ADDENDUM NO. 2
SEWER SYSTEM IMPROVEMENTS
CONTRACT 24-01
JONES CREEK WATER RECLAMATION FACILITY IMPROVEMENTS
DICKSON, TENNESSEE
WAUFORD PROJECT NO. 2170

Date of Addendum: Wednesday, October 02, 2024
Bid Opening: Thursday, October 10, 2024, 2:00 p.m. Central Time

1. Detailed Specifications, Section 8, Miscellaneous Metals, Paragraph 14. Fiberglass Reinforced Plastic – Baffles and Weirs, Page DS 8-9:

   Modify this paragraph to read as follows:

   "14. Fiberglass Reinforced Plastic – Baffles and Weirs

   Fiberglass reinforced plastic products required under this Section consist of fiberglass weirs with stainless steel accessories and fiberglass baffles and miscellaneous attachments as shown on the Plans for ***the*** new clarifiers. The physical properties shall be: Tensile strength 9000 psi ASTM D638, flexural strength 20,000 psi ASTM D790, Barnol hardness 40 ASTM D2583 and impact 15.0 ASTM D256. The minimum thickness shall be 1/8-inch and the color shall be dark gray. Fiberglass reenforced plastic shall be manufactured by Warminster Fiberglass or approved equal."

2. Detailed Specifications, Section 8, Miscellaneous Metals, Paragraph 15. Final Clarifier Launder Covers, Page DS 8-9:

   Add the following paragraph at the end of this section:

   "***15. Final Clarifier Launder Covers***

   a. General

   The Contractor shall supply and install final clarifier effluent launder covers as shown on the Plans. The launder cover shall be designed to inhibit the growth of algae on the launder troughs and weirs of the clarifiers by minimizing incident sunlight on these surfaces. Launder covers shall be provided by NEFCO Inc., Fiberglass Fabricators, Inc., or approved equal.

b. <u>Design</u>

The launder cover shall consist of a system of molded fiberglass panels that are attached together to form a continuous cover over the launder trough, weir and scum baffle within the treatment tank. The cover shall be designed and manufactured to inhibit incident sunlight from striking the surfaces of the launder and weir. Each cover section shall be molded of UV-protected fiberglass and shall be opaque to sunlight. Individual sections shall be a minimum of four feet in length and curved to follow the curvature of the tank. The cover shall extend over the trough and weir as far as possible and may extend to a point immediately inside the scum baffle so long as the cover does not interfere with the sweep arm. The cover shall be designed such that adjacent panels fit together properly and the completed cover, when installed, forms a rigid structure and has a well-engineered and professional appearance.

Provision shall be made to support the cover in such a manner that the panels are held securely in place, with the panels hinged to provide access to the launder and weir for inspection and maintenance. Neither the cover nor the means used to support it shall interfere with effluent flow over the weir or within the trough. Cover supports shall not impede personnel from entering and traversing the launder. Cover supports that cantilever from the outer effluent launder wall without support at the weir wall are unacceptable.

The cover shall be configured with the hinges toward the inside of the tank (inward opening). Each cover segment shall consist of a fixed mounting section and one or more cover sections, each connected to the mounting section by a continuous stainless steel hinge. The mounting section shall provide a rigid mount for the cover sections and ensure the proper fixed spacing between them.

The mounting section is fastened to the weir wall with FRP and/or stainless steel brackets and extends inward to a point just inboard the scum baffle. The hinged cover sections extend outward toward the outer launder wall and swing open to allow inspection and maintenance of the launder and weir. The hinge point of the cover is positioned between the weir and the scum baffle to ensure full visibility of the launder and weir when the cover is open. In the closed position, the cover sections rest on an FRP support flange attached to the outer launder wall.

The hinged cover sections shall be designed to open independently. Each cover panel has integrally molded, 2” downward flanges along each side of the panel, leaving a small space between closed panels. This space can be filled by a suitable gasket attached to the flange on one side of each panel.

Provision shall be made to secure the cover in the closed position for safety and security. Handles and lift rings shall be provided. A means of limiting the travel of the hinged cover sections, in the form of a restraint cable or tether, shall also be provided to protect against damage. Covers with inspection hatches or cleanout doors are unacceptable.

Where the circumference of the trough is interrupted by a bridge-support or another obstacle, a fixed panel(s) shall be installed over the trough beneath the support such that the surface of the cover is continuous around the entire tank. Alternatively, vertical panels may be installed on both sides of the bridge supports to block out sunlight.

The cover system shall be designed to withstand common wind and snow loads but the entire cover shall not be intended as a "walk-on" cover designed to support the weight of plant personnel. Adequate stiffeners shall be integral to each panel, but panels reinforced with balsa or foamcores are not acceptable except where a single or double length reinforced walk-on section is used for safe entry to the launder.

c. Materials

Each cover panel shall be molded of fiberglass, reinforced plastics. The resins and fiberglass reinforcing materials shall be consistent with the environmental conditions and structural requirements of the application.

The resin shall be an industrial quality, isophthalic polyester resin with UV suppression additives, Corezyn COR75-AQ-010, or equivalent. The resin shall be pigmented to ensure that the resulting part is opaque. The glass reinforcement shall be chopped strand roving, 357-211 PLN CTC, or equivalent, with a minimum 1/2-inch strand length. Additional reinforcement in the form of stiffening ribs shall be added when necessary. The glass content of the finished laminate shall be not less than 30% by weight. The nominal thickness of each panel shall be 1/4 inch. The laminate shall consist of a 20 mil outer layer of marine quality white gelcoat, followed by chopped strand roving. The laminations shall be dense and free of voids, dry spots, cracks or crazes. All factory-trimmed edges shall be sanded and sealed. The finished laminate shall have a smooth, even appearance.

Fasteners, handles, hinge and latches shall be stainless steel. The weir wall mounting brackets shall be stainless steel, FRP or a combination of the two. The latch/handle shall be a spring-loaded mechanism with a positive detent positioned to indicate the closed/locked position of the handle. The latch is activated by pressing down on the spring-loaded handle and turning it. The magnetic latch is disengaged by pulling upward on the cover, ring or other fixture with sufficient force to overcome the force of the magnet.

