



HIGHFILL

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To: Prospective Bidders

Copies:

Date: August 21, 2024

Proj. No.: SUR2201

Subject: Addendum No. 2
Surf City WWTF Digester/Sludge Holding Tank
Surf City, NC
Owner: Town of Surf City

ADDENDUM NO. 2

BID DATE: August 27, 2024 @ 2:00 PM

Please see the questions below and be advised of the following changes in **bold** in the plans and specifications for this project:

Item 2.1: The Bid Form, Item 6, calls for a 3" PVC Water Service. The only water service I can find is a 3" DIP Water Line, and the pay item quantity as it is listed is far off from the actual lineal footage of this buried line. Please advise if the pay item is incorrect, or if there is a water service missing from the yard piping plans.

Refer to Section 00410 – Bid Form and Section 01 20 00 – Price and Payment Procedure. Replace these sections in their entirety with the attached.

Note that the quantity and material of 3" waterline has been adjusted.

The determination of the low bidder has been adjusted.

Item 2.2: Will you consider giving the contractor more time to complete this project? Due to lead times on key materials of the project and the extensive work that needs to occur on the front end for the excavation (shoring/dewatering), please allow the contractor 21 months to substantial completion and 22 months to final completion so we do not have to include liquidated damages in our bid.

The contractor time will remain. Additional contract time related to material delays can be addressed via change order once submittal reviews are complete. Project includes a funding deadline of December 2026.

Item 2.3: Please confirm the owner will drain out the existing Digester for the installation of the Interconnection Pipes and Pumps, and please confirm if the contractor will be responsible for the removal of residual sludge, grit, & rags if discovered? If so, please consider adding an allowance into the bid schedule to ensure the owner only pays for the actual amount removed.

Refer to Section 00410 – Bid Form and Section 01 20 00 – Price and Payment Procedure. Replace these sections in their entirety with the attached.

Note that a pay item 25 has been added to address this question.

Item 2.4: Please issue a copy of the bid forms from the previous bid to allow all contractors to know who is bidding major subcontracted scope of work.

The following subcontractors were identified:

Electrical	<ul style="list-style-type: none">• Wiggins Incorporated• Browning Electric
Rebar	<ul style="list-style-type: none">• Central Concrete of North Carolina, Inc.
Pile Driving	<ul style="list-style-type: none">• J.L. Batts Pile Driving & Crane

Item 2.5: Will the cost of county/city permits need to be included by the contractor? If so, please identify which permits we need to include (electrical, building, etc.).

Refer to Section 700 - Standard General Conditions, Paragraph 7.08.

Item 2.6: Please confirm soils testing will be by the Owner.

Special Inspections and materials testing will be provided by the Owner. However, it is the contractors responsible to coordinate with the testing company (S&ME).

Item 2.7: Please confirm if concrete testing will be by the Owner or the Contractor.

Special Inspections and materials testing will be provided by the Owner. However, it is the contractors responsible to coordinate with the testing company (S&ME).

Item 2.8: Please confirm that the contractor is not required to provide flood coverage for this project within their builder's risk policy.

Project is not within the 100-year flood plain. Flood coverage would be at the discretion of the insurance provider.

Item 2.9: Please confirm the contractor is required to provide \$2,000,000 of professional liability coverage within their builder's risk policy.

Refer to Section 800 - Supplementary Conditions Section 800, Article 6, Paragraph 3.O.7. Remove \$2,000,000 requirement for professional liability insurance.

Item 2.10: Should the contractor include sales tax in their bid for Holly Ridge (Onslow Co.) sales tax at 7% or Surf City (Pender Co.) at 6.75%?

Refer to Section C-800 - Supplementary Conditions, Paragraph 7.09 (Taxes).

Item 2.11: Please confirm per the Supplementary Conditions that 50% of all work should be performed by the General Contractors own workforce.

This is correct.

Item 2.12: Reference Spec 09 90 00 – 4, Section 1.7 Warranties – This section references an Elevated Steel Tank, no steel tank is locatable on the project drawings. Please confirm there is no steel tank involved in the scope of this project.

Refer to Section 09 90 00 – Painting and Coatings. Delete Paragraph 1.1.A.1 and delete the paragraph in its entirety and replace with the following:

- 1. Furnish labor, materials, equipment, and appliances required for complete execution of Work shown on Drawings and specified herein. The following shall be painted:**
 - a. All newly installed exposed piping, valves, fittings, and appurtenances without factory finished coatings.**
 - b. New bollards.**

Item 2.13: Reference Spec 09 90 00 – 14, Painting Schedule – There is no mention of exposed of submerged concrete on the painting schedule. Please confirm there is no requirement to coat the exposed or submerged concrete involved in the scope of this project. If coating is required, please indicate what structures are to be coated.

No concrete is designated for coating.

Item 2.14: Please provide specific information for the FRP Grating.

Refer to Sheet S2 – General Notes & Design Criteria II and replace with the attached.

Item 2.15: Spec section 11 17 00 requires Davit Cranes to be capable of 1,000 lbs gross load, while plan sheet C-1.3 note 4 requires 2,000 lbs. Please advise which weight rating is correct.

Refer to Section 11 17 00 – Lifting Equipment, Paragraph 2.2.A. Delete the sentence and replace with the following:

Rated Capacity: Capable of supporting total gross load of 2,000 lbs without permanent deflection or distortion.

Item 2.16: Plan sheet C-1.3 also appears to show five (5) Davit crane bases, (3) at the digester decanter pump station, and (1) at each piping interconnect. This is in conflict with note 4 on sheet C-1.3 which requires a total of (4) Davit cranes. Please advise.

Provide a total of (4) Davit Cranes. Drawings will be revised in the Issued for Construction set.

Item 2.17: Plan sheet C-1.3 requires the Decanter to be capable of 1500 GPM, while spec section 46 73 21 2.10-A requires a 250 GPM design requirement, please clarify which is the design intent.

Refer to Section 46 73 21 – Aerobic Digester Aeration Equipment, Paragraph 2.10.A. Revise design average flow of 250 GPM to 1,500 GPM.

Item 2.18: We understand that AIS does not apply to this project. Confirm that Build America Buy America (BABA) also does not apply to this Project.

BABA does not apply.

Item 2.19: Specification section 46 73 21, 2.8,L itemizes the blower spare parts for the Jet Aeration Equipment and lists “One Blower and Motor Assembly”. Please clarify if the requirement is to provide one additional complete spare blower package per the specifications with all accessories.

Contractor shall supply one complete Blower and Motor assembly unit.

Item 2.20: The drawings indicate that a Greenstreak 773 flat ribbed waterstop is to be used on the tank walls/mat foundation. Spec 03300-2.7-A indicates that a dumbbell style with center bulb is to be used as waterstop. Please indicate which waterstop profile is to be used.

Refer to Section 03300-2.7.A. for water stop requirement.

Item 2.21: Dewatering - Can we discharge into the existing post-EQ basin or one of the other basins onsite, provided the water is clean, which it should be (the boring logs show we should be in clean sand at 2' below subgrade)?

Contractor shall utilize existing stormwater ditches for clean water conveyance.

Item 2.22: Please provide a detail for the new stair column support foundations shown on A/S13.

Refer to Sheet S-13 – Stair Sections and replace with the attached.

Item 2.23: Stockpiling - can we utilize the area designated as future expansion to stockpile topsoil and suitable excavated material?

Contractor may coordinate stockpile location with the Owner. Stockpiles shall have erosion control in place and shall not interfere with plant operations.

Item 2.24: Will an Arc Flash Study be required for the Submersible Pumps as referenced in section 2.15 of Specification 33 32 11?

Yes, Arc flash studies are required for installed panels.

Item 2.25: Can the starter wall (“starter curb”) referenced in Detail 4/S8 be modified to indicate a nominal 4” raised keyway in lieu of a starter wall?

A contractor-requested modification to the starter wall will be reviewed by the EOR if requested by the contractor, subs or the formwork engineer. The modification above may be considered if all parties agree to the change.

Item 2.26: Please clarify what is to be painted and coated. The drawings do not indicate anything, but Spec 09 90 00 lists several items, but we do not believe the intent is to coat all surfaces. In addition, are any existing items to be painted?

Refer to Section 09 90 00 – Painting and Coatings. Delete Paragraph 1.1.A.1 and delete the paragraph in its entirety and replace with the following:

- 1. Furnish labor, materials, equipment, and appliances required for complete execution of Work shown on Drawings and specified herein. The following shall be painted:**
 - a. All newly installed exposed piping, valves, fittings, and appurtenances without factory finished coatings.**
 - b. New bollards.**

Item 2.27: The proposed walkways and stair modifications shown on Drawing C-1.1 at the existing Aerobic Digester will conflict with an existing concrete pilaster. Please advise.

Extend landing four feet to clear pilaster and adjust stairs, piping and equipment placement accordingly. Revisions will be included in the issued for construction drawings.

Item 2.28: Please confirm all third-party Quality Control Construction Materials Testing (concrete, subgrade inspections, backfill and compaction testing, etc.) will be provided by others and paid for by Owner outside of this contract. Specification Section 01 40 00-1.5-B isn't clear on which entity (Owner or Contractor) is to employ and pay for the independent testing agency. Section 03300-3.17 and 31 23 00-3.9 appear to indicate these services are furnished and paid for by Owner. Specification section 01 20 00, 1.2B implies that a testing and inspection allowance will be utilized, but this does not appear to be defined or listed on the Bid Form. Please clarify.

Special Inspections and materials testing will be provided by the Owner. However, it is the contractors responsible to coordinate with the testing company (S&ME).

Item 2.29: Please confirm that specification section 11 17 00, 1.9 does not apply to this project.

Refer to Section 11 17 00 – Lifting Equipment, Paragraph 1.9. Delete paragraph in its entirety.

Item 2.30: The Drawings call for 2,000-LBS davit cranes, and the specifications call for 1,000-LBS davit cranes. Please confirm the size of the davit cranes that are to be provided.

See answer above.

Item 2.31: When looking at A/S6 at the keyway, there are “square” shaped items shown along the keyway. When looking at 4/S8, nothing is shown for these. Please advise what these items are.

Refer to Sheet S8 – Cast-in-Place Concrete Details and replace with the attached.

Item 2.32: The bid form, item 2A – please consider adding an additional item to break up this bid item into two (2) separate bid items per the below requested revisions for this section of the bid form.

2A	Add for Pile Lengths Installed Beyond Depth Shown in Drawings	1 VF	\$ _____
2B	Deduct for Pile Lengths Installed Under Depth Shown in Drawings	1 VF	\$ _____
2C	Additional Timber Piles Beyond Quantity Shown in Drawings	1 EA	\$ _____

Refer to Section 00410 – Bid Form and Section 01 20 00 – Price and Payment Procedure. Replace these sections in their entirety with the attached.

Note the bid items have changed and the determination of the low bidder has been adjusted.

Item 2.33: Please confirm there are no constraints on when the contractor can request the existing Digester be taken out of service, the contractor may request the owner to drain the existing Digester, and it can be out of service at the contractor's discretion during the allotted contract time. If there are any constraints (seasonal, length of shutdown, treatment redundancy, etc.) please identify what those requirements are.

New aerobic digester shall be operational before removing the existing aerobic digester from service for interconnect pump installation. Aerobic digester is essential for wastewater operation.

No further changes at this time.

Please acknowledge receipt of this Addendum in the space provided in the Bid Form. Failure to do so may constitute grounds for the rejection of your Bid.

HIGHFILL INFRASTRUCTURE ENGINEERING, P.C.

A handwritten signature in blue ink, appearing to read "Jeffrey B. Ray". The signature is stylized and cursive.

Jeffrey Ray, P.E.

