

**Addendum No. 1  
to the Bidding Documents**

**Wastewater Treatment Plant Upgrade Project  
Town of East Greenwich  
East Greenwich, Rhode Island**

**Issued April 30, 2021**

Under the provisions of Article 7 of Section 00200, Instructions to Bidders, Bidders are informed that the Bidding Documents for the above mentioned Project are modified, corrected, and/or supplemented as follows. Addendum No. 1 becomes part of the Bidding Documents and Contract Documents.

Acknowledge receipt of this addendum by inserting its number on Page 00410-4, Article 5.2 of the Bid form. Failure to acknowledge receipt of the Addendum may subject the Bidder to disqualification.

**Project Manual Changes**

**Item 1-1 Section 01140 – Work Restrictions**

**Delete** Section 01140, Work Restrictions, in its entirety and **replace** with the attached Section 01140.

**Item 1-2 Section 13223 – BAF and DNF Filter Rehabilitation**

**Delete** Section 13223, BAF and DNF Filter Rehabilitation, in its entirety and **replace** with the attached Section 13223.

**Drawing Changes**

**Item 1-3 Drawing S-101, Sheet 5 of 62 – Process Building – 2<sup>nd</sup> Floor Partial Plan & Details**

**Add** Drawing S-101 in its entirety to the Bid Drawings. See attached drawing S-101.

END OF ADDENDUM NO. 1

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## SECTION 01140

## WORK RESTRICTIONS

## PART 1 GENERAL

## 1.1 SUMMARY

- A. Section Includes
  - 1. Work Schedule
  - 2. Construction Constraints
  - 3. Vehicle Access
  - 4. Available Work Area
  - 5. Site Usage Plan
- B. Related Requirements
  - 1. Section 01310 - Coordination
  - 2. Section 01325 - Scheduling of Construction

## 1.2 SUBMITTALS

- A. Incorporate the requirements of this Section in the project schedule submitted under Section 01325.
- B. Action Submittals
  - 1. Submit site usage plan within 30 days of the Notice to Proceed.

## 1.3 WORK SCHEDULE

- A. Conduct the Work during daylight hours on Monday through Friday, and within the time between 7:00 a.m. and 3:00 p.m. No work is to be done on Owner's holidays, Saturdays, Sundays or outside of the work hours described above. No equipment or machinery may be started at the sites before 7:00 a.m. and all equipment must be shut off by 3:00 p.m.
- B. Any Work that may impact the operation of the existing facilities shall not be performed during periods of high influent wastewater flows and shall be properly coordinated with Owner and Engineer. Work to be performed in areas subject to tidally influenced surface or groundwater shall be coordinated to minimize impacts on the work.

## PART 2 PRODUCTS – NOT USED

## PART 3 EXECUTION

## 3.1 CONSTRUCTION CONSTRAINTS

- A. The following are constraints for the Work. Incorporate these constraints into the schedule required to be submitted under Section 01325.
  - 1. All components of the existing facility must remain in operation throughout construction of the new facility unless otherwise specified herein or in Section 01310.

2. Primary Clarifiers
  - a. Perform modifications to the primary clarifiers such that the work on one primary clarifier is complete, tested, and accepted prior to commencing the work associated with the second primary clarifier.
  - b. Perform cleaning and television inspection of the 18-inch pipes from the Headworks Building to the primary clarifiers in accordance with Sections 02955 and 02958, and Drawing Sheet C-101. This work shall be performed concurrent with clarifier mechanical equipment installation while the clarifier is offline so that inlet piping can be drained and inspected in the dry.
3. Pump Chamber No. 1
  - a. Surface preparation and recoating of primary clarifier effluent pipe in Pump Chamber No. 1 shall be done prior to installation of new primary sludge pumps and all new piping. Contractor shall coordinate the timing of work and provide environmental controls to meet the requirements of the specified coating system under section 09900.
4. Primary Sludge Pumps
  - a. The existing primary sludge pumping system shall not be out of service for more than 8 hours at a time. Perform modifications to the primary sludge pumps such that the work on one pump is complete, tested, and accepted prior to commencing the work associated on the second pump.
5. Mixed Sludge Pumps
  - a. The existing mixed sludge pumping system shall not be out of service for more than 8 hours at a time. Perform modifications to the mixed sludge pumps such that the work on one pump is complete, tested, and accepted prior to commencing the work associated with the second pump.
6. Waste Sludge Pumps
  - a. The existing waste sludge pumping system shall not be out of service for more than 8 hours at a time. Perform modifications to the waste sludge pumps such that the work on one pump is complete, tested, and accepted prior to commencing the work associated with the second pump.
7. Gravity Thickeners
  - a. Perform modifications to the gravity thickeners such that the work on one gravity thickener is complete, tested, and accepted prior to commencing the work associated with the second gravity thickener.
8. Biological Aerated Filters
  - a. Work on the Biological Aerated Filters shall not be scheduled during the nitrogen removal season required by the Town's NPDES permit (May 1<sup>st</sup> through October 31<sup>st</sup>). All work on the Biological Aerated Filters shall be performed, completed and tested between November 1<sup>st</sup> and March 31<sup>st</sup>. The Town intends to startup and test the filters during April, so filter work is not permitted during this month.

- b. The Owner intends to fully bypass flow around the Biological Aerated Filters and Denitrification Filters during construction to give the Contractor full access to all six filters at the same time.

9. Denitrification Filters (Bid Alternate No. 1)

- a. Work on the Denitrification Filters shall not be scheduled during the nitrogen removal season required by the Town's NPDES permit (May 1<sup>st</sup> through October 31<sup>st</sup>). All work on the Denitrification Filters shall be performed, completed and tested between November 1<sup>st</sup> and March 31<sup>st</sup>. The Town intends to startup and test the filters during April, so construction is not permitted during this month.
- b. The Owner intends to fully bypass flow around the Biological Aerated Filters and Denitrification Filters during construction to give the Contractor full access to all six filters at the same time.

10. Plant Water System

- a. Replacement of the plant water strainer shall be completed after replacement of the primary sludge pumps, mixed sludge pumps, and waste sludge pumps since this pumping equipment requires the use of plant water for seal water.
- b. During replacement of the strainer, the Contractor shall provide temporary water to the headworks screens for wash water.

11. HVAC Upgrades

- a. All areas will be occupied during construction. Coordinate with Owner on schedule for HVAC upgrade work.
- b. Heat and ventilation must be operational between October 15<sup>th</sup> and May 15<sup>th</sup>. The Contractor shall provide temporary heating as required if the HVAC work is active during this period.

