



NEWINGTON-DOVER
Spaulding Turnpike / Little Bay
Bridge Improvements

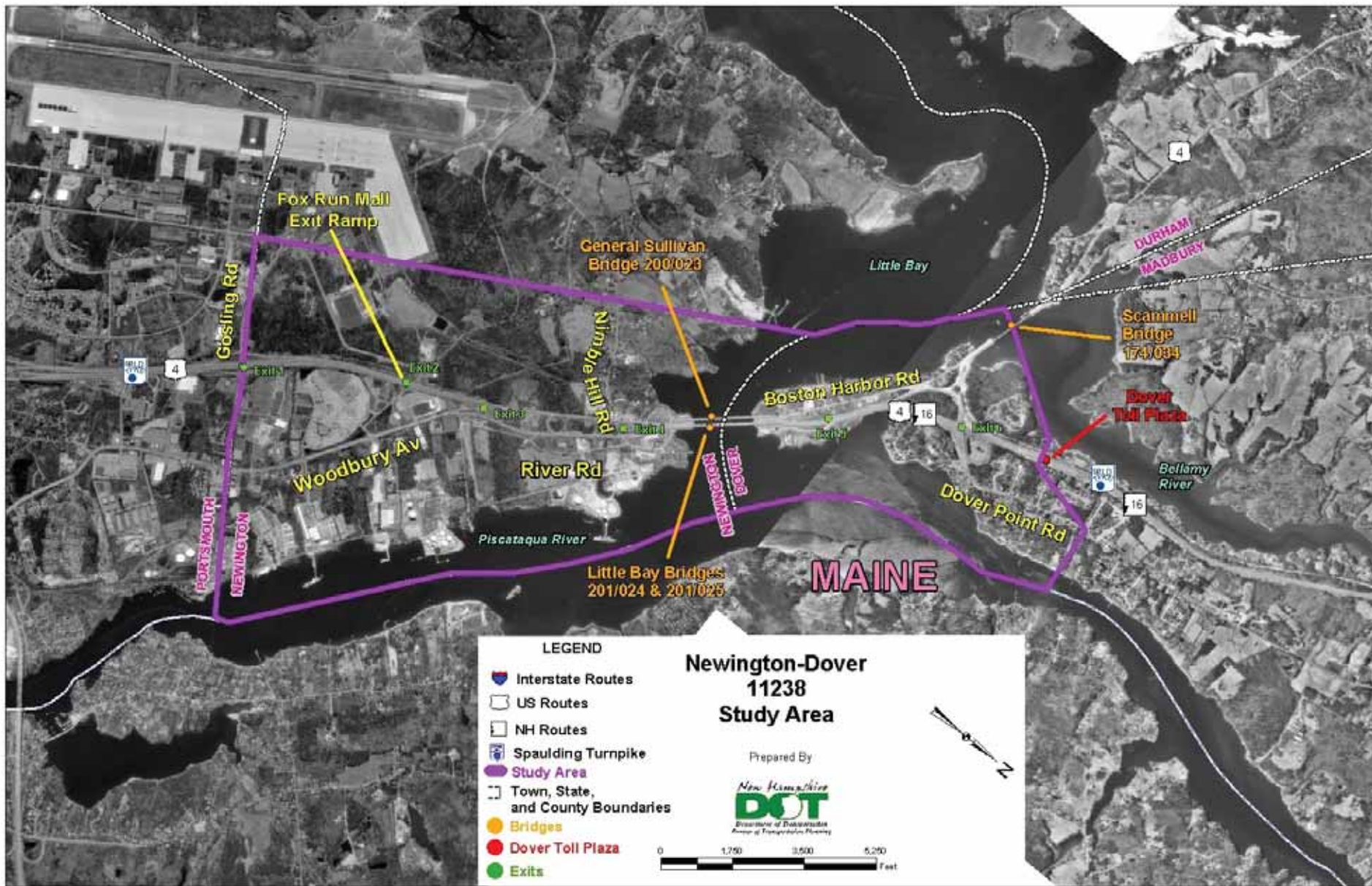
WELCOME

**Tenants Association at Pease
Informational Presentation
April 9, 2014
@ Great Bay Community College**

Meeting Agenda

- **Project Overview**
- **Environmental Mitigation Components**
- **Transit Enhancements & TDM Options**
- **Turnpike Expansion**
 - **Contract 11238 L – New SB Little Bay Bridge**
 - **Contract 11238 M – Newington**
 - **Contract 11238 Q – Dover**
 - **Contract 11238 O – Rehab NB Little Bay Bridge**
 - **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 1/2 miles
- **Geometric Deficiencies**
 - ❖ Substandard Shoulders (Little Bay Bridges)
 - ❖ Substandard Ramp Accel & Decel Geometry
 - ❖ Inadequate Weave Geometry
- **Poor Local & System Connectivity**
- **High # of Crashes with Long Delays**