BID FORM

Project: **WWTF Digester/Sludge Holding Tank**

Contract: **Contract 1**

Bid From: _____

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ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

Mailing address:

**David Price
Director of Utilities
214 W. Florence Way
Hampstead, NC 28443**

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

<u>Addendum No.</u>	<u>Addendum, Date</u>
_____	_____
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

- E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.
- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

UNIT PRICE BID SCHEDULE – BASE BID					
Pay Item No.	Item Description	Est. Qty.	Units	Unit Price Bid	Extended Total
1	Mobilization (2% Max)	1	LS		
2	Aerobic Digester/Decanter Tank	1	LS		
3	Aerobic Digester Equipment	1	LS		
4	Decanter Pump	2	EA		
5	Ductile Iron Piping, Fittings & Valves	1	LS		
6	3" PVC & Water Service	1	LS		
7	Yard Hydrant	1	EA		
8	Davit Crane	4	EA		
9	Electromagnetic Flow Meter	1	LS		
10	Valve Vault	1	LS		
11	Stairs and Walkways	1	LS		
12	Bollards	8	EA		
13	Miscellaneous Concrete	10	CY		
14	Gravel Driveway	1	LS		
15	Select Backfill	50	CY		
16	Undercut of Unsuitable Soils & Replacement with Stone	110	CY		
17	Erosion Control Measures	1	LS		
18	Electrical	1	LS		
19	SCADA Allowance	1	LS	\$20,000	\$20,000
20	Contingency Allowance	1	LS	\$50,000	\$50,000

Total of Unit Price Bid – Base Bid \$ _____

Owner will select the following add/deduct alternate items based on available funds.

The following is an Adder to install interconnect pumps and piping between the existing aerobic digester and proposed aerobic digester.

ADD ALTERNATE 1 – DIGESTER INTERCONNECT PUMPING SYSTEM					
Pay Item No.	Item Description	Est. Qty.	Units	Unit Price Bid	Extended Total
21	Digester Interconnect Pumps	2	EA		
22	Interconnect Ductile Iron Pipe, Fittings & Valves	1	LS		
23	Interconnect Combination Air Release Valve	2	EA		
24	Electrical – Interconnect Pumps	1	LS		
25	Ex. Aerobic Digester Dewatering	1	LS		

Total Adder (21 thru 25) \$ _____

The following is an Adder to install additional walkways and stairs and modify existing stairs.

ADD ALTERNATE 2 – STAIRS AND WALKWAYS					
Pay Item No.	Item Description	Est. Qty.	Units	Unit Price Bid	Extended Total
11A	Stairs and Walkways	1	LS		

Total Adder (11A) \$ _____

The following is an Add/Deduct to provide aerobic digester equipment by Fluidyne.

ADD/DEDUCT ALTERNATE 3 – AEROBIC DIGESTER WITH FLUIDYNE EQUIPMENT					
Pay Item No.	Item Description	Est. Qty.	Units	Unit Price Bid	Extended Total
3A	Aerobic Digester w/ Equipment Provided by Fluidyne	1	LS		

Total Add/Deduct (3A) \$ _____

Total Bid – Items 1 thru 25 + 11A + 3A \$ _____

Low bidder shall be selected based on Base Bid plus Alternates 1, 2 and 3.

The following is an Add/Deduct during timber pile installation.

ADD/DEDUCT ALTERNATE 4 – TIMBER PILE INSTALLATION					
Pay Item No.	Item Description	Est. Qty.	Units	Unit Price Bid	Extended Total
2A	Add/Deduct for Pile Lengths Installed Under or Beyond Depth Shown in Drawings.	1	VF		

Total Add/Deduct \$ _____

Bidder acknowledges that (1) each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor’s overhead and profit for each separately identified item, and (2) estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
 - A. Required Bid security;
 - B. List of Proposed Subcontractors;
 - C. List of Proposed Suppliers of materials and equipment;
 - D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
 - E. Contractor’s State (NC) License No.:
 - F. Qualification Statement (C-451). Provide C-451 with 10 days of notification as apparent low bidder.
 - G. Provide NC Division of Water Infrastructure MBE/WBE (DBE) Compliance Supplement.
 - H. In accordance with GS 64-26(a), Bidders shall submit the E-Verify Affidavit to document that the work authorization of their employees has been verified through E-Verify. The Affidavit shall also document that the Bidders subcontractors comply with E-Verify.
 - I. Iran Divestment Act Certification

ARTICLE 8 – DEFINED TERMS

- 8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

Area intentionally left blank

ARTICLE 9 – BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

By:

[Signature] _____

[Printed name] _____

(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

Telephone Number: _____

Fax Number: _____

Contact Name and e-mail address: _____

Bidder's License No.: _____

Bidder's Classification: _____

Bidder's Limitation: _____

Employer's Tax ID No.: _____

LIST OF PROPOSED SUBCONTRACTORS

Work Category	Name and License No.	Corporate Address
	Name: _____ _____ State of Licensure: _____ License No.: _____	
	Name: _____ _____ State of Licensure: _____ License No.: _____	
	Name: _____ _____ State of Licensure: _____ License No.: _____	
	Name: _____ _____ State of Licensure: _____ License No.: _____	

LIST OF PROPOSED MATERIAL AND EQUIPMENT SUPPLIERS

Materials/Equipment*	Supplier/Manufacturer
Aerobic Digester Equipment	
Aerobic Digester Interconnect Pumps	
Decanter Tank Pumps	
Plug Valves	
Check Valves	

* List equipment to be rented.

SECTION 01 20 00
PRICE AND PAYMENT PROCEDURES

PART 1– GENERAL

1.1 SUMMARY

- A. Section Includes
1. Allowances.
 2. Schedule of Values.
 3. Application for Payment.
 4. Change procedures.
 5. Unit prices.

1.2 Allowance

- A. Contingency Allowances:
1. Contingency allowances shall be in accordance with the Standard General Conditions of the Construction Contract, Article 11.02.C Contingency Allowances, as modified by the Supplementary Conditions.
 2. Include in Contract a stipulated sum/price for use upon Owner's instruction as a contingency allowance.
 3. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead, and profit will be included in Change Orders authorizing expenditure of funds from this contingency allowance.
 4. Funds will be drawn from contingency allowance only by Change Order.
 5. At closeout of Contract, funds remaining in contingency allowance will be credited to Owner by Change Order.
- B. Testing and Inspection Allowances:
1. Costs included in Testing and Inspecting Allowances:
 - a. Cost of engaging testing and inspecting agency.
 - b. Execution of tests and inspecting.
 - c. Reporting results.
 2. Costs not included in Testing and Inspecting Allowance but included in Contract Sum/Price:
 - a. Costs of incidental labor and facilities required to assist testing or inspecting agency.
 - b. Costs of testing services used by Contractor separate from Contract Document requirements.

Commented [CF1]: Different owners/contracts use different versions of the EJCDC documents. Confirm the referenced paragraph number is correct.

- c. Costs of retesting upon failure of previous tests as determined by Engineer.

3. Payment Procedures:

- a. Submit one copy of inspecting or testing firm's invoice with next Application for Payment.
- b. Pay invoice upon receipt of payment by Owner.

1.3 SCHEDULE OF VALUES

- A. See the Standard General Conditions of the Construction Contract, Subparagraph 2.03.A.3, as modified by the Supplementary Conditions, for Schedule of Values requirements.

1.4 APPLICATION FOR PAYMENT

- A. See the Standard General Conditions of the Construction Contract, Article 15.01, Progress Payments, as modified by the Supplementary Conditions, for payment procedures and requirements.

1.5 CHANGE PROCEDURES

- A. See the Standard General Conditions of the Construction Contract, Article 11, Amending the Contract Documents; Changes in the Work, as modified by the Supplementary Conditions, for change procedures.

1.6 UNIT PRICES

- A. See the Standard General Conditions of the Construction Contract, Article 13.03 Unit Price Work, as modified by the Supplementary Conditions, for Unit Price Work requirements.
- B. Unit Quantities: Quantities indicated on Bid Form are for Contract purposes only. Actual quantities provided shall determine payment.
- C. Payment includes full compensation for furnishing required labor, materials, products, tools, equipment, plant and facilities, transportation, services, and incidentals; erection, application, and/or installation of the item of Work; including overhead and profit. The unit price provided shall be the only compensation for the complete installation.
- D. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Engineer, multiplied by the unit price for Work incorporated in or made necessary by the Work.
- E. Measurement of Unit Price Work
 - 1. Measurements shall be made as necessary to allow quantification of the Work at the close of each day's construction. Measurements shall be made by the Contractor.
 - 2. The quantities to be paid for and their respective locations shall be recorded and agreed upon at the close of each week's construction by the Resident Project Representative, and the Contractor's personnel in charge. A quantity log will be maintained daily by the Contractor and agreed upon by the Resident Project Representative.

3. A copy of the log, which also signifies said agreement, shall be furnished to the Engineer's Project Representative daily by the Contractor.
4. The Contractor shall furnish the Owner with a weekly statement of the agreed-upon quantities and their respective locations.

1.7 FINAL PAYMENTS

- A. Final payments to the Contractor shall be made on the basis of actual quantities of Work completed, as determined by field measurements, in accordance with the following Unit Price Pay Items. Item numbers are referenced to the Bid Form.

Item 1. Mobilization: A lump sum payment less than or equal to 2% of the total Bid Price (to include all bonds, insurance, and mobilization of equipment) will be allowed for 'mobilization' as a progress payment line item. The required USDA project sign is included under this line item. The submittal application and associated costs of obtaining the building permit from Onslow County for construction is included under this line item. The actual cost of bonds and insurance (up to the maximum payment of 2%) will be considered in the initial payment request provided that cost documentation suitable to the Engineer is furnished by the Contractor. The outstanding balance of the mobilization pay item will be payable when the Work is 10% complete as indicated by the approved progress payments, less the cost of mobilization and stored materials.

Item 2. Aerobic Digester/Decanter Tank: Lump sum price for furnishing and installing Aerobic Digester and Decanting Tank. Lump sum price shall include furnishing all equipment, components, and labor required to properly install the concrete, forms, rebar, pilings, grating, pipe penetrations and associated supports as detailed in the Construction Drawings. The price shall also include site preparation, clearing, excavation, removing and hauling excess material (legally) from the site, backfilling, grading, shoring, dewatering associated with the installation of the concrete tanks and foundation, and as-built survey of improvements.

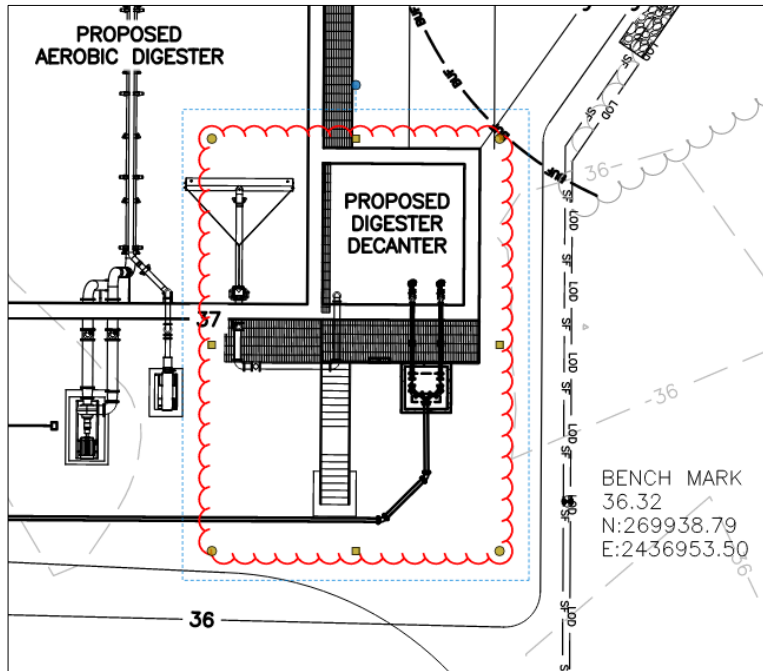
Item 2A. Aerobic Digester/Decanter Tank – Timber Pile Unit Prices: See Specification 31 62 19 – Timber Pile for Unit Price Description. Add/deduct per vertical foot driven and installed over or under the depth shown in the drawings as confirmed by ITL during construction.

