

# Rehabilitation of Bridge No. 00454

## State Project No. 0165-0509

Interstate 91 over Connecticut River, Amtrak, RTE 159 & South Water Street

Windsor Locks & East Windsor

### Public Information Meeting

Live Event: **Monday May 10, 7:00 p.m.**

Join us for a Question-and-Answer session following the formal presentation and send us your questions or comments during the session:

Project Email: : [DOTProject165-509@ct.gov](mailto:DOTProject165-509@ct.gov)  
(Preferred)

Phone: : [860-944-1111](tel:860-944-1111)

Visit the Project Webpage:

<http://portal.ct.gov/DOTWindsorLocksEastWindsor165-509>



A recording of the formal presentation will be posted to YouTube after the live event. Closed captioning, including non-English translation options, will be available at that time.



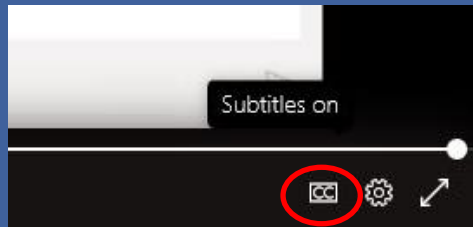
CONNECTICUT DEPARTMENT OF TRANSPORTATION



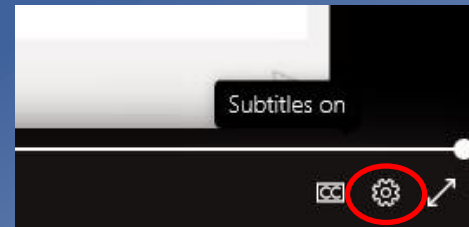
# How to View Captions or Subtitles

## Captions / Subtitles (MS Teams only)

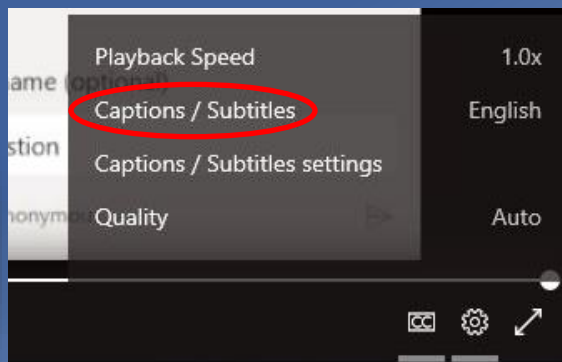
1) Select “CC” at bottom right



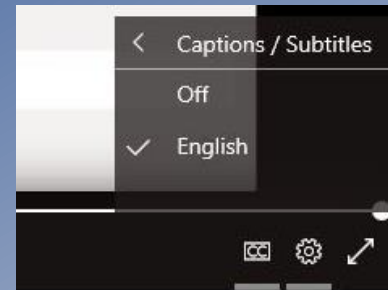
2) Select Settings wheel



3) Select “Captions / Subtitles”



4) Select desired language



### Available Languages:

- English
- Spanish
- Portuguese
- Creole



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CONNECTICUT DEPARTMENT OF TRANSPORTATION



# Public Information Meeting

## Project 0165-0509, Rehabilitation of Bridge No. 00454



Meziane Meziani  
Project Engineer - CTDOT



# Public Information Meeting

## Project 0165-0509, Rehabilitation of Bridge No. 00454



Bart Sweeney  
Manager of Bridges - CTDOT



Timothy Fields  
Principal Engineer – CTDOT



Sowatei Lomotey  
Project Manager – CTDOT



Meziane Meziani  
Project Engineer – CTDOT



Ryan Cooley  
Project Manager – CHA



Jen Pixley  
Structural Engineer – CHA



Jeff LeMay  
Highway Engineer – CHA



# Public Information Meeting

## Project 0165-0509, Rehabilitation of Bridge No. 00454

### TITLE VI: CIVIL RIGHT

<https://portal.ct.gov/DOT/Business/Contract-Compliance/Title-VI-Page>

no person shall, on the basis of race, color, or national origin, be excluded from participation or be subjected to discrimination under this project.