12. Electrical Work

- a. Refer to Division 16 for electrical work restrictions.

3.2 VEHICLE ACCESS

- A. Contractor activities shall not interfere with site access required by Town and/or emergency vehicles. Special care shall be taken to maintain access for sludge hauling and chemical delivery vehicles. Access shall also be maintained to the Town's fleet fueling station located at the site.

3.3 AVAILABLE WORK AREA

- A. Limits of construction are defined on the Drawings. No work will be permitted to be performed outside these boundaries.

3.4 SITE USAGE PLAN

- A. Locations of available staging areas are shown on the Drawings.
- B. Submit a site usage plan showing all proposed staging areas, locations of all office and storage trailers, and material laydown areas. The site usage plan should be a drawing

showing the proposed locations and shall include on-site traffic modifications and temporary utilities as may be applicable.

END OF SECTION

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SECTION 13223

BAF AND DNF FILTER REHABILITATION

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes
  - 1. Silica sand filter media
  - 2. Gravel media
  - 3. Filter disassembly and reassembly
- B. Work on the three (3) Biological Aerated Filters (BAFs) shall be included in the Base Bid.
- C. Work on the three (3) Denitrification Filters (DNFs) shall be included in Bid Alternate No. 1.

1.2 REFERENCES

- A. ANSI/AWWA B100-01 or latest edition- AWWA Standard for Granular Filter Material

1.3 SYSTEM DESCRIPTION

- A. Each of the six filters is 9' 6" wide by 22' 8" long.
- B. Provide gravel media in each filter arranged in five layers, each placed separately.
  - 1. The gravel layers shall be sized as indicated in the following table:

**Gravel Layers**

	<b>BAF</b>	<b>DNF</b>
Layer #1 (Bottom)	8-in	4-in
Layer #2	7-in	2-in
Layer #3	7-in	4-in
Layer #4	7-in	4-in
Layer #5 (Top)	7-in	4-in

- C. Sand media shall be provided in each filter to a depth of 9'-0" for each BAF filter and 7'-0" for each DNF filter after backwashing, leveling and draining. This depth shall be measured from the top of the gravel support layer (Layer # 5). Furnish sufficient extra sand for losses during removal or installation.
- D. The Owner intends to fully bypass flow around the Biological Aerated Filters and Denitrification Filters during construction to give the Contractor full access to all six filters at the same time. Before a filter can be returned to service, satisfactory bacteriological and VOC tests must be completed.

- E. Owner's Responsibilities
  - 1. Backwashing media as specified during installation process.
  - 2. Providing adequate clean water for cleaning activities.
- F. Availability of water for hydraulic media placement
  - 1. Contractor must provide portable pumping equipment. Coordinate with Owner for metered water source.

#### 1.4 QUALITY CONTROL

- A. The Filter Manufacturer shall retain the services of an independent testing laboratory to perform testing and analysis of the media in accordance with AWWA B100 and as indicated below.

#### 1.5 SUBMITTALS

- A. Affidavit of Compliance stating that each type of media furnished complies with applicable standards
  - 1. Sand Media
    - a. AWWA B100, NSF 61
- B. Material Safety Data Sheet (MSDS)
- C. Detailed plan of media removal method including sketches of equipment layout
- D. Data and certificates of analysis provided by the manufacturer, and independent testing laboratory reports as indicated below. Certificates of analysis provided by the manufacturer and independent testing laboratory reports shall contain the following information:
  - 1. Gravel Media
    - a. Gradation
    - b. Specific gravity
    - c. Acid solubility
    - d. Hardness
  - 2. Sand Media
    - a. Specific gravity
    - b. Acid solubility
    - c. Effective Size
    - d. Uniformity Coefficient
    - e. Hardness
- E. Sampling and testing:
  - 1. Provide Certificates of Analysis from the media supplier for each lot of media produced for this project. The production lot designations shall be included on

the test reports and labeled on any packaging and bill of lading for media delivered to the site.

2. The certifying independent testing laboratory shall be approved by the Owner before any samples are submitted. The laboratory shall analyze the filter media based upon the requirements of this specification.
  - a. Testing methods for sand and anthracite media shall be in accordance with Section 4 (Testing Methods) of AWWA B101.
3. Submit samples to the independent testing laboratory for testing as follows:
  - a. Samples must be submitted to the certified testing laboratory in clean, vapor-proof containers, plainly marked with the name and address of the manufacturer and identified as to the lot number of the contents.
  - b. Sand Media
    - 1) Qualifying samples: Submit one qualifying sample representative of each production batch of each type of media to be supplied. The qualifying sample shall be a composite sample prepared in accordance with AWWA B100, Section 5. The minimum composite sample size shall be as indicated in AWWA B100, Section 5, but in no case shall the composite sample size be <10 lb.
    - 2) Production samples shall be collected at the site after delivery but prior to placement of the media in the filters. Submit one composite sample representative of each type of media supplied. The composite samples shall be comprised of samples collected from individual bags or containers delivered. The number of bags or containers to be sampled shall be as indicated in the following table:

**Sampling of Bagged Media**

Number of Bags Shipped	Minimum Number of Bags Sampled
2-8	2
9-15	3
16-25	5
26-50	8
51-90	13
91-150	20
151-280	32
281-500	50
501-1,200	80
1,201-3,200	125



3,201-10,000	200
10,001-35,000	315
35,001-150,000	500

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- 3) The composite sample shall be prepared in accordance with AWWA B100, Section 5. The minimum composite sample size shall be as indicated in AWWA B100, Section 5, but in no case shall the composite sample size be <10 lb.

F. Media Handling and Placement Procedure

1. Prepare a complete description of procedures to be used in handling sand and gravel media on site, within the filter building, and during placement. Include sketches showing routes of conveyance and related information.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Shipping

1. Bags, super sack bags, or bulk deliveries are acceptable for delivery of filter media. Delivery shall be in accordance with filter manufacturer’s recommendations.
2. Deliver filter media to job site in suitable protective bags or semi-bulk containers to prevent contamination of any sort in accordance with AWWA B100.
3. Mark each bag or container clearly indicating material type, gradation, source, lot or stockpile identification, date of packing for shipment to site, and location or layer where material is to be installed in filter bed.

B. Receiving

1. Store filter media in such a manner as to prevent breakage of the bags or semi-bulk containers and protect the materials from environmental damage such as moisture, ultraviolet radiation, and wind.
2. Do not remove media from bags or semi-bulk containers prior to placement in filters.