The tether or restraint cable shall consist of a length of stainless steel cable secured to the tank wall and the hinged cover section by means of stainless steel eyebolts. The length of the cable is selected to limit the travel of the cover.

d. <u>Installation</u>

The cover sections shall be mounted to the weir wall on stainless steel or FRP brackets. The free end of each cover panel shall be supported at the outer tank wall by an FRP support flange that attaches to the entire periphery of the tank.

The installation contractor shall install the cover in accordance with the contract drawings, manufacturing drawings and manufacturer's recommendations. Field cutting of panels shall be allowed to complete the structure and accommodate in-tank obstructions. All cut ends shall be dressed as per the manufacturer's recommendations.

All of the fasteners and brackets required for the installation shall be Stainless Steel and shall be supplied by the cover manufacturer. The support flange and weir wall brackets are installed using 3/8" x 3-3/4" expansion anchors with flat washers, lock washers and hex nuts." "

3. <u>Detailed Specifications, Section 9, Miscellaneous Equipment, Paragraph 9. Chemical Storage and Feed Equipment, Sub-paragraph b. Chemical Feed Pumps, Page DS 9-5:</u>

Replace this paragraph with the following:

"b. <u>Progressive Cavity Chemical Feed Pump Skids (Two)</u>

The Contractor shall furnish and install two (2) progressive cavity chemical feed pump skids with two (2) progressive cavity pumps at the locations depicted on the Plans. The chemical feed pump manufacturer shall supply the completed welded HDPE pump skid and all accessories including HDPE suction and discharge piping, 3,000 m/l calibration column, one pressure gauge and pulsation dampner for each pump, and one pressure relief valve for each pump in the configuration detailed on the Plans. Progressive cavity pumps shall have 4-20 mA speed inputs and outputs allowing remote operation and monitoring via the WWTP SCADA system. All components shall be suitable for use with Aluminum Sulfate and Sodium Hypochlorite. Feed pumps for Aluminum Sulfate shall operate at feed rates between 8 and 800 gallons per day. Feed pumps for Sodium Hypochlorite shall operate at feed rates between 1 and 40 gallons per day. Chemical feed skids and progressive cavity pumps shall be the Bravo design manufactured by Seepex or approved equal."

4. Detailed Specifications, Section 9, Miscellaneous Equipment, Paragraph 9. Chemical Stage and Feed Equipment, Sub-paragraph h., Page DS 9-9:

   Add Sub-paragraph h. to this paragraph as follows:

   "h. Chemical Transfer Pump

   The Contractor shall furnish and install one (1) chemical transfer pump as shown on the Plans. The pump shall be magnetic drive and shall be capable of transporting Aluminum Sulfate from the storage tank to the day tank at a rate of 14 gallons per minute. Chemical transfer pumps shall be model DB5 as manufactured by Finish Thompson, Inc., or approved equal."

5. Detailed Specifications, Sub-Section 10F, Manifold-Type Hydraulic Suction Circular Clarifier Equipment, Paragraph 1. Scope, Page DS 10F-1:

   Modify the fifth bullet point of the third paragraph to read as follows:

   "• one surface skimmer"

6. Detailed Specifications, Sub-Section 10F, Manifold-Type Hydraulic Suction Circular Clarifier Equipment, Sub-paragraph g. Surface Skimmers and Scum Trough, Page DS 10F-6:

   Modify the first two paragraphs to read as follows:

   "***One*** scum removal ***skimmer*** for each clarifier rotating mechanism shall be designed in general accordance with the "improved skimmer arrangement" and the scum box for each clarifier shall be designed in general accordance with "suggested skimmer-scum trough designs" described at "Clarifier Scum Removal Can Be Both Simple and Efficient" by Orris E. Albertson published in the American Society of Civil Engineers Journal of Environmental Engineering, Volume 131, Number 2, Page 225, February 2005.

   Each clarifier rotating mechanism shall include ***one*** full radius liquid surface ***skimmer***. Each clarifier shall include one scum trough. The skimmer blades and scum trough shall be fabricated from carbon steel meeting the requirements at ASTM A36 and/or ASTM A283, Grade "C" having a minimum one-quarter inch (1/4") thickness. "

7. Detailed Specifications, Sub-Section 10F, Manifold-Type Hydraulic Suction Circular Clarifier Equipment, Paragraph 5. Equipment and Materials, Sub-paragraph I. Density Current Baffle, Page DS 10F-7:

   Delete this Sub-paragraph.

8. <u>Detailed Specifications, Sub-Section 10G, Ultraviolet Disinfection System, Paragraph 8. Guarantee, Page DS 10G-5:</u>

   Modify the first sentence of the first paragraph to read as follows:

   "The equipment manufacturer certifies by the submission of its bid that it has performed sufficient testing at the ***Jones Creek Water Reclamation Facility*** and has examined the Engineer's Plans and furnished the Engineer with the system layout and with technical data and safety information and does by submission of a proposal, guarantee the system to perform in the manner described in these Specifications. The Manufacturer will be required to furnish an executed guarantee reflecting the conditions stated hereinbefore to Cleveland Utilities upon submission of Shop Drawings."

9. <u>Detailed Specifications, Sub-Section 10G, Ultraviolet Disinfection System, Paragraph 9. Design, Construction and Materials, Sub-paragraph M. Control and Instrumentation, Item (4) Dose Pacing, Page DS 10G-10:</u>

   Delete the third sentence of this item.

