



ADDENDUM #2

SANDY HOOK WATER DISTRICT 2019 WATER SYSTEM IMPROVEMENTS CONTRACT 12 – NEW WATER TREATMENT PLANT & IMPROVEMENTS BE Project # 19003

BID DATE: THURSDAY, JUNE 2, 2022 – 2:00 pm (Local Time)

This Addendum #2 and its noted revisions and attachments to the Drawings and Specifications shall supplement, amend, and become a part of the Bidding Documents, Contract Documents, Drawings, and Specifications. All Bids and Construction Contracts shall be based on these modifications and issued Drawings, Specifications, and all Addendum.

All Bids must be made on the required Bid Forms and include all of Section 004XXX series documents and must be fully completed and executed with original signatures and corporate seals. All Bid Bonds must be original forms and accompanied by the required certificates, original signatures, and seals. Any Bids without original documents, or a conditional or qualified Bid, will not be accepted.

REVISIONS AND ATTACHMENTS

General

ITEM AD2-1 See the attached pages of questions and request for information (RFI) submitted for clarifications and/or the responses to the questions.

SPECIFICATIONS

**ITEM AD2-2 SECTION 133000 – SPECIAL STRUCTURES PRE ENGINEERED
STRUCTURES – PANELS & INSULATION, PART
2 – PRODUCTS**

Paragraph 2.1 – MANUFACTURERS: Add NUCOR Building Systems, 305 Industrial Parkway, Waterloo, IN 46793 as an acceptable manufacturer.

SCADA AND INSTRUMENTATION EQUIPMENT

Paragraph 2.03 – COMPONENT SPECIFICATIONS, H. Water Plant Instrumentation. Delete the following items for the Fluoride Feed Room area:

- a. One (1) Bulk Chemical Tank Scale
- b. One (1) Day Tank Chemical Solution Scale

ITEM AD2-4 SECTION 331420 – VALVES

Add the following paragraph to PART 2 – PRODUCTS of the specification section:

2.13 AIR RELEASE VALVE

A. The valve shall have a 1" screwed inlet diameter with a 1" corporation stop and a minimum of 3/32" size orifice. The body and cover shall be constructed of cast iron while the float shall be stainless steel. All internal parts, such as lever pins, retaining rings, screws, etc. shall be of stainless steel or bronze construction. Valves shall be suitable for use in lines with an operating pressure up to 175 psi. Valves shall be as manufactured by APCO Valve and Primer Corp., or Engineer approved equal.

B. A service clamp shall be used to connect the air release valve to the buried water main or may be direct tapped for ductile iron pipe located in vaults or interior rooms of buildings. Service clamps and corporation stops shall have a female IP thread outlet.

C. For buried water mains, the air release valve box shall be a standard meter box with dimensions of 18" I.D. and a height of 36". The valve box cover shall be a standard water meter box cover.

ITEM AD2-5 SECTION 463385 – LIQUID CHEMICAL FEED STORAGE TANKS & SCALES (BULK AND DAY TANK)

Delete specification Section 463385 in its entirety.

ITEM AD2-6 SECTION 464117 – INLINE STATIC MIXER

Replace the existing specification Section 464117 with the attached specification in its entirety.

ITEM AD2-7 SECTION 466121 – VERTICAL PRESSURE FILTER SYSTEM

Revise the EQUIPMENT SCHEDULE, TONKA WATER VERTICAL PRESSURE FILTER SYSTEM on page 466121-19 for the valves to read as follows:

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Valves:

Function	Size (in.)	Quantity	Actuator
Raw Water Influent (RAW)	8	4	Electric Modulating

**Raw Water Waste (WMD) 8 4 Electric
Open/Close**
Raw Water Influent (RWI): 4 3 Electric
Filtered Water Effluent (FWE): 4 3 Electric
Backwash Influent (BWI): 6 3 Electric
Backwash Effluent (BWE): 6 3 Electric
Simul-Wash™ Rate Set (SRS): 2 1 Electric
Backwash Influent Rate Set (BRS): 6 1 Electric
Airwash Influent (AWI): 3 3 Electric

