

**TOWN OF GLASTONBURY
BID NO. GL-2025-02
MAIN STREET PEDESTRIAN BRIDGE REPLACEMENT
AT WICKHAM BROOK**

**ADDENDUM NO. 1
AUGUST 9, 2024**

BID DUE DATE: AUGUST 15, 2024 11:00 A.M.

The attention of bidders submitting proposals for the above-referenced project is called to the following Addendum to the specifications. The items set forth herein, whether of omission, addition, substitution or other change, are all to be included in and form a part of the proposed Contract Documents for the work. Bidders shall acknowledge this Addendum in the Bid Proposal by inserting its number on Page BP-1.

Make the following modifications to the Contract Documents:

SPECIAL CONDITIONS: Section 11.01 of the Special Conditions TIME FOR COMPLETION / NOTICE TO PROCEED is hereby replaced with the following:

11.01 The work under this Contract shall commence on the date ordered by the Engineer in the Notice to Proceed. Reasonable time will be allowed for preparation of shop drawings and fabrication of the steel bridge and an installation date for the new bridge will be agreed upon. All contract work shall be completed within 45 calendar days of the established and agreed upon bridge installation date.

Within five (5) business days after the date of the Notice of Award, the Contractor must provide the appropriate bond and insurance certificates to the Town Purchasing Agent and must be issued a Notice to Proceed and Purchase Order for the Project prior to initiating any work.

SPECIAL PROVISIONS: The special provision for ITEM # 0604303A REPLACEMENT PEDESTRIAN BRIDGE SUPERSTRUCTURE is hereby replaced with the attached special provision (see pages SP-13 to SP-19). Revisions to the previous specification are highlighted in yellow.

QUESTIONS AND ANSWERS

Q1-1:	Please confirm that the new bridge will require two diagonals per bay, similar to the existing bridge.
A1-1:	No, the new bridge will not require two diagonals. See attached revised special provision for updated language regarding need for similarity to the existing bridge.
Q2-1:	The bridge specification indicates that a load rating is to be supplied. This is a deliverable that is typically supplied for vehicular bridges, but not pedestrian bridges such as this one. Please confirm it is truly required as there is an added cost associated with the preparation of this document.
A2-1:	A load rating is not required, see revised special provision.
Q3-1:	Please confirm that identification of fracture critical members and development of fracture control plan is required for this project as stated in the specification, as the required fabrication measures for Fracture Critical design are an added cost and AASHTO indicates that this requirement may be waived by the owner.

A3-1:	Yes, identification of fracture critical members and a fracture control plan are required.
Q4-1:	The maximum deflection of the deck due to live loads is L/1200 per the specification. AASHTO only requires L/360, can this requirement be reduced as such?
A4-1:	The L/1200 maximum deflection is required for this project.
Q5-1:	Please consider a significant extension to the 45 calendar day completion timeframe that is stated in the contract manual. We would likely require approximately 8 weeks to develop shop drawings following receipt of a purchase order, and about 22 weeks for fabrication and delivery of bridge following receipt of approved submittals. Therefore the contractor would be unable to meet this completion time.
A5-1:	The 45 calendar days will be counted from the agreed upon date for delivery of the bridge. See revised language for Special Conditions Section 11.01 in this Addendum.
Q6-1:	To galvanize and paint the floor beams, we will need to bolt them to the trusses. This can be accomplished by using a short stubbed floor beam off of the truss that is about 6" away from the truss, or we can weld the connection plates directly to the truss so that there is no stub. The advantage of the stub is that it is less visible from the exterior, however it does mean that a short piece of the floor beams will be unpainted weathering steel and not receive the galvanized and painted finish. Please indicate which option the Town prefers.
A6-1:	All steel substructure elements need to be galvanized and painted for durability so leaving a short stub of floor beam as weathering steel would not be acceptable to the Town.

NOTE: This Addendum consists of 8 pages including 6 additional pages for the revised Special Provision described above.

