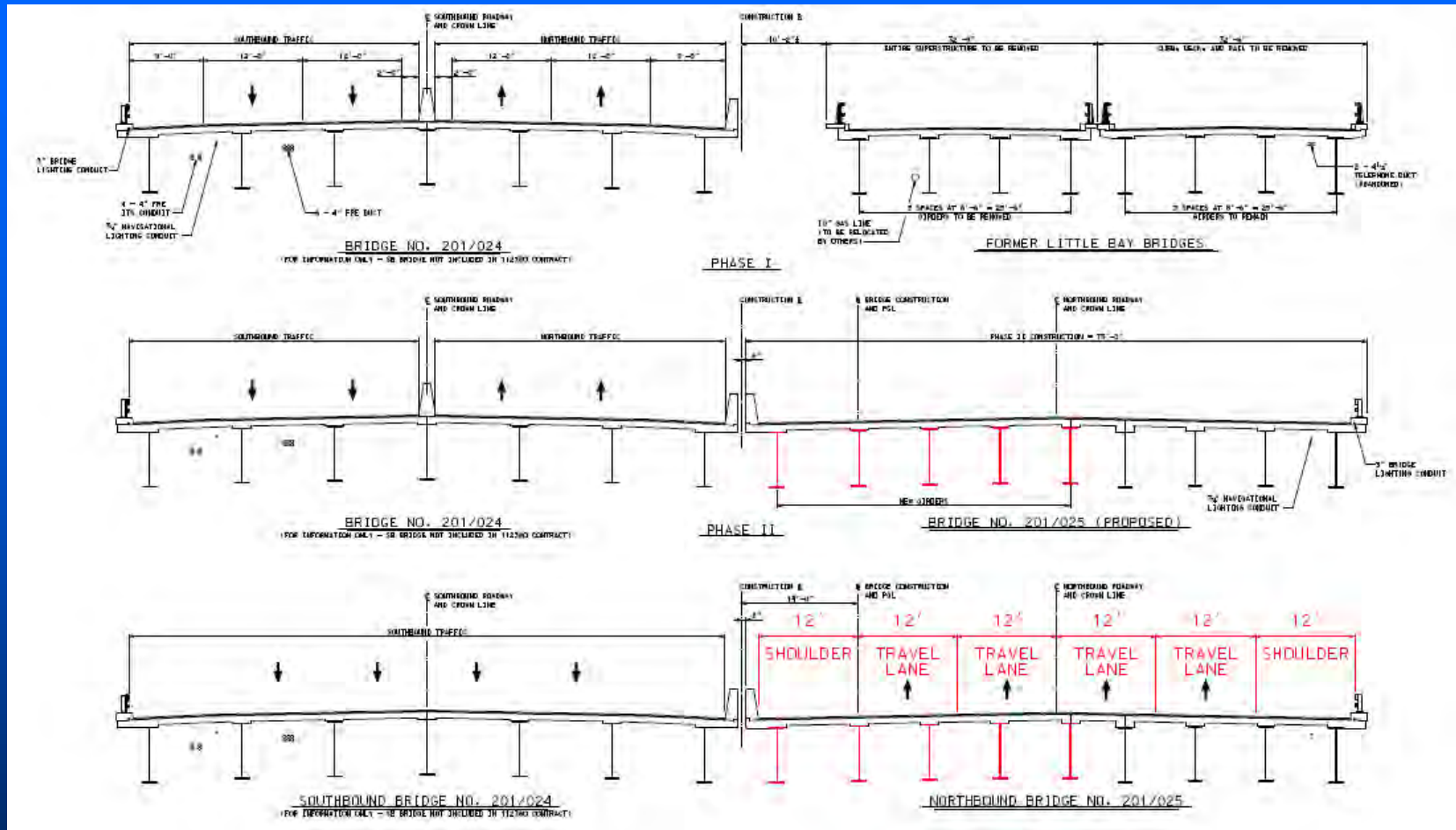
\* 360° GREEN - CHANNEL CENTER NAVIGATION LIGHT

180° RED - CHANNEL MARLIN NAVIGATION LIGHT

- **Original Construction Completed in 1964 for NB Traffic with SB Traffic on General Sullivan Bridge**
- **Easterly Half of Bridge Construction Completed in 1982 for NB Traffic and General Sullivan Bridge Closed to Vehicular Traffic**
- **Abutment Reconstruction**
- **Older Structural Steel Members being Replaced to Meet Current Standards**
- **Minor Pier Repair Work**



# Contract 0



- Older Structural Steel Members being Replaced to Meet Current Standards
- Utilize Existing Concrete Deck as Work Platform to Replace Older Structural Steel and Concrete Deck
- Utilize New Concrete Deck as Work Platform to Replace Existing Concrete Deck