DRAWINGS

ITEM AD2-8 SHEET M-1-04 – FLUORIDE FEED ROOM

The New Wave Fluoridation System shall be as manufactured and serviced by:

KC Industries, LLC
2420 Old Highway 60, Mulberry Florida, 33860
PO Box 646
Office 863-425-1195
Cell 863-899-2692
Fax 863-425-5003

Contact : Steve McCarter
e-mail: SMcCarter@kcindustries.com

ITEM AD2-9 SHEET M-1-05 – CHLORINE GAS ROOM

The chlorine gas feed equipment (General Note 8, 11, 12, & 13) shall be as manufactured by Regal Gas Chlorinator or Engineer approved equal. All feed equipment shall be sized for a chlorine gas feed rate of 25 PPD (Model 216) and include, but not limited to, the following items required for a complete installation:

- 2 -Model A-816 Vacuum Regulators with 3/8" Vent and Vacuum Fittings
- 2 - Model A-255 Remote Meter Panel with 3/8" Vacuum Fittings (For Wall Mounting)
- 1 - Model A-300V1 Pressure Relief (Vent) Valve with 3/8" Vent and Vacuum Fittings and Wall Mounting Bracket
- 2 - Model A-920 Ejector Assembly including Nozzle, High Back Pressure Check Valve, Spray Diffuser and 3/8" Vacuum Fitting

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- 100' - VT-1, 3/8" Vent and Vacuum Tubing
- 10 - G-201 Lead Cylinder Gaskets
- 1- Z-296 Rate Valve Tool
- 1 - Z-297 Vent Line Bug Screen
- 2 - Safety chains and wall brackets for gas cylinders
- 1 - Model ECS-402 Dual Cylinder Electronic Scales with Digital Readout and 4-20 milliamp analog output circuits for data recording and SCADA interface.

The gas cylinders shall be provided by the Owner.

The chlorine gas cylinder scales and indicator are as specified in the CHEMICAL FEED SYSTEM table on Sheet M-1-04 or as specified above or Engineer approved equal.

ITEM AD2-10 SHEET M-1-07 – TESTING ROOM WALL SECTION

The Chlorine Analyzer shall be the Hach CL17sc Chlorine Analyser with 1 Month Supply of Free Chlorine Reagents, Standpipe Installation Kit, Hach SC200 Universal Controller for operation and display, and User Manual as manufactured by Hach | PO Box 389, Loveland, CO 80539, www.hach.com or Engineer approved equal.

The Fluoride Analyzer shall be the reagent free ProMinent D1Cb Fluoride Analyzer and Meter Mount Panel as manufactured by ProMinent Fluid Controls, Inc., 136 Industry Drive • Pittsburgh, PA 15275, <https://www.prominent.us> or Engineer approved equal.

ITEM AD2-11 SHEET E-0.1 TRANSFORMER PAD DETAIL

The concrete transformer pad shall be constructed in a manner that will incorporate a secondary containment pit around the entire perimeter of the concrete pad with sufficient capacity to contain the entire volume of oil from the transformer should there be an accidental spill and prevent the potential contamination of the groundwater aquifer on the water treatment plant site. There shall also be a means to drain any collected rainwater in the pit without the use of pumps or other mechanical methods.

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ITEM AD2-12 MISCELLANEOUS DRAWINGS

See the attached drawings for changes, modifications, additions, or clarifications made to the DRAWINGS (Drawings AD2-1)

ISSUED FOR THIS ADDENDUM DRAWING and/or ATTACHMENTS

QUESTIONS & REQUEST FOR INFORMATION SUBMITTED FOR
CLARIFICATIONS DRAWING AD2-1 - REVISIONS TO VARIOUS DRAWINGS

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May 20, 2022

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ADDENDUM #2

**SANDY HOOK WATER DISTRICT
2019 WATER SYSTEM IMPROVEMENTS
CONTRACT 12 – NEW WATER TREATMENT PLANT & IMPROVEMENTS
BE Project # 19003**

QUESTIONS & REQUEST FOR INFORMATION SUBMITTED FOR CLARIFICATIONS

These responses and Addendum #2 along with its noted revisions and attachments to the Drawings and Specifications shall supplement, amend, and become a part of the Bidding Documents, Contract Documents, Drawings, and Specifications. All Bids and Construction Contracts shall be based on these modifications and issued Drawings, Specifications, and all Addendum.