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ITEM # 0604303A REPLACEMENT PEDESTRIAN BRIDGE SUPERSTRUCTURE

Description:

Work under this item shall consist of dismantling, removal and off-site disposal of the existing pedestrian bridge superstructure, and designing, fabricating, furnishing and installing a replacement prefabricated pedestrian bridge superstructure attached to the existing bridge abutment with new anchor bolts. Work shall also include furnishing, installing and maintaining sidewalk closure advance warning signs and bridge closure impassable barriers. **The replacement prefabricated pedestrian bridge superstructure shall generally resemble but need not be identical to the existing pedestrian bridge as shown in the original bridge plans included in Attachment D, however it shall have galvanized and painted substructure members as described below.**

Materials:

The record shop drawing depicting the existing bridge that is being replaced is included with this bid for reference. The contractor shall verify in the field all existing dimensions shown on this plan and shall provide a bridge suitable for installation on the existing abutments with new anchor bolts to be provided and installed under a separate pay item. In verifying dimensions, particular attention shall be paid to the reinstalled anchor bolt layout as well as to the required structure depth in order to ensure that the finished walking surface of the proposed bridge matches flush with the top of the abutments and adjoining sidewalk.

STEEL SUPERSTRUCTURE: The replacement prefabricated pedestrian bridge superstructure shall be a Contech Engineered Solutions- Continental Link Pedestrian Steel Truss Bridge or approved equal utilizing steel Pratt-style trusses with galvanized **and painted** steel floor framing, **stringers**, and lateral bottom chord bracing supporting a pressure treated timber walking surface.

The structural steel fabricator shall be certified by the AISC Quality Certification Program for fabrication of Intermediate Steel Bridge Structures (IBr).

The Contractor shall submit Certified Test Reports and Materials Certificates for steel superstructure components, including galvanized high-strength bolts in accordance with Form 818, Article 1.06.07. All major components of the trusses, such as top chord, bottom chord, verticals and diagonals shall be fabricated from rectangular steel tubing. All floor beams, stringers and lateral bracing shall be fabricated from rectangular galvanized steel tubing or structural galvanized steel shapes.

All rectangular Hollow Structural Sections (HSS) shall conform to ASTM A847 and shall be tested per AASHTO T243 M/T, frequency P, for tubular members.

BRIDGE FINISH: Trusses shall be unpainted weathering steel. Floor beams, stringers, and brace diagonals shall be zinc coated (hot dipped) galvanized and painted. All exterior surfaces to be painted shall be abrasively blast cleaned in accordance with SSPC-SP6 prior to application of primer. All exterior surfaces to be painted shall utilize a 2-coat system of an epoxy mid-coat and polyurethane topcoat. Paint color shall be a brown to match weathering steel elements (Sherwin Williams SW 2856 Fairfax Brown or similar), color samples to be provided and approved by the Town of Glastonbury.

All other steel shall be AASHTO M270 Grade 50W steel and tested per AASHTO LRFD Article 6.6.2 Fracture.

Charpy V-Notch Requirements				
Type of Steel	Grade of Steel	Type of Member	Min. Average Energy (FT- LBS)	Temperature (°F)
ASTM A1085	50	HSS	25	40

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AASHTO M270	50F2	All Remaining Shapes and Plates	25	40
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Bolts shall be ASTM A325 Type 3 – weathering. Washers shall be ASTM F436 Type 3 – weathering. Nuts shall be ASTM A563 Grade C3 - weathering. All mounting hardware and fasteners shall be zinc coated (hot dipped) galvanized.

Tapered bearing plates shall be welded to the replacement bridge structure as shown on the original plans and shall be oriented such that the bottom of the sole plates are level (making up for residual camber) at installation of the replacement bridge on the existing abutment and anchor bolts.

Welding details, procedures and testing shall conform to the ANSI/AWS D1.1 - Structural Welding Code. Welding of shapes and plates shall conform to ANSI/AWS D1.5 Bridge Welding Code. All Fracture-Critical Members (FCM) shall be fabricated according to D1.5 Bridge Welding Code, Section 12.

TIMBER DECKING: Timber Decking shall be pressure treated 3” thick x 8” select structural southern yellow pine (Fb=1,400 psi min.) or better. Decking fasteners shall be zinc coated (hot dipped) galvanized.

GENERAL BRIDGE PARAMETERS: Replacement pedestrian bridge superstructure shall be weathering steel trusses with galvanized and painted floor beams, stringers, and brace diagonals.