10. <u>Plans, Sheet 27, 30 and 32:</u>

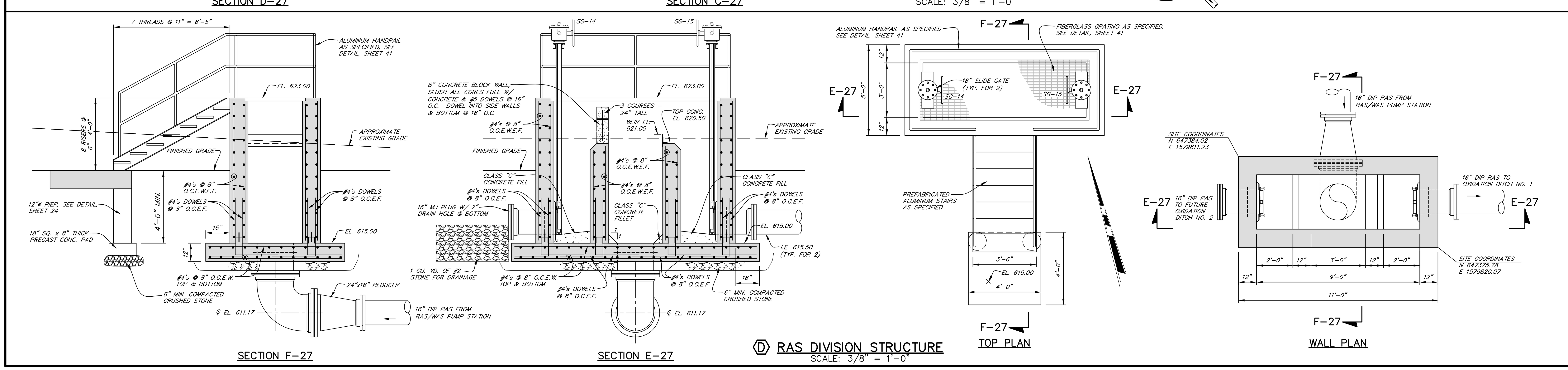
    Revise as indicated at the attached sheets.

J. R. WAUFORD & COMPANY,
CONSULTING ENGINEERS, INC.

J. Gregory Davenport, P.E.
Tennessee License No. 104881

Ⓐ RAW SEWAGE DIVISION STRUCTURE
SCALE: 3/8" = 1'-0"

Ⓑ MLSS DIVISION STRUCTURE
SCALE: 3/8" = 1'-0"



Ⓓ RAS DIVISION STRUCTURE
SCALE: 3/8" = 1'-0"

