



2024 Owner Representative Annual Reports

Prepared By:

MassDOT Highway Division

December 2024

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Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbitts-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator

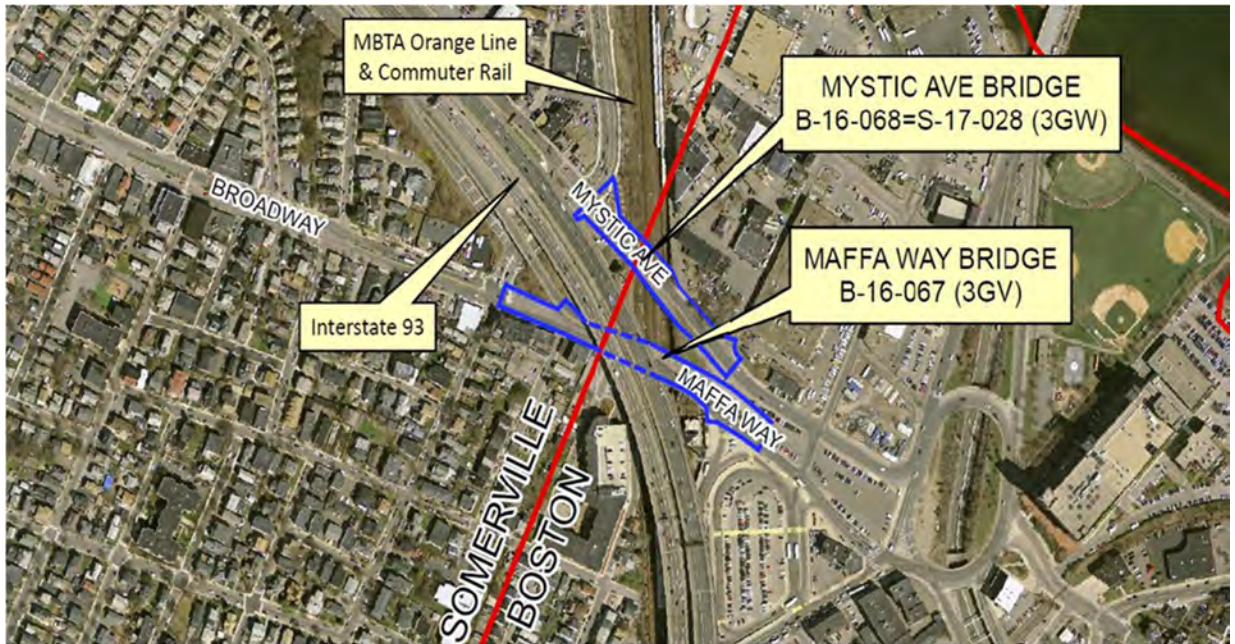


Project Name: Superstructure Replacement of Maffa Way & Mystic Avenue – Boston

Owner's Representative Contract Number: 120635

Project Number: 607670

Construction Contract Number: 119537



Owner's Representative's 2024 Annual Report

Owner's Representative Contract No.: 120635 JRP Consulting Services, LLC

Owner's Representative Work Order No.: 2

Project No. 607670 SUPERSTRUCTURE REPLACEMENT OF MAFFA WAY & MYSTIC AVENUE - Boston

Preliminary Designer: PARE Corporation

Design-Builder: Skanska USA Civil Northeast Inc. & CHA Consulting

Prepared by: Jeffrey Paul, P.E., DBIA

December 17, 2024

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I EXECUTIVE SUMMARY

The Maffa Way and Mystic Avenue Bridges are structurally deficient and in need of repair and rehabilitation. First constructed in the 1950’s, the Maffa Way and Mystic Avenue Bridges carry approximately 30,000 and 27,000 vehicles daily, respectively, providing crucial transportation links between Somerville, the north shore, and Boston. When considering the extent of deterioration of the steel superstructures, the bridges' age, the location and amount of traffic volume they carry, and fatigue sensitive details, it was determined to replace the superstructures of both bridges.

To ensure the safety of these critical structures, MassDOT retained Pare Corporation to provide preliminary engineering services required to prepare construction bridging documents, the Base Technical Concept, to reconstruct and reconfigure the Maffa Way and Mystic Avenue bridge structures to a state of good repair. MassDOT chose to utilize a Best Value Design-Build Procurement process (BVDB) to accelerate delivery of the project. On February 22, 2023, the project was awarded to Skanska USA Civil Northeast Inc. with Lead Designer CHA Consulting. MassDOT is responsible for project advertisement, administering Federal funds associated with the project and construction oversight.

The work under this project consists of the design and construction for the full removal and replacement of the existing bridge superstructures, the rehabilitation of the existing substructures to remain in place, moment slabs, and retaining walls. Roadway work includes vertical and horizontal grade adjustments, full-depth pavement reconstruction, grading, granite curb, cement concrete sidewalks, dedicated bus and bicycle facilities, drainage, significant utility relocations, signage, traffic signal adjustments, pavement markings, and other related work, including the reconstruction and resurfacing of a portion of the I-93 Southbound Off Ramp onto Maffa Way. The project includes extensive coordination with the MBTA, City of Boston, and City of Somerville.

Project Name: Superstructure Replacement of Maffa Way & Mystic Avenue – Boston
Owner’s Representative Contract Number: 120635
Project Number: 607670
Construction Contract Number: 119537

The purpose of the project is to improve public safety and promote mobility for pedestrians, cyclists, public transportation, and vehicles. Project goals include: addressing structural deficiencies by replacing two bridge superstructures with new code compliant and low-maintenance bridges; addressing traffic capacity and multimodal accessibility by maintaining general purpose travel lanes on each bridge, providing separate bicycle accommodations, improving sidewalks, and maintaining the existing bus lane on Maffa Way; and integrating with future projects including Rutherford Avenue improvements, One Mystic development, and completion of Assembly Square.

MassDOT and Skanska have committed to keeping the public informed as well as managing impacts as best they can while getting the project completed. Outreach efforts will include: a project website, informational materials provided in community facilities, informational materials located on MBTA vehicles, public information meetings, Design Public Hearings, and briefings with local community organizations. Public Information Meetings were held in January and May 2024.

To minimize impacts to MBTA track operations, the contract allows for two surge periods, one each in 2024 and 2025, consisting of nine consecutive days, where Orange Line operations would be shut down at Sullivan Station and replaced with bussing between Wellington and North Stations. The first surge was successfully completed early on Friday June 28, 2024, at 11am, thus meeting Incentive Payment #1 by 68 hours. This entitled Skanska to an incentive payment of \$897,600.

As of November 30, 2024, the project is in construction. The Project contains a Contractual Notice to Proceed date of April 3, 2023 and a Contractual Contractor Field Completion date of December 30, 2026, resulting in a contract duration of 45 months or 3.7 years. The total project encumbrance is \$49,929,943 with a forecast cost at completion of \$52,260,715. The increase is largely due in part to the additional scope of work associated with the Lombardi/Broadway corridor improvements.

II ANNUAL REPORT

Contract Scope of Work

The Massachusetts Department of Transportation, Highway Division (MassDOT) proposes to replace the superstructures of the Maffa Way Bridge (B-16-067 (3GV)) and the Mystic Avenue Bridge (B-16-068=S-17-028 (3GW)) over the Orange Line, MBTA, and Pan Am Railways. The Maffa Way Bridge is located in the City of Boston, and the Mystic Avenue Bridge is located on the Boston/Somerville city line. The project includes modifications to the approach roadways for each structure, including reconstruction of existing pedestrian accommodations and the addition of bicycle accommodations.

Built in the 1950’s, the Maffa Way Bridge consists of a two (2) span continuous structure consisting of a reinforced concrete deck with a bituminous concrete wearing surface supported by rolled steel stringers. The superstructure is supported by reinforced concrete gravity wall abutments and one reinforced concrete wall pier supported on a spread footing. Maffa Way is classified as an urban principal arterial that runs east to west between Somerville/Boston City Lines and the Alford Street/Rutherford Avenue (Route 99)/ Main Street rotary. Additionally, this bridge is under MassDOT jurisdiction and is also part of the National Highway System (NHS).

The Maffa Way Bridge structure has an overall curb to curb width of 60 feet and an out-to-out width of approximately 83 feet. Within the curb-to-curb width, 50 feet is allotted for traffic from Broadway and the I-93 ramp combined while the remaining 10 feet on the northern is a crosshatched shoulder to dissuade vehicular use. The bridge has an existing 8.5-foot sidewalk with granite curbing on either side of the bridge.

Also built in the early 1950’s, the Mystic Avenue Bridge consists of a three (3) span continuous structure consisting of a reinforced concrete deck with a bituminous wearing surface supported on rolled steel stringers. The superstructure is supported by a concrete

abutment on the east approach, a stone masonry abutment with a concrete beam seat on the west approach, and two reinforced concrete wall piers supported on spread footings. Mystic Avenue is a one-way urban principal arterial that runs east to west between Bailey Road in Somerville and Main Street in Boston, Massachusetts. It is under MassDOT jurisdiction and is also part of the National Highway System (NHS).

The Mystic Avenue Bridge has an overall curb to curb width varies from approximately 51-foot wide to 58-foot wide and the out-to-out width varies from 55-foot wide to 64-foot wide. Within the curb-to-curb width, at the start of the bridge 30-foot is allotted for motorist while the remainder is blocked off to prevent motorist from trying to enter using the parking lot to the southeast of the bridge. On the bridge the entire curb-to-curb width is used for motorists to navigate the roadway. The bridge has an 8.5-foot concrete sidewalk on the north side. There is no posted speed limit prior to or within the project area therefore a speed limit of 25 miles per hour is assumed, as both the cities of Boston and Somerville have opted into the state’s policy regarding thickly settled or business districts.

When considering the extent of deterioration of the steel superstructures, the bridges' age, the location and amount of traffic volume they carry, and fatigue sensitive details, replacement of the superstructures proved to be a reasonable option. With both bridges nearing their expected service life, especially in a high-volume area, the existing superstructures would not be able to maintain a satisfactory level of service without major rehabilitation.

The scope of work includes both design and construction for the full removal and replacement of the existing bridge superstructures, the rehabilitation of the existing substructures to remain in place, moment slabs, and retaining walls. Roadway work includes vertical and horizontal grade adjustments, full-depth pavement reconstruction, grading, granite curb, cement concrete sidewalks, bicycle facilities, drainage, utilities, signage, traffic signal adjustments, pavement markings, and other related work, including the reconstruction and resurfacing of a portion of the I-93 Southbound Off Ramp onto Maffa Way.

The Project includes significant utility relocations with multiple utility companies, coordination with the MBTA Orange Line and MBTA Commuter Rail/CSX Railroads for work within their railroad facilities, coordination with adjacent construction projects, and coordination with the Cities of Boston and Somerville.

A Best Value Design-Build Procurement process (BVDB) was utilized for the Project and consisted of a two-phase selection process. The first phase consisted of creating a short list of qualified Design-Builders and the second phase consisted of the submission of Technical and Price Proposals in response to a Request for Proposal (RFP). MassDOT established a Selection Committee approved by the Chief Engineer who was responsible for evaluating and ranking all Proposals on the basis of the evaluation criteria set forth in the RFP. In November 2022, the Design-Build team of Skanska USA/CHA Consulting was selected as the apparent winning team and on February 22, 2023 was subsequently awarded the contract.

Major Progress As Of November 30, 2024

As of November 30, 2024, the project is in construction.

Timeline and schedule of major events through November 30, 2024 include:

- Project awarded to Skanska USA/CHA Consulting on February 22, 2023
- City of Boston executed Right of Entry Agreement on March 29, 2023
- City of Boston executed Land Damage Agreement on March 29, 2023
- Construction Notice to Proceed (NTP) issued on April 3, 2023
- Preconstruction Meeting held on April 26, 2023
- Skanska/CHA held a Public Information Meeting on January 31, 2024
- Skanska/CHA executed force account agreements with MBTA, CSX, and Keolis in March 2024

- Skanska/CHA issued IFC Highway and Bridge Plans for Maffa Way and Mystic Avenue in March 2024
- Skanska/CHA commenced field activities in April 2024
- Skanska/CHA held Public Information Meetings on May 9, 2024 and May 13, 2024 in Charlestown and Somerville respectively
- Skanska completed first year 9-Day Surge Between June 22, 2024 and July 1, 2024, including removing girders over Orange Line Tracks, demolition of pier caps, erection of precast pier caps, and installation of steel girders over Orange Line and CSX tracks
- Skanska installed Phase 1 bridge deck on south side of Mystic Avenue and north side of Maffa Way
- MassDOT provided approval for Skanska/CHA to develop Lombardi Street/Broadway Corridor design improvements

On September 9, 2022 the MBTA approved the Memorandum of Agreement (MOA) between MassDOT and the MBTA. The MBTA approved the suggested construction schedule scenario that includes two nine-day Surges (Orange Line Diversions) for each calendar year of construction, with the first surge having been completed between June 22, 2024 and July 1, 2024 and the second Orange Line Surge anticipated to occur between May 9, 2025 and May 19, 2025. The Surges consist of nine consecutive days, beginning at 10:00 PM on Friday evening, with work occurring 24 hours per day until the end of the Surge at 5:00 AM on Monday of the following week, where Orange Line operations would be shut down at Sullivan Station. The MBTA agreed that bussing would be used to divert subway passengers between Wellington and North Stations. Coordination and scheduling of these Surges is the responsibility of the Design-Builder who will work closely with MassDOT Highway, MBTA, and the Cities of Boston and Somerville. The cost of bussing for the diversion will be borne by MassDOT Highway.

Project Name: Superstructure Replacement of Maffa Way & Mystic Avenue – Boston
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Budget

A project cost summary follows:

- Office Estimate: \$34,120,416
- Bid Price: \$39,200,000
- Encumbered Amount (MassDOT): \$49,929,943
- Forecast Cost-at-completion: \$52,260,715
- Anticipated Budget (Over)/Underrun-at-completion: \$ 3,921,355
- Total Amount Expended through November 30, 2024: \$ 25,118,902

The table below contains a summary of project financials through November 30, 2024.

Project Budget / Financials

	Contract	MassDOT	Municipal
❏ Bid	\$ 39,200,000	\$ 39,200,000	\$ 0
❏ Allowances	\$ 6,808,588	\$ 6,808,588	\$ 0
❏ Original Contract Value	\$ 46,008,588	\$ 46,008,588	\$ 0
❏ Original Contingency (FIN081)		\$ 3,921,355	
❏ Original Encumbrance		\$ 49,929,943	
❏ Encumbrance Modifications		\$ 0	
❏ Current Encumbrance		\$ 49,929,943	
❏ Current Overruns and Underruns	\$ 0	\$ 0	\$ 0
❏ Approved Contract Modifications	\$ 3,527,093	\$ 3,527,093	\$ 0
❏ Current Contract Value	\$ 49,535,680	\$ 49,535,680	\$ 0
❏ Pending Contract Modifications	\$ 2,181,816	\$ 2,181,816	\$ 0
❏ Estimated Contract Total	\$ 51,717,496	\$ 51,717,496	\$ 0
❏ Probable Contract Modifications		\$ 543,219	
❏ Forecast Cost-at-Completion	\$ 52,260,715	\$ 52,260,715	\$ 0
❏ Total CQE (Invoiced) to Date	\$ 25,118,902	\$ 25,118,902	\$ 0
❏ Funds Remaining		\$ 24,811,041	
❏ Projected Funds Remaining		\$ (2,330,772)	
❏ Expected Progress (baseline)	0.00%		
❏ % Complete	48.06%		

Schedule/ Project Milestones

The latest Monthly Progress Schedule available is Update No. 16 which on November 18, 2024, was accepted with comments by MassDOT.

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The Project contains a Contractual Notice to Proceed date of April 3, 2023 and a Contractual Contractor Field Completion date of December 30, 2026. The Contract duration for the Maffa Way / Mystic Ave Bridge Replacement Project is approximately 45 months or 3.7 years.

The contractual Milestone 1 (Contractor Field Completion) date for the Maffa Way/Mystic Avenue Bridge Replacement Project is December 30, 2026. The forecasted Milestone 1 (Contractor Field Completion) date contained in the November 1, 2024 Monthly Progress Schedule is December 30, 2026 which is trending on time with no forecasted delays.

The contractual Milestone 2 (Substantial Completion) date for the Maffa Way/Mystic Avenue Bridge Replacement Project is August 25, 2026. The forecasted Milestone 2 (Substantial Completion) date contained in the November 1, 2024 Monthly Progress Schedule is August 25, 2026 which is trending on time with no forecasted delays.

The following is a list of contract milestones:

Milestone No. 6 – Release of Orange Line Reservation Area, Surge No. 1 by 1:00AM on the second Monday of Surge No. 1.

Milestone No. 5 – Restore Traffic on Maffa Way and Mystic Avenue, Surge No. 1 by 5:00 AM on the second Monday of Surge No. 1.

Milestone No. 4 – Release of Orange Line Reservation Area, Surge No. 2 by 1:00 AM on the second Monday of Surge No. 2.

Milestone No. 3 – Restore Traffic on Maffa Way and Mystic Avenue, Surge No. 2 by 5:00 AM on the second Monday of Surge No. 2.

Milestone No. 2 – Full Beneficial Use and Substantial Completion within 1,240 Calendar Days from NTP.

Milestone No. 1 – Design-Builder Field Completion within 1,367 Calendar Days from NTP.

Incentive Milestone Payments

Incentive Payment #1: Reduced Orange Line Surge Incentive

If the Design-Builder utilizes fewer than 219 hours for each of the two permissible Orange Line Closure and Diversions Surges, the Design-Builder will receive a performance Incentive Payment of Thirteen Thousand Two Hundred Dollars (\$13,200.00) per hour and a combined maximum Incentive payment of Three Million Six Hundred Thousand Dollars (\$3,600,000) when combined with Incentive Payment #2: Full Beneficial Use and Substantial Completion Incentive. Effective Friday June 28, 2024, at 11AM, Skanska achieved Milestone 06. The duration of the surge was 151 hours and ended 68 hours early, resulting in an incentive payment of \$897,600.

Incentive Payment #2: Full Beneficial Use and Substantial Completion Incentive

If the Design-Builder achieves Milestone No. 2: Full Beneficial Use and Substantial Completion prior to 1,240 calendar days from the Notice to Proceed, and in accordance with the work restrictions described, MassDOT shall pay an Incentive Payment of Fifteen Thousand Five Hundred Dollars (\$15,500.00) for each day Full Beneficial Use and Substantial Completion is achieved prior to 1,240 calendar days from the Notice to Proceed. This Incentive is limited to a maximum Three Million Six Hundred Thousand Dollars (\$3,600,000.00) when combined with Incentive Payment #1: Reduced Orange Line Surge Incentive.

Disincentive Deductions

Disincentive Deduction #1: The Design-Builder shall be assessed a Disincentive Deduction based on calculated User Costs if they fail to release the MBTA Orange Line Reservation to

the MBTA by 1:00 AM after interim Milestone No. 6 – Release of Orange Line Reservation Area, Surge No. 1 for the purpose of restoring normal service operations of the Orange Line. The Design-Builder shall be assessed a Disincentive Deduction of Five Hundred Sixty-One Thousand Dollars (\$561,000.00) per day beyond 219 hours until the Orange Line Reservation area is deemed ready for service by the MBTA. If the Design-Builder is assessed Disincentive Deduction #1, the Design-Builder will be prohibited from implementing the next Orange Line Closure and Diversion (Surge No. 2) until it has submitted, and MassDOT and MBTA have approved, an appropriate corrective action plan.

Disincentive Deduction #2: The Design-Builder shall be assessed a Disincentive Deduction based on calculated User Costs if they fail to release the MBTA Orange Line Reservation to the MBTA by 1:00 AM of the second Monday after interim Milestone No. 4 – Release of Orange Line Reservation Area, Surge No. 2 for the purpose of restoring normal service operations of the Orange Line. The Design-Builder shall be assessed a Disincentive Deduction of Five Hundred Sixty-One Thousand Dollars (\$561,000.00) per day beyond 219 hours until the Orange Line Reservation area is deemed ready for service by the MBTA.

Critical Path

The Maffa Way / Mystic Ave Superstructure Replacement Project Critical Path has been revised when comparing the October 1, 2024 Monthly Progress Schedule Update 15 to the November 1, 2024 Monthly Progress Schedule Update 16. The Maffa Way/Mystic Avenue Superstructure Replacement Project critical path begins with Skanska constructing the Maffa Way Phase 1A northeast retaining wall. It then travels through the construction of the Maffa Way Phase 1B east abutment approach slab and paving of the Phase 1B Maffa Way bridge deck.

The critical path then travels through preparatory work preceding Maffa Way Phase 2A demolition. The critical path then travels through the second 9-Day Surge which is forecasted to occur in July 2025. The critical path continues with saw cutting and demolishing the Maffa Way bridge deck and removing beams over MBTA Tracks 6 & 7 which occurs during the

week and during MBTA weekend closures. This is followed by additional Maffa Way east abutment work including FRP bridge seats and sidewalks. The critical path continues with Skanska/CHA completing the east abutment approach slab followed by setting at-grade curbing, sidewalk, and lighting. The critical path then travels through completing the Maffa Way concrete median and removing the temporary traffic set up and completing paving Maffa Way and Mystic Ave.

The critical path ends with Skanska/CHA completing final striping to achieve Milestone 2, Substantial Completion which is followed by punch list items to attain Milestone 1, Contractor Field Completion.

It is important to note that there are no critical path activities progressing from January 23, 2025 thru April 1, 2025 due to the restrictive no winter paving calendar assigned to paving the Maffa Way Phase 1B bridge deck. There are no critical path activities progressing from December 1, 2025 to April 1, 2026 due to the restrictive no winter concrete calendar assigned to placing concrete sidewalks at Maffa Way.

Areas and Issues of Concern

As of November 30, 2024 the contract is projected to be completed above the encumbered amount with additional funds being needed in the amount of \$2,330,772. This does not include anticipated MBTA bussing cost associated with the 2025 9-day Orange Line surge (see below), however, it does include partial costs associated with the incorporation of a dedicated bus lane on Lombardi Street, currently being tracked as PCO-004.

The following list represents potential areas of concern identified for the project that may impact the project budget and/or schedule:

- Increased MBTA costs associated with management, flagging, and bussing. The Memorandum of Agreement between MassDOT and the MBTA indicates a cost of \$3.6M. MBTA has noted

that costs could be in excess of \$9M for such services for the 2024 Surge. MassDOT has requested documentation supporting MBTA's cost increase, however, as of November 30, 2024 MBTA has yet to produce such justification. On April 25, 2024 MBTA provided single line cost for bussing for May and June shutdowns. MBTA indicated MassDOT share of cost as \$8,067,000 which includes 100% share of May/June shutdowns and 50% share of May shutdown. Should increased costs for the aforementioned items be approved, the original project budget will be adversely impacted. It is anticipated that there will be similar MBTA cost for the 2025 9-day Orange Surge that is currently not accounted for in the project budget.

- Execution of Memorandum of Agreements (MOA) with the City of Boston and City of Somerville. Both Cities have expressed concerns with the BTC design and may not sign MOA's until their respective demands are met. The City of Boston raised concerns about Maintenance consisting of snow removal, de-icing, street sweeping, graffiti removal, landscaping, pavement marking and delineator maintenance, and trash removal for the bike lane and shared-use sidewalks. The City of Boston has also expressed concerns with safety and usage. The City of Somerville is seeking a reduced speed limit of 25 mph (design speed utilized was 30 mph), narrower vehicle lanes (10'), an added bike lane on Maffa Way, and wider sidewalks. MassDOT and Pare have been proactively and extensively evaluating the feasibility of implementing the City of Boston and City of Somerville design requests. As of November 30, 2024, the City of Boston and City of Somerville have agreed to MassDOT's suggested alternative that implements intent of Cities design requests. Execution of the Memorandum of Agreements with both cities is still pending.
- Removal of City of Boston installed traffic signal and pedestrian pedestal near Sullivan Square. The signal was installed as part of an agreement with the MBTA and Encore and serves as a major entrance for MBTA buses. The City of Boston controls and operates the traffic signal. MassDOT Traffic has determined that the signal does not meet traffic signal warrants and should therefore be removed. Additionally, the proposed roadway geometry necessitates that both the traffic signal and pedestrian pedestal be removed. As of September 30, 2022, the City of Boston has noted that they plan to remove the equipment. Coordination between City of Boston and Design-

Builder needs to be closely monitored to minimize schedule impacts. On November 6, 2024 BTD indicated that they would relocate the signal post. As of November 30, 2024 this has yet to be done.

- Coordination with MBTA and allowable work windows associated with work on and over the tracks
- Inability to gain sufficient ROW access (to work from tracks or foul the clearance envelope) in a timely manner to support construction activities
- Providing accommodations for pedestrian, bicycle, transit, and vehicles (during construction). There is strong local advocacy for the first three as expressed at the Public Hearing and in subsequent letters to MassDOT
- Temporary traffic control requirements in the congested area surrounding the project
- Coordination with One Mystic Developer to accommodate anticipated concurrent work at the Northeast Quadrant of the Mystic Avenue bridge.
- Traffic management coordination with adjacent on-going construction projects (present and future) including Eversource Mystic-Woburn 115 kVA underground transmission project, Rutherford Avenue improvements, North Washington Street Bridge replacement, One Mystic development, and completion of Assembly Square.

The aforementioned issues will be monitored throughout the construction phase to mitigate potential impacts to project cost and construction schedule.

Project Photos



Aerial View of Project Location



May 2024 – Preconstruction



May 2024 – Demolition

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May 2024 - Demolition



May 2024 – Mystic Avenue Demolition



June 2024 – Pre-Surge



June 2024 – Post-Surge



July 2024



August 2024



September 2024



October 2024



November 2024

III CHAPTER 303 OF THE ACTS OF 2008 AREAS OF EMPHASIS

Peer Review

A Peer Review has not been conducted for this project, however, Patrick Engineering on behalf of MassDOT, prepared an independent CTD Schedule and Estimate. The CTD and Estimate were in close agreement with those prepared by City Point Partners and Pare Corporation.

During the construction phase of this project, this O.R. will satisfy peer review obligations by attending regular project review meetings where construction issues, conflicts, and resolutions are discussed; walking the site to observe major construction activities; and participating in the change order process, to review and comment upon any proposed design changes and their impacts to the project’s quality, budget, or schedule goals.

Value Engineering

A formal Value Engineering (VE) study has not yet been conducted for this project, however, MassDOT views the confidential ATC Process as a type of value engineering.

Cost Recovery

At this point in time, as construction has yet to commence, no Cost Recovery issues have been identified to date.

Owner’s Representative Oath

I, Jeffrey R. Paul, P.E., MA P.E. No. 38526, hereby certify that my sole responsibility as Owner’s Representative, under OR Contract 120635, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project’s designer, general contractor, and subcontractors, and that this annual report is true and accurate to the best of my knowledge signed under the pains and penalties of perjury.



Jeffrey R. Paul, P.E., DBIA
Owner’s Representative

Date: December 17, 2024



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbitts-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



Project Name: North Washington Street Bridge Project
Owner's Representative Contract Number: 120635
Project Number: 604173
Construction Contract Number: 102269



Owner's Representative's 2024 Annual Report

Owner's Representative Contract No.: 120635 JRP Consulting Services, LLC

Owner's Representative Work Order No.: 1

Project No. 604173 BOSTON-BRIDGE REHABILITATION, B-16-016, North Washington Street Over Boston Inner Harbor

Project Designer: Alfred Benesch & Company

Contractor: JF White Contracting Company

Prepared by: Jeffrey Paul, P.E., DBIA

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I EXECUTIVE SUMMARY

The North Washington Street Bridge was a historic structure constructed in 1898. The bridge consisted of 10 approach spans and a swing span, which was not operational. The bridge was deemed structurally deficient and was posted for restricted loads. There had been extensive emergency repairs done to the bridge over the past decade which led to closure of the two center lanes on the swing span due to steel deterioration. The City of Boston Public Works Department proposed to replace the bridge and retained Alfred Benesch & Company to provide engineering services required to prepare construction documents for the bridge replacement. MassDOT is responsible for project advertisement, administering Federal funds associated with the project, and construction oversight.

The work under this project consists of the design and construction of the replacement of the twelve (12) span, 1087' long bridge with an 'iconic' 1100' long by 101.5' wide bridge that will include four (4) lanes of traffic, two (2) in each direction, one (1) dedicated bus lane, dedicated bicycle lanes, pedestrian walkways, an architectural trellis structure on each side of the bridge, full length planters along the barrier for each side of the bridge and trees. Project goals include: replacement of structurally deficient bridge, incorporation of new multi-modal bridge as a complete City street over water, improvements to deficient bike and pedestrian accommodations, improvements to intersections safety and functionality, improvements to navigational channel, design of context sensitive bridge in important waterfront and historic bridge location, creation of a visually appealing bridge design that complements the Zakim Bridge.

The construction contract was awarded to JF White Contracting Company (JFW) in April 2018. In May 2018, JFW submitted a full length temporary vehicular bridge value engineering cost proposal (VECP) as a schedule reduction measure. MassDOT evaluated the merits of the proposal and provided JFW with approval to proceed provided all necessary permits could be secured by JFW. In May 2019 all permits had been approved by the respective permitting agencies and construction of a temporary utility bridge and a combined pedestrian and vehicular bridge commenced. Vehicular and pedestrian traffic were diverted onto the temporary bridge on July 17, 2020 and remained in this configuration until December 9, 2023 when vehicular and pedestrian traffic shifted onto the new permanent bridge.

Project Name: North Washington Street Bridge Project
Owner's Representative Contract Number: 120635
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Construction Contract Number: 102269

MassDOT and JFW have committed to keeping the public informed as well as managing impacts as best they can while getting the project completed. On-going public outreach and engagement efforts included bi-weekly updates on the project website, two-week construction look-ahead emails, traffic advisories, media outlet outreach, social media, and public information meetings.

In October 2021 systemic cracks were found in complete joint penetration (CJP) welds at internal diaphragms in fabricated North Washington Street Bridge tub box girders (located both at Casco Bay Steel facility and within those installed in the field). JFW was subsequently directed to cease all contract work associated with tub girders until a root cause analysis was performed and subsequent corrective action measures were developed and approved. Upon approval of a corrective action plan, field activities to repair weld cracks in tub girders, that were located at both the Casco Bay facility and at the project site, commenced in September 2022. On January 13, 2023, field activities to repair weld cracks in tub girders, located at both the Casco Bay facility and the project site, were completed. JFW filed Claim No. 6-102269-003 and put MassDOT on notice that they will have incurred cost attributable to the weld crack issue and associated delay in the amount of \$16.3M. On December 12, 2022, MassDOT denied JFW claim No. 6-102269-003 and maintained the position that weld cracking was a direct result of the Contractor's fabrication process and lack of sufficient quality control. As of November 30, 2024, a determination as to culpability has yet to be decided.

As of November 30, 2024, construction is approximately 90% complete. The original contract duration was approximately 5.25 years with a contractual substantial completion date of August 9, 2023. Substantial completion is currently forecasted to be May 9, 2025, or -639 days behind schedule. The total project encumbrance is \$204,385,945 of which \$182,288,119 relates to MassDOT work and \$22,097,826 relates to Municipal work. Excluding the potential cost of \$16.6M associated with the weld crack issue, the project is currently within budget. On October 21, 2024, the City of Boston formally renamed the Washington Street Bridge after Bill Russell. The bridge is now known as the William Felton "Bill" Russell Bridge.

II ANNUAL REPORT

Contract Scope of Work

Scope of work for the North Washington Street Bridge Replacement project consists of the replacement of the existing twelve (12) span, 1087' long bridge with an 'iconic' 1100' long 11-span continuous trapezoidal steel box girder bridge that will include four (4) lanes of traffic, two (2) in each direction, introduction of an exclusive bus lane (the first on a bridge in the Boston area) southbound from North Washington Street/Rutherford Avenue intersection with Chelsea Street, southbound over the bridge, and ending prior to the North Washington Street intersection with Causeway Street, dedicated (one direction) separated bicycle lanes on both sides of the bridge, pedestrian walkways on both sides of the bridge including a scenic overlook and seating area, full length planters along the barrier for each side of the bridge and trees, increasing intersection safety and capability, and improving the navigational channel. An architectural trellis will enhance these destination points for pedestrians and aesthetic ornamental lighting will be added above and below the bridge.

Major Progress As Of November 30, 2024

Major project elements completed in 2024 included:

- JFW maintained noise monitoring and pest control programs
- JFW conducted ongoing meetings with project abutters and stakeholders
- JFW held weekly progress meetings every Wednesday. Topics discussed included safety, community, quality control, schedule, RFIs, submittals, engineering and technical matters, utilities, and open items
- JFW demolished remaining piers
- JFW installed new piers
- JFW installed remaining tub girders, Spans 1-4
- JFW constructed main portion of bridge superstructure including bridge deck, roadway barriers, planters, benches, light poles, and sidewalk (west side)
- JFW paved remaining bridge deck and roadway approaches

Project Name: North Washington Street Bridge Project
Owner's Representative Contract Number: 120635
Project Number: 604173
Construction Contract Number: 102269

- JFW line striped bridge deck and roadway approaches
- JFW installed west side trellis

Budget

This project is funded through the 2016 Transportation Improvement Program (TIP) for the Metropolitan Planning Organization. A project cost summary follows:

• Office Estimate:	\$174,388,203
• Bid Price:	\$176,777,389
• Encumbered Amount (MassDOT):	\$182,288,119
• Municipal Contract Value:	\$ 22,097,826
• Total Encumbered Amount (MassDOT & Municipal):	\$204,385,945
• Forecast Cost-at-completion:	\$208,824,726*
• Anticipated Budget (Over)/Underrun-at-completion:	(\$2,113,686)
• Total Amount Expended through November 30, 2024:	\$172,035,702

* Includes potential cost of \$16.6M associated with the tub girder weld crack issue. When excluding the cost of \$16.6M, the project is currently within budget.

Total Encumbered Obligation by Appropriation (MassDOT):

• 61211714 Federal Participating NHP(BR-ON)-0035(054)	\$180,538,119
• 61211317 Non-Federal Aid 100% State	<u>\$ 1,750,000</u>
Total	\$182,288,119

Breakdown by Encumbered Obligation and Allowance Items (MassDOT & Municipal):

• JF White Bid:	\$176,777,389
• Contingencies:	\$ 16,187,956
• Incentives (Municipal):	\$ 7,200,000
• Telephone:	\$ 15,000
• Traffic Police:	\$ 4,200,000
• Trainees:	<u>\$ 5,600</u>
Total	\$204,385,945

Project Name: North Washington Street Bridge Project
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The table below contains a summary of project financials through November 30, 2024.

Project Budget / Financials

	Contract	MassDOT	Municipal
i Bid	\$ 178,777,389	\$ 181,879,603	\$ 14,897,826
i Allowances	\$ 11,420,600	\$ 4,220,600	\$ 7,200,000
i Original Contract Value	\$ 188,197,989	\$ 166,100,163	\$ 22,097,826
i Original Contingency (FIN681)		\$ 16,187,958	
i Original Encumbrance		\$ 182,288,119	
i Encumbrance Modifications		\$ 7,153	
i Current Encumbrance		\$ 182,295,271	
i Current Overruns and Underruns	\$ (2,113,686)	\$ (2,245,712)	\$ 132,026
i Approved Contract Modifications	\$ 3,520,222	\$ 3,383,309	\$ 140,912
i Current Contract Value	\$ 189,608,524	\$ 167,237,780	\$ 22,370,764
i Pending Contract Modifications	\$ 0	\$ 0	\$ 0
i Estimated Contract Total	\$ 189,608,524	\$ 167,237,780	\$ 22,370,764
i Probable Contract Modifications		\$ 19,216,202	
i Forecast Cost-at-Completion	\$ 208,824,726	\$ 186,453,962	\$ 22,370,764
i Total CQE (Invoiced) to Date	\$ 172,035,702	\$ 157,883,597	\$ 14,352,105
i Funds Remaining		\$ 10,259,570	
i Projected Funds Remaining		\$ (4,158,691)	
i Expected Progress (baseline)	100.00%		
i % Complete	82.38%		

Schedule/ Project Milestones

The latest Monthly Progress Schedule available is Update No. 69 which on December 4, 2024, was accepted as noted by MassDOT.

The contractual Milestone 1 (Contractor Field Completion) date for the North Washington Street Bridge Replacement Project is November 7, 2023. The forecasted Milestone 1 (Contractor Field Completion) date contained in the November 1, 2024 Monthly Progress Schedule is August 12, 2025 which is trending -644 calendar days behind the contractual Milestone 1 date.

The contractual Milestone 2 (Substantial Completion) date is August 9, 2023. The forecasted Milestone 2 (Substantial Completion) date contained in the November 1, 2024 Monthly Progress Schedule is May 14, 2025 which is trending -644 calendar days behind of the contractual Milestone 2 date.

Project Name: North Washington Street Bridge Project
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The November 1, 2024 Monthly Progress Schedule is forecasting JFW to miss the Milestone 2 Incentive Payment date by -818 calendar days, February 16, 2023 versus May 14, 2025. As a result, this may be subject to a disincentive payment.

The contractual Milestone 3 (Full Beneficial Use) date is May 1, 2023. The forecasted Milestone 3 date contained in the November 1, 2024 Monthly Progress Schedule is May 14, 2025 which is trending -744 calendar days behind schedule.

The following Table, from Monthly Progress Schedule Review (Update 69) as prepared by Keville Enterprises, identifies a summary of Critical Activities.

Additional Critical Activities	Baseline Date	1-Nov-24 Update 69	Days Ahead or Behind
Temporary Utility Bridge Structure - Completed	14-Jun-2019	16-Oct-2019	-124
Temporary 24" National Grid Gas Line - Completed	17-Jun-2019	10-Dec-2019	-176
Temporary Vehicular Bridge - Open to Traffic - Completed	23-Nov-2019	18-Jul-2020	-238
Close / Start Demolition - Existing North Washington Street - Completed	25-Nov-2019	18-Jul-2020	-236
Proposed North Washington Street - Open to Traffic - Partial - Completed	13-Dec-2021	9-Dec-2023	-726
Proposed North Washington Street - Open to Traffic - Full	24-Oct-2022	9-May-2025	-928
MS 3 - Full Beneficial Use (Incentive Milestone)	16-Feb-2023	14-May-2025	-818
MS 3 - Full Beneficial Use (Contractual)	1-May-2023	14-May-2025	-744
MS 2 - Substantial Completion (Incentive Milestone)	16-Feb-2023	14-May-2025	-818
MS 2 - Substantial Completion (Contractual)	9-Aug-2023	14-May-2025	-644
MS 1 - Contractor Field Completion (Incentive Milestone)	17-May-2023	12-Aug-2025	-818
MS 1 - Contractor Field Completion (Contractual)	7-Nov-2023	12-Aug-2025	-644

Contract Milestones:

Milestone 1 – Final Acceptance: The Contractor shall achieve Contractor Field Completion within 1,917 Calendar Days after notice to Proceed (NTP).

Milestone 2 – Substantial Completion: The Contractor shall achieve Substantial Completion within 1,827 Calendar Days after Notice to Proceed (NTP).

Milestone 3 – Full Beneficial Use: The Contractor shall achieve Full Beneficial Use within 1,727 Calendar Days after Notice to Proceed (NTP).

Critical Path Discussion

The Critical Path is driven by painting outside tub girders bolts and weld connections and then travels through JFW touch up painting inside tub girders to attain Full Beneficial Use, Substantial Completion and Punch List to complete the Project. Touch up painting is to continue through winter months.

Areas and Issues of Concern

There are currently no areas of concern regarding projected cost, however, MassDOT has potential risk to financial exposure if the root cause of the tub girder diaphragm weld crack issue is determined to have been a result of the requirements contained within the contract documents. As of November 30, 2024 a determination as to culpability has yet to be determined. JFW has informed MassDOT that they will have incurred cost attributable to the weld crack issue and associated delay in the amount of \$16,665,583.24. The project team developed an acceptable corrective action plan and as of January 13, 2023 all weld crack repairs at both the Casco Bay facility and project site have been completed. On February 1, 2023, MassDOT approved JFW proposal to fabricate a new tub girder 5G1B, however, MassDOT reiterated their position that all costs associated with fabrication of the new tub girder are the responsibility of JFW as these costs are attributed to the Internal Diaphragms Weld Cracks issue which are a direct result of the JFW's fabrication processes and lack of sufficient quality control protocols. JFW indicated that the cost to fabricate a new tub girder is \$385,000 (this cost is inclusive of the \$16,665,583.24 cost noted above). As of November 30, 2024 JFW has installed all remaining tub girders.

As of November 30, 2024 the contract is projected to be completed below the encumbered amount with no additional funds needed, however, should MassDOT be determined to be culpable for weld cracks and have to pay JFW \$16,665,583.24 (as submitted by JFW), then an additional \$4,158,691, would be needed. Although this OR believes that weld cracks were a direct result of fabrication issues, the maximum known exposure, at this time, is being carried as a potential contract modification. On December 12, 2022, MassDOT denied JFW claim No. 6-102269-003 and maintained the position that weld cracking was a direct result of the Contractor's fabrication process and lack of sufficient quality control.

The following list represents potential areas of concern identified for the project that may impact the project budget and/or schedule:

- Cracks found in the welds connecting the end diaphragms to the girder webs in tub girders, first identified in the September 2021 Monthly Report, remains an ongoing concern that has the potential to adversely affect the project schedule. Through Deficiency Report (DR) No. 001, issued on October 1, 2021, JFW was advised that no further work may proceed that would in any way obstruct their ability to correct this deficiency or the Department's ability to inspect the area until the deficiency has been corrected and approved by the Department. JFW was also advised that any associated costs to the Department related to this deficiency may be back-charged to JFW. Furthermore, on October 27, 2021 MassDOT issued formal direction to JFW to cease all work activities on the North Washington Street bridge structure to include ceasing the installation of the NGRID Gas line, installation of the SIP deck pans, and any and all bolting that may add additional loading to the superstructure and the tub girders. JFW was also directed to execute and carry out any and all measures to make the bridge structure safe and secure. JFW was informed that all other Contract work outside of the bridge, warehouse span repairs, and work to close the slip lane to Chelsea Street may continue to proceed. On October 28, 2021 MassDOT directed JFW to conduct a thorough engineering analysis to determine the root cause(s) that resulted in vertical cracking in welds encountered in the tub girders at the Casco Bay fabrication plant and on the project site. JFW provided the results of their root cause analysis to MassDOT on March 10, 2022, which included an opinion from SGH. Additionally, on March 25, 2022 JFW's steel fabricator, Casco Bay, and Casco Bay's consultant WJE, issued their own root cause analysis. On April 4, 2022 JFW issued Letter No. 216 regarding Internal Diaphragm Weld Cracks Draft Testing, Mapping, and Corrective Action Procedures by Casco Bay Steel Structure's (CBSS). On April 19, 2022 MassDOT issued response to JFW Letter NO. 216 regarding Internal Diaphragm Weld Cracks Draft Testing and Corrective Action Plan submitted by JFW. MassDOT noted that they reviewed JFW Letter No. 216 and subsequently request JFW to provide responses to the questions/comments contained in IOM from MassDOT's Bridge Group Boston Construction Engineering Department. MassDOT

Bridge Group noted that JFW's corrective procedure to only address cracks identified to date is not acceptable and that JFW should revise the corrective action procedure to including the Heat Affected Zone (HAZ) of the CJP welds, regardless of whether a crack has formed at this time, to address the increased hardness and embrittled microstructure. On May 19, 2022 a Step 1 Claims meeting was held by MassDOT. On June 24, 2022 JFW provided MassDOT with an itemized statement of claim noting that through May 31, 2022 they have incurred \$2,841,473.54 of costs attributable to the weld crack issue and associated delay. JFW also notes time impacts of 221 days of delay. In August 2022 JFW and Casco Bay performed 2 independent weld crack repair mock-ups, both producing favorable results. As of March 31, 2023 this matter remains on-going, however, field activities to repair weld cracks in tub girders that are located at both Casco Bay and at the project site have been completed. On March 15, 2023 JFW requested a Step 2 hearing with MassDOT's Claims Committee. On September 27, 2023 MassDOT's Owner Representative recommended that talks be initiated regarding inspection of tub box girders prior to the opening of the bridge to the general public, now that the tub girders have experienced substantial dead load, as well as live loads with construction vehicles. MassDOT concurred and a meeting with MassDOT Bridge Group, HNTB, Benesch, and technical experts was held October 4, 2023, at which time it was mutually agreed that HRV would perform visual inspections of all vertical welds, MT all full depth diaphragms, and spot check partial depth diaphragms, of all constructed tub girders. On November 3, 2023 HRV completed their inspection and noted the presence of one small crack (1/2" long). It was determined that this crack was likely missed during the previous rounds of UT testing and repairs. As of November 30, 2024 the crack was repaired in accordance with previously approved procedures.

- NGRID original Force Account agreement budget exceeded. Phase I of the NGRID's gas scope included the installation of the 24" temporary gas line on the temporary utility bridge for the NWS Replacement Project. Actual costs for the temporary gas line exceeded NGRID's original estimate by approximately \$1.1 million. As a result, MassDOT may require additional funding to complete NGRID Force Account agreement scope as the permanent gas line work has not been completed. It should be noted that the original design did not include scope for a temporary vehicular bridge as proposed, designed, and constructed by JFW. The incorporation of JFW's VECF temporary bridge resulted in NGRID incurring time delays and additional

Project Name: North Washington Street Bridge Project
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mobilizations which were not memorialized in their original force account agreement with MassDOT. MassDOT may seek reimbursement from JFW to help mitigate the additional cost incurred by NGRID and on January 31, 2022 MassDOT informed FHWA additional funding would be required. On May 25, 2022 MassDOT reminded FHWA that additional funds will be required. On September 27, 2023 MassDOT requested payment in the amount \$1,120,061 for the remaining payment for NGRID Phase I work. On October 18, 2023 MassDOT recommended that partial payment, in the amount of \$851,000, be issued to NGRID with additional funds of approximately \$268,000 be withheld until NGRID provides further justification of overhead costs. On May 1, 2024 MassDOT requested that NGRID issue a partial payment invoice to close out this phase of the project. On June 24, 2024 NGRID submitted a partial payment invoice in the amount of \$3,238,551.39 bringing total amount invoiced, through June 15, 2024, equal to \$5,523,136.63 (Total amount paid in Phase I = \$2,284,585.24). As the total amount on the original agreement was \$3,229,017.21, As a result of the overrun, \$2,294,119.42 additional funding will be needed for the NGRID force account agreement. As of November 30, 2024 MassDOT has requested and awaits documentation from NGRID that supports their invoices.

