

ADDENDUM NO. 1

**WALT WILLIAMS WTP FILTER REHAB PROJECT
FILTER VALVE PROCUREMENT**

**CITY OF LAGRANGE
LAGRANGE, GEORGIA**

GENERAL

Cover Letter, Item No. 7, delete in its entirety and replaced with:

“7. This quote will be awarded on a Lump Sum basis to one company / supplier.”

Cover Letter, add Item No. 8:

“8. Start-up services shall be provided for all valves supplied. Two field trips are anticipated, one field trip to start-up the valves with tag numbers starting in 49 and a separate trip for the remaining valves.”

SPECIFICATIONS

Add Specification 01 43 33 – Manufacturer Services included in this addendum.

Add Specification 01 75 16 – Start-up Procedures included in this addendum.

Bidder Must Acknowledge Receipt of this Addendum on Bid Form

May 9, 2022

Barge Design Solutions, Inc.
1201 Front Avenue, Suite F
Columbus, Georgia 31901
(706) 321-4590

Part 1 General

1.1 Scope

- A. The work under this Section defines the minimum scope of services to be provided by the Contractor during installation, start-up, operating test period, and operator training using factory representatives of the manufacturers of the equipment provided.
- B. Furnish all labor, materials, tools, equipment, and services for the cleaning up or preparation of all equipment which is required in conjunction with the instruction work to be performed for the Owner's personnel.
- C. Perform additional instruction of the Owner's personnel for any and all items of work that are incomplete at the time initial instruction sessions are scheduled.
- D. Although such work may not be explicitly specifically indicated elsewhere, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation, and to provide instructions upon the functions of that installation.
- E. Provide instruction for all equipment and systems for which operating and maintenance data is required.
- F. Instruction sessions may be combined to some extent between several pieces of similar equipment within the same training session, but only if that combination is defined in the Contractor's instruction program submittal and approved by the Engineer.
- G. One instruction session for each major type of equipment will be required. The Contractor shall anticipate that up to ten of the Owner's employees will participate in any particular instruction session and shall be prepared to provide the required number of handouts, manuals, and tools for each session.

1.2 Qualification

- A. Qualification of the manufacturer's representatives for installation, start-up, and operator training purposes shall be appropriate for the equipment being installed. Manufacturer's representatives shall be subject to the approval of the Engineer. Where equipment has significant process complexity, furnish the services of engineering personnel knowledgeable in the process involved and the function of the equipment.
- B. References in various equipment sections of the terms "factory representative" or "field representative" shall mean an employee of the equipment manufacturer who is completely knowledgeable of the manufacturing, installation, operation and maintenance of the equipment. A sales representative does not qualify, unless it is documented that they have been specifically trained by the Manufacturer. Any field or factory representative not an active employee of the manufacturer must provide documentation from the manufacturer stating that the individual, by name, has been

formally trained in the installation, operation and maintenance of the equipment and is authorized to make the required certification to perform the required services.

1.3 Submittals

- A. No later than one hundred twenty days prior to scheduled Substantial Completion of the Work, the Contractor shall submit a list of proposed instruction sessions for the entire Project. This list shall be organized by Specification Section and its contents will be subject to the approval of the Engineer and Owner.
- B. After approval of the list of the proposed instruction sessions and no later than sixty days prior to the scheduled Substantial Completion of the Work, submit course outlines and training material for each of the approved instruction sessions. Outlines shall be organized by Specification Section, and their contents shall be subject to the approval of the Engineer.
- C. After approval of the program content, the Contractor shall submit a proposed schedule for each of the approved instruction sessions which are to be organized by Specification Section, and the scheduled dates will be subject to the approval of the Engineer.
- D. Submit a separate instruction request/report (form attached) for each system or type of equipment, subject to the Owner's approval of availability of personnel.
 - 1. Submit request/report with preliminary information indicated, to the Engineer at least two weeks prior to first instruction period.
 - 2. After each instruction session, submit three copies of the completed report to the Engineer.

