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



November 1, 2024

605311-128035

ADDENDUM NO. 5

To Prospective Proposers and Others on:

MARION-WAREHAM

FAP No. HIP(NGB)-003S(786)X

Bridge Replacement, M-05-001=W-06-013 & W-06-016, Marion Road/Wareham Road

(Route 6) over Weweantic River

Design-Build

TECHNICAL & PRICE PROPOSALS DUE: **Thursday, December 19, 2024, by 2:00P.M.**

Transmitting revisions to the RFP Documents as follows:

RFP Volume I of III – Instructions to Proposers (September 12, 2024)

ATTACHMENT B: Revised page 1.

RFP Volume II of III – Technical Provisions (September 12, 2024)

Revised pages 82, 83, 125, 127, 128, and 155.

\\Appendix\C\C.09\

Inserted new file: A00801 605311 BTC SP A-5.pdf

Please take note of the above, substitute the revised pages for the originals, insert the new file into the proper folder, and acknowledge Addendum No. 5 in your Expedite Proposal file before submitting your bid.

Sincerely,

Eric M. Cardone, P.E.
Construction Contracts Engineer

EMC\ltp

cc: Narayana Kolla, P.E., Manager Alternative Procurement and Delivery
Valerie Kilduff, P.E., Design-Build Project Manager

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PROPOSAL

MARION-WAREHAM

For: **Bridge Replacement, M-05-001=W-06-013 & W-06-016, Marion Road/Wareham Road
(Route 6) Over Weweantic River,
Design-Build**

COMMONWEALTH OF MASSACHUSETTS

LOCATION

The work referred to herein is in the Towns of Marion-Wareham in Plymouth County, in the Commonwealth of Massachusetts, and is shown by the locus map (Document 00331) provided in RFP Volume II, Appendix D, the work locations extend as follows:

MARION

Route 6 (Wareham Street)

Beginning – Station 87+68 ±

WARHAM

Route 6 (Marion Road)

Ending – Station 117+00 ±

- ⑤ The contract prices shall include the furnishing of all materials (except as otherwise herein specified), the performing of all the labor requisite or proper, the providing of all necessary machinery, tools, apparatus and other means of construction, the doing of all the abovementioned work in the manner set forth, described and shown in the specifications and on the drawings for the work, and in the form of contract, and the completion thereof within **1,167 CALENDAR DAYS** upon receipt of a Notice to Proceed.

The Work of this Project is described by the following Items and quantities.

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Substructure:

- Pier and abutment geometry, including clear openings shall be the minimum shown in the BTC.
 - If the Design-Builder proposes to place the proposed substructures more than 15 feet from the location shown on the BTC plans, then the Design-Builder shall perform new borings and provide geotechnical data and calculation to validate the placement of the substructures. The Design-Builder shall account for additional borings in their bid. See Geotechnical requirements section of this document for more information.
- ⑤
- All bearings shall be in conformance with the MassDOT Bridge Manual, based on the selected superstructure type selected type. Elastomer will have a hardness of 60 durometer. A single bearing type will be used throughout the project. The Design-Builder shall investigate if vertical tie downs are required to resist against the buoyant force during the 100-year design flood event.
 - a. Design-Builder to follow AASHTO Guide Specifications for Bridges Vulnerable to Coastal Storms (BVCS) (AASHTO 2008 including 2023 Interim).
- ⑤
- b. Refer to the Hydraulic Report included in Appendix C for Hydraulic Loadings used for preliminary design of Bridges provided in BTC plans.
 - The proposed span arrangements shown in the BTC plans have associated borings, geophysical, or other information with each substructure element, either existing borings or new borings as part of this project and in accordance with the Bridge Manual. See Section 4.10 for geotechnical requirements.
 - All foundations shall be scour resilient and designed to be socketed into bedrock.

MassDOT has advanced the design development for the bridges included in this project through the BTC stage. The following is a description of each bridge proposed in the BTC plans. Following the descriptions are specific attributes and design requirements to each bridge. Unless specifically stated herein, the dimensions and structural elements shown on the plans are for schematic purposes only.

4.10.4.2.1 Route 6 Bridges

The BTC proposes both bridges be concrete superstructure bridges supported by drilled shaft supported abutments behind the existing abutments, and piers supported by a pile cap on drilled shafts.

