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CITY OF SAN JUAN
WASTEWATER TREATMENT PLANT IMPROVEMENTS
PHASE TWO
TWDB CWSRF Project No. 73796
RFB No. 25-003-12-18

ADDENDUM NO. 3: December 19, 2024

TO ALL DOCUMENT HOLDERS OF RECORD:

This Addendum forms a part of the Contract Documents and modifies the original Specifications and Drawings as noted below. Acknowledge receipt of the Addendum in the space provided in the Bid Form and on the outer envelope of Bid Proposal. Failure to acknowledge receipt of this Addendum may subject Bidder to disqualification.

PROJECT SPECIFICATIONS

Item No. 1 **Specification Section 11410 – Variable Opening Mechanically Cleaned Bar Screen and Washer Compactor**

Delete Specification Section 11410 – Variable Opening Mechanically Cleaned Bar Screen and Washer ***From*** project specifications

Item No. 2 **Specification Section 11400 –Mechanically Cleaned Bar Screen and Washer Compactor**

Add Specification Section 11400 –Mechanically Cleaned Bar Screen and Washer Compactor ***To*** project specifications.***(attached)***

PROJECT PLAN DRAWINGS

Item No. 6 **Plan Sheet No. 61,61A and 62 – Proposed Gravity Sludge Thickener Plan and Section Views and Spray System**

See ***Revised*** Plan Sheets No. 61, 61A and 62 ***(attached)***

Item No. 7 **Architectural Plan A-7- Control Building**

See ***Revised*** Architectural Plan A-7 ***(attached)***

ELECTRICAL ITEMS

Item No.8 **Plan Electrical Drawing E5**

On Electrical Drawing E5, MCC_A Keyed Notes, ***Change*** keyed note 8 to Keyed Note 6

Item No.9 **Plan Electrical Drawing E5 and E7**

The existing sludge transfer pump starters are located in the existing MCC-B. Contractor to replace the existing starters MCC-B with new starters complete With required MCC doors as required. On Drawing E-7 the Thicken Sluge Pumps Schematic Note 2, Change to read "Starter is Full Voltage Non-Reversing located in Existing MCC-B"

Item No.10 **Plan Electrical Drawing E9**

On Electrical Drawing ***Delete*** fixture "F" from schedule

Item No.11 **Specification Section 17100**

Specification 17100 .1.09.F.2
Change/Add "Or approved equal " to additionally read Control Networks Plus

END OF ADDENDUM NO. 3

12/19/21

SECTION 11400

MECHANICALLY CLEANED BAR SCREEN AND WASHER COMPACTOR

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes the furnishing and installation of a Mechanically Cleaned Bar Screen Assembly, Washer Compactor and Conveyor and auxiliary equipment and accessories to be installed at the existing wastewater treatment plant headworks and as indicated on the drawings and as specified herein.

B. The mechanically cleaned screen and washer compactor shall be provide by the same manufacture.

C. The manufacture shall coordinate with the Contractor, the design, fabrication, delivery, installation and testing of the screening components. The Screening System Supplier shall have the sole responsibility for the coordination and performance of all components of the screenings system with the performance and design criteria specified herein.

D. The Contractor shall be responsible to coordinate all details of the screening equipment with other related parts of the Work, including verification that all structures, piping, wiring, and equipment components are compatible. The Contractor shall be responsible for all structural and other alterations in the Work required to accommodate the equipment differing in dimensions or other characteristics from that contemplated in the Contract Drawings or Specifications.

E. The Basis of Design for the equipment being installed at the existing City of San Juan Wastewater Treatment Plant is to replace and match existing equipment performance for a plant having an existing flow rating of 4.0 MGD average flow and a 16.0 MGD Peak flow

1.2 RELATEDSECTIONS

A. The following list of related sections is provided for the convenience of the Contractor and is for reference only to support commonly referenced sections that are in-general applicable to all equipment supplied. (For complete list of sections see specification index.)

1. All sections of Division 1 including but not limited to Submittal Procedures, Shop Drawings, Product Data and Samples, Operating and maintenance information, Protection of Materials and Equipment, Installation, Testing, and Commissioning, Instruction of Operations and Maintenance Personnel, and Spare Parts Maintenance Manuals.
2. All sections of Division 16- Electrical
3. All sections of Division 17- Instrumentation

1.3 REFERENCE STANDARDS

A. American National Standards Institute (ANSI)
B. American Society for Testing and Materials (ASTM)
C. American Welding Society (AWS)
D. American Institute of Steel Construction (AISC)
E. American Bearing Manufacturers Association (ABMA)
F. American Gear Manufacturers Association (AGMA)
G. National Electrical Manufacturers Association (NEMA)
H. Underwriters Laboratory (UL)

1.4 EQUIPMENT ACCEPTABLE MANUFACTURERS

A. All equipment supplied under this section shall be manufactured and furnished by the, Lakeside, Duperon Corp, Esmil Group, Headwork International . or approved equal.

1.5 EQUIPMENT MANUFACTURER REQUIREMENTS

A. To ensure quality and performance: All equipment furnished under this Section and related sections shall be by a manufacturer who has been regularly engaged in the design and manufacture of the equipment and demonstrates, to the satisfaction of the Engineer, that the quality is equal to equipment made by those manufacturers specifically named herein.

B. The screen manufacturer shall have at least 25 installations of mechanically cleaned bar screen equipment that has been in successful operation, at similar installations, for at least five (5) years. Upon request, the manufacturer shall provide a reference of such installation sites along with the relevant contact information.

1.6 QUALITY ASSURANCE

A. The Mechanically Cleaned Bar Screens shall be fully assembled and shop tested at a U.S. manufacturing facility prior to shipment. Shop testing shall include a minimum of 4 hours of running time. The contractor, the engineer, the owner or the owner's designated representative reserves the right to witness the shop test. A minimum of three (3) week notice shall be provided prior to the test to allow for travel coordination.

B. The equipment furnished shall be fabricated, assembled, installed and placed in proper operation condition in full conformity with approved drawings, specifications, engineering data, and/or recommendations furnished by a U.S. equipment manufacturer.

1.7 SUBMITIALS

A. The equipment manufacturer shall submit the following items:

1. (6) Sets of General Arrangement drawings that illustrate the layout of the equipment, equipment weight, principal dimensions with related verifications required for installation including anchorage locations. Other related data including descriptive literature, Electrical Control Drawings, Catalog Cut Sheets for individual components and Drive Motor Data.

2. A list of recommended Spare Parts including any Special Tools required for routine maintenance of the equipment is provided in Section 2.5.

3. (6) Sets of O & M Manuals including As-Built Drawings of the Mechanically Cleaned Bar Screen Arrangement, Controls and Accessories shall be provided in digital format after equipment ship for inclusion in the Close-Out Submittal process.

4. For sites that have (3) ft or greater head differential, equipment manufacturer shall provide Structural Certification from licensed Civil engineer.

1.8 WARRANTY

A. Manufacturer shall provide a written one year standard warranty from the date of use of the mechanically cleaned bar screen equipment to guarantee that there shall be no defects in material or workmanship in any item supplied.

B. Manufacturer shall warrant for the period of 5 years all rotating parts of the Mechanically Cleaned Bar Screen including the gear motor, bearing, drive head, and the link system including the links, castings, pins and retaining rings. Manufacturer warrants that these components shall be replaced if damaged or defective in the normal use of the equipment.

PART 2 - MECHANICALLY CLEANED SCREEN

2.1 BASIS OF DESIGN

A. The mechanically cleaned bar screen shall have a head sprocket only, with no sprockets, bearings, idlers, or similar drive components under water to trap the chain. Equipment featuring reciprocating rake arms or lower bearings/sprockets/tracks below the water is not acceptable.

B. The mechanically cleaned bar screen shall clean the entire bar screen a minimum of every 7.1 seconds at high speed.

C. The flow ability of the screen area, specifically, shall be defined as follows: A composite number representing the specific flow- ability of a screen area composed of the bars' Hydraulic Headless Coefficient Shape Factor, the bar width and the clear opening of the screen field per formula below.

$$\text{(Coefficient Shape Factor)} \times \left(\frac{\text{Bar Width}}{\text{(Clear Opening)}}\right) = \left(\frac{0.190}{\text{(Clear Opening)}}\right)$$

D. The mechanically cleaned bar screen shall be designed to run continuously (24/7), without operator.

E. The equipment shall have multiple scrapers on the bar screen at one time cleaning continuously from bottom to top, the entire width of the bar screen. The drive output shaft rotation shall be constant and in one direction in order to reduce maintenance and increase product life. Units which have single raking arms or that require cycle times shall not be allowed. Cleaning mechanisms that utilize shock absorbers, springs or other dampening or hydraulic actuations are unacceptable.

F. The link system shall have jam evasion capability by flexing around and collecting large objects such as a 2 X 4, bowling ball, grease balls and surges of solids at peak loading times without overloading and shutting down the unit. The link system shall be such that it bends in one direction only, which allows it to become its own lower sprocket and frame and shall have a 1,000 pound lifting capacity.

G. Designs employing the use of endless moving media or cables and hydraulic cylinders to remove debris from the channel and units utilizing proximity or limit switches for reverse cycles are not acceptable.

H. Equipment utilizing a greater than 1 HP motor or two or more motors to complete a screen cleaning cycle is not acceptable.

I. The design shall be such to ensure that all maintenance can be accomplished at the operating floor level or above. No part of the drive system including sprockets shall be located below the water surface at maximum design flow.

J. 1. Minimum Design Requirements:

Flows (MGD)	Slot Fps	Approach Fps	Screen Bar Opening
3.2 MGD	1.32 fps	1.26 fps	0.25"
16 MGD	5.52 fps	2.72 fps	0.25"

*Screen Manufacturer's must be able to meet the above minimum design requirements.
* Screen must be able to respond and automatically adjust to real-time flow conditions.