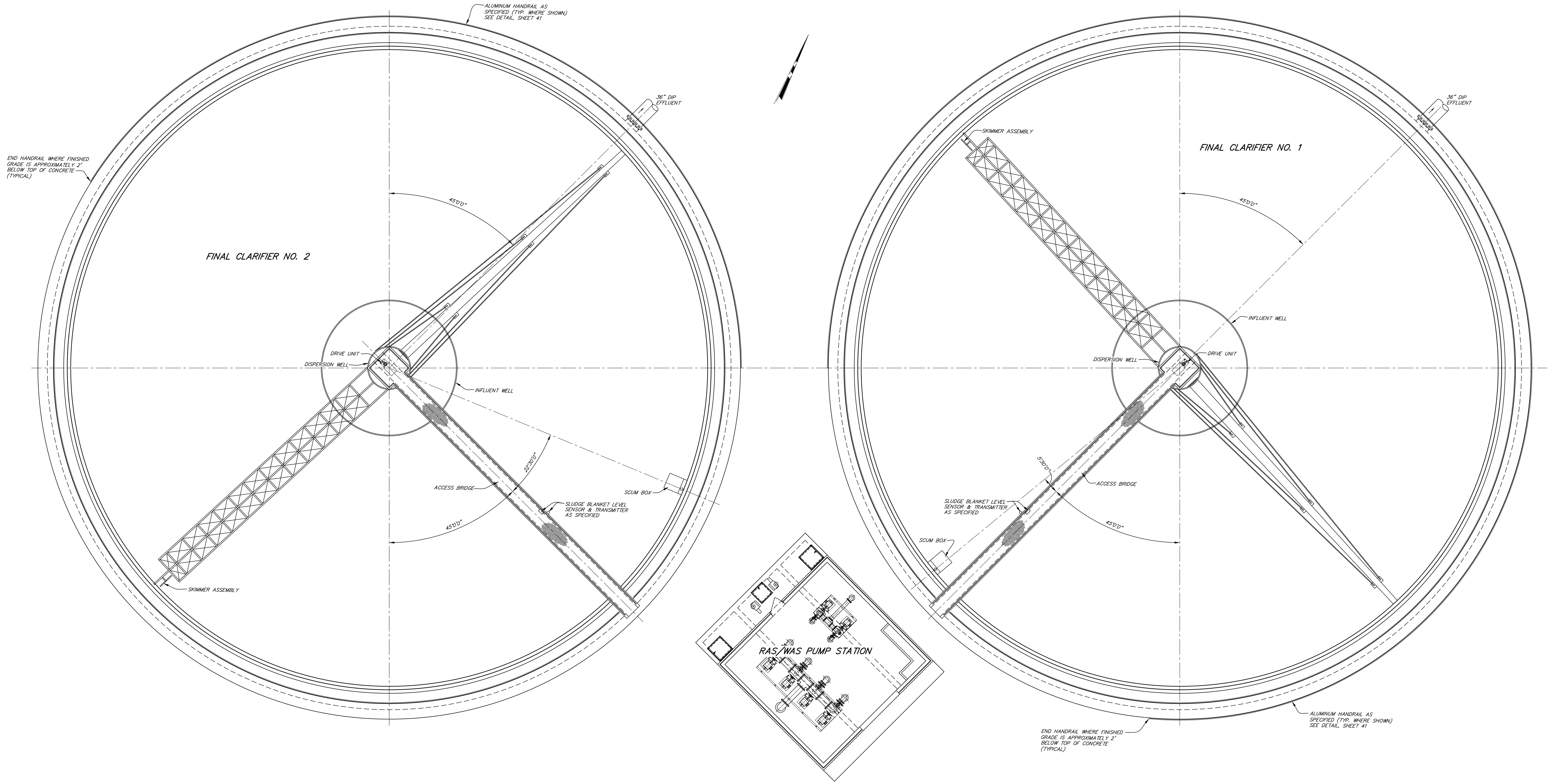
CONSTRUCTION NOTES

1. SEE "GENERAL NOTES" AND "LEGEND" ON SHEET 1.
2. SEE "GENERAL STRUCTURAL NOTES AND DETAILS" ON SHEET 39.
3. * INDICATES INFORMATION TAKEN FROM EXISTING PLANS OR FIELD SURVEY WHICH SHALL BE VERIFIED BY THE CONTRACTOR.
4. ▲ INDICATES INFORMATION WHICH MAY VARY BY MANUFACTURER. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ACTUAL DIMENSIONS REGARDING THE FABRICATION OF EQUIPMENT AND MATERIALS.
5. ALL CONCRETE USED FOR THE RAW SEWAGE DIVISION STRUCTURE SHALL CONTAIN XYPEX ADMIXTURE AS SPECIFIED.

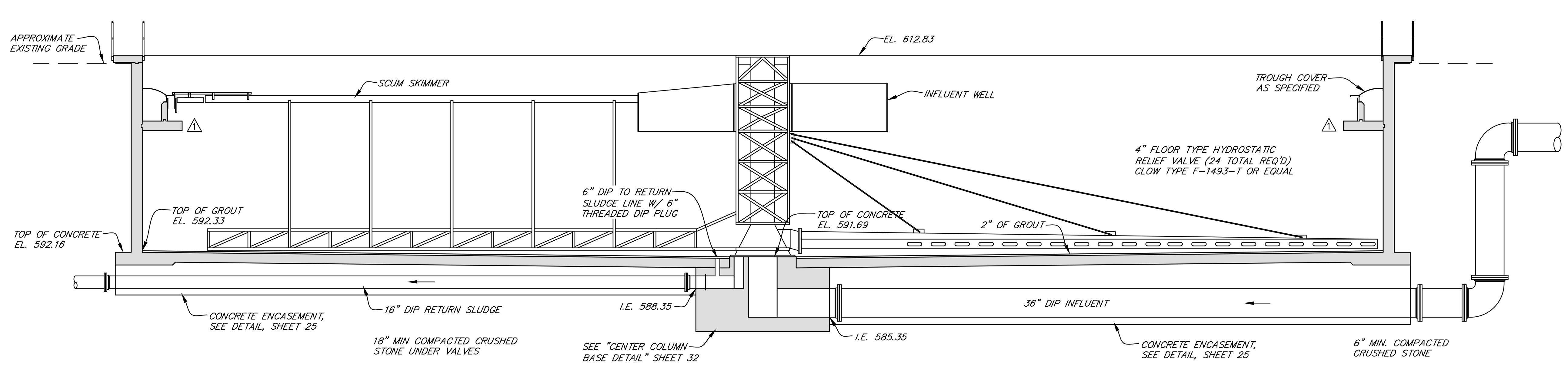
STEPHEN CHRISTOPHER LEE REGISTERED ENGINEER AGRICULTURE COMMERCE No. 114212 STATE OF TENNESSEE 7/24/24

JAMES G. DAVENPORT PROFESSIONAL ENGINEER AGRICULTURE COMMERCE No. 104881 STATE OF TENNESSEE 07/24/24

SHEET 27 OF 42	SEWER SYSTEM IMPROVEMENTS CONTRACT 24-01 JONES CREEK WATER RECLAMATION FACILITY IMPROVEMENTS
REVISION OR ISSUE	RAW SEWAGE DIVISION STRUCTURE, MLSS DIVISION STRUCTURE, AND RAS DIVISION STRUCTURE
1 ADDENDUM NO. 2 – 10/2/2024	FOR WATER AUTHORITY OF DICKSON COUNTY
PROJECT NUMBER 2170	SCALE AS SHOWN; DATE JULY, 2024
WAUFORD Nashville, Tennessee (615)883-3243 www.jrwauford.com	DESIGNED JGD; DRAWN AWR; CHECKED JGD



FINAL CLARIFIERS TOP PLAN
SCALE: 1/8" = 1'-0"



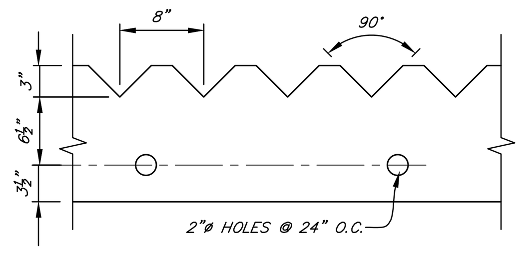
TYPICAL SECTION THRU CLARIFIERS
SCALE: 1/8" = 1'-0"

CONSTRUCTION NOTES

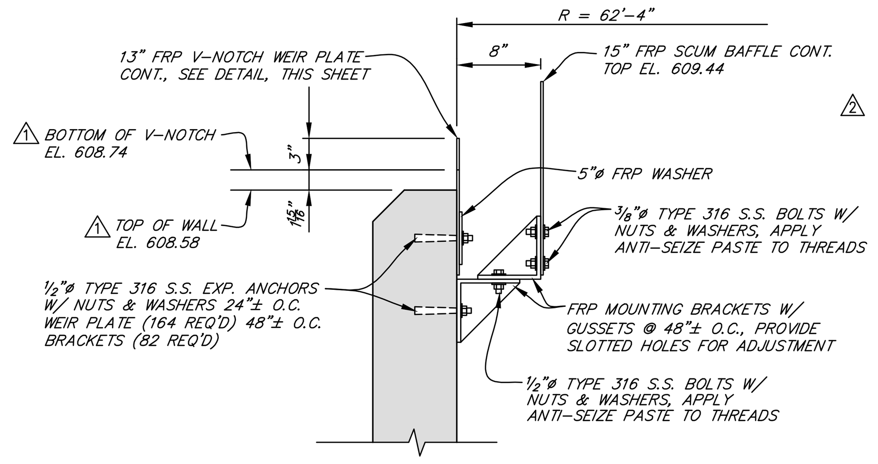
1. SEE "GENERAL NOTES" ON SHEET 1.
2. SEE "GENERAL STRUCTURAL NOTES AND DETAILS" ON SHEET 39.
3. ▲ INDICATES INFORMATION WHICH MAY VARY BY MANUFACTURER. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ACTUAL DIMENSIONS REGARDING THE FABRICATION OF EQUIPMENT AND MATERIALS.