The bridge cross sections will accommodate the following lane configurations as shown in the BTC Plans as follows:

- Route 6 (Wareham/Marion Road) over the Weweantic River – Bridge No. M-05-001=W-06-013 (CBJ) - four 11'-0" travel lanes (two in each direction) and 4'-0" shoulders and 10'-0" Share Use Paths on each side of the bridge.
- Route 6 (Marion Road) over the Weweantic River – Bridge No. W-06-016 (CBH) - four 11'-0" travel lanes (two in each direction) and 4'-0" shoulders and 10'-0" Share Use Paths on each side of the bridge.

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In order to maintain the required two travel lanes on Route 6, staged construction is proposed as shown in the BTC plans. No thru bolting of the proposed deck is allowed.

All in-water work shall comply with the time-of-year (TOY) restrictions as listed in the environmental permits.

The BTC proposes piers within the Weweantic River as columns founded on a shaft cap on drilled shafts as shown in the BTC Alternative pier designs will require a submittal of an ATC for MassDOT review.

- ⑤ Scour/Stability Analysis shall be conducted in conformance with the MassDOT LRFD Bridge Manual – Part I and Part II. Additionally, the piers within the river shall be designed for both the un-scoured/scoured conditions for the Extreme limit states. The scour to be included with the Extreme Limit States I & II equals 50% of the total scour for the Scour Design Flood per Bridge Manual Section 3.2.10.5.
- Preliminary design looked at the bridge un-scoured/scoured conditions for strength and Extreme limit states per AASHTO LRFD and per BVCS 2008 load combinations.
 - ⑤ • For preliminary study, scour depth and hydraulic loadings are taken from the Hydraulic Report included in Appendix C.
 - For lateral soil loading behind abutment wall for Extreme Events combination with Earthquakes, Design-Builder may only consider soil pressure above top of deep foundation for scoured conditions.
 - Preliminary design incorporated section properties of drilled shafts with permanent steel casing for Extreme limit states with EQ and or Hydraulic wave loading per BVCS.
 - If the Design-Builder proposes to use drilled shafts with permanent steel casing (CFST or RCFST), they need to follow design procedures per AASHTO LRFD Sections 6.9.6 & 6.12.2.3.3 and the detailing recommendations per following references:
 - FHWA-NHI-18-024: Drilled Shafts – Construction Procedures and Design Methods
 - NCHRP Research Report 872 (Project 12-93): Contribution of Steel Casing to Single Shaft Foundation Structural Resistance
 - Washington State DOT Design Memorandum dated October 07, 2012: Structural Design Recommendations of CFT and RCFT for Bridge Foundation

Each exterior bay will hold FRE conduits for Verizon, comcast and Eversource. An 18" pipe sleeve for future sewer pipe shall be installed at each abutment backwall.

Approach slabs shall include removable panels at utility locations to allow future access to the utilities.

In the event non cast in place deck is utilized, structural framing shall be designed to accommodate future cast in place deck replacement.

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5.6 ENVIRONMENTAL MITIGATION

- ⑤ MassDOT's goal for the mitigation area will be to successfully establish more than two times the area of successful salt marsh being impacted by construction activities related to this project. The successful establishment of salt marsh will include a vegetated berm that will help direct stormwater runoff away from the mitigation area, as well as maintaining existing native vegetation wherever practical.

In the event that impacts to wetland resources, protected habitats, or cultural resources beyond those permitted in the BTC are determined to be unavoidable, the Design-Builder is responsible for preparing all designs and specifications for environmental mitigation and for complying with all mitigation requirements and schedules contained in Environmental Approvals/Clearances, including requirements for noise control, water quality monitoring, and precautions for construction adjacent to "sensitive resource areas." As of the date of this RFP, it is assumed that work will occur in State or Federally regulated wetland resource areas. The Design-Builder's Price includes the cost of all mitigation, including any additional mitigation required as a result of amendments to Environmental Approvals/Clearances, except where such additional mitigation is required solely as a result of a MassDOT-directed change.

Public involvement and communications are very important aspects of this Project's development and construction phases. MassDOT has conducted extensive public outreach for this Project with the general public, abutters, local elected officials, local municipalities, local historical commissions, Federal and State agencies, and adjacent business owners.