1.4 Coordination

- A. Do not begin instructions until component assembly or system has been tested as specified in Section 01 75 16 and is in satisfactory operating condition.
- B. Prior to instruction sessions, assemble instructional aids, tools, test equipment, and "Final" copies of Operations and Maintenance Manuals.
- C. All instruction sessions shall be planned and scheduled such that the Owner's participants will utilize copies of the Project Operations and Maintenance Manuals which will have been previously provided. These copies are in addition to the quantities which have to be provided to the Owner under Section 01 78 23. The use of draft copies of these manuals will be acceptable.
- D. The Contractor shall schedule and coordinate the visits of factory representatives during installation, start-up and operator training in accordance with the requirements of Section 01 75 16 of these Specifications.
- E. The Contractor shall notify the Engineer 72 hours prior to any impending visit by factory representatives so that the Engineer can be present.

1.5 Installation, Start-Up, and Testing Services

- A. The Contractor shall furnish the services of a factory representative to provide the Pre-Start-Up Maintenance, Installation, Inspection, Functional Testing, and Operational Testing in accordance with Section 01 75 16 and the equipment sections of these Specifications.

1.6 Operator Training Services

- A. Provide all instruction as required to ensure understanding of all operating and maintenance procedures by the Owner designated personnel.
- B. Instruct Owner's personnel in operation and maintenance of equipment and systems. Provide all necessary instruction to satisfaction of the Owner.
- C. Training sessions shall be scheduled at the convenience of the Owner and may have to be scheduled outside of the Contractor's normal working hours.
- D. Explain use of Operating and Maintenance Manuals.
- E. Tour building areas involved and identify:
 - 1. Maintenance and access points.
 - 2. Control locations and control equipment.
- F. Explain Operating Sequences
 - 1. Identify location and show operation of switches, valves, etc., used to start, stop, and adjust systems.
 - 2. Explain use of flow diagrams, operating sequences, diagrams, etc.
 - 3. Demonstrate operation through complete cycle(s) and full range of operation in all modes, including testing and adjusting relevant to operation
- G. Explain use of control equipment, including temperature settings, switch modes, available adjustments, reading of gauges, and functions that must be serviced only by authorized factory representative.
- H. Explain Trouble Shooting Procedures
 - 1. Demonstrate commonly occurring problems.
 - 2. Note procedures which must be performed by factory personnel.
- I. Explain Maintenance Procedures and Requirements
 - 1. Point out items requiring periodic maintenance.

2. Demonstrate typical preventive maintenance procedures and recommend typical maintenance intervals.
 3. Demonstrate other commonly occurring maintenance procedures not part of preventive maintenance program.
 4. Identify maintenance materials to be used.
- J. Furnish all tools and/or test equipment required for proper instruction of the Owner's personnel. Tools and/or test equipment shall be distributed in "sets" with each two participants having a "set" to work with and retain upon completion of the instruction. Each participant shall sign for their tools at the start of the instruction session, and copies of the assignment documents shall be provided to the Engineer by the Contractor.
- K. Thirty-day operating period after start-up: The manufacturers' representative for each piece of equipment shall return to the Project site 30 days after successful completion of the operating test to review the equipment performance, correct any equipment problems, and conduct follow-up operation and maintenance classes as required by the Owner. This follow-up trip is required in addition to the specified services of manufacturer's representative prior to and during equipment start-up. At this time, if there are no equipment problems, each manufacturer shall certify to the Owner in writing that his equipment is fully operational and capable of meeting operating requirements. If the certification is accepted by the Engineer and Owner, the Contractor may request Substantial Completion inspection for the associated portion of the Work in accordance with provisions specified elsewhere in these contract Documents. If the equipment is operating incorrectly, the factory representative will make no certification to the Owner until the problems are corrected and the equipment demonstrates a successful 30 days operating period.
- L. Six-month operating period after start-up: The manufacturer's representative for each piece of equipment shall return to the Project site six months after the successful completion of the operating test to review the equipment performance, correct any equipment problems, and conduct follow-up operation and maintenance classes as required by the Owner. This follow-up trip is required in addition to the specified services of manufacturer's representative prior to and during equipment start-up. At the time of this trip, if there are no equipment problems, each manufacturer shall certify to the Owner in writing that his equipment is fully operational and capable of meeting operating requirements. If the equipment is operating incorrectly, the service representative will make no certification to the Owner until the problems are corrected and the equipment demonstrates a successful 30-day operating period after problems are corrected.