2. Design Conditions:

Site Installation Information:	
Channel Width:	3ft
Channel Height:	8 ft
(upstream clearance) Channel Depth:	6ft
Bar Opening Size:	0.25 inch
Angle of Installation:	10 degrees from vertical
Average Flow:	4MGD
Average Water Level:	4.20 ft downstream
Maximum Flow:	16MGD
Maximum Water Level:	4.75 ft downstream
Maximum Head Differential:	1 ft
Equipment Location:	Outdoors
Outdoor installation:	
Below Freezing Temperatures:	No
Installation Area (Envelope) Classification:	Class I, Div.
Collection and Conveyance Washer	Dual Auger Design Only

1.9 COMPONENTS

C. Bar screen assembly: Bar screen assembly shall be of stainless steel and designed to withstand 1 foot head differential unless noted otherwise in Section 2.2 J Design Conditions. Unless noted otherwise materials of construction shall be 304 Stainless Steel. A stainless steel channel bottom plate shall be an integral part of the bar screen assembly to fully engage scrapers in the bar screen at the base of the unit and assure that the raking mechanism reaches the bottom of the screen to prevent debris accumulation. The Bar screen assembly shall be shipped in one piece.

1. **Screen Bars:** Bars shall be 316L stainless steel and be tear-shaped with a Hydraulic Coefficient shape factor of 0.76 and the minimum dimensions of 0.25 inch x 0.75 inch x 0.13 inch. Bars shall be individually replaceable without welding. Screen bars shall have a 24" diameter curve at the base of the screen to allow for increased flowable area.

2. **Side Fabrication:** The screen framework shall be 304 stainless steel bent plate with minimum of 3/16 inch cross section. Horizontal members shall be of stainless steel bent plate or stainless steel pipe. Support members and frame shall adequately support the bar screen based on site specific requirements.

3. **Dead Plate:** Dead plate shall be 0.25 inch thick 304 stainless steel. The dead plate shall be flat and true; span the entire width of the unit; and transition from bar screen to discharge point.

4. **Discharge Chute:** The discharge chute shall be 11 gage, 304 stainless steel. The discharge chute shall be designed to allow debris to be transferred from discharge point into the debris containment.

5. **Link Slides:** Link slide assembly shall be provided per manufacturer standard design and shall be constructed of UV Stable UHMW PE and 304 stainless steel supports and components.

D. Return Guide/Closeouts: Return guide/Closeouts shall be 304 stainless steel and shall assure proper alignment of scrapers as they enter the bar screen and assure that there is no space wider than the clear opening between bars to prevent passage of larger solids than allowed through the screen.

E. Debris Blade: A 304 stainless steel and UV Stable UHMW-PE debris blade assembly, which does not require a separate drive, shall be installed to assist in removing debris from the scraper on the mechanically cleaned bar screen unit as recommended by the manufacturer. Hydraulic, shock, or spring controlled debris blade mechanisms are not acceptable.

F. Screen Enclosure: A 14ga. #4 brushed satin finish 304 SSTL Enclosure shall be installed to cover the screen above the operating deck level. Front Enclosure shall have removable panels for access to equipment. Removable panels shall be 16ga. 304 SSTL and shall be provided with a lift off option for "no tool required" access. The rear enclosure shall include a knock out for a customer site option to install a 6- inch diameter pipe stub. (The option of connecting to the site's exhaust system, to provide a positive air exchange from interior of enclosure, by Others.) Rear Enclosure shall have hinged removable doors and shall be secured with a latching handle. Rear removable door shall include an integral viewing door that shall be secured with a latching handle to provide access for a quick look inside & include SS removable panel's.

G. Link System: The link system shall be passivated stainless steel castings and have a minimum ultimate strength of 60,000 lbs. with a minimum cross section of 1.5 inches and weighing a minimum of 5 lbs. each. Parts must meet ASTM A380 specification for surface finish. Link bearing shall be 304 stainless steel system includes 302 stainless steel retaining rings and 304 stainless steel pins.

Scrapers: Scrapers shall be spaced 24 inches apart. To provide long product life the scraper shall *move* at no greater than 34 inches per minute at standard operating speed of .71 rpm allowing for approximately 1.41 debris discharges per minute Thru Bar Scrapers: Thru Bar Scrapers shall be minimum .25 inch thick x 4.2 inches x screen width 2205 Super Duplex stainless steel.

H. Drive Head: The Drive Head shall be located at the top of the mechanically cleaned bar screen.

1. **Drive Unit:** Each mechanically cleaned bar screen unit shall operate independently and shall have its own drive unit and driven components.

    - Drive Sprockets shall be cast 304SSTL. Drive shaft shall be 304SSTL

    - b. Gearbox shall be shaft-mounted, right angle type and include spiral bevel gearing. The output shaft speed shall be controlled by a vector type inverter or per rake manufacturer's recommendation. It shall have at least a 1.39 or greater service factor based on machine torque requirements. The gearbox shall not be vented to the outside atmosphere. The gearbox shall be grease filled. Oil filled gearboxes are not allowed.

    c. The motor shall be AC induction type, inverter duty, 3 phase 480 volt and mounted to the gear reducer. The motor shall be 1 hp, designed for 1800 RPMs base speed and rated for Class I, Groups C & D, Class II Groups F & G environments. The motor shall have an EPNV enclosure, NEMA design B with a 56C frame size. Service factor shall be 1.0 or greater, Class F insulation and be optimized for IGBT type inverters. The motor must be UL listed and designed for continuous operation.

    d. Motor shall have built in, normally closed, thermostat to protect from overheating that is to be field wired to corresponding terminal in control panel for redundant (ambient) overload protection.

    e. All drive head components shall be of components available in the United States.

2. **Bearing:** Bearing shall be a non-lubricated no maintenance engineered polymer Thordon® or Vesconite® bearings and shall have a PV value that is less than the limiting PV value of the material. Screens with lubricated bearings shall not be acceptable.

3. **Speed Reducer:** Speed reducer shall be a double-reduction, cycloidal style and shall comply with all applicable AGMA standards. The speed reducer shall be capable of a 6/1 speed range with variable output speeds between 0.69 to 4.13 output RPMs (in high flow conditions). The speed reducer shall produce an output torque of 11,000 in.lb. and have a gear ratio of 424:1.

I. **Standard Coating:** All non-stainless bar screen components shall be coated in strict accordance with the paint manufacturer's specification. Surface Preparation shall be done in accordance with SSPC-SP-10 Near White. The three-part coating system shall be manufactured by Tnemec as follows: Prime Coat Series 90-97 Tneme Zinc at 2.5-3.5 mils OFT, Intermediate Coat Series 27
F.C. Typoxy at 3.0-5.0 mils OFT, and Top Coat Series 1095 Endura-Shield II at 2.0-3.0 mils OFT. Standard color is 11SF Safety Blue. Material shall meet all state and federal and other regulatory requirements.

1.9 ELECTRICAL, CONTROLS, INSTRUMENTATION

A. General:

Controls for each rake shall be in enclosures provided by the bar screen manufacturer. The bar screen manufacturer shall be responsible for proper sizing and function of the controls at 480V, unless specified otherwise.

Provide a separate control panel for the mechanical screen and one for the washer compactor equipment

1. Main control panels require shading from the sun and shall be operated within a temperature range between 35"F and 104"F. Sunshields, visors or other structures needed to provide shade are by others. (If the controls will experience temperatures outside this range, then special climate provisions are available.)

2. Controls shall be designed to accept incoming power supply per plans/specs and shall include a step-down transformer as needed to achieve 120V.

3. Control Panels shall be constructed to meet the appropriate NEMA classification requirements and will include a main, lockable disconnect. The panel will be constructed by a UL certified control panel build facility and will be supported by the appropriate UL labeling.

4. Controls shall be tested prior to shipment to owner. The rake manufacturer shall verify all overload settings in the rake controller to insure proper overload and speed settings required for the application are properly programmed.

5. Control panels shall be wired complete with a minimum of #16 MTW wire in the appropriate colors for the circuits being supplied. 120VAC control shall be red, grounded AC neutral shall be white, DC control shall be blue, DC neutral shall be blue with a white tracer, equipment ground shall be green and all incoming and outgoing external power source wires shall be a yellow configuration. All AC power wiring shall be a minimum of #12 Black. All wires shall be labeled at both ends with heat-shrink wire markers. Internal panel wiring shall be contained in non-flammable, covered wire way.

6. All panels and panel mounted devices shall be labeled with engraved I.D. markers that reference back to the system schematics. Tags shall be white with black core, engraved as required.

7. All field wiring and power cables between the bar screen Main Control Panel and the Local Push Button Station shall be provided by others under the Electrical Section. VFD rated motor cable (Belden #29502 or equal) is recommended for all motors. Motor cables shall be less than 80 ft unless otherwise specified.

B. Components:

1. Main Control Panels

Provide a separate control panel for the mechanical screen and one for the washer compactor equipment

- Enclosure(s) shall be NEMA 4X 304 SSTL for outdoor installations.
- Enclosure shall not be located in an explosive environment.
- Main Control Panel shall be designed with a SCCR rating of 18KA at 480VAC minimum and labeled as such, unless otherwise specified.
- All terminals utilized in the main panel shall be 600V rated terminals and 20% spare terminal space shall be provided for any potential future revisions.
- The Main Control Panel shall include at a minimum the following
  Main fusible disconnect with lockable operator, unless otherwise specified.
  Physical or virtual Hand/Off/Auto (HOA) Selector and Push/pull E-Stop button.
  Elapsed run-time meter
  Indication for "Power On", "Forward" and necessary faults.
- PLC Based Controls shall include the following: Programmable Logic Controller (PLC) as recommended by manufacturer Variable Frequency Drive (VFD) as recommended by manufacturer
  HMI programmable functions as required
  SCADA Interlocking via Hard Contact and/or Ethernet Communications Protocols as required.
  Differential level controls with back up
  cycle timer
  Adjustable on/off cycle timers
  Machine runs when differential/upstream level is above setpoint, remote start or run timer is active then it will speed up based on size of differential/upstream level
  Screen will not run if the above conditions are not met

2. Local Control Push Button Station

- Enclosure shall be NEMA 7/9 rated for Classified area installation. Local push button station must be local to the equipment to maintain requirements of local safety codes as determined by the Engineer.
- Local station shall be mounted within 10 feet or as close to the equipment as safely possible and be field wired by the electrical subcontractor to the corresponding terminal inputs in the main control panel.