Item 3. Aerobic Digester Equipment: Lump sum price for furnishing and installing all accessories and appurtenances required for a complete jet aeration and mixing system and floating supernatant decanter. The equipment is to be installed in the aerobic digester tank shown on the plans and in specification Section 46 73 21. System equipment includes, but not limited to, in-basin jet aeration and mixing manifolds including jet aeration nozzles, air & liquid piping, backflush piping, valves, seal water system, ductile iron pipe and valves, all required in-basin supports, external mounted dry pit horizontal jet mixing pump, positive displacement blower with VFD, and floating supernatant decanter. Price shall also include modifying existing WTF software to incorporate new aerobic digester. Price shall include labor for startup.

- Item 3A. Aerobic Digester Equipment Provided by Fluidyne:** Lump sum price for furnishing and installing all accessories and appurtenances required for a complete jet aeration and mixing system and floating supernatant decanter as supplied by Fluidyne. The equipment is to be installed in the aerobic digester tank shown on the plans and in specification Section 46 73 21. System equipment includes, but not limited to, in-basin jet aeration and mixing manifolds including jet aeration nozzles, air & liquid piping, backflush piping, valves, seal water system, ductile iron pipe and valves, all required in-basin supports, external mounted dry pit horizontal jet mixing pump, positive displacement blower with VFD, and floating supernatant decanter. Price shall also include modifying existing WTF software to incorporate new aerobic digester. Price shall include labor for startup.
- Item 4. Decanter Pump:** By the number furnished and installed as shown. Unit price shall include all materials, equipment and labor required for the installation of the pump, base, floor plate, rails, rail supports, lifting chain, and pump control panel.
- Item 5. Ductile Iron Piping, Fittings & Valves:** Lump sum price for all epoxy lined ductile iron pipe, fittings and valves. Pipe above grade shall include flanges, flanged fittings, dismantling joints, connection to existing piping, modification to existing piping to accommodate new piping, pipe supports, concrete pipe supports and all other accessories for the installation of above grade piping. Pipe installed below grade shall include furnishing and installing all pipe, MJ fittings and appurtenances including excavation bedding stone, backfill, compaction, concrete blocking, dewatering, shoring, sheeting and bracing. Where existing piping and fittings are removed, price shall include legal disposal. Price shall include MJ plug valves, flanged plug valves, check valves, and pressure gauges Price shall include all materials, equipment, labor, and incidental items listed in Paragraph B below for complete installation. Pipe, fittings and valves connected to jet aeration/mixer shall be paid for in Item 3/3A. Pipe, fittings and valves associated with 10-inch line for the interconnect pumps shall be paid in Item 22.
- Item 6. 3" PVC & Water Service:** By the price per linear foot furnished and installed beginning to end, through valves and fittings. Unit price provided shall be the only compensation for the complete installation and includes furnishing and installing approximately 80 linear feet of 3-inch SCH 80 PVC pipe and fittings to yard hydrant. Price shall include the ability for yard hydrant to connect to the 3-inch waterline. Also, unit price shall include 20 linear feet of 1-inch SCH 80 PVC pipe and fittings to seal water system. Price shall include seal water detail 3/MD-2.0. Price shall include the ability for the seal water system to connect to the solenoid valve. Price shall include all appurtenances, excavation, bedding stone, backfill, compaction, blocking, dewatering, shoring, sheeting and bracing, support and reconnection of existing utilities, testing, and all other incidental work necessary to provide a complete and ready-to-use system, except for those items segregated.
- Item 7. Yard Hydrant:** Price per each furnished and installed. Price shall include hydrant, concrete pad, stone and all materials, equipment, labor, and incidental items listed in Paragraph B below for complete installation.
- Item 8. Davit Crane:** Price per each furnished and installed. Price shall include crane, base, anchors, preparation of surface, drilling, and all materials, equipment, labor, and incidental items listed in Paragraph B below for complete installation.

- Item 9. Electromagnetic Flow Meter:** Price per each furnished and installed. Price shall include 4-inch electromagnetic flow meter, wired transmitter with display screen, flange with 4-inch threaded connection, 4-inch SS piping, camlock connection with cap, 4-inch SS ball valve, pipe support for ball valve and flow meter, and all materials, equipment, labor, and incidental items listed in Paragraph B below for complete installation.
- Item 10. Valve Vault:** Unit price per each precast concrete valve vault to be installed. Unit price includes excavation, bedding material, hatch, lock, backfill, surface restoration and all other materials and labor necessary for a successful and complete installation.
- Item 11. Stairs and Walkways:** Lump sum price to furnish and install new aluminum stairs and walkways associated with the proposed digester decanter. The price shall include all materials including supports, grating, handrails, columns, footings, concrete pads, and chains. Price shall also include concrete supports, testing and incidental items listed in Paragraph B below. See Figure below.

FIGURE – STAIRS FOR ITEM 11



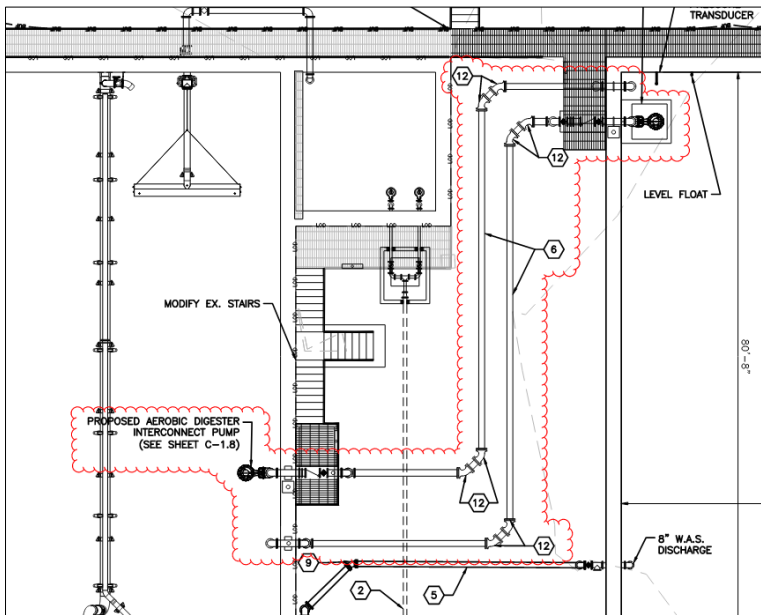
- Item 11A Stairs and Walkways:** Lump sum price to furnish and install new aluminum stairs and walkways. The price shall include all materials including supports, grating, handrails, columns, footings, concrete pads, chains. Price shall also include modifying, demolishing, and properly disposing of existing stairs and walkways as denoted in the drawings. Price shall also include concrete supports, testing and incidental items listed in Paragraph B below. This pay item does not include stairs and walkways associated with Item 11 above.

- Item 12. Bollards:** Price per each furnished and installed. Price shall include all materials, equipment, labor, and incidental items listed in Paragraph B below for complete installation.
- Item 13. Miscellaneous Concrete:** Price per cubic yard furnished and installed. Price shall include structural concrete, forms, rebar, ties and all materials, equipment, labor, and incidental items listed in Paragraph B below for complete installation. Concrete for stairs and walkways footings shall be paid in Item 18.
- Item 14. Gravel Driveway:** Lump sum price for installation of the gravel driveway turnaround. Price shall include placement of stone, geofabric, placement, compaction, dressing, site preparation, removal of remaining previous turn around stone, connection to the existing gravel driveway and all other materials and labor necessary for a successful and complete installation.
- Item 15. Select Backfill:** By the number of cubic yards as authorized for placement as backfill. The price shall include removal of unsuitable soils and replacement with select backfill as measured in-place to a width not to exceed the maximum authorized trench width. For pipe, the authorized trench width shall be equal to the nominal pipe diameter plus 2 feet, with a 3-foot minimum width. This item is to be used only when authorized by the Owner or Owner Representative.
- Item 16. Undercut of Unsuitable Soils & Replacement with Stone:** By the price per cubic yard as approved by Engineer/ Measurement shall be based on the actual quantities removed. Take measurements in the presence of the Engineer. Maintain daily log sheets of measured quantities. Log sheets must be signed by Engineer and submitted with payment request. Payment shall not be made for quantities that have not been field verified by the Engineer. Price shall include the complete removal and disposal of unstable soil including, but not limited to, excavating, loading, hauling, properly disposing of excavated material, and providing stone for backfill. Providing stone material for backfilling shall include, but not be limited to, material, loading, hauling, placing and compacting.
- Item 17. Erosion Control Measures:** Lump sum price for installation, maintenance, and removal of temporary erosion control measures including construction entrances, check dams, silt fence, diversion ditches, sediment traps, rock pipe inlet protection, wattles, erosion control matting, seeding and mulching. Up to 75% of price will be paid when all measures are in place, 15% will be paid for on-going maintenance, and 10% will be paid upon removal of measures and final stabilization of all areas. The lump sum price includes all materials, equipment and labor required to stabilize all disturbed areas with final cover acceptable to the Owner.

- Item 18. Electrical:** Lump sum price to furnish and install electrical improvements associated with the digester pump, blower, and decanter pumps. Price shall include modifying existing control panels and equipment to incorporate new work, VFD and VFD enclosure for the blower, wiring, conduit, breakers, trenching, and connections. Also, price shall include demolition and disposal, as directed, of existing equipment, conduits, controls panels, wiring, and including all necessary components to provide a complete and ready-to-use system for the aerobic digester and decanting tank. Price shall not included electrical upgrades required for item 24.
- Item 19. SCADA Allowance:** Measurement shall not be made for this item. Work shall be performed by Town of Surf City preferred integrator: Custom Controls Unlimited, Inc., 2600 Garner Station Blvd. Raleigh, NC 27603. Furnish and install SCADA equipment to interface with the existing SCADA system including RTUs, PLCs, enclosure. Work includes terminating SCADA signal conductors at the RTU. Contractor is responsible for terminations at each piece of equipment.
- Item 20. Contingency Allowance:** Measurement shall not be made for this item. An allowance has been established for reimbursement of Owner-approved unforeseen conditions which may be encountered in the work during construction.
- Item 21. Digester Interconnect Pump:** By the number furnished and installed as shown. Unit price shall include all materials, equipment and labor required for the installation of the pump, base, floor plate, rails, rail supports, lifting chain, and pump control panel. Refer to the figure on the following page for extents.
- Item 22. Interconnect DI Pipe, Fittings and Valves:** Lump sum price for all epoxy lined DI pipe, fittings and valves associated with the interconnect. Above grade pipe shall include flanges, flanged fittings, dismantling joints, connection to existing piping, modification to existing piping to accommodate new piping, pipe supports, concrete pipe supports and all other accessories for the installation of above grade piping. Pipe installed below grade shall include furnishing and installing all pipe, mj fittings and appurtenances including excavation bedding stone, backfill, compaction, concrete blocking, dewatering, shoring, sheeting and bracing. Price shall include mj plug valves, flanged plug valves, check valves, and pressure gauges. Price shall include all materials, equipment, labor, and incidental items listed in Paragraph B below for complete installation. Refer to the figure on the following page for extents.
- Item 23. Interconnect Combination Air Release Valve:** Price per each furnished and installed. Price shall include combination ARV, connection, isolation valve, and all materials, equipment, labor, and incidental items listed in Paragraph B below for complete installation. Refer to the figure on the following page for extents.