- Schedule of future TD Garden events have the potential to impact the construction schedule
- Maintenance of vehicular, pedestrian and bike traffic throughout construction
- Maintain navigational waterways and clearances throughout construction
- Satisfying the needs of abutters including but not limited to Constitution Marina

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Project Photographs



Project Location



Historic North Washington Street Bridge

Project Name: North Washington Street Bridge Project
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Proposed Bridge Rendering



Aerial View January 2024



Aerial View February 2024

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Aerial View March 2024



Aerial View April 2024



Aerial View May 2024



Aerial View June 2024



Aerial View July 2024



Aerial View August 2024



Aerial View September 2024



Aerial View October 2024



Aerial View November 2024

III CHAPTER 303 OF THE ACTS OF 2008 AREAS OF EMPHASIS

Peer Review

Formal peer reviews of design submissions, including structural, highway, environmental, geotechnical, traffic, utility and constructability were performed for MassDOT by HNTB on October 31, 2016, and May 27, 2017.

During the construction phase of this project, this O.R. will satisfy peer review obligations by attending regular project review meetings where construction issues, conflicts, and resolutions are discussed; walking the site to observe major construction activities; and participating in the change order process, to review and comment upon any proposed design changes and their impacts to the project's quality, budget, or

schedule goals.

Value Engineering

In June 2015 MassDOT commissioned Jacobs Engineering Group Inc. (Jacobs) to perform a 5-day Value Engineering study for the North Washington Street Bridge Replacement Project. The Value Engineering (VE) Team included representatives from Jacobs, Huie Construction Services, Green International and this OR. The VE Team focused on opportunities for value improvement including, but not limited to project alternatives and respective costs, maintaining traffic flow, marine work environment and foundation options, optimization of construction schedule and staging, bridge aesthetics, and accommodations to pedestrians, bicycles, and the Freedom Trail.

Cost Recovery

At this point in time, no issues have been specifically identified as Cost Recovery issues. However, it should be noted that any initial identification of a Cost Recovery issue does not necessarily mean that cost recovery is due; a formal evaluation process must still be followed. The undersigned Owner's Representative will continue to monitor issues and, with MassDOT Highway Division, will discuss referral to the Cost Recovery Standing Committee. For any issue referred for Cost Recovery, the current MassDOT Highway Division Cost Recovery Procedure (SOP No. HED-70-01-1-000, dated 8/7/17) shall govern. In order to perform the legislative mandate of being the Primary Manager of Cost Recovery, the Owner's Representative will follow the referenced SOP. This SOP, as modified for projects with an Owner's Representative, describes the role of the Owner's Representative and includes a Cost Recovery Standing Committee. This committee oversees the work of separate and issue-specific Cost Recovery Review Panels and Cost Recovery Evaluation Committees, which will be convened as necessary.

Approved/Pending/Probable Extra Work Orders (EWO's)

As of November 30, 2024, there have been eighteen (18) Approved Contract Modifications.

Project Name: North Washington Street Bridge Project
Owner's Representative Contract Number: 120635
Project Number: 604173
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TOTAL APPROVED CONTRACT MODIFICATIONS = **\$1,287,735.01**

As of November 30, 2024, there are no pending Contract Modification.

As of November 30, 2024, there are eight (8) probable EWOs. These include:

1. EWO XX – Warehouse Elastomeric Bearing Pads
 - a. Disposition: approval is pending
 - b. Cost: \$2,443.20
2. EWO XX – Permanent Traffic Signal Changes
 - a. Disposition: approval is pending
 - b. Cost: \$4,173.26
3. EWO XX – COVID 19 Impacts
 - a. Disposition: approval is pending
 - b. Cost: \$154,924.86
4. EWO XX – Permanent FRP Shielding Bolts
 - a. Disposition: approval is pending
 - b. Cost: \$72,555.82
5. EWO XX – Tub Girder Weld Cracks *
 - a. Disposition: determination TBD
 - b. Cost: \$16,665,583.24
6. EWO XX – Field Welding Trellis Link Spacers
 - a. Disposition: approval pending
 - b. Cost: \$96,371.20
7. EWO XX – Stainless Steel Pedestrian Handrail
 - a. Disposition: approval pending
 - b. Cost: \$1,994,106.35
8. EWO XX – Oil Sheen Remediation
 - a. Disposition: approval pending
 - b. Cost: \$226,041.24

* As of December 12, 2022, MassDOT has denied JFW Claim No. 6-102269-003

TOTAL PROBABLE CONTRACT MODIFICATIONS = **\$19,216,199.62**

Owner's Representative Oath

I, Jeffrey R. Paul, P.E., MA P.E. No. 38526, hereby certify that my sole responsibility as Owner's Representative, under OR Contract 120635, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general contractor, and subcontractors, and that this annual report is true and accurate to the best of my knowledge signed under the pains and penalties of perjury.



Jeffrey R. Paul, P.E., DBIA

Date: December 17, 2024

Owner's Representative



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbits-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



Project Name: Viaduct Bridge Repairs and Related Work (including Painting) Br. Nos. B-16-357, B-16-358, B-16-359, and B-16-369 Steel) along a Section of Interstate 90 (EB & WB) over the MBTA Railroad, Boston

Owners Representative Contract Number: 120638

Project Number: 612231

Construction Contract Number: 120260



OWNER'S REPRESENTATIVE 2024 ANNUAL REPORT

Owner's Representative Contract No. 120638 – Jack Wright, Stony Brook CMS

Contract No. 120260 – Boston I-90 over MBTA Bridge Preservation

Designer: WSP

Contractor: JF White

Prepared by: John J Wright, PE

December 13, 2024

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I. EXECUTIVE SUMMARY

The primary purpose of the project is to preserve the existing bridge structures to maintain the safe operation of the Commuter Rail and I-90 while MassDOT completes the design and environmental process for the larger, I-90 Allston Multimodal Project.

Interstate 90 is a vital East-West link between the City of Boston and the western suburbs. It is also a crucial link for freight from the Port of Boston to the rest of the United States. While a full replacement is being planned, this viaduct will have to remain in service for several years to come.

The structural rate of deterioration is exceeding normal maintenance activities. The scope of preservation work will prioritize only those elements necessary to preserve the structures for an additional 10-15 years. For example, the cleaning and painting of steel is focused on the beam ends and exterior beams. Some elements of work may help facilitate the larger Multimodal Project depending on final scope.

II. ANNUAL REPORT

Construction Scope of Work

- Bridge deck full and partial depth repairs
- Replacement of Bridge Deck Joints
- Repairs and localized replacement of concrete bridge barrier railings
- Replacement of Concrete Median Barrier with Portable Steel Barrier
- Selected Structural Steel Repairs and Painting
- Repairs to Concrete Abutments and Piers
- Rewiring and limited Repairs to Roadway Lighting System

Design

- WSP is the Engineer of Record
- This is a traditional Design/Bid/Build Contract
- Production of Contract Documents
- Assistance in procurement.

Major Progress as of December 1, 2024

- Baseline schedule being updated monthly.
- Sounding for unbonded concrete both on the deck and on the structural columns below.
- Demolition and replacement of unsound concrete on the bridge deck.
- Demolition and replacement where necessary of concrete on substructure columns.
- Contractor is on call for urgent repairs to deck as the need arises.

Budget

The initial budget (established in the contract encumbrance) was \$85,733,503 made up of:

○ Contractor Bid Price	\$71,672,611
○ Allowances	\$3,310,000
○ Original Contract Value	\$74,982,611
○ Contingency	\$10,750,892
○ Current Contract Value	\$75,812,126
○ Pending Contract Mods	\$0
○ Forecast at Completion	\$75,812,126

The total Amount invoiced to date is \$19,478,432.

This contract remains within the original financial forecast at this time.

Schedule / Project Milestones

- Notice to Proceed (NTP) Date = April 18, 2023
- Original Substantial Completion Date = October 7, 2026
- Original Final Completion Date = December 9, 2026

This contract is 26% complete based on paid values

- Contractor's Projection*
 - MS 3: July 24, 2026 (+75) Full Beneficial Use)
 - MS 2: July 24, 2026 (+75) (Substantial Completion)
 - MS 1: September 23, 2026 (+77) (Final Completion)

**These forecasts are based on JF White's latest Schedule Update*

Areas of Concern

Although the type of work is common to both MassDOT and the contractor, JF White, there are several factors which increase the challenge on the Project.

This contract is designed to extend the life of the existing viaduct until the larger viaduct replacement project is underway. Should that contract be released before this scope is complete, it is anticipated this contract will be descoped and terminated, with any necessary remaining scope added to the larger contract.

A substantial portion of this contract can be performed under the viaduct without traffic impacts. There is work near/over the RR that requires coordination with the MBTA and flagging protection for the RR. There is also work that must be accessed through Boston University property and therefore requires coordination with BU. Work on the roadway deck is limited to night work with lane takings. These lane takings must be coordinated with other work in this area. During the Winter season this contract is almost completely shuttered except for responding to urgent deck repairs in coordination with MassDOT.

The length of the structure and the amount of deterioration make the scale of these repairs very large. The amount of traffic makes working on the deck very challenging. Safety of the workforce and the travelling passengers requires constant vigilance.

There is also the proximity to abutters. Boston University and Allston neighborhoods are very close and require communication and coordination. The MBTA Worcester Line and Grand Junction run through much of the site adding to the required coordination and safety vigilance.

Project Photographs



Demolition of unsound concrete



Column repair with lower repaired and upper formed



Typical conditions of concrete pier cap and steel beams prior to repairs (2023)



Typical conditions post repair work



Typical condition of twin structural steel girders at pier (2023)



Steel girders at pier post repairs



Roadway joint being repaired on Ramp D (onramp to I-90 Eastbound)

III CHAPTER 303 OF THE ACTS OF 2008 AREAS OF INTEREST

Peer Review

During the construction phase of this project, this OR is satisfying the peer review obligations by attending regular project review meetings where construction issues, conflicts, and resolutions are discussed; walking the site to observe major construction activities; and participating in the change order process to review and concur with any proposed design changes and their impacts to the project's quality, budget, or schedule goals.

Value Engineering

The Owners Representative was assigned during the Procurement Phase of this Project. As this Project is bridge preservation, no formal Value Engineering was done. The work consists of practices that MassDOT and the District do constantly. However, the OR regularly discusses options for simplifying the scope with MassDOT managers. MassDOT is constantly looking for opportunities to make the work both efficient and helpful to the future build out of this interchange.

Cost Recovery

No cost recovery issues have been identified.

OWNER'S REPRESENTATIVE OATH

I John Joseph Wright, Sr., MA P.E. No. 43353, hereby certify that my sole responsibility as Owner's Representative, under O.R. Contract 120638, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general contractor, and subcontractors, and that this annual report is true and accurate to the best of my knowledge, signed under pains and penalties of perjury.



John Joseph Wright, Sr., P.E.

Date: December 13, 2024



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbitts-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



Project Name: Reconstruction of I-90/I-495 Interchange, Hopkinton-Westborough
Owners Representative Contract Number: 120638
Project Number: 607977
Construction Contract Number: 116673



OWNER'S REPRESENTATIVE 2023 ANNUAL REPORT

Owner's Representative Contract No. 120638 – Jack Wright, Stony Brook CMS

Owner's Representative Work Order No. 2

Contract No. 116673 – Hopkinton-Westborough Reconstruction of I-90/I-495 Interchange

Design-BUILDER: Barletta Heavy Division (BHD)-O&G-Aetna I-495 I-90 JV

Preliminary Designer: HNTB

Prepared by: John J Wright, PE

December 13, 2024

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I. EXECUTIVE SUMMARY

Over the next four to five years this project will update and transform the I-90/I-495 Interchange. Due to electronic tolling and the elimination of the toll plazas, the interchange is now allowed to simplify the movements. The bridges need replacing and MassDOT is taking the opportunity to create a safer and more efficient interchange.

This very important and heavily used interchange must maintain the movements throughout the rebuild. There are also several other challenges unique to this location.

The interchange sits in a very environmentally sensitive area. Marshlands abound and the Sudbury River flows through the site. The wetlands both abut the site and exist within the loop ramps.

The site also contains an archeologically sensitive area very close to the construction that must remain undisturbed.

Further complicating the site is the train line that crosses through the interchange. This is the mainline from Boston to Worcester and points west. The line carries Amtrak, Commuter Rail and freight trains. Coordination with the railroad will be a very important and substantial process.

II. ANNUAL REPORT

Project Scope of Work

The project will replace all ramps within this interchange. Due to space constraints caused primarily by the abutting wetlands, the new interchange is still required to be more complex than a standard full cloverleaf. However, the design does simplify most of the movements. Where possible, the design calls for direct connections that were not available when the interchange was built with a toll plaza.

The result of this undertaking will create safer roadway conditions and increased traffic flow that benefits business and the environment.

This project will require twelve (12) new bridges due to ramps crossing the mainline as well as bridges over the railroad and the Sudbury River. There are a variety of structures ranging from simple to complex.

Staging of the work is critical. Maintaining the movements between these two interstates while replacing the entire complex requires careful planning and execution. There are four major stages and one sub-stage.

MassDOT and their consultants and contractors are working closely with DEP on all the Environmental Issues. Such a large construction project happening in and around a significant wetland creates many concerns. As of this writing, the entire team is working well together to accomplish this task with as little disruption as possible.

There are environmental benefits included in the contract as well. Control of invasive plant species was one of the early activities undertaken.

Preliminary Design

The preliminary design scope by HNTB is complete except Construction Phase Services and assisting MassDOT with review of the final designs including:

- Permitting and environmental engineering.
- Structural engineering, civil engineering, electrical engineering, bridge architecture, utility engineering.
- Review plans and specifications.
- Review structural details.

Completed scope:

- Develop procurement documents for Design-Build process.
- Assist in procurement.

Construction (Design – Build)

The BHD-O&G-Aetna JV (BHD JV) team was procured using the Design-Build process. They are teamed with the design firm VHB. The work to be performed by BHD JV and their designers under this contract involves the final design and construction of the entire I-90/I-495 interchange. This scope includes:

- Advance the design from preliminary design through completion of final design – i.e., become the designer of record for all elements.
- Maintain traffic in accordance with traffic management plans.
- Design and Construction of 12 new bridge structures.
- New ramps for all eight moves in the interchange.
- Relocate or reconstruct existing utilities.
- Install new roadways with lighting, poles, and signage.

Major Progress as of December 1, 2024

- The Project has nearly completed transition from Traffic Stage 1 to Traffic Stage 2. It is worth noting that changing from stage to stage is an iterative process as movements are required at different locations and different times.
- Baseline schedule continues to be updated monthly followed by review meetings with the parties.
- Major work in the 495 median including earthwork and bridges have now allowed 495 Southbound traffic to be shifted onto what was the median. Demolition of the old Southbound bridges is complete and the new substructures for 495 over the RR and 495 over I-90 are underway. Columns and abutments are taking shape.
- Fruit Street bridge is past the halfway point with traffic running on the new structure. Traffic is managed in both directions using a single lane with signal control. The north side has been demolished and the center piers constructed. The abutment and wingwall foundations are being placed.
- Ramp WN has encountered major changes with subsurface conditions. This area was well into the wetland and therefore not very accessible for borings in preliminary design. This issue had held up work for a time to allow a redesign. The ramp is now taking shape with the concrete piers and abutments complete and steel erection to begin in early 2025.
- Ramp ES was the first of the new Ramps to open to the public (November 2024).
- I-90 over the RR is progressing at the east and west abutments.
- Design for Stages 3, 3B and 4 have been submitted and are in review. Design of most ramps is complete, and the remaining packages are scheduled to be submitted before Spring.
- Whitehall Brook is also underway with demolition of the existing culvert on the south side of the highway.
- Column and abutment work continues as available on Ramps WS and EN.

Budget

The initial budget (established in the contract encumbrance) was \$455,631,088 made up of:

○ Design-Build Contract Price	\$394,422,000
○ Allowances	\$17,266,877
○ Original Contract Value	\$411,688,877
○ Contingency	\$43,942,211
○ Overruns and Underruns	(\$5,599,894)
○ Approved Contract Mods.	\$12,737,360
○ Current Contract Value	\$418,826,343
○ Pending Contract Mods	\$8,623,208
○ Forecast at Completion	\$427,499,551

The total Amount earned by the Design-Builder is \$165,468,348.

This contract remains within the original financial forecast at this time.

Schedule / Project Milestones

- Notice to Proceed (NTP) Date = May 12, 2022
- Original Substantial Completion Date = June 24, 2027
- Original Final Completion Date = October 13, 2027

- Contractor's Projection*
 - MS 6: May 5, 2023 (A) (Relocate Fiber Optic Cable)
 - MS 5: April 17, 2026 (-564) (Open new Ramp WN)
 - MS 4: June 18, 2027 (-322) (Open new Ramp NE)
 - MS 3: September 10, 2027 (-135) (Full Beneficial Use)
 - MS 2: April 20, 2028 (-301) (Substantial Completion)
 - MS 1: August 9, 2028 (-301) (Final Completion)

**These forecasts are based on BHD JV's latest Baseline Schedule*

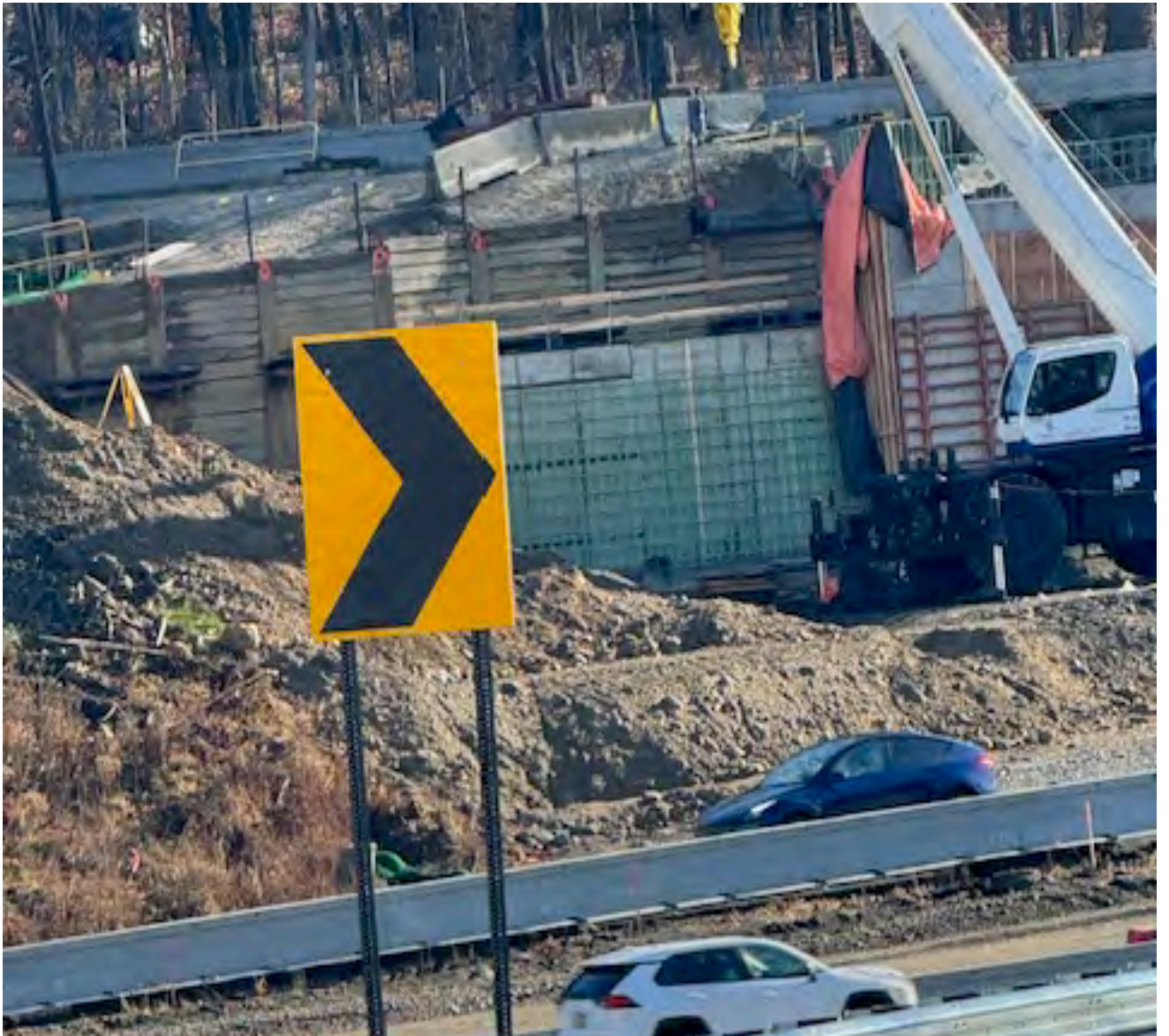
Areas of Concern

The Design/Builder's design phase is nearing completion but did not meet the baseline schedule assumptions. Coupled with the field work to date has impacted the completion milestones. Also, much of the float in the original schedule has been used up. This is one of the largest contracts MassDOT has managed. Currently, the entire team is working fairly well together. There has also been a couple of issues that appear to be Differing Site Conditions (DSCs). MassDOT, their Owner's Engineer (HNTB), the Engineer of Record or EOR (VHB) and the Contractor all have experienced and capable leaders. There is active communication with the abutters, businesses, municipalities, and legislators potentially impacted by the work. Environmental Agencies have also actively participated in the planning, design and construction oversight.

Project Photographs



South half of Fruit Street bridge now open to traffic



Fruit Street bridge east abutment and wing wall for north half of bridge



495 Southbound over RR with temp 495S on new bridge in median (left)



495 South over I-90 during demolition in September 2024



Temporary steel falsework to support tub girder erection on WN



Ramp WN concrete piers and falsework ready for bearings and tub girders

III CHAPTER 303 OF THE ACTS OF 2008 AREAS OF INTEREST

Peer Review

During the final design/construction phase of this project, this O.R. is satisfying the peer review obligations by attending regular project review meetings where construction issues, conflicts, and resolutions are discussed; walking the site to observe major construction activities; and participating in the change order process to review and concur with any proposed design changes and their impacts to the project's quality, budget, or schedule goals. In addition, this O.R. also participates in the review process of the design submitted by the Design-Builder.

Value Engineering

MassDOT selected the Design-Build procurement method to gain efficiency in both cost and schedule. This method of procurement ensures Value Engineering principles are being constantly applied to the Project without the need for an independent report. An example would be the Contractor's Proposal which reduced the number of weekend closures to six from the allotted eight. By staying informed on the design progress and changes, the OR is able to participate in the informal VE process.

Cost Recovery

No cost recovery issues have been identified. This contract is just getting underway. The only issue of note related to coating requirements for steel members on some of the bridges. This was not a design issue but a preference by the Commonwealth for a more robust system than specified.

OWNER'S REPRESENTATIVE OATH

I John Joseph Wright, Sr., MA P.E. No. 43353, hereby certify that my sole responsibility as Owner's Representative, under O.R. Contract 120638, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general contractor, and subcontractors, and that this annual report is true and accurate to the best of my knowledge, signed under pains and penalties of perjury.

A handwritten signature in black ink, appearing to read 'J. J. Wright', with a stylized flourish at the end.

John Joseph Wright, Sr., P.E.

Date: December 13, 2022



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbitts-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



Project Name: Reconstruction of Rutherford Ave from City Square to Sullivan Square - Boston
Owner's Representative Contract Number: 120635
Project Number: 606226
Construction Contract Number: N/A



Owner's Representative's 2024 Annual Report

Owner's Representative Contract No.: 120635 JRP Consulting Services LLC

Owner's Representative Work Order No.: 3

Project No. 606226 RECONSTRUCTION OF RUTHERFORD AVE FROM CITY SQUARE TO SULLIVAN SQUARE - Boston

Prepared by: Jeffrey Paul, P.E., DBIA

December 17, 2024

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I EXECUTIVE SUMMARY

Built between the 1950's and 1970's, Rutherford Avenue, designated as Route 99 within the project area, has a suburban highway character that is inconsistent with Charlestown's urban and historic character. It is classified as an Urban Principal Arterial under City of Boston jurisdiction and is a critical connection between Boston, Charlestown, Everett and points north. Due to the roadways regional importance, the Boston Metropolitan Planning Organization (MPO) has prioritized this project and has allocated State Transportation Improvement Program (TIP) funding.

To ensure the safety of this critical connection, the City of Boston has retained Tetra Tech to provide engineering services required to prepare construction documents to reconstruct and reconfigure Rutherford Avenue to a state of good repair. MassDOT is responsible for project advertisement, administering Federal funds associated with the project, and construction oversight.

Working with the City of Charlestown, abutting residents, roadway users, and other stakeholders, the team will design a plan for construction that minimizes and mitigates temporary construction impacts. The project team will be performing a full suite of public outreach and community engagement, environmental justice analysis, structural and survey analysis, and both internal and interagency coordination, to mitigate impacts associated with the project. To date, approximately 20 public meetings have been held in addition to other smaller meetings with the MBTA, Bunker Hill Community College, Schrafft's Center, Lower Mystic Regional Working Group, Mishawum Park residents, Rutherford Corridor Coalition, Climate Ready Boston, and Friends of City Square Park.

A formal public hearing for the proposed Rutherford Avenue Reconstruction project will be held by MassDOT following acceptance of the 25% design package. The project will also continue to coordinate with the city's PIC commission, Parks Department, and the BPDA for additional public meetings and to further discussions on design development.

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The project proposes to “right-size” the road with a road diet to achieve a safer environment for all users with new non-motorized options and a linear greenway to buffer the neighborhood. It includes reconstruction and reconfiguration of the Rutherford Avenue and Alford Street corridor between the Chelsea Street intersection at City Square and the bridge over the Mystic River, and also includes reconstruction and reconfiguration of the street grid at and approaching Sullivan Square from Rutherford Avenue, Main Street and Maffa Way, as well as implementation of a center running Bus Rapid Transit (BRT) system.

Project goals include:

- Improve pedestrian connections and safety between MBTA Transit Stations and the community
- Decrease traffic congestion
- Protect Main Street from cut-through traffic
- Create public/open space
- Provide opportunities for appropriate transit-oriented development
- Provide separated bicycle connections and improved pedestrian connections
- Increase on-street parking
- Remove Sullivan Square traffic circle and convert to a grid system to provide for better and safer traffic flow
- Bring structural elements to state of good repair

As of November 30, 2024, Tetra Tech has commenced 25% design and anticipates issuance of the 25% design package to MassDOT in December 2025. The current total project cost is estimated to be approximately \$177.8M, however, this value is subject to change as design progresses. The City of Boston is targeting an advertisement date of May 2029 with construction anticipated to commence in October 2029.

II ANNUAL REPORT

Contract Scope of Work

The work under this Contract includes the reconstruction of existing intersections and the creation of new intersections within the following limits as follows:

- Rutherford Avenue – extending from the Alford Street Bridge over the Mystic River to the North Washington Street Bridge over the Charles River, a distance of approximately 7,000 feet, including 10 proposed intersections, 8 of which are signalized.
- Arlington Avenue – extending from Rutherford Avenue to Dorrance Street, a distance of approximately 500 feet.
- West Street – Extending from Dorrance Street to Alford Street, a distance of approximately 500 feet.
- Main Street/Mystic Avenue – extending from Rutherford Avenue to the existing viaduct, a distance of approximately 1,500 feet including 2 proposed intersections, 1 of which is signalized.
- Maffa Way – extending from Rutherford Avenue to the existing viaduct, a distance of approximately 1,500 feet including 2 proposed intersections, all of which are signalized.
- Cambridge Street – extending from a match with existing Cambridge Street at Spice Street, a distance of approximately 300 feet including 1 signalized intersection.
- Beacham Street – extending from West Street to Cambridge Street, a distance of approximately 900 feet.
- Alford Street – extending from Alford Street Bridge to Cambridge Street, a distance of approximately 1,500 feet, including 2 proposed signalized intersections.
- Mishawum Street – extending from Bunker Hill Street to Rutherford Avenue, a distance of approximately 100 feet.

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- Main Street – extending from Rutherford Avenue to Bunker Hill Street, a distance of approximately 900 feet.
- Austin Street/Gilmore Bridge – extending 200 feet including signalized intersection at Rutherford Avenue.
- Bunker Hill Street – extending 150 feet to Main Street.

The draft concept design, which depicts the Rutherford Avenue corridor within project limits to be entirely at-grade, includes shared bicycle facilities with two-way directional operation, handicap accessible sidewalks, new signalized intersections, and dedicated center lane bus lanes.

Sullivan Square is comprised of a rotary having five vehicular connections, including Alford Street, Main Street, Maffa Way, Cambridge Street, and Rutherford Ave. The rotary, which is functionally obsolete and unsafe, and rotary approaches will be removed and replaced with a signalized street grid between Rutherford Ave and the Maffa Way and Mystic Ave bridges over the MBTA. The new street grid shifts the positions of some existing street segments into current non-street locations, enabling some construction to proceed without adverse traffic impacts. Main Street, from Charlestown at the Schrafft's Center, will be realigned directly across the rotary to Main Street as it transitions to Mystic Avenue into Somerville. The Sullivan Square MBTA Station abuts the project to the west and is not directly affected by construction, but adjacent parking, access and bus routing to/from the station will be affected and must be coordinated with the MBTA and City of Boston.

The future traffic condition in Sullivan Square will continue to be challenging, however the removal of the old rotary and implementation of a normalized street network, dedicated bus lanes, pedestrian & bicycle facilities, adaptive signals with transit signal priority, and linear park space will allow Charlestown residents more choices for transportation. Breaking the center median along Rutherford Avenue and creating new signalized intersections will also allow for better access to businesses without the circuitous movements and U-turns

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necessary today. Additionally, new signals will allow pedestrian travel directly from the neighborhood to the west side of the town, including the Bunker Hill Community College.

Major Progress As of November 30, 2024

The project is being procured as a traditional design-bid-build project on which the plans, specifications and estimates are prepared prior to the project being advertised for construction. The City of Boston has retained Tetra Tech to provide engineering services required to prepare construction documents for the roadway reconstruction. MassDOT is responsible for project advertisement, administering Federal funds associated with the project and construction oversight.

As of November 30, 2024, the designer of record, Tetra Tech, received Notice to Proceed from the City of Boston to commence efforts associated with 25% design. Additionally, Tetra Tech will prepare and expanded ENF, single EIR for MEPA, Functional Design Report, Design Justification Workbook, and perform an Intersection Control Evaluation. It is anticipated that a 25% package will be issued to MassDOT within 12 months with a 25% Design Public Hearing to follow in the summer of 2026.

Budget

The original preliminary 25% cost estimate prepared by Tetra Tech, dated October 2, 2020, indicated a total project value of \$151,879,061.28. It is expected that overall construction cost will be modified as a result of the new 25% design. A summary of project cost follows:

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Budget

Info	Cost Item	Pre-25% Value	25% Value	75% Value	100% Value	PS&E Value	Bid Result
	Current Office Estimate	\$151,879,061.30					
	Estimated Total Contract Cost	\$170,083,975.43					
	Estimated Total Construction Cost	\$177,828,128.50					
	Estimated Utilities/Force Accounts						
	Total Federal Participating Construction Cost (TFPCC)	\$176,570,936.50					
	Estimated Total Federal Construction Cost	\$145,279,173.35					
	Municipality Funding	\$0.00					
	Estimated Preliminary Design Cost						
	Estimated Right-of-Way Cost						
	Estimated Other Project Costs						
	Total Project Cost	\$177,828,128.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

It is this OR's understanding that although the project has been delayed, the Boston MPO still plans to fully fund the Rutherford Avenue project in future funding programs and that the project has been moved forward for a start in funding in Federal Fiscal Year 2024. The Rutherford Avenue project was originally programmed to be funded in the 2021-2025 MPO Plan. However, the Boston MPO postponed funding because the project was still not ready to advertise. As such, the project has moved into FFYs 2024-2029 and the MPO anticipates fully funding the project with the final year being 2029. It is anticipated that although the current TIP doesn't cover all funding years, the MPO still expects to fund the project. Based upon the recent project schedule it appears as though funding may be required through FFY 2029.

Schedule/ Project Milestones

The project is not yet under construction, however, the current anticipated project construction duration is 48 months (4 years).

A conceptual CTD is required at the 25% Design submission and on September 20, 2020, Tetra Tech issued the 25% Contract Time Determination (CTD) Schedule and Narrative to MassDOT. The conceptual CTD was created for initial budgeting and planning purposes

only as the CTD will be more fully developed and refined as part of the 75% design submission. It is anticipated that the 75% CTD will be issued in early 2028.

MassDOT will be responsible for construction oversight throughout the entire duration of construction.

Areas and Issues of Concern

The following key issues have been identified due to their potential risk to adversely affect the project:

- Bunker Hill Community College has indicated that they would like the Pedestrian Bridge removed in its entirety. Removal has been accepted as part of the Value Engineering study
- Sullivan Square Underpass is in state of disrepair and has experienced serious deterioration. The City of Boston has expressed safety concerns with the underpass.
- Coordination with MBTA busing and relocation of an MBTA building
- Solidify Resiliency for Main Street to limit impacts to the following: Massport Railroad; working with the Boston Planning and Development Agency (BPDA) for the private development proposal; Federal funding for the seawall; and Coordination with the Parks Department to finalize the master plan for Ryan Playground
- Finalizing Right of Way acquisitions and agreements
- Coordination and timing of installation of new Eversource transmission line adjacent to Sullivan Square (by others)
- Coordination of utilities including BWSC, National Grid, Eversource and MWRA

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- Coordination with adjacent projects to avoid potential TMP conflicts, including the North Washington Street Bridge Replacement Project and the Maffa Way and Mystic Avenue Superstructure Replacement Project, both currently under construction. The North Washington Street Bridge over Boston Inner Harbor, located at the southerly project limit, is scheduled for completion in mid 2025, while the Maffa Way/Mystic Avenue project is scheduled for completion in December 2026. These projects will potentially have vehicular travel impacts into the Rutherford Avenue project, affectively regulating the volume of traffic that will be able to enter the proposed work area.
- Achieving a project advertising date
- FHWA funding

The aforementioned issues will be monitored throughout the design phase to mitigate potential impacts to project cost and construction schedule.

In addition to the aforementioned issues, MassDOT initiated a Value Engineering (VE) Study (previously referenced) whereas one of the objectives was to identify project risks. A Risk register was subsequently developed to identify and categorize the potential impacts of these risks to the project. The Risk register, as contained within the VE study, is shown below:

Project Name: Reconstruction of Rutherford Ave from City Square to Sullivan Square - Boston

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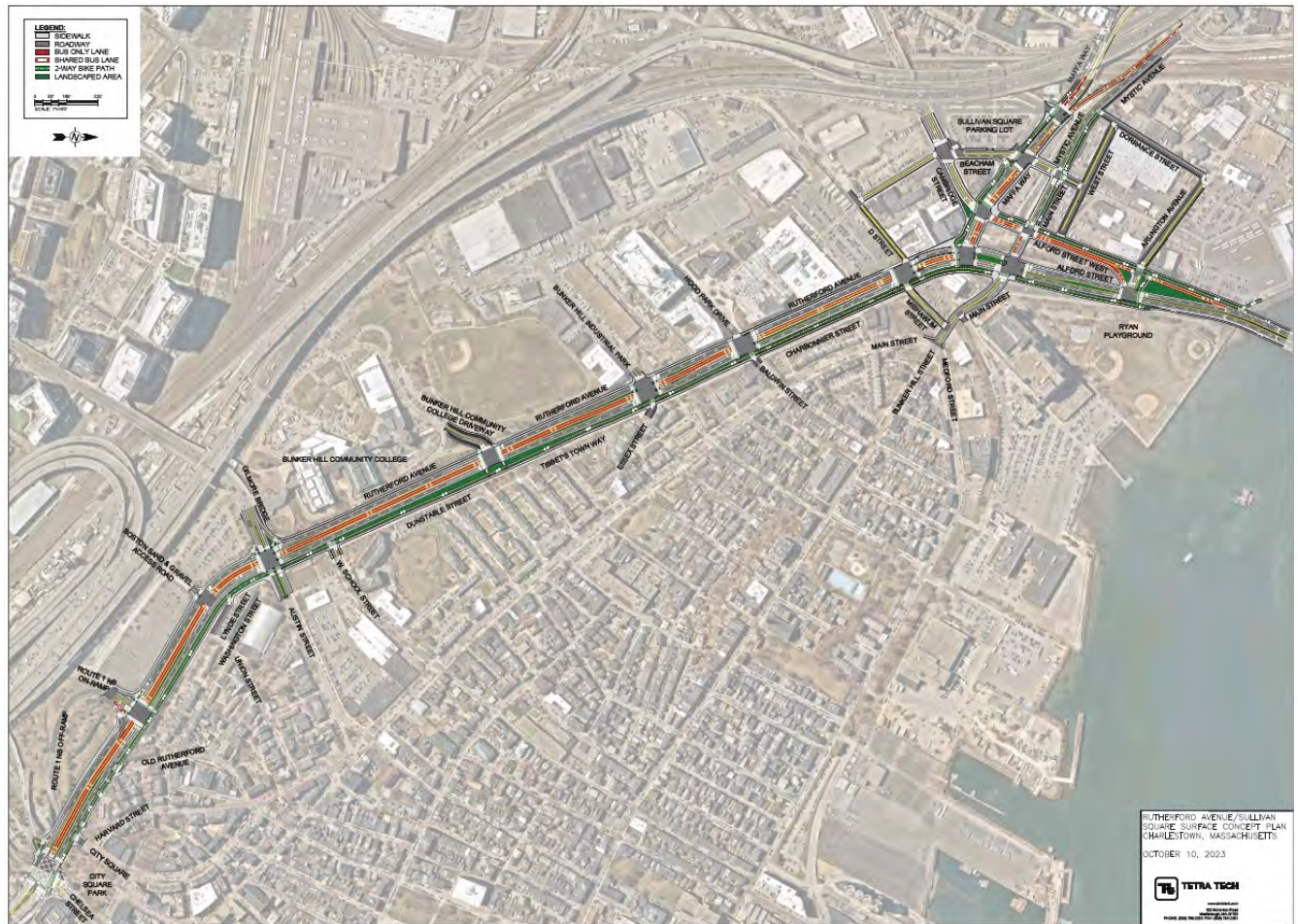
Construction Contract Number: N/A

Risk Identification				Qualitative Analysis			Mitigation - Response Action			
ID	Status	Phase	Category	Risk Description	Probability	Impact Time	Cost	Strategy	Action Plan Erik Maki - Tetra Tech Bill Conroy - City of Boston Alwin Ramirez - MassDOT	Risk Manager
1	2	3	4	5	6	7		8	9	10
1	Active	DSN	Schedule	Maintain Advertisement date of March 2023	HIGH	2 mo.	\$10M	AVOID	Maintain the design schedule and update on a monthly basis.	Bill, Erik, Alwin
2	Active	DSN	General	Acquire one acre, including Building #13, of ROW from MBTA Maint. Facility for Main St. alignment, as identified in ROW plans page 81	MODERATE	1 mo.	\$3M	ACCEPT	Negotiate and purchase the ROW as indicated in ROW plans page 81 and associated offer agreement	Bill
3	Active	DSN	Permits	Solidify the Resiliency for Main St. by limiting impacts to: 1. MassPort Railroad 2. Working with the Boston Planning and Development Agency (BPDA) for the private development proposal 3. Federal funding for the seawall 4. Coordination with the Parks Dep. to finalize the master plan for Ryan Playground	HIGH	N/A	N/A	AVOID	City of Boston ongoing discussions with the private developer and the City's federal funding point of contact	Bill
4	Active	DSN	Civil	Center running BRT (Bus Rapid Transit) bus lanes on Rutherford Ave	LOW	1 mo.	\$2M	AVOID	MassDOT OTP and City of Boston continued support for the current project and City of Boston letter to MBTA to lock in the current design	Bill, Erik, Alwin
5	Active	DSN	General	Coordination with Maffa Way and Mystic Ave bridges designers (DB by PARE) to avoid potential TMP conflicts (Ad date of 7/30/2022)	LOW	1 mo.	\$1.5M	AVOID	Continued coordination between PARE, MassDOT, City of Boston, City of Somerville, and MBTA	Erik, Alwin, Bill
6	Active	DSN	Utilities	Utility coordination - BWSC - National Grid - MWRA	MODERATE	1 mo.	\$4M	AVOID	Continued coordination with each utility to finalize before 100% design.	Erik
7	Active	DSN	Permits	Environmental coordination / permitting - MEPA ENF and Certificate - DEP Chapter 91 minor modification - Section 106 - NOI / Order of Conditions - NEPA CE	MODERATE	1 mo.	\$5M	ACCEPT	Ongoing coordination to acquire permits	Erik, Alwin
8	Active	DSN	Civil	Revise and finalize the Functional Design Report (FDR) and the Design Justification Workbook (DJW) per MassDOT comments - signal warrants - roadway design including number of lanes - intersection configuration - transit elements including dedicated bus lanes and stop locations, but not including the BRT proposals - vertical clearance - Finalize bike lane configuration	MODERATE	1 mo.	\$3M	ACCEPT	Ongoing coordination with MassDOT	Erik, Alwin
9	Active	DSN	Civil	Verify that all existing and new proposed signal equipment is located on a public ROW	LOW	1 mo.	\$1M	ACCEPT	Ongoing coordination with MBTA	Bill
10	Active	DSN	Permits	Certification of ROW from the City of Boston in order to advertise the project (including all permanent easements & construction easements)	HIGH	2 mo.	\$10M	ACCEPT	City of Boston and AECOM to finalize the ROW acquisitions/agreements by September 2022	Bill

Project Photographs

The project is not under construction.

The plan below contains Rutherford Avenue concept plan as prepared by Tetra Tech on October 10, 2023 and forms the basis for 25% design.



III CHAPTER 303 OF THE ACTS OF 2008 AREAS OF EMPHASIS

Peer Review

In September 2019, as part of the 25% Peer review effort, several independent assessments and evaluations were performed by Alfred Benesch & Company with respect to highway design, structural design, and civil/traffic engineering, respectively.

During the construction phase of this project, this Owner's Representative (O.R.) will satisfy peer review obligations by attending regular project review meetings where construction issues, conflicts, and resolutions are discussed; walking the site to observe major construction activities; and participating in the change order process, to review and

comment upon any proposed design changes and their impacts to the project's quality, budget, or schedule goals.

Value Engineering

August 2021, Massachusetts Department of Transportation, Highway Division (MassDOT) initiated a Value Engineering (VE) study in order to accomplish the project's goals in the most expeditious and cost effective manner. The objective of the study was to identify opportunities and to recommend alternatives that improve value in terms of capital cost reductions, improved constructability and product enhancement while providing the basic functional requirements to meet the Project intent. VHB, in association with Keville Enterprises and Kittelson & Associates, conducted the VE study from August 9, 2021 through August 13, 2021.

The VE Team was given the task of studying a practical and workable design alternative and providing an independent review in order to identify recommendations that would potentially reduce the project costs or otherwise add value while maintaining the function, performance, and quality of the original design.

On August 9, 2021, Tetra Tech and the City of Boston presented an overview of the project's design progress, at the time of the study, as well as project constraints, history, issues, goals, and objectives. The VE Study results and recommendations were then presented by VHB to MassDOT, FHWA, Tetra Tech, and the City of Boston on August 13, 2021.

The VE Team generated 43 initial ideas during the Creative Ideas phase of this study, with consideration to the project constraints identified by MassDOT and Tetra Tech. The ideas were then evaluated based on the following criteria: Initial Cost; Operation and Maintenance (O&M) and Life Cycle Cost (LCC); Local Connectivity; Permanent Traffic Operations; Improves Safety; Constructability; Development Potential; and Right of Way Impacts. The object of the evaluation was to identify ideas with the most promise to achieve savings while

preserving functions or improving operations and safety. In general, the idea evaluation considered the constraints identified by the design team, the economic impact, other benefits obtained, and the acceptability/effort of necessary redesign.

After evaluation of the 43 initial ideas, 13 ideas received the minimum score or greater and were recommended by the VE team at the mid-point meeting. These 13 ideas were presented and discussed and ultimately 6 of them were selected by MassDOT for development.

While these 6 ideas were developed for recommendation, the VE team concluded that some of the other ideas could potentially benefit the project design, however, were not feasible for further development during the VE Study or did not have enough time or sufficient data to fully develop the idea. Consequently, these ideas were selected as Design Suggestions (DS). The 21 design suggestions have no easily quantifiable cost implications, however, remain noteworthy to the results of the VE study. Some of the design suggestion ideas represent changes in design approach, re-consideration of criteria, and in some cases, modification of the project scope. Some of these design suggestions can also be developed in conjunction with various ideas in order to further enhance the recommendations.

The following table presents a summary of the ideas developed into VE recommendations and Design Suggestions, with cost implications identified where applicable. Since cost is important for comparison of alternatives, the costs presented in the VE Study are based upon the 25% design cost estimate and as revised by the VE Team. Where proposed alternate designs included items not in the original estimate, costs from similar MassDOT projects, published cost estimating databases, and VE team members' experience were used. The recommendations in the following table indicate the anticipated initial cost savings of the proposed recommendations. Acceptance of these recommendations would improve the value of the project, as shown below.

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As of November 30, 2024, implementation of any of the ideas identified in the VE study are on hold pending development and approval of revised 25% concept plans, however, the status of open ideas is as follows:

- Idea No. 1 – Eliminate the BHCC Pedestrian Bridge, has been accepted
- Idea No. 9 – Replace bracing struts to avoid wall reinforcement/construction, has been conditionally accepted
- Idea No. 13 – Create two-way shared use path from Draw 7 Park Extension to Sullivan Square, has been conditionally accepted
- Idea No. 16 – Improve weaving condition on Mystic Avenue north of Dorrance Street, has been conditionally accepted
- Idea No. 18 – Relocate intersection of Main Street and Alford Street over tunnel has been rejected
- Idea No. 20 – Revised Boulevard Alternative has been conditionally accepted

Project Name: Reconstruction of Rutherford Ave from City Square to Sullivan Square - Boston
Owner's Representative Contract Number: 120635
Project Number: 606226
Construction Contract Number: N/A

No.	Description	Original Cost	Proposed Cost	Total Cost Savings
		A	B	C = A-B
Ideas				
1	Eliminate the BHCC Pedestrian Bridge	\$5,679,078	\$117,488	\$5,561,500
9	Rehab bracing struts to avoid wall reinforcement/construction. Install new struts where roof is removed.	\$11,005,418	\$1,000,493	\$10,004,925
13	Create two-way shared use path from Draw 7 Park Extension to Sullivan Square on north/west side of Alford St. (STA 301 to 310)	\$0	\$103,295	(\$103,295)
16	Improve weaving condition on Mystic Avenue north of Dornance St.		Cost Neutral	
18	Relocate intersection of Main St. & Alford St. over tunnel	\$7,593,087	\$162,532	\$7,430,555
20	Revised boulevard alternative		Cost Neutral	
			Total	\$22,893,776
Design Suggestions				
3	Beautify and brand the existing pedestrian bridge			
5	Orient pedestrian ramp to meet the ground closer to West School St.			
7	Replace utility bridge instead of undercutting tunnel			
10	Fire station pre-empt capability			
11	Convert Bus Stop Design to Floating Bus Stops on Main Street			
17	Reduce Mystic Avenue / Main Street SB to one General Travel Lane			
19	Make struts a feature			
21	Use precast barrier instead of cast-in-place			
22	Use modular wall rather than CIP wall at Austin St. Bridge for abutment and retaining walls			
26	Raise Ped/Bike crossings at West Street & Arlington Ave at Alford Street			
27	Enhance connection between two way hike lane and Millers River Path			
30	Reduce width of Rutherford Ave NB off-ramp onto Austin Street			
31	Eliminate channelized right turn from Gilmore Bridge onto Rutherford Ave SB on-ramp			
32	Eliminate left-turns from Rutherford Avenue Northbound onto Bunker Hill Community College Driveway			
33	Avoid trees over utilities / use shrubs between Dunstable St. and Essex St.			
34	Eliminate left turns from Rutherford Avenue NB onto Hood Park Drive			
35	Modify design speed to 30 or 35 mph to reduce tapers and minimize street width			
36	Connect Directly from Rutherford Avenue to I-93 Northbound			
37	Add separation between sidewalk and Rutherford Ave on west side between Austin St. and Hood Park Dr.			
38	Add crosswalk to northern leg of Rutherford Ave/Chelsea St intersection			
43	Use precast adjacent 24" deep box beams for Sullivan Square structure			

Cost Recovery

At this point in time, no issues have been specifically identified as Cost Recovery issues.

