

PROJECT:
42 Inch PCCP Raw Water
Conveyance Pipeline and EDV
Facility
1515 Granville Road
Westfield, MA 01085
Project No. 24-01

ADDENDUM NO. 2 03/26/2024

Posted: 03/26/2024 at 8:13PM EDT

Awarding Authority/Owner:
Springfield Water and Sewer Commission
250 M Street Extension
Agawam, MA 01001

Reference Contract Documents (drawings and specifications) dated 02/21/2024

The attention of Bidders submitting proposals for the above subject project is called to the following addendum to the specifications and drawings. The items set forth herein, whether of omission, addition, substitution, or clarifications are all to be included in and form a part of the proposal submitted.

THE NUMBER OF THIS ADDENDUM (2) MUST BE ENTERED IN THE APPROPRIATE SPACE "B" PROVIDED AFTER THE WORD "NUMBERS" OF THE CONTRACT FORM ENTITLED "FORM FOR GENERAL BID," AND IN SPACE "B" OF THE "FORM FOR SUB-BID."

BID DOCUMENT MODIFICATIONS ARE AS FOLLOWS.

General Bid Date Changes:

Modify the general bid date as follows.
Change the general bid date and time from 04/05/2024 at 2:00PM EDT to read
04/26/2024 at 2:00PM EDT.

Pre-Bid Conference / Site Changes:

The following modifications have been made to the Pre-Bid Conference / Site Visit.

Pre-Bid Site visit requirement : Optional

Scheduled:

Date: 04/05/2024 at 10:00AM EDT

Location: 1515 Granville Road, Westfield, MA 01085

Other Modifications / Attachments:

The following attachment includes additional modifications, clarifications and/or provisions not included in the items above in this Addendum.
See document at the end of document.

All other of the portions of the Contract Documents remain **unchanged**. Please be reminded to acknowledge this Addendum on the bid forms.

ATTACHMENTS

SPRINGFIELD WATER AND SEWER COMMISSION

ADDENDUM No. 2

**TO
CONTRACT DOCUMENTS FOR**

**IFB# 24-01 WEST PARISH FILTERS WATER TREATMENT PLANT 42 INCH
RAW WATER CONVEYANCE REHABILITATION AND ENERGY
DISSIPATION VALVE CHAMBER
WESTFIELD, MASSACHUSETTS 01201**

Bidders are hereby notified of the following additions, deletions, and modifications to the Contract Documents for IFB# 24-01 42 Inch Raw Water Conveyance Rehabilitation and Energy Dissipation Valve Chamber.

Bidders shall acknowledge receipt of this Addendum in the space provided on the bid forms.

A. ANNOUNCEMENTS

The following changes have been made to the bid schedule:

Last day for submittal of written questions to CPO (theo.theocles@waterandsewer.org) – Friday April 12, 2024

BIDS DUE TO SWSC and opened - Friday April 26, 2024

Another optional site visit is scheduled for April 5, 2024, at 10am at 1515 Granville Road, Westfield, MA.

B. SPECIFICATIONS

Section 00020 Invitation to Bid – Page 1, PP2 delete and replace with: “Sealed bids will be received at the Offices of the Springfield Water and Sewer Commission, 250 M Street Extension, Agawam, MA 01101 or by mail at the Springfield Water and Sewer Commission, 250 M Street Extension, Agawam, MA 01101 until April 26, 2024, 2:00 p.m. at which time all bids will be publicly opened and read aloud. “

Section 00020 Invitation to Bid - Page 2, PP 3 delete and replace with: “All questions

must be made in writing and received by the SWSC Chief Procurement Officer, Theo G. Theocles, Esq., no later than April 12, 2024, via the following contact: theo.theocles@waterandsewer.org.”

Section 00100 Instructions to Bidders – Article 5 Table, Spec No. 02610, delete and replace with:

Spec No.	Name	Summary of Specialty Subcontractor Required Experience
02610	CFRP Repair	10 independent installations of CFRP in the past five years of pipelines greater than 30 inches and pressures greater than 30 psi and minimum length of a single pipe stick of repair
		Letter from system supplier verifying the CFRP installer are trained and certified in the proposed CFRP system.
		Foreman, head supervisor, and 5 technicians shall be certified to perform CFRP repairs.
		3 years experience in CFRP repair of man-entry internal repair pipe repair projects, with 5 internal pipe repairs projects per worker.