Item 24. Electrical – Interconnect Pumps: Lump sum price to furnish and install electrical improvements associated with the installation of the Interconnect pumps. Price shall include wiring, control panels, conduit, and connecting power as shown in the electrical drawings. Price shall include all necessary components to provide a complete and ready-to-use system for the interconnect pumps. Refer to the figure on the following page for extents.

FIGURE – EXTENTS FOR ITEMS 21 – 24



Item 25. Ex. Aerobic Digester Dewatering: Lump sum price to drain the existing aerobic digester for interconnect pump installation. Price shall include properly removing approximately 185,000 gallons of sludge (gallon quantity between top of slab and decanting line), removal of residual sludge, grit & rags, pressure washing and prepping area for interconnect pump. The lump sum price includes all materials, equipment and labor required to dewatering and prep existing aerobic digester for interconnect pump installation.

B. Incidental items

1. The following items shall be considered incidental to the Work and included in the price of the item to which they relate: Project signs, maintenance of existing conditions, demolition, removal and reinstallation of conflicting items, clearing and grubbing, shoring, sheeting and bracing, dewatering, excavation, backfill, compaction, concrete blocking, concrete supports, support and reconnection of existing utilities, traffic control, final grading, cleaning and waste management, planting, temporary facilities, installation of tracer wire for all plastic pipe, disinfection, testing, startup, and all other incidental work.

1.8 SUMMARY

- A. Payments noted above shall constitute full compensation for Work shown and required by the Drawings and Construction Specifications for this contract.
- B. The cost of other auxiliary operations and/or materials required to make a completed project shall be included in the appropriate lump sum or unit price bid.

1.9 SALES TAX

- A. Requirements for sales tax are provided in the Supplementary Conditions.

PART 2– PRODUCTS – Not Used

PART 3– EXECUTION – Not Used

END OF SECTION

CONCRETE NOTES
1. ALL CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318-14 BUILDING CODE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS U.N.O. ALL CONCRETE - 4500 PSI
3. REINFORCING STEEL TO HAVE 3" MINIMUM COVER WHERE CONCRETE IS CAST AGAINST EARTH. ALL OTHER REINFORCING SHALL HAVE 2" MINIMUM CONCRETE COVER, TYPICAL, U.N.O.
4. REINFORCING STEEL MATERIAL TO BE A615-GRADE 60 U.N.O.
5. ALL REINFORCING STEEL SPLICES SHALL BE IN ACCORDANCE WITH ACI 318-14. (MINIMUM 45 BAR DIAMETERS)
6. REINFORCING STEEL BENT BARS ARE DIMENSIONED OUT TO OUT OF STEEL.
7. ALL BARS ARE TO BE SUPPORTED IN FORMS AND SLABS WITH CHAIRS AND TIED AT EVERY OTHER INTERSECTION.
8. ALL CONDUIT, GROUND WIRES, DRAINS, ANCHOR BOLTS ETC., SHALL BE IN PLACE BEFORE CONCRETE IS PLACED.
9. WELDED STEEL WIRE FABRIC SHALL CONFORM TO ASTM A-185. ALL WELDED STEEL WIRE FABRIC SHALL BE GALVANIZED & SUPPLIED IN FLAT SHEETS, NOT IN ROLLS.
10. MILD STEEL REINFORCEMENT AND ACCESSORIES SHALL BE DETAILED AND FABRICATED IN ACCORDANCE WITH ACI SP-66.
11. PORTLAND CEMENT SHALL BE A SINGLE BRAND CONFORMING TO ASTM C-150, TYPE I/II UNLESS OTHERWISE APPROVED BY THE ENGINEER.
12. NORMAL WEIGHT AGGREGATES SHALL CONFORM TO ASTM C-33. EACH TYPE SHALL BE FROM A SINGLE SOURCE FOR EXPOSED CONCRETE.
13. ALL ADDITIVES FOR AIR ENTRAINMENT, WATER REDUCTION, AND SET CONTROL SHALL BE USED IN ACCORDANCE WITH THE SPECIFICATIONS AND THE MANUFACTURER'S DIRECTIONS. THE USE OF CALCIUM CHLORIDE IS PROHIBITED UNLESS APPROVED IN WRITING BY THE ENGINEER.
14. THE MAXIMUM NOMINAL SIZES OF COARSE AGGREGATE SHALL BE 1".
15. CONCRETE SLUMPS SHALL BE AS FOLLOWS: ALL CONCRETE 6" TO 8" (ACHIEVED W/ SUPER PLASTICIZER)
16. CONCRETE EXPOSED TO WEATHER SHALL BE AIR ENTRAINED AS FOLLOWS: 1" MAX. AGGREGATE 3% TO 6% 3/4" MAX. AGGREGATE 3 1/2% TO 6 1/2%
17. MILD STEEL REINFORCEMENT SHALL BE PLACED AND SECURED IN ACCORDANCE WITH CRSI "RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS".
18. ALL ANCHOR BOLTS SHALL BE HOT DIP GALVANIZED AND CONFORM TO ASTM F1554 SPECIFICATION FOR 36 KSI STEEL. U.N.O.
19. NOTIFY ENGINEER MINIMUM OF 48 HOURS PRIOR TO PLACING CONCRETE.
20. SECURE REINFORCING BARS, ANCHOR BOLTS AND EMBEDDED ITEMS PRIOR TO PLACING CONCRETE.
21. ALL ANCHOR RODS SHALL BE PROVIDED WITH TWO TOP NUTS AND ONE WASHER EACH. NUTS TO BE AMERICAN STANDARD HEAVY HEX C.P.S.F.
22. THREADS SHALL BE UNC-2.
23. ALL SHOP-FABRICATED ANCHOR BOLTS SHALL HAVE A BOTTOM NUT AND SHALL BE TACK-WELDED IN SHOP BEFORE GALVANIZING.
24. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER A PROPOSED CONCRETE PLACEMENT PLAN PRIOR TO PLACEMENT OF ANY CONCRETE.
25. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER A PROPOSED CONSTRUCTION JOINT LOCATION PLAN FOR APPROVAL PRIOR TO PLACEMENT OF ANY CONCRETE.
26. CONTRACTOR SHALL ALLOW 1.0 TONS OF MISCELLANEOUS REBAR TO BE USED AS DIRECTED IN THE FIELD FOR SPECIAL CONDITIONS NOT COVERED BY NOTE OR DRAWING. (LABOR FOR PLACEMENT OF SAME TO BE INCLUDED.)

ALUMINUM NOTES
1. ASTM B308 / B308M, STANDARD SPECIFICATION FOR ALUMINUM-ALLOY 6061-T6 STANDARD STRUCTURAL PROFILES.
2. ASTM B221, STANDARD SPECIFICATION FOR ALUMINUM AND ALUMINUM-ALLOY EXTRUDED BARS, RODS, WIRE, PROFILES, AND TUBES.
3. ROLLED AND EXTRUDED MEMBERS SHALL BE IN ACCORDANCE WITH ASTM B429, STANDARD SPECIFICATION FOR ALUMINUM-ALLOY EXTRUDED STRUCTURAL PIPE AND TUBE WITH ALLOY AND TEMPER 6061-T6, UNLESS NOTED OTHERWISE.
4. ALUMINUM WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY, AWS D1.2 - STRUCTURAL WELDING CODE, ALUMINUM.
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALUMINUM FABRICATIONS THAT SHALL INCLUDE THE FOLLOWING: A. COMPLETE FABRICATION AND ERECTION PLAN AND PROCEDURES GIVING FULL INFORMATION ON ALL ASPECTS OF THE ERECTION THAT WILL AFFECT ALIGNMENT, PLUMB AND DIMENSIONAL ACCURACY OF THE STRUCTURE. B. CONNECTIONS, INCLUDING SIZE AND SPACING OF BOLTS AND WELDS. C. INDICATE PROFILES, SIZES, SPACING, AND LOCATIONS OF STRUCTURAL MEMBERS, OPENINGS, CAMBER AND ATTACHMENTS. D. INDICATE WELDED CONNECTIONS WITH AWS WELDING SYMBOLS. INDICATE NET WELD LENGTHS. INCLUDE DETAILS OF WELDING MATERIALS, EQUIPMENT, SEQUENCE AND TECHNIQUE TO BE USED.
6. CONTRACTOR SHALL SUBMIT MILL TEST REPORTS INDICATING STRUCTURAL STRENGTH, DESTRUCTIVE AND NONDESTRUCTIVE TEST ANALYSIS AND CHEMICAL ANALYSES FROM THE ALUMINUM USED IN THE WORK.
7. CONTRACTOR SHALL SUBMIT WRITTEN WELDING PROCEDURES IN ACCORDANCE WITH AWS D1.2 FOR EACH PROPOSED JOINT.
8. FABRICATE ALUMINUM MEMBERS IN ACCORDANCE WITH ALUMINUM DESIGN MANUAL SPECIFICATION FOR ALUMINUM STRUCTURES - BUILDING LOAD AND RESISTANCE FACTOR DESIGN.