At this point in time, as this project is in the design phase, no EWO issues have been identified to date.

Owner's Representative Oath

I, Jeffrey R. Paul, P.E., MA P.E. No. 38526, hereby certify that my sole responsibility as Owner's Representative, under OR Contract 120635, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general contractor, and subcontractors, and that this annual report is true and accurate to the best of my knowledge signed under the pains and penalties of perjury.



Jeffrey R. Paul, P.E., DBIA
Owner's Representative

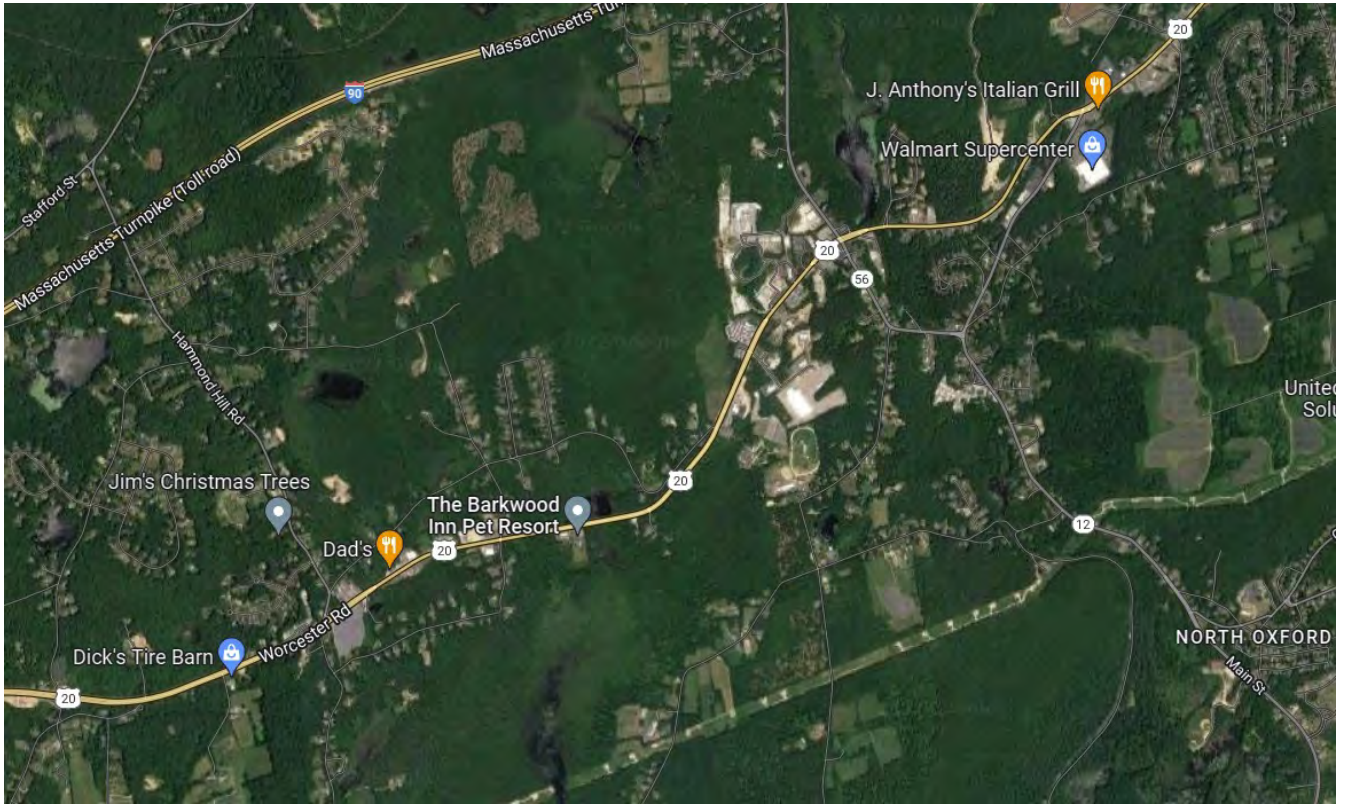
Date: December 17, 2024



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbitts-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



Project Name: Reconstruction of Route 20 from Richardson's Corner, Charlton to Route 12, Oxford
Owner's Representative Contract Number: 120632
Project Number: 602659
Construction Contract Number: 117832



OWNER'S REPRESENTATIVE 2024 ANNUAL REPORT

***Owner's Representative Contract No. 120632 – Chappell Engineering Associates, LLC
Project No. 602659 – Reconstruction of Route 20 from Richardson's Corner, Charlton to
Route 12, Oxford***

CHARLTON-OXFORD, MASSACHUSETTS

***Preliminary Designer: HDR Engineering, Incorporated
Design-Builder: D W White Construction Incorporated
Designer of Record: TranSystems Corporation***

***Prepared by: Chappell Engineering Associates, LLC
December 17, 2024***

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I. EXECUTIVE SUMMARY

This project consists of improvements to the Route 20 Corridor in the Towns of Charlton and Oxford from the intersection of Route 20 with Richardson's Corner in Charlton to the intersection of Route 20 with Route 12 in the Town of Oxford. The project includes safety improvements to approximately 3.2 miles of Route 20, and includes the replacement of the bridges which carry Route 20 over the Little River in Charlton and the French River in Oxford. Safety improvements include the construction of a center median to separate east and westbound traffic, widening to allow for greater shoulder widths and turning lanes at intersections, traffic signal reconstruction, traffic calming, pedestrian and bicycle accommodations and additional roadside clearing to remove obstructions and allow for the creation of emergency pull off areas for police enforcement and vehicle refuge. A locus map of the study area is shown in Figure 1. This project is being constructed by the Massachusetts Department of Transportation (MassDOT) - Highway Division with HDR Engineering, Inc. as the Preliminary Designer of Record. The project was procured as a Design-Build Contract with Technical Proposals reviewed in August 2022 and Price Proposals opened August 31, 2022 with the apparent Best Value being the Design-Build Team of D W White Construction of Acushnet, MA as the Prime Contractor and TranSystems Corporation as Design-Build Designer of Record. Notice to Proceed was issued to D W White on November 17, 2022. Work on the project has progressed through the design phase to 100% Highway Design and Final Bridge Design for the Little River and French River Bridges. Construction has advanced through the culvert and bridge construction along with all of the walls which contain the roadway embankment. Roadway work is in the final stage with median barrier being installed through the corridor and traffic restored to four lanes of travel through the winter season. When construction work resumes in 2025, the median barrier will be completed along with the Roundabout at Oxbow Road and traffic signals to be installed.

The primary purpose of this project is to make safety improvements to the Route 20 Roadway within the project limits along with upgrading the roadway infrastructure and making environmental improvements to the resources located adjacent to the project. The intersection of Route 20 with Route 56 is a high crash location, in the top 5% of intersections and the corridor has a crash rate above the state average for roadways of this type in the state with 46% of these crashes being sideswipe, head on and single vehicle type which can typically be attributed to high travel speeds, narrow lane and shoulder widths, lack of separation between the east and westbound traffic and geometric deficiencies. Furthermore, there are no reasonable pedestrian or bicycle accommodations within the project limits which severely limits the mobility of any use of the corridor by any means other than a motor vehicle.

Project Name: Route 20 Corridor Improvements, Charlton-Oxford
Owner's Representative Contract Number: 120632
Project Number: 602659
Construction Contract Number: 117832

In order to address these safety and mobility concerns, the following improvements are proposed with this project:

- Traffic signal replacement and lane arrangements at the intersection of Route 20 and Route 56 specifically intended to address the safety concerns identified at the Road Safety Audit held in October 2014, report dated January 2015.
- Construction of a raised median or concrete barrier to separate the east and westbound directions of travel.
- Widening of the lanes and shoulders to allow for sufficient space between vehicles, drainage of the travel way and left turn lanes at the intersections.
- Improvements to the roadway horizontal and vertical alignment to provide greater sight distance and ability to remain in the travel lanes.
- Widening of Route 20 to provide a clear zone free from hazardous obstacles, emergency pull off areas and police parking enforcement areas to help control travel speeds.
- Installation of speed mitigation measures to assist in traffic calming.
- Construction of sidewalks and bicycle accommodations where feasible.
- Installation of guard rail in accordance with current requirements.

Project Name: Route 20 Corridor Improvements, Charlton-Oxford
Owner's Representative Contract Number: 120632
Project Number: 602659
Construction Contract Number: 117832



Figure 1 - Project Location

II. ANNUAL REPORT

Contract Scope of Work

Proposed improvements include:

- Reconstruction of the Route 20 corridor from the intersection of Route 20 with Richardson's Corner to the intersection of Route 20 with Route 12. Roadway reconstruction will be a combination of mill and overlay of the existing roadway with box widening. Full depth roadway reconstruction is proposed in areas where it is intended to correct the roadway cross slope to match the horizontal radius.
- Construction of a concrete barrier or median to separate the east and westbound travel ways on Route 20. A Minimum 2 foot left shoulder is proposed throughout the length of the project to provide separation of the roadway from the barrier.
- Installation of new fully actuated traffic signals at the intersection of Route 20 with Route 56 and for Route 20 at Richardson Corner Road/Oxbow Road. Both locations have existing signals which are intended for replacement. The intersection of Route 20 with Route 56 is a high accident location and improvements are intended to address very specific safety concerns raised during the Road Safety Audit held in October of 2014. Improvements at the Route 56 intersection will also include fully accessible improvements to facilitate pedestrian movements in accordance with the requirement of the Americans with Disabilities Act.
- Reconstruction of the Route 20 roadway will provide the opportunity to flatten the horizontal and vertical curvature to allow for the increasing of the available sight distance along the roadway. This will improve driver reaction time to consider avoidance maneuvers and avoid collisions with other vehicles as well as potential objects and pedestrians within the travel way.
- The Route 20 roadway is to be reconstructed with wider lane and shoulder widths to better allow for safe vehicular travel at the desired travel speeds. The increased roadway width is intended to allow for turning lanes at the signalized intersections with adequate left turn storage based upon updated traffic count information.

Project Name: Route 20 Corridor Improvements, Charlton-Oxford
Owner's Representative Contract Number: 120632
Project Number: 602659
Construction Contract Number: 117832

- The reconstruction is also intended to include speed mitigation measures to help prevent excessive speeding. This would include the construction of areas along the roadway where police can be posted and maintain a presence which will assist in the enforcement of speeds through the corridor. The project is also proposing speed feedback signage to raise driver awareness of excessive speeds. Advisory signage with speed reductions will be proposed in areas with roadway curvature or other potential features which require extra attention or speed reduction.
- Additional safety improvements will include the construction of new pedestrian and bicycle accommodations. The roadway within the project limits is constricted by the presence of wetland resource areas on either side of the road however an eight foot wide shared use path is proposed on the north side of Route 20 from the easterly intersection of the Oxbow Road with Route 20 to the easterly project limit of Route 20 with Route 12.
- Reconstruction will also include the creation of a roadside clear zone free of roadside hazards and to allow errant vehicles to recover and reenter the roadway. In areas where the roadside is restricted, guard rail will be proposed to redirect vehicles back toward the roadway and away from the non recoverable slope
- The full replacement of the two bridges carrying Route 20 traffic over the Little River (C-06-023) and French River (O-06-002). The new structures will include full substructure and superstructure replacements consistent with the cross section of the approach roadways and compliant with environmental permitting and flood zones. The structures will meet current statutory loading requirements as well as seismic requirements and all applicable bridge design criteria.
- Extensive Stormwater Control Measures (SCM) are proposed throughout the corridor as required under the project permitting and as required by the state Stormwater Management Handbook prepared by the Massachusetts Department of Environmental Protection. The closed drainage system will be designed to provide greater resiliency to heavy storm events based upon current rainfall data and allow for better maintenance of the system as well as provide safety improvements by limiting roadway gutter spreads and water quality improvements by including measures to capture and treat stormwater through infiltration or through managed wetlands.

Major Progress As Of November 30, 2024

Price Proposals were publicly opened on August 21, 2022 with the Apparent Best Value being the Design-Build Team of D W White Construction of Acushnet, MA as the Prime Contractor and TranSystems Corporation as Design-Build Designer of Record. The following is a detailing of events which have transpired since Notice to Proceed was issued November 18, 2022:

- Weekly Project Coordination meetings and Bi Weekly Utility Coordination meetings began December 2022. Weekly coordination meetings have continued through 2024 and with the completion of utility relocations, the Bi Weekly Coordination meetings have been suspended.
- Design work has been completed in keeping with the project schedule to maintain and/or exceed the contractual milestones.
- Environmental permit amendments have been prepared to accompany the project design have been submitted and reviewed in order to maintain the project schedule and milestones.
- Public Information Meetings were held February 8, 2023, May 4, 2023. The February 2023 meeting was an opportunity to present the project and update the public on upcoming project activity. The May meeting was an opportunity to present more detailed information about the project including the change to the design where the proposed roundabout at Oxbow Road was displayed to the public. The meetings were well attended and well received by the public. The Design Build Team and MassDOT have maintained a consistent dialog in responding to questions posted after the meetings and in response to observed construction activity.
- A Public Information Meeting was held February 27, 2024. This meeting was effective in providing the public with a schedule of proposed activity through the life of the project. The meeting also provided the public with the opportunity to make the Design-Builder aware of current issues which were planned to be addressed in field meetings the following day.
- Enabling utility relocations were completed to allow for the roadway, bridge and wall construction work.
- Design work has been completed. Designer of record has supported construction throughout the work on the project.

Project Name: Route 20 Corridor Improvements, Charlton-Oxford

Owner's Representative Contract Number: 120632

Project Number: 602659

Construction Contract Number: 117832

- Construction of the Little River and French River Bridges has been completed
- Wall construction has been completed throughout the project corridor.
- Roadway widening has been completed. Paving has been completed to intermediate course of pavement with the roadway open to four lanes of travel as required for the winter 2024-2025.

Budget

- Office Estimate: \$61,883,270.04
- Price Proposal: \$95,584,000.00
- Original Encumbered Amount: \$108,399,549.80 (Includes Municipal Encumbrance)
- Current Encumbered Amount: \$109,799,549.80 (Includes Municipal Encumbrance)
- Total Amount Expended through November 30, 2024: \$ 65,582,565
- Current Estimate at Completion: \$109,799,549.80 (Includes Municipal Encumbrance)

Project Name: Route 20 Corridor Improvements, Charlton-Oxford
Owner's Representative Contract Number: 120632
Project Number: 602659
Construction Contract Number: 117832

The table below contains a summary of project financials through November 30, 2023:

Project Budget / Financials			
	<u>Contract</u>	<u>MassDOT</u>	<u>Municipal</u>
Bid	\$ 95,584,000	\$ 93,452,806	\$ 2,131,194
Allowances	\$ 3,469,000	\$ 3,469,000	\$ 0
Original Contract Value	\$ 99,053,000	\$ 96,921,806	\$ 2,131,194
Original Contingency (FIN681)		\$ 9,346,550	
Original Encumbrance		\$ 106,268,356	
Encumbrance Modifications		\$ 1,400,000	
Current Encumbrance		\$ 107,668,356	
Current Overruns and Underruns	\$ 1,795,979	\$ 1,795,979	\$ 0
Approved Contract Modifications	\$ 1,655,049	\$ 1,655,049	\$ 0
Current Contract Value	\$ 102,504,027	\$ 100,372,833	\$ 2,131,194
Pending Contract Modifications	\$ 0	\$ 0	\$ 0
Estimated Contract Total	\$ 102,504,027	\$ 100,372,833	\$ 2,131,194
Probable Contract Modifications		\$ 265,049	
Forecast Cost-at-Completion	\$ 102,769,076	\$ 100,637,882	\$ 2,131,194
Total CQE (Invoiced) to Date	\$ 65,582,565	\$ 63,907,229	\$ 1,675,336
Funds Remaining		\$ 42,085,791	
Projected Funds Remaining		\$ 7,030,474	
Expected Progress (baseline)	0.00%		
% Complete	63.82%		

Schedule / Project Milestones

- Notice to Proceed: November 17, 2022
- Completion of Little River Bridge: November 6, 2024
- Completion of French River Bridge: November 5, 2024
- Substantial Completion (Full Beneficial Use): November 8, 2025
- Final Completion: April 30, 2026

Areas of Concern

The following represents the primary areas of concern identified in design and at this stage in construction:

- Environmental Permitting: The project takes place within environmentally sensitive areas and continued coordination through final design and construction will need to respect these areas as well as permit conditions obtained in the preliminary design phase and amended conditions obtained in concert with final design. This remains a concern as project work draws towards completion.

Project Name: Route 20 Corridor Improvements, Charlton-Oxford

Owner's Representative Contract Number: 120632

Project Number: 602659

Construction Contract Number: 117832

- A future development on the north side of Route 20 is under consideration and Aquarion Water (the Town of Oxford's Water service agent) has indicated to the Design Builder that there is a potential 1,100 feet of water main, east of the French River Bridge to service this development. The Design-Builder has reached an agreement with Aquarion to install the additional water main with work taking place without interfering with the project milestones.
- Travel speeds along the corridor are a safety concern for both the contractor and the motoring public. A proposed Work Zone Speed Limit regulation was requested and signed by the State Traffic Engineer. A reduction in the regulatory speed of 5 MPH was granted as a static work zone speed limit for the entire length of the project, and an additional 5 MPH reduction granted as a dynamic work zone speed limit to be in effect only in the area where active work is taking place.

Project Figures / Photographs



Pile Driving Operations at French River Bridge Stage 1

Project Name: Route 20 Corridor Improvements, Charlton-Oxford
Owner's Representative Contract Number: 120632
Project Number: 602659
Construction Contract Number: 117832



Wingwall Demolition Little River Bridge Stage I



Wall H Construction



French River Bridge Abutment Stem – Stage 1



Abutment Formwork Little River Bridge - Stage 1

Project Name: Route 20 Corridor Improvements, Charlton-Oxford
Owner's Representative Contract Number: 120632
Project Number: 602659
Construction Contract Number: 117832



French River Bridge Abutment Construction Stage 1



Precast Bridge Units Installation with Rolling Road Block - French River Bridge Stage 1

Project Name: Route 20 Corridor Improvements, Charlton-Oxford
Owner's Representative Contract Number: 120632
Project Number: 602659
Construction Contract Number: 117832



Precast Bridge Units Installed French River Bridge Stage 1



Little River Bridge Girders – Stage 1

Project Name: Route 20 Corridor Improvements, Charlton-Oxford
Owner's Representative Contract Number: 120632
Project Number: 602659
Construction Contract Number: 117832



Little River Bridge Deck Formwork and Steel Reinforcement – Stage 1



French River Bridge Stage 1 Deck with Closure Pours

Project Name: Route 20 Corridor Improvements, Charlton-Oxford
Owner's Representative Contract Number: 120632
Project Number: 602659
Construction Contract Number: 117832



Little River Bridge Deck – Stage 1



French River Bridge Deck Paved and Railings Installed – Stage 1

Project Name: Route 20 Corridor Improvements, Charlton-Oxford
Owner's Representative Contract Number: 120632
Project Number: 602659
Construction Contract Number: 117832



Pile Driving and Abutment Demolition Little River Bridge – Stage 2



French River Bridge Abutment Demolition and Pile Driving – Stage 2



Abutment Footing Formwork French River Bridge Stage 2



Little River Bridge Abutment and Wingwall Formwork - Stage 2



French River Bridge Backwall Formwork – Stage 2



French River Bridge Deck Closure Pour – Stage 2



Little River Bridge Deck Reinforcement and Formwork – Stage 2



Little River Bridge Deck and Median Barrier Formwork – Stage 2

Project Name: Route 20 Corridor Improvements, Charlton-Oxford
Owner's Representative Contract Number: 120632
Project Number: 602659
Construction Contract Number: 117832



Little River Bridge Deck Paved and Railing Installed – Stage 2



French River Bridge Deck Paved and Railing Installed – Stage 2

Project Name: Route 20 Corridor Improvements, Charlton-Oxford
Owner's Representative Contract Number: 120632
Project Number: 602659
Construction Contract Number: 117832



Median Barrier Installation

III. CHAPTER 303 OF THE ACTS OF 2008 AREAS OF INTEREST

Peer Review

A peer review was not performed prior to Design Build Procurement.

Value Engineering

A Value Engineering (VE) Study of the project design concept was conducted by The Jacobs Engineering Group in September of 2020 with thirty-eight (38) proposed alternatives with benefits in the form of safety, operations, environmental, construction and represented either design suggestions and/or cost savings alternatives. Of the 38 proposals, six were accepted, twenty-two were conditionally accepted and twelve were rejected. The Base Technical Concept and procurement documents have accounted for these in the preliminary design development.

Cost Recovery

At this point in time, no issues have been specifically identified as Cost Recovery issues.

Extra Work Orders

As of November 30, 2024, there are three approved extra work orders:

1. Additional culvert replacement to be performed in the Town of Sturbridge. This had been previously planned under a separate contract which has been terminated. With the Termination of the contract it has been agreed to replace the culvert as an Extra Work Order under the Charlton Oxford (117832) Contract.
 - a. Disposition: approved by MassDOT and FHWA
 - b. Cost: \$1,400,000.00
2. Installation of Temporary Portable Rumble Strips.
 - a. Disposition: approved by MassDOT and FHWA
 - b. Cost: \$207,922.89
3. Asbestos Mitigation.

Project Name: Route 20 Corridor Improvements, Charlton-Oxford
Owner's Representative Contract Number: 120632
Project Number: 602659
Construction Contract Number: 117832

- a. Disposition: approved by MassDOT and FHWA
- b. Cost: \$47,125.71

As of November 30, 2024, there is one pending extra work order:

- 1. Removal of unforeseen buried fuel tanks.
 - a. Disposition: approval is pending
 - b. Cost: \$9,043.84

As of November 30, 2024, there are three probable extra work orders:

- 1. Hydro jet and clean a clogged drain pipe which was causing a backup of stormwater and resulting in runoff on Route 20.
 - a. Disposition: in development by the Design-Builder
 - b. Cost: \$35,000
- 2. Revisions to existing unforeseen stormwater entering the Route 20 roadway drainage system from off site.
 - a. Disposition: In development by the Design Builder
 - b. Cost: \$95,000
- 3. Installation of two new drop inlets and relocation of pipe and headwall in conjunction with the Eastland Partners development in progress adjacent to the project site.
 - a. Disposition: In development by the Design-Builder
 - b. Cost: \$100,000

OWNER'S REPRESENTATIVE OATH

I Keith V. Lincoln, MA P.E. No. 42567, hereby certify that my sole responsibility as Owner's Representative, under O.R. Contract 120632, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general contractor, and subcontractors, and that this annual report is true and accurate to the best of my knowledge, signed under pains and penalties of perjury.



Keith V. Lincoln, P.E.

Date: December 17, 2024



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbitts-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



Project Name: Lynn-Saugus Bridge Replacement – Route 107 over Saugus River
Owner’s Representative Contract Number: 120632
MassDOT Project Number: 604952
Construction Contract Number: 109691



Owner’s Representative 2024 Annual Report

***Owner’s Representative Contract No. 120632 - Chappell Engineering Associates, LLC
Owner’s Representative Work Order No. 604952-4***

***MassDOT Contract No.109691: LYNN – SAUGUS ROUTE 107 OVER THE SAUGUS
RIVER (BRIDGE NO. L-18-016 = S-05-016)***

***Design Consultant: STV, Inc.
Contractor: SPS New England, Inc.***

***Prepared by Chappell Engineering Associates, LLC
December 1, 2024***

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Project Name: Lynn-Saugus Bridge Replacement – Route 107 over Saugus River
Owner's Representative Contract Number: 120632
MassDOT Project Number: 604952
Construction Contract Number: 109691

I. EXECUTIVE SUMMARY

The Belden G. Bly Bridge is a bascule bridge carrying Route 107 over the Saugus River between the Town of Saugus and the City of Lynn. It was originally constructed in 1912 to replace a timber bridge at the same location. A temporary bridge incorporating a moveable span was put into service in November 2013 immediately adjacent and to the east of the existing bridge, and the original bascule span removed, all under earlier, separate design and construction contracts. A new, heel-trunnion single span drawbridge is now under construction in the original roadway alignment.

On November 24, 2020 a construction contract in the amount of \$87,523,965 was awarded to SPS New England, Inc., followed by a Notice to Proceed on December 1, 2020. During the first year of construction (2021) the remaining existing superstructure and substructure elements were removed, cofferdams installed, and work begun at both abutments. Abutment construction progressed as planned at the southern, Saugus abutment, however on the northern Lynn side, relocation of the electrical service connection to the temporary bridge by NGRID under a Work Order with the Contractor took longer than planned, in turn delaying completion of the cofferdams and the abutment demolition. By the end of the year the project schedule showed 154 calendar days of negative float on the completion milestones. During year two of the construction (2022) abutments and wingwalls at both abutments were completed and on the Saugus side, the Rest Pier trestle, the five drilled shafts and the pier cap of the Rest Pier were installed. On the Lynn side the Bascule Pier trestle was installed and at the end of the year installation of the sixteen Bascule Pier drilled shafts was set to begin. The year ended with the project schedule showing 114 days of negative float. In year three (2023), installation of the Bascule Pier drilled shafts completed in March, followed by construction of the pier itself and installation of the segmental and heel trunnion bearings, all of which were complete by late July. Tower construction began in August with erection of the four tower columns and installation of the two segmental gears completing in November. Construction of the control house advanced in tandem with tower erection and by the end of the year the four transverse trusses tying the two towers together were installed, the control house was framed, largely enclosed with rough mechanical and electrical systems in place, and the machine room floor beams were installed. In year four (2024), the channel was closed on February 1 followed by installation of the two bascule girders, the bascule span floor beams and stringers in February, the grid deck in March, lightweight deck concrete in April and LMC overlay in late April. Construction of Span 1 advanced in parallel with the bascule span, with precast box beams installed in January, SIP forms in February, and reinforcing steel and deck pour in late March. Also in March the two counterweight girders were installed followed by the counterweight boxes in March and April and placement of counterweight concrete in early May. Installation of the operating machinery and of core electrical systems was ongoing throughout the spring. A major project milestone was achieved on

Project Name: Lynn-Saugus Bridge Replacement – Route 107 over Saugus River
Owner’s Representative Contract Number: 120632
MassDOT Project Number: 604952
Construction Contract Number: 109691

May 13 when the bascule span was lifted into the vertical position for the first time and the channel reopened to marine traffic. Power required to lift the moveable span continues to be provided by an emergency generator as procurement of the transformer by NGRID has been delayed. After the initial opening, work on the Control House, the Machine Room, the towers and the bascule span continued through the spring, summer and fall. In October the Bascule Pier access trestle was removed and in November the cofferdam “island” supporting the access trestle was removed. Reconstruction of the Ballard Street intersection began in October and is ongoing. Currently, installation of the MWRA waterline across the channel is slated for mid-January 2025, with a full closure in place; placement of the Span 3 box girders from the Lynn abutment to the Bascule Pier is also planned for mid-January.

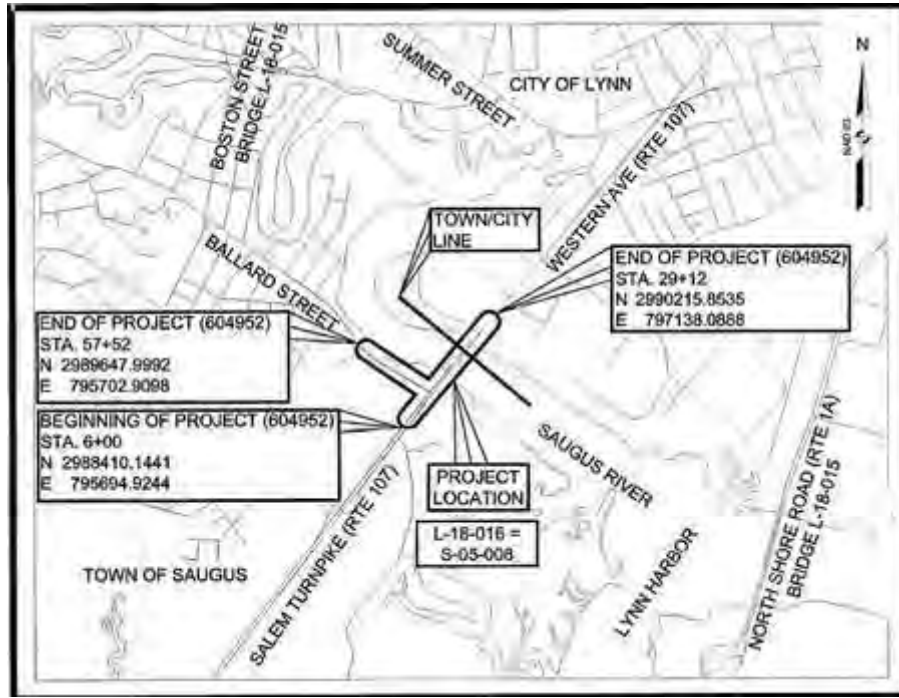
To date a total of eleven Extra Work Orders have been approved for a total of \$2,634,565. Three EWOs were approved in 2024 with a total value of \$114,284. The most significant to date was EWO #3, approved in June 2022 in the amount of \$1,913,312, for the removal of approximately 4,000 CY of stockpiled spoils material found to be co-mingled with asbestos. The most significant materials price adjustment has occurred to item 999.4490, “Structural Steel – Positive”, totaling \$4,261,606 to date. At present, between approved and pending EWOs, materials price adjustments, overruns/underruns, and contract quantities remaining to be invoiced, \$97,492,168 of the \$99,282,339 Project Encumbrance (98%) has been committed and \$1,790,171 is projected to remain at project completion (20% of the original contingency amount). Eighty-nine percent (89%) of the current contract total (\$86,596,607 of \$96,919,273) has been invoiced while, as of December 1, seventy-one percent (71%) of the contractual construction duration (1461 of 2045 calendar days) has elapsed.

II. ANNUAL REPORT

Contract Scope of Work

This project replaces the temporary bridge with a heel-trunnion single-leaf bascule span. All structural, mechanical, electrical, power and communications systems components are being replaced in the alignment of the original bridge. The navigable channel has been increased from 40’ to 50’ in width. The four fixed approach spans of the original bridge are being replaced by one span to each side of the moveable span, and both approach roadways and the bridge are being reconstructed to accommodate two 11’ travel lanes in each direction, two 6’ bicycle lanes, and two 6.5’ sidewalks. On Route 107 the southern project limit is about 1000’ to the south of the reconstructed signalized Ballard Street intersection, and the northern limit approximately 700’ to the north of the Lynn abutment, for an overall length along Route 107 of approximately 2400’. In addition, about 700’ of Ballard Street will be reconstructed. Removal of the temporary bridge is included in the contract scope.

Project Name: Lynn-Saugus Bridge Replacement – Route 107 over Saugus River
Owner’s Representative Contract Number: 120632
MassDOT Project Number: 604952
Construction Contract Number: 109691



Project Location: Route 107 over the Saugus River

Major Progress as of December 1, 2024

During the first year of construction (2021) the remaining existing superstructure and substructure elements were removed, cofferdams installed, and work begun at both abutments. Abutment construction progressed as planned at the southern, Saugus abutment however on the northern, Lynn side relocation of the electrical service connection to the temporary bridge by NGRID under a Work Order with the Contractor took longer than planned, in turn delaying completion of the cofferdams and the abutment demolition. By the end of the year the project schedule showed 154 calendar days of negative float on the completion milestones. During year two (2022) abutments and wingwalls at both abutments were completed and on the Saugus side, the Rest Pier trestle, the five drilled shafts and the pier cap of the Rest Pier were installed. On the Lynn side the Bascule Pier access trestle was installed and at the end of the year preparations for the installation of the sixteen Bascule Pier drilled shafts was underway. The year ended with the project schedule showing 114 days of negative float. In year three (2023), the Bascule Pier drilled shaft installation completed in March followed by construction of the pier itself and installation of the segmental gear and the heel trunnion bearings, all of which were complete by late July. In August tower construction commenced with erection of the four tower columns completing in September, installation of the two segmental gears completing in November, and installation of the four transverse trusses completing in December. Construction of the Control House advanced in tandem with tower erection and the structural steel frame, concrete floors, walls and rough mechanical and electrical systems completed. The electrical

Project Name: Lynn-Saugus Bridge Replacement – Route 107 over Saugus River
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and communication cables required for bridge operations were installed in a trench under the navigable channel from the Rest Pier to the Bascule Pier, and the dredging operations required to widen the navigable channel from 40 feet to 50 feet completed.

2024 (year four) has been an active year. The channel was closed on February 1 followed immediately by installation of the two bascule girders, the bascule span floor beams and stringers, the grid deck in March, lightweight deck concrete in April, and LMC overlay in late April. Construction of Span 1 advanced in parallel with the bascule span, with precast box beams installed in January, SIP forms in February, and reinforcing steel and concrete deck in late March. Also in March the two counterweight girders were installed followed by the steel counterweight boxes in March and April and placement of counterweight concrete in early May. Installation of the moveable span operating machinery and of the core electrical systems was ongoing throughout the spring, and a major project milestone was achieved on May 13 when the span was lifted into the vertical position for the first time, re-opening the channel to marine traffic. Since the initial opening, power required to lift the span has been provided by an emergency generator as procurement of the permanent transformer by NGRID continues to be delayed. Work on the Control House, the Machine Room, the towers and the bascule span continued through the spring, summer and fall. In October the bascule pier access trestle was removed and in November the cofferdam “island” supporting the access trestle was removed. Reconstruction of the Ballard Street intersection began in October and is ongoing. Currently, installation of the MWRA waterline across the channel is slated to begin in mid-January with a full closure; placement of the Span 3 box girders from the Lynn abutment to the Bascule Pier is also planned for mid-January.

Budget and Current Financials

The low bidder, at \$87,523,965, was SPS New England, Inc. and MassDOT issued a Notice to Proceed on December 1, 2020.

Budget:

- Office Estimate: \$84,037,952
- Bid Price: \$87,523,965
- Original Encumbrance: \$99,282,339

Original Encumbrance Obligation by Appropriation:

- 61210816 Federal Participating: NHP(BR-ON)-003S (263) \$98,373,657
- 61211317 Non-Federal Aid: 100% State \$908,682

Project Name: Lynn-Saugus Bridge Replacement – Route 107 over Saugus River
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\$99,282,339

Breakdown of Original Encumbrance and Allowance Items:

- SPS New England, Inc. Bid: \$87,523,965
 - Contingencies: \$8,752,774
 - Traffic Police: \$2,100,000
 - Traffic Police OT/Non-Participating: \$900,000
 - Trainees: \$5,600
- \$99,282,339

Current Project Financials (as of December 1, 2024):

	<u>Contract</u>	<u>MassDOT</u>
Bid	\$ 87,523,965	\$ 87,523,965
Allowances	\$ 3,005,600	\$ 3,005,600
Original Contract Value	\$ 90,529,565	\$ 90,529,565
Original Contingency (FIN681)		\$ 8,752,774
Original Encumbrance		\$ 99,282,339
Encumbrance Modifications		\$ 0
Current Encumbrance		\$ 99,282,339
Current Overruns and Underruns	\$ 1,514,145	\$ 1,514,145
Approved Contract Modifications	\$ 5,350,883	\$ 5,350,883
Current Contract Value	\$ 97,394,593	\$ 97,394,593
Pending Contract Modifications	\$ 0	\$ 0
Estimated Contract Total	\$ 97,394,593	\$ 97,394,593
Probable Contract Modifications		\$ 78,905 C
Forecast Cost-at-Completion	\$ 97,473,498	\$ 97,473,498
Total CQE (Invoiced) to Date	\$ 86,596,607	\$ 86,596,607
Funds Remaining		\$ 12,685,732
Projected Funds Remaining		\$ 1,808,841

Schedule/ Project Milestones

In August, 2023 the Contractor submitted a Time Entitlement Analysis (TEA) requesting a total of 141 calendar days due to third-party delay by NGRID and obstructions encountered in the driving of the north abutment foundation piles. However, in Update #35 (data date December 1, 2023), extensive logic changes were carried out on the network with previously sequential activities modified to take place serially, and the negative float was eliminated; the August TEA claim for additional contract time became moot. In the most recent schedule update (Update #46, as of November 1, 2024), MS-02, the forecasted CFC milestone

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continues to be shown as occurring on March 16, 2026, the contractual completion date and MS-01, Completion of Stage 4 Operational Support, also continues to be shown on the contractual completion date, March 16, 2027. Throughout 2024 the schedule has shown an on-time completion with zero float on the milestones.

Areas and Issues of Concern

At this time we have no major issues of concern. The wingwalls and retaining wall associated with the north, Lynn-side abutment will be constructed in 2025, and as experienced previously on several occasions, subsurface obstructions may be encountered during installation of the foundation piles which result in extra work. Similarly, excavation for the footings for these walls may uncover ACM or other hazardous materials requiring remediation, which again could result in an item overrun or an EWO. EWO requests are expected for asbestos abatement associated with the removal of a ductbank adjacent to the southeast retaining wall footing and for obstructions encountered while installing foundation piles for the southeast retaining wall. While there is both schedule and financial risk associated with these activities, none are a source of particular concern at this time. The remaining major construction activities, including the Span 3 construction, removal of the temporary bridge, and the installation of the 20-inch MWRA water main across the Saugus River, while challenging, are not as complex as the construction of the moveable span and do not appear, in our opinion, to present exceptional risks.

Progress Photographs



Project overview
January 2024



Installation of bascule girders
February 2024

Project Name: Lynn-Saugus Bridge Replacement – Route 107 over Saugus River
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Span 1 SIPs, moveable span floor beams and stringers
March 2024



Span 1 reinforcing, moveable span grid deck
April 2024



Moveable span sidewalk pours
May 2024



Bridge opening
May 2024



Control House
August 2024



Machinery break
August 2024

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Moveable span, link arms, Machine Room
August 2024



West operating strut and segmental gear
August 2024



Pinion and segmental gear
August 2024

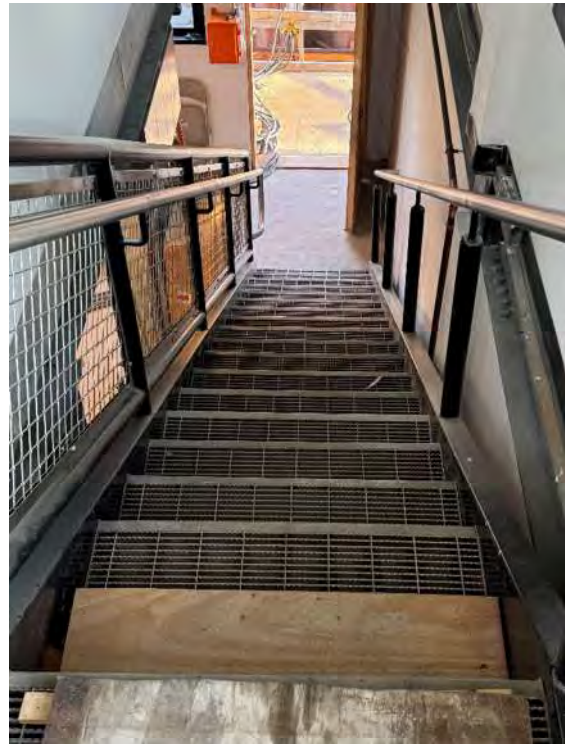


Tower, counterweight girder, link arm, Machine Room
September 2024

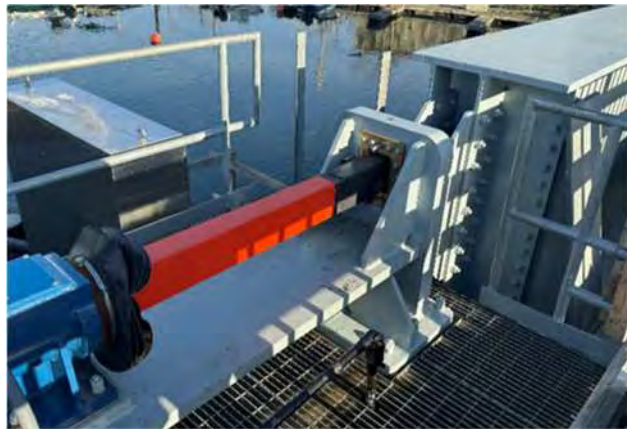
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**Control House
October 2024**



**Control House
October 2024**



**West side span lock
October 2024**



**Machine Room interior
October 2024**

III. CHAPTER 303 OF THE ACTS OF 2008 AREAS OF EMPHASIS

Peer Review

The peer review requirements for this project were satisfied during the design phase and are continuing during the construction phase. Presently, the undersigned OR is satisfying the peer review obligations by attending regular project review meetings where construction issues, conflicts, and resolutions are

Project Name: Lynn-Saugus Bridge Replacement – Route 107 over Saugus River

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discussed; walking the site to observe major construction activities; and participating in the change order process by reviewing proposed design changes and their impacts to the project quality, budget, or schedule.

Value Engineering

The VE Workshop was conducted by Jacobs Engineering Group and held over a one-week period in November 2016. A Preliminary VE Report was submitted to the Department in early December 2016 with thirty-four alternatives identified. Of the thirty-four proposed, eight were accepted, seven conditionally accepted and nineteen rejected. The revised study report was forwarded to the FHWA in late March 2017; comments were received and a final revision re-submitted in June, 2017. MassDOT's VE Coordinator approved this final version and a final copy of the VE Study Report was forwarded to FHWA on November 10, 2017 for record. There have been no VE initiatives to date by the Contractor.

Cost Recovery

On October 20, 2022 EWO#5 in the amount of \$21,375.42 was approved "for shop modifications to the counterweight trunnion bore hole that were required in order to correct an error in the counterweight girder camber table, which provided incorrect deflections". The girder was fabricated based on the approved shop drawings and design documents however the erroneous deflection values given in the plans were significant enough to impact the center of gravity of the counterweight assembly and it was determined that adjustment of the two trunnion hub bore locations was the most cost-effective way to address the issue. The District has indicated that cost recovery will be pursued.

Interferences were encountered during the initial May 13 bridge opening between the moveable span sidewalk heel joint cover plate and the bascule pier sidewalk and tower, and as a result the span could only be elevated to 65 degrees, 14 less than the design 78 degrees. The issues were documented in RFI#221, "Sidewalk Heel Joint Interference with Heel Bearing, Tower and Sidewalk", submitted in late May. The RFI response, initially responded to in June and updated in November, acknowledged the interferences and proposed demolishing a section of the movable span concrete at the sidewalk in order to move the armored joint several inches into the moveable span. A Notice of Change, dated August 13, was received from SPS and an EWO request is awaited. The District has indicated that cost recovery will be pursued once the EWO is received.

RFI, #225, "West Pinion Access Platform Interference" was submitted in June 2024 and a response provided in July. The RFI identified a conflict between the second-floor sunscreens of the Control House and the west pinion access platform; the response directed the Contractor to modify the sunscreens as

Project Name: Lynn-Saugus Bridge Replacement – Route 107 over Saugus River

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needed to eliminate the conflict. A Notice of Change was received from SPS on August 5. The work will be performed by SPS's subcontractor Massey's Plate Glass and Aluminum, and a cost proposal has yet to be received. The eventual EWO will be considered for cost recovery.

Another potential candidate for cost recovery was identified in June: the extra work required per the response to RFI #213, “Roadway Expansion Joint at Rest Pier”, and #214, "Grid Deck Heel Joint Elevation Disparity". Both RFIs were submitted and responded to in March 2024. The RFI #213 response required that the Contractor adjust the horizontal and vertical position of the roadway expansion joint between the fixed Span 1 and the moveable Span 2 while the response to RFI #214 required that the Contractor remove two roadway grid deck panels from the moveable span where it meets the Bascule Pier, shop cut the grid and grid end plates, re-galvanize and finally reinstall the panels. The work was performed on a time and materials basis and, based on the Contractor’s argument that the work was performed from approved shop drawings and in accordance with the plans and specifications, an Extra Work Order request was submitted in June for \$69,454. Additional information was requested and subsequently provided, however, in July the request was denied on the basis that the extra work resulted from the Contractor’s “mean and methods”. The Contractor notified the Department of their intent to file a claim and a Step 1 claim meeting was held on November 25, 2024. In the meeting the Contractor and the Engineer of Record presented their respective positions to District personnel and the matter has been taken under advisement. Should the Contractor's claim for additional compensation eventually result in an EWO, there is a possibility that it could become a candidate for cost recovery.

No other issues have been identified to date as potentially cost recoverable.

An initial identification of a Cost Recovery issue does not necessarily mean that cost recovery is due, as a formal evaluation process must still be followed. The undersigned Owner’s Representative will continue to monitor issues and, with MassDOT Highway Division, will discuss the need for referral to the Cost Recovery Standing Committee. In order to perform the legislative mandate of being the Primary Manager of Cost Recovery, the OR will follow MassDOT Highway Division’s Cost Recovery Procedure (SOP No. CSD 25-14-1-000, issued 11/1/22).

Oath

I, Richard B. Littlefield P.E., MA P.E. No. 38773, hereby certify that my sole responsibility as Owner’s Representative, under OR Contract No. 120632, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project’s designer, general

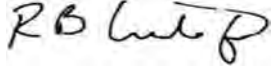
Project Name: Lynn-Saugus Bridge Replacement – Route 107 over Saugus River

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contractor and subcontractors, and that this annual report is true and accurate to the best of my knowledge signed under the pains and penalties of perjury.