# Public Information Meeting

## Project 0165-0509, Rehabilitation of Bridge No. 00454

### Meeting Overview

- Format Presentation
- Live Questions and Answer (Q&A) session to follow



Meziane Meziani  
Project Engineer



# Public Information Meeting

## Project 0165-0509, Rehabilitation of Bridge No. 00454

### Question and Answer (Q&A) Session

Three means of communication with us are available during the live Q&A:

- Email
- Phone
- MS Teams Chat (only available through MS Teams)

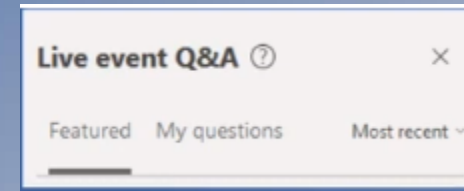


# Public Information Meeting

## Project 0165-0509, Rehabilitation of Bridge No. 00454

### Question and Answer (Q&A) Session

- Questions will be posted to the Q&A chat field of the presentation
  - A moderator will post the questions to the MS Teams Q&A chat
- Click the “Featured” tab in the live event MS Teams Q&A



# Public Information Meeting

## Project 0165-0509, Rehabilitation of Bridge No. 00454

### Question and Answer (Q&A) Session

Send a question or a comment:

By Email: [DOTProject165-509@ct.gov](mailto:DOTProject165-509@ct.gov)

By Phone: 860-944-1111

By chat: [MS Teams Live Event chat](#)

Note: the comment period is open through **May 23\***

\* Access by email and Phone only.