1.7 Documentation

- A. The Contractor shall obtain from all manufacturers an electronic file of all operation and training information and training presentation materials in searchable Adobe Acrobat Portable Document Format (PDF). The PDF file(s) shall be fully indexed using the Table of Contents, searchable with thumbnails generated. File(s) shall be

identified by specification section. All documents shall be scanned at 300dpi or greater utilizing optical character recognition (OCR) software. All text in the document must be text selectable with the exception of pages which are in their entirety drawings or diagrams. Word searches of the PDF document must function successfully. PDF files that fail to comply with the indexing and searchable features described above will not be acceptable.

- B. At the completion of each training session, the training session will be certified by representatives from the Manufacturer, Contractor, Owner and Engineer. A training attendance roster for each session identifying all participants shall be delivered by the Contractor to the Engineer.

Part 2 Products

(NOT USED)

Part 3 Execution

(NOT USED)

END OF SECTION

EQUIPMENT AND SYSTEMS INSTRUCTION REPORT

PROJECT: _____

SYSTEM OR EQUIPMENT: _____

CONTRACTOR NAME: _____ CONTRACT NO. _____

SPECIFICATION SECTION

NOTE: The Contractor's Representative must maintain and complete this report during instruction.

PRELIMINARY INFORMATION

1. To be completed by the Contractor:

A. Proposed dates for instruction period: From _____ To _____

B. Name of Representative Instructor: _____

C. Approximate number of hours of training required: _____

2. To be completed by the Owner:

A. Owner's Designated Personnel to receive instruction: (Identify supervisor, if required).

- | | |
|----------|-----------|
| 1) _____ | 6) _____ |
| 2) _____ | 7) _____ |
| 3) _____ | 8) _____ |
| 4) _____ | 9) _____ |
| 5) _____ | 10) _____ |

B. Training Session Location: _____

RECORD INFORMATION (To be Completed after Instruction Session)

Instructor's Signature: _____ Date Instruction Completed: _____

Engineer's Signature: _____

Owner's Signature: _____

SPECIAL CONSIDERATIONS/NOTES:

Part 1 General

1.1 Scope

- A. The work under this Section includes, but is not necessarily limited to, the provision of all labor and material required to perform installation inspection and start-up of all equipment and mechanical systems installed under this Contract.
- B. The work defined under this Section includes providing the services of a trained factory representative in accordance with the requirements of Section 01 43 33 of these Specifications.
- C. Certification of start-up and full testing shall be performed by the manufacturer using the services of a factory representative trained in this type service.
- D. Unless otherwise specified, the Contractor shall furnish all labor, materials, water, air, oil, power, fuel, chemicals, test equipment and other items required to conduct the field tests, including any retests.
- E. The cost of all field testing shall be included in the Contract Price and no separate payment will be made.
- F. The Owner will furnish at no cost chemicals for the Contractor's use which are to be consumed for the treatment operations, including such needed for testing, startup and initial filling of chemical vessels. Contractor shall perform all labor and handling in the use of such chemicals. Should there be more than two failures of the functional or operational tests of a particular unit or system, the Contract may be liable for the cost of chemicals lost due to such failed tests. The Owner will not furnish any chemicals associated with the cleaning and disposal of the membrane shipping and storage fluids.

1.2 Coordination

- A. The Contractor shall not proceed with any functional test or operating test until the operation and maintenance manuals for the equipment have been submitted and been designated "No Exceptions Taken". The Contractor shall coordinate all activities required for starting of systems including the visits by the factory representatives, particularly where an equipment item's operation is dependent on the operation of other equipment. Prior to calling the factory representative, the Contractor shall ensure that all necessary related equipment, structures, piping and electrical work is complete. Any required revisits to the site by the factory representative shall be provided by the Contractor.