Richard B. Littlefield, P.E.

Date: December 1, 2024



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbits-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



Project Name: Route 24/Route 140 Interchange Improvements, Taunton
Owner's Representative Contract Number: 120632
Project Number: 605888
Construction Contract Number: 112402



OWNER'S REPRESENTATIVE 2024 ANNUAL REPORT

***Owner's Representative Contract No. 120632 – Chappell Engineering Associates, LLC
Project No. 605888 – Route 24/Route 140 Interchange Improvements,
TAUNTON, MASSACHUSETTS***

***Designer: Stantec Consulting Services, Incorporated
Prime Contractor: Manafort Brothers Incorporated***

***Prepared by: Chappell Engineering Associates, LLC
December 17, 2024***

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I. EXECUTIVE SUMMARY

This project consists of improvements to the interchange of two state highways in southeastern Massachusetts - Route 24 and Route 140 (Exit 17), located in the City of Taunton. The project includes improvements to 6,500 linear feet of Route 24, 4,200 linear feet of Route 140 and improvements to the interchange ramp system that connects the two roadways. Improvements are also proposed at the nearby Route 140 at Industrial Road intersection to the west, and the Route 140 at Stevens Street interchange. A locus map of the study area is shown in Figure 1. Stantec Consulting Services, Inc. (Stantec) is the designer of record. The project was advertised for construction in August of 2020 and bids were opened November 24, 2020 with the low bidder being Cardi Construction Industries of Warwick Rhode Island. Notice to Proceed was issued to Cardi on February 17, 2021. Work on the site began in the Spring of 2021 and continued through the summer of 2023 when Cardi suspended work on the project which effectively ceded the project to the surety bonded to the project; Everest. On December 5, 2023 MassDOT's Legal Section reached an agreement with the surety and, an agreement was reached where Manafort Brothers Incorporated (MBI), the surety's replacement contractor will complete the project in accordance with the terms of the contract. MBI began work on the site in January 2024 and has gradually ramped up with multiple crews, ratified sub-contractor contracts and made significant progress on the project in 2024.

The design and construction of this roadway project is being closely coordinated with MassDOT's South Coast Rail Project.

The purpose of this project is to address existing and future (2040) safety and operational deficiencies at the Route 24/Route 140 interchange and the nearby vicinity. Historically, users of the Route 24/Route 140 interchange have experienced significant vehicular delay, especially for the movements from Route 24 southbound to Route 140 southbound and from Route 140 northbound to Route 24 northbound. Future impacts from the South Coast Rail Project and other proposed developments, such as the Liberty & Union Industrial Park located to the east, are projected to cause conditions to deteriorate further. Proposed improvements within this project specifically address impacts from these, and other, planned developments, as well as standard regional growth.

With regards to safety, the existing structure carrying Route 24 over Route 140 is structurally deficient and does not satisfy vertical clearance requirements. At approximately 1,000 feet in length, the existing acceleration lane for Route 24 southbound on-ramp traffic from Route 140 is also substandard. MassDOT has identified an existing Highway Safety Improvement Program (HSIP) crash cluster at the interchange, an indication that the interchange is in the top 5% of high

accident locations in the Southeastern Regional Planning and Economic Development District (SRPEDD) region. In 2014, MassDOT initiated a Road Safety Audit (RSA) to identify existing safety-related issues and target both short and long term solutions to address these issues. The RSA Team was comprised of personnel from the Taunton Public Works Department, City of Taunton Police and Fire Departments, the Massachusetts State Police, MassDOT and Stantec. Most of the recommendations of the RSA are incorporated into the project design.

Improvements proposed as part of this project include:

- New Route 24 Southbound Ramp to Route 140 Northbound/Industrial Drive (Exit 17B);
- Widening of Route 24 to three travel lanes in each travel direction, plus acceleration and deceleration lanes at interchange ramps;
- Reconstruction of interchange ramps between Routes 24 and 140, including two lane entrance ramps from Route 140;
- Reconstruction of two bridges along Route 24 (over Route 140 and over the railroad);
- New bypass lane on Route 140 southbound, between the southbound ramps and Stevens Street;
- Widening of Route 140 to accommodate additional turning lanes and the bypass lane.

Project Name: Route 24/Route 140 Interchange Improvements, Taunton
Owner's Representative Contract Number: 120632
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Construction Contract Number: 112402

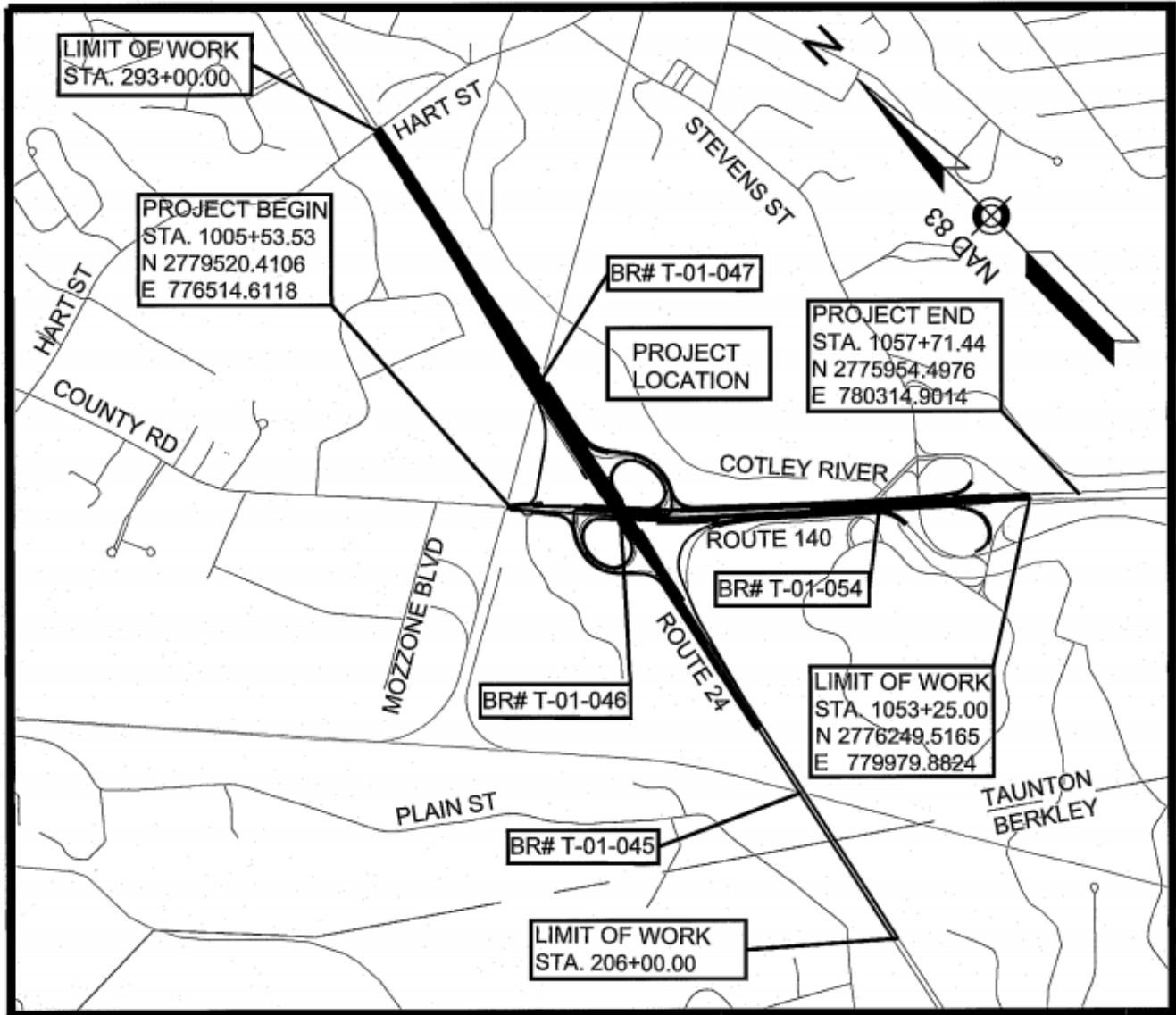


Figure 1 - Project Location

II. ANNUAL REPORT

Contract Scope of Work

Please refer to Figure 2 for a graphic depiction of the ramp and wall nomenclature. Proposed improvements include:

- Widening Route 24 from two to three travel lanes in each travel direction, plus acceleration and deceleration lanes at interchange ramps. Two bridges are replaced with the widening: Bridge T-01-047 (over the MBTA Middleborough Secondary line) and Bridge T-01-046 (Route 24 over Route 140). Bridge T-01-045 (over the MBTA South Coast Rail Stoughton trunk line) will also be replaced. Design of this structure and approach roadways was performed as part of the South Coast Rail Project and incorporated into this contract given its proximity and relative timing. The bridge work will include the reconstruction of the superstructure and substructure and will occur in stages to avoid disruption to traffic.

Widening Route 24 and replacing the bridges eliminates existing substandard design elements and capacity constraints of mainline highway segments.

- The Route 24 southbound exit ramp at Route 140 (Exit 17) will be split into Exit 17A and Exit 17B with the construction of a new off-ramp serving Route 140 northbound. This new off-ramp (Ramp F) will terminate at Route 140 across from Industrial Drive, the access point to the proposed East Taunton commuter rail station. The existing Route 24 southbound off-ramp serving Route 140 southbound will be reconstructed and extended into a bypass lane providing continuous and exclusive travel from Route 24 southbound all the way to the Stevens Street interchange (Route 140 Interchange Exit 19) where this bypass lane joins mainline Route 140 southbound.

Splitting the Route 24 off-ramp into two ramps allows the Route 140 northbound traffic to exit "ahead of" the much heavier Route 140 southbound traffic. Route 140 southbound traffic no longer terminates at the Route 140 intersection causing delays on Route 24, but bypasses it altogether until Stevens Street. The intersection of Route 140 at the Route 24 southbound entrance ramp will be reconstructed to serve only this movement. This proposed reconfiguration, in conjunction with the construction of Ramp F (described above) will allow for the elimination of a traffic signal phase at the ramp terminal at-grade intersection, as it would no longer be necessary to provide a traffic signal phase for exiting ramp traffic from Route 24 southbound.

Project Name: Route 24/Route 140 Interchange Improvements, Taunton
Owner's Representative Contract Number: 120632
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- Reconstruction and reconfiguration of the following ramps, to provide increased capacity and meet future design requirements:
 - Route 24 Southbound Entrance Ramp from Route 140 Southbound (Ramp A)
 - Route 24 Northbound Exit Ramp to Route 140 Northbound (Ramp D)
 - Route 24 Northbound Entrance Ramp from Route 140 Northbound (Ramp E)
- Widen Route 140 to two through travel lanes in each direction, supplemented by auxiliary turn lanes, acceleration lanes, deceleration lanes and weaving lanes to or from Route 24 or Stevens Street. Route 140 will also be widened to accommodate an expanded cross section that features up to seven lanes between the Route 24 northbound and southbound ramps. The expanded cross section includes two auxiliary left turn lanes, two northbound lanes, two southbound lanes and a southbound bypass lane (from Route 24 southbound). The southbound bypass lane is separated from mainline Route 140 by a cement concrete median barrier. The widening of Route 140 will include the extension of the existing Cotley River Culvert (T-01-054) to accommodate the widening.
- The improvements on Route 140 include the full reconstruction of the traffic signals at the following three intersections: Route 140 at Route 24 southbound off-ramp/Industrial Drive (designed by Vanasse Hangen Brustlin (VHB) as part of the South Coast Rail Project), Route 140 at Route 24 southbound on-ramp, and Route 140 at Route 24 northbound on-ramp.
- Widening the existing Route 140 southbound off-ramp to Stevens Street (Ramp H) to allow for traffic using the ramp to access County Street and Stevens Street. This reconfiguration is expected to reduce weaving movements on Route 140 southbound, as it allows through traffic on Route 140 southbound to access County Street via the Exit 19A ramp. Under existing conditions, traffic towards those destinations would have had to use the Exit 19B ramp. The Route 140 southbound off-ramp approach will consist of two 12-foot wide travel lanes (one dedicated auxiliary right-turn and one shared left/through lane), with 2-foot wide left and right shoulders. The dedicated auxiliary right turn lane is proposed to be approximately 400 feet in length. The reconfigured off-ramp is proposed to align directly across Galleria Mall Drive. As a result of the reconfiguration of the ramp, the traffic signal system at the intersection is proposed to be reconstructed.



Figure 2 – Wall and Ramp Key Plan

Major Progress As Of November 30, 2024

Bids were opened on November 24, 2020 with the low bidder being Cardi Corporation of Warwick, Rhode Island. Notice to Proceed was issued to Cardi Corp on February 17, 2021. Bi Weekly project meetings have been held consistently on Tuesday mornings beginning with the first held on April 13, 2021. Work on the site began in the Spring of 2021 and continued through the summer of 2023 when Cardi suspended work on the project. On December 5, 2023 MassDOT's Legal Section reached an agreement with the surety and, an agreement was reached where Manafort Brothers Incorporated (MBI), the surety's replacement contractor will complete the project in accordance with the terms of the contract. MBI began work on the site in January 2024 and has gradually ramped up with multiple crews, ratified sub-contractor contracts and made significant progress on the project in 2024.

Traffic has been diverted to the Stage 1B median roadway to facilitate work to be done in Stage 1B work zones. The following construction activities have been accomplished in 2024:

Route 24 Corridor

- Continued construction of Wall 2 and Ramp C roadway.
- Continued construction of Wall 3 connection to the Route 24 Bridge over Route 140 (T-01-046) wingwall.
- Continued construction of Wall 4 and Ramp E roadway.
- Continued construction of Wall 10 parapet.

Route 140 Corridor

- Installation of drainage infrastructure between Ramps C and G.
- Continued construction of roadway widening. Installation of traffic signals at the Route 140 at Industrial Drive and Ramp F intersection.
- Continued construction of footings for overhead signs.

Route 24 Bridge over Route 140 (T-01-046)

Project Name: Route 24/Route 140 Interchange Improvements, Taunton

Owner's Representative Contract Number: 120632

Project Number: 605888

Construction Contract Number: 112402

- Completed installation of piles, lagging and tiebacks for earth support for the northbound abutment widening.
- Demolition of the Stage 1B portion of the existing north and south abutments.
- Construction of the Stage 1B portion of the north and south abutments.
- Completed construction of Stage 1B portion of center pier.
- Installed girders across the two spans of the Stage 1B portion of the bridge.

Route 24 bridge over the South Coast Rail (T-01-045)

- Installation of lagging and tiebacks to the footing level for earth support for the northbound widening.
- Begin demolition of the existing substructure and wingwall.

Route 24 bridge over MBTA/CSX (T-01-047)

- Demolition of bridge within Stage 1B work zone
- Installation of permanent support of excavation adjacent to the railroad tracks.
- Begin construction of formwork and steel reinforcement for the north abutment footing.

Route 140 over the Cotley River (T-01-054)

- Installation of temporary support of excavation on the west side of Route 140.
- Begin demolition of existing wingwall in preparation for proposed culvert extension.

Ramp F

- Connection of stream relocation behind Wall 5 and placement of fill behind Wall 5
- Construction of wetland mitigation adjacent to the ramp
- Installation of utilities and underground connections.
- Preparation of roadway subgrade and paved roadway to intermediate course.

Project Name: Route 24/Route 140 Interchange Improvements, Taunton
Owner's Representative Contract Number: 120632
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- Installation of curb and temporary traffic barrier in preparation to make the ramp open for use by the public.
- Paved temporary connection to Route 24 for opening the ramp.

Budget

- Office Estimate: \$135,152,924.00
- Bid Price: \$116,498,484
- Encumbered Amount: \$134,471,198
- Current Encumbered Amount: \$134,471,198
- Total Amount Expended through November 30, 2024: \$ 29,892,301
- Current Estimate at Completion: \$ 123,120,984

The table below contains a summary of project financials through November 30, 2024:

Project Budget / Financials			
	<u>Contract</u>	<u>MassDOT</u>	<u>Municipal</u>
Bid	\$ 116,498,484	\$ 116,498,484	\$ 0
Allowances	\$ 5,228,033	\$ 5,228,033	\$ 0
Original Contract Value	\$ 121,726,517	\$ 121,726,517	\$ 0
Original Contingency (FIN681)		\$ 12,744,681	
Original Encumbrance		\$ 134,471,198	
Encumbrance Modifications		\$ 0	
Current Encumbrance		\$ 134,471,198	
Current Overruns and Underruns	\$ 331,381	\$ 331,381	\$ 0
Approved Contract Modifications	\$ 598,195	\$ 598,195	\$ 0
Current Contract Value	\$ 122,656,093	\$ 122,656,093	\$ 0
Pending Contract Modifications	\$ 27,891	\$ 27,891	\$ 0
Estimated Contract Total	\$ 122,683,984	\$ 122,683,984	\$ 0
Probable Contract Modifications		\$ 437,000	
Forecast Cost-at-Completion	\$ 123,120,984	\$ 123,120,984	\$ 0
Total CQE (Invoiced) to Date	\$ 29,892,301	\$ 29,892,301	\$ 0
Funds Remaining		\$ 104,578,897	
Projected Funds Remaining		\$ 11,350,214	
Expected Progress (baseline)	0.00%		
% Complete	24.28%		

Schedule / Project Milestones

- Notice to Proceed: February 17, 2021

- Ramp F Full Beneficial Use: January 21, 2025 (440 Days Late)
- Full Beneficial Use: May 10, 2028 (440 Days Late)
- Interim Substantial Completion: July 14, 2028 (442 Days Late)
- Substantial Completion: October 6, 2028 (337 Days Late)
- Contractor Field Completion: November 1, 2028 (342 Days Late)

The surety and MBI have produced a new baseline schedule which reflects current project schedule and impacts to contract milestones.

A Final Time Extension Analysis was submitted on December 5, 2022 and reviewed by the MassDOT District Schedule Engineer with comments returned January 30, 2023. The District review of the schedule concurred with a portion of the request and determined that the Contractor should be eligible for an extension of 170 days of time for the completion milestones established in the contract documents. The updated accepted schedule milestones reflect the extended time as agreed upon.

The schedule delays which are considered valid by the District Reviewer have been attributed to the following:

- Delays in procuring structural steel as required to complete the median portion of bridge T-01-046 and thus delaying Stage 1A.
- Unforeseen lack of pavement structure under the Route 24 paved shoulder resulting in the need to relocate barrier, sawcut and increase the median construction that the Stage 1B roadway pavement would be adequate for public use during this stage.

Upon completion of Milestone 05 Interim Full Beneficial Use of Ramp F, the Contractor has been asked to produce a new baseline schedule where potential recovery can be evaluated for the variance between updated contract milestone dates and currently forecasted dates.

Areas of Concern

The following represents the primary areas of concern identified in design and at this stage in construction:

- The project schedule had fallen behind the contractual milestones prior to abandonment and has been put on hold for the time since the site was abandoned. The newly accepted schedule shows slippage on the interim milestone of the opening of Ramp F. The milestones of substantial completion and contractor field completion are the same as they were prior to the site abandonment by Cardi.
- Work under this project must be very carefully coordinated with work under the SCR Project which includes overlapping work zones and separate stages of construction. This will include ensuring that the scope of construction work does not allow for gaps in contract work or overlaps as well as carefully timed staging. This is particularly true with the work to be done at Industrial Drive which serves as the access to the proposed East Taunton Commuter Rail Station and involves the realignment of the road under the SCR project to be aligned with the proposed Route 24 off ramp to Route 140 northbound. The SCR Contractor mobilized in October 2022 and the scheduled work to be done in the overlapping work zone has been closely coordinated. The work schedule of both projects has been coordinated to account for the project activity under each contract without interference from either party. Construction work on Ramp F and at the Industrial Drive intersection has been completed and the last remaining item of work to be completed prior to opening the ramp will be the connection of the railroad equipment cabinet to the Ramp F/Industrial Drive traffic signal controller. An agreement has been reached on the appropriate traffic signal preemption timing. MassDOT has subsequently been coordinating with the MBTA to make the necessary connection between the railroad equipment cabinet and the Ramp F traffic signal controller as required prior to the opening of the Ramp. The work to implement the timing adjustment will need to be performed by the approved MBTA Contractor.
- Utilities: Utility relocations are necessary to remove manholes along Route 140 in the travel way. This is to be achieved by construction of an underground duct bank by the General Contractor for follow-on relocation by others. Completion of the duct bank is constrained by the construction of the South Abutment of the Route 24/140 Bridge (T-01-046). This work needs to be completed before the existing manholes can be removed, and the final pavement along Route 140 is placed.
- Railroad access and foul times: staging bridge construction over the Railroad Bridges will be very complex due to the limited hours of operation and multiple stages of construction. The South Coast Rail has begun to operate freight service in the evening hours which has the potential to impact the efficiency of contractor's work activities within the foul zone of the railroad bridges. The contractor does not have day time access per the contract and night

time rail service may interrupt construction operations if the contractor is required to vacate the work area during times when a train is in service. The contractor is continuing to explore opportunities to access the two railroad bridges from the lower grade however as of this time, access from below has not been obtained. The work to be done in the Stage 1B work zone is accessible from the roadway grade and lower levels within the off line portion of the new structures to be constructed. Without lower level access the remaining work will need to be performed from above.

- **Maintenance of Traffic/Construction Staging:** construction staging and maintenance of traffic continues to be a very challenging element of the project due to heavy traffic volumes with four separate stages of construction and bridge replacements. The project is currently in Stage 1B which enables work to the easterly portion of the Route 24 roadway and bridges as well as the easterly portion of Route 140.
- **Construction fatigue** for the motoring public traveling through the work zone which is projected to extend into 2028.

Project Figures / Photographs



Upper Level Support of Excavation (SOE) at Bridge T-01-045



Upper Level SOE at Bridge T-01-046

Project Name: Route 24/Route 140 Interchange Improvements, Taunton
Owner's Representative Contract Number: 120632
Project Number: 605888
Construction Contract Number: 112402



Ramp F Subgrade Preparation



Abutment Demolition at Bridge T-01-046



Placement of Lightweight Fill at Wall 2



Streambed Relocation Behind Wall 5



Ramp F Base Course Pavement and Wetland Mitigation



Footing Formwork at Bridge T-01-046

Project Name: Route 24/Route 140 Interchange Improvements, Taunton
Owner's Representative Contract Number: 120632
Project Number: 605888
Construction Contract Number: 112402



Ramp E Subgrade adjacent to Wall 4



Level 2 SOE Installed at Bridge T-01-045



Concrete Placement at Bridge T-01-046 Abutment Footing

Project Name: Route 24/Route 140 Interchange Improvements, Taunton
Owner's Representative Contract Number: 120632
Project Number: 605888
Construction Contract Number: 112402



Abutment Stem Formwork and Reinforcement at Bridge T-01-046



Ramp F Pavement, Granite Edging and Guard Rail

Project Name: Route 24/Route 140 Interchange Improvements, Taunton
Owner's Representative Contract Number: 120632
Project Number: 605888
Construction Contract Number: 112402



Traffic Signal Installed at Ramp F/Industrial Drive/Route 140 Intersection



Center Pier at T-01-046 Beam Seat Preparation

Project Name: Route 24/Route 140 Interchange Improvements, Taunton
Owner's Representative Contract Number: 120632
Project Number: 605888
Construction Contract Number: 112402



Ramp C Subbase Construction



Wall 3 Closure at Bridge T-01-046 Wingwall

Project Name: Route 24/Route 140 Interchange Improvements, Taunton
Owner's Representative Contract Number: 120632
Project Number: 605888
Construction Contract Number: 112402



Removal of Asbestos Weepholes at Bridge T-01-045

Project Name: Route 24/Route 140 Interchange Improvements, Taunton
Owner's Representative Contract Number: 120632
Project Number: 605888
Construction Contract Number: 112402



Installation of Permanent SOE at Bridge T-01-047



Installation of Girders at Bridge T-01-046



Formwork and Reinforcement for Abutment Footing at T-01-047

Project Name: Route 24/Route 140 Interchange Improvements, Taunton
Owner's Representative Contract Number: 120632
Project Number: 605888
Construction Contract Number: 112402



Temporary SOE and Formwork for Abutment Footing at T-01-054 Culvert Extension



Girders Placed Across Route 140 at Bridge T-01-046

III. CHAPTER 303 OF THE ACTS OF 2008 AREAS OF INTEREST

Peer Review

Benesch Engineering, a highly respected and regarded engineering firm, provided a formal peer review of the project at the 100% Highway/Final Bridge design stage in June of 2020.

In addition, MassDOT's Highway, Bridge, Environmental, Landscape, Right-of-Way, and Traffic Divisions as well as appropriate District Departments (District Engineer, Utilities, Highways, Traffic) provided in-depth reviews of the 25% Highway/Sketch Plan, 75% Highway/First Bridge designs, and 100% Highway Second Bridge designs and its calculations book, Specifications, Special Provisions, and Cost Estimates as well as Construction Time Determination and Bottoms Up Estimates.

The OR reviewed the comments made during the above and the Project team's responses and attended comment resolution meetings held subsequent to these submissions. The OR also attended several coordination meetings held with the South Coast Rail project and kept notes of these discussions as the project progressed.

Value Engineering

A Value Engineering (VE) Study of the project design concept was conducted by McMahon Associates with nine possible cost-saving ideas identified. These were reviewed by the District Projects and Bridge Section and of the nine proposals, one was accepted; offering alternative precast retaining wall submittals while a second was conditionally accepted to allow a reduction to two lanes on Route 24.

Cost Recovery

At this point in time, no issues have been specifically identified as Cost Recovery issues. However, it should be noted that any initial identification of a Cost Recovery issue does not necessarily mean that cost recovery is due; a formal evaluation process must still be followed. The undersigned Owner's Representative will continue to monitor issues and, with MassDOT Highway Division, will discuss the need for its referral to the Cost Recovery Standing Committee. For any issue referred for Cost Recovery, the current MassDOT Highway Division Cost Recovery Procedure (SOP No. HED-70-01-1-000, dated 8/7/17) shall govern. In order to perform the legislative mandate of being the Primary Manager of Cost Recovery, the Owner's Representative will follow

the referenced SOP. This SOP, as modified for projects with an Owner's Representative, describes the role of the Owner's representative and includes a Cost Recovery Standing Committee. This committee oversees the work of separate and issue-specific Cost Recovery Review Panels and Cost Recovery Evaluation Committees, which will be convened as necessary.

Extra Work Orders

As of November 30, 2024, there have been three Approved Extra Work Orders:

1. Engineering cost related to the elimination of Real Time Traffic Monitoring
 - a. Disposition: approved by MassDOT & FHWA
 - b. Cost: \$14,650.68
2. Emergency Signal Repairs to the Route 140 at Route 24 Northbound Ramps
 - a. Disposition: approved by MassDOT & FHWA
 - b. Cost: \$3,772.47
3. Turbidity Monitoring related to updated SWPPP requirements.
 - a. Disposition: approved by MassDOT & FHWA
 - b. Cost: \$97,116.25
4. Plan Revisions for Wall 5 Height Increase.
 - a. Disposition: approved by MassDOT & FHWA
 - b. Cost: \$16,455.71
5. Lowering Rebar at Wall 5 Footing for Pipe Sleeve
 - a. Disposition: approved by MassDOT & FHWA
 - b. Cost: \$1,064.26
6. Turbidity Monitoring #2.
 - a. Disposition: approved by MassDOT & FHWA
 - b. Cost: \$99,891.00
7. Turbidity Monitoring #3.

Project Name: Route 24/Route 140 Interchange Improvements, Taunton
Owner's Representative Contract Number: 120632
Project Number: 605888
Construction Contract Number: 112402

- a. Disposition: approved by MassDOT & FHWA
- b. Cost: \$50,000.00

As of November 30, 2024, there is one Pending Extra Work Order:

- 1. Wall 5 Height Increase
 - a. Disposition: approval is pending
 - b. Cost: \$16,455.71
- 2. Wall 5 Pipe Sleeve.
 - a. Disposition: approval is pending
 - b. Cost: \$2,669.05

As of November 30, 2024, there are four Probable Extra Work Orders:

- 1. Ramp F Loop Detectors for Interim Condition
 - a. Disposition: in review by MassDOT
 - b. Cost: \$10,000
- 2. Contaminated water treatment at Bridge T-01-047
 - a. Disposition: in review by MassDOT
 - b. Cost: \$150,00
- 3. Proposed revisions to the traffic signal interconnect and communications cables between the proposed signal at the Route 140/Ramp A intersection with the Route 140/Ramp F intersection.
 - a. Disposition: in review by MassDOT
 - b. Cost: \$103,789.30

As of November 30, 2024 there are four Extra Work Orders requested by MBI which have been denied by MassDOT:

Project Name: Route 24/Route 140 Interchange Improvements, Taunton

Owner's Representative Contract Number: 120632

Project Number: 605888

Construction Contract Number: 112402

1. Obstructions encountered when installing SOE at Bridge T-01-046. The Stage 1B portion of work related to this claim has been completed. It has been agreed to begin to litigate this claim prior to the start of Stage 2 where it is likely that similar work will need to be performed in the installation of SOE for the remaining portions of work at this bridge.
2. Installation of debris netting under bridge T-01-046. This is stated in the project Special Provisions to be included in the payment for Item 994.02 Temporary Protective Shielding. This is currently being tracked as a claim.
3. Construction of a levelling pad to be placed between the drilled shafts and permanent SOE at Bridge T-01-047 as this is clearly identified in the project Special Provisions as part of Item 996.033 Precast Concrete Panels.³ The Surety has conceded that this is not additional work and withdrawn this request.
4. Removal of asbestos weepholes at Bridge T-01-045. The project Special Provisions state that the demolition of bridge item includes the handling of all hazardous materials encountered in the demolition of the bridge. This is currently being tracked as a claim.

In addition to the requested Extra Work Orders, the Surety has been made aware of the costs incurred by MassDOT to maintain the project site during the time period between July 2023 and January 2024 when the site was abandoned by the previous contractor.

Project Name: Route 24/Route 140 Interchange Improvements, Taunton
Owner's Representative Contract Number: 120632
Project Number: 605888
Construction Contract Number: 112402

OWNER'S REPRESENTATIVE OATH

I Keith V. Lincoln, MA P.E. No. 42567, hereby certify that my sole responsibility as Owner's Representative, under O.R. Contract 120632, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general contractor, and subcontractors, and that this annual report is true and accurate to the best of my knowledge, signed under pains and penalties of perjury.



Keith V. Lincoln, P.E.

Date: December 17, 2024



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbits-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



Project Name: Ramp Construction on I-95 (NB) and
Improvements on Dedham Street/Canton Street
Owner's Representative Contract Number: 120632
Project Number: 606146
Construction Contract Number: 90726



Owner's Representative 2024 Annual Report

Owner' Representative Work Order No. 606146-3

***MassDOT Contract No. 90726: CANTON-NORWOOD-WESTWOOD - Ramp Construction
on I-95 (NB) & Improvements on Dedham Street/Canton Street***

Design Consultant: Stantec/AECOM

Contractor: SPS New England, Inc.

Prepared by Chappell Engineering Associates, LLC

December 1, 2024

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Project Name: Ramp Construction on I-95 (NB) & Improvements on Dedham St./Canton St.

Owner's Representative Contract Number: 120632

MassDOT Project Number: 606146

Construction Contract Number: 90726

I. EXECUTIVE SUMMARY

This project constructed a new off-ramp from I-95 northbound to Dedham Street in the Town of Canton and widened approximately 3800' of Dedham Street/Canton Street from two to four lanes in the Towns of Canton, Norwood and Westwood. The two-lane bridge over I-95 (1964) has been replaced with a composite steel plate girder superstructure with reinforced concrete deck, 5-12' lanes comprised of two through-lanes in each direction and a left-turning lane for traffic from Dedham Street westbound to I-95 southbound. On Dedham Street the two-lane bridges over the Neponset River (2000) and over the MBTA/AMTRAK Railroad (1995) have both been widened to accommodate four travel lanes, minimum 5' shoulders, and a 6' sidewalk on the north side.

The need to maintain traffic during the construction resulted in a fairly complex staging scheme with six project-wide stages, each stage building upon the already completed work to channel traffic in order to open successive bridge work-zones. The staging scheme was further complicated by the existing overhead utilities, owned by eight separate private companies, all of which needed to move from overhead to underground in the final condition. Utilities were first moved from overhead facilities to a combination of permanent underground and temporary ground-level locations (completed September 2021), followed by a second relocation once the new bridges were built out from temporary ground-level to their permanent underground and below-deck locations (completed May, 2023).

A construction contract in the amount of \$44,265,036 was awarded to SPS New England, Inc. in November 2016, and NTP issued on December 22, 2016. For a condensed history of the project from NTP through 2020, please consult prior years' Annual Reports. After a cursory review of the earlier years the present report summarizes progress in 2024.

The complex staging required that the corridor be turned over to the outside utility companies for approximately one year for them to relocate their infrastructure from overhead to permanent underground and temporary above-ground locations. However, between the NTP on December 22, 2016 and August 3, 2020 when the corridor was turned over to the utility companies, the Contract Field Completion (CFC) milestone accumulated 571 days of negative float due to a variety of Owner and excusable third-party delays. Some fourteen months later, when the temporary utility relocations had completed and the corridor was turned back to the MassDOT contractor in September 2021, the negative float had increased to 869 days. In May 2021 an Interim Time Extension of 571 calendar days (time extension #1), intended to cover the excusable delays from NTP up to the initial turnover to the utility companies, was processed as Contract

Project Name: Ramp Construction on I-95 (NB) & Improvements on Dedham St./Canton St.

Owner's Representative Contract Number: 120632

MassDOT Project Number: 606146

Construction Contract Number: 90726

Amendment #14 and extended the initial May 5, 2022 CFC date to November 27, 2023. When the revised completion date was incorporated into the project schedule the negative float on CFC reduced from 869 to 311 days. At the Department's request two acceleration proposals were received in 2021 and ultimately, in early 2022, the Department created a "bank" with EWO #14 of \$950,000 to fund selected critical path activities through the 2021/2022 and 2022/2023 winter shutdown periods.

Work continued through the 2021/2022 winter, the standard 2022 construction season and into the 2022/2023 winter however, in early spring, 2023 it became apparent that despite working through the two winters CFC would still be delayed some ten months past the completion date. The Department requested that SPS submit another acceleration proposal which would achieve Full Beneficial Use (FBU) "no later than December 1, 2023". In June, 2023 an agreement was reached establishing FBU as December 31, 2023, and applying a daily "no-excuse" incentive payment of \$25,800 up to \$774,800, provided FBU was achieved between December 1, 2023 and December 30 as well as a capped daily disincentive payment if FBU was achieved between January 1, 2024 and January 30, 2024. As part of the agreement a second time extension of 219 calendar days was processed (time extension #2) which extended CFC from November 27, 2023 to July 3, 2024. Funds for the acceleration in the amount of \$3,574,000 were added to the contract in August 2023. Subsequently the pace of the work increased significantly, with the final stage of the I-95 bridge as well as MSE walls #12, #13 and #14 all completing in the second half of 2023. Final paving, sidewalk and BMP construction, project lighting and installation of the three new signalized intersections completed in late November, and the facility was opened to traffic on December 1, 2023. The Contractor received the full incentive amount of \$774,800. In late November during the final push to open the roadways District personnel noted that the barrier height at the retaining walls on the south side of Dedham St. was 32" measured from the roadway surface whereas, because of the adjacent bike lane, AASHTO recommends a minimum height of 42". RFI #111.2 was submitted and direction provided to install a temporary wooden handrail prior to the roadway opening with a permanent solution to follow. Aside from punch list work, the principal activities on the project in 2024 centered around the design, procurement and installation of permanent 36" snow fence at four locations. A time extension of 198 calendar days (time extension #3) was processed to account for the added work, moving CFC from July 3, 2024 January 17, 2025. EWO #31 (\$11,473) for temporary wooden handrail was approved in October 2024 and EWO #40 (\$640,730) for 655 linear feet of 36" snow fence was approved in September 2024. Both the temporary and permanent barrier EWOs were discussed in the November 2024 meeting of the Cost Recovery Standing Committee with the consensus being that cost recovery is merited for both.

Project Name: Ramp Construction on I-95 (NB) & Improvements on Dedham St./Canton St.

Owner's Representative Contract Number: 120632

MassDOT Project Number: 606146

Construction Contract Number: 90726

II. ANNUAL REPORT

Contract Scope of Work

The Dedham Street project added a new off-ramp from I-95 northbound to Dedham Street in Canton to complete the half-diamond interchange at this location (the southbound on-ramp was constructed in 2002). Dedham Street itself has been widened from two travel lanes to four travel lanes over a distance of approximately 3,800 feet. Five-foot shoulders are added in both directions to accommodate bicycles. Both the bridge over the Neponset River and the bridge over the AMTRAK/MBTA railroad tracks have been widened to accommodate the added two lanes of traffic, five-foot shoulders and a northside sidewalk. A new, five-lane bridge carrying Dedham Street over I-95 was constructed, including an exclusive left-turn lane from Dedham Street westbound to the existing I-95 southbound on-ramp, a move not previously available. Coordinated traffic signal systems were installed at three locations along Dedham Street, a sidewalk was constructed the entire length of the corridor along the northern side of the roadway, and a new lighting system was provided along Dedham Street, from east of the Neponset River across I-95 to Kirby Drive in Canton and along the new off-ramp. Dedham Street for much of the project alignment traverses existing wetlands associated with the Neponset River. In order to accommodate the increased roadway width without expanding the existing footprint, four MSE walls, three cast-in-place walls, and four stone masonry retaining walls were constructed to support the widened embankment. An additional three MSE walls were required along the two sides of the new NB off-ramp and one along the east side of the widened SB on-ramp.

Major Progress as of December 1, 2024

After some five months of project acceleration in the summer and fall of 2023 the entire facility was opened to traffic (FBU) on December 1, 2023. During the final push to open the roadways, in late November, District personnel noted that the barrier height at the retaining walls on the south side of Dedham St. was 32" measured from the roadway surface whereas, due to the presence of the adjacent, eastbound bike lane, AASHTO recommends a minimum height of 42". RFI #111.2 was submitted, and direction was provided to install a temporary wooden handrail prior to the roadway opening with a permanent solution to follow. Aside from punch list work completed over the summer, the principal activity on the project in 2024 centered around the design, procurement and installation of permanent 36" snow fence at four locations. Negative float of 141 days appeared in the project schedule when the added work was first recognized in March, and grew to 198 days by July. A third time extension of 198 calendar days was subsequently processed and CFC moved from July 3, 2024 to January 17, 2025, eliminating the negative float. EWO #31 (\$11,473) for temporary wooden handrail was approved in October and EWO #40 (\$640,730) for 655

Project Name: Ramp Construction on I-95 (NB) & Improvements on Dedham St./Canton St.

Owner's Representative Contract Number: 120632

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linear feet of 36" snow fence was approved in September. Potential cost recovery for both issues was discussed in the November 2024 meeting of the Cost Recovery Standing Committee with the consensus being that continued cost recovery efforts were merited in both cases.

Since achieving FBU the Contractor has submitted twenty-four EWO requests totaling \$1,790,300, sixteen of which have been approved (\$1,672,350) and six of which remain under review (\$117,950). The Contractor has also indicated their intention to submit an additional seventeen requests and has provided "order of magnitude" estimates for fifteen which total to \$550,500.

Budget and Project Financials

A project cost summary follows:

• Bid Price:	\$44,265,036
• Original Encumbered Amount:	\$51,528,337
• Encumbrance Modifications:	\$4,827,581
• Current Encumbrance:	\$56,355,918
• Total Amount Invoiced as of November 26, 2024:	\$54,856,642

Breakdown by Encumbered Obligation and Allowance Items:

• SPS NE Bid:	\$44,265,036
• Contingencies:	\$4,436,617
• Traffic police:	\$2,318,085
• Railroad flaggers:	\$500,000
• Telephone:	\$3,000
• Trainees:	<u>\$5,600</u>
Total:	\$51,528,337

Project Name: Ramp Construction on I-95 (NB) & Improvements on Dedham St./Canton St.
Owner’s Representative Contract Number: 120632
MassDOT Project Number: 606146
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The table below contains a summary of project financial data as of December 1, 2024:

	<u>Contract</u>	<u>MassDOT</u>
Bid	\$ 44,265,036	\$ 44,265,036
Allowances	\$ 2,826,685	\$ 2,826,685
Original Contract Value	\$ 47,091,721	\$ 47,091,721
Original Contingency (FIN681)		\$ 4,436,617
Original Encumbrance		\$ 51,528,337
Encumbrance Modifications		\$ 4,827,581
Current Encumbrance		\$ 56,355,918
Current Overruns and Underruns	\$ 133,785	\$ 133,785
Approved Contract Modifications	\$ 9,526,097	\$ 9,526,097
Current Contract Value	\$ 56,751,603	\$ 56,751,603
Pending Contract Modifications	\$ 124,810	\$ 124,810
Estimated Contract Total	\$ 56,876,414	\$ 56,876,414
Probable Contract Modifications		\$ 1,102,167
Forecast Cost-at-Completion	\$ 57,978,581	\$ 57,978,581
Total CQE (Invoiced) to Date	\$ 54,856,642	\$ 54,856,642
Funds Remaining		\$ 1,499,276
Projected Funds Remaining		\$ (1,622,662)

The “*Probable Contract Modifications*” line item, at \$1,102,167, is input by the Owner’s Representative and represents potential upcoming costs which are not yet recognized within MassDOT’s accounting systems. It includes the fifteen “order of magnitude” estimates provided by the Contractor for expected EWO requests, the two EWO requests without estimates, and other potential liabilities which have accumulated over the course of the project. The “*Projected Funds Remaining*” currently stands at (\$1,622,662). Based on this accounting approach, on the order of \$1.6 million in additional funds may be needed to complete the project.

Schedule/ Project Milestones

The last several schedule updates have shown a Contractor Field Completion which correlate with the recently revised contractual completion date of January 17, 2025. We fully expect field completion to occur on or before this date.

Areas and Issues of Concern

Other than the need to identify additional funds to complete the project, at this time and as noted above, we have no significant areas or issues of concern.

Progress Photos



Completed handrail at pedestrian bridge C-02-050
June 2024



Dedham St. looking east over the Neponset River Bridge
June 2024



BMP 30 at the entrance to 770 Dedham Street
June 2024



Coring for snow fence attachment bolts
October 2024



Attachment bolts in place
October 2024



Snow fence post
October 2024

Project Name: Ramp Construction on I-95 (NB) & Improvements on Dedham St./Canton St.

Owner's Representative Contract Number: 120632

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**Snow fence at NW wingwall of RR Bridge
November 2024**



**Snow fence at Wall #14 with new off-ramp in
background November 2024**



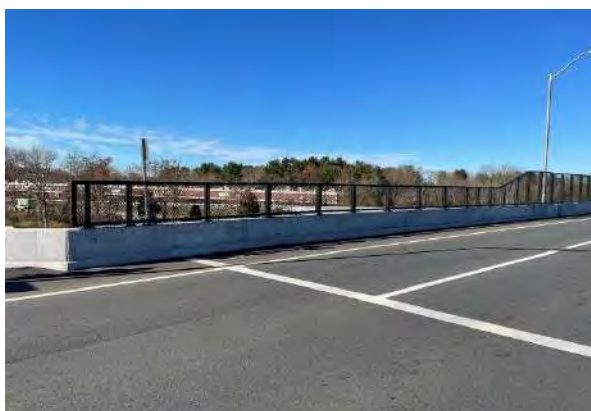
**Snow fence complete at Wall #13, looking east
November 2024**



**Snow fence complete at RR Bridge SW wingwall
November 2024**



**Snow fence complete at Wall #10
November 2024**



**Snow fence complete at Wall #14
November 2024**

Project Name: Ramp Construction on I-95 (NB) & Improvements on Dedham St./Canton St.

Owner's Representative Contract Number: 120632

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III. CHAPTER 303 OF THE ACTS OF 2008 AREAS OF EMPHASIS

Peer Review

The peer review requirements for this project were satisfied during the design phase and are continuing during the construction phase.

Presently the undersigned Owner's Representative is satisfying the peer review obligations by attending regular project review meetings where construction issues, conflicts, and resolutions are discussed, by walking the site to observe major construction activities, and participating in the change order process by reviewing and commenting upon any proposed design changes and their impacts to the project quality, budget, or schedule.

Value Engineering

A Value Engineering (VE) Study was conducted in 2013 by URS Corporation and Keville Enterprises. The study was conducted on the larger I-95/I-93 Interchange Improvement project; a study was not conducted for the Dedham Street widening and I-95 NB off-ramp as a separate project. The final report was submitted in January 2014.

Cost Recovery

To date three issues have been formally identified by the Cost Recovery Standing Committee as meriting further investigation. The first is EWO #4 (\$47,592) concerning diaphragm modifications as discussed in the January 6, 2021, April 7, 2021 and February 1, 2023 meetings of the Standing Committee. EWO #4 resulted when it was determined during installation of electrical conduits under the Railroad Bridge that the pier diaphragms needed to be re-fabricated due to interferences with the conduits. The Designer maintains that a post-bid reduction by NGRID in the number of allowable conduit bends between pullboxes resulted in the interferences and the need to re-fabricate. The consensus of the Committee was that the Designer should be brought in to discuss the coordination that occurred with NGRID during project design.

The second and third issues are outlined above under Major Progress as of December 1, 2024. During the final push to open the roadways, in late November 2023 District personnel noted that the barrier height at the retaining walls on the south side of Dedham St. was 32" measured from the roadway surface whereas, due to the presence of the adjacent, eastbound bike lane, AASHTO recommends a minimum height of 42". The Contractor was directed to provide a temporary wooden handrail prior to the December 1 roadway opening, with a permanent solution to follow. EWO #31 (\$11,473) for temporary wooden handrail was

Project Name: Ramp Construction on I-95 (NB) & Improvements on Dedham St./Canton St.

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approved in October 2024, and EWO #40 (\$640,730) for 655 linear feet of 36" snow fence at four locations was approved in September 2024. The Designers maintain that the lack of any handrail at the locations was an "item omission" and not cost-recoverable. Similarly, they maintain that the decision to install snow fence as opposed to the standard 1-bar steel railing as recommended represents a "betterment" and any increase in cost is not cost-recoverable. Both EWOs were discussed during the November 6, 2024 meeting of the Cost Recovery Standing Committee with the consensus being that continued cost recovery efforts were merited in both cases.

Initial identification of a Cost Recovery issue does not necessarily mean that cost recovery is due as the formal evaluation process outlined in SOP No. CSD 25-14-1-000 (November 11, 2022) must be followed. The undersigned Owner's Representative will continue to monitor issues and, with MassDOT Highway Division, will discuss the need for referral to the Cost Recovery Standing Committee.