Project Need



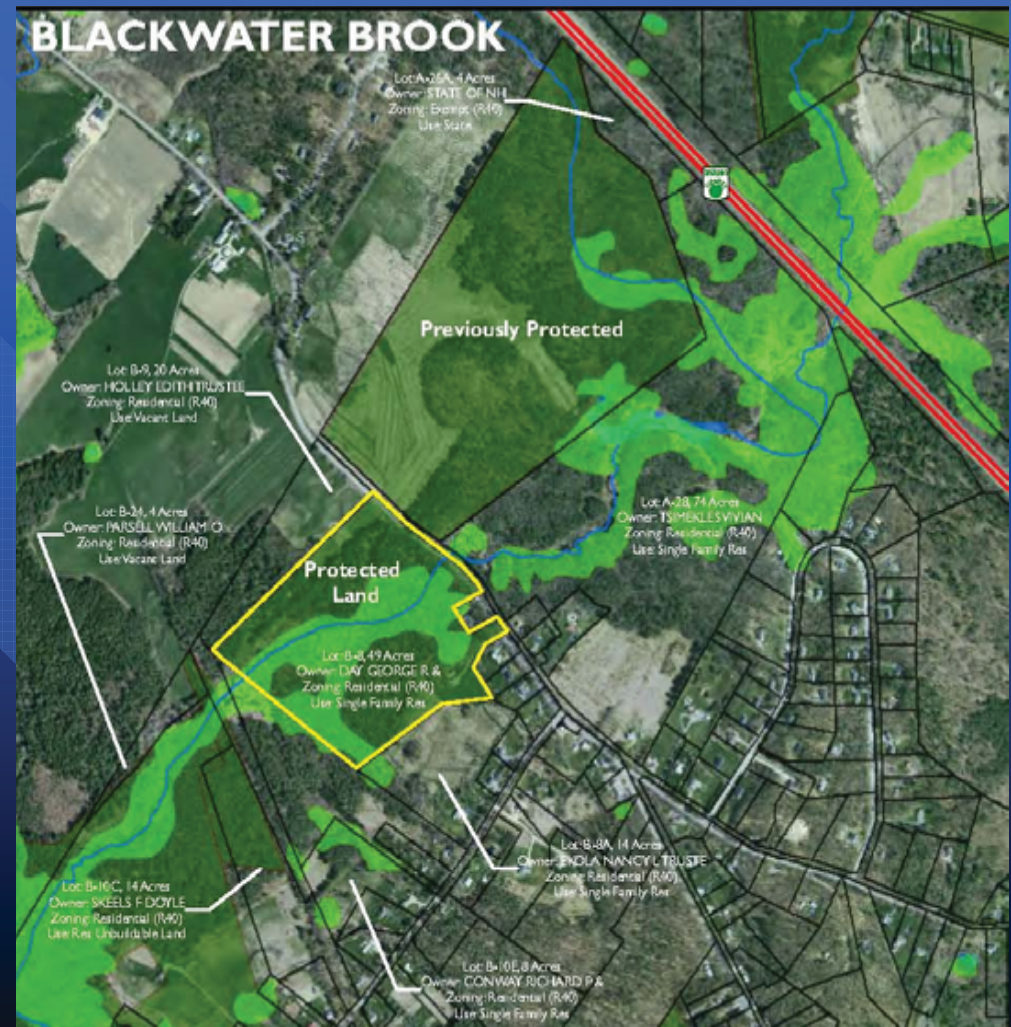
Project Need



Environmental Mitigation Components

- Environmental Mitigation - \$4.37M
 - 120-acre Preservation of Tuttle Farm (Joint Effort w/ City, SRC, DOT) – completed (\$1.34M)
 - 40-acre Preservation of Day Property in Blackwater Brook Watershed – completed (\$0.23M)
 - 64 acres of Preservation in Knight Brook Watershed – underway (est.\$2.0M)
 - Railway Brook Restoration & Preservation (23 acres) – underway (est. \$0.8M)

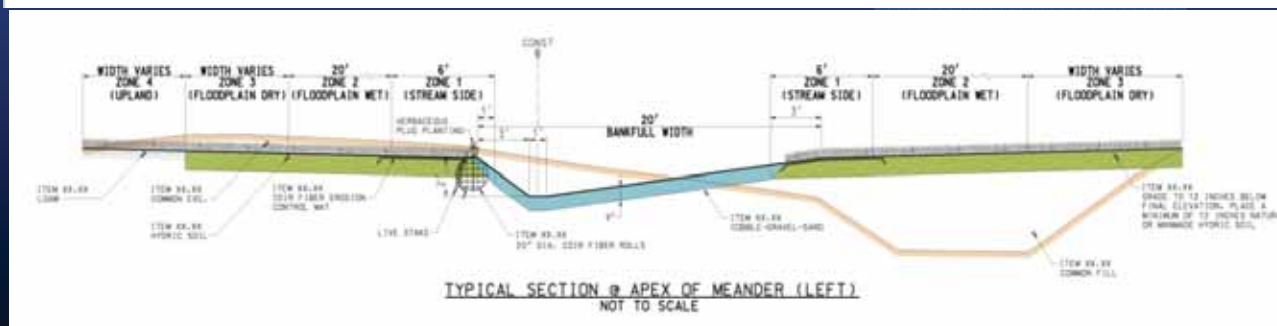
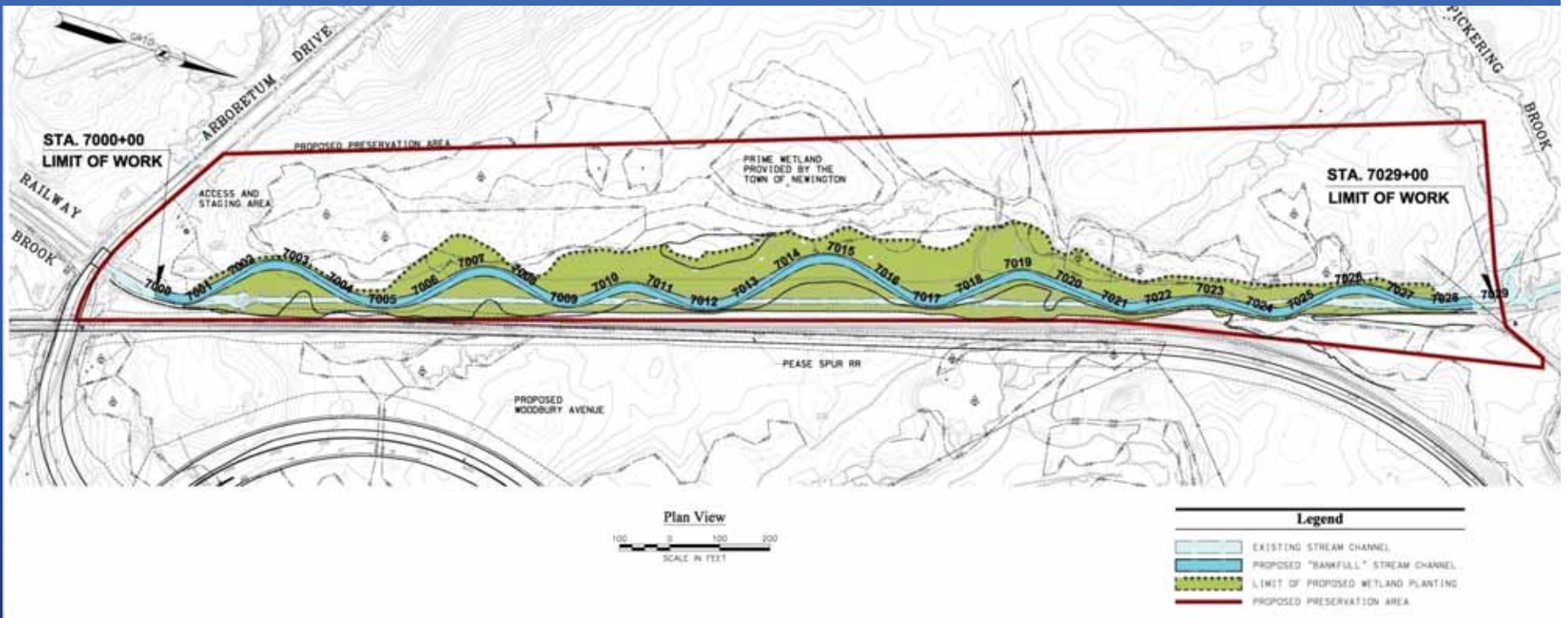
Tuttle Farm & Blackwater Brook



Knight Brook – Saba & Hislop Properties



Railway Brook Restoration



Construct during low water flow in 2015

Travel Demand Mitigation Components

- Travel Demand Management (TDM) Commitment Cost is \$16.28M
 - Park'n'Ride at Dover, Rochester and Lee (\$5.0 M)
 - Improved Downeaster Rail Service (\$2.0M)
 - Improved Transit Service (COAST & WILDCAT) (\$8.88M)
 - Financial Support for Seacoast TMA –(\$0.4M)