STEPHEN CHRISTOPHER LEE — STATE OF TENNESSEE
JAMES G. DAVENPORT — STATE OF TENNESSEE

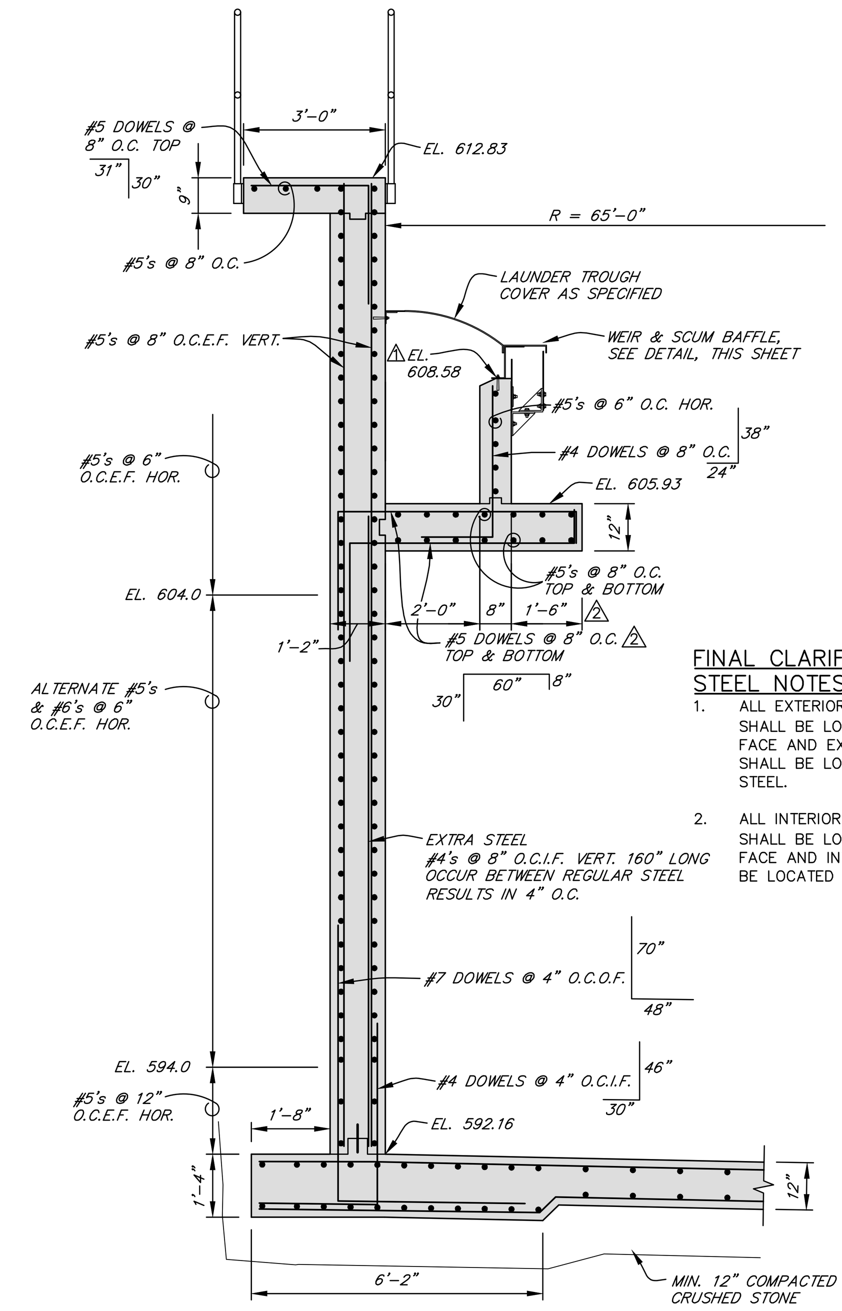
SHEET 30 OF 42	SEWER SYSTEM IMPROVEMENTS CONTRACT 24-01 JONES CREEK WATER RECLAMATION FACILITY IMPROVEMENTS
REVISION OR ISSUE	FINAL CLARIFIERS TOP PLAN
1 — ADDENDUM NO. 2 – 10/2/2024	FOR WATER AUTHORITY OF DICKSON COUNTY
PROJECT NUMBER 2170	SCALE AS SHOWN; DATE JULY 2024
WAUFORD Nashville, Tennessee (615)883-3243 www.jrwauford.com	DESIGNED JGD; DRAWN AWR; CHECKED JGD



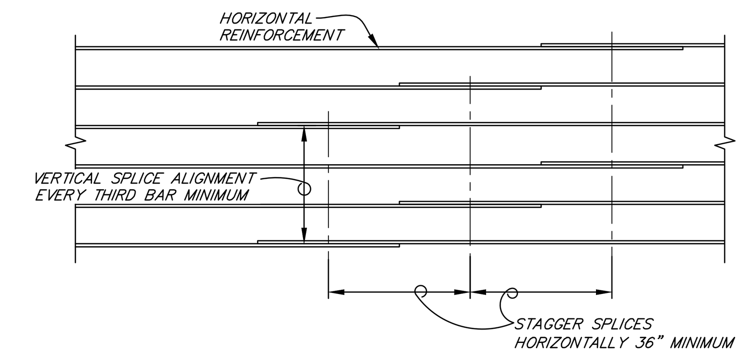
V-NOTCH WEIR DETAIL
SCALE: 1" = 1'-0"



SCUM BAFFLE & WEIR SUPPORT DETAIL
SCALE: 1" = 1'-0"