Oath

I, Richard B. Littlefield P.E., MA P.E. No. 38773, hereby certify that my sole responsibility as Owner's Representative, under OR Contract No. 120632, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general contractor and subcontractors, and that this annual report is true and accurate to the best of my knowledge signed under the pains and penalties of perjury.



Richard B. Littlefield, P.E.

Date: December 1, 2024



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbitts-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



Project Name: Structural Cleaning & Painting, Steel & Concrete Repairs on Tobin Bridge, B-16-017
Owner's Representative Contract Number: 120633
Project Number: 605959
Construction Contract Number: 122602



OWNER'S REPRESENTATIVE 2024 ANNUAL REPORT

***Owner's Representative Contract No. 120633 – Greenman-Pedersen, Inc.
Project No. 605959 – Structural Cleaning & Painting, Steel & Concrete Repairs on
Tobin Bridge, B-16-017***

BOSTON-CHELSEA, MASSACHUSETTS

***Preliminary Designer: TranSystems, Inc.
Contractor: Liberty Maintenance, Inc. – SPS Joint Venture***

***Prepared by: Greenman-Pedersen, Inc.
December 15, 2024***

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Project Name: Structural Cleaning & Painting, Steel & Concrete Repairs on Tobin Bridge, B-16-017
Owner's Representative Contract Number: 120633
Project Number: 605959
Construction Contract Number: 122602

I. EXECUTIVE SUMMARY

This is a bridge preservation contract for the Chelsea Approach portion of the Tobin Bridge. This portion of the Tobin Bridge is referred to as Bridge No. B-16-017=C-09-006 (4X0, 4WY) US 1 NB & US 1 SB over Chelsea Local Streets.

The project includes a full clean and painting of the structural steel, substructure concrete patching, miscellaneous superstructure steel repair, safety walk repair, and associated traffic control. A location map of the project area is shown in Figure 1. This project is being constructed by the Massachusetts Department of Transportation (MassDOT) - Highway Division with TranSystems, Inc. as the Preliminary Designer of Record.

The project was procured as a traditional Design-Bid-Build Contract with Bids opened August 29, 2023. The low bid was submitted by a Joint Venture of Liberty Maintenance, Inc. and SPS New England, Inc., with a Notice to Proceed issued on October 25, 2023.

The project is approximately 45% spent, which is consistent with the cost loaded project schedule.

The project is on-schedule with a current completion date of November 12, 2027.

The primary purpose of this project is to preserve the existing structure and maintain a State of Good Repair by removing existing lead paint, installing a new paint system, and repairing deteriorated steel and concrete bridge elements.

The limits of the project are bordered by previous MassDOT projects. This projects northern limit abuts the completed Chelsea Viaduct project (605287), and the southern project limits abuts the previous Tobin Bridge Main Span painting project in 2011 (605947).

The following images show the overall project location and the specific project limits with references to specific support bents, ramps, and roadways.

Project Name: Structural Cleaning & Painting, Steel & Concrete Repairs on Tobin Bridge, B-16-017
Owner's Representative Contract Number: 120633
Project Number: 605959
Construction Contract Number: 122602



Figure 1 - Project Location

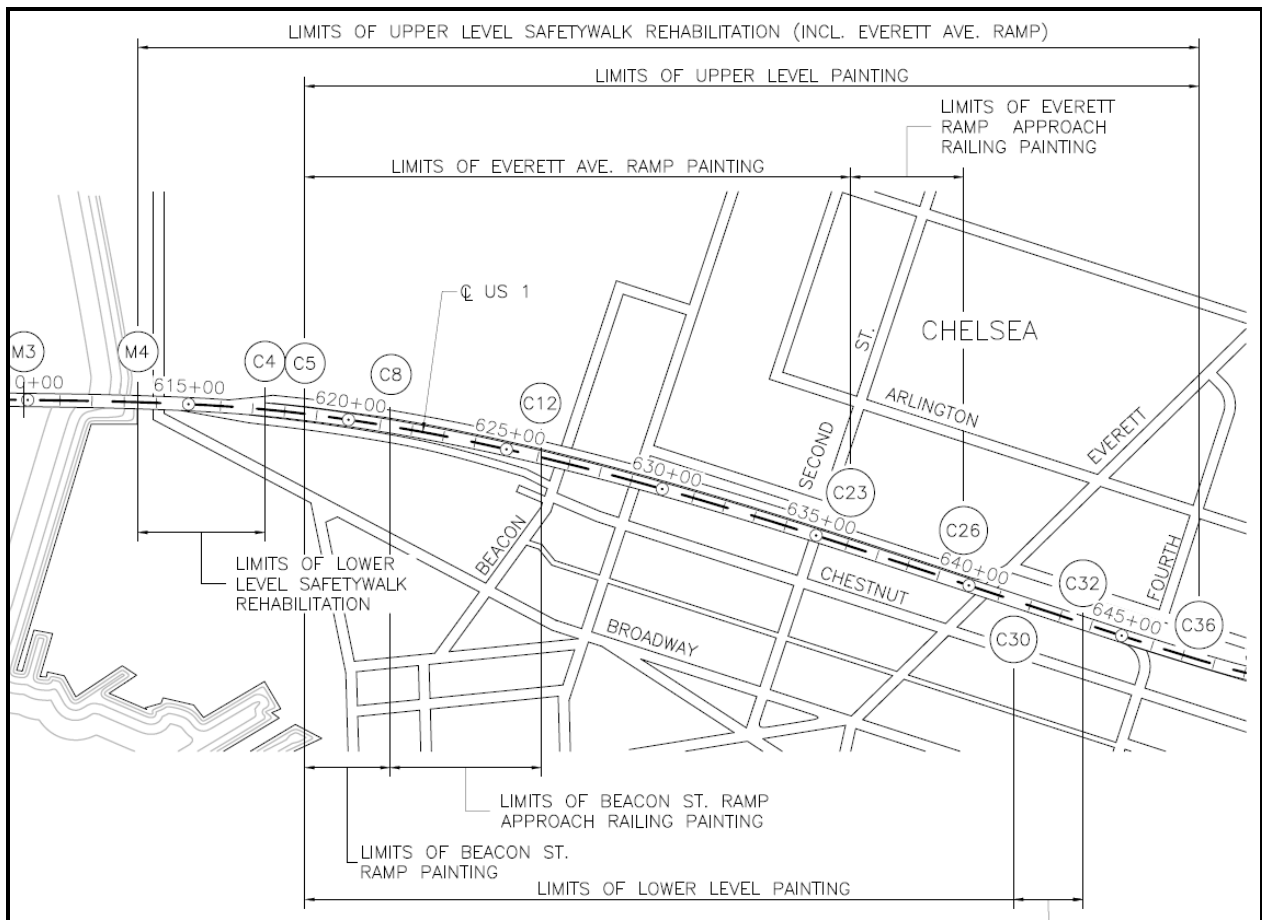


Figure 2 – Specific Project Limits

II. ANNUAL REPORT

Contract Scope of Work

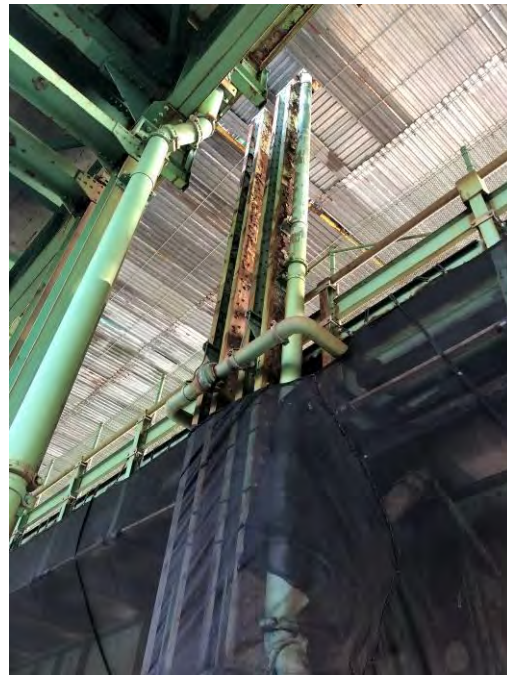
The work under this contract consists of the preservation of Bridge No. B-16-017=C-09-006 (4X0,4WY), US 1 NB & US 1 SB over Chelsea Local Streets. The majority of the preservation work covers approximately 3000 linear feet of northbound roadway (lower level) and 3350 linear feet of southbound roadway (upper level) of US 1, along with approximately 950 linear feet of work at the Beacon Street Ramp and 2,300 linear feet of work at the Everett Avenue Ramp. The work to be performed consists of, but is not limited to, the following:

- Erect temporary protective shielding/work platforms/containment as necessary to contain the flaking paint chips and to perform the work.
- Place temporary barriers and other necessary temporary traffic controls along the lower level (US 1 NB), Beacon Street Ramp, Everett Street Ramp, and upper level (US 1 SB) in accordance with the Temporary Traffic Control Plan.
- Full clean of existing steel on lower level mainline (US 1 NB), Beacon Street Ramp and upper level mainline (US 1 SB). Perform repairs to existing steel superstructure elements, and safety walk elements at lower level mainline, Beacon Street Ramp and upper level mainline. Upon completion of steel repairs, full paint of the existing and new steel. Perform repairs to substructure elements.
- Complete all other incidental work necessary to complete the proposed preservation and remove the temporary protective shielding/work platforms and any remaining temporary traffic controls associated with the Temporary Traffic Control Plan.

Major Progress As Of November 30, 2024

The following is a detailing of events which have transpired related to 2024 construction activity.

- Notice to Proceed was issued October 25, 2023
- From January to April the project focused on installing netting to contain paint chip debris, installing working platforms, and mobilizing equipment to the project site.



Project Name: Structural Cleaning & Painting, Steel & Concrete Repairs on Tobin Bridge, B-16-017
Owner's Representative Contract Number: 120633
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- Blast, clean, and paint operations started in mid-April 2024



- Paint operations in 2024 focused on the upper level roadway, west side railing/safety walk, and steel support bents.



- Concrete substructure repairs have been ongoing from spring 2024 and continue with focus on chipping and patching the concrete support columns and retaining walls.



- West side safety walk and drainage trough repair were completed in 2024.



Project Name: Structural Cleaning & Painting, Steel & Concrete Repairs on Tobin Bridge, B-16-017
Owner's Representative Contract Number: 120633
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- As of November 30, 2024 the contractor was beginning to demobilizing roadway barriers from Route 1 for the winter shutdown.
- Miscellaneous steel repair is ongoing for superstructure steel members with primary focus on floorbeams near expansion joints.
- 2025 will focus on the east side railing/safety walk areas along with continued concrete and miscellaneous steel repairs.

Budget

The following is a summary of the Budget. This project has no Municipal Encumbrance.

Office Estimate:	\$122,568,952
Low Bid:	\$109,145,207
Encumbered Amount:	\$127,916,988
Current Encumbered Amount:	\$127,916,988
Total Amount Expended through November 30, 2024:	\$51,534,036
Current Estimate at Completion:	\$111,795,912

The table below contains a summary of project financials through November 30, 2024:

Cost Item	PS&E Value	Current Value
Bid Items Cost	\$122,568,952	\$109,145,207
Estimated Total Contract Cost	\$143,354,294	\$111,795,912
Estimated Total Construction Cost	\$149,602,742	\$133,744,953
Estimated Utilities/Force Accounts	\$0.00	\$0.00
Total Federal Participating Construction Cost (TFPCC)	\$0.00	\$0.00

Estimated Total Federal Construction Cost	\$0.00	\$0.00
Municipality Funding	\$0.00	\$0.00
Estimated Preliminary Design Cost	\$0.00	\$0.00
Estimated Right-of-Way Cost	\$0.00	\$0.00
Estimated Other Project Costs	\$503,162	\$503,162

Schedule / Project Milestones

- Notice to Proceed: October 25, 2023
- Substantial Completion (Full Beneficial Use): September 20, 2027
- Final Completion: November 12, 2027

Areas of Concern

The following represents the primary areas of concern identified in design and at this stage in construction:

- The local community continues to express concerns about paint chips, noise, dust, and paint smell from the project. Weekly the contractor and MassDOT walk the project area and remove paint chips that are found. The quantity of paint chips found has been reducing through 2024 as the project has progressed. Noise and dust are monitored per contract specifications and have been within limits. MassDOT has held regular meetings with the public.
- The project involves rehabilitation of steel and concrete bridge elements that are difficult to quantify during design development. As rehabilitation work progresses, additional unseen areas of deterioration may be identified that should be addressed in this contract.
- Due to the approximately 4-year duration of this project, it is possible that areas of deterioration will grow during that time and require additional work to address them in this contract. The contract does have unit price items to address quantity growth.

Potential Extra Work

The following represents potential extra work that is in discussion but has not yet been authorized.

- The existing lighting may be replaced and upgraded in this project. In mid-2024 it was identified that this contract has good work access and traffic control that may provide the benefit of easier access to perform this work now, as compared to a separate future contract.
- There is a section of safety walk that was not included in previous Tobin bridge contracts and may be included in this contract since it abuts the current work limits and uses similar details and materials already in this contract.
- The bridge expansion joint at the northern limits of this project abut the previous Chelsea Viaduct project and is in need of repair. The current project has a contractor mobilized that is capable of this work and it may be advantageous to complete this work now. Additional bridge expansion joints within the project limits have damaged rubber gland seals and may also be repaired in this contract.
- The northbound roadway at the northern limits of this project near the Fourth Street offramp has approximately 300 feet of substandard temporary concrete highway barrier that is deteriorating. It may be advantageous to complete this work now since the work is within the temporary traffic control already established for this project.



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- The Webster Avenue Bridge (C-09-015-3A5) is a simple span steel girder bridge with a failed paint system. The current Tobin project contractor is qualified to complete work associated with cleaning and painting this bridge. Recent discussions have begun about possibly including this work as part of the Tobin project since it is about 1 mile north along Route 1.



CHAPTER 303 OF THE ACTS OF 2008 AREAS OF INTEREST

Peer Review

A peer review was not performed prior to procurement.

Value Engineering

A Value Engineering (VE) Study of the project design was not performed.

Cost Recovery

At this point in time, no issues have been specifically identified as Cost Recovery issues.

Extra Work Orders

As of November 30, 2024, there are no pending extra work orders. Potential extra work orders are identified in the previous section.

OWNER'S REPRESENTATIVE OATH

I John F. Watters, MA P.E. No. 40751, hereby certify that my sole responsibility as Owner's Representative, under O.R. Contract 120633, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general contractor, and subcontractors, and that this annual report is true and accurate to the best of my knowledge, signed under pains and penalties of perjury.



John F. Watters, P.E.

Date: December 11, 2024



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbits-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
Owner's Representative Contract Number: 80660
Project Number: 606783
Construction Contract Number: N/A



OWNER'S REPRESENTATIVE 2024 ANNUAL REPORT

***Owner's Representative Contract No. 120632 – Chappell Engineering Associates, LLC
Project No. 606783 - NEWTON-WESTON BRIDGE BUNDLE, REPLACEMENT AND
REHABILITATION AT I-90/I-95 INTERCHANGE INCLUDING RAMP G (DB)
NEWTON AND WESTON, MASSACHUSETTS***

***Preliminary Designer: Greenman Pedersen, Incorporated
Design-Builder: SPS-Walsh Joint Venture
Engineer of Record: Jacobs Engineering***

***Prepared by: Chappell Engineering Associates, LLC
December 17, 2024***

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
Owner’s Representative Contract Number: 120632
Project Number: 606783
Construction Contract Number: N/A

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I. EXECUTIVE SUMMARY

This project consists of the reconstruction of the I-90 (Massachusetts Turnpike) corridor and adjacent ramps from approximately 700 feet west of the existing Park Road Bridge over Route I-90 in the Town of Weston to approximately 200 feet east of the existing Route I-90 Bridge over the MBTA/CSX Railroad in the adjacent City of Newton (See Figure 1). With this project, the bridges within these limits along with the associated roadways and ramps are to be reconstructed and realigned with revised lane configurations based upon future travel demands as well as anticipated travel speeds. The load carrying capacity of the new bridge structures will be increased to the current loading requirement for highway bridges (HL-93). The project will also strive to increase the clearance wherever possible of the proposed structures in an effort to obtain the minimum vertical clearance of 16'-6" and improve the roadway and shoulder widths to the desired values as recommended by AASHTO Standards.

The I-90 bridge over the Charles River and I-95 would need to be substantially rehabilitated within the next ten years in order to remain in service. The bridge deck is in poor condition and there is significant deterioration at the beam ends and parapets along with concrete spalling on the piers. This condition along with the adjacent project planned at the I-90 Allston Brighton interchange has created the need to execute and complete this project in advance of the Allston Brighton project.

In early November 2014, the preliminary design consultant, Greenman Pedersen Inc. (GPI) submitted an Alternatives Analysis study for the reconstruction of the I-90 over I-95 and Charles River Bridge which included a detailed breakdown of five separate alignment options. The study was reviewed by the District 6 Office and the Boston Office of MassDOT and a preferred option was selected. Notice to Proceed to advance the preferred option was given to GPI on December 23, 2015.

It has been agreed to include repairs to the existing wall supporting the embankment of the I-90 eastbound ramp (Ramp C) to I-95 southbound which had been identified as deficient by the Geotechnical Section of MassDOT. Along with this it has also been determined to include combined bridge (Bridge N-12-065 = W-29-035) replacements for the I-95 northbound ramp to I-90 east and west (Ramp A) and I-90 east/west to I-95 northbound (Ramp B). Plans for the Ramp A/B bridges were developed to final design however a contract had not been executed and it was decided to include these bridge replacements in this contract to take advantage of the mobilized contractor. In releasing the Design-Build Procurement Documents, the final design

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
Owner's Representative Contract Number: 120632
Project Number: 606783
Construction Contract Number: N/A

plans for the Ramp A/B Bridges were revised to conform to the preliminary format of the Base Technical Concept Plans to allow for innovation and design development in the Design-Build process.

In response to comments issued during the Public Information Meeting held March 31, 2022, it has been determined to also include the repairs identified in the inspection of the Ramp A/B Bridge over the Charles River and I-95 (N-12-064=W-29-034).

The preliminary design proceeded with the method of procurement established as Design-Build with Technical Proposals reviewed in February 2023 and Price Proposals opened March 1, 2023. The apparent Best Value was determined to be the Design-Build Joint Venture Team of SPS Construction with Walsh Construction as the Prime Contractor and Jacobs Engineering as Design-Build Designer of Record. Notice to Proceed was issued on April 22, 2023.

Design work on the project has progressed with Issued for Construction packages being accepted for the I-90 bridges over the I-95 and the Charles River and I-90 over the MBTA/CSX Railroad as well as two of the Ramp G Bridges. Highway Design has advanced to the 100% stage and is currently in Rev 2 which is under review.

Construction work currently in Stage 1A including construction of the southerly portion of the trestle which provides access to construct the southerly off line portions of the I-90 over I-95 and the Charles River Bridge. The southerly (Stage 1A) portions of the three piers for this bridge have been constructed and the west and east abutments are well into construction in anticipation of the bridge girders being installed in early 2025. Construction is also under way at the I-90 over the MBTA/CSX Bridge with substructure extensions and repairs in preparation for the superstructure replacement to be performed over the two weekend shutdowns in June of 2025.

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
Owner's Representative Contract Number: 120632
Project Number: 606783
Construction Contract Number: N/A

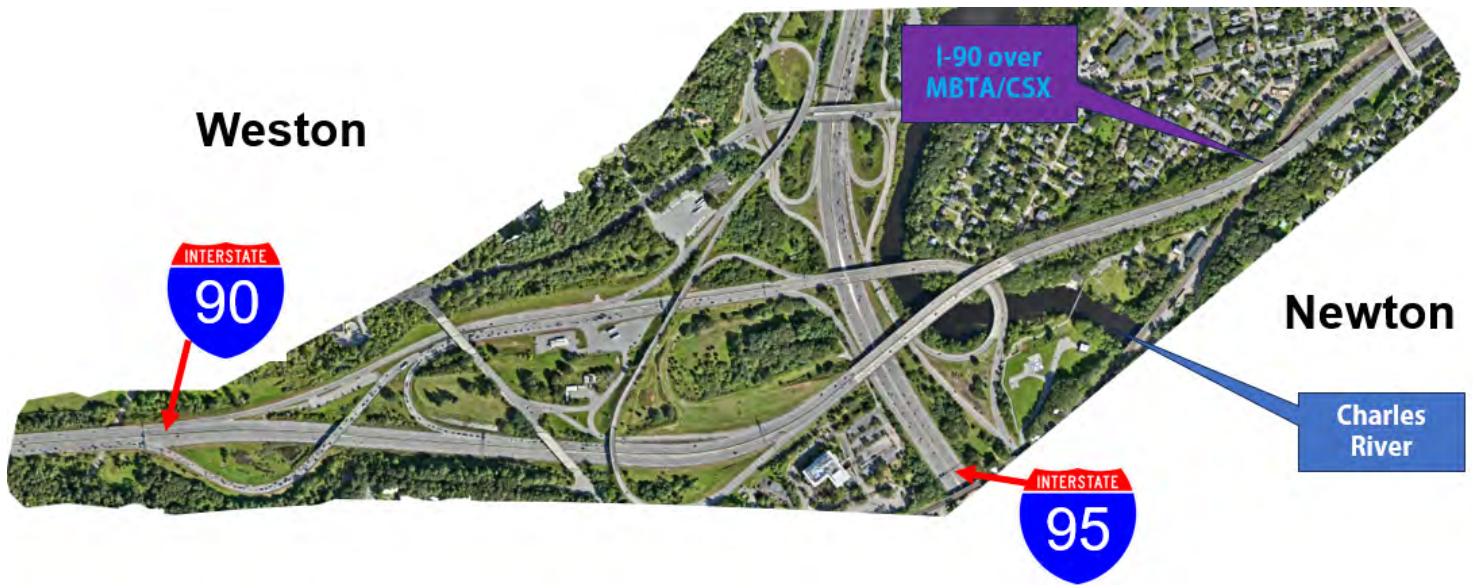


Figure 1 - Project Location

II. ANNUAL REPORT

Contract Scope of Work

The scope of work includes but is not limited to the reconstruction of the I-90 roadway from approximately 700 feet west of the existing Park Road Bridge over Route I-90 in the Town of Weston to approximately 200 feet east of the existing Route I-90 Bridge over the MBTA/CSX Railroad in the adjacent City of Newton and the associated on and off ramps between the communities of Newton and Weston.

In addition to replacing the Route I-90 over I-95 and Charles River Bridge (Bridge N-12-066 = W-29-036), this project proposes complete replacement of the Ramp G Bridge over Ramps A and B (Bridge W-29-058); Ramp G Bridge over existing MWRA Aqueduct (Bridge W-29-057); Ramp G Bridge over Route I-90 (Bridge W-29-055). The superstructure of the Route I-90 over MBTA Railroad (Bridge N-12-067) will be replaced as well as modifications to the substructure. Minor modifications to the Route I-90 bridge over Charles Street (Bridge N-12-073) are also proposed to accommodate the widening of I-90 over the existing structure.

Additional elements involved in the design include but are not limited to: drainage improvements; mechanically stabilized earth (MSE) retaining walls, expanded polystyrene backfill rock fill; concrete median barrier; highway lighting; stormwater improvements; overhead sign structures; full depth hot mix asphalt roadway construction; micro-milling with hot mix asphalt overlay; paving markings and signage; utility relocations; sound barrier walls and temporary traffic control.

It has been decided to include the replacement of the Ramp A/Ramp B bridge over the Charles River (N-12-065 = W-29-035) in this contract. This bridge combines the ramps providing the connection of I-95 north and south with I-90 east and west. Plans for this replacement had been prepared all the way through the PS&E stage however a contract was not executed. In addition, repairs to the wall supporting the embankment of the I-90 eastbound ramp (Ramp C) to I-95 southbound which had been identified as deficient by the Geotechnical Section will be included with the improvements to be made with this project. It has also been agreed to include suggested repairs to the Ramp A/Ramp B bridge over the Charles River and I-95 (N-12-064 = W-29-034). The repairs include parapet replacement, partial deck reconstruction, median replacement, repair to beam ends and bearing stiffeners the painting of the bridge and pier repair.

Major Progress As Of November 30, 2024

The following is a detailing of events which have transpired in 2024:

- Weekly Project Coordination meetings, initiated in June 2023 and Bi Weekly Utility Coordination Meetings, initiated in July 2023 have continued throughout the entire year.
- Design submissions, combined with Over the Shoulder review meetings and Comment Resolution meetings have proceeded in keeping with the project schedule to maintain the contractual milestones.
- Issued for Construction (IFC) design packages were issued for the bridges of I-90 over I-95 and the Charles River (N-12-066 = W-29-036), I-90 over the MBTA (N-12-067), Ramp G over I-90 and Ramp K (W-29-055), Ramp G over the MWRA (W-29-057) and Ramp G over Ramps A-B (W-29-058).
- Environmental permit and MWRA permit amendments have been prepared to accompany the project design continue to be prepared and monitored in order to maintain the project schedule and milestones.
- Placement of construction signing, installation of temporary barrier and establishment of work zones along with clearing of the site and placement of erosion controls continue to be maintained to support construction activity.
- Upon securing the work zone traffic control, the Design-Builder constructed the south trestle across the Charles River to provide access to the Stage I work zone.
- A Public Information Meeting was held April 25, 2024. An overview of the entire project was presented along with specific details of planned construction work.
- The Design Builder has constructed the Stage I portion of Piers 1, 2 and 3 for Bridge N-12-066 = W-29-036.
- Begin construction of the east and west abutments for Bridge N-12-066 = W-29-036 and approach Walls 17 and 20.

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
Owner's Representative Contract Number: 120632
Project Number: 606783
Construction Contract Number: N/A

- Construction has begun and continues on the northwest and southeast substructure extensions for Bridge N-12-067.
- Begin demolition of raised median of Ramp A/B Bridge over I-95 and the Charles River (N-12-064 = W-29-034)
- Installation of temporary highway lighting along I-90
- Excavation and grading for Access Road Number 1
- Excavation and grading for Ramps P and G
- Fiber Optic Cable relocations continue project wide.

Budget

- Office Estimate: \$288,102,180
- Price Proposal: \$318,831,313
- Encumbered Amount: \$386,681,064
- Current Encumbered Amount: \$386,681,064
- Total Amount Expended through November 30, 2024: \$98,126,374
- Probable Contract Modifications: \$55,000
- Current Estimate at Completion: \$394,105,954

The table below contains a summary of project financials through November 30, 2024:

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
Owner's Representative Contract Number: 120632
Project Number: 606783
Construction Contract Number: N/A

Project Budget / Financials			
	Contract	MassDOT	Municipal
Bid	\$ 318,831,313	\$ 318,831,313	\$ 0
Allowances	\$ 20,025,054	\$ 20,025,054	\$ 0
Original Contract Value	\$ 338,856,367	\$ 338,856,367	\$ 0
Original Contingency (FIN681)		\$ 47,824,697	
Original Encumbrance		\$ 386,681,064	
Encumbrance Modifications		\$ 0	
Current Encumbrance		\$ 386,681,064	
Current Overruns and Underruns	\$ 0	\$ 0	\$ 0
Approved Contract Modifications	\$ 120,221	\$ 120,221	\$ 0
Current Contract Value	\$ 338,976,587	\$ 338,976,587	\$ 0
Pending Contract Modifications	\$ 129,366	\$ 129,366	\$ 0
Estimated Contract Total	\$ 339,105,954	\$ 339,105,954	\$ 0
Probable Contract Modifications		\$ 55,000,000	
Forecast Cost-at-Completion	\$ 394,105,954	\$ 394,105,954	\$ 0
Total CQE (Invoiced) to Date	\$ 98,126,374	\$ 98,126,374	\$ 0
Funds Remaining		\$ 288,554,690	
Projected Funds Remaining		\$ (7,424,890)	
Expected Progress (baseline)	0.00%		
% Complete	24.90%		

Schedule / Project Milestones

- Milestone No. 4: Completion of the Weekend 1 Superstructure Replacement at N-12-067: June 2, 2025
- Milestone No. 3: Completion of the Weekend 2 Superstructure Replacement at N-12-067: June 8, 2025
- Milestone No. 2 – Full Beneficial Use/Substantial Completion: October 28, 2023
- Milestone No. 1 – Design-Builder Field Completion: November 27, 2028

The most recent update of the Design-Builder's proposed schedule respects the current contract milestones.

Areas of Concern

The following represents the primary areas of concern identified in design and in the preliminary construction:

- I-90 over the MBTA/CSX construction and foul times: staging the I-90 bridge over the MBTA/CSX Railroad will be very complex due to the skew angle of the bridge relative to the travel way. A preliminary study was performed to evaluate detour routes for a

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
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possible weekend closure of I-90 where the roadway will be narrowed to one lane in each direction for two separate weekends. The work to be done to the superstructure will need to be completed in time to allow for the opening of I-90 to three lanes in each direction at the conclusion of each weekend. This also includes a shutdown of the MBTA Rail and busing to be utilized to maintain commuter rail traffic during this period. The work will need to be completed in time to allow for the safe re-opening of these facilities following the shutdown period. An Incentive/Disincentive Clause based upon calculated road user costs has been included in the procurement documents for the overall project duration and for the opening of traffic to three lanes at the conclusion of each of the two weekend closures to be implemented. Public outreach will be required to coordinate this with traffic impacts to be considered in the City of Newton and properly accounted for in the design. As of November 30, 2024, IFC plans for this structure have been completed and work has progressed in cooperation with the MBTA and Keolis, the railroad operator in construction of the substructure extensions and repairs. The request has been submitted to the MBTA for the proposed shutdown of the MBTA currently scheduled for the weekends of June 2, 2025 and June 8, 2025.

- In a meeting at the site on August 29, 2019 with MassDOT District 6 personnel, GPI and Algonquin Gas, the project's potential impact on the 24 inch high pressure gas line serving Boston and Cambridge was discussed. The line goes under I-95 where it is sleeved, most likely with a larger diameter steel pipe and has limited redundancy that would not likely allow it to be out of service. Algonquin provided coordinates to pinpoint the location of the line which very closely matched the location shown on the GPI design plans. It has been agreed that this situation will be monitored to ensure that there will be no impacts to the utility and that the necessary construction precautions are taken as the construction proceeds.
- There is also a fiber optic cable line on the north and south sides of I-90 which will need to be relocated with the proposed design and construction as the project proceeds. The Design Builder has coordinated this work with the District Utilities Engineer and work to install new conduits and manholes continues in combination with project staging and progress.
- The Hultman Aqueduct (MWRA utility) which travels through the project site has two overpasses and will need to be considered throughout the design. The Design-Builder has

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
Owner's Representative Contract Number: 120632
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submitted amended permit applications through the MWRA in coordination with current design. Protective slabs have been installed over the pipeline as required to avoid damage caused by heavy loading. This will need to continue as work proceeds to protect this infrastructure.

- Construction staging and maintenance of traffic will be a very challenging element of the project due to heavy traffic volumes and numerous bridge replacements within the project limits requiring careful staged construction. The contract documents stipulate that three lanes of travel both east and westbound must be maintained during construction.
- The Design-Builder has put forth a revised construction staging plan which is functionally similar to previously rejected ATCs presented during procurement. The plan introduces a separate westbound travel lane with an exit ramp to Ramp K which leads to Park Road where the deceleration is included in the ramp and there are concerns about the potential queueing of traffic onto the westbound roadway which would have no separate exit roadway. The reasons cited for the need for this revised staging plan are concerns raised over feasibility of meeting the gutter spreads stipulated in the procurement documents and subsequent drainage which would be required. A memorandum has been prepared by the Design-Builder which analyzes the traffic conditions which will result from the implementation of the plan which has been reviewed and accepted by MassDOT. The currently proposed 100% Highway Plans propose to implement this staging plan.
- The Design-Builder has informed MassDOT that substructure reuse for Ramp A/B over the Charles River (N-12-065) as proposed in the Base Technical Concept is not feasible. After consideration of multiple alternatives, the Design-Builder has concluded that the only feasible alternative for a full structure replacement is a three span structure. The Design-Builder has prepared a memorandum documenting the evaluation of the alternatives with a recommendation for a three span replacement structure. An order of magnitude estimate has been prepared for this alternative of an increase in \$55 million to the contract. The Design-Builder has indicated that this work can be accomplished within the existing contract milestones. MassDOT is reviewing this memorandum and has directed the Design-Builder to advance the design with a full substructure replacement. Revised Sketch Plans were submitted accepted in September 2024. First Structural plans

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
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were submitted in October and comments are to be addressed in the Second Structural Submittal.

- In preparing the proposed wall designs for the wall intended to replace the existing BIN Wall supporting the embankment adjacent to Ramp C, deterioration has been observed on Bridge W-29-032 which supports the Ramp C Roadway above the Hultman Aqueduct. The Design-Builder has raised the concern that this deterioration may compromise the integrity of the replacement walls. A field meeting was held to evaluate the deterioration and investigate potential repairs to be made to the existing bridge. GPI prepared a memorandum with recommendations MassDOT has reviewed and provided comments which have been incorporated into a revised memorandum recommending repairs to the existing bridge. This memorandum is currently under review by MassDOT.

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
Owner's Representative Contract Number: 120632
Project Number: 606783
Construction Contract Number: N/A

Project Figures / Photographs

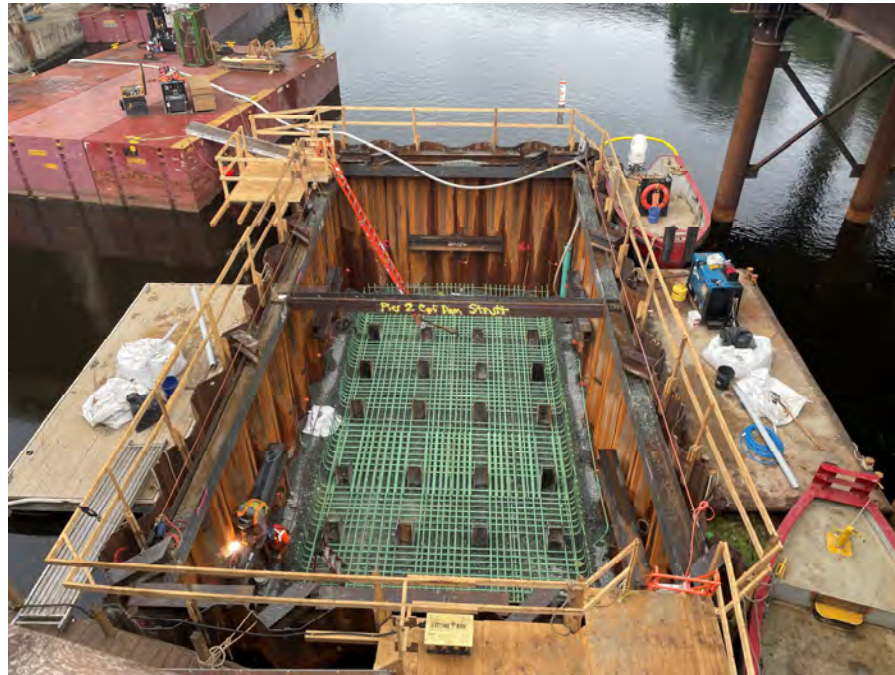


Begin Construction of South Bulkhead and Trestle Providing Access across Charles River



Pier 2 Cofferdam and Piles

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
Owner's Representative Contract Number: 120632
Project Number: 606783
Construction Contract Number: N/A



Pier 2 Footing and Steel Reinforcement



Pier 2 Column Formwork

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
Owner's Representative Contract Number: 120632
Project Number: 606783
Construction Contract Number: N/A



Pier 1 Micro Pile Layout

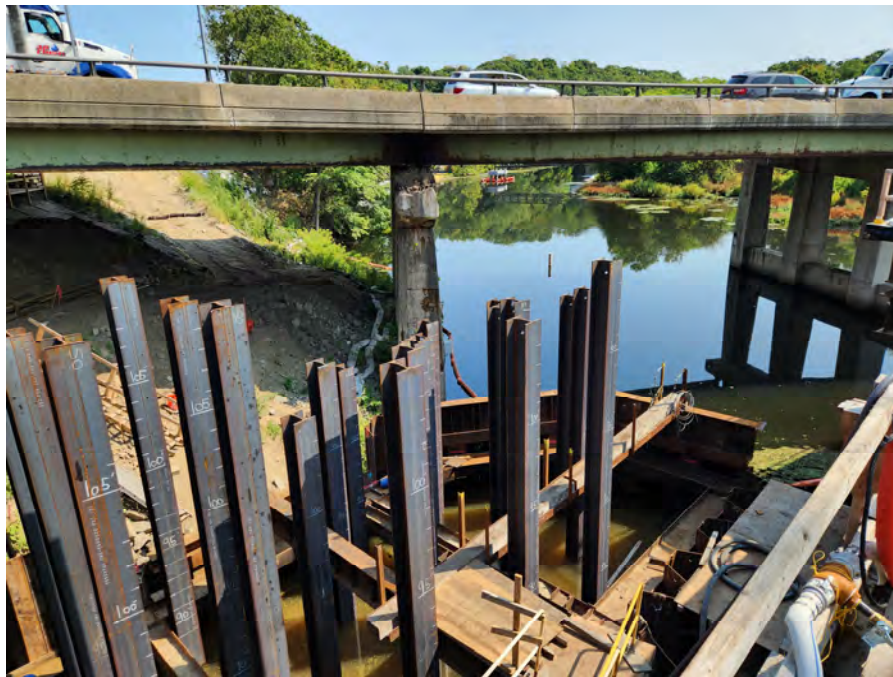


Pier 2 Cap Formwork

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
Owner's Representative Contract Number: 120632
Project Number: 606783
Construction Contract Number: N/A



Pier 1 Footing and Column Reinforcement



Pier 3 Stepped Footing Piles

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
Owner's Representative Contract Number: 120632
Project Number: 606783
Construction Contract Number: N/A



Piers 1 and 2 with Formwork Removed



West Abutment Pile Layout

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
Owner's Representative Contract Number: 120632
Project Number: 606783
Construction Contract Number: N/A



Wall 17 at West Abutment

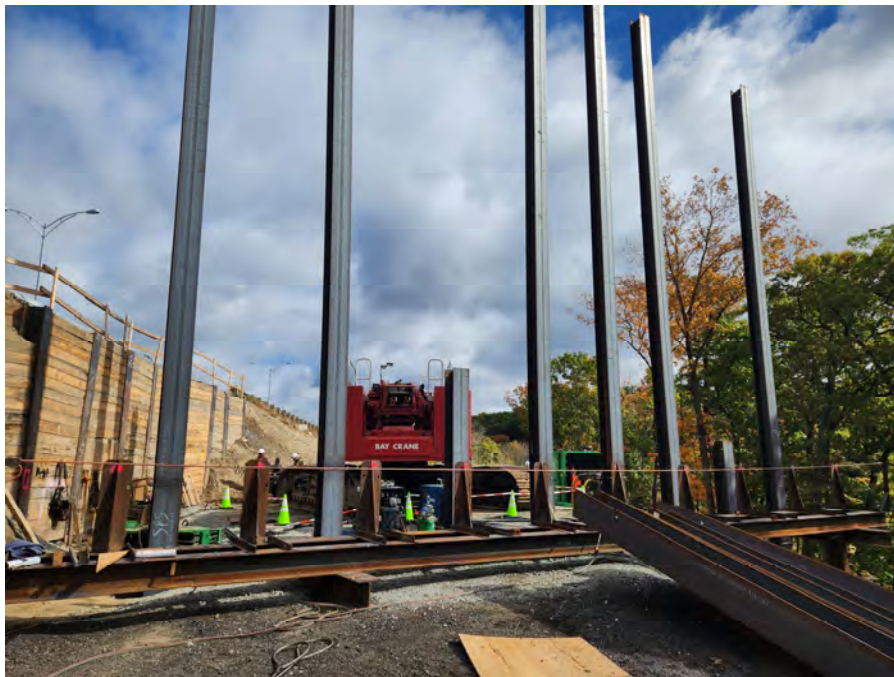


Pier 3 Column Reinforcement and Formwork

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
Owner's Representative Contract Number: 120632
Project Number: 606783
Construction Contract Number: N/A



West Abutment Cap Formwork



Pile Driving at East Abutment

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
Owner's Representative Contract Number: 120632
Project Number: 606783
Construction Contract Number: N/A



West Abutment Stem and MSE Wall



Pier 3 with Formwork Removed

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
Owner's Representative Contract Number: 120632
Project Number: 606783
Construction Contract Number: N/A



Bridge N-12-064 = W-29-034 Raised Median Removal

III. CHAPTER 303 OF THE ACTS OF 2008 AREAS OF INTEREST

Peer Review

Keville Enterprises performed an independent review of the Construction Time Determination in May of 2022 to provide concurrence with the anticipated project duration.

Value Engineering

A Value Engineering study was not performed however the Design-Build procurement included a confidential Alternative Technical Concept process.

Cost Recovery

At this point in time, no issues have been specifically identified as Cost Recovery issues.

Extra Work Orders

As of November 30, 2024, there are no approved extra work orders.

As of November 30, 2024, there is one pending extra work order:

1. MSE wall rebar changed to epoxy coated.
 - a. Disposition: approval is pending
 - b. Cost: \$129,366.31

As of November 30, 2024, there is one probable extra work order:

1. MassDOT has directed the Design Builder to prepare a Final Design Package for the full replacement of the Ramp A/B Bridge over the Charles River (N-12-065) including the substructure as well as superstructure.
 - a. Disposition: In design development by the Design-Builder, currently at Second Structural Design. As the design proceeds this will continue to be evaluated for inclusion in the contract as an Extra Work Order.

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
Owner's Representative Contract Number: 120632
Project Number: 606783
Construction Contract Number: N/A

- b. Cost: The total cost with all incidental items applied has been estimated to be an increase of approximately \$55 million to the contract.

Project Name: Newton Weston I-90 over I-95 Charles River, Charles Street and MBTA/CSX
Owner's Representative Contract Number: 120632
Project Number: 606783
Construction Contract Number: N/A

OWNER'S REPRESENTATIVE OATH

I Keith V. Lincoln, MA P.E. No. 42567, hereby certify that my sole responsibility as Owner's Representative, under O.R. Contract 120632, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general contractor, and subcontractors, and that this annual report is true and accurate to the best of my knowledge, signed under pains and penalties of perjury.



Keith V. Lincoln, P.E.

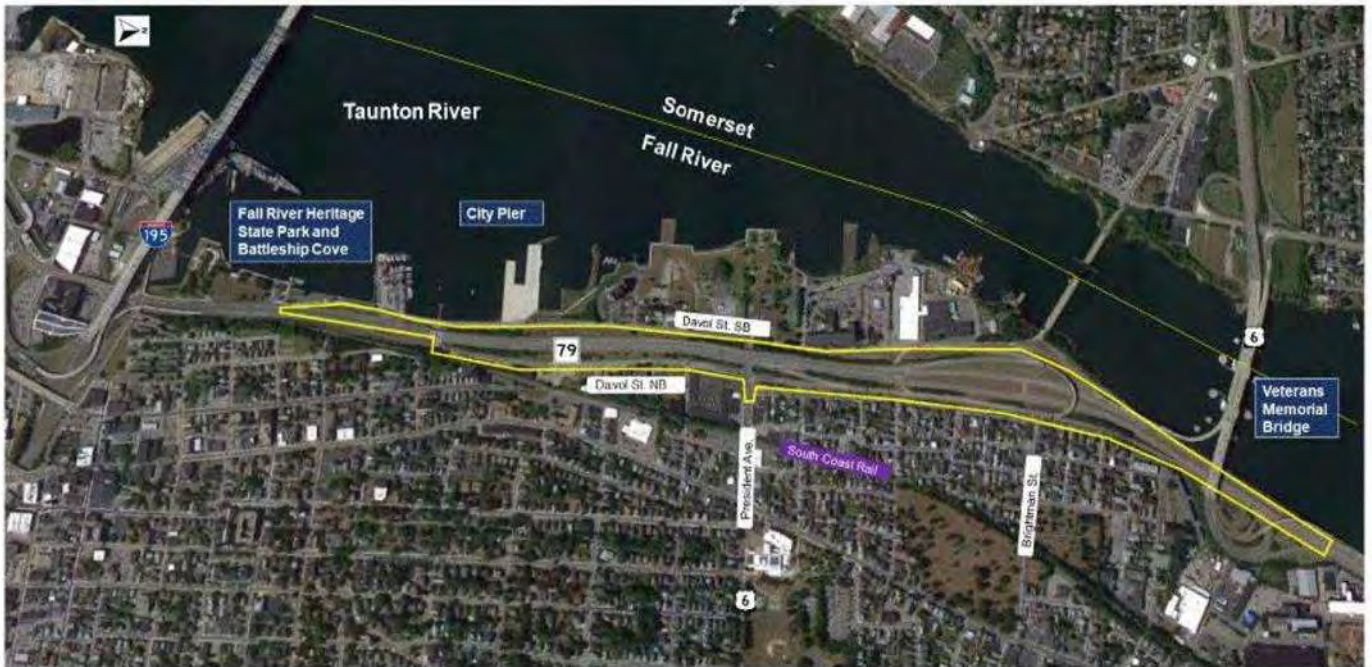
Date: December 17, 2024



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbitts-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



Project Name: Corridor Improvements on Route 79/Davol Street
Owner's Representative Contract Number: 120632
Project Number: 608049
Construction Contract Number: 117658



Owner's Representative 2024 Annual Report

Owner's Representative Contract No. 120632 - Chappell Engineering Associates, LLC
Project No. 608049: FALL RIVER – Corridor Improvements on Route 79/Davol Street
Preliminary Design Consultant: TranSystems Corporation
Design-BUILDER: D.W. White, Inc. - SPS New England, Inc. Joint Venture
Engineer-of-Record: HNTB Corporation

Prepared by Chappell Engineering Associates, LLC
December 1, 2024

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I. EXECUTIVE SUMMARY

The project is reconstructing a 1.6-mile section of Route 79/Davol Street on the left bank of the Taunton River immediately to the north of Battleship Cove in Fall River. The overall objectives of the project are to re-establish connectivity between the neighborhoods and the waterfront, to promote economic growth by creating developable parcels, and to create a vibrant, multi-modal corridor. Prior to the start of the project Route 79 ran through the area as a grade-separated limited access highway with two northbound and two southbound traffic lanes and two-lane frontage roads (Davol Street). The project relocates existing Route 79 approximately on to the existing frontage road alignments thereby creating space for several development parcel in the Route 79 footprint. Three new crossing streets with at-grade signalized intersections are being constructed, at Turner Street, Hathaway Street, and Brightman Street. Existing President Avenue between northbound and southbound Davol St. will be reconstructed. Other project elements include shared use paths, sidewalks, ornamental lighting, extensive landscaping, a new bridge structure near the southern project limit, several retaining walls and two new drainage outfalls into the Taunton River.