1.3 Pre-Start-Up Maintenance

- A. After installation and prior to start-up, all grease-lubricated joints, shaft couplings and bearings shall be flushed out and re-greased. All oil reservoirs and sumps shall be completely drained and flushed and refilled with the proper lubricant. All operating fluid and gas reservoirs shall be filled with the proper fluid and gases. Screens and filters

shall be checked for contamination and replaced if necessary. Belt drives shall be checked, and tension adjusted, as needed. The equipment shall then be tagged, signed and dated, indicating that the equipment has been properly lubricated and prepared for start-up.

1.4 Installation Inspection

- A. Prior to energizing any piece of equipment or performing a functional test, a factory representative of the equipment manufacturer shall inspect the installation of the equipment. The factory representative shall determine if the equipment has been installed in accordance with the manufacturer's recommendations, pre-start-up maintenance has been performed, and is ready for start-up and the initiation of the functional test.
- B. Should the installation inspection indicate that the equipment has been improperly installed or prepared for start-up, the Contractor shall provide such modifications or adjustments as required for the equipment to operate properly.
- C. The factory representative shall certify that the equipment has been installed in accordance with the Drawings, Specifications, and the manufacturer's recommendations and that the equipment is ready for start-up and functional testing to be performed.

1.5 Functional Test

- A. Following the installation inspection by factory representative, perform a functional test on each piece of equipment. The functional test shall consist of operation of the equipment on a normal duty cycle for a sufficient period of time to determine satisfactory operation. Time required for functional testing shall be as specified in the equipment specifications or a minimum one continuous eight-hour period, whichever is longer. To the maximum extent practical, exercise the full capabilities of all equipment including remote operation, instrumented control schemes, alternate modes of operation and emergency operation. Equipment shall be checked for any abnormal noise or vibration as part of the functional test, and any observed abnormal conditions corrected prior to certification.
- B. Should the results of the functional test indicate that the equipment has failed to perform in accordance with the Specifications, the Contractor shall make, at no additional cost to the Owner, all modifications or adjustments as required for satisfactory operation, including replacement of any or all components, if necessary. Following the modifications or adjustments, the Contractor shall repeat the functional test. This procedure shall be repeated until the results of the test indicate that the equipment has satisfied the requirements of the applicable Specification Section.
- C. After the functional test is completed, each manufacturer shall certify, in writing, that tests were made in accordance with the Specifications and the manufacturer's recommendations, that the functional tests and start-up operation have been satisfactory, and that the equipment is fully operational and capable of meeting operating requirements.

1.6 Operating Test Period

- A. Following the functional test, the Contractor shall place each system into service and undergo an operational test under normal service conditions. The minimum time for the operating test period for each system shall be 30 consecutive days, excluding time that the equipment is taken out of service.
- B. Where required in the equipment specifications, process performance testing shall be performed during the operating test period in accordance with the requirements of the equipment specifications. The Contractor shall provide all materials and labor, including the services of a factory representative, necessary to perform the performance testing.
- C. The test period shall commence upon the initiation of operation of all systems and shall end after the successful operation of the equipment for the minimum time required.
- D. The Contractor shall repair and make all modifications required due to mechanical failure of the equipment during the operating test period. Should the equipment fail to meet the performance testing requirements, a factory representative shall evaluate the equipment and determine the cause of the process failure. The Contractor shall make all modifications recommended by the manufacturer.

1.7 Certification

- A. Upon completion of start up, the Contractor shall provide written Installation and Start-Up Report from all equipment manufacturers' factory representatives. Report shall address the equipment installation's compliance with manufacturer's requirements and note any problems noted that may affect the warranty, operation or longevity of the equipment. Written certification shall indicate that tests were made in accordance with the manufacturer's recommendations, that the test and start-up operation has been satisfactory completed and that the equipment is fully operational under design requirements. Written certification shall be filed with the Engineer on the manufacturer's stationary.