Configuration:	H-section
Length:	80’ – 0” (center to center of bearing) 80’ – 10” (out to out)
Width:	6 ft.
Elevation Difference:	None
Camber:	Dead Load Only
Finish:	Unpainted weathering steel (galvanized and painted floor beams, stringers, and brace diagonals)
Decking:	Pressure Treated 3x8 PT Southern Yellow Pine, shop installed
Railing Type:	Vertical pickets spaced at 4” max up to 54” above deck with handrail matching existing bridge shop drawing
Design Code:	AASHTO LRFD Guide Specification for Design of Pedestrian Bridges
Live Load:	90 psf (no dynamic load allowance)
Design Vehicle:	H5 (no dynamic load allowance)

ABUTMENT DESIGN LOADS: Original documentation regarding the soil conditions and allowable bearing pressure used for design of the existing abutments is not available. It is understood however that the abutments were designed at a minimum to support the reactions shown on the existing bridge shop drawing included in Attachment C of 28.8 kips vertical (8.4 kips dead load plus 20.4 kips live load), 8.4 kips horizontal wind load and uplift of 3.3 kips (at one baseplate). The bridge manufacturer shall provide computations for new bridge reactions at the abutments per current design standards to the Town for comparison to prior loading and further evaluation of the abutments by a structural engineer to be retained by the Town.

Construction Methods:

Prior to fabrication, the Contractor shall prepare and submit calculations and working drawings for the design, fabrication and erection of the prefabricated bridge superstructure for review in accordance with Article 1.05.02 and Sub Article 6.03.03-2. An individual, independently packaged set of working drawings and computations, with all details and documents necessary for fabrication and erection of the replacement structure and its components, including a copy of the certificate of insurance, shall be prepared and submitted for each pedestrian bridge superstructure. The bridge number (or site identifier, if no bridge number has been assigned) shall be included on these documents. The working drawings and computations shall be prepared in Customary U.S. units.

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The packaged set of working drawings and computations for the replacement bridge superstructure shall be submitted for review. The packaged set shall include the following:

- title sheet
- table of contents
- contact information for designer, fabricator and metallizer – contact information should include name and address of each firm and the name of contact person with phone number and email address
- copy of the certificate of insurance
- copy of fabricator's AISC certification
- replacement pedestrian bridge superstructure working drawings
- replacement pedestrian bridge superstructure design computations
- ~~replacement pedestrian bridge live load ratings, together with all electronic files, including intelligent files from load rating software used~~
- welding procedures
- fracture control plan
- bridge erection plans
- replacement pedestrian bridge reaction calculations at each end of bridge

The working drawings and design computations shall be **signed, dated and sealed** by a Professional Engineer licensed in the State of Connecticut, who shall also be available for consultation in interpreting his computations and drawings, and in the resolution of any problems which may occur during the performance of the work. Each working drawing shall be signed, dated and sealed. The cover/first sheet for the computations shall be signed, dated and sealed.

The Working Drawings shall include complete details of all replacement pedestrian bridge superstructure components. The drawings shall include, but not be limited to the following:

- Project number, town and crossing with bridge identification number (Bridge No. or Site No. as applicable)
- Reference to the design specifications, including interim specifications
- Design criteria
- Material specifications for all components, including Charpy testing
- Non-destructive weld testing requirements
- Layout plan, Elevation View and Typical Bridge Section with Shipping length, width, height and weight of units to be transported
- Framing plan, showing trusses, locations and details of all connections and field splices, support beams, deck edge supports, lateral bracing and bearing plate details. The number of truss sections shall be minimized to reduce the amount of field splicing, but shall allow for the legal transportation of the sections being shipped.
- Identify all Fracture Critical Members (FCM's)
- Fabrication details, including member sizes, shear connectors, materials lists, etc.
- Bolted splice details, including plate sizes, materials lists, installation instructions, etc. Splice plates shall be installed inside of the tubular members.
- Dead load and permanent camber requirements
- Deck plan, sections and details
- Fencing and handrail details
- Erection Plan and details with lifting point locations and complete erection sequence

Contractor is required to provide for review and approval a maintenance and protection of traffic plans for the removal of the existing pedestrian bridge and the installation of the replacement pedestrian bridge prior to the

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commencement of any work. Plans should depict proposed crane location along the Main Street shoulder along with required truck space for off-site removal of the existing bridge and off-loading of the replacement bridge depicting appropriate construction signage and cones.