1.7 QUALITY ASSURANCE

A. The Contractor’s media removal methods shall ensure that:

1. No damage is done to any part of the facility.
2. No damage is done to any part of the filters.
3. No environmental damage results from improper storage of the removed media.

B. All materials specified in this section shall be provided by the original filter manufacturer (DeNora) and all filter rehabilitation work shall be supervised and certified by DeNora prior to placing a filter back in operation.

1.8 JOB CONDITIONS

- A. Provide protection from dust and debris during the removal operation. The dust and debris protection system shall ensure that facilities and occupied space adjacent to or

nearby areas of the work do not come in contact with dust or debris as a result of the media removal operation.

- B. Keep the work area safe and clean at all times.

**PART 2 PRODUCTS**

**2.1 MANUFACTURERS**

- A. The gravel and sand media shall be furnished by the original filter manufacturer (DeNora), and shall be as specified herein and as shown in the drawings.

**2.2 GRAVEL MEDIA**

- A. Each gravel layer shall consist of hard, durable, rounded particles of washed gravel having a specific gravity of not less than 2.6. The gravel shall be uncrushed, naturally occurring materials and shall contain not more than 2 percent by weight of thin, flat, or elongated pieces (pieces having a ratio of largest dimension to smallest dimension greater than 5:1) as determined by hand picking from representative sample. The gravel shall be washed free from shale, mica, sand, clay, loam and organic impurities of any kind. The hydrochloric acid solubility shall not exceed 5 percent.
- B. The percent voids in any layer shall not be less than 35 percent nor greater than 45 percent.
- C. Gravel media shall meet the following gradations:

**Gravel Material List**

	<b>BAF</b>	<b>DNF</b>	<b>Grain Size</b>
Layer #1 (Bottom)	8-in	4-in	1 ½-in by ¾-in
Layer #2	7-in	2-in	¾-in by ½-in
Layer #3	7-in	4-in	½-in by ¼-in
Layer #4	7-in	4-in	¼-in by ⅛-in
Layer #5 (Top)	7-in	4-in	½-in by ¼-in

**2.3 SILICA SAND MEDIA**

- A. A layer of Tetra #5 silica sand media shall be placed on top of the gravel support layers. The media shall be as specified in Paragraph 1.3.
- B. Silica sand shall conform to the requirements of AWWA B100.
  1. Silica sand, with hard, durable, clean and uniformly spherical particles
  2. Minimum specific gravity of 2.6.
  3. Acid solubility <5%
  4. At least 85% siliceous material
  5. Effective size in the range 2.0 to 3.0 millimeters
  6. Uniformity coefficient not more than 1.40.

- C. Provide extra sand media as required to replace sand media lost during installation. The depth of extra sand replaced is generally one inch or less for previous replacement projects.

#### 2.4 FILTER PARTS

- A. The filter manufacturer shall furnish the following filter parts as follows:
  - 1. Spare underdrain T-Blocks (5) in case any are damaged during the removal process
  - 2. Spare air laterals (2) in case any are damaged during the removal.
  - 3. All new air lateral supports

### PART 3 EXECUTION

#### 3.1 GENERAL

- A. No internal combustion engines will be allowed in the treatment plant building to complete any part of the Work.
- B. To the extent practical, the Contractor's operations shall not interfere with the Owner's normal operational activities of the plant.
- C. The Contractor shall employ temporary means to limit the entrance of precipitation or cold air at doorways that must be held open as part of this Work.
- D. The Contractor shall install all equipment supplied by the filter manufacturer. Install equipment in accordance with the drawings and the manufacturer's instructions.
- E. A certificate from the equipment manufacturer stating that the installation of their equipment is satisfactory, that the equipment is ready for operation, and that the operating personnel have been received instruction in the operation and maintenance of the system shall be submitted prior to final acceptance.

#### 3.2 MANUFACTURER'S FIELD SERVICES

- A. The filter manufacturer shall provide the services of a field service representative for a total of five (5) days in two (2) trips for the purpose of instructing and assisting the Contractor and the Owner's personnel in the handling, installation, start-up, and proper operation of the process and equipment.
- B. The manufacturer's representative shall conduct the performance testing, as specified herein, in the presence of the Engineer.
- C. The manufacturer's representative shall provide a certificate that the portion of the system installed in order to conduct the performance test is installed correctly and in accordance with the manufacturer's recommendations. The manufacturer's representative shall also provide a similar certificate following installation of the entire system.
- D. The manufacturer shall furnish operating and maintenance instructions for this equipment to the Contractor.

#### 3.3 SEQUENCING OF WORK

- A. Work shall include media and gravel removal, media and gravel disposal, remove and clean the underdrain components, re-install underdrain components, install new gravel and media.
- B. Contractor shall remove filter trough and reinstall level at existing elevation.

#### 3.4 FILTER DISASSEMBLY AND REASSEMBLY

- A. The Owner will take equipment out of service.
- B. Contractor shall disassemble and reinstall the equipment in accordance with the filter manufacturer's instructions. Contractor must provide submittals of the manufacturer's most recent instructions.
- C. Underdrain blocks and air laterals are to be stored on site during filter rehabilitation, protected from damage at a location to be coordinated with the Owner.

#### 3.5 FILTER DISASSEMBLY PROCEDURES

- A. Remove all sand and gravel from the filter in accordance with Section 3.6 and/or filter manufacturer's instructions. Vacuum trucks are normally used for this procedure. Dispose of all material.
- B. Pressure wash the walls removing any biological growth
- C. Start removing the underdrain blocks and stack them on top of the other section of underdrain. During underdrain block disassembly, grout at 1 or 2 blocks may need to be knocked-out and replaced to start block removal. Remainder of blocks should be removable with grout in place.
- D. Start removing the air laterals. After enough are removed, stack the block in an open area.
- E. Remove the remainder of the block and air laterals stacking the block in one area.
- F. Remove the stainless-steel supports from the ends of the air laterals, replace them if necessary.
- G. Pressure wash the block to remove any residual biology or growth.
- H. Flush the air laterals from the inside. Verify all the holes are clear. Verify no growth has occurred inside these pipes.
- I. Check openings in air header to make sure there is no growth inside. If so, use a wet vac to try to and remove as much material as possible using a flexible connection. Consider water flushing the whole air header.
- J. Verify that all gaps between the sump cover plates are clear. Check in between the gaps into the sump to determine if any debris or growth is inside the sump. If so, remove one or more sump covers and clean the sump.
- K. Re-install any sump covers removed. These are stainless steel covers welded in place.
- L. Clean filter floor of all debris.