- The remote pushbutton station shall include Forward Jog Reverse and E-Stop buttons.

3. **Instrumentation:**
Each raking assembly shall have a separate level system that shall be installed and field wired by others per the manufacturer's instructions.

- Differential Level Control: Shall use Unitronics PLC with a built-in HMI. Program shall include differential setpoints used to automatically start/stop the rake based on the headless across the screen. The logic shall also include a "Rake Off' setpoint which shall be lower than the initial run setpoint. This setpoint is required to help avoid intermittent starting/stopping caused by the differential level equalizing with minimal rake run time. Cycle timing logic shall also be included in the program that shall function in parallel with the differential level control logic for optimal rake run time. Level sensing instrumentation shall be installed upstream and downstream from the rake and shall be one of the following types:

- APG PT500 series Submersible Pressure Transducers with 50 foot long cabling. Transducers shall be submerged by at least 1 foot of water at all times.

C. Controls Design Conditions:

Incoming Power: (Voltage/Phase)	480v/3phase/60Hz
Enclosures:	1 Main Panel
Installation location:	Outdoors
Approx. distance between main panel and equipment motor	See Plans
Climate controlled location:	No
Outdoor location (must be shaded): For temperatures below 35' F select Outdoors Option 1. For temperatures above 104° F select Outdoors Option 2	*None*
Thermostat, air conditioner and heater	By Screen Manufacturer
Transducer/Float cable length (50 ft standard):	See Plan

1.10 SPECIALTY TOOLS, SPARE PARTS AND LUBRICATION

A. Manufacturer shall provide any specialty tools and recommend spare parts required for maintaining the equipment as follows:

1. Snap/Retaining Rings {10)
2. Link Clevis Pins (4)
3. Scraper Bolts (4)
4. Scraper Nuts (4)
5. Snap Ring Tool (1)
6. Never Seez, 1 oz. tube(1)

1.11 EXECUTION

A. SHIPMENT

Shipment of all equipment shall be coordinated to allow the screen shipment as one complete integrated assembly unless otherwise specified by the customer, contractor, or engineer.

1.12 INSTALLATION

A. Equipment shall be installed in strict conformance with the manufacturer's installation instructions, as submitted with Shop Drawings, Operation and Maintenance Manuals and/or any pre-installation checklists. Installation shall utilize standard torque values and be installed secure in position and neat in appearance. Installation shall include any site preparation tasks as required by the engineer or manufacturer; such as unloading, touch-up painting, etc. and any other installation tasks and materials such as wiring, conduit, controls stands as determined by the customer and/or specified by the manufacturer.

B. **Anchor Bolts:** Anchor bolts and nuts shall be 304 stainless steel and furnished for each item of equipment **by** the **CONTRACTOR**.

C. Anchor bolt template drawings shall be included in the submittal to permit verification of the location structural elements, new or existing in the concrete.

D. Anchor bolt sizes, quantity and requirements will be indicated on the submittal drawings. Quantity is site specific but typically each Barscreen assembly requires (8) to (12) 1/2" dia. x 4 1/2" Lg. embed HILTI HAS RODS w/ HIT-RE 500 V3 adhesive system anchor bolts for

E. Mechanical Screen anchorage and typically (8) to (12) 3/8" dia. x 3 3/8" Lg. embedded HILT! HAS RODS w/ HIT-RE 500 V3 adhesive system anchor bolts for the Return Guide/Closeouts anchorage.

1.13 TESTING

A. After completion of installation, CONTRACTOR shall provide for testing and shall be performed in strict conformance with the manufacturer's start up instructions. Testing of the bar screen shall demonstrate that the equipment is fully operational by picking up and depositing materials into specified containment.

B. Field certification shall include inspection of the following:

1. Verify equipment is properly aligned and anchored per the installation instruction and drawings. Assure the bar screen unit is square, flat and unobstructed with required clearances maintained.
2. Assure controls and instrumentation work in all modes.
3. Check equipment for proper operation of debris blade, scrapers, etc. as well as completion of the Start-Up requirements in the installation guide.

1.14 ON SITE TECHNICAL ASSISTANCE

A. Manufacturer shall provide services to include Installation Certification, and shall include (1) day for Start-Up and (1) day for Training. Manufacturer shall be given minimum 14 days' notification prior to the need for such services. To assure the best outcome for the Owner and Contractor, the Contractor shall provide certification for completion of the PRE-COMMISSIONING CHECKLIST

PART 3 -WASHER COMPACTOR 3.0 WC3.B2.5 (3HP MOTOR)

3.1 SUMMARY

A. **Manufacturer**
Screen Manufacturer shall furnish an interleaving, dual auger washer compactor assembly as shown on the drawings and as specified herein. A single unit shall provide washing and compacting action on wastewater screenings. The equipment shall be manufactured and supplied by the manufacturer of the mechanical bar screen. Single Auger compactors will not be acceptable.

B. **RELATED WORK**
1. Bar Screen
2. Washer Compactor
3. Receptacle

C. **QUALITY ASSURANCE**

1. All equipment supplied under this section shall be of a single manufacturer and demonstrate, to the satisfaction of the Engineer, that the quality is equal to equipment made by those manufacturers specifically named herein.

2. The equipment furnished shall be fabricated, assembled, erected, and placed in proper operating condition in full conformity with approved drawings, specifications, engineering data, and/or recommendations furnished by the equipment manufacturer.

3.2 QUALITY ASSURANCE

A. The Washer Compactor shall be fully assembled and shop tested at a U.S. manufacturing facility prior to shipment. Shop testing shall include a minimum of 4 hours of running time.

B. To assure quality and performance: All equipment furnished under this Section and related sections shall be supplied by a manufactures who has been regularly engaged in the design and manufacture of the equipment and demonstrated, to the satisfaction of the Engineer, that the Washer Compactor has at least 25 installations of the specified model of Washer Compactor equipment that has been in successful operation, at similar installations, for at least five (5) years. Upon request, the manufacturer shall provide a reference of such installation sites along with the relevant contact information.

C. The equipment furnished shall be fabricated, assembled at a U.S. manufacturing facility, installed and placed in proper operation condition in full conformity with approved drawings, specifications, engineering data, and/or recommendations furnished by theequipment manufacturer.

3.3 BASIS OF DESIGN

A. **Compacting Action:** The Washer Compactor shall have dual augers to provide positive displacement action. Augers shall be oriented on top of each other and rotate in opposing directions. Augers shall be intermeshed, with one left-hand and one right-hand lead. Augers shall be designed with a limited float on top of a strainer to allow for the accommodation of irregular debris. Single auger washer compactors are not approved.

B. **Washing Action:** The Washer Compactor shall have a wash water manifold integrated into the main housing. Two ports inside the unit shall emit a medium pressure stream. Wash water shall run continuously when the Washer Compactor is in motion. Continuous operation (non-batching) equipment is required; filling- and batching-type equipment shall not be accepted.

C. **Operation:** The Washer Compactor shall be continuous running, not requiring an operator. The Washer Compactor shall be equipped with a self-regulating, active pressure zone designed to accept non- standard wastewater debris in its original form, including but not limited to: rocks; broken concrete; and metal (such as bolts or short pipe) up to 4 inches long. The Washer Compactor shall have the ability to process multiple pieces of clothing, variable volumes of debris, and unprocessed septage or grease. The Washer Compactor shall move at a normal operating speed of 2.4 to 9.8 RPM and shall have the ability to run intermittently to sync with upstream equipment.

D. **Materials:**

1. **Fabrications:** All welded fabrications shall be made from stainless steel. All welded connections and welding procedures shall comply with AWS "Structural Welding Code - Sheet Steel" D1.3/01.6.

2. **Select Parts:** Select power transmission parts to be made from cast iron; however, shall conform to standard coating as follows.

3. **Standard Coating:**

   a. Motor gearbox shall be coated in strict accordance with the paint manufacturer's specification. Surface preparation shall be done in accordance with SSPC-SP-10 near White. The three-part coating system shall be manufactured by Tnemec as follows: Prime Coat Series 90-97 Tnemec Zinc at 2.5-3.5 mils OFT; Intermediate Coat Series Typoxy at 3.0-5.0 mils OFT and Top Coat Series 1095 Endura- Shield II at 2.0-3.0 mils OFT. Standard color is 11SF Safety Blue. Material shall meet all State and Federal and other regulatory requirements.

   b. Alternatives: Any alternate product must provide certified test reports when submitting products other than those specified herein. Test reports shall indicate the test method, system, and requirements for those products being submitted and shall meet or exceed the test criteria and performance values of the coatings specified herein.

4. **Non-Metal:** Parts not covered in the specifications above shall be manufactured from UHMW polyethylene.