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Park 'n' Ride

- Park'n'Ride at Exit 9 in Dover – completed (\$3.49M)
- Park'n'Ride at Exit 13 in Rochester (Under construction \$1.35M by A. J. Coleman & Sons)
- Multi-use Park'n'Ride in Lee – CMAQ Location under review (est. \$85k)



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Improved Downeaster Rail Service

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



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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



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Expanded Local Transit Service

Local Coast Bus Routes

- route 2 – Rochester, Somersworth, Dover, Newington to Portsmouth (25% increase ridership)
- route 40 - Portsmouth/Pease trolley
- route 41 – Portsmouth Lafayette Road trolley
- UNH Wildcat service to Malls and Market Square (route 4)



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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



Newington-Dover Selected Highway Solution



- **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)

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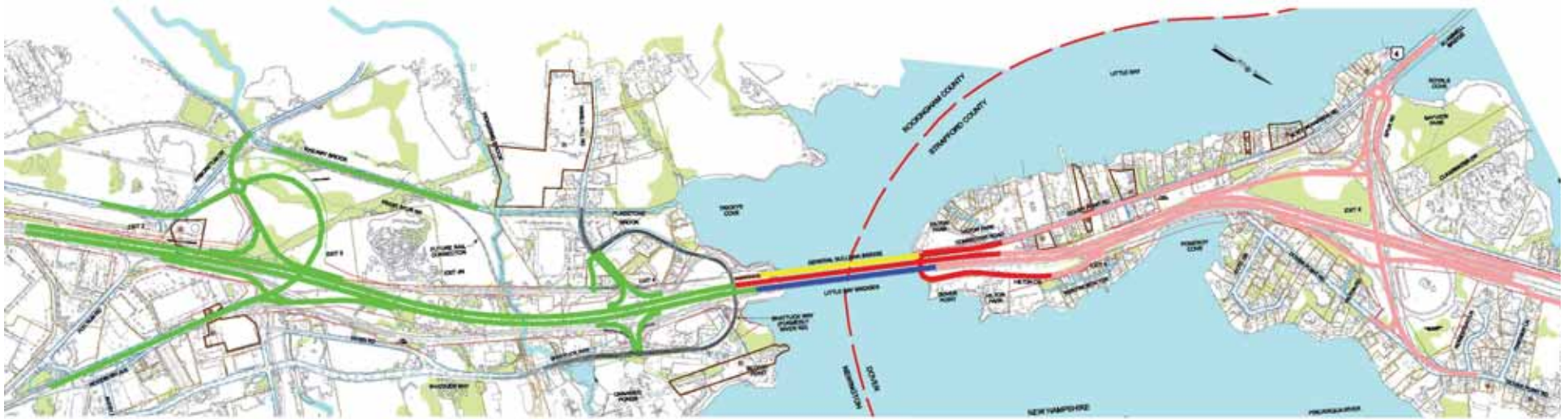
NEWINGTON
SOUTHERLY
RENDERING

NEWINGTON-DOVER 11238



DOVER
NORTHERLY
RENDERING

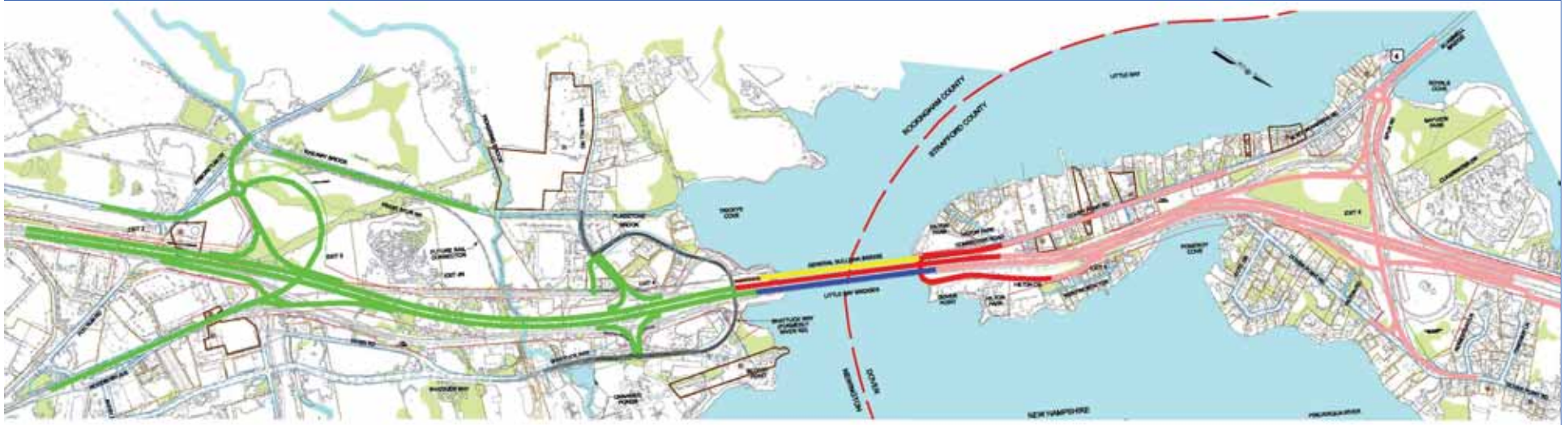
Current Contract Breakout & Schedule



CONSTRUCTION SCHEDULE

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|------------|------------------------------|------|--------------------------------|------|-------------------------------|-------------------------------|---------------------------------|-----------|------|-----------|
| CONTRACT L | [Red bar spanning 2010-2013] | | | | \$54.1 M | | | | | |
| CONTRACT O | | | | | [Blue bar spanning 2014-2016] | | | \$34.0 M* | | |
| CONTRACT M | | | [Green bar spanning 2012-2016] | | | | \$48.7 M | | | |
| CONTRACT Q | | | | | | [Pink bar spanning 2015-2018] | | | | \$49.2 M* |
| CONTRACT S | | | | | | | [Yellow bar spanning 2016-2019] | | | \$31.7 M |

*** Contract Q & O schedules subject to change**



■ Construction Contract Breakouts

- Contract L – SB Little Bay Bridge - \$54.1M - Construction Completed Fall 2013
 - Contract M – Exits 3 & 4 - \$48.7M - Anticipated Construction Completion **Summer 2015**
 - Contract O – Existing LBB Rehabilitation - \$34.0M – **Advertise August 2014**
 - Contract Q – Exit 6, Dover Mainline & Soundwalls - \$49.2M - **Advertise June 2015**
 - Contract S – GSB Rehabilitation - \$31.0 M - Design Ongoing
- Total Construction Cost = \$217.0M (2012 Dollars)**

Construction – Contract L

Ground Breaking
Celebration on
September 9, 2009





Contract L - SB Little Bay Bridge Construction

- **Construction Initiated in 2010, completed 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**