ALUMINUM NOTES CONT.
9. WELDERS SHALL BE QUALIFIED IN ACCORDANCE WITH AWS D1.2 FOR EACH PROCESS, POSITION AND JOINT CONFIGURATION.
10. CONTRACTOR SHALL SUBMIT WELDERS' CERTIFICATES CERTIFYING WELDERS EMPLOYED BY THE SUBCONTRACTOR MEET AWS QUALIFICATIONS.
11. MAINTAIN ONE COPY OF EACH REFERENCED DOCUMENT ON SITE.
12. DELEGATED DESIGN RESPONSIBILITIES: DESIGN CONNECTIONS NOT DETAILED ON THE DRAWINGS UNDER THE DIRECT SUPERVISION OF A STRUCTURAL ENGINEER EXPERIENCED IN DESIGN OF ALUMINUM AND LICENSED IN THE STATE OF TEXAS.
13. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH MANUFACTURER'S FABRICATION DRAWINGS.
14. FILLER METALS SHALL BE IN ACCORDANCE WITH AWS D1.2.
15. ELECTRODES AND EQUIPMENT SETTINGS SHALL BE AS RECOMMENDED BY THE FILLER METAL MANUFACTURER FOR THE POSITION, THICKNESS AND CONDITIONS OF USE.
16. CONTRACTOR SHALL FURNISH WRITTEN VERIFICATION TO THE ENGINEER THAT FILLER METAL IS APPROPRIATE TO THE MATERIALS AND WELDING PROCESS.
17. FABRICATE ALUMINUM MEMBERS IN ACCORDANCE WITH THE APPROVED SHOP DRAWINGS. WHERE PRACTICAL, FABRICATE AND ASSEMBLE IN THE SHOP.
18. DIMENSIONAL TOLERANCES SHALL BE AS FOLLOWS: A. OVERALL LENGTH OF MEMBERS WITH BOTH ENDS MILLED SHALL VARY BY NOT MORE THAN 1/32-INCH. B. OVERALL LENGTH OF MEMBERS WITHOUT MILLED ENDS SHALL VARY BY NOT MORE THAN 1/16-INCH FOR LENGTHS LESS THAN 30 FEET AND NOT MORE THAN 1/8-INCH FOR LENGTHS 30 FEET AND OVER.
19. WHERE STRUCTURAL JOINTS ARE WELDED, THE DETAIL OF THE JOINTS, WELDING TECHNIQUE, WELD QUALITY AND APPEARANCE, AND METHODS FOR CORRECTING DEFECTIVE WELDS SHALL CONFORM TO THE AWS D1.2.
20. WELDING SHALL BE INERT SHIELDED GAS OR RESISTANCE WELDING PROCESS.
21. WHERE MILLING IS INDICATED ON THE DRAWINGS, MACHINE THE CONTACT SURFACES TRUE TO OBTAIN FULL AND COMPLETE CONTACT.
22. STRUCTURAL MEMBERS ARE SELECTED FROM GENERALLY AVAILABLE ROLLED SECTIONS; HOWEVER, IF THE SPECIFIED SECTIONS ARE NOT AVAILABLE, PROVIDE SECTIONS WITH EQUIVALENT PHYSICAL PROPERTIES AT NO ADDITIONAL COST AFTER APPROVAL BY THE ENGINEER.
23. WHERE ALUMINUM WILL CONTACT DISSIMILAR METALS, PROTECT AGAINST GALVANIC ACTION BY PAINTING CONTACT SURFACES AS FOLLOWS: A. WHERE ALUMINUM MEMBERS ARE IN CONTACT WITH STEEL, PRIME BOTH ALUMINUM AND STEEL MEMBERS WITH ONE COAT OF PAINT MEETING FEDERAL SPECIFICATION TT-P-645. PAINT ALUMINUM WITH AN ADDITIONAL COAT OF VARNISH CONTAINING 2 POUNDS OF ALUMINUM PIGMENT PER GALLON. B. WHERE ALUMINUM MEMBERS ARE IN CONTACT WITH POROUS MATERIALS, MASONRY OR CONCRETE, APPLY TO THE CONTACT SURFACES OF THE ALUMINUM MEMBERS A HEAVY COAT OF ALKALI RESISTANT BITUMINOUS PAINT.
24. PROVIDE TEMPORARY SUPPORTS AND INTERNAL BRACES NECESSARY TO SUPPORT STRUCTURE DURING ERECTION. TEMPORARY SUPPORTS AND BRACES SHALL BE ADEQUATE FOR ANTICIPATED WIND, SEISMIC, EQUIPMENT AND ERECTION LOADS. REMOVE TEMPORARY SHORING AFTER THE ERECTION IS COMPLETE.
25. BEFORE ERECTION, PAINT CONTACT SURFACES BETWEEN DISSIMILAR MATERIALS.
26. VERIFY THAT FIELD CONDITIONS ARE ACCEPTABLE AND ARE READY FOR ERECTION.
27. BEGINNING OF INSTALLATION MEANS SUBCONTRACTOR ACCEPTS THAT EXISTING CONDITIONS MEET THE REQUIREMENTS FOR INSTALLATION.
28. WHERE MEMBERS CANNOT BE PROPERLY ASSEMBLED DUE TO FABRICATION ERRORS OR DEFORMATION DUE TO HANDLING OR TRANSPORTATION, REPORT THE CONDITION TO THE ENGINEER WITH A PROPOSED METHOD OF CORRECTION FOR APPROVAL. ERECT STRUCTURE TO THE LINES AND GRADES INDICATED ON THE DRAWINGS AND IN ACCORDANCE WITH THE SHOP DRAWINGS.
29. DO NOT FIELD CUT OR ALTER STRUCTURAL MEMBERS WITHOUT WRITTEN APPROVAL FROM THE ENGINEER.
30. WHERE FIELD WELDING TO EXISTING STRUCTURAL MEMBERS IS REQUIRED, CONFIRM THE WELDABILITY OF THE EXISTING ALUMINUM BY CUTTING OR DRILLING SAMPLES AND HAVING THEM TESTED BY THE SUBCONTRACTOR'S INDEPENDENT TESTING LABORATORY. THE TESTING LABORATORY SHALL RECOMMEND THE LOCATION FOR TAKING SAMPLES, PROVIDE A REPORT ON WELDABILITY, RECOMMEND THE TYPE OF ELECTRODE, AND WELD AND INSPECT THE FINAL WELDS.

FRP
1. ALL FRP SHAPES, GRATING AND EXTRUSIONS SHALL BE BY ONE OF THE FOLLOWING VENDORS: A.STRONGWELL B.APPROVED EQUIVALENT
2. ALL SHAPES SHALL BE PULTRUDED AND SHALL CONSIST OF A GLASS FIBER-REINFORCED POLYESTER OR VINYL ESTER RESIN MATRIX, APPROXIMATELY 50% GLASS BY WEIGHT. THE OUTERMOST LAYER SHALL BE A SYNTHETIC SURFACE VEIL COVERING ALL SURFACES. A.COLOR = YELLOW OR AS APPROVED BY OWNER
3. ALL FACTOR EDGES OF GRATING SHALL BE BANDED DURING FABRICATION. FIELD CUT ENDS ARE NOT ALLOWED UNLESS APPROVED BY THE ENGINEER AND THE OWNER.
4. ALL STRUCTURAL SHAPES SHALL MEET THE FOLLOWING MINIMUMS: A.TENSILE STRESS, LW 30,000 PSI B.TENSILE MODULUS, LW 2.5X10 ⁶ PSI C.COMPRESSIVE STRESS, LW 30,000 PSI D.COMPRESSIVE MODULUS, LW 2.5X10 ⁶ PSI E.FLEXURAL STRESS, LW 30,000 PSI F.FLEXURAL MODULUS, LW 1.6X10 ⁶ PSI G.SHORT BEAM SHEAR, LW 4,500 PSI H.DENSITY .060-.070 LBS/IN
5. ALL FRP SHAPES SHALL BE AS FOLLOWS: A.WIDE FLANGE 'I'- Shape" SIZE AS SHOWN ON THE DRAWINGS B.GRATING 2" TYPE T-3300 - MIN LL = 100 PSF

		MFW	FRM	BY
		ADDENDUM #2		ISSUED FOR BID
		8/21/24	12/01/23	DATE
		REVISION		

ARDURRA
CORROSION, SURFACE, COATINGS
3809 Peachtree Ave., Suite 102
Wilmington, NC 28403
Phone: (910) 797-2829
www.Ardura.com
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Ardura Group, Inc.
Ardura Group North Carolina
NC Firm No. F-0113

Professional Engineer Seal for Mark F. Weiss, State of North Carolina, License No. 21432. The seal is circular with 'NORTH CAROLINA PROFESSIONAL ENGINEER' around the perimeter and 'Mark F. Weiss 21432' in the center.

HIGHFILL
INFRASTRUCTURE
ENGINEERING, P.C.

3804 Park Avenue, Unit A
Wilmington, NC 28403
Tel 910-313-1516
www.hiepc.com
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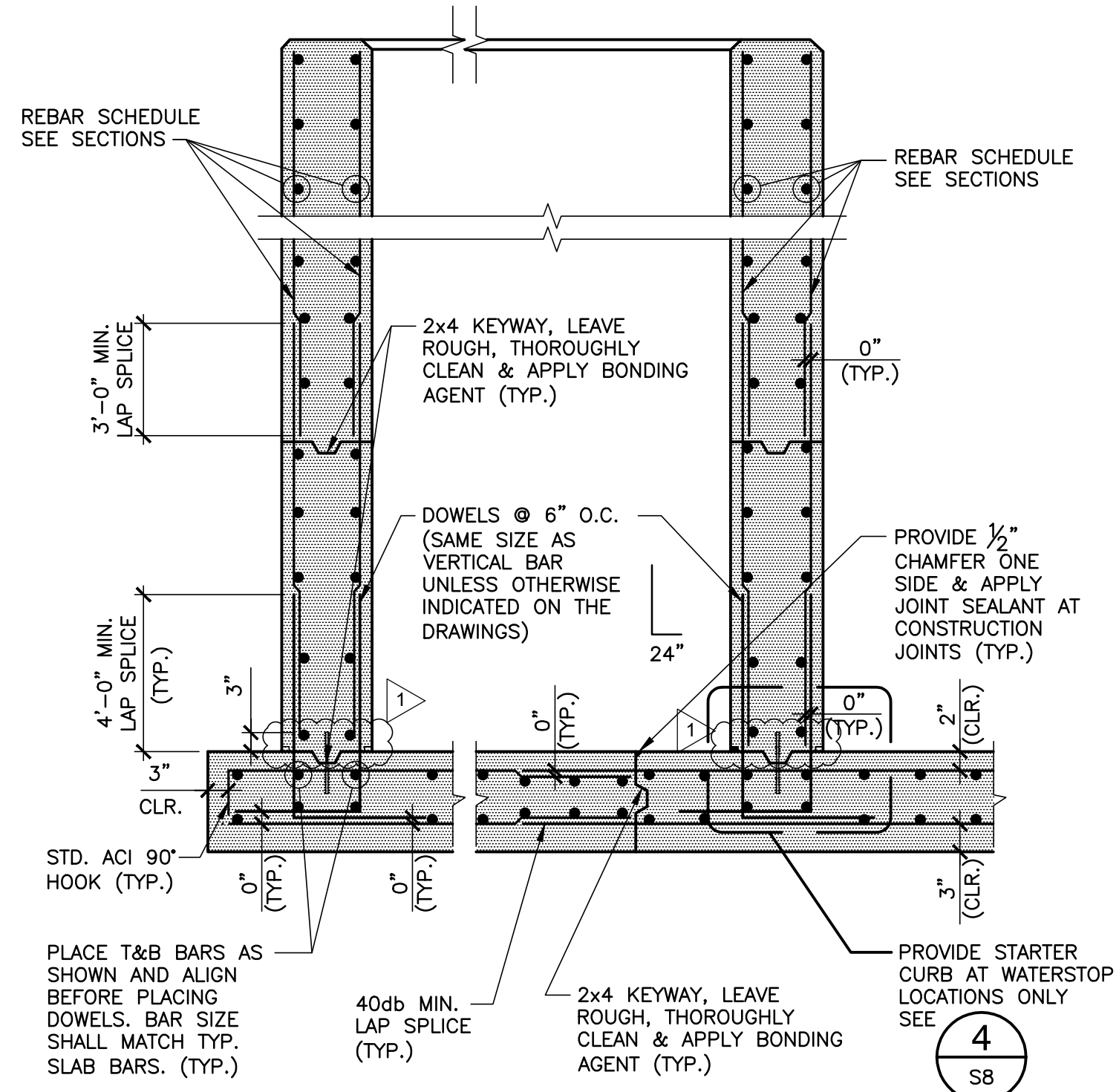
*Engineering is our profession.
Service is our passion.*