#### 3.6 FILTER REBUILD PROCEDURES

- A. After cleaning, securely re-weld any removed sump covers level with the floor.

- B. Lubricate air lateral threads with Teflon thread lubricant or tape and reinstall air laterals with orifice holes pointing down and top punch marks up. Do not use anti seize compounds as they are too slippery and do not give a good indication of when the pipes are getting too tight. Tighten pipes to about 100 ft-lbs. Stainless steel conducts heat poorly. Thirty minutes after initial tightening, recheck all pipe torques as threaded areas that may have heated and swelled and may have loosened after cooling off.
- C. Re-install cleaned underdrain blocks using the block pattern drawing (M301) and description (M300) in the O&M provided by DeNora.
- D. Install grout in any damaged areas. Sometimes grout is removed or damaged when block is first removed.
- E. Mark walls with chalk lines for installing gravel layers. Refer to M303. Follow M300 for proper gravel installation techniques. M303 and M300 to be provided by DeNora.
- F. Install media in accordance with Section 3.8 and/or filter manufacturer's instructions. Refer to M303 to be provided by DeNora.
- G. After installation is complete, fill the filter from the bottom to prevent silt from the new sand or gravel from being washed down into the filter underdrain and clearwell.
- H. Backwash the filter to remove silica dust fines until water is clear during the air/water cycle.

### 3.7 MEDIA REMOVAL

- A. Filter walls and piping within filters shall be washed and rinsed with clean water prior to removing media to remove all loose and adhered material.
- B. Remove all sand and gravel media from each filter.
- C. Rinse walls and piping to remove any remaining loose materials.
- D. Safety: Filter entering and egress shall be accomplished by using portable ladders provided by the Contractor. Confined space entry procedures should be utilized compliant with OSHA Standard 1910.146.
- E. Contractor shall properly dispose of all gravel and sand media off site. No media may be re-used on this project.

### 3.8 MEDIA DELIVERY

- A. Bags, super sack bags or bulk deliveries are acceptable for delivery of filter media. Bags must be labeled as specified in AWWA B604-05. Bulk deliveries must be accompanied by a bill of lading and be transported in clean trucks free from sources of contamination. Bulk deliveries shall also be accompanied by weight certificates. The Contractor shall provide all equipment and materials to facilitate the hydraulic loading of the media to the filters. This includes but is not limited to fork lift trucks, hoppers, eductors, discharge hoses, suction hoses, suction wands, delivery piping, mechanical connections, etc.

### 3.9 MEDIA INSTALLATION

- A. General
  - 1. Media may be placed hydraulically or distributed directly from bags or semi-bulk containers placed in the filter.

2. Thoroughly clean and disinfect filter tanks and all filter components including underdrain system and plenum, washwater troughs, and piping before any filter media is placed and keep clean throughout entire operation. Remove and dispose of media contaminated in any way and replace with clean media.
  3. Mark level lines on one wall of each filter at finish surface elevations of each media layer.
  4. Level sand media by hand if necessary to within plus or minus 2 inches of the appropriate mark prior to backwashing.
  5. Transport and place media carefully to prevent contamination of any sort. The Contractor is cautioned against the handling of any agent or material that may be considered a pollutant to the public water supply. The media shall be protected from contamination from hydrocarbons, oils, gasoline, salts, solvents, etc. during transport and delivery operations.
  6. Do not walk directly on filter media. Work from boards so that the material below cannot become damaged or mixed.
  7. Sand media installation shall conform to the requirements of AWWA B100.
- B. Installation of gravel media:
1. Carefully place gravel media in layers (one layer for each gradation) with the coarsest media on the bottom and increasingly fine working upward. Bring the surface of each layer to the proper elevation and level prior to placing the next layer.
  2. The bottom layer of gravel shall be carefully placed to avoid damaging the filter underdrain system.
  3. Contractor shall take care not to disturb the graded gravel, especially if air is present in the underdrain. Any gravel that becomes disturbed by the wash shall be removed and replaced with clean material of the proper type and size.
- C. Installation of sand media:
1. Place silica sand media as required to bring the sand surface to the proper elevation. Finished media depth shall be as specified in Paragraph 1.3.
  2. Backwash bed for at least 30 minutes and utilize multiple backwashes to clean the media if requested by the Manufacturer's representative or Engineer. Coordinate with underdrain manufacturer, media manufacturer, and Engineer to select backwash loading rate depending on approved media.

### 3.10 MEDIA STOCKPILING

- A. Stockpile media only at locations permitted by Owner.
- B. No stockpile shall be higher than 10 feet.
- C. Contractor is responsible for the cleanup of stockpile area and the disposal of all bags.