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 Ped and Bikeway to General Sullivan Bridge

- Pedestrian & Bicycle Structure



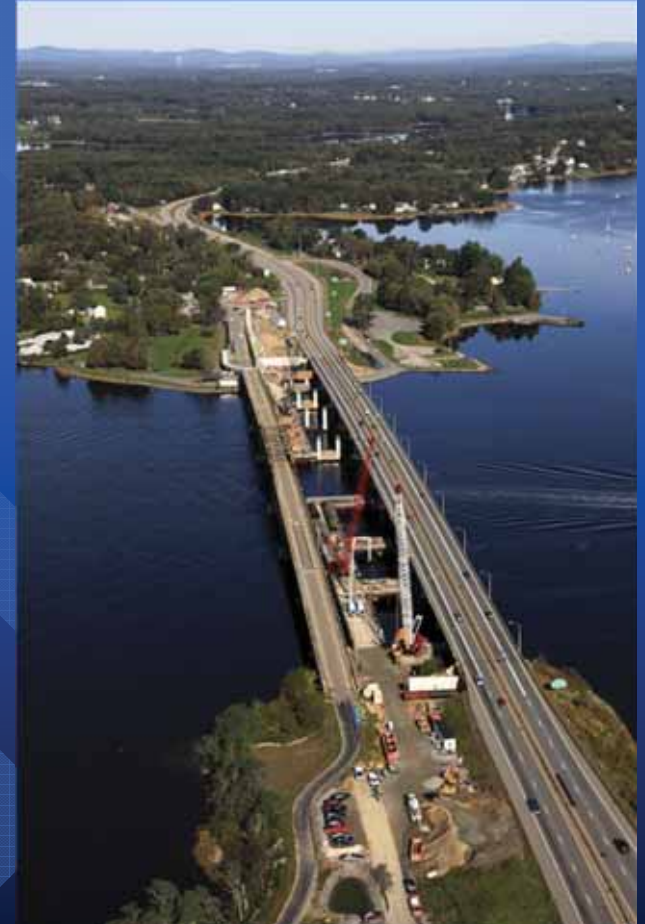
Construction – Contract L

Ped and Bikeway to GSB

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



Construction – Contract L Little Bay Bridge



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

Construction – Contract L Little Bay Bridge



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

Construction – Contract L Little Bay Bridge



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



**Final Bridge Deck
(2013)**

Contract 11238M



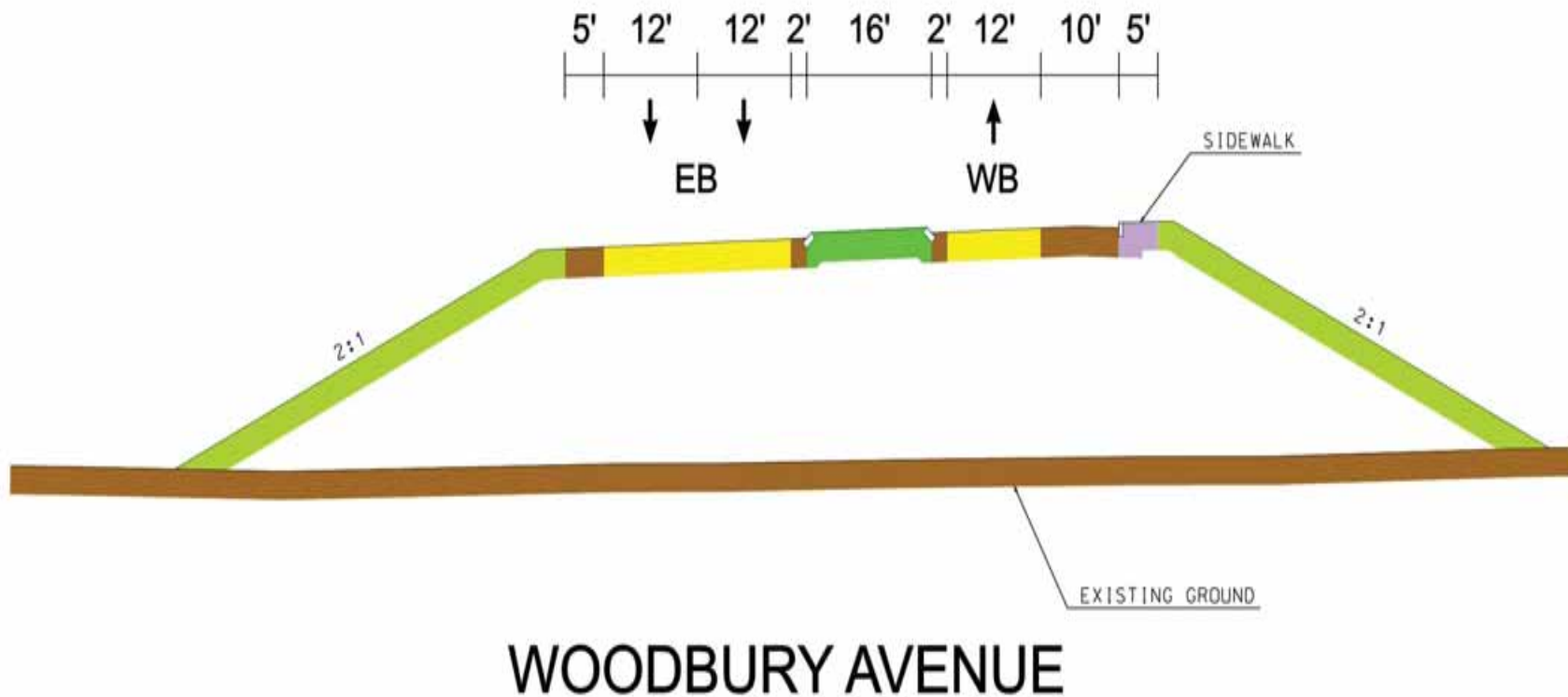
- Eliminates Exit 2 and Replaces it with Cul-de-Sac
- Provides a Full Service Interchange at Exit 3 with Extended Woodbury Avenue and Reconstructs Exit 4 Interchange
- Provides Additional Access into Pease
- Provides Future Consideration for Railroad Spur
- Eliminates Maintenance and Incident Management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

Contract M – Exit 3 and Arboretum Drive



- Full Service Interchange at Exit 3 with Additional PDA Access
- Arboretum Drive Work Extended 0.5 miles South of New Roundabout
- Provides Future Consideration for Railroad Spur
- Improved Access to Portsmouth Water Tower
- Railroad Brook Fluvial Restoration

Woodbury Avenue West of Spaulding Turnpike



Construction

11238M

Utility Relocation in 2011-12:

- 30” M&N Gas Line - Exit 3 and Arboretum Drive Area (By Others)
- Unutil Gas Distribution Line – Little Bay Directional Drill – completed in summer 2013