WWTF DIGESTER/SLUDGE HOLDING TANK
TOWN OF SURF CITY
SURF CITY, NC

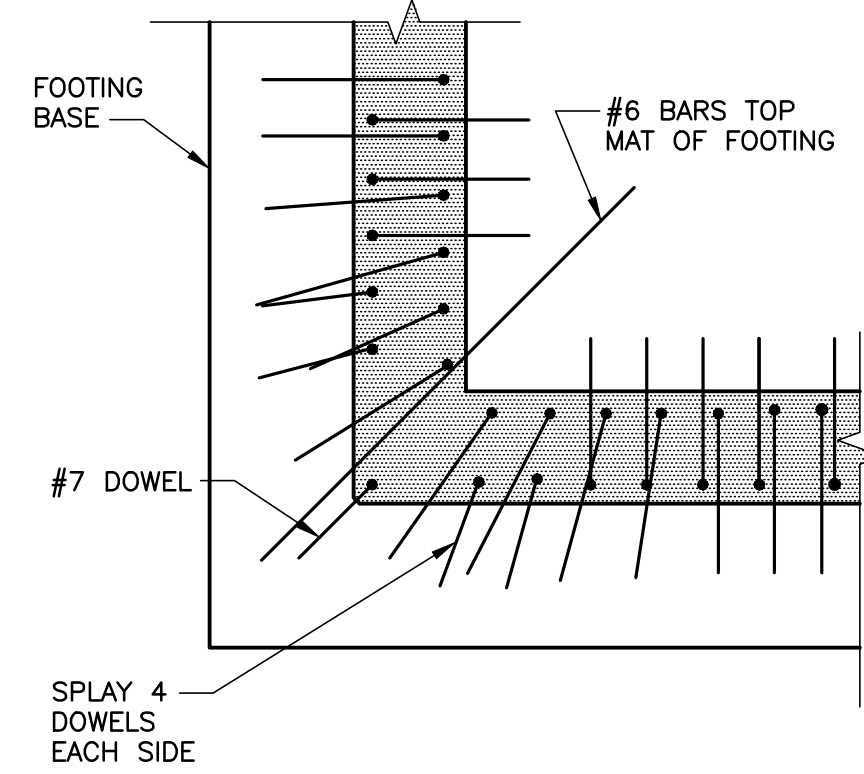
GENERAL NOTES & DESIGN CRITERIA II

PROJECT NO.
SUR2201

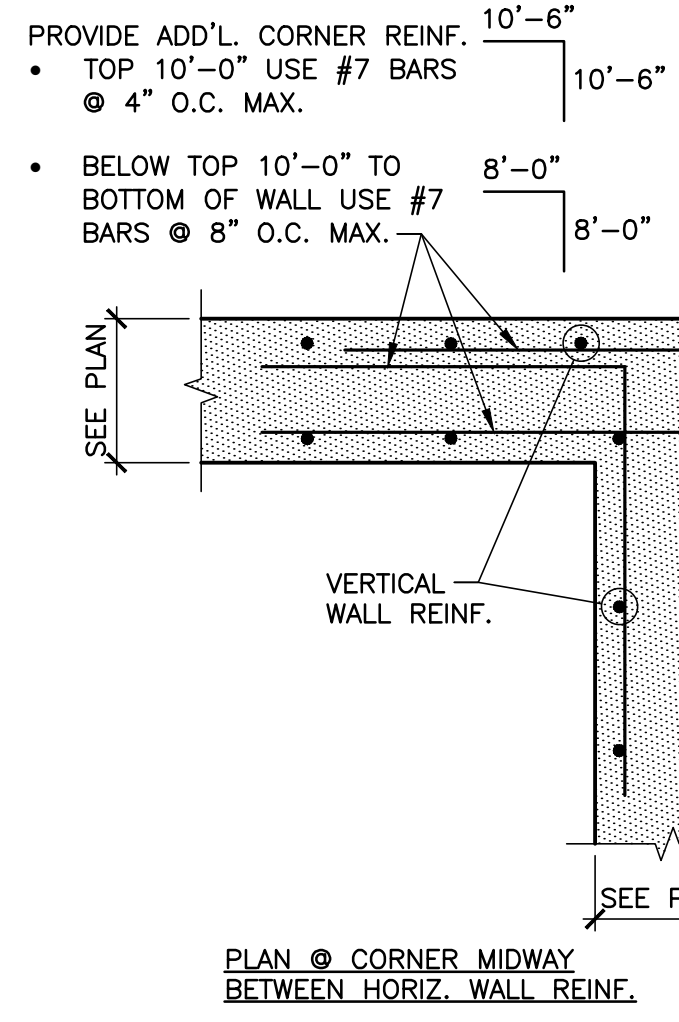
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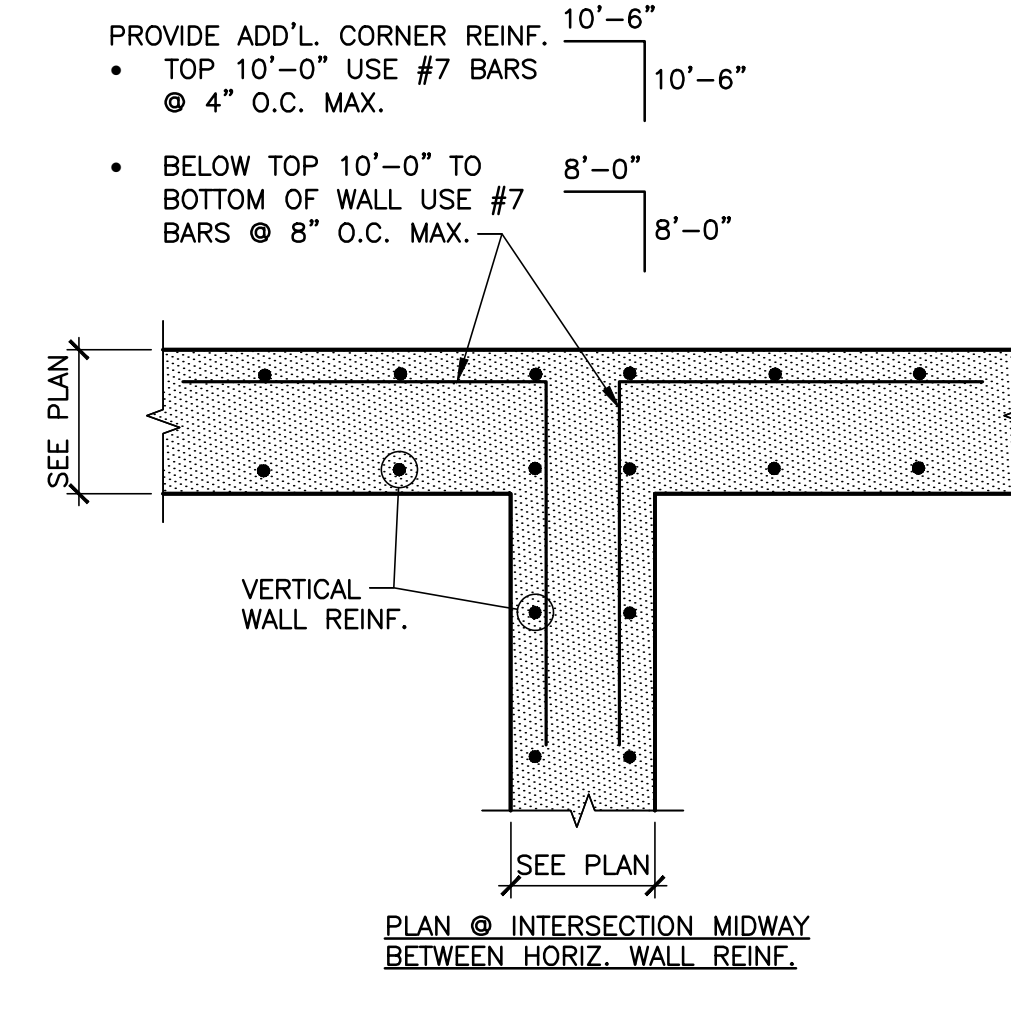
1 TYP. WALL & SLAB JOINT DETAIL
TYP. N.T.S.



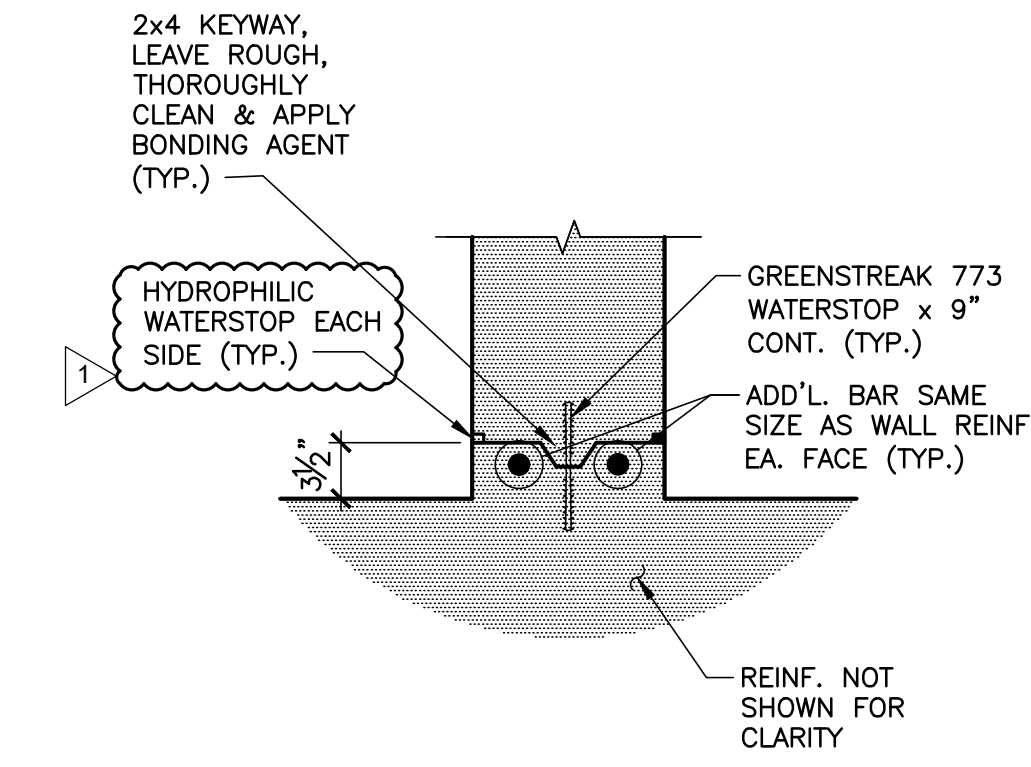
2 TYP. WALL CORNER AT FOOTING BASE DETAIL
TYP. N.T.S.



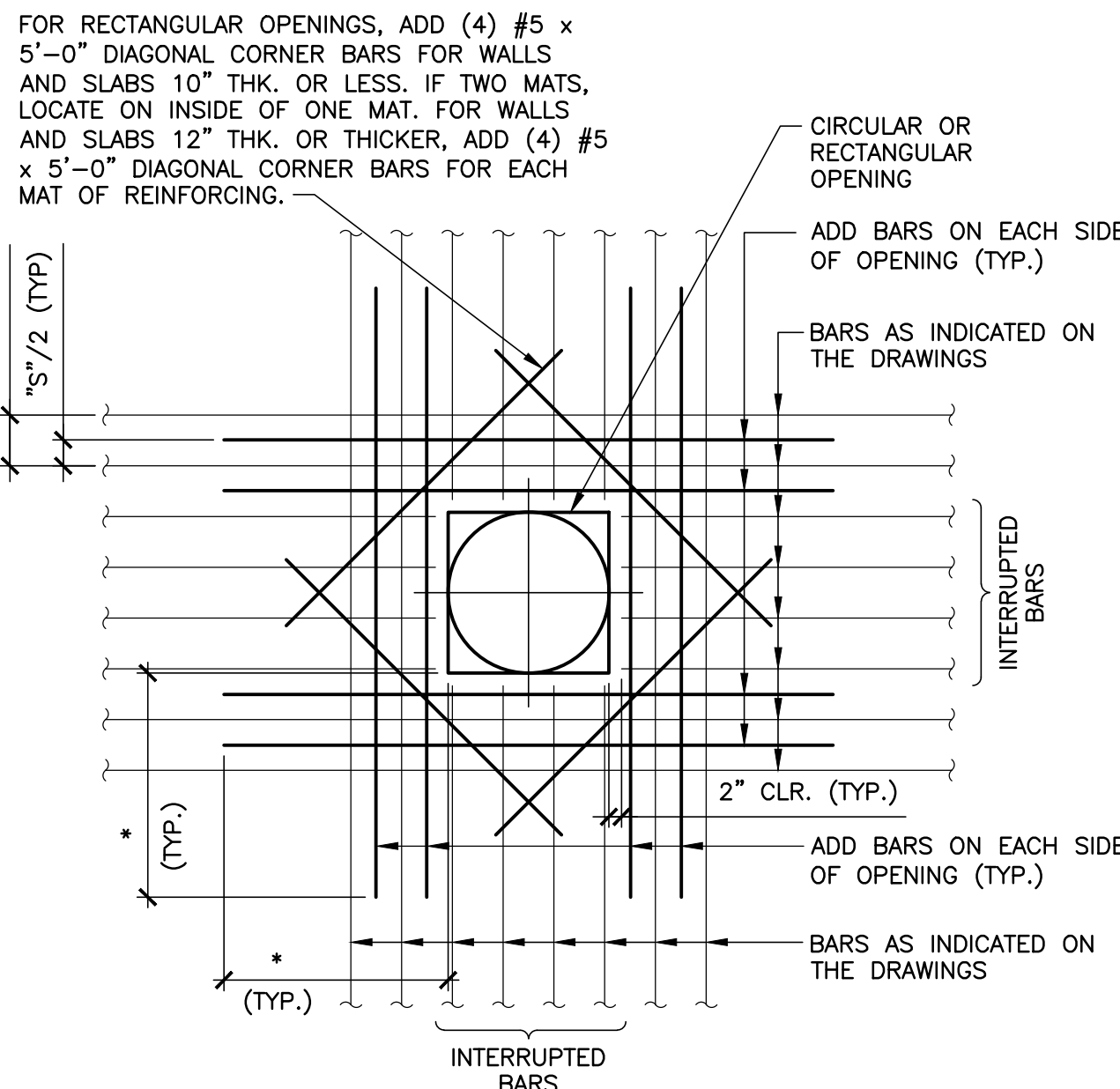
3 TYP. WALL CORNER / INTERSECTION DETAIL
TYP. N.T.S.