Section 00200 A6 Statement of Bidder’s Qualifications – Delete Items 16 and 17

Section 00300 Bid Form – Item 34 delete and replace with:

Item No.	DESCRIPTION OF SCHEDULED ITEM	UNIT PRICES	ESTIMATED QTY/ UNIT OF MEASURE		TOTAL PRICES
		Dollar Figure			
		UNIT PRICES			
		Written Words			
34A	Upland Restoration [Buffer zone and lawn disturbances]		85,000	SF	\$ _____
34B	Wetland Restoration		4,400	SF	\$ _____
34C	Riverfront Restoration – Indigenous shrubs		10	EA	\$ _____

Section 01151 Measurement and Payment – 1.03 ITEM 3 A through C delete and replace with:

ITEM 3 CONSTRUCTION OF ENERGY DISSIPATION VALVE CHAMBER

- A. General. The lump sum price for Item 3 shall constitute full compensation for the demolition of existing structures and equipment, and for the construction of the Energy Dissipation Valve Chamber, Equalization Tank, electrical duct bank, handholes, site lighting, gravel access road, all equipment, piping, yard piping, valves, 42-inch steel pipe, cathodic protection, and 60-inch steel pipe complete as a functional, tested, operating system, as indicated on the drawings and as specified, except for work included for payment under Items 4,5, and 6 to 37 inclusive. Procurement (furnishing) of the Mokveld axial control valves is covered separately under Bid Item 4, but installation and testing are covered under Item 3.
- B. Method of Measurement. Measurement for construction of the Energy Dissipation Valve Chamber shall be lump sum as approved by the Engineer.
- C. Method of Payment. Payment for construction, testing, and commissioning of the Energy Dissipation Valve Chamber, Equalization Tank, electrical duct bank, handholes, site lighting, gravel access road, all equipment, associated piping, yard piping, valves, 42-inch steel pipe, cathodic protection, and 60-inch steel pipe, repaired 42-inch PCCP pipe, and all else required to complete the installation for an operable facility as designed, whether shown on the drawings or not, shall be the lump sum price under this bid Item, based on the percentage of Work completed as specified, tested, and approved by the Engineer, as included in Contractor's approved schedule of values.

Section 02610 CFRP Repair – Paragraphs 1.5.A.1 and 1.5.A.3 delete and replace with:

- 1. “The CFRP INSTALLER must be certified by the MANUFACTURER and have completed a minimum of ten (10) independent installations of CFRP involving internal pipe rehabilitation projects in the past five years. For a project to be considered applicable, it must involve the following: internal application of CFRP on pipelines greater than 30 inch diameter, with pressures greater than 30 psi operating pressure, where the same CFRP system proposed for use on this project has been used as a stand-alone upgrade of the pipeline without reliance on the host pipe for structural integrity. The minimum project length shall be a single pipe stick of repair. Provide a list of project references meeting above requirement - with OWNER'S contact information for each project.
- 3. Certification that the foreman, head supervisor and top 5 carbon fiber installation technicians available to perform the work for OWNER have a

minimum of 3 years of experience in man-entry pipe repair projects using CFRP, with a minimum of 5 internal pipe repair projects using CFRP per worker. A list of names, titles and projects shall be provided.

Section 02610 CFRP Repair – Paragraphs 2.2.C delete and replace with:

- C. Thickened Epoxy
 - 2. Thickened epoxy shall either be pre-formulated and brought to site in pre-proportioned containers or prepared on site by mixing the impregnating resin with Cab-O-Sil TS-720, or approved equal, treated fumed silica to achieve the required viscosity.

Section 02610 CFRP Repair – Paragraphs 2.3 B delete and replace with:

- B. The GFRP composite system shall be a designed system consisting of all associated fiber reinforcement and polymer adhesives/resins. All components of the GFRP composite system shall be provided by the same Manufacturer of CFRP system. The GFRP composite laminates shall have the following mechanical and physical properties:
 - 1. Minimum tensile modulus of elasticity: 2,000 ksi
 - 2. Minimum laminate thickness: 0.01 inch
 - 3. Maximum laminate thickness: 0.10 inch
 - 4. Minimum tensile strength: 30 ksi
 - 5. Minimum strain at GFRP rupture (ASTM D3039): 1.0 percent

QUESTIONS

Question 1: The following items, which are located in the area of the proposed EDV chamber, do not appear to be covered for payment under a particular bid item:

Electrical Duct Bank
Handholes
Site Lighting
Cathodic Protection
Native Shrub Plantings
Gravel Access Road
Various Yard Piping

Please provide measurement & payment for these items.