Contract M Construction

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

Construction – Contract M

Construction Operations

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

Construction – Contract M



Initial Construction Phase

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

Construction – Contract M



Embankment Area

- Installation of Sand Drains



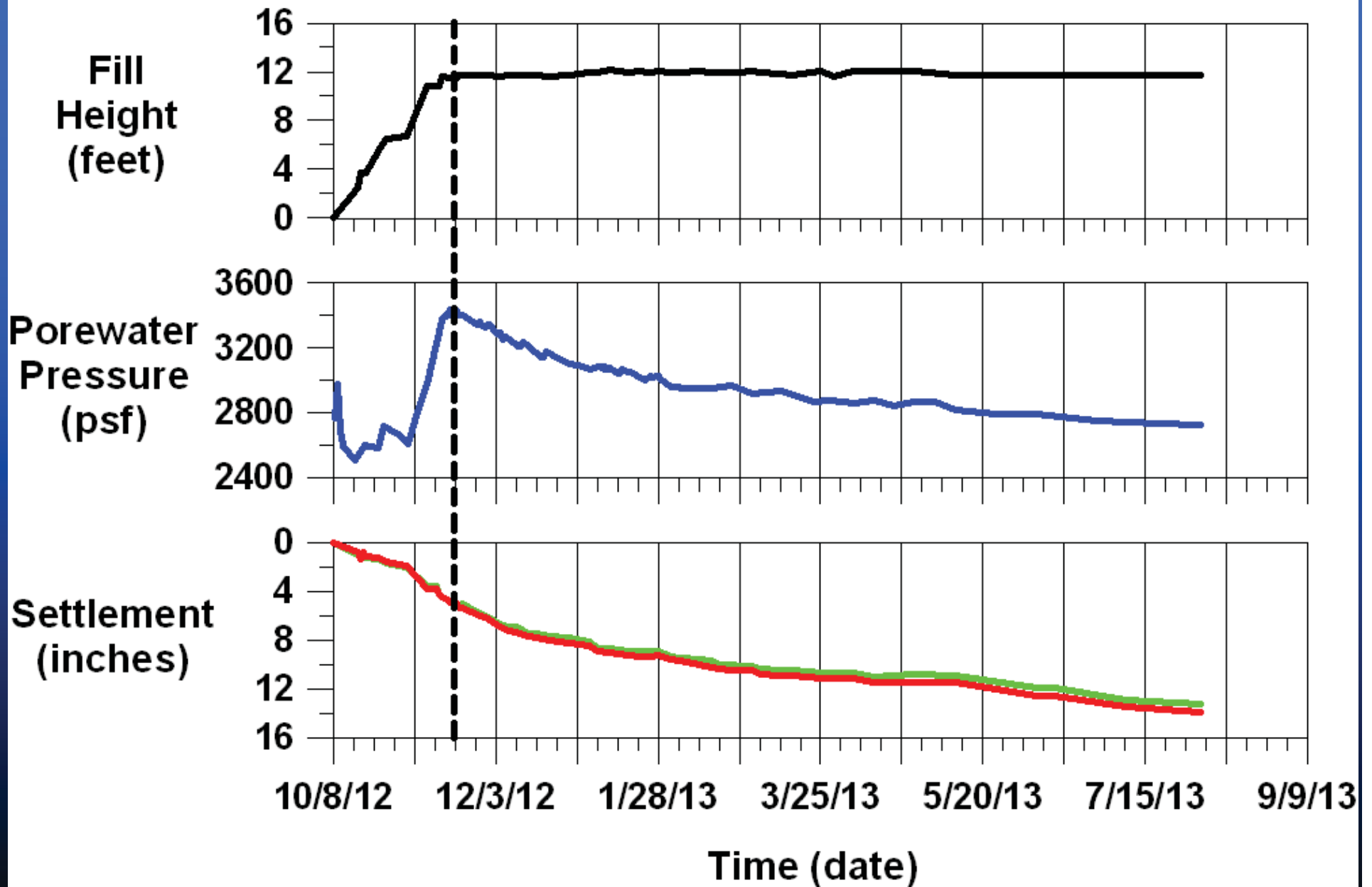
Construction – Contract M

Embankment Area

- Instrumentation for Rate of Settlement



Segment 1 - Test Embankment



Construction – Contract M

Pre-Construction Utility Relocations

- 30 Inch Diameter High Pressure M&M Gas Line Relocation (By Others)



Construction – Contract M

Preparation of Staging Site

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



Construction – Contract M

- **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

Woodbury
Avenue Bridge
(Westerly
Abutment)



Construction – Contract M

Woodbury Avenue Bridge (Middle Pier)



Construction – Contract M

Southbound Barrel Construction (Phase I)