### 3.11 ACCEPTANCE TESTS

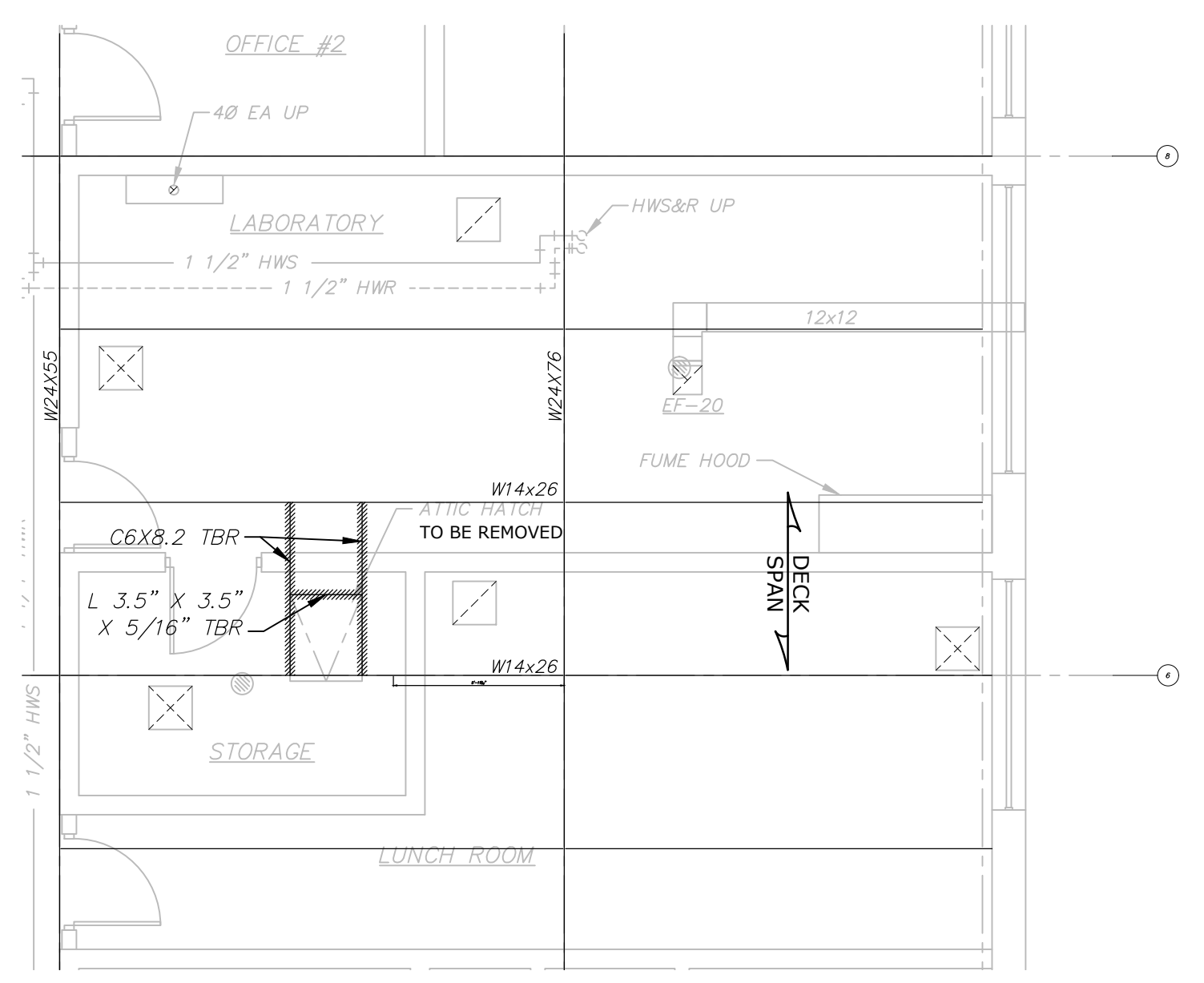
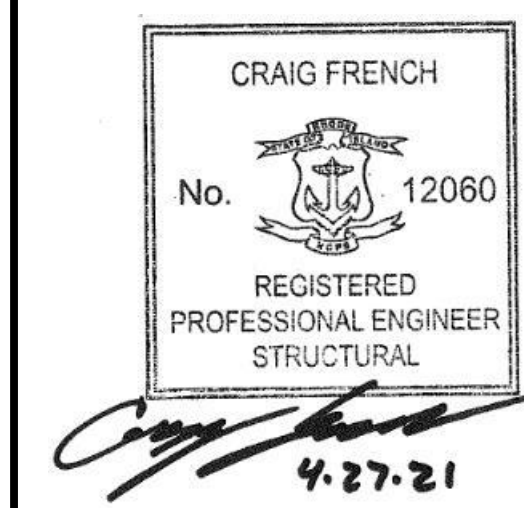
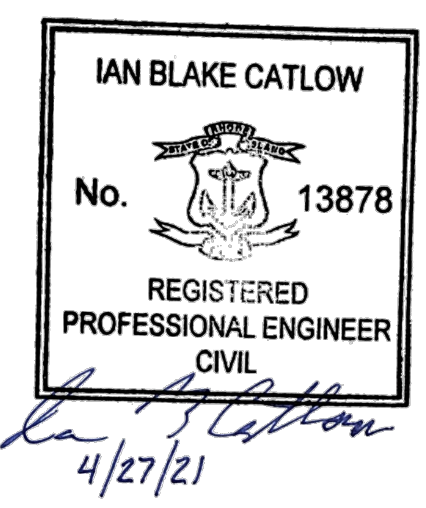
- A. After installation of the equipment, and after completion of the services of the manufacturer's representative as detailed in this Section, the Owner will operate each

unit to demonstrate its ability to operate continuously without leakage, binding, or stalling, and to perform to its specified functions satisfactorily.

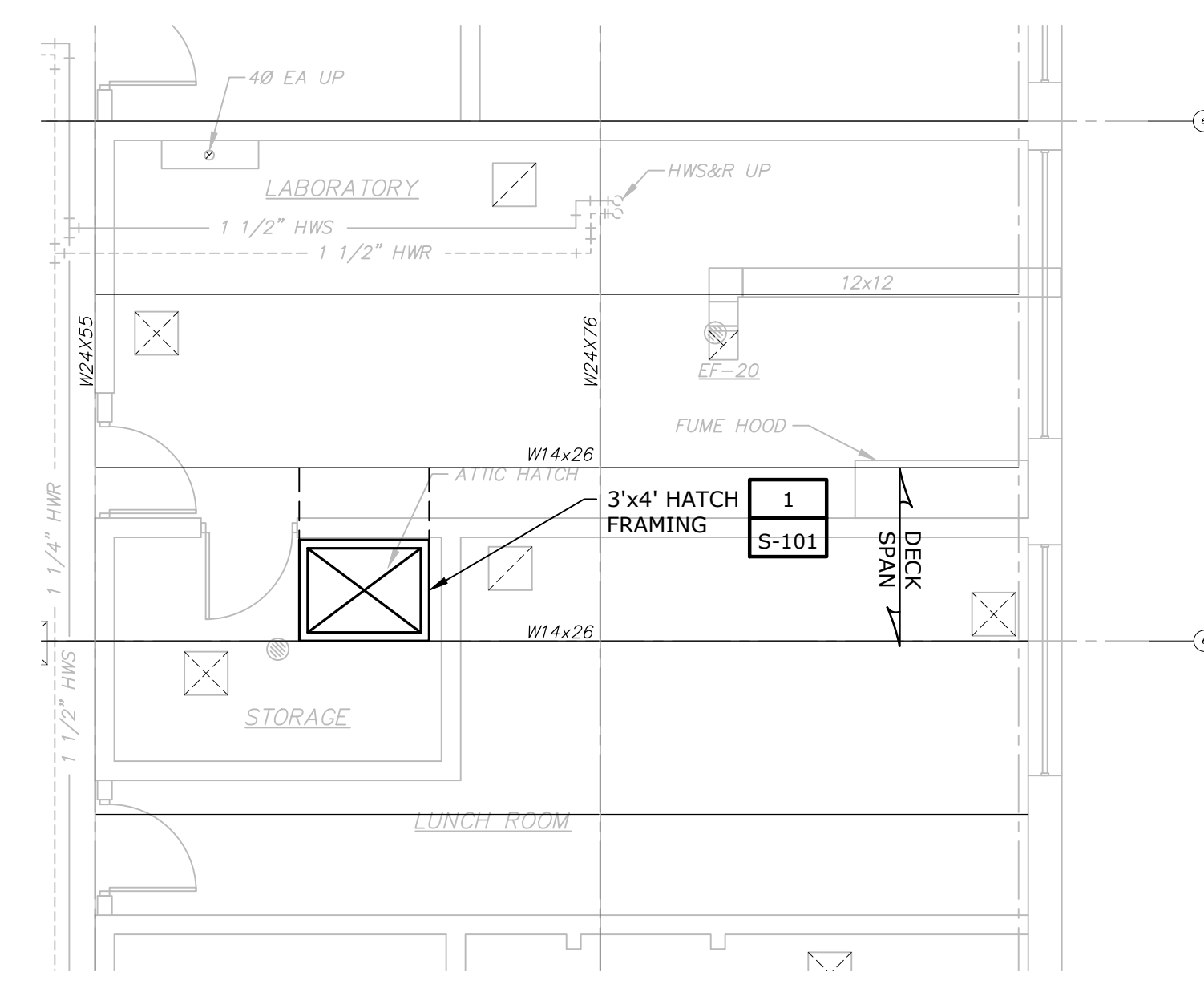
- B. Working under the direction of the manufacturer, the Contractor shall perform field tests on the equipment, including air pattern test conducted after air lateral installation and the final backwash.
- C. All defects and defective equipment shall be corrected promptly or replaced at no additional cost to the Owner.
- D. All final adjustments necessary to place the equipment in satisfactory working order shall be made at the time of the above tests.