# Contract S

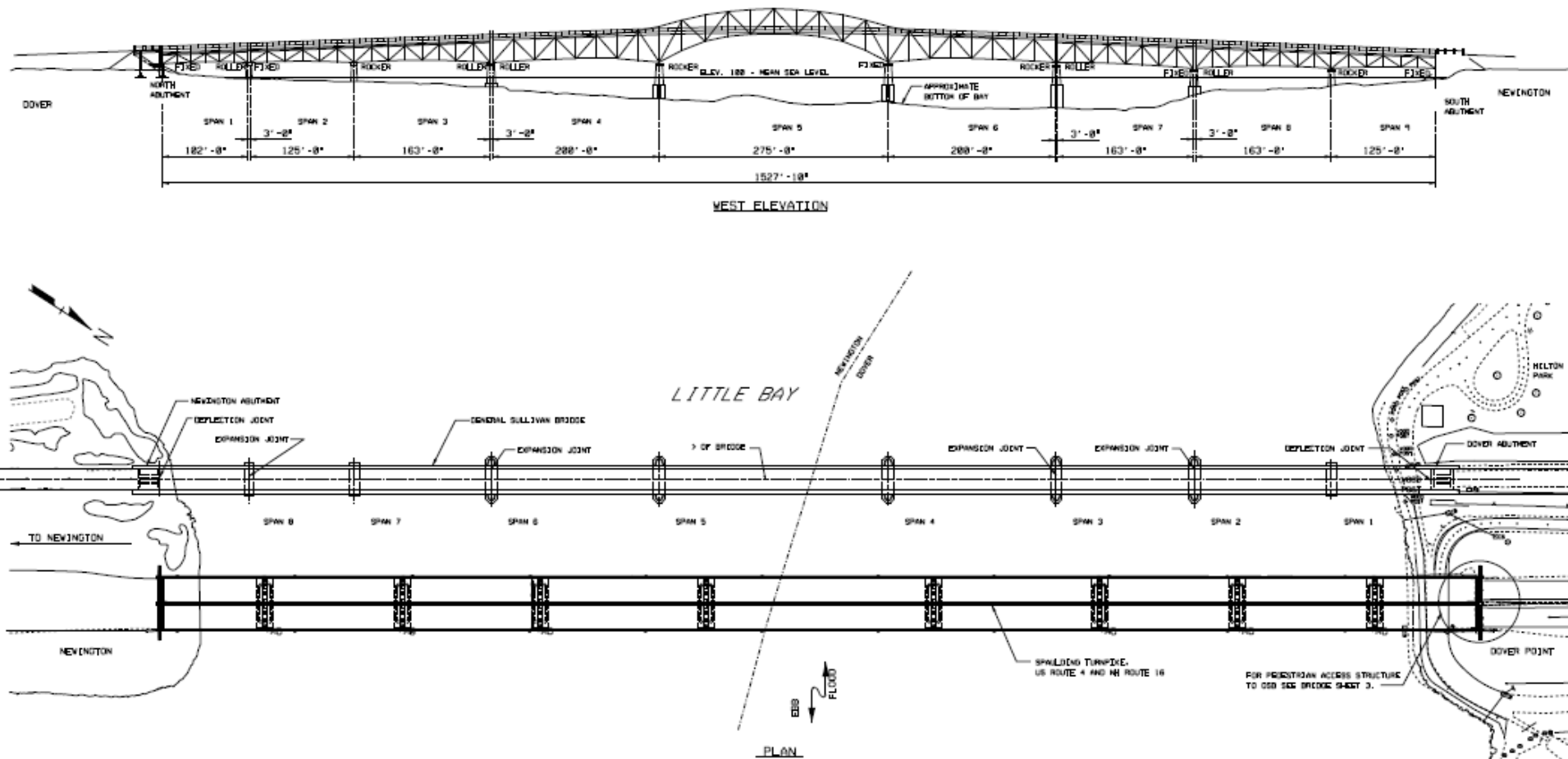


## **Contract S – Existing General Sullivan Bridge Rehabilitation- \$ 26.8M**

- **Tentative Advertising Date: October 2016**
- **Tentative Construction: 2017 – 2019**
- **Concurrent Construction with Contract Q**



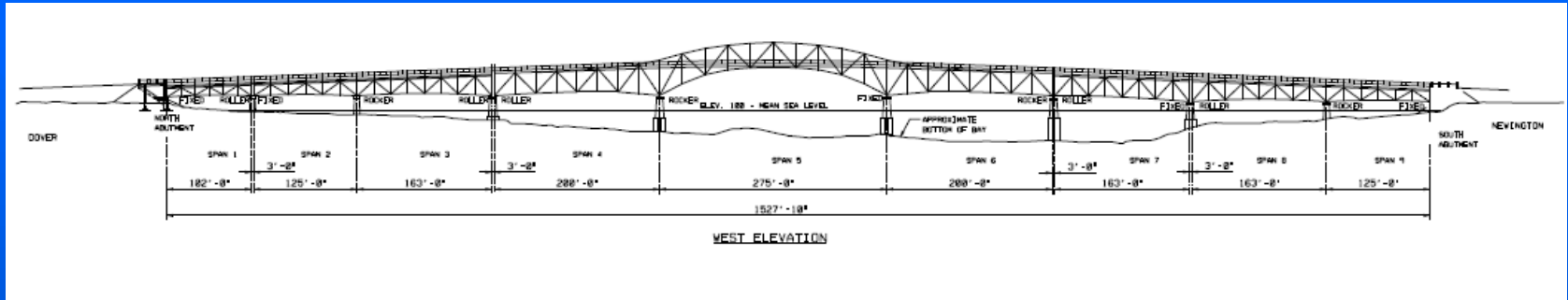
# Contract S



- Rehabilitates Existing 9 Span General Sullivan Bridge for Pedestrian and Bicycle Use



# Contract S



- **Dover Abutment Rehabilitated with Contract L**
- **Full Deck and Floor System Replacement**
- **Inspections Scheduled over Next Several Years to Determine Extent of Rehabilitation Required**
- **Underwater Inspections Completed in 2011 and Found Minor Pier Repair Work is Required**



# Contact Information

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



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**THANK YOU**

**Questions/Comments**