Construction – Contract M

Woodbury
Avenue
Approach and
Arboretum Drive



Construction – Contract M

Shattuck Way Bridge Widening



Construction – Contract M

Water Quality Protection

- Flocculent Treatment
- Stormwater Basins



Construction – Contract M

Traffic
Transition
to New
Little Bay
Bridge in
Summer
2015

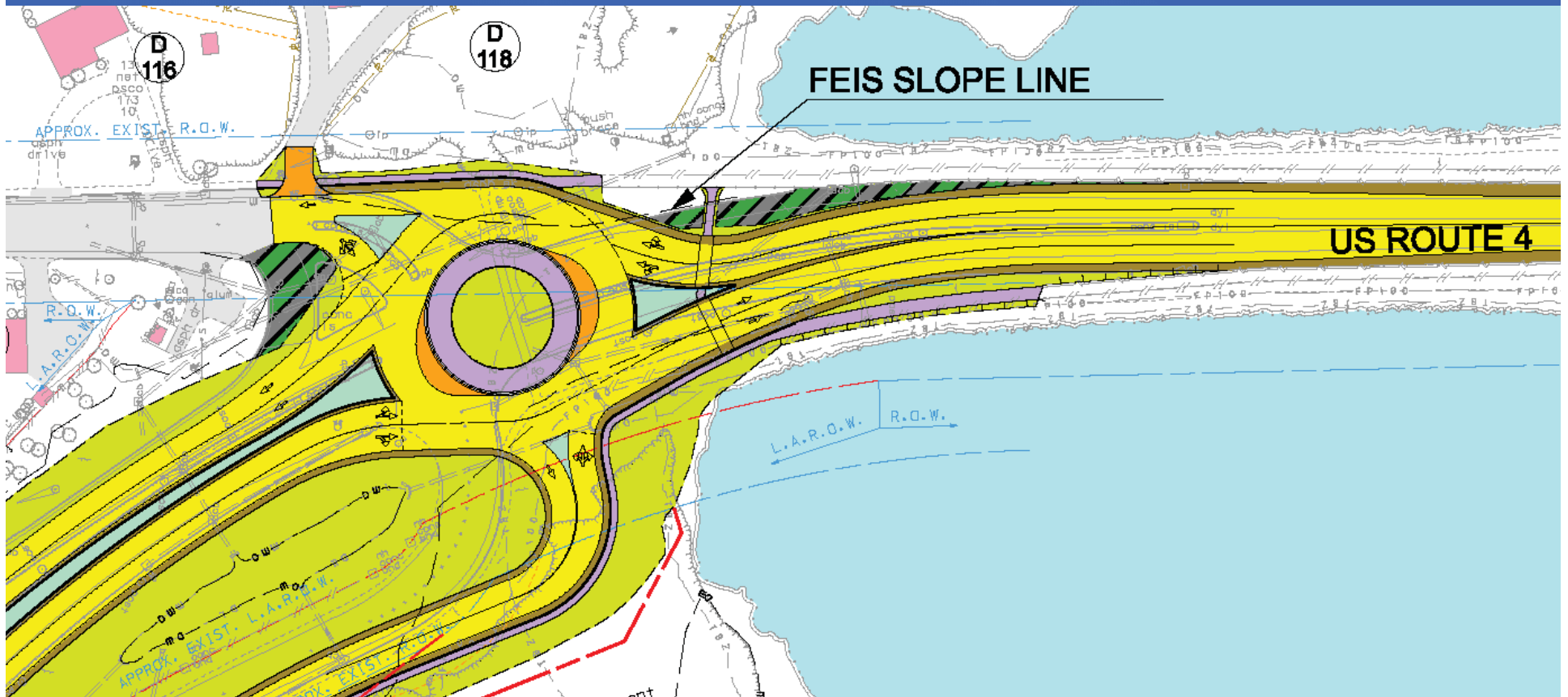


Contract 11238Q



- 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

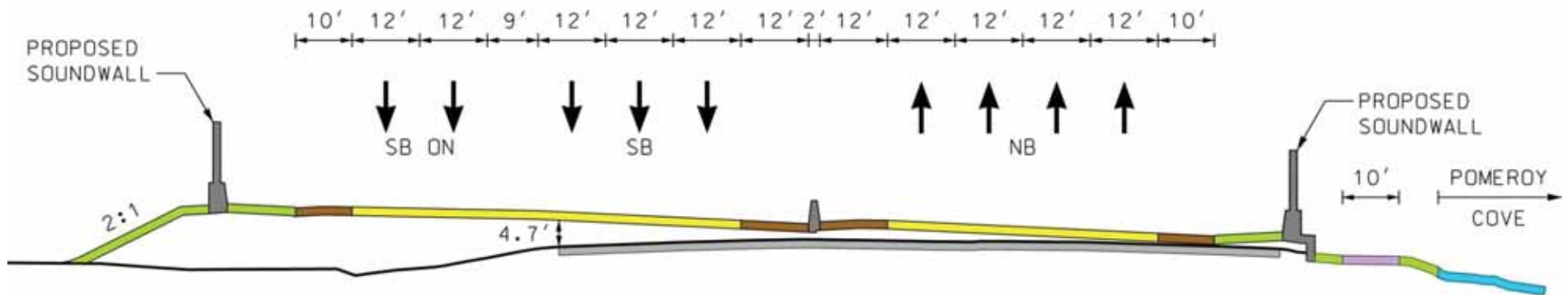
Roundabout Intersection



Two-Lane Hybrid Roundabout

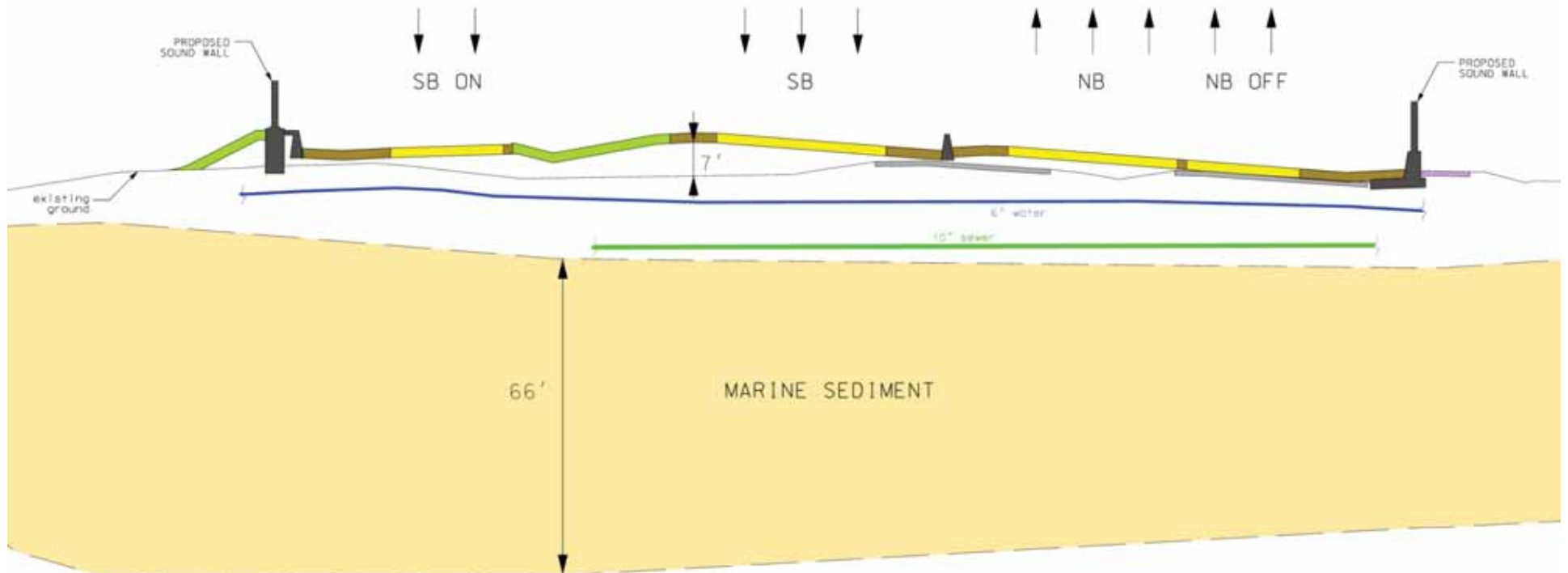
Contract Q

Spaulding Turnpike



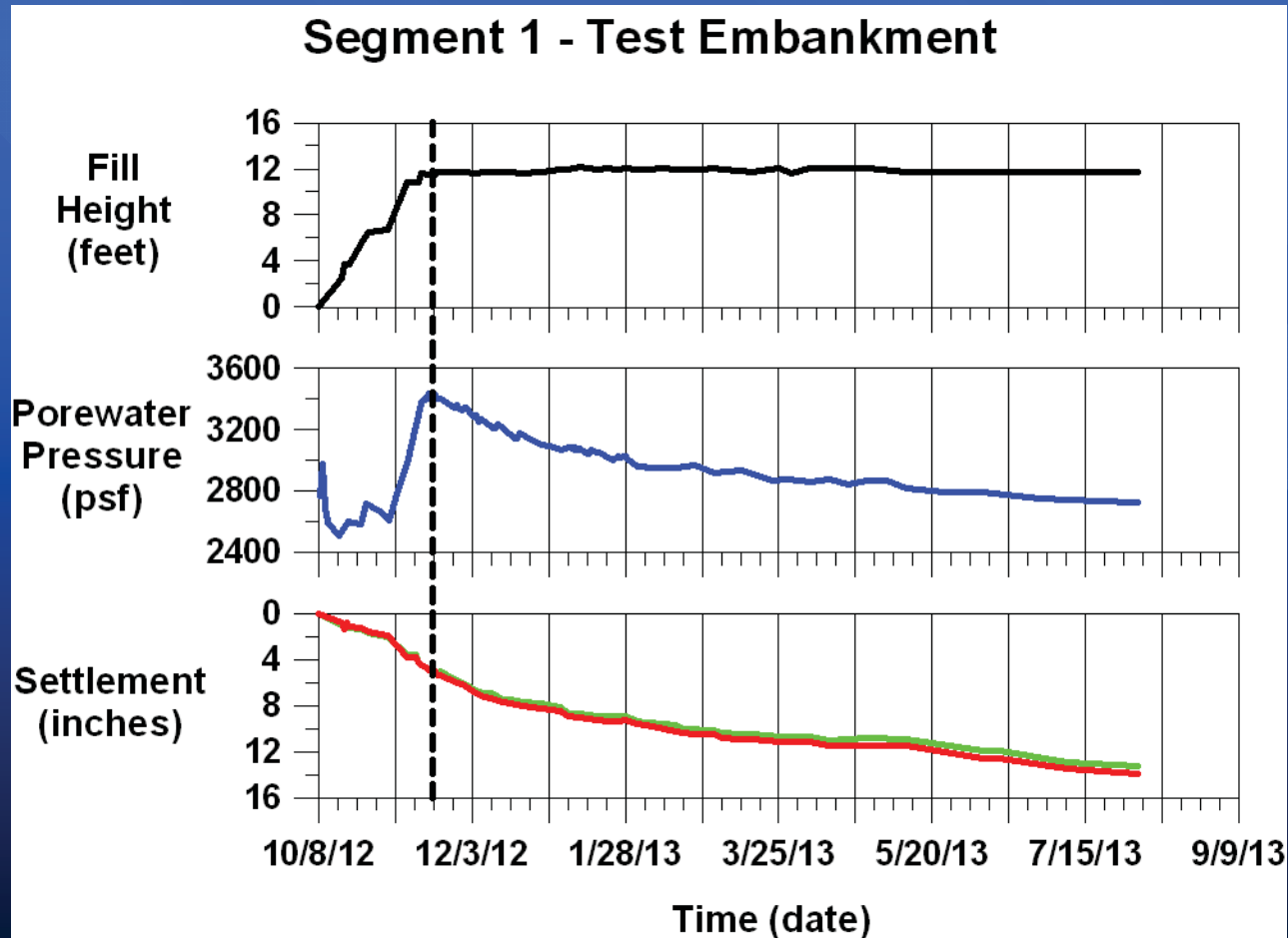
- 40' of Spaulding Turnpike Widening
- SB Raise in Elevation
- Soundwalls along NB and SB