# Public Information Meeting

## Project 0165-0509, Rehabilitation of Bridge No. 00454



Ryan Cooley

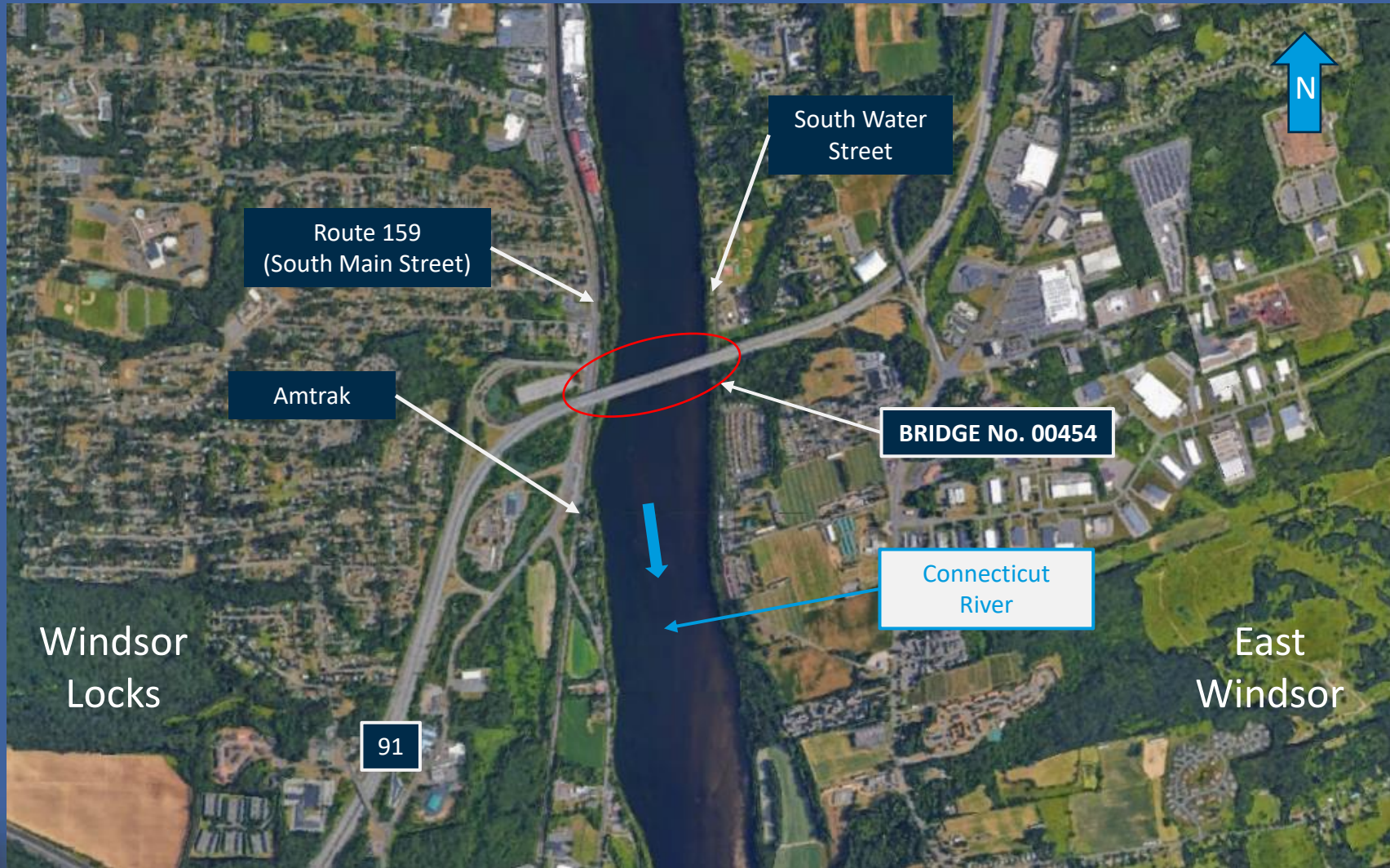
Project Manager – CHA

### Formal Presentation:

Ryan Cooley from CHA will walk us through the presentation.



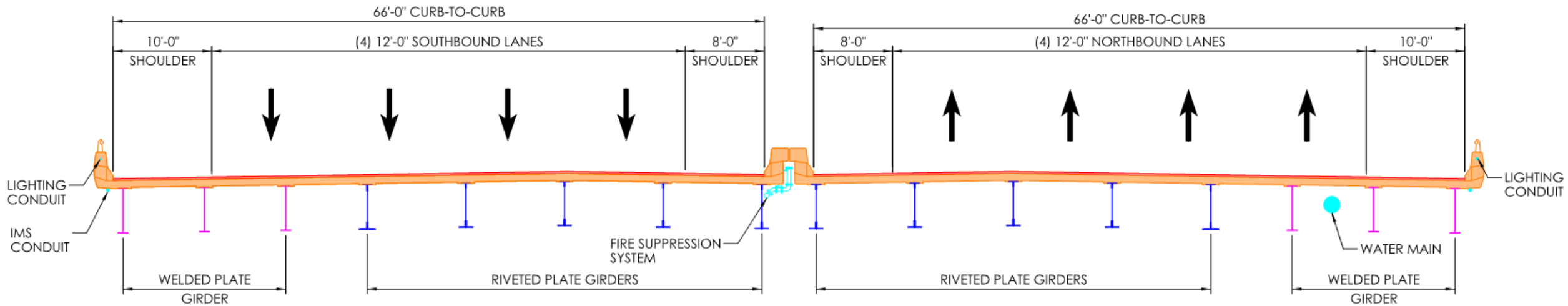
# PROJECT LOCATION



# EXISTING BRIDGE



# EXISTING CROSS SECTION



# EXISTING FIELD CONDITIONS - DECK



Top of Bridge looking West.



Strip seal expansion joint at Pier 7



Condition of underside of deck (Span P10).

ITEM	CONDITION	RATING
<b>Deck</b>	<b>Satisfactory</b>	<b>6</b>
• Overlay (Bituminous Concrete)	Very Good	8
• Deck – Structure	Satisfactory	6
• Median/Parapet	Satisfactory	6
• Deck Joints	Satisfactory	6

# EXISTING FIELD CONDITIONS - APPROACHES



East Approach looking East.



Approach median barrier at Abutment No. 1, settled approach median.



(Left) NB leading end guiderail attachment. (Below) NB trailing end guiderail attachment



ITEM	CONDITION	RATING
<b>Approach</b>	<b>Satisfactory</b>	<b>6</b>
• Guide Rail	Satisfactory	6
• Pavement (Bituminous Concrete)	Very Good	8
• Embankment	Very Good	8

# EXISTING FIELD CONDITIONS - SUPERSTRUCTURE



Pack rust between plates at the bottom flange.



Expansion Rocker Bearing with 1/8" thick pack rust under rocks and Fixed Bearing with moderate rust and peeling paint at Pier 3.



End diaphragm at Pier 3 with peeling paint and laminated rust.

ITEM	CONDITION	RATING
<b>Superstructure</b>	Fair	5
• Bearings	Fair	5
• Girders (Steel)	Fair	5
• Rivets & Bolts	Fair	5
• Welds	Fair	5

# EXISTING FIELD CONDITIONS - SUBSTRUCTURE



Abutment & slope protection typical condition (Abutment No. 1).



Pier typical condition (Pier 9). (Note: outside stems for widened bridge)



Spall at pedestal with exposed rebar (Pier 7).

ITEM	CONDITION	RATING
<b>Substructure</b>	<b>Satisfactory</b>	<b>6</b>
• Abutment (Stem/Backwall)	Satisfactory	6
• Wingwalls	Good	7
• Piers (Caps/Columns)	Satisfactory	6

# EXISTING FIELD CONDITIONS – CHANNEL & PROTECTION



Channel under bridge, looking North.