E. **Design Conditions:**

Washer Compactor WC3.82.5 Data Sheet	
Peak Capacity:	90 cu.ft./hr. (5 minutes)
Average Capacity (Continuous):	25 cu.ft./hr.
Wastewater Application (¾" barscreen) :	Up to 60 MGD
Water: Typical	• Utilizes filtered effluent or municipal Consumes 3-10 GPM water Requires 40-60 PSI ½ inch NPT supply (female threads) 3 inch NPT drain (male threads)
Materials of Construction:	• 17-4 Spur Gears Delrin (or equivalent) thrust and plane bearings • 304 SSTL
Strainer:	Perforated Screen
Hopper Height (Deck to Hopper):	38"
Hopper Length (WC3.B2.5 Unit):	43" UHMW Auger Supports
Performance Data (Typical Wastewater Debris)	
Dry Solids:	30%-60%
Mass/Weight Reduction:	60%-70%
Volume Reduction:	70%-80%
Odor/Fecal:	Significantly decreases odor/fecal
Motor/Drive	
Motor Size:	3 HP
Motor Paint:	Duperon® Standard Tnemec Coating
Motor Service Factor (Minimum):	3.0
Output Speed:	9.8 RPM
Speed Reducer Ratio/Output:	179:1
Speed Reducer Paint	Duperon® Standard Tnemec Coating
Site Power	
Phase voltage:	480 volts
Controls Main Disconnect Integrated into Main Panel for Bar Screen Emergency Stop HOA (Auto is discreet "Run" input) forward/Jog Reverse/E-Stop Push Button Station "Run" and "In Auto" discrete outputs Explosion-Proof station (local standard)	
Mounting:	▪ Wall Pedestal (by others)
Project Management	
Submittal Quantity:	2-4
O&M Manual Quantity:	2-4
Warranty Period:	1 year
	Main unit chute(s)

3.4 COMPONENTS

A. **Main Housing:** The main housing of the Washer Compactor shall be constructed of stainless steel (material options contained in table) with a minimum thickness of 11 gauge. Support and flange connections shall be 3/8 inch.

B. **Hopper:** The hopper of the Washer Compactor shall be constructed of stainless steel (material options contained in table) with a minimum thickness of 11 gauge.

C. **Augers:** The augers shall be of stainless steel (material options contained in table) with 8 inch diameter flights, 3/8 inch thick, with 4 inch flight pitch. The augers shall be coupled to a transmission at the drive end and be supported at the compaction end with UHMW plane bearings. This arrangement shall allow for the accommodation of irregular debris. The auger shaft shall be 2 inch stainless steel schedule 40 pipe with 2 inch solid stainless steel stub shaft.

D. **Compaction Housing:** The compaction housing of the Washer Compactor shall be X inch stainless steel (material options contained in table) and shall house a spring and gate assembly to provide the resistance for compaction. The compaction housing shall contain the auger supports.

E. **Discharge Chute:** The discharge chute of the Washer Compactor shall be constructed of stainless steel (material options contained in table) with a minimum thickness of 14 gauge. Support and flange connections shall be 1/4 inch. The discharge chute shall be tapered outward toward the discharge end.

F. **Water Supply:** The water supply shall connect at a single point with a % inch NPT female connector. A NEMA 7/9 Explosion proof solenoid valve is provided to limit the wash water flow to only when the washer compactor is running. Ball valves shall be provided to distribute flow to the washing and trough sprayer connections.

G. **Strainer:** A strainer shall be located beneath the lower auger to filter the washed solids. The strainer shall be removable via drain trough and pressed against the lower auger with spring pressure. The strainer shall be self-cleaning through continuous, even contact with the lower auger. Strainers requiring auger-mounted brushes will not be accepted.

H. **Drain Trough:** A removable pan shall be provided beneath the main housing to collect washwater. Washwater shall be drained through a 3 inch NPT male drain port. The pan shall be a minimum of 11 gauge stainless steel (material options contained in table).

I. **Drive Assembly:**

1. Each Washer Compactor unit shall operate independently, with its own drive unit and driven components. The gearbox shall not be vented to the outside atmosphere.

2. The gearbox shall be grease lubricated and designed for 5 years (or 20,000 hours of operation) between recommended clean and re-grease services. The gearbox shall be right angle type and shall incorporate cycloidal and spiral bevel gearing with a total ratio of 179:1. The gear reducer output shaft speed shall be 2.4 RPM minimum to 9.8 RPM maximum and controlled by an AC Tech, vector-type inverter (or greater service factor) based on unit torque requirements. It shall be shaft-mounted utilizing the keyless Taper- Grip® bushing.

3. The motor shall be mounted to the gear reducer by utilizing a quill, C-Face mounting style. The motor shall be AC induction type, 3 HP, 3/60/230/460 volt, explosion-proof, inverter- duty model.

4. The drive assembly shall incorporate standard coating system.

J. **Auger Transmission:**

1. The Drive Assembly shall be coupled to a dual gear transmission, which drives the augers in a counter-rotation.

2. The spur gears are contained in a stainless steel housing and supported by Delrin (or equivalent) plane bearing.

3. Grease fittings shall be located outside of the transmission housing to provide lubrication to the gears.

K. **Speed Reducer:** The Speed Reducer shall have a maximum output of 9.8 RPM, 179:1 reduction ratio with 18,900 in-lb. of output torque.

L. **Thrust Bearings:** Thrust Bearings shall be Delrin (or equivalent), self-lubricating, and be capable of withstanding a minimum of 2000 lb. of thrust load (each auger) at 9.8 RPM for life of machine.

M. **Screw Supports:** Screw supports shall be UHWM plane type, self-lubricating, and fastened into place using stainless steel fasteners.

3.5 ELECTRICAL, CONTROLS, INSTRUMENTATION

A. **General:** Controls of the washer compactor shall be in enclosures provided by the washer compactor manufacturer. The washer compactor manufacturer shall be responsible for proper sizing and function of the controls at 480V, unless specified otherwise.

Provide a separate control panel for the mechanical screen and one for the washer compactor equipment **provided by the same manufacturer.**

1. Main control panels require shading from the sun and shall be operated within a temperature range between 35°F and 104°F. Sunshields, visors or other structures needed to provide shade are by others. (If the controls will experience temperatures outside this range, then special climate provisions are available.)

2. Controls shall be designed to accept incoming power supply per plans/specs and shall include a step-down transformer as needed to achieve 120V.

3. Control Panel(s) shall be constructed to meet the appropriate NEMA classification requirements and will include a main, lockable disconnect. The panel will be constructed by a **UL** certified control panel build facility and will be supported by the appropriate UL labeling.

4. Controls shall be tested prior to shipment to owner. The washer compactor manufacturer shall verify all overload settings in the motor controller to insure proper overload and speed settings required for the application are properly programmed.

5. Control panel(s) shall be wired complete with a minimum of#16 MTW wire in the appropriate colors for the circuits being supplied. 120VAC control shall be red,

grounded AC neutral shall be white, DC control shall be blue, DC neutral shall be blue with a white tracer, equipment ground shall be green and all incoming and outgoing external power source wires shall be a yellow configuration. All AC power wiring shall be a minimum of #12 Black. All wires shall be labeled at both ends with heat-shrink wire markers. Internal panel wiring shall be contained in non-flammable, covered wireway.

6. All panels and panel mounted devices shall be labeled with engraved I.D. markers that reference back to the system schematics. Tags shall be white with black core, engraved as required.

7. All field wiring and power cables between the washer compactor Main Control Panel and the Local Push Button Station shall be provided by others under the Electrical Section. VFD rated motor cable (Belden #29502 or equal) is recommended for all motors. Motor cables shall be less than 80 ft unless otherwise specified.

B. **Components:**

1. **Main Control Panel**

Provide a separate control panel for the mechanical screen and one for the washer compactor equipment

a. Integrated Main Panel for Bar Screen and Compactor Washer

b. Enclosures shall not be located in a Classified area.

c. Main Control Panels shall be designed with a SCCR rating of 18KA at 480VAC minimum and labeled as such, unless otherwise specified.

d. All terminals utilized in the main panel shall be 600V rated terminals and 20% spare terminal space shall be provided for any potential future revisions.

e. The Main Control Panels shall include at a minimum the following
f. Main fusible disconnect with lockable operator, unless otherwise specified.

g. Physical or virtual Hand/Off/Auto (HOA) Selector and Push/pull E-Stop button.
h. Elapsed run-time meter
i. Indication for "Power On", "Forward" and necessary faults
j. Fused connection for the wash water solenoid.

k. Relay Based Controls shall include the following:
l. Variable Frequency Drive (VFD)
m. Electronic torque control
n. Hard contact SCADA interlock(s)
o. Adjustable off delay timer

2. **Local Control Push Button Station**

a. Enclosure shall be NEMA 4/7/9 rated for classified area installation. Local push button station must be local to the equipment to maintain requirements of local safety codes as determined by the Engineer.

b. Local station shall be mounted within 10 feet or as close to the equipment as safely possible and be field wired by the electrical subcontractor to the corresponding terminal inputs in the main control panel.

c. The remote pushbutton station shall include: Forward, Jog Reverse and E-Stop buttons.

3. Sequence of Operations:

a. The Washer Compactor controls shall enable the push button station installed near the Washer Compactor when in "Hand" mode and utilize an input signal from a remote source when in "Auto" mode. Upon receiving a disruption of "remote source" signal in "Auto" mode, the Washer Compactor shall utilize an off- delay timer to allow debris to finish depositing. The washwater solenoid is energized any time that the washer compactor is running.

b. The Speed Controller fault shall be cleared by turning off the Washer Compactor, then waiting approximately three minutes (or time designated per current UL standards) and then turning the HOA back to the desired setting. A motor overtemp fault shall clear automatically when the motor cools to a temperature within the normal operating range.

4. Miscellaneous:

a. The following shall be provided by the electrical contractor and are not part of the Bar Screen and Washer Compactor manufacturer scope of supply:

- Mounting stands
- Mounting hardware
- Field wiring and conduit
- VFD-rated motor cable (Belden #29502 or equal) recommended for all motors.
- Motor cables shall be less than 80 ft. long unless specified otherwise.
- Junction boxes
- Installation

b. Field wiring shall include (but not be limited to) the following connections as applicable:

a. All incoming power supply to the main control panel.

b. All required grounding of the motor and controls.

c. Motor to the main control panel.

d. VFD-rated motor cable (Belden #29502 or equal) recommended for all motors.

e. Motor cables shall be 80 ft. long unless specified otherwise.

f. Motor thermostat to the terminal inputs in the control panel.

g. Washwater solenoid wiring

h. Input and output signal wiring for remote start/stop as required by plans/specs.

c. Remote station contacts the corresponding terminal inputs in the main control panel.