Response 1: Items listed above are included in the lump sum for Item 3, except for Native Shrub Plantings which are covered in Item 34. See modifications shown above to Lump Sum Item 3 of the Measurement and Payment, Specification 01151, and Item 34 of the Bid Form, Specification 00300, to clarify what is covered.

Question 2: Please provide a detail for the proposed handholes.

Response 2: Refer to details and NOTES on Sheet 99 E-002 of the drawing package and Specification Section 16402.

Question 3: The contract documents call out for confined space rescue services throughout the project. Please provide more detailed information on what exactly is required... I.E. How many person crew/required equipment/required certifications, training/etc...

Response 3: Specification 01120 Health and Safety outlines the requirements for rescue services to comply with OSHA 29 CFR 1910.1469(k)(1) and OSHA 29 CFR 1910.146 Appendix F. Rescue services are required to avoid reliance on local emergency services/ Fire Department.

Question 4: How can we coordinate another visit to the EDV site?

Response 4: Another optional site visit is scheduled for April 5, 2024, at 10am at 1515 Granville Road, Westfield, MA.

Question 5: In review of the Pollution Liability insurance requirements in the specifications, it appears that the required limit is \$5 million single and \$10 million annual aggregate. In the past, SWSC has required \$1 million single and \$3 million annual aggregate limits. Please verify the required limits for this project, as the \$5M/\$10M limits would add a significant cost compared to prior projects.

Response 5: The Pollution Liability insurance requirements outlined in the specifications are correct - is \$5 million single and \$10 million annual aggregate.

Question 6: Please extend bid date by 3 weeks and allow for a second site visit.

Response 6: Bid date has been extended to April 26, 2024.

Question 7: Please provide design criteria for GFRP repair and confirm that a minimum of two layers is required.

Response 7:

- a) GFRP design criteria: Non-structural Class I lining per AWWA 2019, "Structural Classifications of Pressure Pipe Linings", to protect the host pipe from internal erosion-corrosion. Contract Specifications to be updated in a future addendum.

b) Minimum number of layers: The number of layers required to ensure that the lining shall have sufficient adhesion strength to resist negative pressures (vacuum), thermal stresses and shear stresses where relevant.

Question 8: Please confirm that details C, D, and E on page 53 of the drawings apply to the GFRP repairs we well.

Response 8: Confirmed, details on sheet 99 C-513 apply to GFRP repairs.

Question 9: Pressure is provided in the spec as 150 psi. Profile drawing provided on page 34 of Addendum 1 indicates that pressures can be higher / lower than 150 psi. For CFRP repairs, which should we use for design, 150psi, 150psi plus 60psi transient, or profile drawing provided on page 34 of Addendum 1 plus transient?

Response 9: Refer to Section 2.1 C (Specification 02610) for CFRP design criteria.

Question 10: Please confirm that submittals for Subsections 1.5A and 1.7A are required with bid for SECTION 02610 - CFRP TECHNICAL SPECIFICATION.

Response 10: Subsections 1.5A and 1.7A (Specification 02610) are not required as part of Bid submission.

Question 11: Please confirm that pipes are currently positively marked on the interior in terms of numbering / location? If not, please confirm that owner / owner's representative will mark/number the pipes for repair?

Response 11: Pipes are positively marked on the interior surface. If any individual pipe marking is unclear, it is very likely that adjacent pipes are clearly marked and subject pipe can therefore be located. Owner will not identify or mark any pipes above ground for repair.