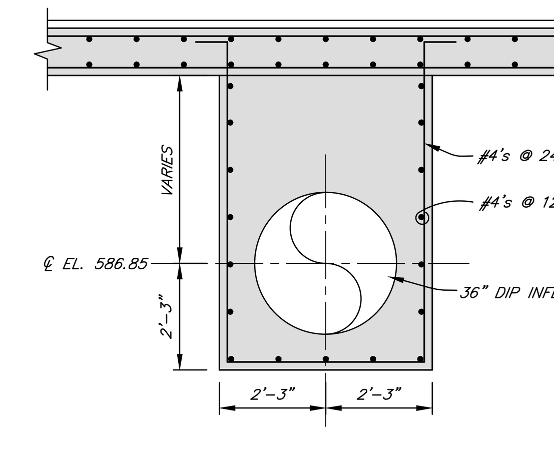
TYPICAL WALL SECTION
SCALE: 3/8" = 1'-0"



LAP SPLICE DETAIL FOR HORIZONTAL REINFORCEMENT IN CIRCULAR WALLS

FINAL CLARIFIER WALL REINFORCING STEEL NOTES:

1. ALL EXTERIOR CIRCUMFERENTIAL REINFORCING STEEL SHALL BE LOCATED 2" CLEAR FROM EXTERIOR WALL FACE AND EXTERIOR VERTICAL REINFORCING STEEL SHALL BE LOCATED INSIDE EXTERIOR CIRCUMFERENTIAL STEEL.
2. ALL INTERIOR CIRCUMFERENTIAL REINFORCING STEEL SHALL BE LOCATED 2" CLEAR FROM INTERIOR WALL FACE AND INTERIOR VERTICAL REINFORCING STEEL SHALL BE LOCATED INSIDE INTERIOR CIRCUMFERENTIAL STEEL.



SECTION A–32
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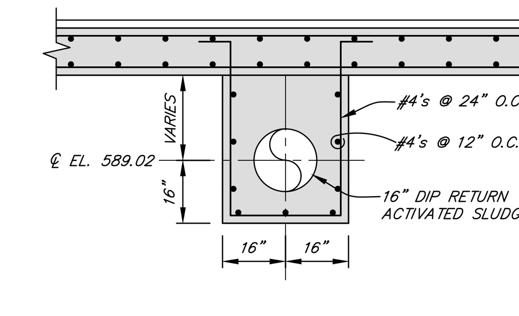