3.6 SPECIALTY TOOLS, SPARE PARTS AND LUBRICATION

A. Duperon does not typically recommend the purchase of additional spare parts, though some customers prefer to have them on hand.

B. Spare Parts Kit to include:

Drive Clevis Pin	(1)
Snap/Retaining Rings	(10)
Link Clevis Pins	(4)
Scraper Bolts	(4)
Scraper Nuts	(4)
Snap Ring Tool	(1)
Never Seez, 1 oz. tube	(1

C. Drop Sleeve: A flexible canvas sleeve shall be connected to the end of the Washer Compactor steel chute. The sleeve shall provide guidance for dropping screenings. The sleeve shall help contain the debris as it falls and prevent debris from being scattered by the wind or otherwise impacting the immediate environment. The sleeve shall be constructed of heavy-duty urethane canvas and be tethered to the surroundings as required (by others).

3.7 EXECUTION SHIPMENT

A. Shipment of all equipment shall be coordinated to allow the Bar Screen and Washer Compactor shipment as one complete integrated assembly unless otherwise specified by the customer, contractor, or engineer.

3.8 INSTALLATION

A. Equipment shall be installed in strict conformance with the manufacturer's installation instructions, as submitted with Shop Drawings, Operation and Maintenance Manuals and/or any pre-installation checklists. Installation shall utilize standard torque values and be installed secure in position and neat in appearance. Installation shall include any site preparation tasks as required by the engineer or manufacturer; such as unloading, touch-up painting, etc. and any other installation tasks and materials such as wiring, conduit, controls stands as determined by the customer and/or specified by the manufacturer. All plumbing shall be completed on site by a qualified individual in accordance with all local and national plumbing regulations.

B. **Anchor Bolts:** Anchor bolts and nuts shall be 304 stainless steel and furnished for each item of equipment by the CONTRACTOR.

1. Anchor bolt template drawings shall be included in the submittal to permit verification of the location structural elements, new or existing in the concrete.

2. Anchor bolt sizes, quantity and requirements will be indicated on the submittal drawings. Quantity is site specific but typically each Washer Compactor assembly requires (4) 1/2" dia. x 4 1/2" Lg. embed HILTI HAS RODS w/ RE- 500v3 Adhesive system anchor bolts.

3.9 TESTING

A. After completion of installation, CONTRACTOR shall provide for testing and shall be performed in strict conformance with the manufacturer's start up instructions. Testing of the Bar Screen and Washer Compactor shall demonstrate that the equipment is fully operational and that the equipment will wash, compact, and deposit materials not to exceed 4 inches.

B. Field certification shall include inspection of the following:

1. Verify and Bar Screen Washer Compactor are properly leveled and anchored per the installation instructions and site drawings.

2. Assure controls and instrumentation work in all modes.

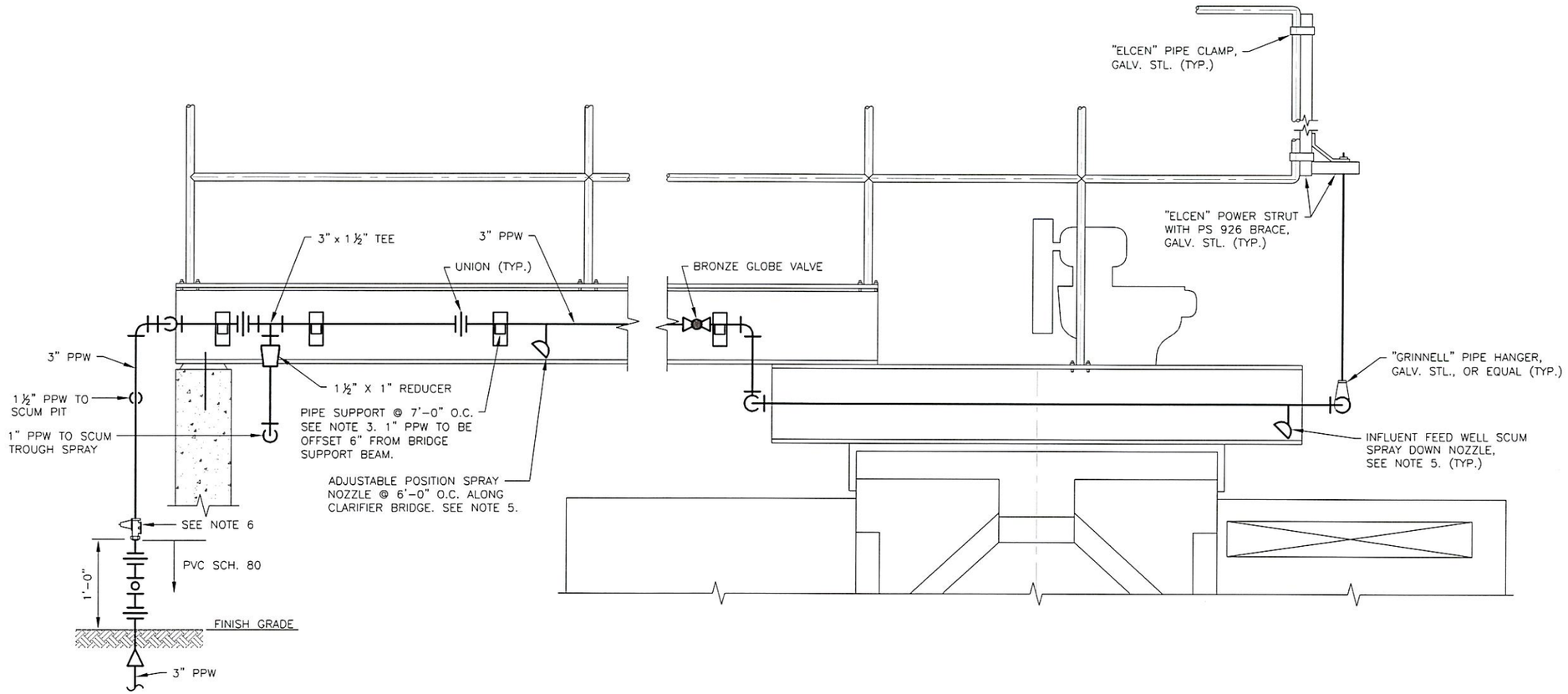
3. Assure proper auger rotation.

4. Check to ensure all Start-Up requirements are completed per the Installation Guide.

3.10 ONSITE TECHNICAL ASSISTANCE

A. Manufacturer shall provide services to include Installation Certification and shall include (2) days for Start-Up and (1) day for Training. Manufacturer shall be given minimum 14 days' notification prior to the need for such services. To assure the best outcome for the Owner and Contractor, the Contractor shall provide certification for completion of the PRE- COMMISSIONING CHECKLIST

END OF SECTION



SCHEMATIC SCUM DIRECTING SPRAY NOZZLE LAYOUT

SCALE: 3/8"=1'-0"

NOTE:

1. 3" PPW (FRESHNING WATER) LINE TO BE DIRECTED INTO THE THICKENER CENTER WELL.
2. SUPPORT 3" PPW (THICKENER FRESHNING WATER) ON THICKENER BRIDGE USING GALV. STL. UNI-STRUT AND STN. STL. HARDWARE. ALL PIPING ABOVEGROUND SHALL BE SCH. 10 TYPE 304 STN. STL.
3. SUPPORT PPW SPRAY DOWN WITH GALVANIZED ELCEN" POWERSTRUT PS 651. CLAMPS, BOLTS AND MISCELLANEOUS APPURTENANCES SHALL BE STN. STL. (CUSH-A-CLAMP SYSTEM)
4. PRESSURE REDUCING VALVE BY WATTS MODEL No. 25AUB-GGDU.
5. NOZZLES PROVIDED BY "SPRAYING SYSTEMS CO." NOZZLES TO BE STN. STL. AND PROVIDED WITH ADJUSTABLE STN. STL. SWIVAL JOINTS. SEE DETAILS FOR TYPICAL VALVING ARRANGEMENT ON SPRAY SYSTEM.
   A) SCUM TROUGH SPRAY DOWN: SPIRAL JET NOZZLE, 3/8" CONNECTION SIZE, CAPACITY SIZE 20, 4.0 GPM @ 40 PSIG. SPRAY ANGLE = 90°.
   B) SCUM PIT SPRAY DOWN: SPIRAL JET NOZZLE, 3/8" CONNECTION SIZE, CAPACITY SIZE 13, 2.6 GPM @ 40 PSIG. SPRAY ANGLE = 90°.
6. SUPPORT PPW PIPING TO STRUCTURE USING ZSI CUSH-A-CLAMP OMEGA SERIES PIPE SUPPORTS. ALL COMPONENTS TO BE STN. STL.
7. ALL WATER PIPING SHALL INCLUDE JACKET TYPE INSULATION.