1. Drawing C-1-03 Shows the backwash line to the lagoon as 10". However, drawing C-1-04 shows this line as 8". Which is correct? **See Addendum #1 for clarifications.**
2. Drawing M-1-07 shows an air release valve on the discharge of the backwash pump. However we find no size or specification for this valve. Will one be used? **See Addendum #2.**
3. Drawing C-2-02 Tank Foundation Section Notes "Schedule 80 PVC" for the down pipe of the influent line. Is all the influent pipe to be PVC or just this down pipe? **All of the interior piping for the influent line shall be Schedule 80 PVC. The effluent pipe may be either Schedule 80 PVC or flanged DIP.**
4. Drawing M-1-02 shows the 6" potable water existing the treatment building to the north for connection to the distribution system. However, none of the site pipe plans show where this line or connection point is located. Will this information be provided? **See Addendum #1 for clarifications.**
5. Drawing M-1-01 shows pipe lines from the trench drains to the holding tank on the north end of the building. However, we find no size or specification for these lines. Should they be DIP similar to all other below slab pipe or SDR 35 PVC per 333123.2.01.B? **The piping for the trench drains and to the holding tank shall be Schedule 40 PVC.**
6. What Butterfly Valve specification should be used for the air line to the filters? These are typically a high performance valve and we do not find one in the specifications **The lever butterfly valves for the air lines shall be provided by the Vertical Pressure Filter System provided under Section 466121, Paragraph 2.04 (B.).**

7. Drawing C-3-02 does not identify the size or type of pump discharge pipe. Is 2" SCH 80 PVC acceptable since it will be discharging to the 2" SDR 21 PVC line to the lagoon? **See Addendum #1 for clarifications.**
8. Drawing C-1-03 shows the 2" PVC drain line from the holding tank to the backwash lagoon. However, this line is not shown on the Lagoon drawing C-3-01. Should this line discharge into the lagoon similar to the backwash line? **See Addendum #1 for clarifications.**
9. The last sentence of specification 331413.2.02.4 indicates "Torque-activated restrained joint devices that rely on threaded bolts or set-screws for joint restraint shall not be used." This requirement would eliminate the industry standard use of Megalug type wedge action restraint glands at the MJ compact fittings specified elsewhere and shown

on the plans. We find no other MJ joint restraint specification. Is this requirement in error? If not, what MJ restraint method is acceptable or is all the buried DIP and fittings to be the significantly more expensive proprietary restrained joint? **The paragraph being referenced actually refers the restrained joint for the ductile iron pipe similar to the "Flex-Ring" or "Lok-Ring" ductile iron pipe and not for DI fittings. The restraining glands for DI mechanical joint fittings may be the Megalug type wedge action restraint glands or engineer approved equal as detailed on Sheet SD-0-04.**

10. Drawing M-1-06 general note 11 & 25 call for electrically actuated valves at the well influent and WMD lines. However, we only find a specification for the pneumatic actuators in specification 331420. Will a specification be provided? **The electrically actuated valves at the well influent and WMD lines shall be provided by the pressure filter system manufacturer and are covered under Section 466121. See Addendum #2 for clarification.**
11. One note regarding the addenda. Attachment AD1-2. There is a call out "(4) 10" gate valves & box". However these are all on 8" lines per M1-02, M1-03 & C1-03. Please confirm if this note is in error. **See Addendum #2 for clarification.**

SECTION 464117

IN-LINE STATIC MIXER

PART I - GENERAL

1.01 DESCRIPTION

A. Scope of Work

1. The Contractor shall furnish all labor, materials, equipment and incidentals required to install an in-line static mixer as shown on the Drawings and specified herein.
2. The mixer is intended to rapidly mix chemical solutions into the process water to provide a homogeneous stream at the mixer outlet.