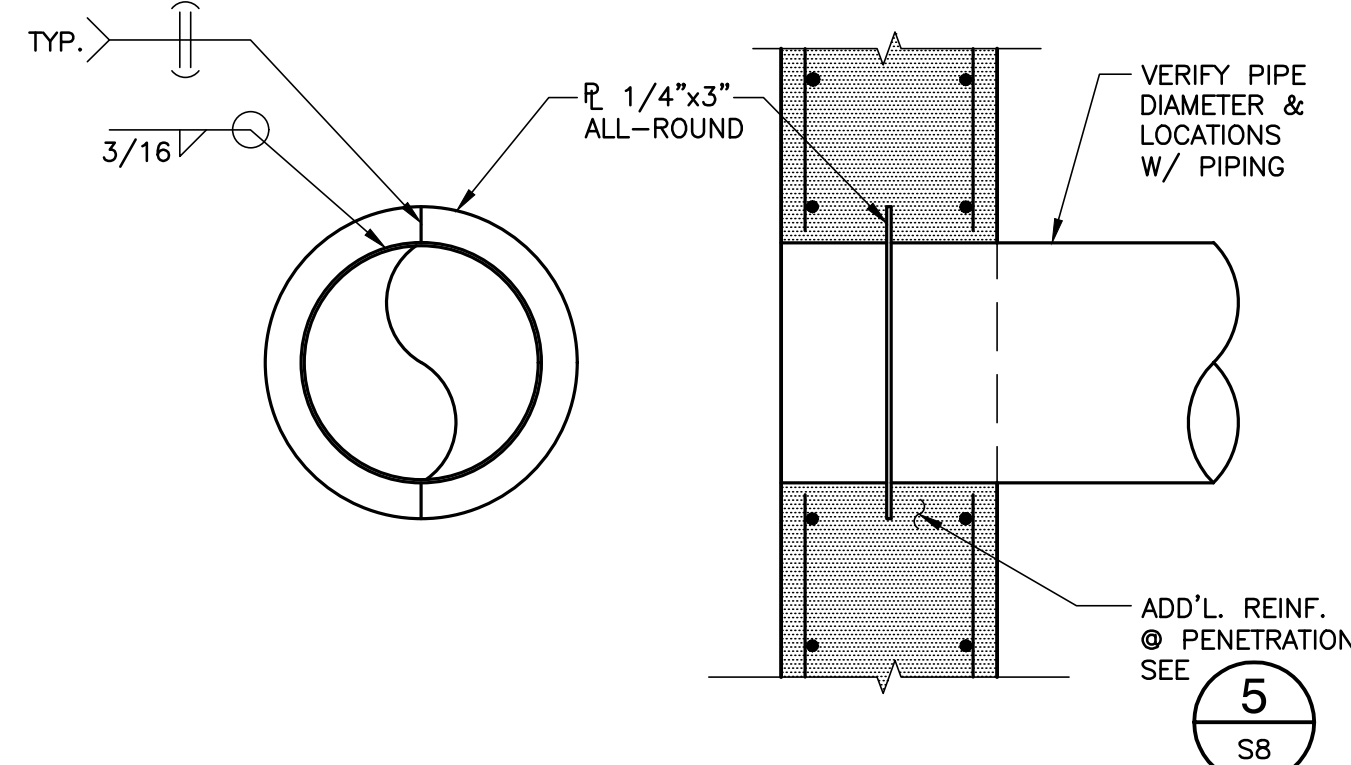
4 TYP. STARTER WALL DETAIL
TYP. N.T.S.



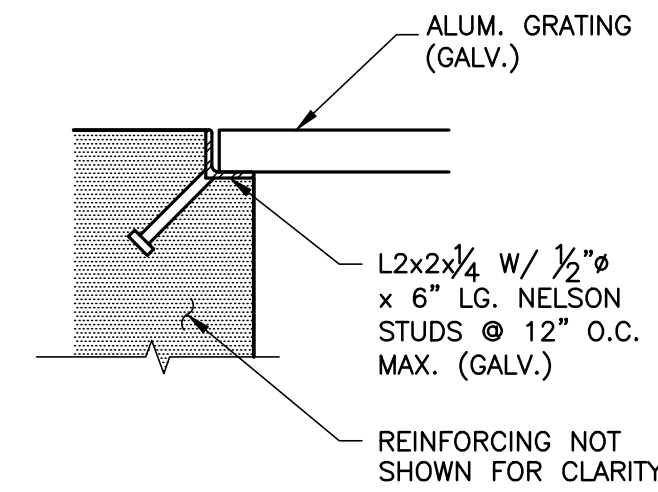
NOTES:
 1. AREA OF ADD'L. BARS AT EACH EDGE OF OPENING IN EACH DIRECTION SHALL MATCH $\frac{1}{2}$ THE CROSS SECTIONAL AREA OF THE INTERRUPTED BARS.
 2. PROVIDE STANDARD ACI HOOKS ON BARS IF STRAIGHT EXTENSION, PAST THE OPENING, CANNOT BE ACHIEVED.
 3. PLACE ADD'L. BARS IN SAME PLANES AS INTERRUPTED REINFORCING.
 4. PLACE #5 DIAGONAL BARS UNDER INTERRUPTED REINFORCING.
 5. * - DIMENSION EQUALS OPENING DIMENSION MEASURED PERPENDICULAR TO ADD'L. BARS PLUS LAP SPLICE LENGTH.



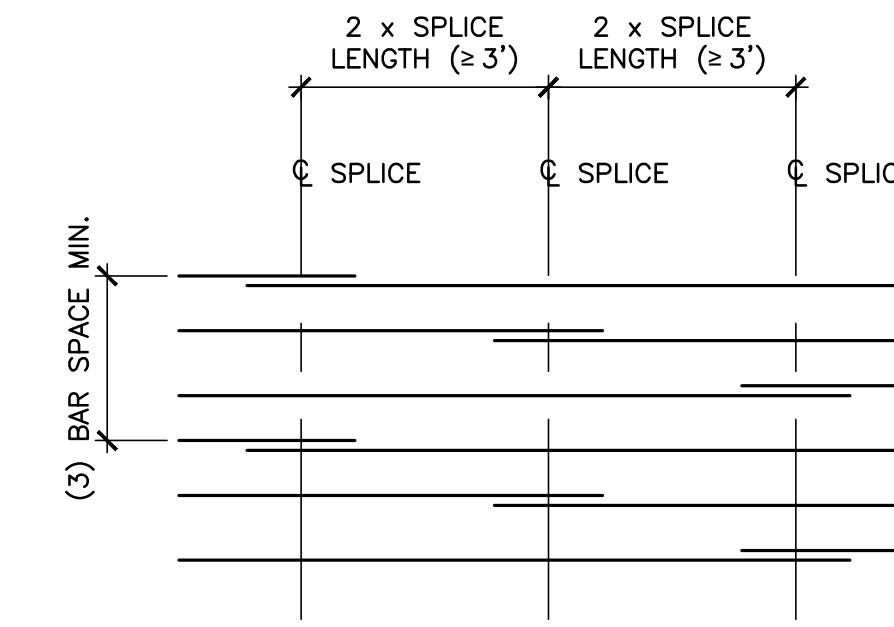
5 TYP. WALL OPENING REINFORCING DETAIL
TYP. N.T.S.



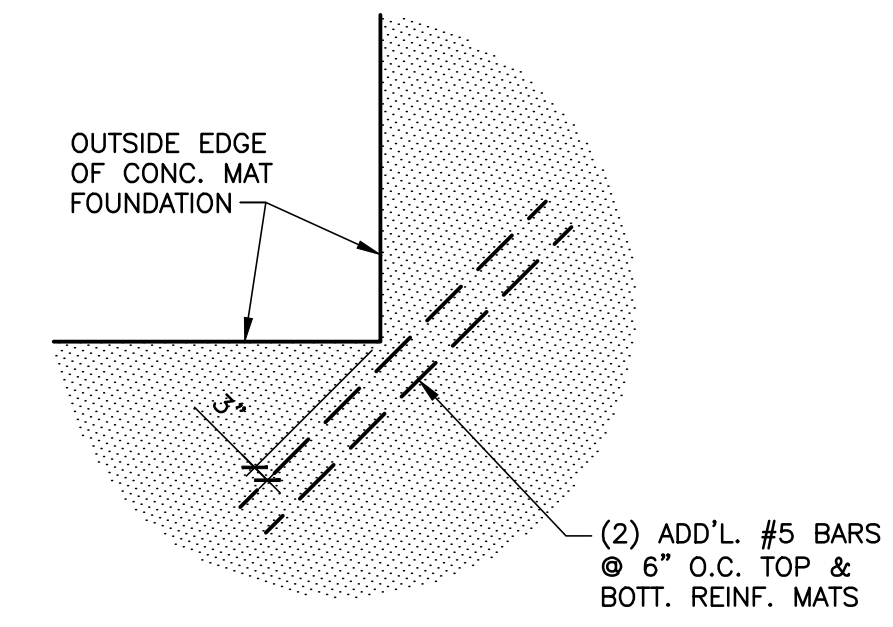
6 TYP. PIPE PENETRATION DETAIL
TYP. N.T.S.



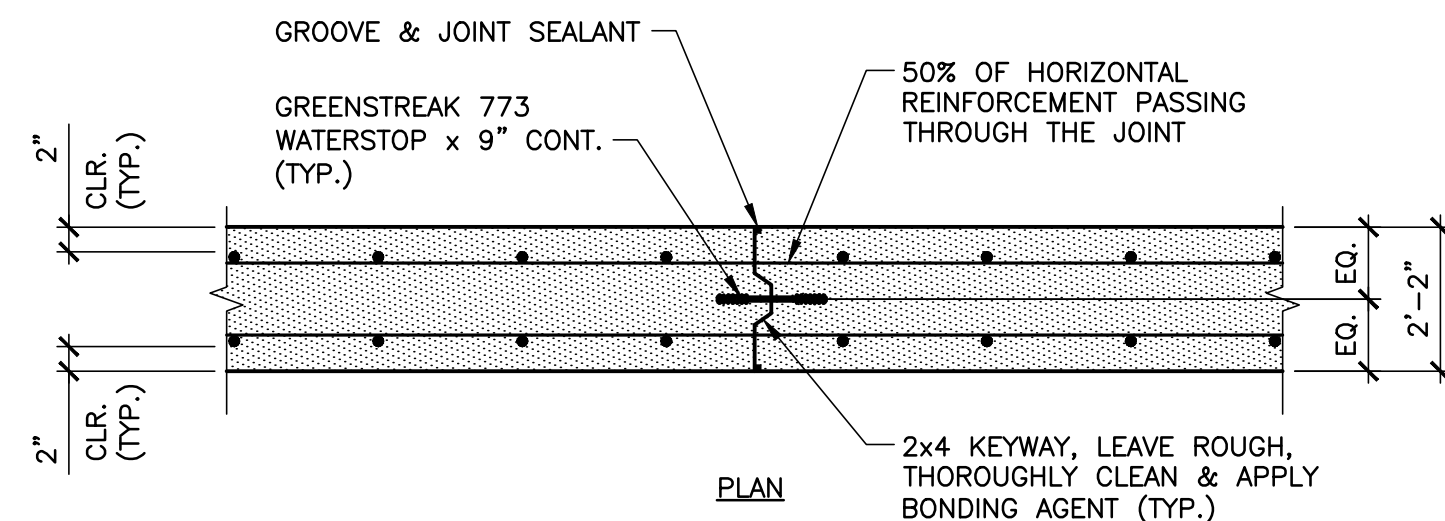
7 TYP. ANGLE SEAT DETAIL
TYP. N.T.S.