Channel upstream of bridge, looking North.



Channel downstream of bridge, looking South.

ITEM	CONDITION	RATING
<b>Channel &amp; Channel Protection</b>	<b>Satisfactory</b>	<b>6</b>
• Channel – Scour	Satisfactory	6
• Embankment – Erosion	Good	7
• Channel Change	Satisfactory	6
• Riprap	Very Good	8



# PROJECT PURPOSE AND NEED

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## Purpose:

- Upgrade the integrity of the bridge structural elements to a “state of good repair” to meet current design standards.

## Need:

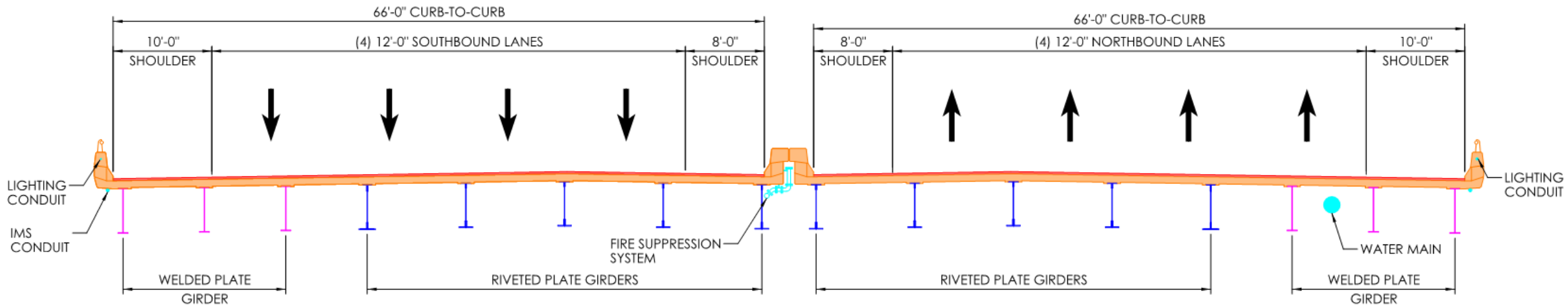
- Prevent the rating of the structural steel from dropping from a rating = 5 to a rating = 4. This bridge work is intended to extend the service life.



# BRIDGE PRESERVATION WORK

## SCOPE OF WORK (major items):

- Strengthen & repair steel
- Replace expansion bearings
- Clean & paint fixed bearings
- Repair deteriorated areas of deck & barriers
- Paint beam ends and spot paint
- Patch substructure
- Replace wearing surface
- Install new lights
- Replace navigation lights
- Replace sign supports



# LIGHT STANDARDS

## EXISTING

- Existing bridge mounted light standard (Fair “5” condition)
- Poles too close to gutter line (gutter line to CL pole = 1’-9”)
- Snowplows have hit the light standards and damaged or broke them off

## REPAIR

- Mounting brackets used to offset light standard



# BEARINGS

## EXISTING

- Existing expansion bearings are steel assembly “rocker” type
- Existing fixed bearings are fixed pin type (Fair “5” condition)

## REPAIR

- Replace all expansion bearings, clean and paint fixed bearings, and install keeper blocks or anchor rods
  - Bearing Types: Elastomeric, HLMR or Elastomeric with PTFE



# STEEL DETERIORATION/REPAIRS

## EXISTING

- Existing steel exhibits pack rust, section loss, pitting & laminated rust (Fair “5” condition)
- Wind bracing exhibits deterioration and damage