Question 12: Please confirm that the repair designer must have completed a minimum of thirty (30) independent designs of CFRP repairs involving internal pipe rehabilitation projects in the past three years. For a project to be considered applicable, it must involve the following: internal application of CFRP on pipelines greater than 36 inch diameter, with pressures greater than 60 psi operating pressure, where the same CFRP system proposed for use on this project has been used as a stand-alone upgrade of the pipeline without reliance on the host pipe for structural integrity. The minimum project length shall be 20 lineal feet of repair. Provide a list of project references meeting above requirement – with OWNER'S contact information for each project.

Response 12: See modified Specification Section 02160 Section 1.5 A.1 under SPECIFICATIONS above that refers to qualifications of the CFRP INSTALLER.

Question 13: Regarding the qualifications for 02610 CFRP Technical Specification. We asked that two of the qualifications be changed.

1. The CFRP INSTALLER must be certified by the MANUFACTURER and

have completed a minimum of thirty (30) independent installations of CFRP involving internal pipe rehabilitation projects in the past three years. For a project to be considered applicable, it must involve the following: internal application of CFRP on pipelines greater than 36 inch diameter, with pressures greater than 60 psi operating pressure, where the same CFRP system proposed for use on this project has been used as a stand-alone upgrade of the pipeline without reliance on the host pipe for structural integrity. The minimum project length shall be 20 lineal feet of repair. Provide a list of project references meeting above requirement – with

Will the owner reduce the (30) independent installations to 5 installations?

Response 13: See modified Specification Section 02160 Section 1.5 A under **SPECIFICATIONS** above.

Question 14:

Certification that the foreman, head supervisor and top 5 carbon fiber installation technicians available to perform the work for OWNER have a minimum of 3 years of experience in large diameter internal pipe repair projects using CFRP, with a minimum of 20 internal pipe repair projects using CFRP per worker. A list of names, titles and projects shall be provided.

CFRP INSTALLER workforce is to self-perform the CFRP installation and all associated work tasks as outlined in Division 1 General Requirements of the specification. A confirmation statement shall be included with bid confirming that the full scope of work will be self-performed by the CFRP INSTALLER.

Will the owner reduce the 20 internal pipe repair projects using CFRP per worker to 6 internal pipe repair projects using CFRP per worker?

Response 14: See modified Specification Section 02160 Section 1.5 A under **SPECIFICATIONS** above.

Question 15: During Prebid meeting, it was discussed the current pipe is marked from past inspections and condition assessments, please confirm there is some degree of reference marking which exists in the pipe alignment.

Response 15: See Response to Question 11.

Question 16:

RFI 2: As result of COVID-impacted delays on FRP related projects, please consider the following qualification requirements for CFRP INSTALLER: “a minimum of 20 installations of CFRP involving internal pipe rehabilitation projects in the last 5-years. For a project to be considered applicable, it must involve the following: an internal application of a CFRP in a multi-layer application on pipelines greater than 36-inch diameter where the same CFRP system proposed for use on this project has been a stand-alone upgrade without reliance on host pipe for structural integrity.” In the absence of this extensive pipe experience, AWWA C305 recognizes the in-service history for acceptance of CFRP system materials to be either well-documented pipe installations or civil-structural applications. Please recognize alternative CFRP INSTALLER qualifications with greater of 5-years of installation history in civil-structural applications representing a minimum of 50-projects with the specified CFRP system. CFRP INSTALLER must confirm current crews are trained and certified by the CFRP system MANUFACTURER for specialized pipe applicator training.

Response 16: See modified Specification Section 02160 Section 1.5 A under **SPECIFICATIONS** above.

Question 17:

RFI 3: CFRP system manufacturer(s) train and certify crew individuals as members of a CFRP Installer – not the INSTALLER company. Please consider the change for top three crew members (including foreman/supervisory) must have a minimum of 5-years pipe experience with a minimum of 20 internal pipe repair projects using CFRP per worker. All INSTALLER crew members must have at least three years of experience with proposed CFRP system (including non-pipe strengthening applications) and must be formally trained and certified for pipe installations by the CFRP system manufacturer.

Response 17: See modified Specification Section 02160 Section 1.5 A under **SPECIFICATIONS** above.

Question 18: Please confirm Field QA/QC personnel can be CFRP system manufacturer representative, or qualified inspector trained and designated representative by the CFRP system manufacturer.

Response 18: Confirmed as acceptable.

Question 19: Please provide the specific design parameters and intent for the glass fiber reinforced polymer (GFRP) laminate repairs.