- Pomeroy Cove Paved Pathway (10' wide) is Maintained

Cross Section Just North of Pomeroy Cove



Contract Q

Soft Soil Settlement Predictions



Contract Q

Contract Q- Dover- \$49.2 M

- **Currently Unfunded in Turnpike Program**
- **Tentative Advertising Date: June 2015**
- **Tentative Construction: 2015 - 2018**
- **Completes and Opens All Spaulding Turnpike Improvements**

Contract 112380



LITTLE BAY BRIDGE REHAB

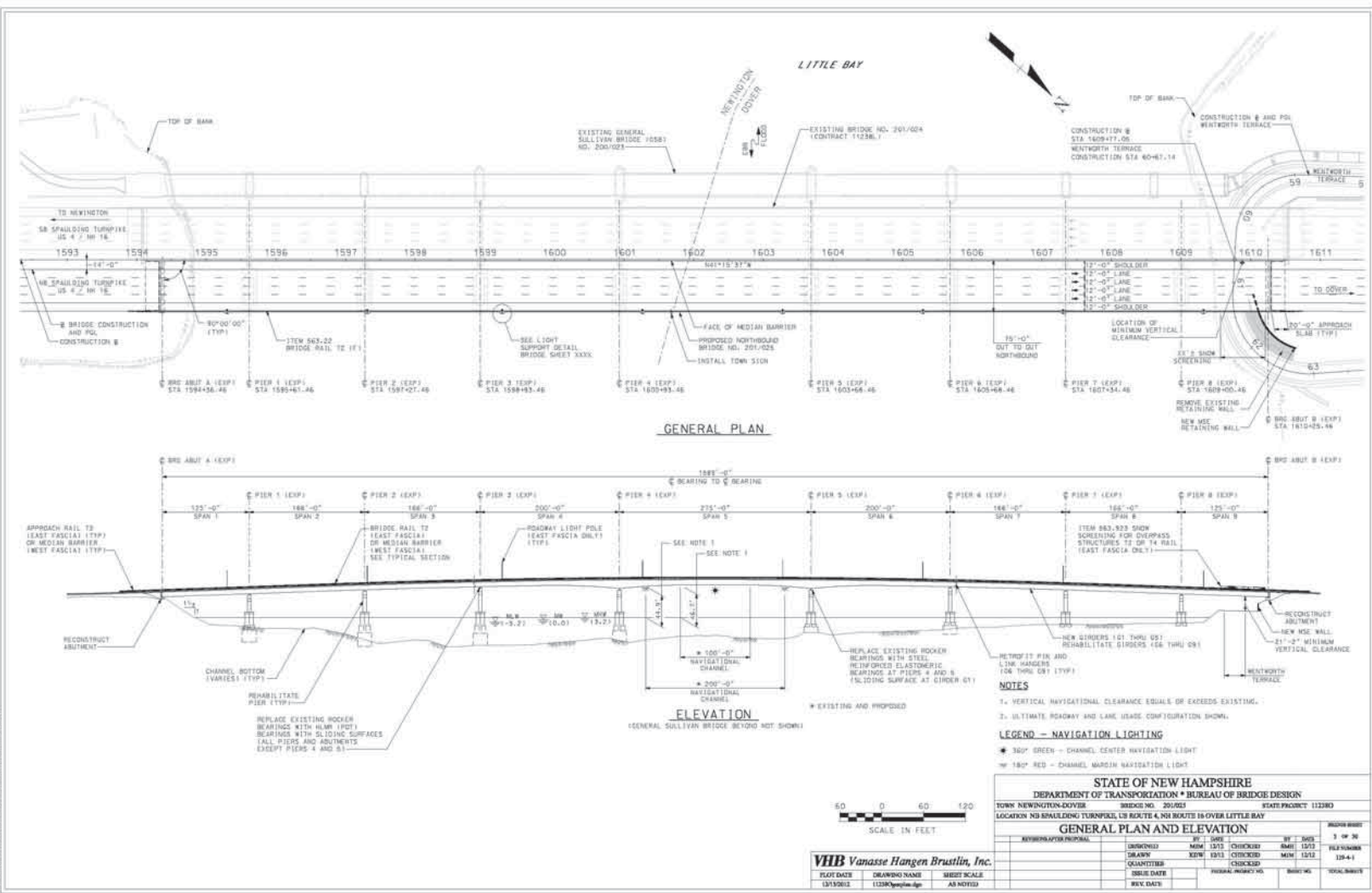
Contract 112380

Contract O - \$34.0 M

- Tentative Advertising Date: Aug. 2014
- Tentative Construction: 2014 – 2016
- Replace Steel Beams on 1966 Segment
- Rehabilitate the 1984 girders; replace rocker bearings
- Replace full deck (1589 Feet)
- Modular expansion joints at abutments