SECTION B–32
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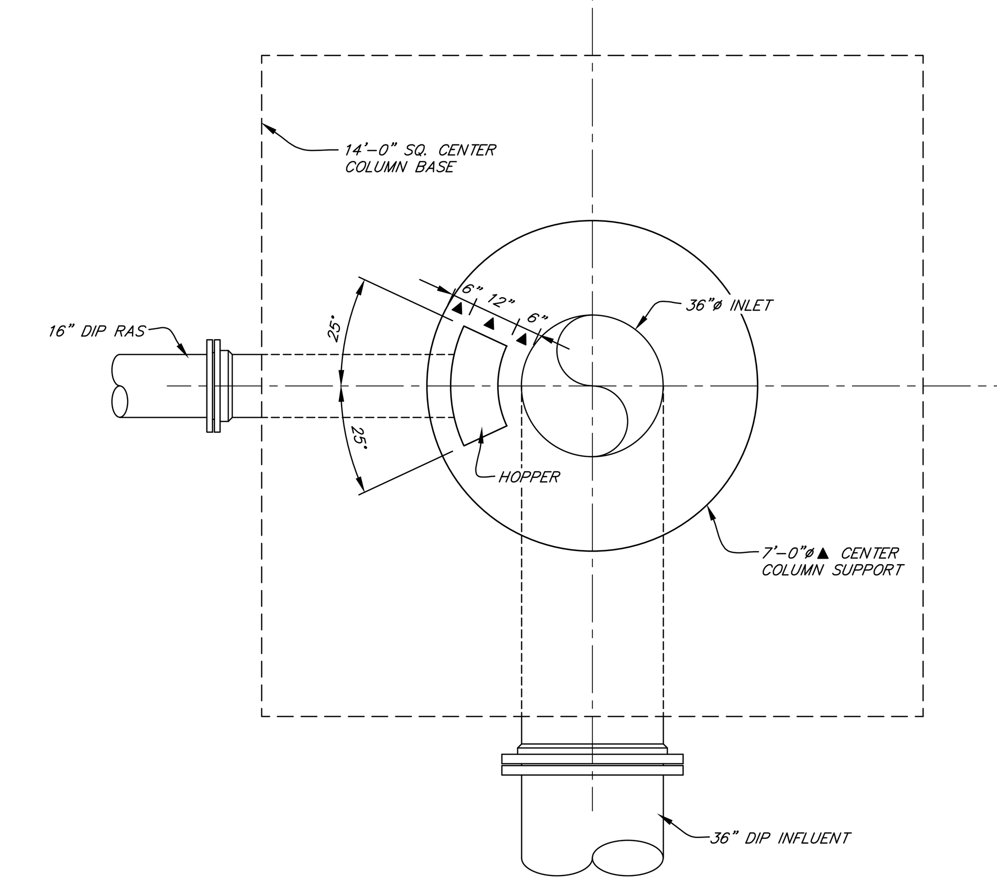
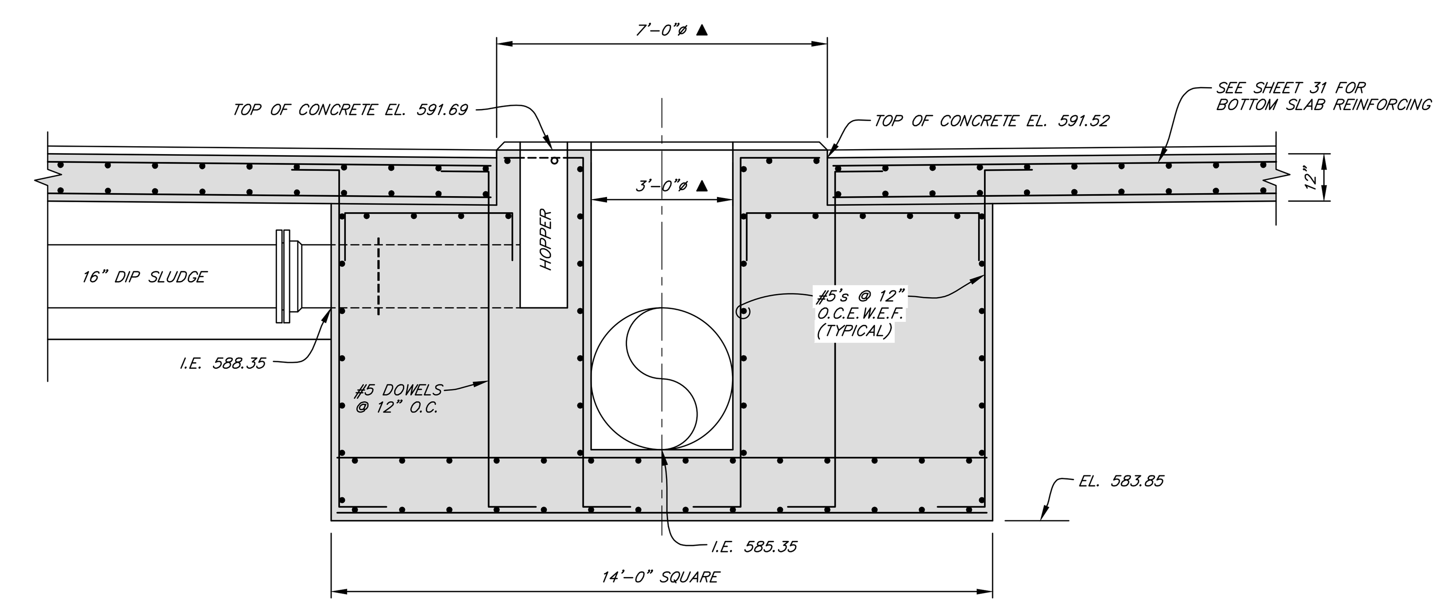
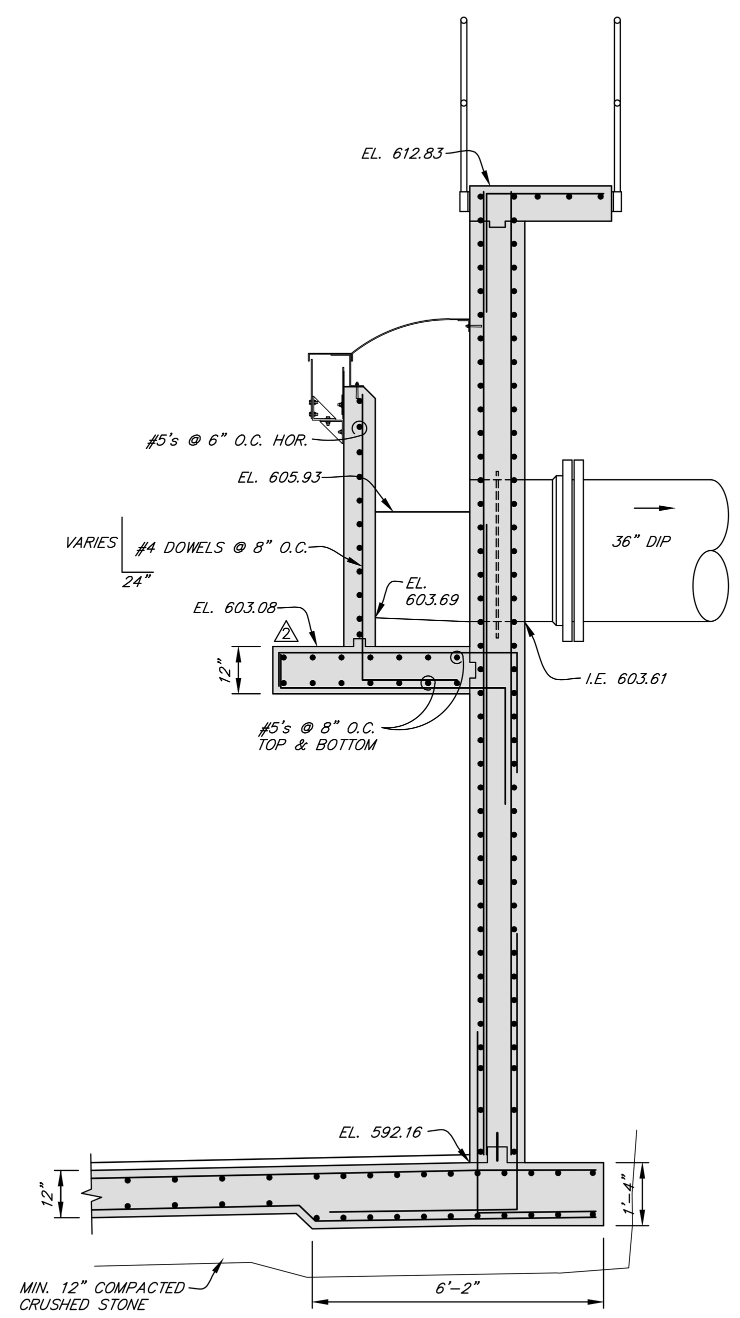