PROPOSED GRAVITY THICKENER SPRAY SYSTEM

STATE OF TEXAS
ORLANDO CRUZ
55740
REGISTERED PROFESSIONAL ENGINEER

12/17/24

ADDENDUM No. 3

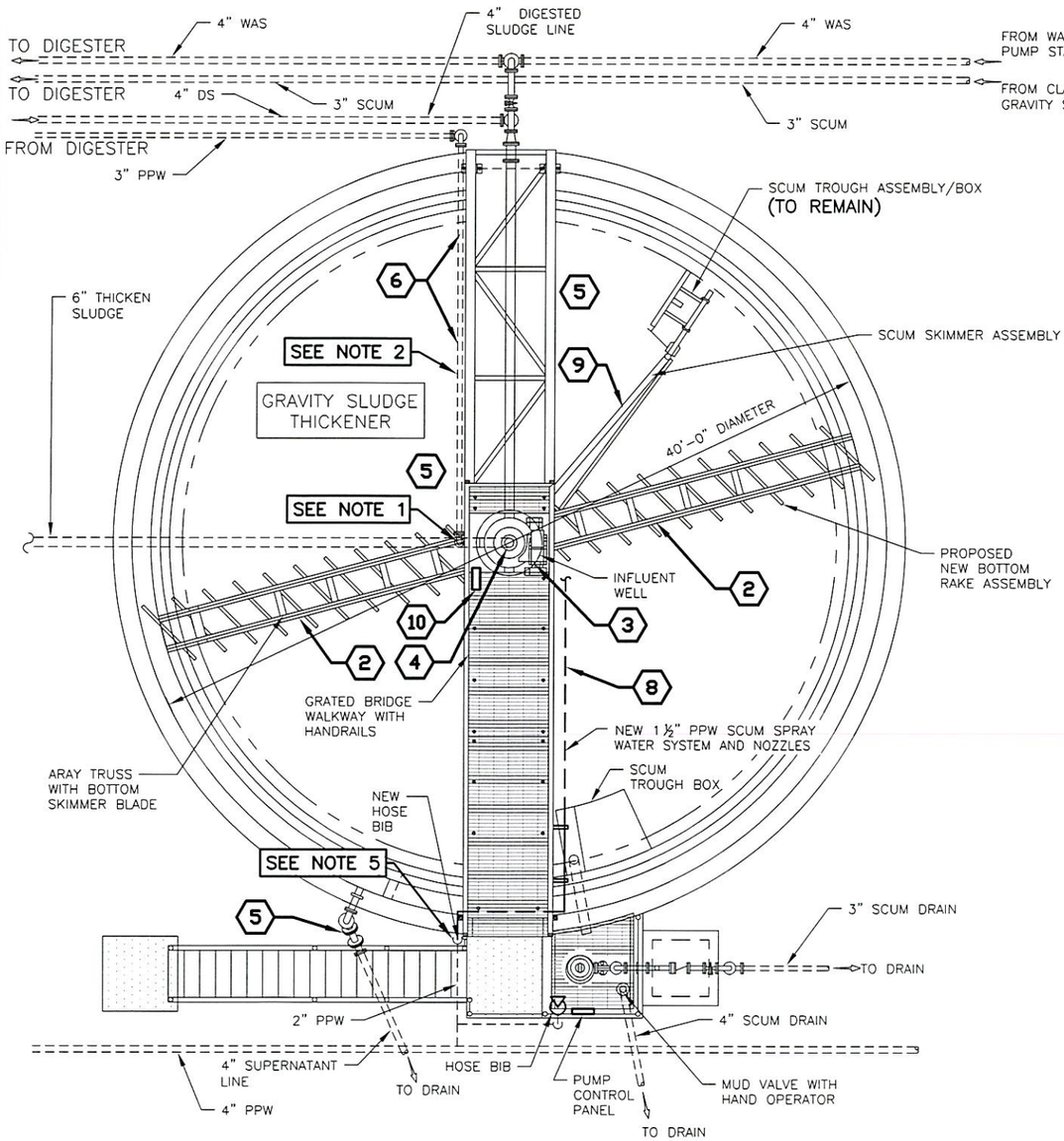
CITY OF SAN JUAN, TEXAS

WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE TWO

CRUZ - HOGAN
ENGINEERS | PLANNERS
McAllen | Harlingen | Weslaco
TBPE FIRM REGISTRATION No.: F-4860

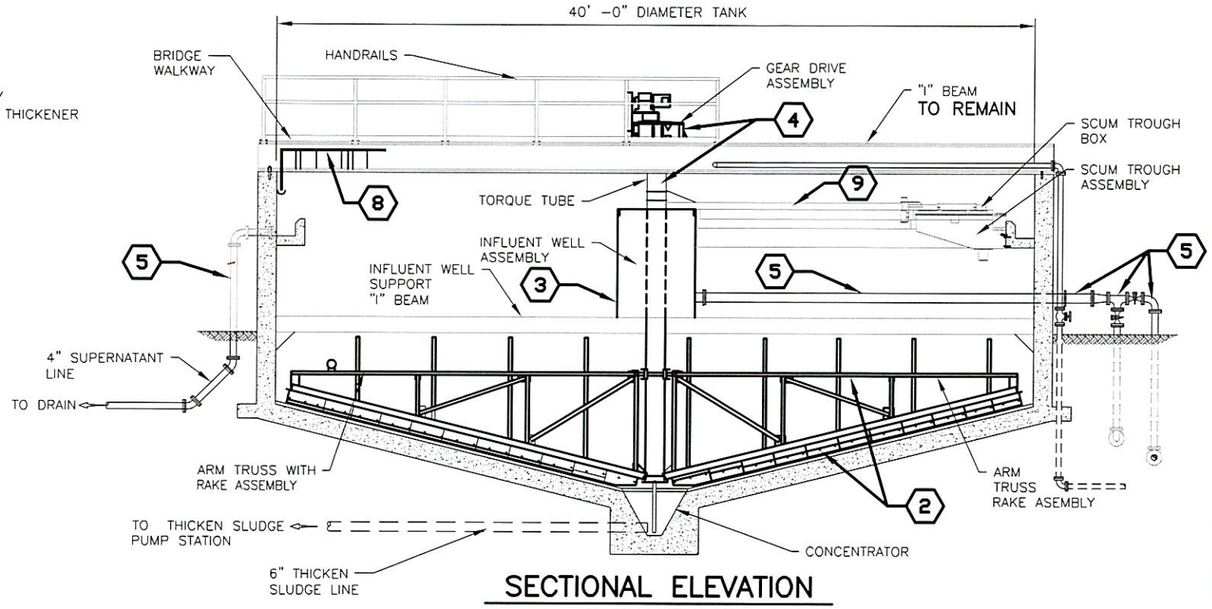
PROPOSED GRAVITY THICKENER SPRAY SYSTEM

DESIGN	DRAWN	PROJ. #	DATE	SCALE	FILE	SHEET NO.
O.S.C.	A.M.	551	MAR.,'24	AS NOTED	SLUDGETHICKNR	61A



PLAN VIEW

SCALE: 1/8"=1'-0"



SECTIONAL ELEVATION

SCALE: 1/8"=1'-0"

ITEMS OF PROPOSED WORK

1. DEMOLITION – REMOVE EXISTING GEAR DRIVE ASSEMBLY, INFLUENT WELL ASSEMBLY, BOTTOM ARRAY TRUSS RAKE ASSEMBLY AND TORQUE TUBE, AND ELECTRICAL PANEL. EXISTING BRIDGE TO REMAIN.
2. INSTALL NEW BOTTOM ARM TRUSS RAKE ASSEMBLY NEW SUPPORTS AND SKIMMER BLADE AND SQUEEGEES, AND ETC. ALL COMPLETE.
3. INSTALL NEW GALVANIZED INFLUENT WELL ASSEMBLY AND WELL SUPPORTS. CONNECT TO NEW SKIMMER ASSEMBLY AND EXISTING WAS PIPE, INSTALL WELL ON EXISTING SUPPORT "I" BEAMS, AND ETC. ALL COMPLETE.
4. INSTALL NEW GEAR DRIVE ASSEMBLY AND TORQUE TUBE ON EXISTING DRIVE, AND ETC. ALL COMPLETE.
5. WATER BLAST, PRIME AND PAINT ALL PIPING FITTING, VALVES AND ETC. LOCATION ABOVE GROUND.
6. REPLACE EXISTING 3" PPW LINE (GALV.). CONNECT TO EXISTING LINE AT GROUND LEVEL. EXTEND TO CENTER WELL.
7. PROVIDE NEW CONTROL PANEL EQUIPMENT AND ALL ELECTRICAL AND CONTROLS. (SEE ELECTRICAL)
8. PROVIDE NEW THICKENER SPRAY SYSTEM. SEE LAYOUT DRAWING AND NOTES ON SHEET 61A. ALL COMPLETE AND FULLY FUNCTIONAL.
9. INSTALL NEW SKIMMER ASSEMBLY COMPLETE. WALKER PROCESS TYPE "CP" COLLECTOR. PROVIDE ALL NEW HARDWARE. (ALL GALVANIZED)
10. NEW EQUIPMENT CONTROL PANEL. SEE ELECTRICAL.

NOTE: EQUIPMENT MANUFACTURER TO PROVIDE ALL NECESSARY HARDWARE AND ANCHORING INSTRUCTIONS.