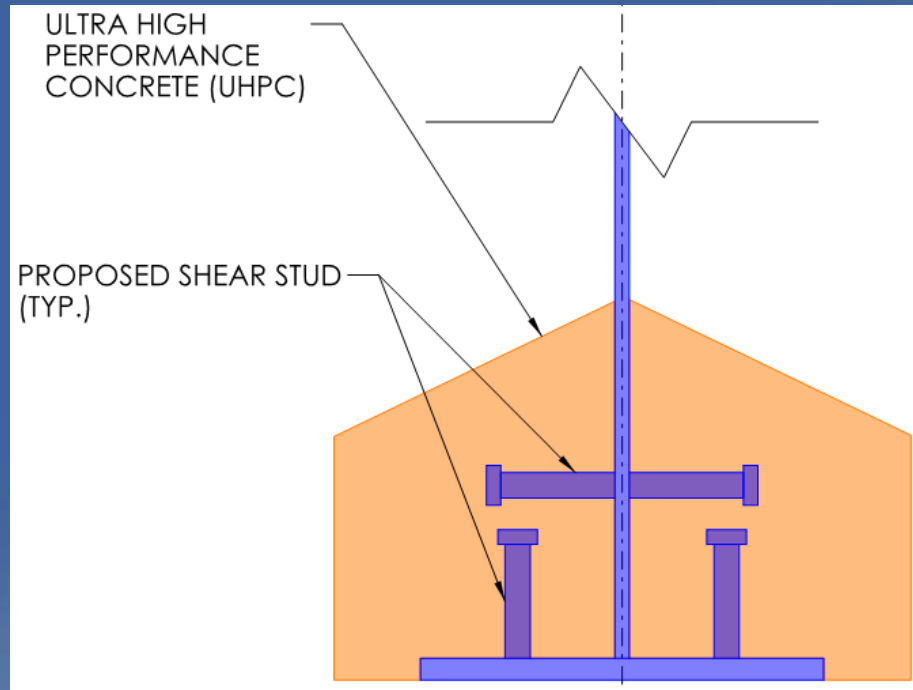
## REPAIR

- Web & Flange repair
- Weld repair
- Stiffener repair
- Replace gusset plate
- Replace deteriorated rivets
- Remove wind bracing



# STRUCTURAL STEEL STRENGTHENING/REPAIRS

- Repair deteriorated steel
- Strengthening of steel is required for truck loads
- Ultra High-Performance Concrete (UHPC) will be used
  - Flexural steel strengthening & pack rust repair
  - Pilot method for steel repair and strengthening
  - Work with Federal Highway Administration (FHWA)



# STRUCTURAL STEEL PAINTING

## EXISTING

- Approximately 10% deteriorated paint (Satisfactory “6” condition)

## REPAIR

- Paint Beam Ends and Spot Paint



# OVERHEAD SIGN STRUCTURES

## EXISTING

- Existing Sign structures at east and west approaches
- Sign sheeting does not meet MUTCD requirements

## REPAIR

- Upgrade to meet current standards by installing a new sign structure spanning over NB & SB, eliminated median foundations

Existing



Proposed



# INTERSTATE 91 GEOMETRICS (Existing & Proposed)

- 4R Design Criteria – Urban Freeways
- ADT (Average Daily Traffic) = 53,900 SB & 54,600 NB (14% truck traffic)
- Posted Speed = 65 mph, Design Speed = 65-70 mph
- Deck geometry rating (NBIS Item 68) = “9”
- Travel Lane Widths = 12'-0" (NB & SB)
- Shoulder Widths = 8'-0" (Left), 10'-0" (Right) (NB & SB)



# CONNECTICUT RIVER ENVIRONMENTAL

## ENVIRONMENTAL & WETLAND RESOURCES:

- Navigable river
- Not within an aquifer protection area or public drinking watershed
- Critical Habitat for numerous Endangered Species & Essential Fish Habitat
- Bridge is located within a Natural Diversity Database Area
  - U.S. Fish and Wildlife Service (USFWS) reports the Northern Long-eared Bat may potentially affect activities in the project area



CIA

# PERMITTING

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## ANTICIPATED PERMITS:

- CTDOT Flood Management General Permit
- ACOE General Permit – PCN
- DEEP Certificate of Permission Permit
- DEEP Inland Wetland General Permit
- US Coast Guard Construction Letter
- US Coast Guard Deviation Letter



# IMPACTS

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- Traffic:
  - Shoulder closures on I-91 for work on Parapet Repairs, Light Standards, Navigation Lights & Overhead Sign Structures
  - Off-peak lane & shoulder closures on I-91 for wearing surface replacement and deck repair
- Environmental:
  - Watercourse Impacts due to potential use of barges
- ROW:
  - None
- Utilities:
  - None



# SCHEDULE AND CONSTRUCTION COST

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## Schedule

- Advertising for Construction: Fall 2022
- Start of Construction: Spring 2023
- Construction Completion: Fall 2025

## Estimated Construction Cost

- Total Estimated Construction Cost = \$38,700,000
- 90% Federal Funds, 10% State Funds

The cost and schedule are preliminary and are subject to change.



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Please complete our survey: <https://www.surveymonkey.com/r/9T2KQ3S>



THANK YOU FOR YOUR TIME.