The proposed crane staging area for removal of the existing pedestrian bridge and installation of the replacement pedestrian bridge shall be located along Main Street only. Contractor shall submit maintenance and protection of traffic plans for approval as outline within the specification prior to commencement of operations.

Contractor is required to carefully dismantle the existing pedestrian bridge in two sections to be transported off-site for disposal by means of a crane. Contractor shall unbolt the existing pedestrian bridge for its existing abutment anchor bolts and existing bridge splice location for removal. Temporary bridge section support may be required during the removal and installation process.

Contractor shall provide a Bridge Dismantling Plan and Sequence for removal and dismantling the existing bridge which shall include the following information:

- The location and design capacity of any temporary shoring towers.
- The weight of each section of the existing superstructure handled during dismantling and the weight of the bridge on any towers.
- Detailed dismantling and removal procedure for all stages of bridge removal that breaks down each stage into easy to follow steps.
- The capacity, position and orientation of all cranes, steerable trailers, mobile lifting equipment, delivery trucks, jacks, etc. used to dismantle/remove the existing superstructure sections.
- Crane charts
- The limits of roadway closure and anticipated duration of each step of the dismantling and removal procedure.

Contractor shall provide a Bridge Erection Plan and Sequence which shall include the following information for all stages of installation:

- The location and design capacity of any temporary shoring towers.
- The weight of each section of the superstructure handled during installation and the weight of the bridge on any towers.
- Detailed installation procedure for all stages of installation that breaks down each stage into easy to follow steps.
- The capacity, position and orientation of all cranes, steerable trailers, mobile lifting equipment, delivery trucks, jacks, etc. used to move/assemble the superstructure sections.
- Crane charts
- The limits of roadway closure and anticipated duration of each step of the installation procedure.
- Temporary staging layout including orientation of equipment required to make splice connections.

The Design Computations shall include, but not be limited to the following:

- The project number, town and bridge identification (crossing and Bridge No. or Site No.)
- References to design specifications, including interim specifications, and the applicable code section and articles
- Description/documentation for all computer programs used in the design
- Drawings/models of the structure, components and connections, with dimensions, loads and references to the local and global coordinate systems used (as applicable), to facilitate review of the results

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- A tabulation of the section properties of the tubular members at each analyzed section. The tabulated values should include the dimensions of rectangular sections, wall thickness, inside bend radius, cross-sectional area, moment of inertia, section modulus, radius of gyration, and the effective length factor.
- Field splice design and calculations.
- Coefficients and factors used in the design
- Results of all group loads and load combinations
- Horizontal and vertical deflections due to load combination Service I in Table 3.4.1-1of AASHTO LRFD
- ~~Live load ratings for the bridge.~~
- ~~The live load ratings shall be computed in accordance with the load and resistance factor rating (LRFR) method described in the AASHTO Manual for Bridge Evaluation (AASHTO MBE). Live loads used shall be those used in design, as specified in the LRFD Guide Specifications for the Design of Pedestrian Bridges. In the event of conflict between live load rating requirements and procedures outlined in the Bridge Inspection Manual with those of the AASHTO MBE, the Engineer will resolve the matter.~~

The Contractor shall submit the packaged set of working drawings and calculations to the Town. The working drawings, ~~and design computations and live load ratings~~ shall be sealed by a Professional Engineer licensed in the State of Connecticut, who shall also be available for consultation in interpreting his computations and drawings and in the resolution of any problems which may occur during the performance of the work. Please note that each working drawing must be sealed.

The reviewed and stamped working drawings and calculations will be returned to the Contractor, along with a recommendation regarding acceptance. Should the Town recommend resubmittal, the Contractor shall address the comments and resubmit the corrected package with a letter indicating the disposition of his responses to the comments. After the Town has reviewed the revised package and the responses, ensured all comments have been addressed satisfactorily and have found the submittal to be acceptable, a recommendation for acceptance may be sent to the Contractor.

The replacement bridge superstructure shall be designed in accordance with the latest editions of the following specifications, including interim specifications: LRFD Guide Specifications for the Design of Pedestrian Bridges (LRFD Guide), and the AASHTO LRFD Bridge Design Specifications (LRFD Specifications).

The replacement superstructure shall have a total camber at mid span as shown on the original plans.

The replacement structure shall be shipped with sufficient dunnage and shall be securely tied down in such a manner as to protect the structure from damage.