B. Related Work Described Elsewhere (not applicable).

1.02 QUALITY ASSURANCE

- A. The static mixing equipment manufacturer shall have experience in the design and manufacture of equipment of similar size and capacity and shall present proof of successful operations involving each piece of equipment furnished. All equipment shall be as manufactured by Komax Systems, Inc., Sulzer Chemtech, Stati-Flo, or approved equal.

1.03 SUBMITTALS

A. Materials and Shop Drawings

- 1. Submit shop drawings and product data for equipment furnished under this section in accordance with Section 01340: Shop Drawings, Working Drawings and Samples.
- 2. Submit mixing calculations for each static mixer demonstrating the mixing achieved at the minimum and maximum conditions as listed in Table 11224.

B. Additional Information

- 1. Equipment Installation Certificate: The manufacturer shall provide a written report, through the Contractor and endorsed in writing by the Contractor, certifying that the equipment has been properly installed and checked and is ready for placement into routine permanent service.

C. Operating Instructions

- 1. Operating and Maintenance Manual: Furnish Operation and Maintenance Manuals in accordance with Section 01730: Operating and Maintenance Data.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. The equipment provided under this section shall be shipped, handled, and stored in accordance with the manufacturer's written instructions, and in accordance with Section 01600: Materials and Equipment.

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AD2-464117-2

1.05 WARRANTY AND GUARANTEES

- A. Provide equipment (system) warranty in accordance with Section 01740: Warranties and Bonds.

PART 2 - PRODUCTS

2.01 GENERAL

- A. The Raw Water static mixer will be used to blend various chemicals, including but not limited to, chlorine gas, potassium permanganate, and sodium fluorosilicate into the process stream of the raw water. The mixer shall include separate injection nozzles for each chemical and shall be capable of blending the chemicals and the process water into a homogeneous solution over a process water flow range listed in Table 464117-1. The specified CoV should be achieved within two (2) diameters downstream of the mixing elements. The pressure drop across the mixer shall not exceed the values listed at the maximum flow rate.

2.02 MATERIALS AND EQUIPMENT

A. Raw Water Static Mixer

1. The mixer shall be furnished complete with FRP components, including the flanged end body, internal baffle elements, and all other necessary appurtenances. All internal parts of the mixer shall be Kynar coated.
2. The mixer housing and mixing elements shall be constructed of FRP. The mixer shall have a nominal diameter as shown in Table 464117-1. Teflon full-face gaskets, 1/8-inch thick, shall be provided for raised-face flanges. The mixer shall be able to withstand an internal pressure of 100 psi. The mixer housing, mixing elements and injectors shall be able to withstand a temperature of 250°F and a minimum pH of 1.6.
3. The number of mixing elements shall be as recommended by the mixer manufacturer for the use intended. A minimum of three (3) elements shall be provided. Overall length shall not exceed the criteria listed in Table 464117-1. Tab-style mixers or mixing elements shall not be allowed.

2.03 ACCESSORIES

- A. Injector Connections: Provide flanged connections for injection of process chemicals upstream of the mixing elements as listed in Table 464117-1. Flanged connections shall be located on the same side of the mixer. Full port flanged ball valves shall be provided between the injector and the flanged inlet on the mixer to allow removal of the injector and isolation of the connection for injector maintenance.
- B. Injector Assembly: Provide chemical injector assemblies with removable single orifice type injectors for injection of process chemicals at the flow rates as listed in Table 464117- 1. Injectors shall be flanged connections with a backpressure/anti-siphon valve and check valve located immediately upstream on the chemical feed piping. Materials of construction for the injector assembly components shall be per table 464117-1.