END OF SECTION

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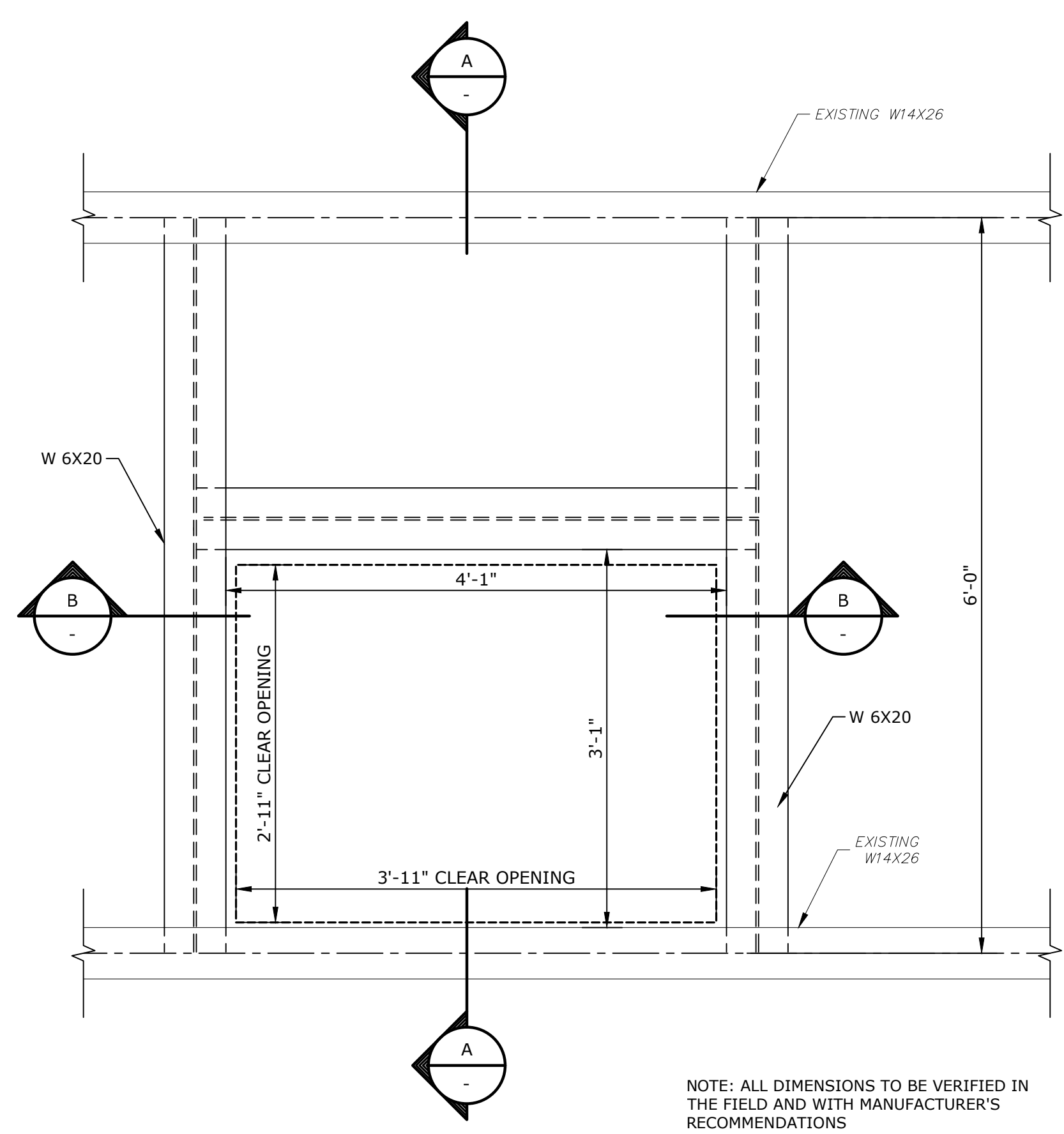
**2ND FLOOR PARTIAL PLAN:  
EXISTING ATTIC FRAMING DEMOLITION**  
3/16"=1'-0"