In 2024 the Contractor has:

- Completed construction of the new bridge F-02-087 superstructure, Route 79 northbound over the southern U-turn; the bridge was opened to traffic on November 18, 2024;
- Completed construction of the two new drainage outfalls to the Taunton River, the first off of Remington Avenue and the second adjacent to City Pier. Installed the 9'x4' box culvert from Davol St. southbound along Brownell St. to the Remington Ave. outfall and extended the 12'x5' box culvert from the City Pier outfall across Davol. St. southbound and the median area to Davol St. northbound;
- Continued construction of surface drainage, lighting, roadway, new sewer and water main, and underground infrastructure for Verizon, NGRID and Comcast project-wide.

Project design by the Engineer-of-Record (EOR) advanced with the Issued-for-Construction (IFC) plans approved in April 2024. The one exception was the Landscape IFC plans which were submitted in November 2024 and remain under review.

To date a total of seventeen Extra Work Orders are either approved or pending in MassDOT's tracking system, for a total of \$2,983,314. EWOs totaling ~\$2.7 million were generated in 2023 while to date 2024 has seen only ~\$0.3 million. Of the seventeen the three most significant are EWO #4, "Additional water

Project Name: Corridor Improvements on Route 79/Davol Street
Owner's Representative Contract Number: 120632
MassDOT Project Number: 608049
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service – project wide” in the amount of \$754,182; EWOs #6, in combination with EWO #10, unplanned Comcast ductbank in the amount of \$782,656; and EWO #9, “Remove and replace wall F-2-W4” in the amount of \$696,875. The first, EWO #4 (\$754,182), pertains to locations where new water main is called for in the contract plans and existing service connections for domestic water, fire suppression, and/or hydrants are either called to be abandoned, or not shown. It was determined that at some eighteen locations the services are active and must be reconnected to the new main. In Fall River the property owner is responsible for the service connections up to the main, and the records of the service providers were apparently incomplete to the extent that many services were simply overlooked during preliminary design. The second, EWOs #6 and #10 (\$782,656), pertain to unplanned installation of new ductbank for Comcast which was discovered to be required. During preliminary design Comcast indicated that the project had no impact on their facilities and that relocations would not be necessary. There was no work by Comcast included in the PUC form. In a Utility Coordination Meeting on March 21, 2023 Comcast indicated that upon investigation it was determined that their existing ductbank along portions of Davol Street southbound, Turner Street and President Avenue were too shallow and would need to be relocated (EWO #6). In a Utility Coordination Meeting on August 15, 2023 they indicated that additional ductbank along Davol Street southbound would also need to be relocated (EWO #10). The third major EWO, EWO #9 (\$696,875), involves replacement of the existing retaining wall abutting the southeast corner of the new Bridge F-02-087. The wall was slated to remain but during construction operations in the area extensive cracking was discovered and it was decided to replace the entire wall with a modular block wall as planned at the three other bridge approaches.

None of the pending or approved EWOs to date are clear candidates for cost recovery.

At present, between pending and approved EWOs, materials price adjustments and projected contract item overruns/underruns, approximately 38% of the original contingency monies has been committed (\$4,059,137 of \$10,695,682) and approximately 63% of the currently estimated MassDOT contract total has been invoiced (\$71,189,714 of \$112,753,372). As of December 1, 2024, 52.1% of the contractual construction duration has elapsed (752 of 1443 calendar days).

II. ANNUAL REPORT

Contract Scope of Work

The project relocates existing Route 79 approximately on to the existing frontage road alignments, thereby creating space for several development parcels within the current highway layout. Three new crossing streets with at-grade signalized intersections will be created, at Turner Street, Hathaway Street, and Brightman Street, and the existing crossing street, President Avenue, will be reconstructed. Other project elements include shared use paths, sidewalks, ornamental lighting, extensive landscaping, a complete new drainage system with two new outfalls into the Taunton River, and those elements the City of Fall River's CSO program within the project limits. Also included is the replacement of the bridge near the southern project limit which carried Route 79 north and southbound over a Davol Street U-Turn with a new bridge carrying Route 79 northbound only over the reconstructed U-turn.

Major Progress as of December 1, 2024

An initial Corridor Planning Study was completed in 2014 and a design contract was signed in 2018 with TranSystems Corporation to assist in the selection of a preferred alternative, develop the 25% Design and to serve as Preliminary Design Consultant (PDC) during design-build procurement and construction. Three Design-Build teams were prequalified and the Joint Venture of D. W. White - SPS New England, in association with HNTB, was determined to offer the Best Value to the Department. A Notice to Proceed was issued on November 10, 2022 and the Contractor was fully mobilized by early February, 2023. In 2023 the Contractor:

- Shifted Route 79 northbound and southbound traffic from the initial alignment to the existing frontage roads;
- Demolished the three structures carrying Route 79 over surface streets, the one structure carrying Ramp E-W over Route 79, and the five retaining walls within the project limits;
- Removed the existing roadway embankment down to final subgrade;
- Completed construction of the substructure for the new bridge F-02-087, Route 79 northbound over the southern U-turn;
- Began construction of the two new drainage outfalls to the Taunton River and associated box culverts;
- Began construction of surface drainage, new sewer and water main, and underground infrastructure for Verizon, NGRID and Comcast project-wide.

Project Name: Corridor Improvements on Route 79/Davol Street
Owner's Representative Contract Number: 120632
MassDOT Project Number: 608049
Construction Contract Number: 117658

To date in 2024, the Contractor has:

- Completed construction of the new Bridge F-02-087 superstructure, Route 79 northbound over the southern U-turn and opened the bridge to traffic on November 18, 2024;
- Completed construction of the two new drainage outfalls to the Taunton River, Remington Avenue and adjacent to City Pier. Installed the 9'x4' box culvert from Davol St. southbound along Brownell St. to the Remington Ave. outfall and extended the 12'x5' box culvert from the City Pier outfall across Davol. St. southbound and the median area to Davol St. northbound;
- Continued construction of surface drainage, new sewer and water main, and underground infrastructure for Verizon, NGRID and Comcast project-wide;
- Begun construction of new highway lighting project-wide.

Project design by the EOR completed in April, 2024 with the approval of the Issued-for-Construction (IFC) plans, with one exception: the Landscape IFC plans were submitted late in November 2024 and remain under review.

Budget and Project Financials

BUDGET:

	MassDOT	Municipal
Bid Price:	\$103,088,127	\$11,561,380
Allowances:	\$5,710,300	-
Traffic Police:	\$3,994,400	-
Traffic Police OT:	\$1,711,900	-
Trainees:	\$4,000	-
Original Contract Value:	\$108,798,427	\$11,561,380
Contingencies:	\$10,695,682	-
Original Encumbrance:	\$119,494,109	-

Project Name: Corridor Improvements on Route 79/Davol Street
Owner's Representative Contract Number: 120632
MassDOT Project Number: 608049
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CURRENT FINANCIALS (as of 12/1/23)

	MassDOT	Municipal
Current Overruns/Underruns	\$1,179,330	(\$1,189,490)
Approved Contract Modifications	\$2,775,615	-
Current Contract Value	\$112,753,372	\$10,371,890
Pending Contract Modifications	\$104,192	-
Estimated Contract Total	\$112,857,564	\$10,371,890
Probable Contract Modifications	-	-
Forecast Cost-at-Completion	\$112,857,564	\$10,371,890
Total CQE (Invoiced) to Date	\$65,809,673	\$5,374,041
Funds Remaining	\$48,310,395	-
Projected Funds Remaining	\$6,636,545	-

The City of Fall River is responsible for funding of the following project elements:

- Upsizing of concrete box culverts for drainage in order to accommodate the increased flow rates from outside of the project limits as required for separation of sanitary and drainage systems (\$5.33 million);
- Underground storage chambers to replace surface infiltration basins at two locations (\$0.73 million)
- Upgraded “hardscape” including wayfinding signage, granite benches, bike bollards, uplighting under the bridge, etc. (\$1.28 million);
- Ornamental highway lighting (\$0.66 million);
- CCTV of City sewer lines (\$0.27 million);
- Construction of new sewer infrastructure within the project limits and designed by others as part of the ongoing separation of sanitary and drainage systems (\$3.28 million).

Schedule/ Project Milestones

The contract includes three milestones, as follows:

Milestone #3 – Full Beneficial Use

The majority of the work complete and the asset opened for multi-modal transportation use, including all travel lanes and auxiliary lanes in their final configuration, including ramps, final paving and lane markings,

Project Name: Corridor Improvements on Route 79/Davol Street
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MassDOT Project Number: 608049
Construction Contract Number: 117658

and open to traffic: 1,332 calendar days from NTP (July 4, 2026). The current schedule update (Update #23, as of November 10, 2024) shows this milestone as July 2, 2026 with two calendar-days of float.

Milestone #2 – Substantial Completion

A walkthrough of the entire contract work performed by the Resident Engineer and a Punch List generated. Work associated with no more than one percent of the adjusted total contract price yet to be completed: 1,383 calendar days from NTP (August 24, 2026). As of Update #23 the milestone is shown as August 16, 2026 with seven days of float.

Milestone #1 – Contract Completion

All physical work complete, including Punch List, and Contractor has fully de-mobilized from field operations: 1,443 calendar days from NTP (October 23, 2026). As of Update #23 the milestone is shown as October 16, 2026 with seven days of float.

The positive float carried by the completion milestones results from the significant volume of work which was accomplished in year 1 in advance of the timing assumed in the Baseline Schedule. This included demolition of the existing structures, construction of the Bridge F-02-087 substructure and the partial construction of the Brownell Street culvert and outfall. Elements of the drainage, water and sewer systems project-wide also began significantly ahead of schedule. Compared to year 1, the Contractor has maintained the positive float through year 2, albeit somewhat reduced.

Areas and Issues of Concern

We have no issues of concern at this time. The project continues to carry positive float and the unanticipated additional expenses to date remain well within the original contingency budget established in the FIN681, with 62% of the original contingency monies uncommitted. We identified two concerns in the 2023 Annual Report, both of which one year later now represent significantly lower risks. The first was the amount of control over project schedule exercised by third-party utility companies with outside utilities occupying 40% of the critical path. As a result of their generally timely work over the past twelve months, and of NGRID pursuing certain of their tasks concurrently rather than in series, the utilities have fallen entirely off of the crucial path, in most cases by several months. The second issue was the lack of an approved Baseline more than a year after NTP. This concern became moot when Baseline Rev 05 was approved on December 28, 2023.

Progress Photographs



**Conduit for NGRID, Brightman Street extension
January 2024**



**12' x 5' drainage culvert between City Pier and Davol
St. NB January 2024**



**F-02-087 beam erection
March 2024**



**F-02-087 beam erection
March 2024**



**NGRID conduit under F-02-087
April 2024**



**F-02-087 reinforcing steel in progress
May 2024**

Project Name: Corridor Improvements on Route 79/Davol Street
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MassDOT Project Number: 608049
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**F-02-087 and modular approach walls
May 2024**



**F-02-087 looking north
May 2024**



**March casting CF-PL3 bridge barrier on F-02-087
June 2024**



**Drainage MH 09-11 upstream of new City Pier outfall
June 2024**



**Wall D-04, NE approach to F-02-087
August 2024**



**Wall D-03, NW approach CL-PL3 on moment slab
August 2024**

Project Name: Corridor Improvements on Route 79/Davol Street
Owner's Representative Contract Number: 120632
MassDOT Project Number: 608049
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Installation of 8" lateral water main
September 2024



F-02-087 north approach slab
September 2024



Overview of F-02-087 and modular approach walls
September 2024



Looking south from VMB off-ramp, Davol St. NB
under construction **September 2024**



Wall D-03 with endpost and BMP A, looking south
October 2024



F-02-087 SW endpost and guardrail
October 2024

III. CHAPTER 303 OF THE ACTS OF 2008 AREAS OF EMPHASIS

Peer Review

During Procurement, reviews of the PDC's 25% design documents for the RFP were conducted by the concerned MassDOT sections and an independent "Bottom Up" cost estimate was performed by Patrick Engineering under contract to MassDOT. The Owner's Representative satisfied the peer review obligations by reviewing and commenting on the draft RFP documents and addenda, attending the confidential Alternative Technical Concept (ATC) meetings and oral presentations with each proposer, and participating in meetings with the PDC to discuss the RFP documents and later, the ATCs and Technical Proposals.

MassDOT and the PDC review the final design submittals from HNTB, the Design-Builder's EOR. The Owner's Representative has continued oversight review of design and shop drawing submittals, RFIs and NCRs, and attends regular project meetings where construction issues, conflicts, and resolutions are discussed. The OR visits the site at regular intervals to observe major construction activities and participates in the change order process by reviewing and comment upon proposed design changes and their impacts to the project quality, budget, or schedule.

Value Engineering

A formal Value-Engineering study was not undertaken during the Procurement Phase, however development of the ATCs by the proposers serves a similar role in that the Design-Build teams are encouraged to develop improvements to the Base Technical Concept and present them to the Department for approval. While the D.W. White - SPS New England Joint Venture presented two ATCs which were subsequently accepted by the Department, once the project was awarded the Design-Builder elected to not pursue either.

Cost Recovery

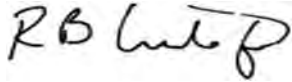
No cost recovery issues have been identified to date.

Oath

I, Richard B. Littlefield P.E., MA P.E. No. 38773, hereby certify that my sole responsibility as Owner's Representative, under OR Contract No. 120632, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general

Project Name: Corridor Improvements on Route 79/Davol Street
Owner's Representative Contract Number: 120632
MassDOT Project Number: 608049
Construction Contract Number: 117658

contractor and subcontractors, and that this annual report is true and accurate to the best of my knowledge signed under the pains and penalties of perjury.

A handwritten signature in black ink, appearing to read "RB Littlefield". The signature is written in a cursive, somewhat stylized font.

Richard B. Littlefield, P.E.

Date: December 1, 2024



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbits-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



OWNER'S REPRESENTATIVE 2024 ANNUAL REPORT

Owner's Representative Contract No. 120630 - Allegro Construction Services

Project No. 612681 – Tunnel Lighting Replacement on I-90 (CRC 17H & CRC 17I)

BOSTON, MASSACHUSETTS

Final Designer: WSP

Constr. Contractor: Dagle

Electric Construction Corp.

(DEC)

Prepared by: Allegro Construction Services

December 17, 2024

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I. EXECUTIVE SUMMARY

The scope of the I-90 Tunnel Lighting Replacement Project (MassDOT Project #612681) includes the removal and replacement of the tunnel lighting system in the I-90 Connector tunnels in the section between the Prudential Tunnel and the Ted Williams Tunnel. The existing linear fluorescent / low pressure sodium lighting will be replaced with a new LED tunnel lighting and control system. The project purpose is to provide adequate visibility in the tunnel for driver safety while using the least amount of energy. MassDOT is advancing this project using the Design-Bid-Build (DBB) method of project delivery. WSP is the project's Engineer of Record (EOR), tasked with developing the final design and procurement documents, and providing construction phase services. Dagle Electrical Construction Corp. is the contractor.

The lighting system is being replaced due to a series of defects including corrosion due to dissimilar metals, detached connection clips, broken butterfly and lens clips, wireway problems, exposed epoxy anchor sleeves, bent hanger rods, and other miscellaneous issues.

In 2022, MassDOT had been advancing two separate projects: 609318 for I-90 Eastbound, and 609343 for I90 Westbound. 609318 had been advanced to the PS&E level, while 609343 had been advanced to the 100% design level. Balancing issues such as funding, procurement, and traffic impacts, MassDOT combined those two projects into one (now known as PI #612681). That combined project PS&E was advertised in June 2023 and Dagle was awarded the project, with NTP for this construction contract #122343 on October 5, 2023.

In 2024, Dagle has been advancing the construction, including procurement and installation of lighting systems and fixtures. As of the date of this report, DEC has completed 28% of the work (\$26.1 Million).

The contract budget has been set up at \$106,050,506 (including the bid price of \$88,744,788). Funding for this project will come, in part, from the Central Artery Repair and Maintenance (CARM) Trust Fund, as well as from MHS funding.

The contract completion milestone is within 42 months, leading to a Field Completion date of 6/01/27. As of the date of this report, the Contractor is forecasting a delay of -108 days.

II. ANNUAL REPORT

Contract Scope of Work

The delivery of this project will be by use of the traditional Design-Bid-Build procurement method. MassDOT has assigned WSP as the designer; they will act as the project Engineer of Record (EOR). When ready, the project will be advertised for construction, and WSP will provide construction phase services.

The physical scope of this project is:

- Remove existing fluorescent luminaires, wireways, and wiring
- Install structural supports
- Install new LED lighting fixtures, raceways, and junction boxes
- Install and calibrate new lighting control system
- Install new power feeders at VB 8 for five jet fans in tunnel
- Manage traffic by use of lane closures (i.e., maintain traffic during construction)

The limits of this project include the I90 tunnel system between the Prudential Tunnel and the Ted Williams Tunnel. The roadways included in this are I90 Westbound, I90 Eastbound, and I90 HOV-Eastbound. In addition, the following ramps are included: Ramps B, D, DN, W-SS, A, C, F, I, L and L-CS.

The various responsible project stakeholders are:

- MassDOT Highway Division – project owner, also providing project management; note that MassDOT is also considered the AHJ (Authority Having Jurisdiction) regarding tunnel code compliance issues;
- MassDOT District 6 – responsible for design and construction oversight (supported by various MassDOT technical departments);
- WSP – final designer / Engineer of Record;
- Dagle Electrical Construction Corp. (DEC) – the construction contractor responsible to procure and install the new lighting system

Major Progress as of December 1, 2024

The bulk of 2022 was spent in the design and consolidation of the two previously advanced projects into one combined project, with the PS&E submitted June 30, 2022. The remainder of the year was spent by MassDOT performing its review, and the Peer Review being performed by Mott McDonald.

The work in 2023 consisted of the completion of, and reconciliation of, the peer review followed by the resubmitted PS&E and the contract procurement process. Ultimately, the contract was awarded to Dagle, and an NTP was achieved in October 2023. Following NTP, Dagle mobilized and began the construction phase.

In 2024, DEC continued working on the project, primarily working during nighttime lane closures. The field work included work in Ramps LC-S, A, D, HOV, and I90 EB as well as work in Vent Buildings 1, 5, and 8. That work consisted of removal of existing lights, installation of temporary lights, installation of raceway and junction boxes, installation of light fixtures, and wiring. As of the date of this report, DEC has completed approximately 28% of the work. Due to delays in procurement of wire, DEC is currently forecasting a delay of 108 days but anticipate being able to recover that delay.

Budget

In accordance with the contract award, the project budget has the following breakdown:

<i>ITEM</i>	<i>TOTAL</i>
Bid	\$ 88,744,788
Allowance	\$ 3,994,000
Contingency	\$ 13,311,718
TOTAL	\$ 106,050,506

As of the date of this report, the contractor has been paid \$26.1 Million. MassDOT is funding this work from the Central Artery Repair and Maintenance (CARM) Trust Fund in addition to MHS funding to make up for the required state funds.

Schedule / Project Milestones

The project is advancing with the following expected key milestones:

Contractor Field Completion 6/01/27

In its November 2024 update #12, DEC is projecting a delay of 108 days but is working with MassDOT to develop methods of mitigating that delay.

Areas and Issues of Concern

- Traffic Impacts – the work is performed during lane closures, and this project includes many roadways and ramps. Other MassDOT work is ongoing in these roadways concurrently. Therefore, MassDOT and the contractor must continue to carefully plan and coordinate (and document) to ensure the traffic impacts are minimized.
- Quality control – in implementing similar projects (replacement of tunnel lighting) throughout the downtown Boston area, MassDOT has had the opportunity to see its QC processes evolve, including QC oversight at off-site manufacturing facilities. This topic will continue to be a very important focus for the project team.
- Schedule delay – MassDOT is working closely with DEC to assist in developing methods of mitigating the current projected delay.

Project Photographs

PHOTO ONE (below): Photo of installation of lighting in Ramp L-CS Tunnel. This photo shows the “mockup” process used by MassDOT to ensure a quality installation.



PHOTO TWO (below): Photo of installation of lighting in progress in Ramp L-CS tunnel.



PHOTO THREE (below): Photo of installation of lighting in the I90 HOV EB Tunnel. The ongoing installation of permanent lighting, shown in left side of photo, will replace the overhead existing lighting.



III CHAPTER 303 OF THE ACTS OF 2008 AREAS OF INTEREST

Peer Review

The peer review requirement for this project was satisfied by MassDOT's use of Mott McDonald to perform this service. As of the date of this Annual Report, Mott McDonald's peer review is complete, and the results were reconciled with MassDOT and WSP before the final design package was advertised.

During the construction phase of this project, WSP, as EOR, is continuing to provide construction phase services. In addition, this O.R. will continue to partially satisfy the peer review obligations by attending regular project review meetings where construction issues, conflicts, and resolutions are discussed; walking the site to observe major construction activities; and monitoring the change order process to ensure any proposed design changes are evaluated for their impacts to the project's quality, budget, or schedule goals.

Value Engineering

MassDOT did not perform a traditional Value Engineering study, due to the nature of this project. It is important to note that this project is one of a series of projects developed to replace the lighting system throughout the CA/T tunnels. Several projects have been completed or are nearly complete. The technical solution for this project must essentially follow those previous projects, as MassDOT does not want to have dissimilar systems.

Cost Recovery

At this time no items have been identified as potential cost recovery issues.

Extra Work Orders

As of the date of this report there have been two EWOs accepted, for a total of \$788,222.92.

- EWO 1: Provide Cisco switches to be consistent with MassDOT system - \$168,958.42
- EWO 2: Provide 13 new light pole fixtures, 4 new cameras, remove and reset 4 (ITS) poles, provide 4 new pole foundations for the (ITS) poles and repair the existing load center enclosure in East Boston - \$619,264.50

Cost – the estimated budget of \$106 M needs to continue to be monitored during construction, especially the status of contingency. At this time the budget appears to be adequate for the remaining work.

Schedule - the contract requires completion by June 2027. As of November 2024, the contractor is projecting a delay of up to 108 days due to delays in its procurement of wire. However, there appears to be adequate time and opportunity for the contractor to recover the delay and meet the milestone.

OWNER'S REPRESENTATIVE OATH

I, Joseph J. Allegro, Jr., MA P.E. No. 38723, hereby certify that my sole responsibility as Owner's Representative, under O.R. Contract 120630, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general contractor, and subcontractors, and that this annual report is true and accurate to the best of my knowledge, signed under pains and penalties of perjury.



Owner's Representative

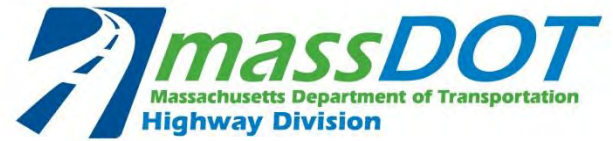
Joseph J. Allegro, Jr., P.E.

Date: December 17, 2024

Project Name: Roadway Ceiling, Arch & Wall Reconstruction and Other Control Systems in Sumner Tunnel - Boston
Owner's Representative Contract Number: 120630
Project Number: 606476
Construction Contract Number: 114947



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbitts-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



OWNER'S REPRESENTATIVE 2024 ANNUAL REPORT

Owner's Representative Contract No. 120630 - Allegro Construction Services

***Project No. 606476 – Roadway Ceiling, Arch, & Wall Reconstruction and Other Control Systems -
Sumner Tunnel***

BOSTON, MASSACHUSETTS

Preliminary Designer: WSP

Design-Builder: JF White Construction Co.

EOR: Delve Underground

Prepared by: Allegro Construction Services

December 17, 2024

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I. EXECUTIVE SUMMARY

As of the date of this report, the Sumner Tunnel Design-Build project has been underway for three years and has achieved Substantial Completion. The Sumner Tunnel, first constructed in 1934, is a critical transportation link for vehicles under Boston Harbor, from East Boston to downtown Boston. Traffic is carried from Logan Airport and Route 1A in East Boston to either I-93 Northbound/Storrow Drive or to the Haymarket area. Despite minor repairs through the years, the tunnel has experienced severe deterioration.

The scope of this project (MassDOT Project No. 606476) includes the complete renovation of this to meet today's safety standards. Included are structural repairs (roadway, walls, invert, and – most critical due to overhead concrete deterioration – the concrete arch) and systems upgrades to allow the tunnel to comply with current NFPA 502 code requirements, to the extent possible. As of the date of this report, the Design-Builder ("DB") has completed a significant amount of its design and construction and has achieved Substantial Completion. The work has taken place primarily during weekend tunnel closures as well as during an eight-week full tunnel closure in the summer of 2023 and a four-week full tunnel closure in the summer of 2024.

The entities associated with the ongoing project include the owner (MassDOT Highway), its preliminary design consultant (WSP), and the selected DB (JF White, with its lead designer Delve Underground). Other key stakeholders include the City of Boston, Federal Highway Administration (FHWA), the MBTA, and major abutters such as Logan Airport (managed by MassPort) and adjacent municipalities.

The overall project budget encumbrance is approximately \$156.7 Million, including the DB bid price of \$135.2 Million. In terms of the contract schedule, it achieved Substantial Completion in October 2024. The current funding appears to be adequate to complete this project.

This contract includes a provision for project partnering, and the teams have held two workshops. This OR considers project partnering to be a best practice that aids in improved communication and trust.

As of the date of this report, the DB has billed \$134 M (94% complete) and is forecasting completion by January 2025.

II. ANNUAL REPORT

Contract Scope of Work

The project 606476 scope, as of the date of this Annual Report, includes the final design and construction services by the selected DB, in accordance with the scope of work included in the procurement. The general scope includes repairs of the roadway deck slab, repair of the under-road supply plenum invert, replacement of the sidewalls with new arch support pedestals, replacement of the lighting / systems, repair of the concrete arch, removal of the existing ceiling and partial replacement, and miscellaneous utility work. From an operational standpoint, the intent will be to provide ventilation via normal use of the existing fans in the vent buildings.

The project scope includes the following key components:

- Repairs to the arch using precast segments backed by grout;
- Removal of wall panels, and cast-in-place concrete repair of walls as needed;
- Repairs to the roadway deck structure (originally planned to use hydro demo and UltraHigh-Performance Concrete (UHPC) but revised to include concrete patching and asphalt pavement;
- Replacement of tunnel systems such as electrical, lighting, SCADA, CCTV, and fiber optics;
- Installation of a new non-suspended ceiling over 1200 linear feet on the East Boston side (the remainder was determined to not be necessary). This ceiling will be designed to accommodate future access above for future inspection and maintenance

As of the date of this Annual Report, the selected DB team is JF White with Delve Underground (previously known as McMillen-Jacobs) as its lead designer and Engineer of Record. WSP, the preliminary designer, is continuing to support MassDOT as technical reviewer and Owner's Engineer. The Engineer of Record is responsible for advancing and finalizing the design. As with any MassDOT DB procurement, the Design-Builder was allowed to propose confidential Alternative Technical Concepts. The JF White team proposed, and MassDOT accepted, its ATC#1 – Enhanced Ventilation/ Precast Arch with Quarter Ceiling. This included two major alternatives: (1) an enhanced ventilation system to allow for approximately 1200 linear feet of the tunnel ceiling to be replaced with a hollow core ceiling, while removing the remainder of the ceiling, and (2) the use of a precast arch for the arch repair.

During 2021, the design-build procurement took place, using the standard MassDOT Best Value process (which includes both a technical and a price evaluation). This resulted in NTP of the DB in December 2021, allowing the Design-Builder to proceed with its final design and construction of the various project elements. During the DB procurement, MassDOT developed and coordinated a plan that would allow for intermittent weekend tunnel closures, along with a four-month closure in 2023. This plan was developed by balancing impacts to the public with the needs of construction.

During 2022, the project began with the DB's planning and development of management plans. The DB also progressed its design, including multiple "Early Release" design packages to advance according to its schedule. Due to the difficulty in performing this work, the contract provides for up to 36 weekend tunnel closures, followed by a full 16-week tunnel closure from May to September 2023, followed by an additional 16 weekend tunnel closures.

During 2023, the construction work continued in earnest, primarily during weekend tunnel closures. MassDOT, in an effort to minimize impacts to the public, elected to direct the DB to revise the tunnel closure protocol. The originally planned one 16-week full tunnel closure (planned for 2023) was revised to become one eight-week full tunnel closure (in 2023) followed by a second eight-week full tunnel closure (in 2024). In addition, due to the schedule impacts, MassDOT provided a time extension and additional weekend closures.

During 2024, the DB continued to perform the bulk of its work during weekend closures, and additionally performed some work during nights with lane closures. In early 2024, MassDOT elected to reduce the project risk by revising the methodology of repairing the concrete roadway deck structure. This change required the DB to perform patch-type repairs and overlay with an asphalt surface, in lieu of the original plan to use hydro-demolition overlaid with a Ultra High Performance

Concrete (UHPC) surface. Along with that technical change, the 2024 summer tunnel closure window was reduced from 8 weeks to 4 weeks. The DB was able to achieve Substantial Completion of the work in October 2024. The DB is anticipating the Final Completion of all work in the first quarter of 2025.

The various responsible project stakeholders are:

- MassDOT Highway Division – project owner, also providing project management; note that MassDOT is also considered the AHJ (Authority Having Jurisdiction) regarding tunnel code compliance issues.
- MassDOT District 6 – responsible for design and construction oversight (supported by various MassDOT technical departments).
- JF White / Delve Underground – Design-Builder responsible to design and construct the project scope (note Delve Underground is the Engineer of Record) – including multiple subcontractors and subconsultants.
- WSP – preliminary designer / owner's engineer.

Major Progress as of December 17, 2024

During 2021, MassDOT advanced the concept for this project, and successfully procured the DB team (using a Best Value process) with a Notice to Proceed in December 2021.

During 2022, the DB (with support and oversight from MassDOT) progressed its work consisting of planning, design, and construction. Per the Design-Build process, these three phases overlapped. Planning work consisted of mobilization (such as submittals via the implementation of Sharepoint), investigation, and planning. The design work consisted of the DB breaking down the overall work into discrete design packages and submitting them for approval. The construction work performed during 2022 primarily occurred during weekend tunnel closures (21 total). This work included removal of existing wall panels and ceiling panels and repairs to the existing concrete, structural work in the below-roadway plenum, boat wall repairs, and continuing the submittal process.

During 2023, a major decision was made when MassDOT directed that the 2023 sixteen-week tunnel closure would be revised to include one eight-week closure in 2023 and one eight-week closure in 2024. The DB (with support and oversight from MassDOT) continued the construction

work, during weekend tunnel closures as well as during the eight-week full tunnel closure. One significant effort during 2023 (and 2024) was an outreach initiative by MassDOT District 6. During the weekend closures, check-in calls were held each afternoon with the various stakeholders to ensure proper communication and coordination was taking place. Problem areas were discussed, and solutions were put forth. In addition, during the full 8-week tunnel closure, daily calls took place. District 6 also implemented a “war room” in its headquarters building to improve its communication and oversight.

During 2024, the DB continued to perform its work during night lane closures, full weekend closures, and a full 4-week summer tunnel closure. One major scope change, with positive budget and schedule consequences was to revise the roadway deck – the original plan was to use hydro-demolition and Ultra High-Performance Concrete; this was revised to limited repair and overlay with hot mix asphalt. As part of this change, the original Incentive clause was agreed to be revised to be tied to the new tunnel closure protocol. The project work consisted of the installation of the precast arch segments, the installation of the ceiling system, the repair and repaving of the roadway deck structure, the East Boston barrier wall and walkways, fireboard installation, fire alarm installation, AM/FM wires, CCTV cameras and fire standpipe as well as miscellaneous structural steel, systems work, and work in the ventilation buildings. In October 2024, the project’s Substantial Completion milestone was achieved.

Budget

The project budget encumbrance has been established as:

<i>CATEGORY</i>	<i>CURRENT</i>
Bid	\$ 135,156,551
Original Contingency	\$ 13,515,655.10
Incentives	\$ 7,000,000
Traffic Police	\$ 700,000
Traffic Police OT / Non-Part.	\$ 300,000
Trainees	\$ 4,000
<i>Current Encumbrance</i>	<i>\$ 156,676,206.10</i>

Current Over/Under Runs	\$ (3,711,595)
Approved Contract Mods	\$ 5,638,063
Pending Contract Mods	\$ 0
Total CQE Invoiced to Date	\$ 134,017,168
Funds Remaining	\$ 22,659,038

As of the date of this Annual Report, the DB has earned a total of \$134 M, or 94% of the current Estimated Contract Total. It is noted that, as of the date of this Report, the remaining funding appears to be adequate to complete the project.

Schedule / Project Milestones

The DB project is advancing with the following expected key milestones:

<i>EVENT</i>	<i>ORIG. CONTRACT</i>	<i>CURRENT CONTRACT</i>	<i>FORECAST</i>
NTP	12/31/21	12/31/21	12/31/21
AR 03 (VB 10, Rooms 100 & 107)	10/01/22	10/01/22	10/01/22
AR 04 (Sprint cable install in s/w)	10/01/22	10/01/22	10/01/22
AR 06 (VB 11 Sub Levels)	1/18/23	1/18/23	1/18/23
AR 07 (VB 11 Elec Rm)	3/01/23	3/01/23	3/01/23
AR 05 (VB 10 Elec Rm & Tunnel Lighting)	7/01/23	7/01/23	7/01/23
MS 3 (Full Ben. Use)	9/05/23	8/30/24	8/30/24
AR 01 (VB 10 Louver Replacement)	9/30/23	9/30/23	9/30/23
AR 02 (VB 11 Louver Replacement)	9/30/23	9/30/23	9/30/23
MS 2 (Sub Completion)	12/31/23	10/28/25	10/0724
MS 1 (Field Completion)	1/31/24	11/27/24	3/27/25

As of the date of this Annual Report, the DB has achieved Substantial Completion early but is forecasting completion of Milestone 1 in the first quarter of 2025. A time extension to extend MS 1 is in process.

The contract includes an Incentive/Disincentive clause. This clause was developed to provide a mechanism to help motivate the DB to achieve the schedule goals. The revised tunnel closure protocol has revised the contract milestones including the Incentive/Disincentive clause.

Areas of Concern

The following items are, in the opinion of the OR, the most important issues to monitor for project success.

1. Achieve Final Completion by first quarter of 2025 – one long lead item (an overhead sign) is driving the date to late January. In addition, the DB must complete the remaining punch list items acceptably.
2. Resolve all outstanding change order pricing – the great majority of the items have been resolved and have been documented in change orders, but there are a few remaining open items that require resolution, including the final credit for the revised scope of the roadway deck.

Project Photographs

PHOTO ONE (below): 1929-1934: Historic Photo showing original construction of Sumner Tunnel, opened in June 1934.



PHOTO TWO (below): during construction during the tunnel closure, a forklift is used to install the precast arch pieces.



PHOTO THREE (below): photo of tunnel just before final paving was installed



PHOTO FOUR (below): photo of East Boston portal at opening after summer 2024 closure



III CHAPTER 303 OF THE ACTS OF 2008 AREAS OF INTEREST

Peer Review

The peer review requirement for this project was satisfied by MassDOT's use of AECOM to perform this service. AECOM submitted a report titled "Sumner Tunnel Rehabilitation Peer Review" dated September 12, 2019. In that report, AECOM performed a peer review of the proposed rehabilitation plans developed by WSP. AECOM noted the tunnel is in poor condition, with the most critical need relating to overhead concrete deterioration. Subsequently, - WSP reconciled the repair details to be used as the basis for the MassDOT Base Technical Concept, to be advanced by the DB in their final design documents.

In addition, during the final design phase of this project, a peer review of the Design-Builder's design submittals has been performed by WSP, in support of MassDOT's Highway Division forces. This O.R. participates in the peer review process by monitoring the design submittal review process to help ensure that any identified conflicts or errors are corrected or mitigated at each stage.

During the construction phase of this project, this O.R. also partially satisfies the peer review obligations by attending regular project review meetings where construction issues, conflicts, and resolutions are discussed; walking the site to observe major construction activities; and monitoring the change order process to ensure any proposed design changes are evaluated for their impacts to the project's quality, budget, or schedule goals.

Value Engineering

MassDOT performed a Value Engineering study of the project in August 2016. This VE study was performed in a series of four meetings. The result of the meetings was documented in a spreadsheet titled "Preservation calculations", dated November 9, 2016. As this project has been advanced using the DB procurement process, including Alternative Technical Concepts, no additional VE studies were required, per MassDOT policy.

Cost Recovery

At this time no items have been identified as potential cost recovery issues; this is not unusual in the Design-Build project delivery process. It should be noted that any initial identification of a Cost Recovery issue does not necessarily mean that cost recovery is due; a formal evaluation must still be followed. The undersigned Owner's Representative will continue to monitor issues and, with MassDOT Highway Division, will discuss referral to the Cost Recovery Standing Committee. For any issue referred for Cost Recovery, the new MassDOT Highway Division Cost Recovery Procedure (SOP No. HED-70-01-1-000, dated 8/07/17) shall govern. In order to perform the legislative mandate of being the primary manager of Cost Recovery, the Owner's Representative will follow the referenced SOP. This SOP, as modified for projects with an Owner's Representative, describes the role of the Owner's Representative and includes a Cost Recovery Standing Committee, which oversees the work of separate and issue-specific Cost Recovery Review Panels and Cost Recovery Evaluation Committees, which will be convened as necessary. It should be noted that the resolution of cost recovery issues typically is not completed until the end of a project. To ensure working relationships are maintained and insurance notifications occur only once a final decision has been made.

In addition, in moving forward with future resolution of Cost Recovery issues, it is recommended that the resolution follow the path set forth in the recently developed Draft MassDOT Owner's Representative Standard Operating Procedures.

Extra Work Orders

As of the date of this report there have been 23 EWOs accepted.

EWO #	\$	DESCRIPTION
1	48,494.9	Additional emergency responder coordination and after-action summaries
2	88,572.21	Additional air quality modeling
3	21,563.5	Added anti-graffiti coating to East Boston concrete boat walls

4	7,986	Added 15 local traffic detour signs
5	24,401.6	Four additional real time traffic management cameras
5.1	50,563.4	Three additional RTTM cameras during full summer tunnel closures
6	22,660.2	Additional rodent control
7	27,915.6	Additional design - concrete repairs at North Bennett St. School wall
8	47,118.5	Added custom paint color on new vent building louvers and blank off panels
9	36,764.7	Additional construction - concrete repairs at North Bennett St. School wall
10	1,500,000	Additional engineering and consultants due to revised tunnel closure protocol
10.1	1,134,388	Additional weekend support costs due to revised tunnel closure protocol
10.2	746,480	Additional premium time, escalation, equipment and contract extension costs due to revised tunnel closure protocol
11	19,781.6	Additional 2 managed Nymera switches to comply with MassDOT ops request
12	102,939	Additional over-height vehicle detector sensors
13	418,930	Revised fireboard layout at East Boston end to reduce over-height strikes
14	136,725	Additional temporary traffic control at project perimeter
15	19,445.8	Replace SST cabinet at OHVD on Rte 1A approach
16	24,407.2	Replace rollup doors in VB10 electrical room with CMU block
17	10,229.5	Provide permanent power to VMS speed sign at North End portal
18	551,304	Provide additional inspection and repairs to concrete roadway slab
19	202,642	Revise standpipe system pressure, per discussion with BFD
20	567,815	Revise HMA Paving profile on roadway deck slab

Cost – the estimated budget (with details described above) includes a project encumbrance of \$156,676,206. Based on the work identified to date and described above, this Owner’s Representative believes that this estimate is reflective of the cost for the work to be performed and the budget is sufficient.

Schedule - the project duration was established by MassDOT via the use of two independent scheduling consultants, with a reconciled completion schedule. The key milestones were established based on (1) NTP – December 30, 2021, (2) 36 Allowable Weekend Closures – before May 2023, (3) one Full Tunnel Closure (16 weeks from May to September 2023), (3) sixteen Allowable Weekend Closures after September 2023. With those assumptions, the original milestones were:

- Full Beneficial Use (MS 3) – 9/05/23
- Substantial Completion (MS 2) – 12/31/23
- DB Field Completion (MS 1) – 1/31/24

As noted previously in this Report, MassDOT directed that the 16-week full tunnel closure be revised to two separate tunnel closures – an 8-week closure in 2023 and a 4-week closure in 2024. As a result of that direction, the milestones were revised to:

- Full Beneficial Use (MS 3) – 8/30/24
- Substantial Completion (MS 2) – 10/28/24
- DB Field Completion (MS 1) – 11/27/24

As of the date of this Annual Report, the contractor has achieved MS 3 and MS 2 but is forecasting completion and achievement of MS 1 in the first quarter of 2025. MassDOT has agreed that the delay is excusable and is processing a change order to provide a time extension.

Project Name: Roadway Ceiling, Arch & Wall Reconstruction and Other Control Systems in Sumner Tunnel - Boston
Owner's Representative Contract Number: 120630
Project Number: 606476
Construction Contract Number: 114947

OWNER'S REPRESENTATIVE OATH

I, Joseph J. Allegro, Jr., MA P.E. No. 38723, hereby certify that my sole responsibility as Owner's Representative, under O.R. Contract 62937, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general contractor, and subcontractors, and that this annual report is true and accurate to the best of my knowledge, signed under pains and penalties of perjury.



Owner's Representative

Joseph J. Allegro, Jr., P.E.

Date: December 17, 2024



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbitts-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



OWNER'S REPRESENTATIVE 2024 ANNUAL REPORT

Owner's Representative Contract No. 120634 – HDR Engineering Inc.

***Project No. 124530 – Boston-Tunnel Lighting Replacement for I-93 (NB/SB) Ramps I-93 Project
BOSTON, MASSACHUSETTS***

Final Designer: WSP

Constr. Contractor: JF White Construction Co. (JF White)

Prepared by: HDR

December 16, 2024

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I. EXECUTIVE SUMMARY

The scope of the I-93 Tunnel Ramps Lighting Replacement Project (MassDOT Project Information #609346) includes the removal and replacement of the tunnel lighting system in the I-93 Ramps and Vent Buildings. The existing linear fluorescent / low pressure sodium lighting will be replaced with a new LED tunnel lighting and control system. The project purpose is to provide adequate visibility in the tunnel for driver safety while using the least amount of energy. MassDOT is advancing this project using the Design-Bid-Build (DBB) method of project delivery. WSP is the project's Engineer of Record (EOR), tasked with developing the final design and procurement documents, and providing construction phase services. JF White is the contractor.

The lighting system is being replaced due to a series of defects including corrosion due to dissimilar metals, detached connection clips, broken butterfly and lens clips, wireway problems, exposed epoxy anchor sleeves, bent hanger rods, and other miscellaneous issues.

II. ANNUAL REPORT

Contract Scope of Work

The delivery of this project will be by use of the traditional Design-Bid-Build procurement method. MassDOT has assigned WSP as the designer; they will act as the project Engineer of Record (EOR). When ready, the project will be advertised for construction, and WSP will provide construction phase services.

The work under this Contract includes furnishing and installing new LED tunnel luminaires in the I-93 Ramps Tunnel Lighting Rehabilitation. Work includes upgrading electrical, control and structural systems associated with the new tunnel lighting system and includes the following:

- Remove existing luminaires and wireways as described in the Special Provisions.
- Remove existing wiring within the wireways and raceways.
- Furnish and install new structural supports for tunnel luminaires for each mounting type as shown in the Contract Plans.
- Furnish and install new LED tunnel luminaires in accordance with Manufacturer's installation requirements.
- Install new electrical raceways and boxes for the new lighting system including separate raceways for emergency and normal power.
- Install tunnel lighting control system as described in the Special Provisions and as shown in the contract Plans.
- Perform tunnel lighting control system calibration according to the Manufacturer's requirements.
- Include any and all required hardware for raceways, including nuts, washers, bolts, spring nuts, and other hardware.
- Repair and/or provide any and all required Fireproofing within the tunnels.

The limits of this project include the I93 tunnel ramp system and vent buildings. The project is broken up into two phases and phase I work needs to be completed prior to beginning phase II work. The phase I work contains light replacements in Ramp R-T Ramp A-CN Ramp A-CN/R-T Ramp CN-SA Ramp SA-CN Ramp ST-SA/CN Ramp ST-S I-90 Collector Ramp R-S Ramp R-R Ramp CS-P Ramp SA-CT Ramp CS-SA/CT Ramp SA-CS Ramp CS-SA Air Intake Structure Vent Building 3 Vent Building 4 and phase II work contains light replacement in Ramp CN-S Ramp C Ramp D-N Ramp S-N Vent Building 8 Vent Building 1

The various responsible project stakeholders are:

- MassDOT Highway Division – project owner, also providing project management; note that MassDOT is also considered the AHJ

(Authority Having Jurisdiction) regarding tunnel code compliance issues;

- MassDOT District 6 – responsible for design and construction oversight (supported by various MassDOT technical departments);
- WSP – final designer / Engineer of Record;
- Mott MacDonald – independent consultant to MassDOT, performing Peer Review services; and
- JF White Construction Company (JF White) – the construction contractor responsible to procure and install the new lighting system

Major Progress as of December 1, 2024

The bulk of 2024 was spent by JF White in getting the project started with contract submittals. The contract was awarded to JF White and notice to proceed was achieved in April 2024. Following NTP, JF White began mobilizing including starting the submittal process via the SharePoint program.

As part of its submittal process in August 2024, JF White received acceptance (logic only at this point) of its baseline schedule, and has submitted its first payment requisition.

Budget

In accordance with the contract award, the project budget has the following breakdown:

<i>ITEM</i>	<i>TOTAL</i>
Bid	\$ 58,326,165
Allowance	\$ 3,138,000
Contingency	\$ 8,748,925
TOTAL	\$ 70,213,090

As of the date of this report, the contractor has not been paid.

As of the date of this report, MassDOT anticipates being able to use funding from the Central Artery Repair and Maintenance (CARM) Trust Fund for the bulk of the funding for

the project, in addition to MHS funding to make up for the required state funds.

Schedule / Project Milestones

The project is advancing with the following expected key milestones:

Contractor Field Completion 10/12/28

In August, JF White's baseline schedule (reflecting the above milestone date) was accepted for logic purposes.

Areas and Issues of Concern

- Traffic Impacts – the work is intended to be performed during lane closures, and this project includes many roadways and ramps; the traffic impacts must be carefully planned and coordinated – both within this project and with other projects.
- Quality control – in implementing similar projects (replacement of tunnel lighting) throughout the downtown Boston area, MassDOT has had the opportunity to see its QC processes evolve, including QC oversight at off-site manufacturing facilities. This topic will continue to be a very important focus for the project team.

Project Photographs

No Photos have been taken to date. The Contractor is just beginning the field reconnaissance work to determine the required temporary lighting needs. No actual physical work has begun as of this report.