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AD2-464117-3

2.04 SPARE PARTS

- A. All of the manufacturer's recommended spare parts necessary to maintain the unit in operation for a period of one (1) year shall be provided.
- B. All tools and spare parts shall be furnished in containers clearly identified with indelible markings as to their contents. Each container shall be packed with its contents protected for storage. All tools shall be furnished in steel tool boxes.
- C. Spare parts shall be delivered at the same time as the equipment to which they pertain. The Contractor shall properly store and safeguard such spare parts until completion of the work, at which time they shall be delivered to the Owner.
- D. One (1) spare injector assembly shall be provided for each chemical injection point. **2.05**

QUALITY CONTROL

- A. Perform Manufacturer's and Supplier's product quality control specifics as required for this project.

PART 3 - EXECUTION

3.01 PREPARATION (NOT APPLICABLE)

3.02 INSTALLATION

- A. Installation shall be in strict accordance with the manufacturer's instructions and recommendations using proven construction techniques in the location shown on the Drawings.

3.03 INSPECTION AND TESTING

- A. Upon completion of installation, the Contractor, in the presence of the Engineer and a qualified manufacturer's representative, shall perform a preliminary test on the system to ensure that all component parts are functioning to the satisfaction of the Engineer.
- B. Approval of the preliminary test by the Engineer shall not constitute final acceptance of the equipment furnished.
- C. After the system is in full operation, a full operating test shall be performed in the presence of the Engineer and a qualified manufacturer's representative.

3.04 START-UP AND INSTRUCTION

- A. Furnish services of manufacturer's technical representative to inspect the completed installation, correct or supervise correction of any defects or malfunctions, and instruct operating personnel in proper operating and maintenance procedures as described in this section.

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AD2-464117-4

TABLE 464117-1

STATIC MIXER UNIT DESIGN REQUIREMENTS

Pre Treatment

Item/Design Conditions

Equipment Tag Number: SM-0101 Mixer Materials: Kynar Coated FRP Mixer Type:

Corrugated Plate Diameter: 8 inch Design Working Pressure: 50 psi End Connections:

150# FLG

Water Rate of Flow, Min/Max: 130 / 350 gpm

Maximum Length: 4 feet Maximum Pressure Loss at Maximum Flow: 1.0 psi

Chemical Feed Rate of Flow, Min/Max:

Chlorine Gas, S.G. = 1.0 0.03 to 0.20 gph Potassium Permanganate, S.G. = 1.01 0.05 to

0.50 gph Corrosion Inhibitor (Aquadene), S.G. = 1.02 N/A Sodium Florosilicate, S.G. =

1.00 N/A

Percent Mixing Efficiency (Coefficient of Variation, CoV)

95% (0.05)

-END OF SECTION-

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BOX
(3) 8" X 6" REDUCER

W/L
W/L
W/L
W/L

CONNECT TO EX. 6"
PVC WATER MAIN
INSTALL 6" TAPPING
SLEEVE & VALVE

W/L W/L W/L W/L L W/L W/L W/L W/L L

(4) 8" GATE VALVES & 6" PVC SDR-17
BOX TO DISTRIBUTION
SYSTEM

W/L
W/L

L=158.86, R=598.41
 Δ 15.2102

10" PVC FROM
CLEARWELL

8" PVC TO CLEARWELL

(3) 6" GATE VALVES &

(2) 10" GATE VALVES W/ PRECAST CONCRETE VALVE
VAULT 8" PVC CLEARWELL
DRAIN LINE

± EL. 712.00 ~~± EL. 712.00~~

INSTALL 24 '
SLIDING GATE
20 0 20 40 SCALE: 1"=20'

Project No.



WATER

DISTRICT *Serving Our Community*

**CONTRACT 12 -
WTP C-1-05
REVISION**

Date 05/2022

Dwg. No. AD2-1

SAN^{DYHO}OK¹⁹⁰⁰³