**2ND FLOOR PARTIAL PLAN:  
ATTIC FRAMING PLAN**  
3/16"=1'-0"

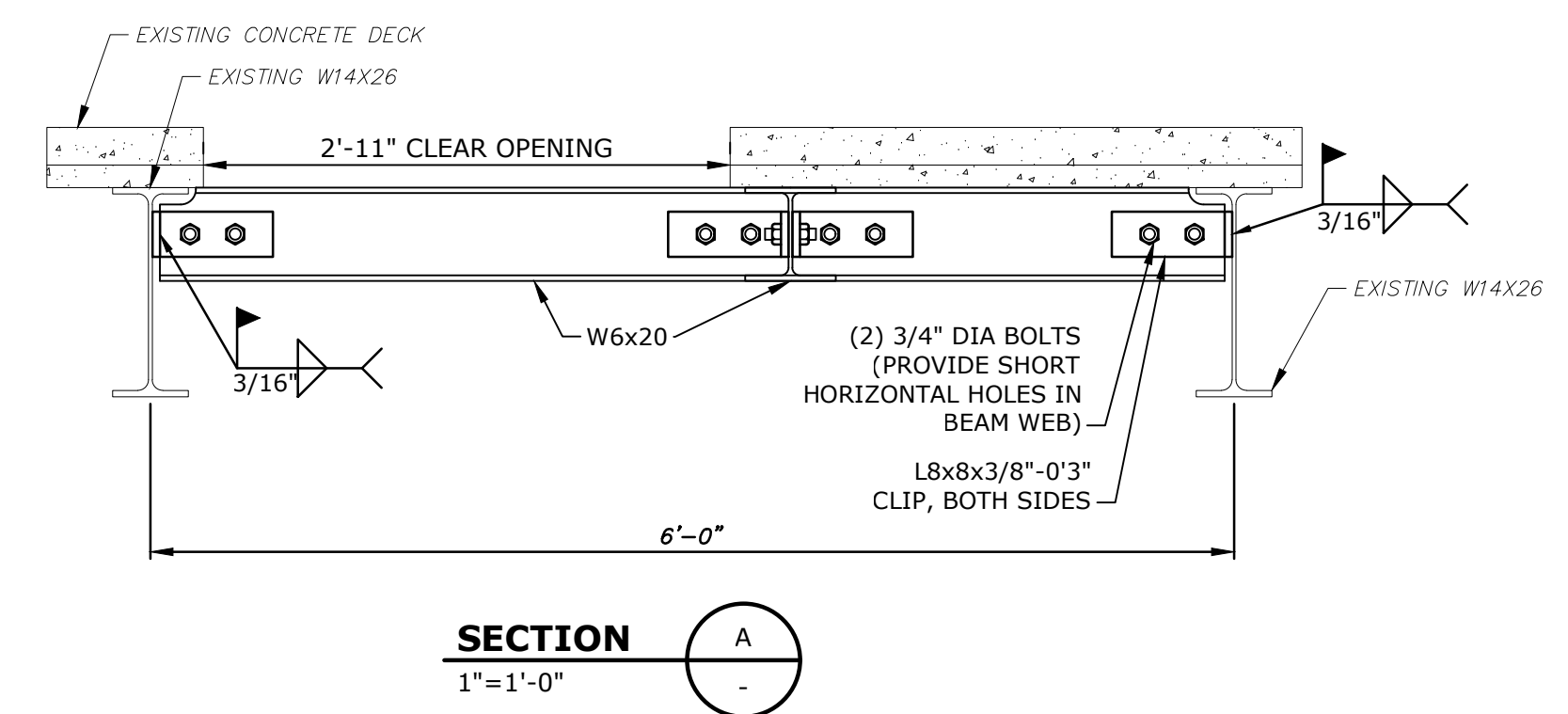
**STRUCTURAL STEEL NOTES:**

- ALL STRUCTURAL STEEL WORK SHALL CONFORM TO A.I.S.C. "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", LATEST EDITION.
- UNLESS MODIFIED BELOW OR ON THE CONTRACT DRAWINGS, THE FABRICATION AND ERECTION OF ALL STRUCTURAL STEEL SHALL BE ACCORDING TO THE A.I.S.C. CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, LATEST EDITION.
- STRUCTURAL STEEL SHALL BE NEW STEEL CONFORMING TO ASTM A36 UNLESS NOTED OTHERWISE ON DRAWINGS.
- ALL CONNECTIONS SHALL BE AS SHOWN ON THE CONTRACT DRAWINGS OR SHALL BE DESIGNED AS TYPE 2 (SIMPLE) FRAMING PER THE A.I.S.C. "SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", LATEST EDITION, AND OTHERWISE SHOWN ON THE CONTRACT DRAWINGS OR SPECIFIED. IN THE DESIGN OF THE FRAMED BEAM CONNECTIONS (BOLTED), THE FOLLOWING SHALL GOVERN, UNLESS OTHERWISE SPECIFICALLY INDICATED:
  - FASTENER DIAMETER - 3/4" MINIMUM.
  - FASTENER DESIGNATION - A325.
  - NUMBER OF BOLT ROWS - THE MAXIMUM NUMBER AS INDICATED IN TABLE 10-1 OF THE A.I.S.C. "MANUAL OF STEEL CONSTRUCTION, 13<sup>TH</sup> EDITION, PART 10 - DESIGN OF SIMPLE SHEAR CONNECTIONS".
  - CONNECTION ANGLE THICKNESS - AS INDICATED IN TABLE 10-1 OR 10-2.
  - MINIMUM CONNECTION PLATE THICKNESS SHALL BE 3/8".
  - WELDED CONNECTIONS - SERIES E-70 ELECTRODES. THE WELD CONNECTION CAPACITY SHALL BE EQUAL TO OR GREATER THAN THAT FOR THE SAME BOLTED CONNECTION AS SPECIFIED HEREIN. THE MINIMUM WELD SIZE FOR ANY CONNECTION SHALL NOT BE LESS THAN 3/16".
  - USE HARDENED WASHERS UNDER BOLT HEAD AND NUT, CONFORMING TO ASTM F436. USE NO MORE THAN 2 WASHERS.
  - BOLT INSTALLATION IN ACCORDANCE WITH TURN-OF-NUT METHOD OUTLINED IN SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.
- ALL WELDING SHALL CONFORM TO A.W.S D1.1, LATEST REVISION, "STRUCTURAL WELDING CODE".
- HOLES, CUTS AND OTHER MODIFICATIONS TO THE STRUCTURAL STEEL SHALL NOT BE MADE IN THE FIELD EXCEPT WITH THE SPECIFIC PERMISSION OF THE ENGINEER.
- COUNCIL SPECIFICATIONS PREPARATION SHALL BE ACCORDING TO SSPC-SP3 FOR STEEL TO BE LEFT UNPAINTED AND SSPC-SP6 FOR STEEL TO BE FINISHED. REFER TO SPECIFICATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD TOUCH-UP PAINTING OF ALL STRUCTURAL STEEL AFTER THE STEEL ERECTION INCLUDING ALL NUTS, BOLTS, AND WELDS AND ANY DAMAGE TO THE PRIME COAT, INCURRED DURING AND AFTER FIELD ERECTION.
- STRUCTURAL STEEL DETAILS NOT SPECIFICALLY SHOWN SHALL BE SIMILAR TO THOSE SHOWN FOR MOST NEARLY SIMILAR SITUATIONS AS DETERMINED BY THE STRUCTURAL ENGINEER.
- STRUCTURAL STEEL FRAMING SHALL BE TRUE AND PLUMB BEFORE CONNECTIONS ARE FINALLY BOLTED OR WELDED.
- TEMPORARY ERECTION BRACING AND SUPPORTS SHALL BE PROVIDED TO HOLD STRUCTURAL STEEL FRAMING SECURELY IN POSITION. SUCH TEMPORARY BRACING AND SUPPORTS SHALL NOT BE REMOVED UNTIL PERMANENT CONNECTIONS HAVE BEEN INSTALLED.
- ALL STEEL FRAMING TO BE HOT DIP GALVANIZED, CONTRACTOR TO TOUCH UP ALL DAMAGED GALVANIZING DUE TO THIS PROJECT IN FIELD.
- PROVIDE ISOLATION PADS BETWEEN DISSIMILAR METALS.