III CHAPTER 303 OF THE ACTS OF 2008 AREAS OF INTEREST

Peer Review

The peer review requirement for this project is satisfied by MassDOT's use of Mott MacDonald to perform this service. As of the date of this Annual Report, Mott MacDonald's peer review is complete, and the results were reconciled with MassDOT and WSP before the final package was advertised.

During the construction phase of this project, WSP, as EOR, will continue to provide construction phase services. In addition, this O.R. will satisfy the peer review obligations by attending regular project review meetings where construction issues, conflicts, and resolutions are discussed; walking the site to observe major construction activities; and monitoring the change order process to ensure any proposed design changes are evaluated for their impacts to the project's quality, budget, or schedule goals.

Value Engineering

MassDOT did not perform a traditional Value Engineering study, due to the nature of this project. It is important to note that this project is one of a series of projects developed to replace the lighting system throughout the CA/T tunnels. Several projects have been completed or are nearly complete. The technical solution for this project must essentially follow those previous projects, as MassDOT does not want to have dissimilar systems.

Another potential candidate for value engineering is the wireway. MassDOT performed a pilot test to study whether the wireway could remain in place; unfortunately, that study determined the wireway had to be replaced.

Cost Recovery

At this time no items have been identified as potential cost recovery issues.

Extra Work Orders

As of the date of this report there have been no EWOs accepted.

Cost – the estimated budget of \$70 M needs to be monitored during construction, especially the status of contingency.

Schedule - the project duration was established by MassDOT via the use of an independent consultant's time determination schedule, with a reconciled completion schedule. The final milestone dates were reflected in the bid package. The contractor has recently received approval (logic only at this point) of its baseline schedule, reflecting a forecast of achieving Final Completion within the required time.

OWNER'S REPRESENTATIVE OATH

I, Charels H Swanson, MA P.E. No. 40907, hereby certify that my sole responsibility as Owner's Representative, under O.R. Contract 120630, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general contractor, and subcontractors, and that this annual report is true and accurate to the best of my knowledge, signed under pains and penalties of perjury.



Owner's Representative

Charles H Swanson, P.E.

Date: December 16, 2024



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbitts-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



Project Name: Bridge Bundle, Replacement of Bridges at I-495/Route 28 Interchange and Over the MBTA Railroad in the Town and City of Andover-Lawrence

Owner's Representative Contract Number: 120636

Project Number: 606522

Construction Contract Number: 121394



Owner's Representative's 2024 Annual Report

Owner's Representative Contract No. 120636–Millennium Engineering, Inc.

Project No. 606522: Bridge Bundle, Replacement of Bridges at I-495/Route 28

Interchange and Over the MBTA Railroad in the Town and City of Andover-Lawrence

Preliminary Designer: Chappell Engineering Associates, LLC

Design-BUILDER: The Middlesex Corporation

Prepared by: Millennium Engineering, Inc

December 16, 2024

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I. EXECUTIVE SUMMARY

The Andover-Lawrence Bridge Bundle, Replacements at I-495 over Route 28 and MBTA is a design build project to design and construct six bridge replacements located in the town of Andover. Bridges to be replaced include I-495 NB and SB over Route 28 NB, Route 28 SB and the MBTA Commuter Rail just to the north of the Route 28 interchange. The project also includes geometric and safety improvements on I-495 between Corbett Street in Andover to the I-495/Route 114 interchange in Lawrence.

As a regionally and nationally significant roadway, I-495 sees high daily vehicle volumes. On an average day, about 113,000 and 30,000 vehicles use I-495 and Route 28 respectively. I-495 also saw 206 reported crashes between 2012 and 2017, including 2 fatalities. Many of these crashes occurred while merging and diverging from I-495 at the Route 28 and Route 114 interchanges.

The project limits extend along Interstate 495 from the Corbett Street overpass in Andover to approximately 400 feet west of the I-495 Bridge over Route 114 in Lawrence. Within these limits are milling and overlay, minor widening, and safety improvements to I-495, the I-495 ramps to and from Route 28 NB and SB and to Route 28 NB and SB in the area under the bridges. The approximate project length on I-495 is 1.06 miles and on Route 28 is .16 miles. The length of the project on I-495 is primarily determined by the need for crossovers to manage traffic during construction.

The horizontal and vertical alignment of I-495 is generally retained, except this project includes operational and safety improvements. Shoulders within the Route 28 interchange areas will be widened to help provide recovery area and emergency stopping/breakdown space. A full-length acceleration and deceleration lane is proposed between the Route 28 and Route 114 interchanges along both I-495 NB and SB to improve merge/diverge operations.

The I-495 NB and SB typical cross section within the Project consists of three 12-foot travel lanes with 12-foot wide minimum inside shoulders and 12-foot minimum outside shoulders. There is a 28-foot-wide grassed median. Within the Route 28 NB and SB interchange, the I-495 NB and SB typical cross section consists of three 12-foot travel lanes, a 12-foot acceleration/deceleration lane, and a 12-foot minimum overbuild area in the median and a minimum 10 foot inside and outside shoulder. The "overbuild" area is a result of the construction of the bridges and crossovers in the median area during Phase 1 construction. A concrete median barrier will separate the NB and SB barrels. A full-length acceleration and deceleration lane will be provided between the Route 28 and the Route 114 interchanges along I-495 NB and SB.

A locus map of the study area is shown in Figure 1. This project is being constructed by the

Project Name: Bridge Bundle I-495 over Route 28 & MBTA Railroad Andover-Lawrence
Owner's Representative Contract Number: 120636
Project Number: 606522
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Massachusetts Department of Transportation (MassDOT) - Highway Division with Chappell Engineering Associates, LLC as the Preliminary Designer of Record. The project was procured as a Design-Build Contract with Technical Proposals reviewed in May-June 2023 and Price Proposals opened June 28, 2023, with the apparent Best Value being the Design-Build Team of Middlesex Corporation of Littleton, MA as the Prime Contractor and WSP as Design-Build Designer of Record. Notice to Proceed was issued to Middlesex on August 22, 2023. Since the NTP was issued Middlesex Corp has advanced numerous design elements and began construction in June of 2024.

Figure 1 - Project Location



II. ANNUAL REPORT

Contract Scope of Work

Proposed improvements include:

- The full replacement of the six bridges carrying I-495 NB and SB traffic over Route 28 NB and SB and the MBTA. The new structures will include full substructure and superstructure replacements consistent with the cross section of the approach roadways. The structures will meet current statutory loading requirements as well as seismic requirements and all applicable bridge design criteria.
- Reconstruction of I-495 and Route 28. The roadway reconstruction will be a combination of mill and overlay of the existing roadway with full depth construction to achieve super elevation.
- Local widening of I-495 to provide wider shoulders and improved acceleration and deceleration lanes between the Route 28 and Route 114 interchanges.
- Minor widening on Route 28 to facilitate bicycle lanes and provide ADA compliant ramps and sidewalks.
- Highway lighting improvements to illuminate the ramps and auxiliary lanes.
- Utility coordination, protection, and relocation including coordination with utilities, MBTA (Keolis), CSX and Amtrak for the replacement of bridges over active tracks, coordination with National Grid for the relocation by National Grid from overhead to underground of power lines along the MBTA right-of-way, coordination and relocation of MBTA Positive Train Control (PTC) cable and conduit, and protection in place of MassDOT ITS infrastructure and relocation of ITS camera and support.
- Drainage upgrades include improvements and modifications to drainage systems for temporary and permanent conditions, construction of stormwater control measures for water quality improvements, and installation, maintenance, and removal of all erosion control protections required for work activities.
- The structures will meet current statutory loading requirements as well as seismic requirements and all applicable bridge design criteria.

Major Progress As Of November 30, 2024

During 2024, The Middlesex Corp made numerous design submittals in support of the proposed construction activities, the most significant are: 100% Highway Design; Construction Staging Plan; Early Release for Construction Northbound Crossover Temporary Traffic Control Plan; Temporary Lighting; Monthly Schedule Updates #3-13 & Structural Designs of all the bridges.

In addition, the following construction work has taken place:

- Repaving and restriping for both the I-495 Northbound & Southbound stage 1 lane shifts
- Repaving and restriping for both the Route 28 Northbound & Southbound stage 1 lane shifts.
- Setting temporary median barrier for I-495 lane shifts
- Utility work along the MBTA Right-of-Way.
- Drainage work across Ramp B and the adjacent lobe area.
- Setting Shoring Towers for temporary support for stage 1 demolition and reconstruction

Budget

- Office Estimate: \$126,017,432
- Price Proposal: \$ 98,080,330
- Encumbered Amount: \$ 116,715,846
- Total Amount Expended through November 30, 2024: \$17,700,674
- Current Estimate at Completion: \$ 107,663,375
- The table below contains a summary of project financials through November 30, 2024:

Project Name: Bridge Bundle I-495 over Route 28 & MBTA Railroad Andover-Lawrence
Owner's Representative Contract Number: 120636
Project Number: 606522
Construction Contract Number: 121394

Project Budget / Financials

	<u>Contract</u>	<u>MassDOT</u>	<u>Municipal</u>
i Bid	\$ 98,080,330	\$ 98,080,330	\$ 0
i Allowances	\$ 8,818,558	\$ 8,818,558	\$ 0
i Original Contract Value	\$ 106,898,888	\$ 106,898,888	\$ 0
i Original Contingency (FIN681)		\$ 9,816,958	
i Original Encumbrance		\$ 116,715,846	
i Encumbrance Modifications		\$ 0	
i Current Encumbrance		\$ 116,715,846	
i Current Overruns and Underruns	\$ 0	\$ 0	\$ 0
i Approved Contract Modifications	\$ 610,818	\$ 610,818	\$ 0
i Current Contract Value	\$ 107,509,706	\$ 107,509,706	\$ 0
i Pending Contract Modifications	\$ 153,669	\$ 153,669	\$ 0
i Estimated Contract Total	\$ 107,663,375	\$ 107,663,375	\$ 0
i Probable Contract Modifications		\$ 0	
i Forecast Cost-at-Completion	\$ 107,663,375	\$ 107,663,375	\$ 0
i Total CQE (Invoiced) to Date	\$ 17,700,674	\$ 17,700,674	\$ 0
i Funds Remaining		\$ 99,015,172	
i Projected Funds Remaining		\$ 9,052,471	
i Expected Progress (baseline)	0.00%		
i % Complete	16.44%		

Extra Work Orders

EWO #	Item Description	Status	Cost
1.	Material Change to High Performance Concrete for Barrier	Approved	\$52,422.75
2.	Zone Guard Barrier Rental	Approved	\$290,818.09
3.	Drainage Revisions along I-495 for Binney Street	Approved	\$88,688.62
4.	Material Change to 5000 psi Concrete for Shotcrete	Approved	\$12,557.37
5.	Obstruction Near Electric Manhole #1-MBTA	To be Submitted	TBD
6.	Washout at Bridge #37	To be Submitted	TBD
7.	Additional Zone Guard Barrier overrun of EWO #2	To be Submitted	TBD

Schedule / Project Milestones

- Contract Award: August 3, 2023
 - Notice to Proceed: August 22, 2023
 - Substantial Completion November 4, 2027
 - Final Completion: December 27, 2027
-
- Contract Award: August 3, 2023
 - Notice to Proceed: August 22, 2023
 - Substantial Completion November 4, 2027
 - Final Completion: December 27, 2027

Areas of Concern

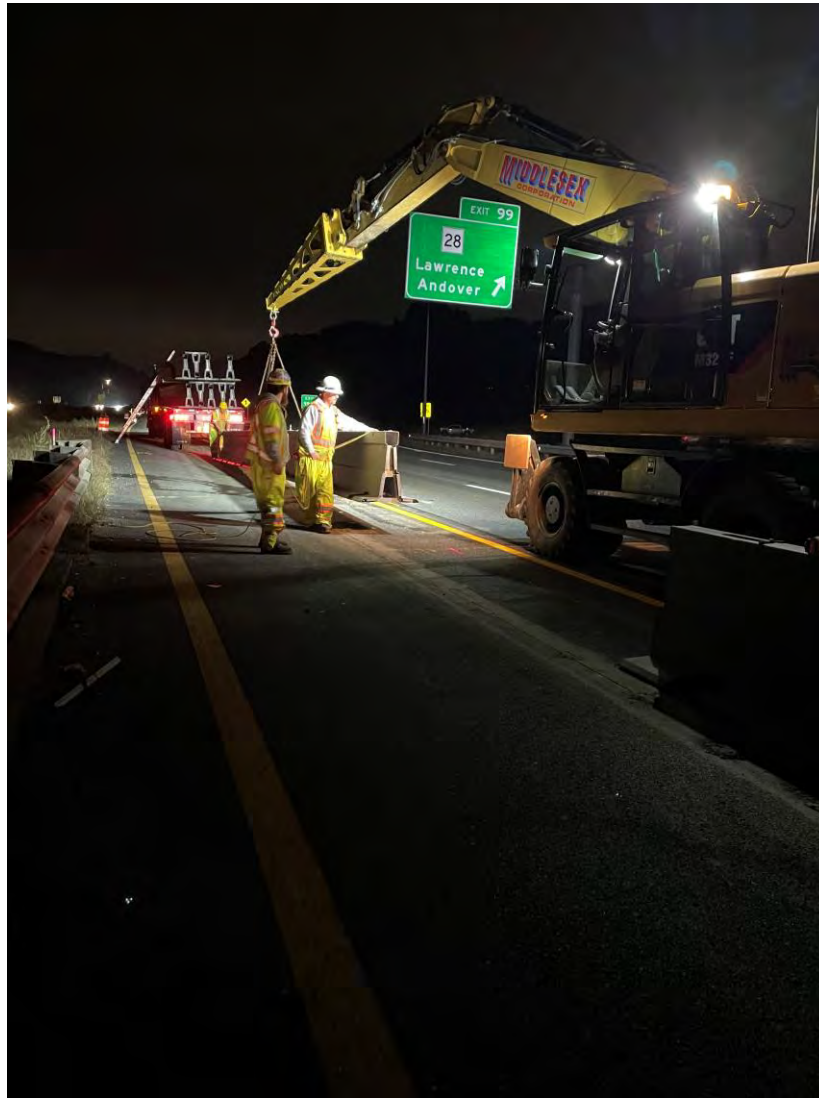
The following represents the primary areas of concern identified at this stage in construction: Currently the project schedule shows that both substantial completion and contractor field completion are both behind schedule by 69 days. The Middlesex Corporation is blaming this delay solely on the fact that the MBTA right of entry permit wasn't issued within the contractually allotted time. However, MassDOT believes that this delay in whole or part is a concurrent delay due to the fact that Middlesex didn't have design approvals for the required work.

Progress Photographs



Utility Work along the MBTA Right of Way

Project Name: Bridge Bundle I-495 over Route 28 & MBTA Railroad Andover-Lawrence
Owner's Representative Contract Number: 120636
Project Number: 606522
Construction Contract Number: 121394



Installation of Temporary Barrier

Project Name: Bridge Bundle I-495 over Route 28 & MBTA Railroad Andover-Lawrence

Owner's Representative Contract Number: 120636

Project Number: 606522

Construction Contract Number: 121394



Work along Route 128

Project Name: Bridge Bundle I-495 over Route 28 & MBTA Railroad Andover-Lawrence
Owner's Representative Contract Number: 120636
Project Number: 606522
Construction Contract Number: 121394



Shoring Tower Along Route 28 for I-495

Project Name: Bridge Bundle I-495 over Route 28 & MBTA Railroad Andover-Lawrence
Owner's Representative Contract Number: 120636
Project Number: 606522
Construction Contract Number: 121394



Lane Shift on Route 28

Project Name: Bridge Bundle I-495 over Route 28 & MBTA Railroad Andover-Lawrence

Owner's Representative Contract Number: 120636

Project Number: 606522

Construction Contract Number: 121394



Drainage Work

- **CHAPTER 303 OF THE ACTS OF 2008 AREAS OF INTEREST**

Peer Review

A peer review was not performed prior to Design Build Procurement.

Value Engineering

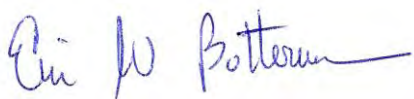
A Value Engineering (VE) Study of the project design concept was not performed.

Cost Recovery

At this point in time, no issues have been specifically identified as Cost Recovery issues.

OWNER'S REPRESENTATIVE OATH

I Eric W. Botterman, MA P.E. No. 41099 hereby certify that my sole responsibility as Owner's Representative, under O.R. Contract 120636, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general contractor, and subcontractors, and that this annual report is true and accurate to the best of my knowledge, signed under pains and **penalties of perjury**.



Eric W. Botterman, P.E.

Date: December 16, 2024



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbitts-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



Allston Multimodal Project



Owner's Representative's 2024 Annual Report

OR Contract No.: 120631 Fuss & O'Neill/Bayside Engineering, Inc.

Project No. 606475 BOSTON – Replacement of Allston I-90 Elevated Viaduct, B-16-359, Including Interchange Reconstruction, Beacon Park Yard Layover and West Station

Project Designer (25%): Tetra Tech

Prepared by: Fuss & O'Neill/Bayside Engineering, Inc.

December 17, 2024

Ten Park Plaza, Suite 4160, Boston, MA 02116
Tel: 857-368-4636, TTY: 857-368-0655
www.mass.gov/massdot

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EXECUTIVE SUMMARY

This project is still in the preliminary design/public outreach phase, as has been the case for the last ten years. The major hurdle consuming much of the last several years is coming up with a “Preferred Alternative” for inclusion in the Massachusetts Environmental Policy Act (MEPA) and National Environmental Policy Act (NEPA) submittals, especially in reference to the “throat” area. The “throat” area is the multi modal corridor between Boston University and the Charles River. Included in this corridor are 8 lanes of I-90 Highway, 4 lanes of Soldiers Field Road, two tracks for commuter rail, two tracks connecting the Grand Junction Railroad, and the Paul Dudley White bicycle and pedestrian path. The Draft Environmental Impact Report (DEIR) was submitted in December 2017 which outlined the project but was non-committal on a preferred alternative for the “throat” area of the project. The Task Force had been pressuring for the elimination of the I-90 Viaduct, preferring that all the modes of transportation mentioned above be at-grade.

Finally, in September 2021, the “Preferred Alternative” which eliminates the viaduct and has all modes of transportation at-grade was selected. This was significant because now the Design Team has one design path to focus on. MassDOT had been heavily considering rebuilding the viaduct due to concerns of permitting construction in the Charles River. At that time, the selected alternative included constructing a 22’ wide elevated platform over the river to accommodate the Paul Dudley White Pathway. At this point, the design reduced some of the lane widths in an effort to construct the pathway along the banks of the river utilizing vertical retaining walls requiring no structure in the river.

Another significant development was that after a Bridge Inspection by the design team for the viaduct, it was determined that a repair contract would be needed for the viaduct. It is needed in order to continue to serve the motoring public until such time as the structure can come down in another 10-15 years. This time frame includes time to complete the preliminary design, time to select a Design-Build team, time for them to complete the final design, and time for other aspects of the project to be constructed while still serving the motoring public. This repair contract is addressed in a separate Annual Report.

The Design Team is working towards submitting the first draft of the Joint DEIR/Supplemental Draft Environmental Impact Report (SDEIR) in the fall of 2025, the MEPA Final Environmental Impact Report (FEIR) in summer 2026, and receiving an Executive Office of Energy and Environmental Affairs (EOEEA) Secretary’s Certificate in the fall of 2026.

Procurement for a Design-Build Team is to begin in the September 0of 2026 and last until the end of 2027. After a team has been selected, their final design could take up to two years and thus physical construction may not begin until 2028 and is expected to last 6-8 years.

The cost of the project is currently loosely estimated to be \$2.07B.

ANNUAL REPORT

Purpose / Background:

Initially the primary need for this project was the deterioration of the two bridge structures, B16-359 4RX and 4RY, which are commonly referred to as the Allston Viaduct (or MTA Structure #111) that carry Route I-90 Eastbound and Westbound over CSX Railroad, Amtrak, and the MBTA Commuter Rail. The two separate structures each carry 4 lanes of I-90 Eastbound and 4 lanes of I-90 Westbound. The average daily traffic counts conducted in 2018 found that roughly 145,000 vehicles per day travel this route. Built in 1965, the bridges are made of steel stringers/girders with a cast in place concrete deck, and consist of 29 spans. The entire length is 2,487 linear feet, with the longest span being 115 linear feet. The deck out-to-out widths are 54 feet each. The results of a routine bridge inspection, dated February 2, 2015, scored the deck, superstructure, and substructure for both bridges at a 4, which translates to poor condition due primarily to advanced section loss, deterioration, and spalling.

Once the decision was made to go forward with All Electronic Tolling on I-90, and in conjunction with CSX Railroad selling a portion of the Beacon Park Yard to Harvard University, the opportunity to re-align I-90 to better meet today's AASHTO Standards, the opportunity to reconfigure the vastly substandard interchange, the chance to make the area more multi-modal friendly for bicyclists, pedestrians, and a transit connection (new West Station) all were recognized as very important goals. With the latest scheme, at least seven more bridges will be eliminated, in addition to the viaduct itself.

Project Location:

The approximately 150-acre project site includes the area encompassed by the former Beacon Park Yard (BPY), until recently owned by CSX-Boston and now by Harvard University, and the existing I-90 interchange. The site is described as being somewhat triangular in shape and bounded by Cambridge Street to the northwest, Soldiers Field Road to the southeast extending from Cambridge Street southwardly primarily to the Commonwealth Avenue Bridge over I-90 to the east, and bounded on the south side by I-90 and the southern edge of BPY from the Commonwealth Avenue Bridge over I-90 to Cambridge Street (See Figure 1).

BOSTON – Replacement of Allston I-90 Elevated Viaduct, B-16-359, Including Interchange
Reconstruction, Beacon Park Yard Layover and West Station
Project Number: 606475



Figure 1 – Locus Map

Contract Scope of Work (as currently anticipated):

General

Route I-90 is to be straightened by taking advantage of aligning it through Beacon Park Yard; reconstruction of Beacon Park Yard itself to accommodate an MBTA commuter rail layover facility; construction of a new “West Station”; reconstruction of Cambridge Street; construction of a new east-west roadway currently referred to as Cambridge Street South; expansion and enhancement of parkland along the Charles River; improved and expanded bicycle and pedestrian access including a transitway connection from Malvern Street to the new West Station; and reconstruction of the Lincoln Street Pedestrian Bridge. The primary goals of the project are for design and safety improvements to the roadway network, facilitate future development in the Allston neighborhood, enhancement of multi-modal access within and to Allston, and creation of expanded and more open space.

The approximately 150-acre project site includes the area encompassed by the former Beacon Park Yard and bounded by Ashford Street to the south, the Commonwealth Avenue Bridge and Soldiers Field Road to the east, and Cambridge Street to the north and west.

Route I-90 (MassPike) Proposal

As stated above, I-90 is to be straightened by taking advantage of aligning it through Beacon Park Yard. Further to the east, the roadway will no longer be on an elevated platform (viaduct) and will be reconstructed at-grade along with the Soldiers Field Road, 4 sets of railroad tracks, and the Paul Dudley White Bicycle/Pedestrian pathway. The I-90 roadway cross-section will include 4 – 11' travel lanes with 4' shoulders on both the median side and the low speed travel lane side; both eastbound and westbound.

Interchange/Cambridge St. Proposal

The current interchange does not meet interstate highway standards set by AASHTO guidelines. These deficiencies include a decrease in travel lanes within the interchange (four lanes to three), the location of piers within narrow curbed medians, improperly designed exit ramps, insufficient acceleration and merging lengths, left-hand exits, and non-compliant shoulder widths and lateral offsets.

With the changeover to All Electronic Tolling (AET) having taken place, the opportunity to reconfigure the interchange and surface streets is available. The latest proposed alternative will result in the elimination of bridges B-16-353, 354, 366, 355, 366, 357, and 359. Cambridge Street is proposed to have a slight adjustment to the alignment prior to meeting the existing bridge over Soldiers Field Road (to remain) and will have 6 at-grade signalized intersections that will meet with Boston's Complete Street guidelines. A new two-way roadway, currently referred to as Cambridge Street South, running somewhat parallel to Cambridge Street to the south would begin at the Cambridge Street/North Harvard Street intersection to the west and connect to Soldier's Field Road (SFR) eastbound and westbound on its east end. New roadways running somewhat parallel and somewhat north and south are proposed at Seattle Street Connector, Stadium Way Connector, Cattle Drive Connector, and East Drive Connector. Also, the above mentioned Seattle Street Connector and Cattle Drive Connector will convey traffic to and from the proposed West Station. A new bicycle/pedestrian access is proposed to connect the East Street Connector to the parkland along the Charles River on the east side of SFR by sinking SFR through the use of a "boat section". A pedestrian, bike, and transit connection will connect Malvern St. to the new West Station. Also, as part of this proposed project, the Lincoln Street Pedestrian Overpass will be re-designed and re-built.

Recently the proposed Cambridge St. By-pass has been added to the project. This roadway will begin at its intersection with Cambridge St. just to the north east of the Cambridge St. Bridge and run easterly above the railroad tracks to connect to the new West Station. Finally a Southside Buffer Pathway pedestrian and bike path has been added which would connect the Lincoln Street ped bridge to the Harry Agannis Way crossing over I-90 and SFR. This path is designed at the southernmost length of the project.

Commuter Rail Layover Facility Proposal

A new commuter rail layover facility will be constructed within Beacon Park Yard to meet the current need for additional layover capacity for MBTA commuter rail operations. The need was identified as part of the South Station Expansion Project. This will include providing a layover area that can accommodate eight 9-car consists.

West Station Proposal

A new MBTA commuter rail station will be designed and constructed along the Framingham/Worcester commuter rail tracks originally slated to be in the existing location at the southern boundary of the project site, and with the commuter layover yard to be to the north of these tracks. Harvard approached the design team about flipping the station to the north and the layover area to the south, as it would afford more buildable air rights area. After discussions a “modified flip” scheme was agreed upon to be studied.

The station will consist of three platforms serving 4 sets of tracks with access provided via a station structure located at a mezzanine level over 3 platforms. Local street connections for pedestrians and bicycles to Malvern Street and Babcock Street, as well as a bus port with connections to the I-90 interchange via a viaduct loop over the layover facility will be incorporated as part of this project. The major benefit to Harvard is the option for them or others to build a “Cambridge Street Bypass”. This street would connect Cambridge Street from just to the northeast of the Cambridge Street Bridge over I-90 to the proposed West Station on an elevated platform over I-90 and the rail yard. The DEIR anticipated the construction of West Station to be around the year 2040, once demand increases due to Harvard’s buildout of the area; but due to overwhelming pressure from the stakeholders, its construction will be included as part of the overall package. Currently the Average Daily Trips (ADT) is around 18,000 users with some increased demand anticipated as the Allston area is built out including on air rights Harvard University has over the Pike. A Commuter Rail vision is still being worked on for a new rail operating model.

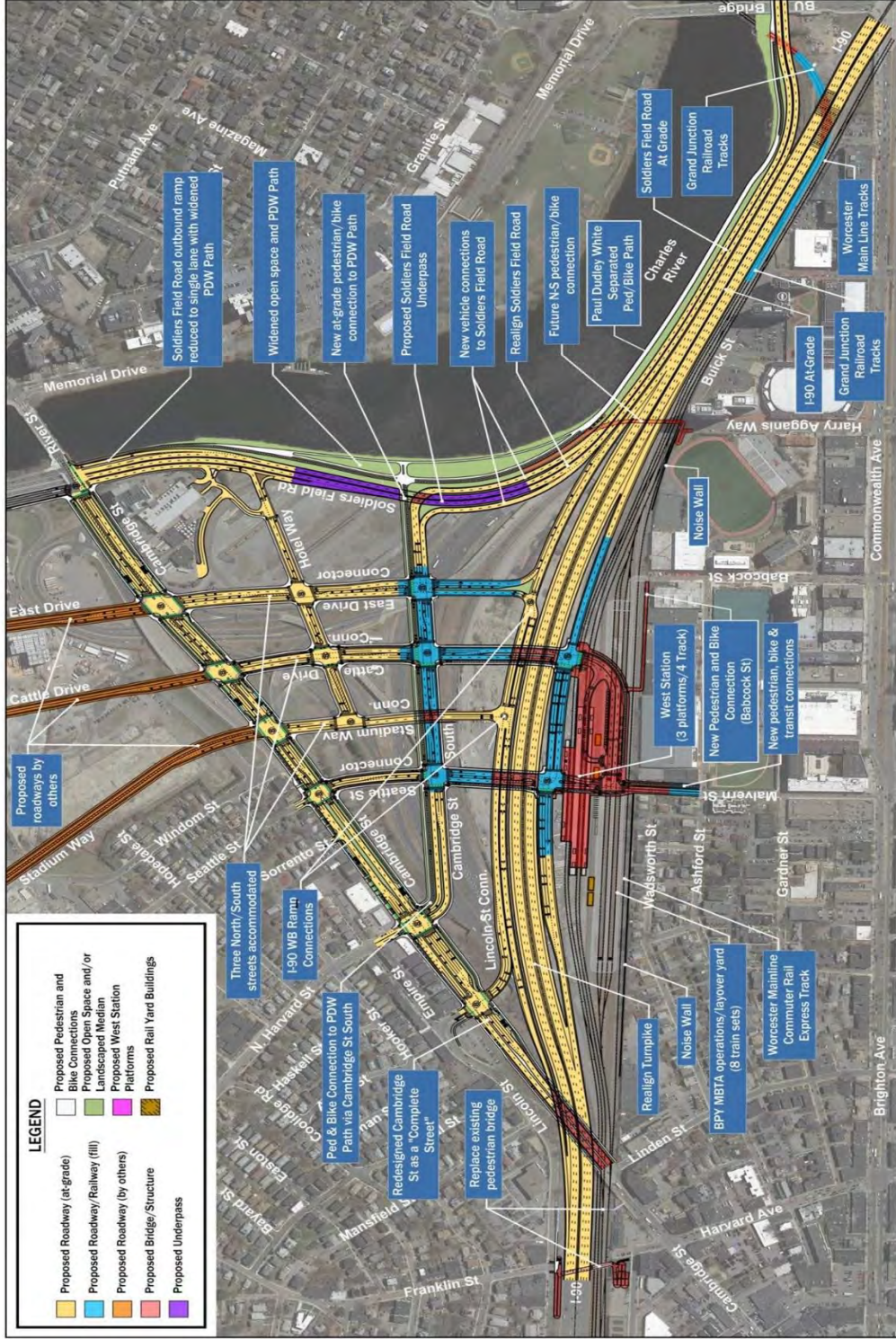
Soldiers Field Road Proposal

Soldiers Field Road (SFR) will be realigned southward and westward to create additional accessible open park space closest to the Charles River, providing separation from the roadway and the Paul Dudley White Bike Path. As mentioned above, SFR will be lowered at a new interchange with the new proposed Cambridge Street South by using a “boat section” and thereby providing street level access to the Paul Dudley White Parkland from the Allston neighborhood. The proposal for the SFR outbound exit to Cambridge/River Street is to keep the exit but only for right turns onto River Street leading to Cambridge.

Proposed Paul Dudley White Pathway

In the “throat” area which is a narrow stretch of land towards the southeast section of the project, various options for the Paul Dudley White pathway are being considered.

BOSTON – Replacement of Allston I-90 Elevated Viaduct, B-16-359, Including Interchange Reconstruction, Beacon Park Yard Layover and West Station
 Reconstruction, Beacon Park Yard Layover and West Station
 Project Number: 606475



1-90 Allston Multimodal Project
 Notice of Project Change

3L Re-alignment Alternative 2.2.2 - 1

FIGURE 2.2.2 - 1

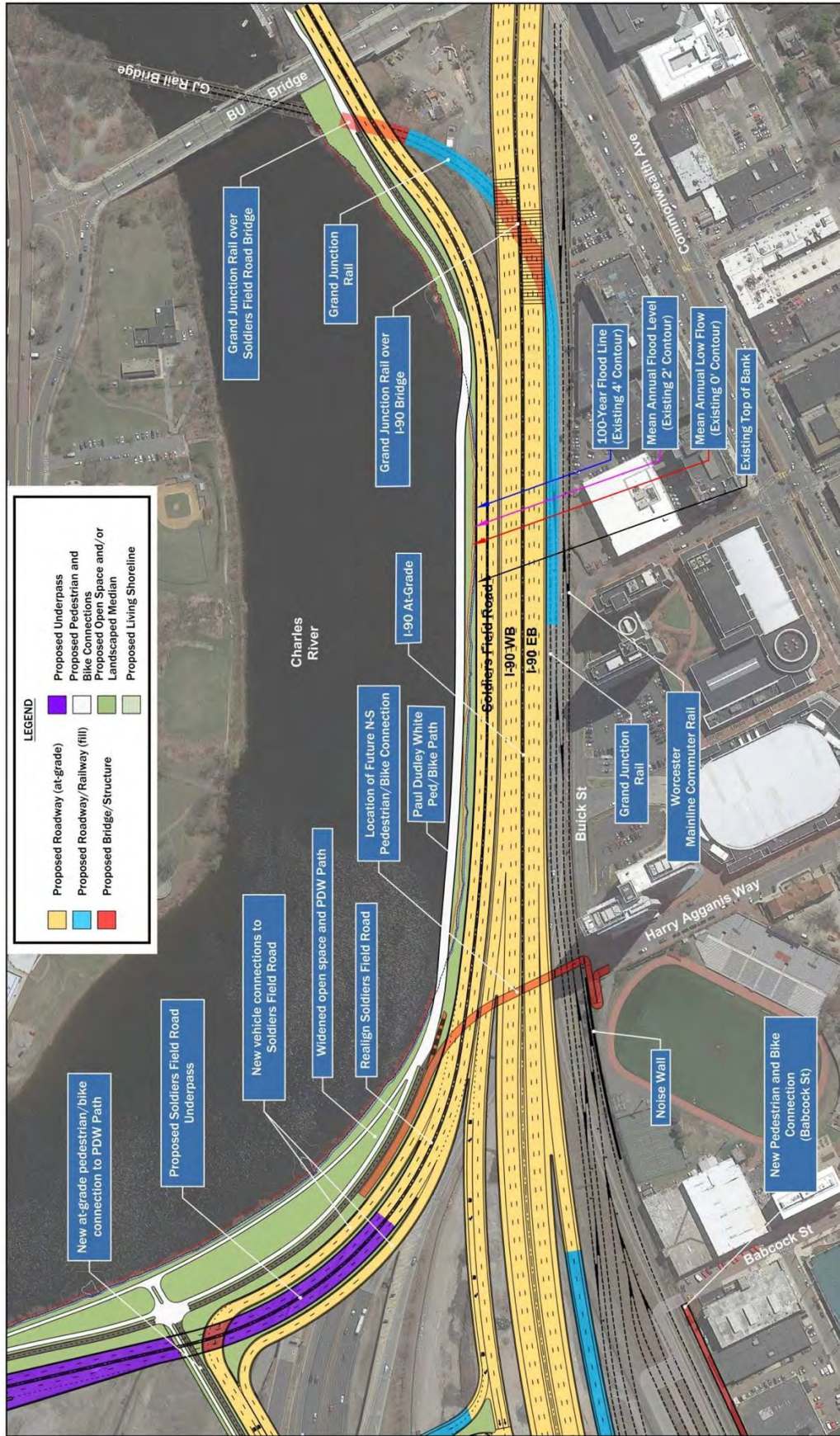
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massDOT
 Massachusetts Department of Transportation
 Highway Division

ALLSTON INTERCHANGE

BOSTON – Replacement of Allston I-90 Elevated Viaduct, B-16-359, Including Interchange Reconstruction, Beacon Park Yard Loyer and West Station
 Project Number: 606475



Alston Multimodal Project

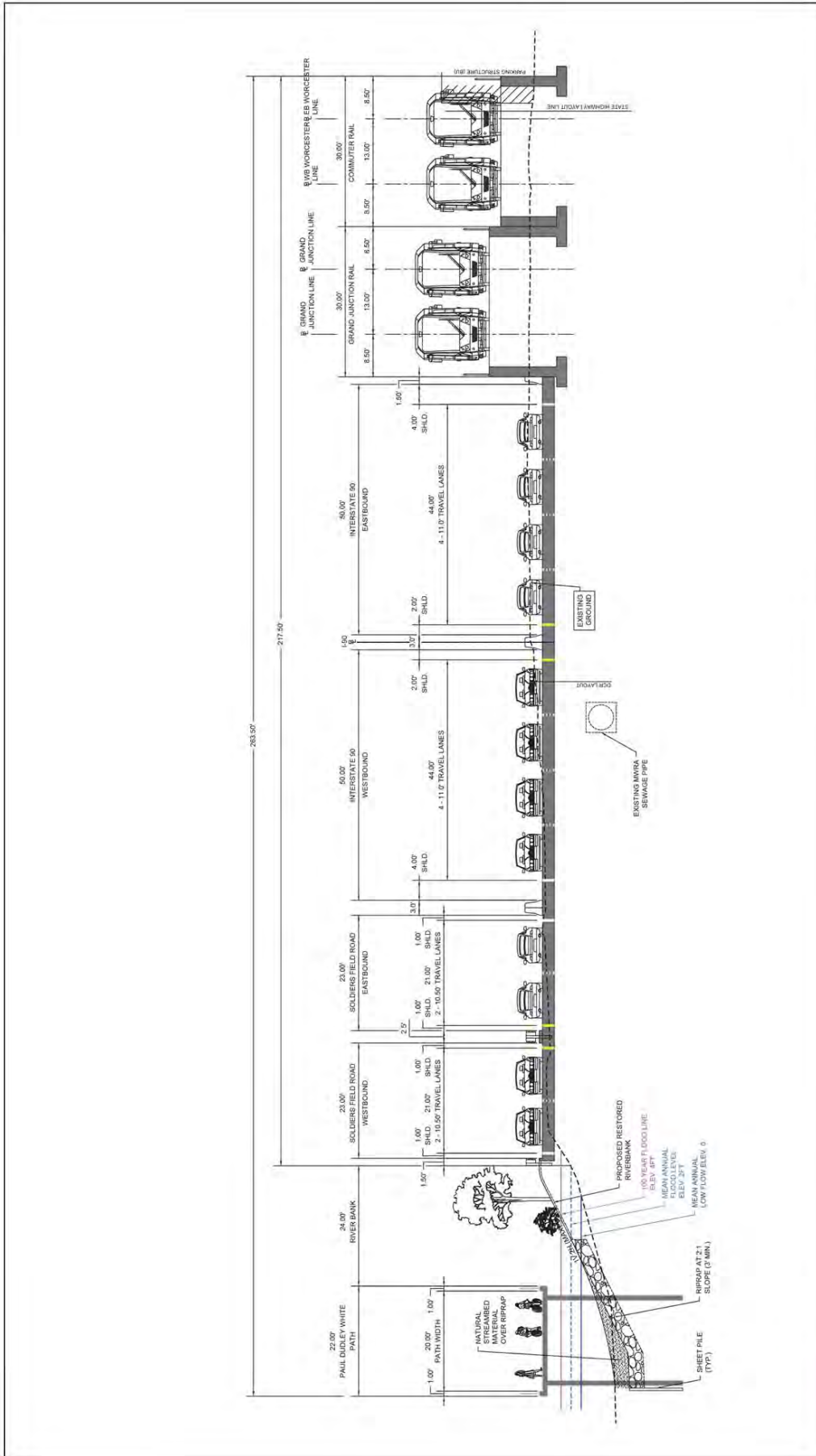
FIGURE 2.2.2-4

3L Re-Alignment Alternative Modified At-Grade Throat Area Option Plan

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BOSTON – Replacement of Allston I-90 Elevated Viaduct, B-16-359, Including Interchange Reconstruction, Beacon Park Yard Layover and West Station
 Project Number: 606475



I-90 Allston Multimodal Project
 Notice of Project Change

FIGURE
2.2.2 - 5
 Modified At-Grade Throat Area
 Option Cross Section

DRAFT



Contract Status

The project is currently in the conceptual design phase and at this point is planned to be designed and constructed through the design-build process.

Major Progress as of November 30, 2024

In order to advance the concept that was agreed upon on September 29, 2021 for the preferred alternative (all at-grade for “throat area”) and submitted in the Notice of Project Change as part of the MEPA process on August 1, 2022, the Task Force was split into four separate focus groups. This strategy was done in an effort to come to agreement on the issues individually as compared to keeping them together and not reaching decisions.

The four major groups and their area of focus are listed as follows:

Throat Area/Charles River

This group focused on shoreline treatment, the Paul Dudley White Path, and commuter impacts.

Multimodal Local Street Network

This group focused on dedicated bus lanes, sidewalks and cycle tracks, and travel/turning lanes.

Multimodal Local Connections

The focus of this group is the Franklin Street pedestrian bridge, Agannis pedestrian bridge, and the South Side Buffer Path.

Rail and Transit

This group focused on rail and platform infrastructure, bus concourse configuration, and commuter impacts.

The Design Team has continued to work through the SDEIR/DEIS process and is expected to be submit in the fall of 2025, and completing the FEIR process by summer of 2026, with a FEIS Record of Decision by the fall of 2026.

Owner & Construction Manager:

Massachusetts Department of Transportation (MassDOT) Highway Division

10 Park Plaza, Boston, MA 02116

Project Manager: Susan Harrington

Resident Engineer: N/A

RE's Field Office Address: N/A

Prime Contractor:

To be determined

Design Team

Tetra Tech

WSP

VHB – railway

GEI Consultants – soils

FXM Associates

Tech Environmental

Public Archaeology Laboratory

Howard/Stein-Hudson Associates-public relations

Crosby Schlessinger Smallridge, LLC

Patrick Engineering

Urban Idea Lab

Michael Baker Associates-station design

Major Subcontractors: Fabricators, Vendors and Suppliers

N/A

Involved Agencies:

MassDOT – Highway Division; Rail & Transit Division

City of Boston including DPW, Engineering, Traffic Signal, Lighting, Fire Alarm

Boston Water and Sewer, Boston Planning and Development Agency

Massachusetts Department of Conservation and Recreation

MWRA

Boston University

Harvard University

CSX, Keolis, PanAm Railways, Amtrak

Eversource, National Grid, Verizon, NStar Communications/RCN, ATT

Level 3 Communications, Lighttower

Budget:

The most recent loosely estimated construction budget for the project is 2.07 billion dollars.

In 2022, the Design Team submitted an application for Federal Discretionary Grant Funding under the Mega Projects Designation for \$1.2 billion but the project was not selected for the grant at the time. Last year two grants were applied for under separate designations as part of USDOT monies. One was a Mega Grant for \$200M and the other was \$500M for a Reconnecting Communities and Neighborhoods (RCN) grant. The project received a grant for \$335.4M as a portion of the \$500M RCN Grant above. This money needs to be committed by September of 2026.

It is planned that \$200M will come from tolls, \$450M from the Fair Share tax, \$470M in bonds and loans, \$90M from Harvard University, \$10M from Boston University, and \$100M from a City of Boston/Harvard University agreement. It is thought that maybe the Reconstruction of the Cambridge Street Bridge could be eligible for other funding sources amounting to \$150M.

This will present a need to cover the \$165M not awarded under the RCN Grant and \$130M for the MBTA Layover yard.

Schedule:

- Project is in the Public Outreach aspect of the Preliminary Design phase and will most likely continue into the Fall of 2026.
- Working to file a Supplemental DEIR in fall of 2025, a NEPA DEIS in the fall of 2025, and MEPA FEIR in summer of 2026.
- Receive EOEEA Secretary Certificate by fall of 2026.
- Continue working on a Financing and Mitigation Plan.
- Design-Build Procurement could possibly begin in the fall of 2026 and last until the end of 2027.
- Final Design by Design-Build Team is estimated to begin in the spring of 2028 with construction estimated to begin in the sometime in 2028 and be completed 2034-2036.

Areas and Issues of Concern

A major area of concern is the escalating cost of the project and arriving at an equitable Financing Plan for various stakeholders in order to cover the \$2B estimated construction cost.

Another area of concern is assuring the roadways are above the 50 yr. flood plain. This has to do with vertical geometry as it is affected by existing conditions such as meeting the Grand Junction RR Bridge over the Charles River, especially with limitations on the allowable slope of the railroad tracks.

Permitting the modifications to the shoreline to build the Paul Dudley White pathway on instead of the prior proposed elevated platform in the Charles River will most likely be a concern throughout the design process.

Earlier in the year it was stated that there would no longer be a layover area for parking of trains during off-peak hours. Recently Amtrak indicated that they would like to see the space back in the project and it is being reconsidered.

Another concern is that the \$335M RCN Grant discussed above needs to be committed by September of 2026. The Design Team is seeking a Categorical Exclusion from the MEPA permitting process to in order to allow for the Cambridge Street Bridge, the Franklin Street Pedestrian Bridge, and the sound barriers to be part of this commitment and thereby not forfeit the Grant.

Other major concerns involving the permitting of the project include:

- Other impacts to the Charles River along the riverbank.
- Impacts to commuters
- Air quality
- Noise/vibration
- Groundwater
- Impacts to wetlands
- Impacts to waterways
- Floodplain/Resiliency
- Stormwater/Water Quality
- Historic District impacts
- Hazardous Materials
- Aesthetic/Visual Impacts
- Environmental Permitting
- ROW Takings/Cost
- Economic Development/Air Rights
- Park Land/Open Space
- Construction Duration
- Traffic Operations/Congestion during construction
- Transit Operations/Ridership during construction
- Bike/Ped Operations/Access during construction
- Safety during construction
- Rail Operations during construction
- Environmental impacts during construction
- Utilities during construction
- Estimated total construction costs

- Estimated total life cycle costs
- Public Input
- Mobility and Access
- Safety of Final Project, including Highway, Rail/Transit, and Bike and Pedestrian
- Operations and Maintenance

CHAPTER 303 OF THE ACTS OF 2008 AREAS OF EMPHASIS

Peer Review

As part of the initial design phase for this project, a peer review will be performed at each stage of the design by MassDOT's Highway Division forces independent of the project designer. As the procurement process develops, Addenda will be issued, primarily involving better defining the final product desired. These reviews will be performed to identify conflicts or errors that should be corrected or mitigated at each stage before the design progresses to the next stage. The O.R. expects to participate in the peer review of the design by reviewing and commenting on the consultant's peer review report, attending project review meetings, and design milestone reviews.

During the construction phase of this project, this O.R. will be satisfying the peer review obligations by attending regular project review meetings where construction issues, conflicts, and resolutions are discussed; walking the site to observe major construction activities; and participating in the change order process, to review and comment upon any proposed design changes and their impacts to the project's quality, budget, or schedule goals. In addition, the O.R. will also participate in the review process of the design submitted by the Design Build Entity.

Value Engineering

N/A

Cost Recovery

N/A

OATH

I, Norman H. Brown, P.E., MA P.E. No. 36531, hereby certify that my sole responsibility as Owner's Representative, under OR Contract 80661, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general contractor and subcontractors, and that this annual report is true and accurate to the best of my knowledge signed under the pains and penalties of perjury.