STATE OF TEXAS
ORLANDO CRUZ
55740
REGISTERED PROFESSIONAL ENGINEER

12/17/24

PROPOSED GRAVITY SLUDGE THICKENER IMPROVEMENTS

ADDENDUM No. 3

CITY OF SAN JUAN, TEXAS

WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE TWO

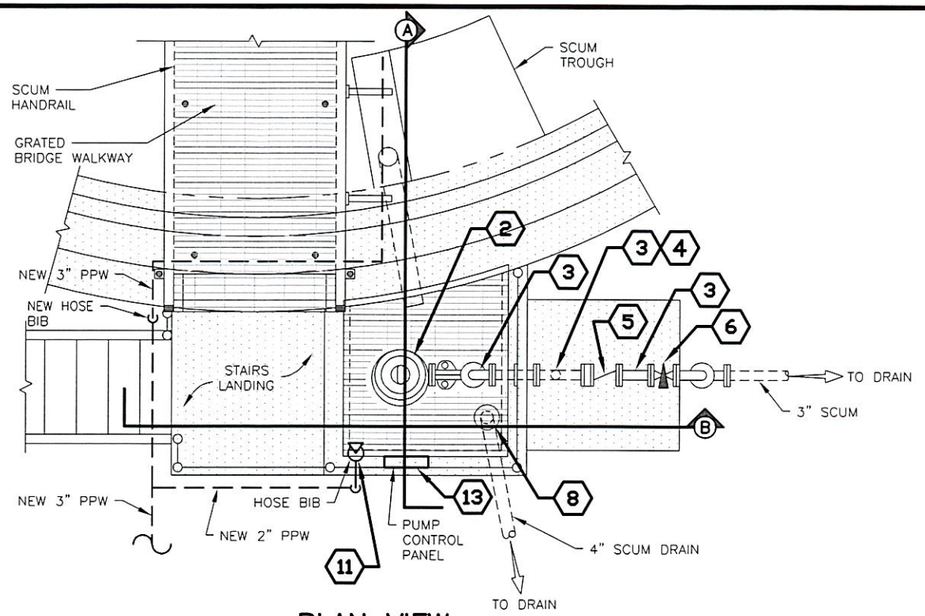
CRUZ - HOGAN
ENGINEERS | PLANNERS
McAllen | Harlingen | Weslaco
TBPE FIRM REGISTRATION No.: F-4860

PROPOSED GRAVITY SLUDGE THICKENER IMPROVEMENTS PLAN VIEW AND SECTION VIEWS

DESIGN	DRAWN	PROJ. #	DATE	SCALE	FILE	SHEET NO.
O.S.C.	A.M.	551	MAR.,'24	AS NOTED	SLUDGETHICKNR	61

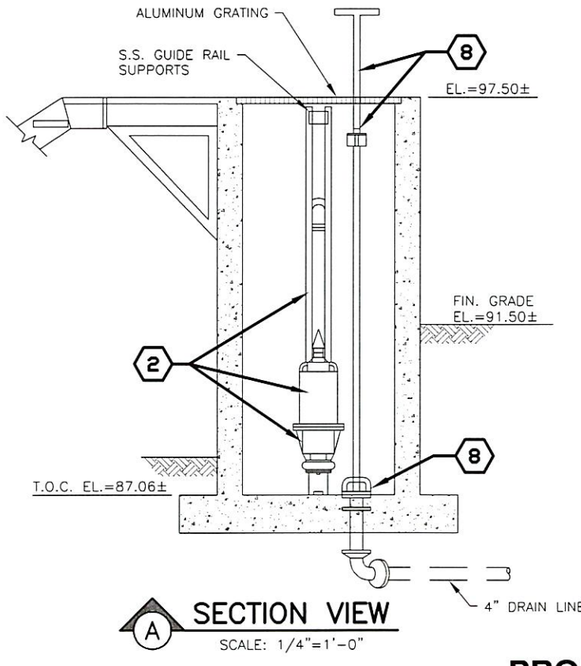
NOTE:

1. NEW 3" PPW (FRESHNING WATER) LINE TO BE DIRECTED INTO THE THICKENER CENTER WELL.
2. NEW SUPPORT 3" PPW (THICKENER FRESHNING WATER) ON THICKENER BRIDGE USING GALV. STL. UNI-STRUT AND STN. STL. HARDWARE. ALL PIPING ABOVEGROUND SHALL BE SCH. 10 TYPE 304 STN. STL.
3. SUPPORT PPW PIPING TO STRUCTURE USING ZSI CUSH-A-CLAMP OMEGA SERIES PIPE SUPPORTS. ALL COMPONENTS TO BE STN. STL.
4. PRESSURE REDUCING VALVE BY WATTS MODEL No. 25AUB-GGDU.
5. NOZZLES PROVIDED BY "SPRAYING SYSTEMS CO." NOZZLES TO BE STN. STL. SWIVEL JOINTS. SEE DETAIL FOR TYPICAL VALVING ARRANGEMENT ON SPRAY SYSTEM.
   A) SCUM TROUGH SPRAY DOWN: SPIRAL JET NOZZLE, 3/8" CONNECTION SIZE, CAPACITY SIZE 20, 4.0 GPM @ 40 PSIG. SPRAY ANGLE = 90°.
   B) SCUM PIT SPRAY DOWN: SPIRAL JET NOZZLE, 3/8" CONNECTION SIZE, CAPACITY SIZE 13, 2.6 GPM @ 40 PSIG. SPRAY ANGLE = 90°.
5. ALL WATER PIPING SHALL INCLUDE JACKET TYPE PIPE INSULATION.



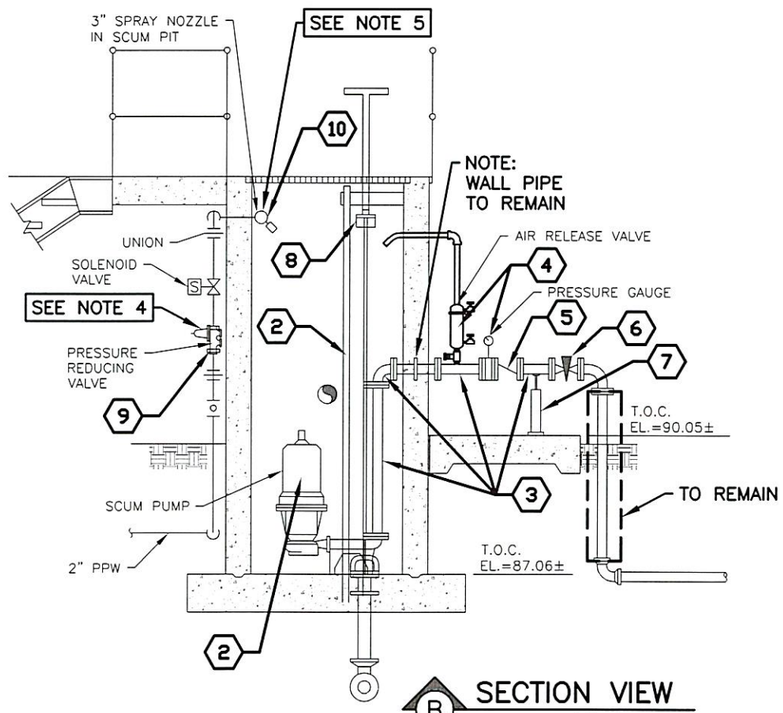
PLAN VIEW

SCALE: 1/4"=1'-0"



SECTION VIEW (A)

SCALE: 1/4"=1'-0"



SECTION VIEW (B)

SCALE: 1/4"=1'-0"

PROPOSED GRAVITY THICKENER SCUM PUMP SYSTEM REPLACEMENT

ITEMS OF PROPOSED WORK

1. DEMOLITION REMOVE EXISTING SCUM PUMP & MOTOR, CONTROL PANEL, RAILS, PUMP BASE MUD VALVE & ETC.
2. NEW SCUM PUMP ASSEMBLY. TO INCLUDE NEW PUMP AND MOTOR, NEW PUMP BASE, NEW STAINLESS STEEL GUIDE RAILS & SUPPORTS, NEW DISCHARGE PIPING & ETC. ALL COMPLETE (SEE SPECIFICATIONS FOR PUMP SIZING AND REQUIREMENTS)
3. INSTALL NEW PUMP DISCHARGE 3" DIP PIPING, VALVES, FITTINGS AND ETC. (ALL COMPLETE.)
4. INSTALL NEW AUTO AIR RELEASE VALVE AND PRESSURE GAUGE ASSEMBLY. CONNECT TO EXISTING S.S. 1" DISCHARGE LINE.
5. INSTALL NEW 3" CHECK VALVE. (FLGxFLG)
6. INSTALL NEW 3" PLUG VALVE WITH HANDLE OPERATOR. (FLGxFLG)
7. INSTALL NEW PIPE SUPPORTS.
8. INSTALL NEW MUD VALVE, STEM, SUPPORTS AND "T" HANDLE.
9. INSTALL NEW PRESSURE REDUCING VALVE. SEE NOTE 4
10. INSTALL NEW SPRAY NOZZLE. SEE NOTE 5(B)
11. REPLACE EXISTING HOSE BIB.
12. PAINT ALL NEW PIPING, FITTINGS AND VALVES. (BROWN)
13. PROVIDE NEW ELECTRICAL & PUMP CONTROLS AND NEW PUMP CONTROL PANEL. (SEE ELECTRICAL)