Response 19: See Response to Question 7.

Question 20:

RFI 6: In response to COVID supply chain disruptions, alternative thickening agents have been tested and qualified by CFRP system manufacturer(s) and integrated into the CFRP INSTALLER training program. Please allow for consideration of these inert thickening products by CFRP system manufacturer after review of curing time/degree of cure testing and documented successful use on municipal pipe CFRP repair projects.

Response 20: See modified Specification Section 02160 Section 2.2 C under **SPECIFICATIONS** above.

Question 21:

RFI 7: Please confirm the goal and intent (e.g. corrosion/leakage barrier, minimum number of layers) of the glass fiber reinforced polymer (GFRP) laminate repairs in the numerous PCCP segments identified in bid drawings (Bid Item 19 – Qty. 52 segments).

Response 21: See Response to Question 7.

Question 22: Please confirm CFRP system manufacturer(s) may propose alternative thickness GFRP fabrics provided testing and well-documented history of performance and successful installations.

Response 22: See modified Specification Section 02160 Section 2.3 under **SPECIFICATIONS** above.

Question 22: Please provide water quality information/ testing reports, velocity and confirm whether the flow media has presence of grit and solids to better confirm required topcoat system. Typical finish coat of thickened epoxy is suitable for potable water mains but may not be adequate for raw water systems.

Response 22: Will be addressed in future Addendum.

Question 23: As standard end terminations of CFRP repairs require the installation of SS expansion rings (WEKO), please allow for all qualified INSTALLERS of CFRP systems to be deemed acceptable and recognized for this scope item.

Response 23: Qualified Installer to demonstrate compliance with Contract Documents.

Question 24: As standard end terminations of CFRP repairs employ SS expansion rings (WEKO), please allow for interpretation of “manufacturer” to be that of the CFRP system manufacturer and recognize their certified applicator training.

Response 24: Qualified Installer to demonstrate compliance with Contract Documents.

Question 25: Please confirm the Internal Pipe Joint Seals are to possess two (2) SS expansion ring (bands) minimum in the assembly from the approved manufacturers listed.

Response 25: Correct.

Question 26:

RFI 13: As specified test equipment "Cherne Air-Loc Joint Tester from Oatey Company" is generally configured in construction to that of a WEKO seal required and installed in PCCP construction, please allow for all qualified INSTALLERS of CFRP systems to be deemed acceptable and recognized for this scope item with required training by the manufacturer of test equipment.

Response 26: Qualified Installer to demonstrate compliance with Contract Documents.

Question 27: Please allow for letter from manufacturer of test equipment to be provided "After award and prior to mobilization."

Response 27: It is acceptable that the letter from the manufacturer can be provided after award and prior to mobilization. Contract Specifications to be updated in a future addendum.

Question 28: Please allow for all qualified INSTALLERS of CFRP systems to be deemed acceptable and recognized for this particular scope item and for documentation to be provided "After award and prior to mobilization."

Response 28: Qualified Installer to demonstrate compliance with Contract Documents. It is acceptable that the documentation can be provided after award and prior to mobilization. Contract Specifications to be updated in a future addendum.

Question 29:

RFI 16: As concrete and joint mortar are commonly encountered and required as part of the standard end termination detailing required for the installation of internal CFRP pipe repairs, please allow for all qualified INSTALLERS of CFRP systems to be deemed acceptable and recognized for this scope item.

Response 29: Qualified Installer to demonstrate compliance with Contract Documents.

Question 30:

RFI 17: As concrete and joint mortar are commonly encountered and required as part of the standard end termination detailing required for the installation of internal CFRP pipe repairs, please allow for interpretation of "manufacturer" to be that of the CFRP system manufacturer with specified product and details developed with the partner CFRP system Engineer.

Response 30: "Manufacturer" cannot be interpreted as the "CFRP System Manufacturer".

Question 31:

RFI 18: As cement-mortar lining repairs are commonly encountered and required as part of the surface preparation efforts to provide a uniform datum for the installation of internal CFRP pipe repairs, please allow for all qualified INSTALLERS of CFRP systems to be deemed acceptable and recognized for this scope item.

Response 31: Qualified Installer to demonstrate compliance with Contract Documents.

END OF ADDENDUM