Norman H. Brown, P.E., P.L.S.

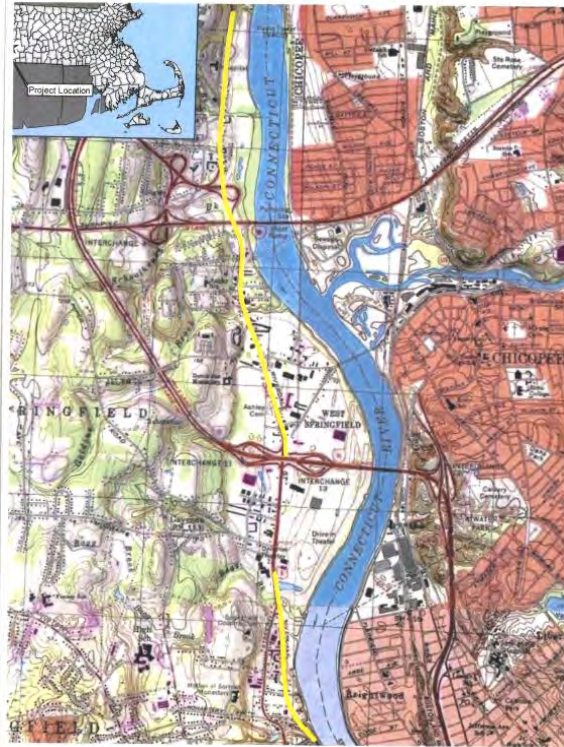
Date: December 17, 2024



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbits-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



Holyoke-West Springfield
Rehabilitation of Route 5 Riverdale Road
Project No. 604209
Contract No. 123409



Owner's Representative's 2024 Annual Report

OR Contract No.: 120631 Fuss & O'Neill/Bayside Engineering, Inc.

Project No. 604209 HOLYOKE-WEST SPRINGFIELD (Rehabilitation of Route 5 (Riverdale Road))

Contractor: Ludlow Construction Co., Inc.

Designer: HNTB

Prepared by: Fuss & O'Neill/Bayside Engineering, Inc.

December 17, 2024

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EXECUTIVE SUMMARY

This corridor rehabilitation project is along the Route 5 Corridor (Riverdale Street) and is essentially split in to two distinct segments having differing work items. (Please refer to page 4 for a drawing of the two specific work areas.) The first section begins at the ramp system to Route 91 in West Springfield and runs northward for approximately 2.42 miles to a short distance north of its intersection with Main Street in Holyoke. The work in this section includes concrete pavement rehabilitation and full depth replacement along Route 5.

The second section begins approximately 0.64 miles south of the beginning of section one above and runs southerly along Route 5 in West Springfield from its intersection with Monterey Street to its intersection with East Elm Street, a distance of approximately 0.92 miles. Work in this section consists primarily of pedestrian and bicycle improvements.

The proposed improvements consist of narrowing the roadway from Main Street to Highland Avenue, realignment of Brush Hill Avenue and Wayside Avenue to form “T” intersections, traffic improvements, shared use path on the western side of the northern section of the project, bicycle accommodations for both directions of travel, drainage improvements, and utility modifications.

The roadway work is comprised of concrete pavement rehabilitation, full depth cement concrete pavement, pavement narrowing, excavation, borrow, grading, installation of hot mix asphalt pavements, installation of curb and sidewalk, removing and replacement of highway guard rails, pavement markings, traffic signal modifications, catch basins, and other incidental work.

As part of this project, the Town of West Springfield is upgrading their water lines under non-participating items funding and Eversource is replacing it natural gas lines. Verizon will also be upgrading their system.

Holyoke-West Springfield
Rehabilitation of Route 5 Riverdale Road
Project No. 604209



Map Showing Limits of Work (Two Distinct Sections)

ANNUAL REPORT

Contract Scope of Work:

The proposed improvements consist of narrowing the roadway from Main Street to Highland Avenue, realignment of Brush Hill Avenue and Wayside Avenue to form “T” intersections, traffic improvements, shared use path on the western side of the northern section of the project, bicycle accommodations for both directions of travel, drainage improvements, and utility modifications.

The roadway work is comprised of concrete pavement rehabilitation, full depth cement concrete pavement, pavement narrowing, excavation, borrow, grading, installation of hot mix asphalt pavements, installation of curb and sidewalk, removing and replacement of highway guard rails, pavement markings, traffic signal modifications, catch basins, and other incidental work.

As part of this project, the Town of West Springfield is upgrading their water lines under non-participating items funding. Eversource gas is relocating some lines due to roadway construction conflicts and Verizon and Eversource are moving poles due to conflicts as well.

Major Progress as of November 30, 2024

Since starting physical construction in April of this year, the focus has primarily been on installing the waterline which is complete. Now the contractor will be working on doing service connections into next year. Some minor drainage work was completed as well.

Eversource Gas has relocated their section of gas line due to conflicts and Eversource Electric together with Verizon began relocating poles.

Holyoke-West Springfield
Rehabilitation of Route 5 Riverdale Road
Project No. 604209

Budget:

Bid Price: \$45,279,109

Estimated Contract Cost: \$46,283,109

Encumbered* Amount: \$50,812,064

*Includes Contingencies, Railroad Flaggers, Traffic Police, Specialty Services, and Test Pit Excavations.

Total Amount Expended** through Nov. 1, 2024: \$1,194,093.

Percent Completion to Date: 2.5

Current Estimate at Completion: \$46,708,155.

Schedule:

The Contractor was issued a Notice to Proceed on December 5, 2023 but was unable to start physical construction until April 2024 due to required submittals. The latest Schedule Update 10 indicates that the Contractor Field Completion is 40 days behind schedule and is currently forecast to be on September 17, 2027 versus August 8, 2027. The Contractor feels they can make all of this time up by working into the winter shutdown installing drainage. The District is reviewing this because it will require much patching and other similar items.

Areas and Issues of Concern

It is too early in the project for any concerns to have arisen. One concern may be with the placement of the cement concrete pavement which has not been done in decades and will require extra attention by the Contractor.

Project Photographs



New Waterline Placed Under Existing Concrete Pavement

Holyoke-West Springfield
Rehabilitation of Route 5 Riverdale Road
Project No. 604209



New Service Connection

Holyoke-West Springfield
Rehabilitation of Route 5 Riverdale Road
Project No. 604209



New Drainage Placement

Holyoke-West Springfield
Rehabilitation of Route 5 Riverdale Road
Project No. 604209



New Drainage Placement

Holyoke-West Springfield
Rehabilitation of Route 5 Riverdale Road
Project No. 604209



New Drainage Placement

CHAPTER 303 OF THE ACTS OF 2008 AREAS OF EMPHASIS

Peer Review

As part of the initial design phase for this project, evidence supports that a peer review was performed at each stage of the design by MassDOT's Highway Division forces independent of the project designer. As the design process developed, Addenda was issued, primarily involving better defining the final product desired. These reviews were performed to identify conflicts or errors that should be corrected or mitigated at each stage before the design progressed to the next stage.

During the construction phase of this project, this O.R. is satisfying the peer review obligations by attending regular project review meetings where construction issues, conflicts, and resolutions are discussed; walking the site to observe major construction activities; and participating in the change order process, to review and comment upon any proposed design changes and their impacts to the project's quality, budget, or schedule goals.

Value Engineering

It is the Owner's Representative's understanding that no Value Engineering process was utilized on this Project.

Cost Recovery

At this early stage of the project, nothing has occurred that can be identified as warranting seeking Cost Recovery.

It should be noted that any initial identification of a Cost Recovery issue does not necessarily mean that cost recovery is due; a formal evaluation process must still be

Holyoke-West Springfield
Rehabilitation of Route 5 Riverdale Road
Project No. 604209

followed. The undersigned Owner's Representative will continue to monitor issues and, with MassDOT Highway Division, will discuss the need for its referral to the Cost Recovery Standing Committee. For any issue referred for Cost Recovery, the current MassDOT Highway Division Cost Recovery Procedure (SOP No. HED-70-01-1-000, dated 8/7/17) shall govern. In order to perform the legislative mandate of being the Primary Manager of Cost Recovery, the Owner's Representative will follow the referenced SOP. This SOP, as modified for projects with an Owner's Representative, describes the role of the Owner's Representative and includes a Cost Recovery Standing Committee. This committee oversees the work of separate and issue-specific Cost Recovery Review Panels and Cost Recovery Evaluation Committees, which will be convened as necessary.

OATH

I, Norman H. Brown, P.E., MA P.E. No. 36531, hereby certify that my sole responsibility as Owner's Representative, under OR Contract 80661, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general contractor and subcontractors, and that this annual report is true and accurate to the best of my knowledge signed under the pains and penalties of perjury.



Norman H. Brown, P.E., P.L.S.

Date: December 17, 2024



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbitts-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



Montgomery-Russell
Westfield River Bridge
Project No. 606866
Contract No. 120631



Owner's Representative's 2024 Annual Report

OR Contract No.: 120631 Fuss & O'Neill/Bayside Engineering, Inc.

***Project No. 606886 MONTGOMERY-RUSSELL –Bridge Rehabilitation
Westfield River Bridge –I-90 Over U.S.-20, Westfield River, and CSX Project***

Contractor: Daniel O'Connell Sons, Inc.

Designer: Parsons Transportation Group

Prepared by: Fuss & O'Neill/Bayside Engineering, Inc.

December 17, 2024

Ten Park Plaza, Suite 4160, Boston, MA 02116
Tel: 857-368-4636, TTY: 857-368-0655
www.mass.gov/massdot

**MONTGOMERY-RUSSELL –Bridge Rehabilitation Westfield River Bridge –I-90 Over U.S.-20,
Westfield River, and CSX**
Project No. 606866

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**MONTGOMERY-RUSSELL –Bridge Rehabilitation Westfield River Bridge –I-90 Over U.S.-20,
Westfield River, and CSX**
Project No. 606866

EXECUTIVE SUMMARY

Bridge M-30-008=R-13-018 is an eight-span bridge carrying two lanes of I-90 Eastbound and two lanes of I-90 Westbound over US Route 20, the Westfield River, a CSX Railroad track, and over other terrain, between the Towns of Montgomery and Russell. Originally constructed in 1957, a deck replacement and minor repairs project was completed in 1990. In 2010-2011 the truss gusset plates and top flanges of some of the cantilever brackets were repaired and some portions of the bridge were repainted under a rehabilitation contract.

The superstructure in spans 1 and 2 consists of ten continuous rolled steel beams. The superstructure in spans 3, 4, 5 and 8 consists of girder-floor beam-stringer system. The superstructure in spans 6 and 7 consists of a continuous steel deck truss with built up riveted box section as truss members. The substructure consists of two solid stem reinforced concrete piers at piers 1 and 2, two reinforced concrete columns with a reinforced concrete cap at piers 3 and 4, three solid stem reinforced concrete piers with columns at piers 5, 6, and 7; and two reinforced concrete stub abutments.

The contractor had been rehabilitating the concrete and steel substructure since work began in 2020. As part of the contract, no work was to begin on the deck, barriers and roadway until all of the steel work below has been completed. This work to rehabilitate/replace steel components of the truss substructure was essentially completed in April 2023. After that the deck and other topside components work began and is tracking to be completed in the spring of 2026.

The designer of the project was Parsons. The project was awarded to Daniel O’Connell’s Sons on March 23, 2020.

**MONTGOMERY-RUSSELL –Bridge Rehabilitation Westfield River Bridge –I-90 Over U.S.-20,
Westfield River, and CSX**

Project No. 606866

ANNUAL REPORT

Contract Scope of Work:

This contract consists of the rehabilitation of the bridge and associated roadway work to restore the roadway to existing conditions after traffic modifications are no longer necessary. The bridge will be rehabilitated in multiple stages to facilitate traffic flow at full capacity during the entire project. Essentially the project consists of substructure concrete repairs at piers and abutments, steel repairs, replacement, and painting, changing out rivets to high strength bolts, cleaning and painting structural steel, repairs to or replacing the deck concrete, adding highway lighting, protective screening, drainage improvements, upgrading to single faced barrier meeting current standards and adding a new median barrier.

Major Progress as of November 30, 2024

As part of Stage I traffic pattern which prepared both eastbound and westbound high speed lanes to receive two lanes of eastbound traffic, the median barrier was removed, repairs to the deck concrete were completed, the area received a new membrane for waterproofing, and was paved and striped towards the end of 2023. With eastbound traffic now on the recently completed Stage I repaired deck, Stage II work began this year.

Stage II consisted of demolition of the outside eastbound barrier (south side of bridge) as well as sections of the deck, both full depth and partial depth excavation. The limits of the full deck excavation measured from the outside face of the proposed fascia barrier to the centerline of the exterior stringer. The partial depth excavation measured 3 feet from the inside limit of the full depth. This excavation was done in order to create a moment slab to support the new fascia barrier, protective screening, and light poles.

**MONTGOMERY-RUSSELL –Bridge Rehabilitation Westfield River Bridge –I-90 Over U.S.-20,
Westfield River, and CSX**

Project No. 606866

Other work during this stage involved soundings to determine random areas of deck needing replacement, new approach slabs, new end posts, new drainage, lighting, new expansion joints, membrane waterproofing, paving, and line striping.

Stage III construction involved a narrow section (approximately 12' in width) between Stages I and II in order to complete deck work, approach slab, expansion joints, waterproofing and paving.

The contractor has been working on Stage IV since the summer which is essentially to same work as in Stage II only on the north side of the structure. Painting of the substructure steel has been ongoing for the year.

Budget:

Bid Price: \$46,973,440

Estimated Contract Cost: \$49,545,475

Encumbered* Amount: \$55,291,599

*Includes Contingencies, Railroad Flaggers, Traffic Police, Specialty Services, and Test Pit Excavations.

Total Amount Expended** through Nov. 1, 2024: \$42,247,187.

Percent Completion to Date: 74.05

Current Estimate at Completion: \$57,050,333.

Schedule:

The Contractor was issued a Notice to Proceed on March 23, 2020. The Substantial Complete date was set for November 25, 2024 but was extended to November 3, 2025 for inclusion of fabrication and installation of 6 foot high barrier fencing to be placed on top of the exterior barriers for the entire length of the structure instead of just over the railroad.

**MONTGOMERY-RUSSELL –Bridge Rehabilitation Westfield River Bridge –I-90 Over U.S.-20,
Westfield River, and CSX**
Project No. 606866

The contractor maintains that having to mill, place membrane, and pave at the end of each Stage of the construction versus just doing it all at once at the end of the project as they had planned has set the project back. Now they are forecasting Substantial Completion to be June 14, 2026. Part of this current 223 day late completion is the anticipated winter weather preventing placement of the membrane and final paving at the end of the various Stages.

Full Beneficial Use is currently set at October 8, 2025 but the Contract is forecasting this date for April 15, 2026, 189 days behind schedule.

Areas and Issues of Concern

With the way the schedule is slipping due to issues stated above, paving may be right up against the winter of 2025/2026.

Financially, quantity overruns plus the addition of the 6 foot high barrier fencing being added to the project, the Current Estimate at Completion stands at \$57,050,333 while the Encumbered Amount was \$55,292,599 leading to request a likely add funds amount of \$1.75M. As the project nears completion, the budget will have to be closely monitored and additional funds may need to be added to the contract.

**MONTGOMERY-RUSSELL –Bridge Rehabilitation Westfield River Bridge –I-90 Over U.S.-20,
Westfield River, and CSX**
Project No. 606866

Project Photographs



**MONTGOMERY-RUSSELL –Bridge Rehabilitation Westfield River Bridge –I-90 Over U.S.-20,
Westfield River, and CSX**

Project No. 606866

Eastbound Traffic on Stage I to Allow Construction On Stage II



**MONTGOMERY-RUSSELL –Bridge Rehabilitation Westfield River Bridge –I-90 Over U.S.-20,
Westfield River, and CSX**

Project No. 606866

Steel Rebar for Moment Slab and Fascia Barrier



**MONTGOMERY-RUSSELL –Bridge Rehabilitation Westfield River Bridge –I-90 Over U.S.-20,
Westfield River, and CSX**

Project No. 606866

**HMA Asphalt Pavement, Protective Safety Screen, New Lighting, and Replacement
Expansion Joint**



**MONTGOMERY-RUSSELL –Bridge Rehabilitation Westfield River Bridge –I-90 Over U.S.-20,
Westfield River, and CSX**

Project No. 606866

Placing Concrete at Westbound Pier 2 Expansion Joint



**MONTGOMERY-RUSSELL –Bridge Rehabilitation Westfield River Bridge –I-90 Over U.S.-20,
Westfield River, and CSX**

Project No. 606866

Approach Slab NE Abutment

CHAPTER 303 OF THE ACTS OF 2008 AREAS OF EMPHASIS

Peer Review

As part of the initial design phase for this project, evidence supports that a peer review was performed at each stage of the design by MassDOT's Highway Division forces independent of the project designer. As the design process developed, Addenda was issued, primarily involving better defining the final product desired. These reviews were performed to identify conflicts or errors that should be corrected or mitigated at each stage before the design progressed to the next stage.

During the construction phase of this project, this O.R. is satisfying the peer review obligations by attending regular project review meetings where construction issues, conflicts, and resolutions are discussed; walking the site to observe major construction activities; and participating in the change order process, to review and comment upon any proposed design changes and their impacts to the project's quality, budget, or schedule goals.

Value Engineering

It is the Owner's Representative's understanding that no Value Engineering process was utilized on this Project.

Cost Recovery

There have been overruns of quantities relating primarily to initial access issues and another being additional quantity of an item that was brought to light and added during the Addendum process but never carried into the contract documents.

Another overrun has come to light during the painting process. The contract documents reflect a quantity of 46,000 sf with no calculations to substantiate the quantity. The final quantity is actually nearing 85,000 sf and leading to an overrun of nearly 39,000 sf at a cost of \$3,802,960. Because this item will end up more than 25% over the original quantity, MassDOT is currently asking for this item price to be renegotiated.

**MONTGOMERY-RUSSELL –Bridge Rehabilitation Westfield River Bridge –I-90 Over U.S.-20,
Westfield River, and CSX**

Project No. 606866

It does not appear that these rise to the level of errors leading to cost recovery with conventional industry thinking being that if these quantities were included in the original contract, the cost to the contract would have been that much more at bid time.

It should be noted that any initial identification of a Cost Recovery issue does not necessarily mean that cost recovery is due; a formal evaluation process must still be followed. The undersigned Owner's Representative will continue to monitor issues and, with MassDOT Highway Division, will discuss the need for its referral to the Cost Recovery Standing Committee. For any issue referred for Cost Recovery, the current MassDOT Highway Division Cost Recovery Procedure (SOP No. HED-70-01-1-000, dated 8/7/17) shall govern. In order to perform the legislative mandate of being the Primary Manager of Cost Recovery, the Owner's Representative will follow the referenced SOP. This SOP, as modified for projects with an Owner's Representative, describes the role of the Owner's Representative and includes a Cost Recovery Standing Committee. This committee oversees the work of separate and issue-specific Cost Recovery Review Panels and Cost Recovery Evaluation Committees, which will be convened as necessary.

OATH

I, Norman H. Brown, P.E., MA P.E. No. 36531, hereby certify that my sole responsibility as Owner's Representative, under OR Contract 80661, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general contractor and subcontractors, and that this annual report is true and accurate to the best of my knowledge signed under the pains and penalties of perjury.



Norman H. Brown, P.E., P.L.S.

Date: December 17, 2024



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbitts-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



Project No. 606552



Owner's Representative's 2024 Annual Report

OR Contract No.: 120631 Fuss & O'Neill/Bayside Engineering, Inc.

Project No.: 606552: Northampton – Bridge Replacement N-19-059 Interstate I-91 Over US 5 and B&M Railroad; and N-19-060 Interstate Over Hockanum Road; and Improvements to Interstate 91 Interchange 18

Contractor: J.F. White

Designer: Parsons

Prepared by: Fuss & O'Neill/Bayside Engineering, Inc.

December 17, 2024

NORTHAMPTON– Bridge Replacement N-19-059 Interstate I-91 Over US 5 and
B&M Railroad; and N-19-060 Interstate Over Hockanum Road; and
Improvements to Interstate 91 Interchange 18
Project No. 606552

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NORTHAMPTON– Bridge Replacement N-19-059 Interstate I-91 Over US 5 and
B&M Railroad; and N-19-060 Interstate Over Hockanum Road; and
Improvements to Interstate 91 Interchange 18
Project No. 606552

EXECUTIVE SUMMARY

The two bridges (4 structures in all) carrying Interstate 91 both Northbound and Southbound were constructed in 1965 and have not been reconstructed. (Please refer to Page 4 for Project Orientation) The Northbound and Southbound bridges over Route 5, etc. are each about 416 feet in length with 6 spans and are made up of cast in place concrete decks over steel stringers. The bridges over Hockanum Road are each about 83 feet in length and are made up of cast in place concrete decks over steel stringers in one continuous span.

Based on inspections completed in early 2020, the conditions of the substructures were all determined to be level 4 which equates to poor condition with advanced deterioration and spalling. The condition of the superstructure of I-91 SB over Route 5, etc. was assessed a 3 which equates to Serious Condition – Loss of section, deterioration, spalling, or scour have seriously affected primary structural component. The superstructure for the I-91 NB over Route 5, etc. was assessed as a 4 (see above). The superstructure for I-91 SB over Hockanum Road was assessed a 5 which equates to Fair Condition and the I-91 NB over Hockanum Road was assessed a 6 which means Satisfactory Condition.

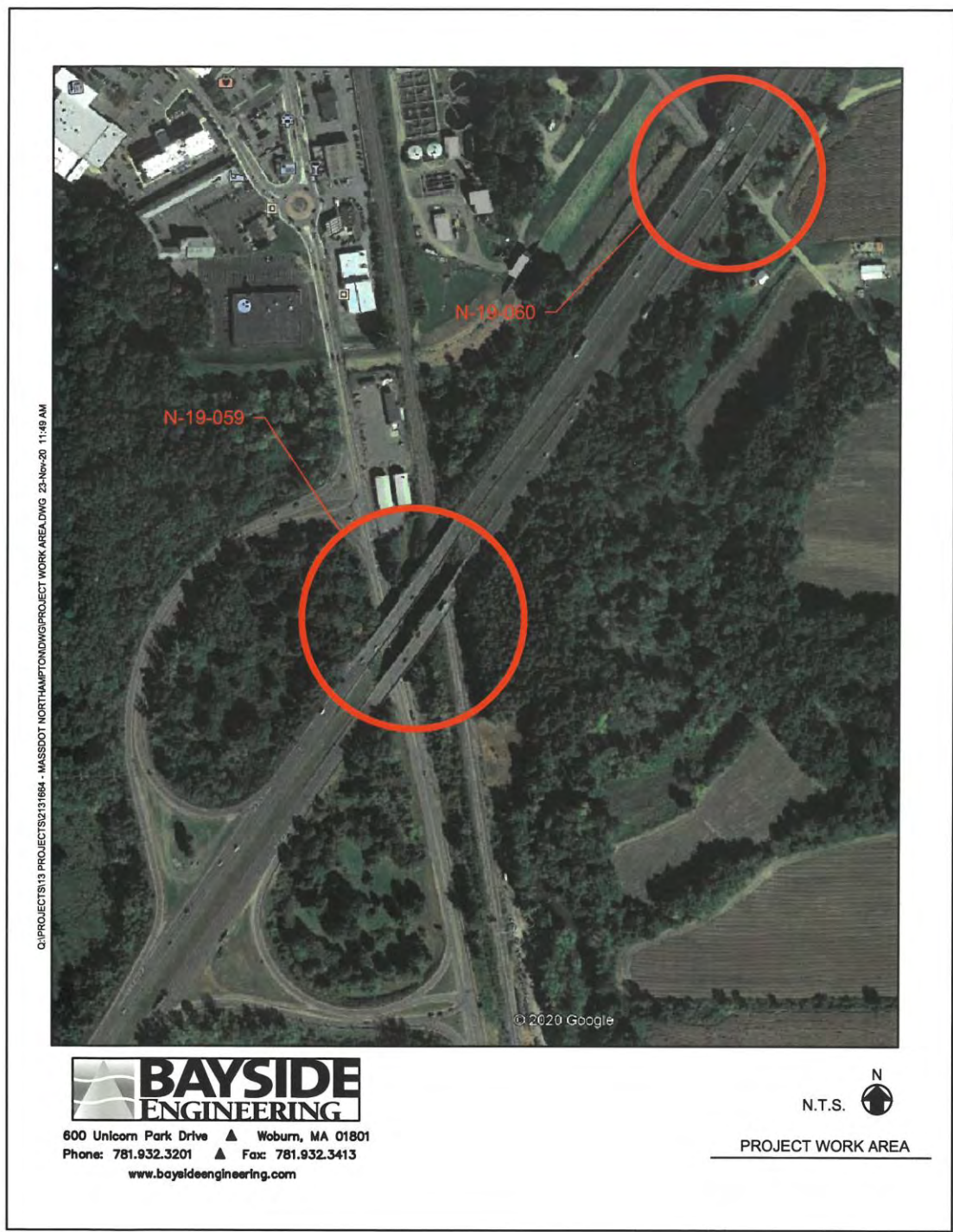
The two I-91 SB bridges carry an average daily traffic count of more than 29,000 vehicles per day and the two I-91 NB bridges carry roughly 24,000 vehicles per day.

Currently US Route 5 does not meet the current Healthy Transportation Initiatives goals. This project will construct a sidewalk on the west side of the roadway and provide bicycle accommodations on both sides of the roadway, as well as provide crosswalks at the ramp intersections. Widening of turning lanes will be provided and also traffic signals, new signage, and pavement markings will be installed.

During construction, I-91 traffic will be maintained through the use of a temporary roadway and Acro Panel bridge through the median. Also, temporary widened ramps will be utilized for on-ramp and off-ramp motorists while construction of the permanent ramps is completed.

The project was designed by Parson's and bids were opened on December 8, 2020. The project had an estimated construction duration of nearly 30 months. The winning bidder was J.F. White with a low bid of \$42,115,135.60.

NORTHAMPTON– Bridge Replacement N-19-059 Interstate I-91 Over US 5 and
B&M Railroad; and N-19-060 Interstate Over Hockanum Road; and
Improvements to Interstate 91 Interchange 18
Project No. 606552



NORTHAMPTON– Bridge Replacement N-19-059 Interstate I-91 Over US 5 and
B&M Railroad; and N-19-060 Interstate Over Hockanum Road; and
Improvements to Interstate 91 Interchange 18
Project No. 606552

ANNUAL REPORT

Contract Scope of Work:

The project consists of the complete reconstruction of the superstructures and substructures of four bridge structures carrying Interstate 91 Northbound and Southbound over US Route 5 and the B&M Railroad; and Interstate 91 over Hockanum Road. Traffic will be conveyed through this section by constructing a temporary two-lane roadway and building two temporary bridges for a distance of nearly 4400 linear feet in the median area. Temporary on-ramps and off-ramps will be constructed as well.

Also as part of the project, US Route 5 will be reconstructed including a new drainage system, addition of a sidewalk on the west side of the road, bicycle lanes on both sides of the roadway, and new traffic signals. The project includes safety improvements to I-91, US Route 5, and the ramp systems. Route 91, US Route 5, and Hockanum Road will all be milled and overlaid with hot mix asphalt.

Major Progress As Of November 30, 2024

For the year, much has been accomplished including the following:

- Opening I-91 SB to traffic over the newly completed bridges #59 and #60 over Route 5, B&M Railroad, and Hockanum Road. (I-91 NB was reopened to traffic in 2023).
- Acro Panel bridges used in the median for temporary traffic have been disassembled and removed from the jobsite.
- The temporary roadway in median has been excavated and the median restored to its preconstruction condition..
- All paving on I-91 leading to and from the new bridges has been completed. Also all paving of the ramp system, Route 5 and Hockanum Road has been completed to the project limits.
- Construction of sidewalks, guard rail, detention ponds and line striping has been completed.

NORTHAMPTON– Bridge Replacement N-19-059 Interstate I-91 Over US 5 and
B&M Railroad; and N-19-060 Interstate Over Hockanum Road; and
Improvements to Interstate 91 Interchange 18
Project No. 606552

Budget:

Bid Price: \$42,115,135.60

Estimated Contract Cost: \$44,920,736

Encumbered* Amount: \$49,133,724.00

*Includes Contingencies, Railroad Flaggers, Traffic Police, Specialty Services, and Test Pit Excavations.

Total Amount Expended through Nov. 1, 2024: \$47,429,180

Percent Completion to Date: 96.80

Current Estimate at Completion: \$49,835,000

Schedule/Project Milestones:

From NTP On 2/8/21 to Contractor Field Completion scheduled for 12/5/24, the Estimated Construction Duration was 1419 days. That has been extended to 12/28/2024 making it 1442 days.

This Contract contains the following Contractual Milestones:

Milestone #6 - Traffic on Temp I-91 NB

454 Days from NTP (5/7/22) Date extended to 5/20//22 which contractor met.

Milestone #5 - Full Beneficial Use I-91 NB (Completed Bridge/ Traffic on New I-91 NB)

854 Days from NTP (6/11/23) – Date extended to 6/18/23 which contractor met.

Milestone #4 - Full Beneficial Use I-91 SB (Completed Bridge/ Traffic on New I-91 SB)

1,261 Days from NTP (7/22/24) has been extended to 8/05/24– Contractor met this milestone on 6/20/24.

Milestone #3 - Full Beneficial Use Incl. RT 5 & Hockanum Rd

NORTHAMPTON– Bridge Replacement N-19-059 Interstate I-91 Over US 5 and
B&M Railroad; and N-19-060 Interstate Over Hockanum Road; and
Improvements to Interstate 91 Interchange 18
Project No. 606552

1,332 Days from NTP – (10/1/24) – Contractor did forecast this at 9/09/24, and then 11/5/24, with it not being met yet. Full Beneficial Use is defined as: The majority of contract Work has been completed and the asset(s) has been opened for full multi-modal transportation use, except for limited contract work items that do not materially impair or hinder the intended public use of the transportation facility. All anticipated lane takings have been completed, except for minor, short term work items.

During the placement of guardrail behind the sidewalk on Route 5, it was discovered that there is a conflict with the embedment length of the posts being limited by the footing from Pier 2. Only recently has a proposed solution been approved and the modification to the steel posts is out at a fabrication shop.

Milestone #2 - Substantial Completion

1,353 Days from NTP (10/22/24) has been extended to 11/12/24 – Contractor had forecast this for 10/22/24, but due to the conflict described above, the new date is currently anticipated for 12/10/24.

Substantial Completion is defined as: A walkthrough of the entire contract Work has been performed by the Resident Engineer, a Punch-list has been generated and the Work required by the contract, including paper work, has been completed, except for work having a contract price of less than one percent of the adjusted total contract price, including overruns, underruns and all contract amendments. All material submittals have been received by the District Materials Lab.

Milestone #1 - Contractor Field Completion

1419 Days from NTP (12/28/24) – Contractor forecasts 1/23/25 (see conflict description above)

Contractor Field Completion is defined as: All physical contract work is complete including punch-list. The Contractor has fully de-mobilized from field operations.

Areas and Issues of Concern

The guard rail post conflict with the Pier 2 footing is the only thing keeping this project from being complete at this time.

Also, having to most likely encumber an additional \$700K for completion due to approved extras, and overruns.

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Project Photographs



Hydroseeding Restored Median Area

NORTHAMPTON– Bridge Replacement N-19-059 Interstate I-91 Over US 5 and
B&M Railroad; and N-19-060 Interstate Over Hockanum Road; and
Improvements to Interstate 91 Interchange 18
Project No. 606552



Shaping Slopes Under Bridge No. 59

NORTHAMPTON– Bridge Replacement N-19-059 Interstate I-91 Over US 5 and
B&M Railroad; and N-19-060 Interstate Over Hockanum Road; and
Improvements to Interstate 91 Interchange 18
Project No. 606552



Demolition of Footings for Temporary Access Bridge

NORTHAMPTON– Bridge Replacement N-19-059 Interstate I-91 Over US 5 and
B&M Railroad; and N-19-060 Interstate Over Hockanum Road; and
Improvements to Interstate 91 Interchange 18
Project No. 606552



Line Striping of Route 5 at I-91 SB Ramp

NORTHAMPTON– Bridge Replacement N-19-059 Interstate I-91 Over US 5 and
B&M Railroad; and N-19-060 Interstate Over Hockanum Road; and
Improvements to Interstate 91 Interchange 18
Project No. 606552

CHAPTER 303 OF THE ACTS OF 2008 AREAS OF EMPHASIS

Peer Review

As part of the initial design phase for this project, a peer review was performed at each stage of the design by MassDOT's Highway Division forces independent of the project designer. These reviews were performed to identify conflicts or errors that should be corrected or mitigated at each stage before design progressed further. The O.R. was not engaged with this project during the design and thus did not participate in the peer review of the design by reviewing and commenting on the consultant's peer review report, attending project review meetings, and design milestone reviews.

During the construction phase of this project, this O.R. will satisfy the peer review obligations by attending regular project review meetings where construction issues, conflicts, and resolutions are discussed; walking the site to observe major construction activities; and participating in the change order process, to review and comment upon any proposed design changes and their impacts to the project's quality, budget, or schedule goals.

Value Engineering

It is the Owner's Representative's understanding that no Value Engineering process was utilized on this Project.

Cost Recovery

One situation that may rise to the level of cost recovery entails when it was noticed that there were somewhat significant discrepancies between the survey provided and the design plans. This issue came to light while attempting to install drainage structures on Route 5. The design for this area is to essentially meet existing grade but the structures when installed were sticking out of the pavement by as much as 2.5 feet. The contractor suspended operations on the Route 5 work from late September until early/mid November of 2021 when revised numbers were provided by the Design Consultant. They still continued to work on the temporary roadway in the median which is part of the Critical Path to completion for the project. The contractor was given additional days on the contract for this situation and a settlement was negotiated for \$50,132.53 (.1% of projected project cost).

There have been overruns of quantities primarily relating primarily to the calculations for earthwork items in the median temporary bypass roadway..

NORTHAMPTON– Bridge Replacement N-19-059 Interstate I-91 Over US 5 and
B&M Railroad; and N-19-060 Interstate Over Hockanum Road; and
Improvements to Interstate 91 Interchange 18
Project No. 606552

It does not appear that these rise to the level of errors leading to cost recovery with conventional industry thinking being that if these quantities were included in the original contract, the cost to the contract would have been that much more at bid time.

It should be noted that any initial identification of a Cost Recovery issue does not necessarily mean that cost recovery is due; a formal evaluation process must still be followed. The undersigned Owner's Representative will continue to monitor issues and, with MassDOT Highway Division, will discuss the need for its referral to the Cost Recovery Standing Committee. For any issue referred for Cost Recovery, the current MassDOT Highway Division Cost Recovery Procedure (SOP No. HED-70-01-1-000, dated 8/7/17) shall govern. In order to perform the legislative mandate of being the Primary Manager of Cost Recovery, the Owner's Representative will follow the referenced SOP. This SOP, as modified for projects with an Owner's Representative, describes the role of the Owner's Representative and includes a Cost Recovery Standing Committee. This committee oversees the work of separate and issue-specific Cost Recovery Review Panels and Cost Recovery Evaluation Committees, which will be convened as necessary.

Insurance notifications occur only once a final decision has been made.

OATH

I, Norman H. Brown, P.E., MA P.E. No. 36531, hereby certify that my sole responsibility as Owner's Representative, under OR Contract 80661, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general contractor and subcontractors, and that this annual report is true and accurate to the best of my knowledge signed under the pains and penalties of perjury.



Norman H. Brown, P.E., P.L.S.

Date: December 17, 2024



Maura Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Monica Tibbitts-Nutt, Secretary & CEO
Jonathan L. Gulliver, Highway Administrator



Project Name: Natick Bridge Replacement, N-03-020 Route 27 (North Manin Street) over Route 9 (Worcester Street) and Interchange Improvements in Natick

Owner's Representative Contract Number: 120640

Project Number: 605313

Construction Contract Number: 125520



OWNER'S REPRESENTATIVE 2024 ANNUAL REPORT

Owner's Representative: Contract No. 120640 Weston & Sampson Inc.

Project No. 605313: Natick Bridge Replacement, N-03-020 Route 27 (North Manin Street) over Route 9 (Worcester Street) and Interchange Improvements

Preliminary Designer: Greenman-Pedersen, Inc.

Design-Builder: McCourt Construction Company, Inc.
Jacobs Engineering Group, Inc. (Engineer of Record)

Prepared by: Mark King P.E., Weston & Sampson, Inc.
December 12, 2024

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I. EXECUTIVE SUMMARY

The Natick Bridge Replacement, N-03-020, Route 27 (North Main Street) over Route 9 (Worcester Street) and Interchange Improvements is a design-build project to replace the structurally deficient bridge carrying Route 27 (North Main Street) over Route 9 (Worcester Street) in the town of Natick, Massachusetts, with new bridges designed for a 75-year design life and improvements within the interchange by designing a modified diverging diamond configuration.

As part of this Project, the existing Route 27 (North Main Street) bridge over Route 9 (Worcester Street) will be replaced by three (3) independent structures (two structures for vehicles and one structure for a shared use path). This configuration was deemed to be highly desirable by the Natick community as part of the robust public engagement process. Providing an interchange that improves safety, mobility, and operations was of utmost importance. Equally important was an interchange configuration that was context sensitive and that would support Natick's quality of life.

The limits of roadway construction extend along Route 9 (Worcester Street) approximately from the Cochituate Rail Trail bridge over Route 9 (Worcester Street) to Linden Street, a distance of approximately 0.74 miles. Within the limits of the Project, Route 9 (Worcester Street) has an ADT of 65,200 and a posted speed limit of 50 miles per hour. The Project includes median replacement, a cement concrete sidewalk along the north side of Route 9 (Worcester Street), a buffered HMA shared use path along the south side of Route 9 (Worcester Street), roadway milling and pavement overlay, and localized widening of Route 9 (Worcester Street) to accommodate improved acceleration and deceleration lanes in the Route 27 (North Main Street) interchange area. The work also includes roadway reconstruction of Route 27 (North Main Street) to construct a Modified Diverging Diamond Interchange consolidating Route 9 (Worcester Street) on-ramps and off-ramps to improve merge/diverge operations.

The limits of roadway construction extend along Route 27 (North Main Street) from approximately Running Brook Circle to Bacon Street, a distance of approximately 0.48 miles. Within the limits of the Project, Route 27 (North Main Street) has an ADT of 23,050 and a posted speed limit of 30 miles per hour. Work along Route 27 (North Main Street) includes roadway reconstruction and realignment, an HMA shared use path, and a cement concrete sidewalk.

Roadway work includes vertical and horizontal alignment adjustments, variable depth milling and HMA overlay; full-depth HMA construction, roadways for staged construction, grading, walls, granite curb, HMA shared use paths, cement concrete sidewalks, temporary and permanent drainage

including detention ponds, highway lighting, temporary and permanent traffic signals, relocation of utilities, signage, pavement markings, and other related work.

A locus map of the study area is shown in Figure 1. This project is being constructed by the Massachusetts Department of Transportation (MassDOT) - Highway Division with Greenman-Pedersen, Inc. as the Preliminary Designer of Record. The project was procured as a Design-Build Contract with the Project awarded on August 22, 2024, with the apparent Best Value being the Design-Build Team of McCourt Construction Company Inc. of Boston, MA as the Prime Contractor and Jacobs Engineering Group Inc. as Design-Build Designer of Record. Notice to Proceed was issued to McCourt on September 19, 2024. Since the NTP was issued McCourt has been advancing various design elements, coordinating with affected utility companies, meeting with abutters/community, and field survey.

Figure 1 - Project Location



II. ANNUAL REPORT

Contract Scope of Work

The Work includes but is not limited to:

Final Design and Construction of all elements.

- Advancing Highway design through 75%, 100%, and Issued for Construction Highway, and through Construction of all elements.
- Advancing Bridge design through Structural Bridge Submittals and Issued for Construction Structural and through Construction of all elements.
- Demolition of one (1) bridge.
- Construction of three (3) bridge structures, two (2) vehicular bridge and one (1) shared use path bridge.
- Roadway rehabilitation/reconstruction on Route 9 (Worcester Street) and Route 27 (North Main Street) including sections of full depth HMA pavement, pavement milling, and variable depth milling with an HMA overlay for development of proposed cross slopes.
- Geometric modifications to Route 9 (Worcester Street) including localized widening eastbound and westbound to accommodate improved acceleration and deceleration lanes in the Route 27 interchange area. Localized widening on Route 9 (Worcester Street) eastbound and westbound which will result in full-length acceleration and deceleration lanes to improve merge/diverge operations.
- Geometric modifications to Route 27 (North Main Street) to increase the roadway profile over Route 9 to achieve 16'-6" clearance and to incorporate a Modified Diverging Diamond Interchange design as depicted in the BTC Plans.
- Roadside and median barriers, guardrail, associated barrier end treatments, walls, fences and granite curb and edging.
- Temporary traffic control and management to maintain safe traffic operations and acceptable roadway conditions during staged construction.
- Design and construction of two new traffic signals along Route 27 (North Main Street) at the Modified Diverging Diamond crossovers and associated ramps, reconstruction of the existing traffic signal at the 9/27 Exchange driveway, and minor modifications/coordination with the existing traffic signal at the intersection with Bacon Street.
- Construction of all improvements and modifications to drainage systems for temporary and permanent conditions including infiltration areas, detention basins and swales.
- Removal and disposal of existing utility creosote wood ducts, multi-tile ducts, and other materials when encountered.
- Removal and disposal of decommissioned gas pipe, conflicting with proposed work, including

coordination with Eversource to confirm the main is abandoned prior to cutting or removal.

- Construction of all signs and pavement markings and other traffic control devices, including overhead signs, guide signs and route markers, milled rumble strips, and slotted pavement markers.
- Landscaping and restoration of disturbed areas within the Project limits including identifying invasive plant species and limits, providing appropriate management and treatment plans and specifications and execution of management plan.
- Installation, maintenance, and removal of all erosion control protections required for work activities, including but not limited to sedimentation fence, sedimentation barrier, and silt sacks or other siltation and erosion control measures.
- Design and installation of lighting for illumination of temporary and permanent roadway lighting and temporary and permanent underdeck lighting.
- Design and installation of lighting for illumination of temporary and permanent pedestrian shared- use path lighting for connections between the proposed transit stops on Route 27 and Route 9.
- Constant monitoring, protection, and reinforcing (as necessary) of existing bridge elements to temporarily remain in service.
- Restoration of damaged pavement and disturbed areas within the Project limits.
- Coordination with private and municipal utility owners.
- Design and installation of underground infrastructure for electrical and communication relocations, including coordination to confirm design and materials meet any and all requirements of the utility owner.
- Coordination during design and construction with stakeholders, property owners, State/Municipal officials, local businesses, MetroWest Regional Transit Authority (MWRTA), and residents in conjunction with MassDOT.
- Off peak, night, and weekend work as required to facilitate demolition and construction.
- Design of temporary works to facilitate staged demolition of the existing bridge and construction of the proposed bridges.
- Coordination with surrounding private and public construction activities.
- Community outreach program in conjunction with MassDOT, including maintenance of the Project website to distribute current construction information, particularly as it relates to traffic impacts.
- Compliance with applicable regulatory approvals and permits issued prior to Notice to Proceed and any amendments or reevaluation made during construction.
- Construction mitigation and proper disposal of Hazardous Materials in accordance with Regulations and Local Laws.
- Maintenance of access to abutters and local businesses throughout construction.
- Construction noise mitigation.
- Construction dust mitigation.

Major Progress as of November 30, 2024

The following is a detailing of events which have transpired in this Owner's Representative has been involved:

- Contract Award was issued on August 22, 2024
- Project Kickoff Meeting was held on September 12, 2024
- Notice to Proceed was issued on September 19, 2024
- Field survey ongoing
- Meetings with affected utility companies, coordination ongoing
- Natick Information Meeting held on November 11, 2024
- Baseline schedule has been submitted and is under review
- Early submittals are under review

Project Budget/Financials

The table below contains a summary of project financials through November 30, 2024:

Cost Item	Contract
Bid	\$99,150,927
Allowances	\$3,916,000
Contract Value	\$103,066,927
Contingency	\$9,918,843
Approved Contract Modifications	\$0
Current Contract Value	\$103,066,927
Pending Contract Modifications	\$0
Estimated Contract Cost	\$103,066,927
Total CQE (Invoiced) to Date	\$0
Forecast Cost-at-Completion	\$103,066,927

Schedule / Project Milestones

Milestones	Original Contract	Current Contract	Contractor Forecast*	Variance from Current Contract	District/OR Forecast
Contract Award	22-08-2024 (A)				
Notice to Proceed	19-09-2024 (A)				
MS #03 Full Beneficial Use	03-06-2030	03-06-2030	23-05-2030	11	03-06-2030
MS #02 Substantial Completion	24-06-2030	24-06-2030	13-06-2030	11	24-06-2030
MS #01 Final Completion	28-08-2030	24-06-2030	17-08-2030	11	28-08-2030

*Based on McCourt’s baseline schedule.

Areas of Concern

The following represents the primary areas of concern identified in design and at this stage in construction:

- Utility coordination, protection, and relocation for the replacement of bridges over Route 9.
- Coordination with Eversource for the relocation of poles and overhead power lines.
- Removal of the existing bridge over Route 9
- The roadway and bridge construction staging will require careful consideration given the traffic volumes and lanes restrictions. The Design-Builder will be responsible for providing early release design packages to address staging and presenting the intended methods of traffic control to maintain traffic throughout construction.
- Impacts to abutters due to construction, specifically traffic/access and noise impacts.

CHAPTER 303 OF THE ACTS OF 2008 AREAS OF INTEREST

Peer Review

During the construction phase of this project, Jacobs, as Engineer of Record, is continuing to provide construction phase services. In addition, this O.R. will continue to partially satisfy the peer review obligations by attending regular project review meetings where construction issues, conflicts, and resolutions are discussed; walking the site to observe major construction activities; and monitoring the change order process to ensure any proposed design changes are evaluated for their impacts to the project’s quality, budget, or schedule goals.

Value Engineering

A Value Engineering (VE) Study of the project design concept was not performed.

Cost Recovery

At this point in time, no issues have been specifically identified as Cost Recovery issues.

Extra Work Orders

As of November 30, 2024, there are no extra work orders.

OWNER'S REPRESENTATIVE OATH

I, Mark V. King, MA P.E. No. 47815, hereby certify that my sole responsibility as Owner's Representative, under O.R. Contract 120640, is to the Commonwealth of Massachusetts and MassDOT. Furthermore, I certify that I act in a manner that is wholly independent of the project's designer, general contractor, and subcontractors, and that this annual report is true and accurate to the best of my knowledge, signed under pains and penalties of perjury.



Mark V. King P.E.

Date: December 12, 2024