STATE OF TEXAS
ORLANDO CRUZ
55740
REGISTERED PROFESSIONAL ENGINEER

12/17/24

ADDENDUM No. 2

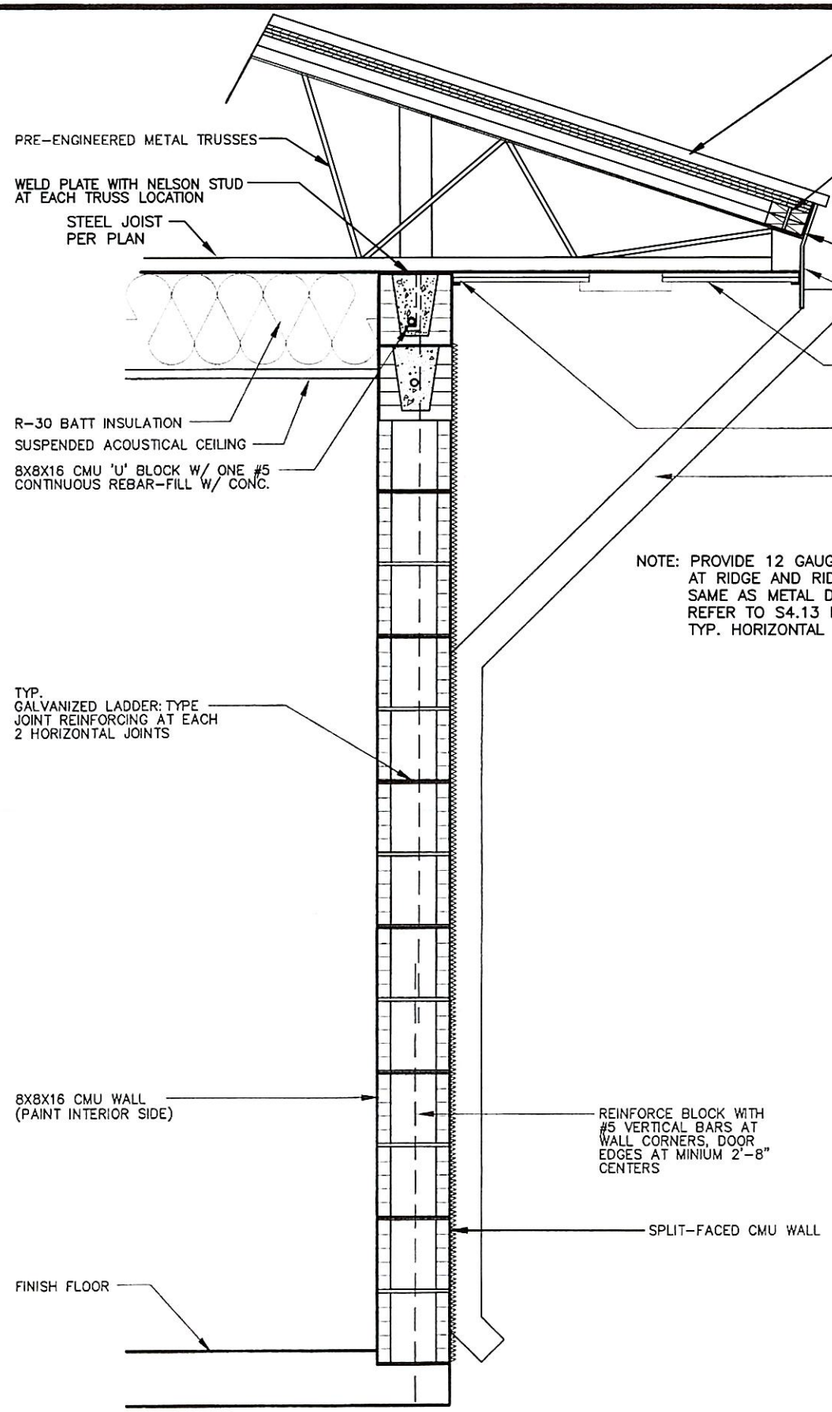
CITY OF SAN JUAN, TEXAS

WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE TWO

CRUZ - HOGAN
ENGINEERS | PLANNERS
McAllen | Harlingen | Weslaco
TBPE FIRM REGISTRATION No.: F-4860

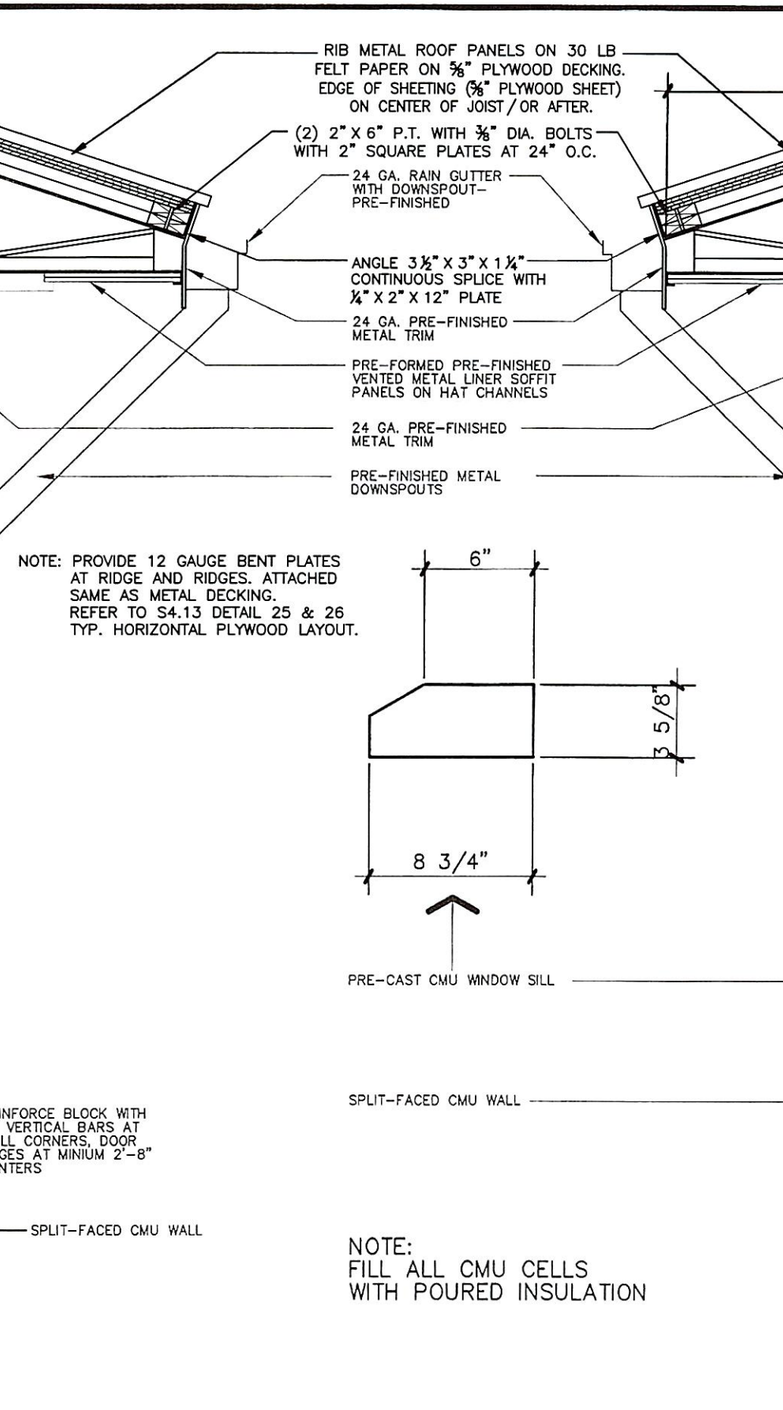
PROPOSED THICKENED SLUDGE SCUM STATION PLAN VIEW AND SECTION VIEWS

DESIGN	DRAWN	PROJ. #	DATE	SCALE	FILE	SHEET NO.
O.S.C.	A.M.	551	MAR.,'24	AS NOTED	SLUDGETHICKNR	62



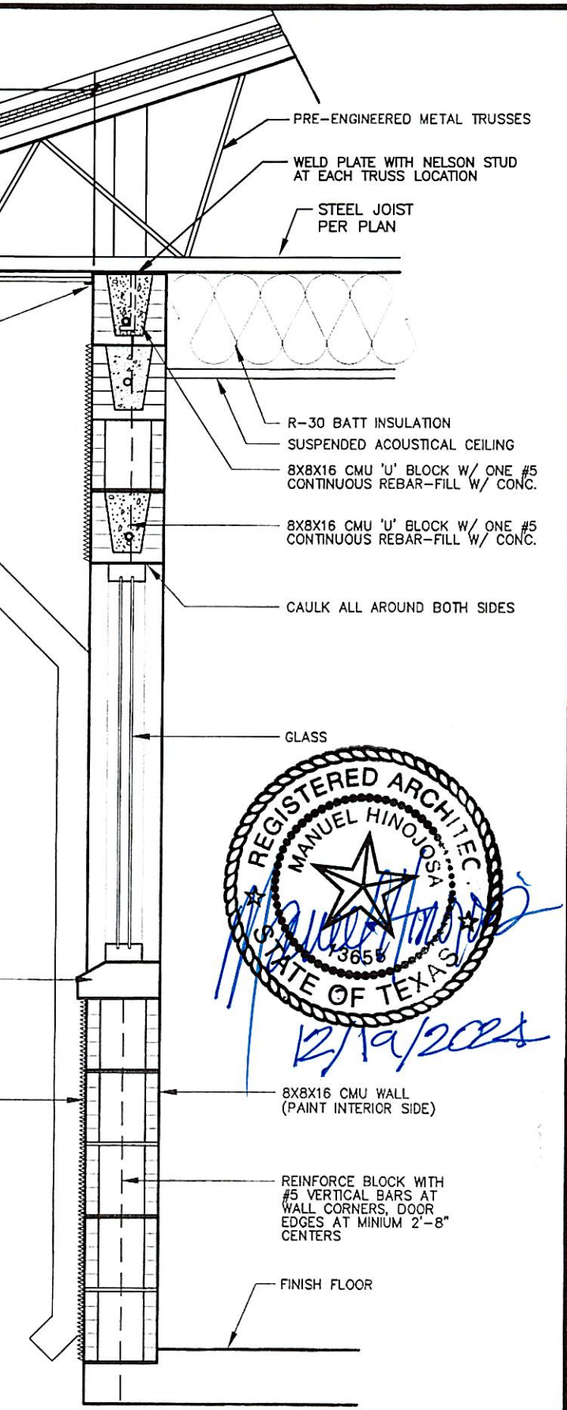
WALL SECTION-701

SCALE: 3/4"= 1'-0"



NOTE:
FILL ALL CMU CELLS
WITH POURED INSULATION

ADDENDUM No. 3



WALL SECTION-702

SCALE: 3/4"= 1'-0"

REGISTERED ARCHITECT
MANUEL HINOJOSA
13656
STATE OF TEXAS
12/19/2021

CONTROL BUILDING
SAN JUAN WASTEWATER TREATMENT PLANT
SAN JUAN, TEXAS
CRUZ-HOGAN CONSULTANTS, INC.
ENGINEERS - PLANNERS

DATE: NOV. 2019
DRAWN BY:
CHECKED BY:
FILE NAME:

SHEET
A-7
REVISED