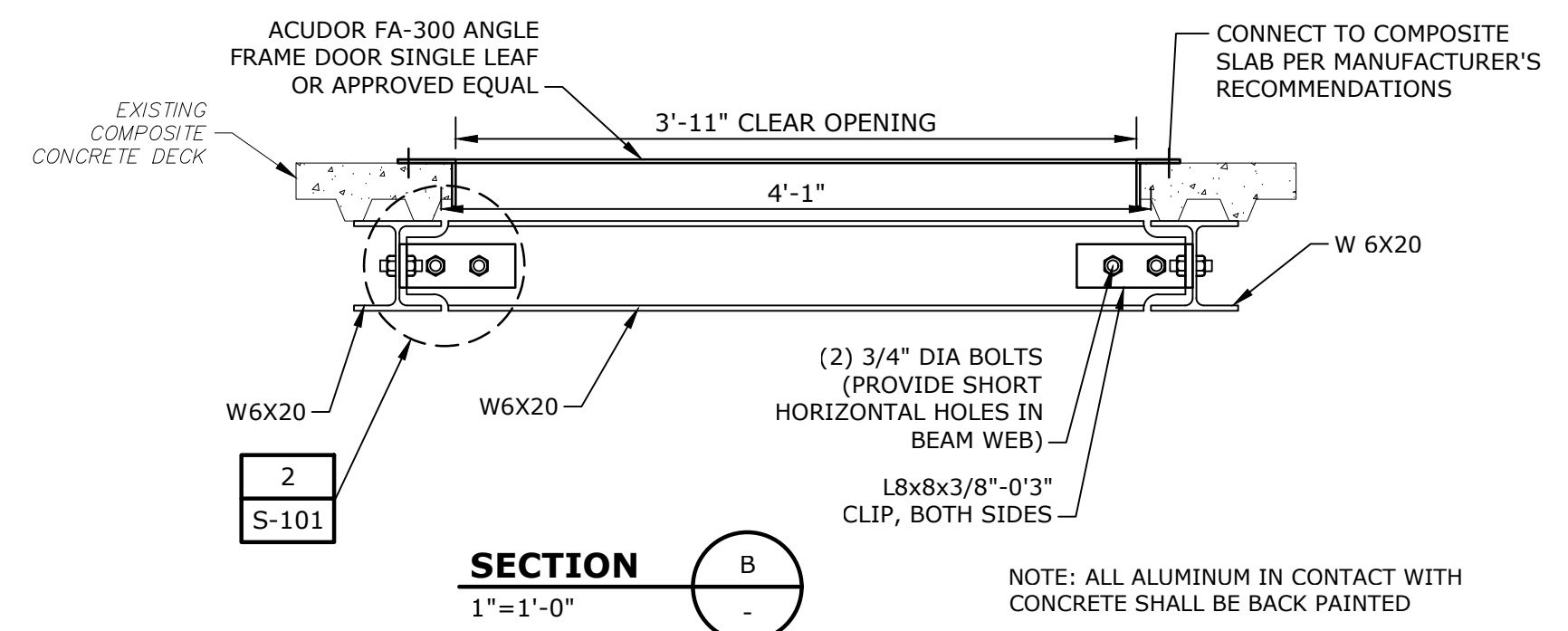


**DETAIL 1**  
1"=1'-0"

NOTE: ALL DIMENSIONS TO BE VERIFIED IN THE FIELD AND WITH MANUFACTURER'S RECOMMENDATIONS

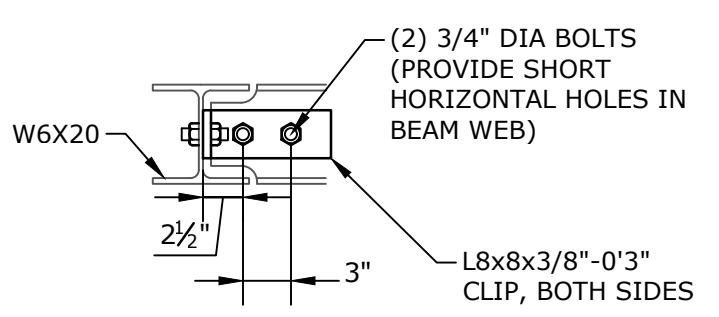


**SECTION A**  
1"=1'-0"

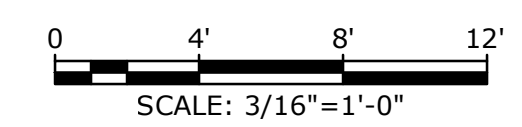
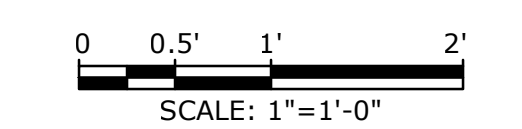


**SECTION B**  
1"=1'-0"

NOTE: ALL ALUMINUM IN CONTACT WITH CONCRETE SHALL BE BACK PAINTED



**DETAIL 2**  
1"=1'-0"



**Wastewater Treatment Plant Upgrades**

Town of East Greenwich, Rhode Island

East Greenwich, Rhode Island

MARK	DATE	DESCRIPTION
1	4/27	ADDENDUM NO. 1
0	4/21	ISSUED FOR BIDDING

PROJECT NO:	E0746-007
DATE:	APRIL 2021
FILE:	E0746-007-S-101.dwg
DRAWN BY:	TMP
CHECKED BY:	CCB
APPROVED BY:	IBC

**PROCESS BUILDING - 2ND FLOOR PARTIAL PLAN & DETAILS**

SCALE: AS SHOWN

**S-101**  
SHEET 5 OF 62