The Design-Builder will be responsible for all mitigation commitments and permit conditions established in the aforementioned permits including potential amendments and approvals, and during the extensive public outreach process. In addition to those items already mentioned herein, this shall include but not be limited to:

- Adherence to Subitem 119.5 Construction Noise Control and Subitem 440.5 Construction Dust Control Draft BTC Special Provisions provided in Appendix C.
- A third-party Environmental Monitor is required, per USACE IP.
- ⑤ • Use of a Wetland Specialist during construction of the wetland replication site to ensure the site constructed and monitored in accordance with permit conditions and BTC Special Provisions.
- ⑤ • Wetland Specialist shall provide design and construction oversight outlined in wetland specifications, regulations and permits.
- ⑤ • Invasive Species Management as specified in the BTC and specifically developing a plan and implementation for the wetland mitigation areas, as noted in Section 4.15.
- Adherence to contract restrictions on parking in residential neighborhoods and routing truck traffic through residential neighborhoods.
- Construction of Storm Water Best Management Practices (BMPs).
- Submission of a Temporary Traffic Control Plan (TTCP) to MassDOT for review and approval. The TTCP will be coordinated with the elected, engineering, planning, and public safety officials in the affected municipalities of Marion and Wareham.
- Submission of a draft Public Participation (Outreach) Plan, prepared by a qualified professional, for review and acceptance by MassDOT.
- Submission of a Soil and Groundwater Management Plan for review and acceptance by MassDOT.

The mitigation commitments described below shall not be considered all-inclusive and shall be in addition to the requirements described in other Sections of the RFP.

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During construction, a Wetland Specialist, as dictated in the permitted conditions and BTC Special Provisions must be on site to review the excavation, grading and planting of the replication area. This Wetland Mitigation Specialist must also inspect plant materials prior to planting to ensure viability and source from native stock. During construction, preventative measures must be taken to minimize colonization by invasive species. Wetland soil must be sourced appropriately to ensure that invasive species are not present in the material brought on site. Furthermore, trucks and construction equipment (including tires or tracks) must be washed prior to entry to the replication site to remove/ rinse off any potentially contaminated soils or undesirable seeds. The area upland of the replication area must be installed with plants per details and under the direction of the Wetland Specialist, and stabilized with weed free straw mulch that will serve to protect against erosion and inhibit opportunistic invasive seed germination. Mulch shall not be used for plantings within the intertidal zone below the High Tide Line (spring high tide) line. Wetland and salt marsh restoration (temporary impact areas) will be similarly completed prior to the completion of construction.

Post-construction monitoring by a Wetland Specialist must occur in accordance with the loosely applied MassDEP Inland Wetland Replication Guidelines (2002) in order to ensure general compliance with 310 CMR 10.55(4)(b) which requires that “*The surface of the replacement area to be created ("the replacement area") shall be equal to that of the area that will be lost ("the lost area"); At least 75% of the surface of the replacement area will be reestablished with indigenous (native) wetland plant species within two growing seasons.*” These Guidelines detail post-construction monitoring to occur during the spring and fall growing seasons for a period of two years (or longer, in accordance with permit requirements). Monitoring will include vegetation transects (or other similar methods) to determine vegetative coverage and additional information as required in accordance with the special conditions and performance standards set forth in the permits.

Summary data of each monitoring visit must be provided in an annual report submitted to USACE, and MassDEP as specified in 401 WQC permit conditions. These reports must also detail remediation recommendations required for compliance, such as supplemental plantings or grading modifications. During these monitoring periods, the presence of invasive species must also be documented and if determined to be present, hand-pulled and properly disposed off-site. A definitive treatment plan must be developed that will comply with BTC specifications, relevant state regulations, and as conditioned with Permit approvals. Based upon the data collected during sampling events, the Wetland Specialist must render a conclusion within each report as to the success of the wetland mitigation area in terms of 310 CMR 10.55(4)(b) and permit conditions. Monitoring and reporting must be consistent with permit requirements and MassDOT’s annual report monitoring requirements.