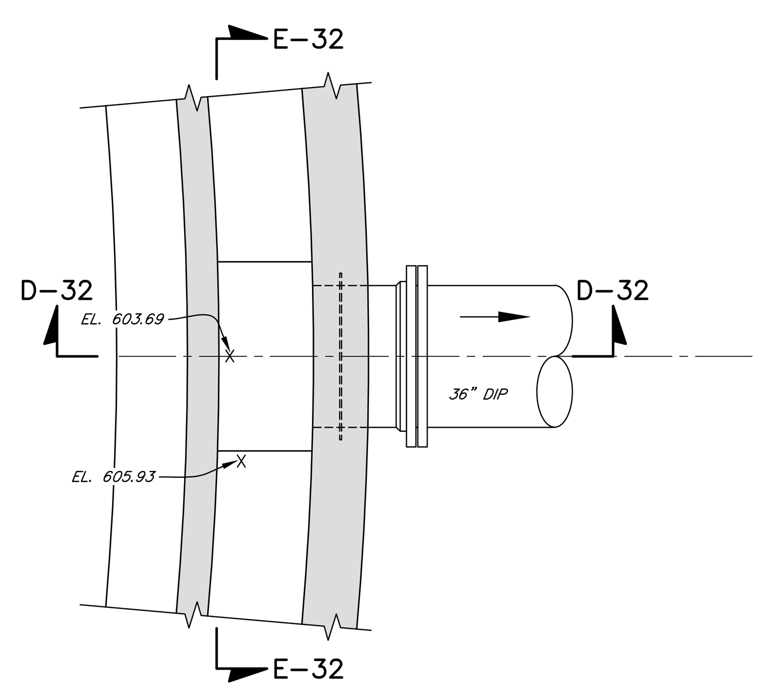
PLAN



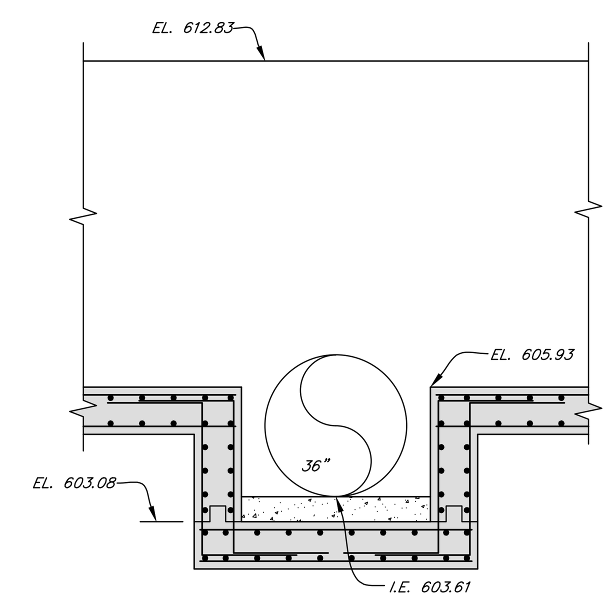
SECTION
CENTER COLUMN BASE DETAIL
SCALE: 3/8" = 1'-0"



SECTION D–32

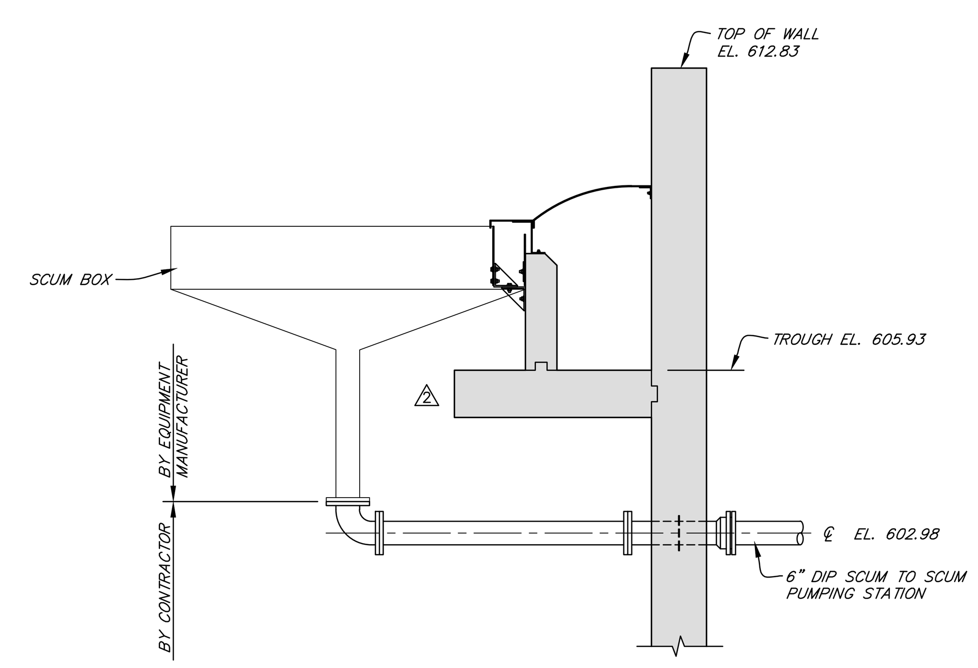


EFFLUENT BOX PLAN



SECTION E–32

EFFLUENT BOX DETAILS
SCALE: 3/8" = 1'-0"



SCUM BOX DETAIL
SCALE: 3/8" = 1'-0"

CONSTRUCTION NOTES
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2. SEE "GENERAL STRUCTURAL NOTES AND DETAILS" ON SHEET 39.
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STEPHEN CHRISTOPHER LEE
STATE OF TENNESSEE

JAMES G. DAVENPORT
STATE OF TENNESSEE

SHEET 32 OF 42	SEWER SYSTEM IMPROVEMENTS CONTRACT 24-01 JONES CREEK WATER RECLAMATION FACILITY IMPROVEMENTS
REVISION OR ISSUE	
1 ADDENDUM NO. 1 – 9/27/2024	FINAL CLARIFIERS SECTIONS AND DETAILS
2 ADDENDUM NO. 2 – 10/2/2024	FOR WATER AUTHORITY OF DICKSON COUNTY
PROJECT NUMBER 2170	SCALE AS SHOWN; DATE JULY 2024
WAUFORD Nashville, Tennessee (615)883-3243 www.jrwauford.com	DESIGNED JGD; DRAWN AWR; CHECKED JGD