Part 2 Products

(NOT USED)

Part 3 Execution

(NOT USED)

Manufacturer's Installation and Start-up Report

<u>GENERAL INFORMATION:</u>	
Owner: _____	Contractor: _____
Facility: _____	System: _____
Location: _____	Specification Number: _____
Tag: _____	
<u>MANUFACTURER:</u>	
Manufacturer Name: _____	
Address: _____	
City/State/Zip: _____	
Phone Number: _____	Fax Number: _____
E-Mail: _____	
Manufacturer's Representative: _____	

- | | | | |
|--|----------------------------|----------------------------|------------------------------|
| 1. Required safety equipment available? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 2. Are equipment tags correct and attached to equipment? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 3. Are rotating equipment safety guards in place and secure? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 4. Shaft and couplings aligned? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 5. Have belt drives been aligned? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 6. Bearings lubricated? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 7. Oil reservoirs filled with proper lubricant? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 8. Rotation verified? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 9. Is equipment level? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 10. Equipment anchored properly? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 11. Equipment grouted properly? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 12. Required utilities available? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 13. Nozzles free from loads? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 14. Are required pressure and temperature gauges and sensors installed? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 15. Have any shipping coatings/sealants been removed? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 16. Does any paint/coating damage need to be repaired? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 17. Have moving parts been checked for proper running clearance? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 18. Is there any observed leakage of lubricants or fluids from equipment? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 19. Are all electrical power connections made and properly torqued? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 20. Are electrical overloads properly set? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 21. Are current transformers properly wired for polarity? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |
| 22. Are control enclosures per the specified NEMA classification and material? | Y <input type="checkbox"/> | N <input type="checkbox"/> | N/A <input type="checkbox"/> |

Startup Procedures

- 23. Are instrumentation connections terminated? Y N N/A
- 24. Are signal cable shield leads grounded in accordance with Manufacturer's recommendations? Y N N/A
- 25. Are required spare parts on-site, inventoried and properly stored? Y N N/A
- 26. Are Operations and Maintenance Manuals on-site and complete? Y N N/A
- 27. Are all installation requirements of the O&M Manuals performed? Y N N/A
- 28. Does equipment have a record of maintenance and exercise as recommended by the manufacturer during storage? Y N N/A
- 29. Are there any observed installation issues that impact the equipment warranty? Y N N/A

Additional items noted during installation inspection by Manufacturer's Start-up Representative:

I certify as an authorized Factory Representative, that the equipment is installed in accordance with the Manufacturer's recommendations and is ready for start-up and initial operation.

Factory Representative: _____
 Representing: _____
 Mailing Address: _____

 Phone Number: _____
 E-mail Address: _____

Date: _____
 (If employed by other than the Manufacturer)

Startup Procedures

START-UP REPORT:

- 1. Does equipment operate and perform in accordance with the specification? Y N N/A
- 2. Have all specified modes of operation been tested and verified? Y N N/A
- 3. Do all system indicators, readouts, controls and operator interfaces operate? Y N N/A
- 4. Have variable speed units been tested throughout the available speed range? Y N N/A
- 5. Have multi-speed motors been tested on all available speeds? Y N N/A
- 6. Did equipment exhibit any abnormal vibration during operation? Y N N/A
- 7. Did equipment exhibit any abnormal noise during operation? Y N N/A
- 8. Are bearings operating at normal temperature? Y N N/A
- 9. Do bearings display any roughness in operation? Y N N/A
- 10. Prior to start-up, or during initial operation, was any leakage of lubricant observed? Y N N/A
- 11. Was any leakage of process fluids observed during start-up? Y N N/A
- 12. Has operation of equipment protective systems been verified? Y N N/A
- 13. Is the equipment ready to place into operation? Y N N/A

Additional items noted during start-up by Manufacturer's Start-up Representative:

I certify as an authorized Factory Representative, that the equipment has been properly started up in accordance with the Manufacturer's recommendations and is ready for initial operation.

Factory Representative: _____

Date: _____

END OF SECTION