The following Draft BTC Special Provisions shall be incorporated into the Contract for Wetland Restoration (See Appendix C):

- ⑤
 - Item 755.2 – Tidal Wetland Mitigation and Salt Marsh Replication Area
 - Subitem 755.45 - Wetland Restoration
 - Subitem 755.75 - Wetland Specialist
 - Subitem 755.76 - Wetland Monitoring Reports

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5.6.3 Streambed Restoration

As part of the construction associated with the proposed bridge replacement, significant in-water work will be required. Streambeds to be restored per the typical detail included in the permit plan set and the Subitem provided in the Draft BTC Special Provisions. The Weweantic River is a major tidal waterbody described in the permitting applications and approvals. The excavated streambed material from the westernmost pier of W-06-016, and that from the Marion Wareham bridge (M-05-001=W-06-013) is to be stockpiled and reused as practicable and as identified by the Wetland Specialist to cover all proposed new bridge piers. As a result of the 2024 Sediment Sampling, streambed material at the easternmost bridge pier (~STA 105.6) of the Wareham bridge (W-06-016) is not to be reused on-site (See Section 5.7). Streambed restoration specification has been provided.

The Design-Builder will also be responsible for preparing a phased water management plan to ensure continuous streamflow is not inhibited while work is actively conducted in dry conditions without causing turbidity or sedimentation. Restoration must comply with BTC Special Provisions, relevant state regulations, and as conditioned with Permit approvals. Streambed restoration is proposed in the Weweantic River in temporarily where existing bridge piers will be removed. Streambed Restoration shall be constructed in accordance with the BTC Special Provisions Subitem 983.521 provided in Appendix C. This work shall be performed in accordance with the 401 WQC and Section 404 IP authorization.

- ⑤
 - Subitem 983.521 – Streambed Restoration

Stormwater Control Measures (SCMs)

The intent for the stormwater controls measures (SCMs) is to utilize seed mixes, where applicable, that promote the filtering of stormwater pollutants in the SCM, and adjacent perimeters, control erosion, promote native plant diversity and provide food and habitat to wildlife, including pollinators. Areas shown as seed mixes in and around the SCM shall be kept clear (mown yearly or bi-annually) in order to facilitate maintenance personnel and vehicle access. Woody plants shall not be planted in these areas, including the maintenance access drives.

5.6.4 Invasive Insect Pests

As part of its environmental obligations, the Design-Builder shall be responsible for notifying Massachusetts Department of Agricultural Resources (MDAR) of construction activities and regularly coordinating with them to receive bulletins and updates for invasive species, including Asian longhorn beetle, emerald ash borer, spotted lanternfly.

In addition, prior construction activities, the Design-Builder shall provide mandatory training for all personnel, including compliance training as required, for invasive insect species. Training sessions shall be MDAR personnel or their designated specialists. Training shall be for the listed pests and additional subjects as recommended by MDAR. Design-Builder shall be responsible for arrangements, as well as all reproduction costs and distribution of training materials.

Contact at MDAR is

- ⑤ Jennifer Forman Orth, Ph.D.
Environmental Biologist
Massachusetts Department of Agricultural Resources <http://massnrc.org/pests>
251 Causeway St., Suite 500
Boston, MA 02114-2151
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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.

In addition, Milestone No. 2 – Substantial Completion also includes the following:

- Completion of all environmental mitigation and restoration areas.
- Completion of the roadway resurfacing, final drainage, guardrail barrier, and lane markings.
- Punch List has been developed.
- Fulfillment of the requirements identified in the MassDOT Standard Specifications for Highways and Bridges, 2024 Edition.

⑤ The Design-Builder shall achieve Milestone No. 2 within **1,083 Calendar Days** from NTP.

Milestone No. 1 – Contract Completion

Contractor Field Completion is defined as: All physical contract Work is complete including Punch List. The Contractor has fully de-mobilized from field operations.

In addition, Milestone No. 1 – Contractor Field Completion also includes the following:

- Completion of the Project including Milestone No. 2 and all Punch List Work.
- Acceptance of As-Built Drawings and Rating Reports.
- Fulfillment of the requirements identified in the MassDOT Standard Specifications for Highways and Bridges, 2024 Edition.

⑤ The Design-Builder shall achieve Milestone No. 1 within **1,167 Calendar Days** from NTP.