The replacement superstructure supplier shall provide the services of an on-site technical advisor to instruct the Contractor in the proper method of handling and placement of the replacement prefabricated bridge superstructure. The technical advisor shall remain on the site during the entire bridge erection operation and will be discharged of his/her services only at the Engineer's discretion. Installation of the bridge shall be performed and paid in accordance with these specifications.

Should the Contractor cause any damage to the roadway or its appurtenances, utilities above or below the roadway or other structures nearby, he shall be responsible to repair the damage or replace the damaged element at his own cost. Such repairs or replacement are subject to prior approval by the Engineer.

The replacement prefabricated pedestrian bridge superstructure may be delivered to the job site in sections with measurements and weights as depicted on the plans and accepted Working Drawing submittal.

Fabrication and construction of the replacement pedestrian bridge superstructure shall conform to the Standard Form 818, Article 6.03.03.

Bearing plates shall be shop welded to the structure prior to installation. Contractor to furnish and install Teflon Pad, Setting Plate and grout required per the approved shop drawing.

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The minimum vertical and horizontal clearances for operating equipment under and adjacent to overhead utility lines shall be in accordance with the current State of Connecticut & OSHA Regulations. Deviations, including power outages, require prior written approval from the utility owner.

Installation of the replacement superstructure shall be completed in accordance with a detailed Bridge Erection Plan and Sequence submitted to and accepted by the Engineer a minimum of 60 calendar days before the scheduled installation date of the superstructure.

The deck shall be constructed with edge supports beneath the timber walkway as part of the structural steel framing. The deck shall be designed with a maximum deflection due to live loads of $L / 1200$.

Restoration of all areas disturbed as part of this work shall also be included under this line item.

Topsoil, Turf Establishment, and patching of Bituminous Concrete Pavement, as necessary, shall conform to applicable sections of the Form 818.

Contractor is required to furnish, install, maintain and relocate sidewalk closure advanced warning signs and barricades within the work zone throughout the project duration in locations approved by the Engineer. If there is any duration of time between removal of the existing pedestrian bridge and installation of the replacement pedestrian bridge, the Contractor is required to furnish, install and maintain impassable safety barriers with signage in the vicinity of each of the existing abutments warning the bridge is out. Impassable safety barrier location, material and signage shall be reviewed and approved by the Engineer prior to installation.

Method of Measurement:

Replacement Pedestrian Bridge Superstructure, being paid for on a lump sum basis, will not be measured for payment. Furnishing, installing, maintaining and relocating sidewalk closure advanced warning signs and barricades within the work zone throughout the project duration and furnishing, installing and maintaining impassable safety barriers with signage in the vicinity of each of the existing abutments will not be measured for payment. This work and material will be included in the unit price bid for "REPLACEMENT PEDESTRIAN BRIDGE SUPERSTRUCTURE". Construction Surveying required for fabrication and installation of the replacement pedestrian bridge will not be measured for payment. This work will be included in the unit price bid for "REPLACEMENT PEDESTRIAN BRIDGE SUPERSTRUCTURE".

Basis of Payment:

This work will be paid for at the lump sum price for "REPLACEMENT PEDESTRIAN BRIDGE SUPERSTRUCTURE", complete, in-place, and accepted, which price shall include all permits, materials, equipment, tools and labor incidental to the dismantling, removal and disposal of the existing pedestrian bridge superstructure, design, fabrication, construction, delivery, handling, unloading and erection of the replacement prefabricated bridge superstructure, including bearing plates, setting plates, grout, temporary bridge support(s), furnishing, installing, maintaining and relocating sidewalk closure advanced warning signs and barricades, furnishing, installing and maintaining impassable safety barriers with signage, construction surveying, and turf and pavement restoration as required.

The cost of restoring any areas disturbed as part of the work, including topsoil, turf establishment, or pavement repairs, shall also be included in the lump sum bid price for "REPLACEMENT PEDESTRIAN BRIDGE SUPERSTRUCTURE".

The cost for Construction Surveying required for fabrication and installation of the replacement pedestrian bridge shall be included in the lump sum bid price for "REPLACEMENT PEDESTRIAN BRIDGE SUPERSTRUCTURE".

<u>Item No.</u>	<u>Description</u>	<u>Unit</u>
0604303A	REPLACEMENT PEDESTRIAN BRIDGE SUPERSTRUCTURE	L.S