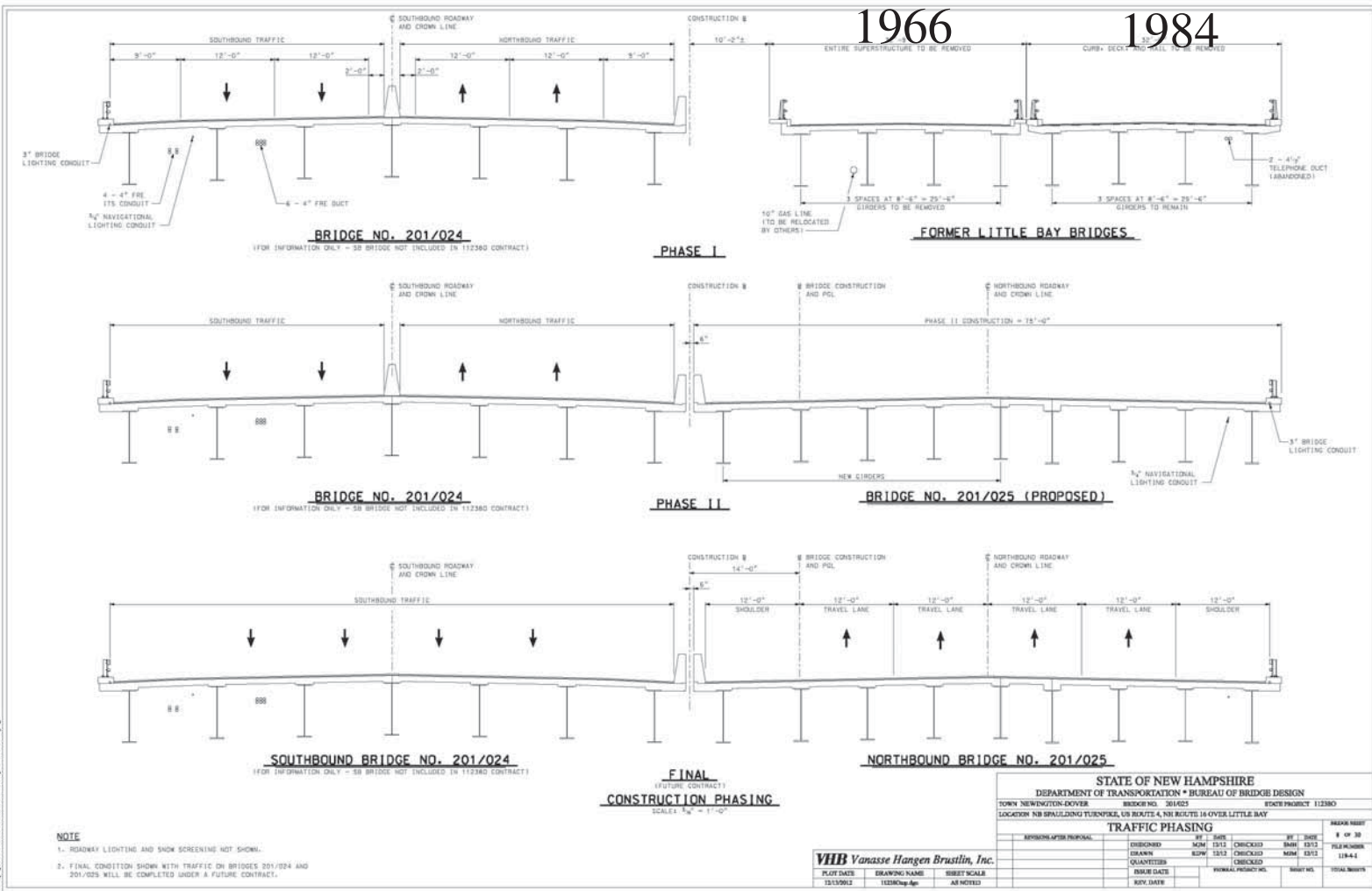
Contract 112380

Rehab of Existing LBB



Contract 112380

Rehab of Existing LBB



| STATE OF NEW HAMPSHIRE | | | | | | | | | | |
|--|---|-----------------|---------|---------------|--------|---------------|-------|-------|--|---------|
| DEPARTMENT OF TRANSPORTATION • BUREAU OF BRIDGE DESIGN | | | | | | | | | | |
| TOWN | NEWINGTON-DOVER | BRIDGE NO. | 201023 | STATE PROJECT | 112380 | DRAWING SHEET | | | | |
| LOCATION | NB SPALLING TUNNEL, US ROUTE 4, NB ROUTE 18 OVER LITTLE BAY | TRAFFIC PHASING | | | | | | | | 8 OF 30 |
| DESIGNED | SCM | 12/12 | CHECKED | SMH | 12/12 | DATE | 12/12 | 118-4 | | |
| DRAWN | BDW | 12/12 | CHECKED | SMH | 12/12 | DATE | 12/12 | | | |
| QUANTITIES | | | CHECKED | | | DATE | | | | |
| ISSUE DATE | | | ISSUED | | | DATE | | | | |
| REV. DATE | | | | | | DATE | | | | |

VHB Vanasse Hangen Brustlin, Inc.

PLOT DATE: 12/12/02
 DRAWING NAME: 112380-024.dwg
 SHEET SCALE: AS NOTED

Contract 11238S



GENERAL SULLIVAN BRIDGE REHAB

Contract 11238S

Contract S- Dover- \$31.0 M

- Tentative Advertising Date: Aug. 2016
- Tentative Construction: 2016 - 2018
- Rehabilitation of General Sullivan Bridge for Pedestrian and Bicycle Access
 - First Phase – Inspection in 2014
 - Second Phase – Rehabilitation Evaluation (Feasibility to meet NEPA) in 2014-15
 - Third Phase – Design Plans for Construction 2015-16

Contract 11238S



Contact Information

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

THANK YOU

Questions/Comments