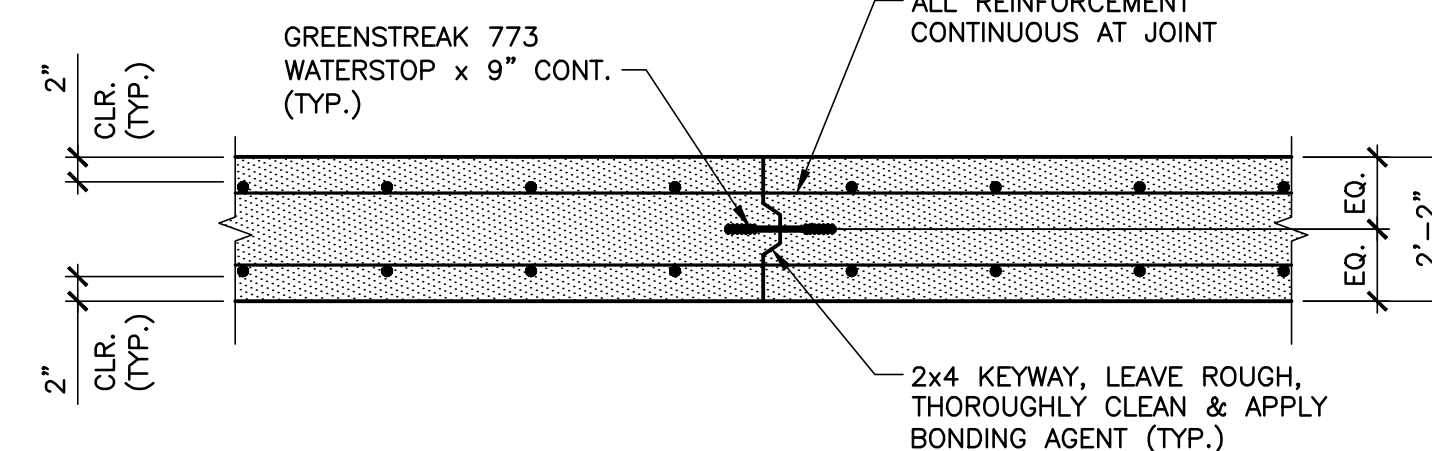
8 TYP. WALL HORIZ. REINF. STAGGERED SPLICE
TYP. N.T.S.



9 INSIDE CORNER MAT REINFORCING DETAIL
TYP. N.T.S.



10 WALL CONTRACTION JOINT DETAIL
TYP. N.T.S.



11 WALL/SLAB CONSTRUCTION JOINT DETAIL
TYP. N.T.S.

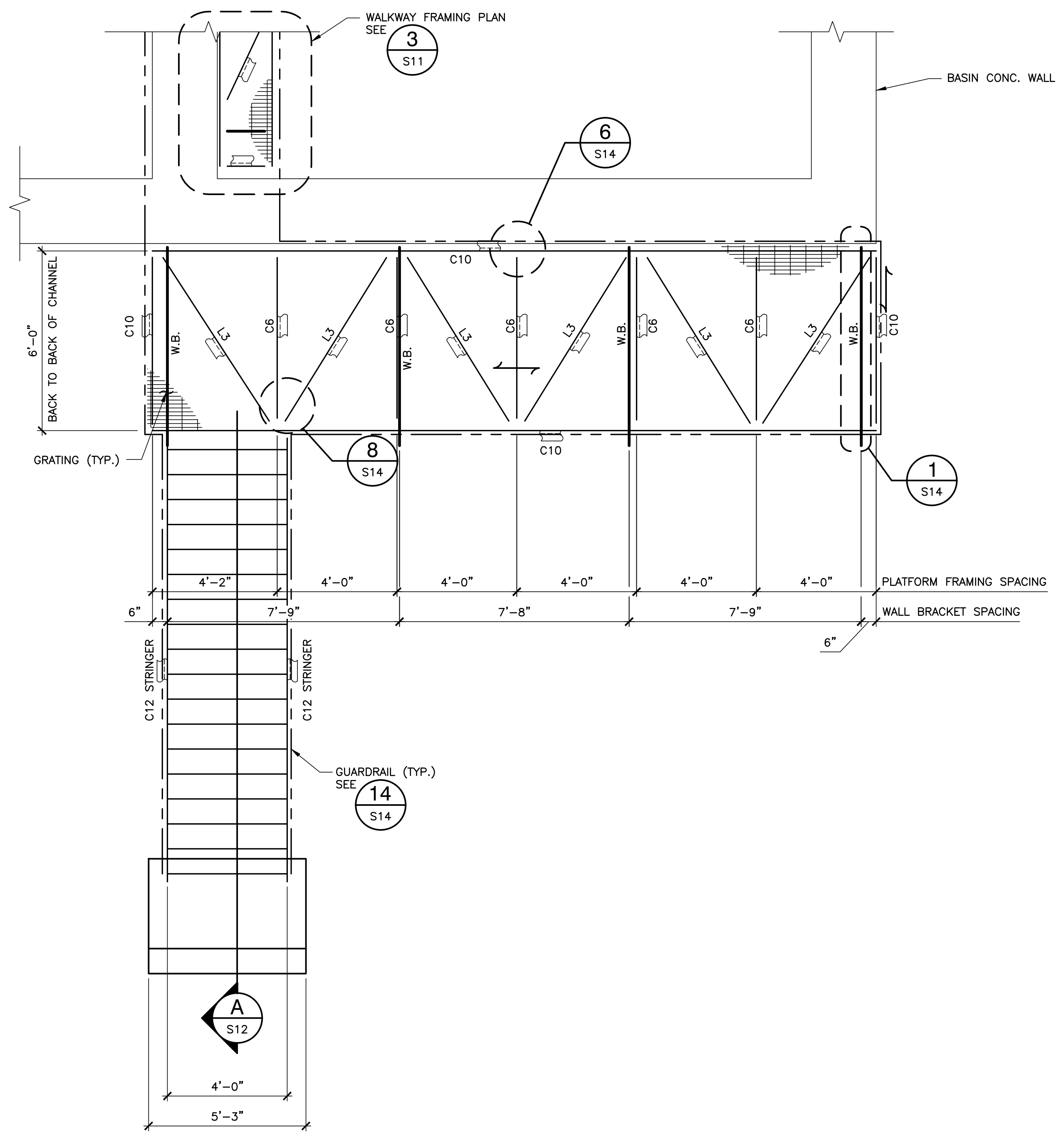
NO.	DATE	BY	REVISION
ADDENDUM #2		MFV	
ISSUED FOR BID		FRM	
8/21/24			
12/01/23			

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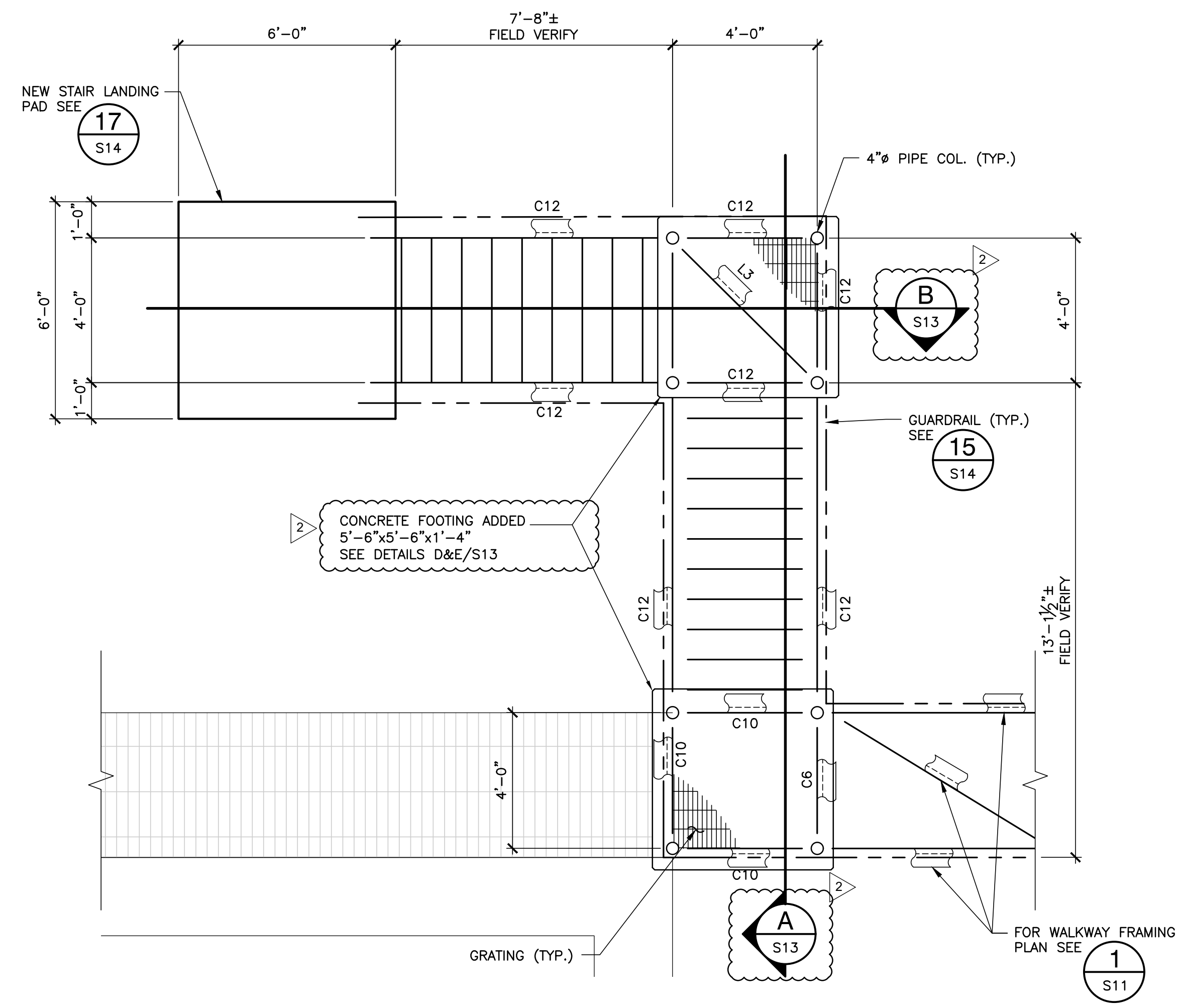
WWTF DIGESTER/SLUDGE HOLDING TANK
 TOWN OF SURF CITY
 SURF CITY, NC
 CAST-IN-PLACE CONCRETE DETAILS



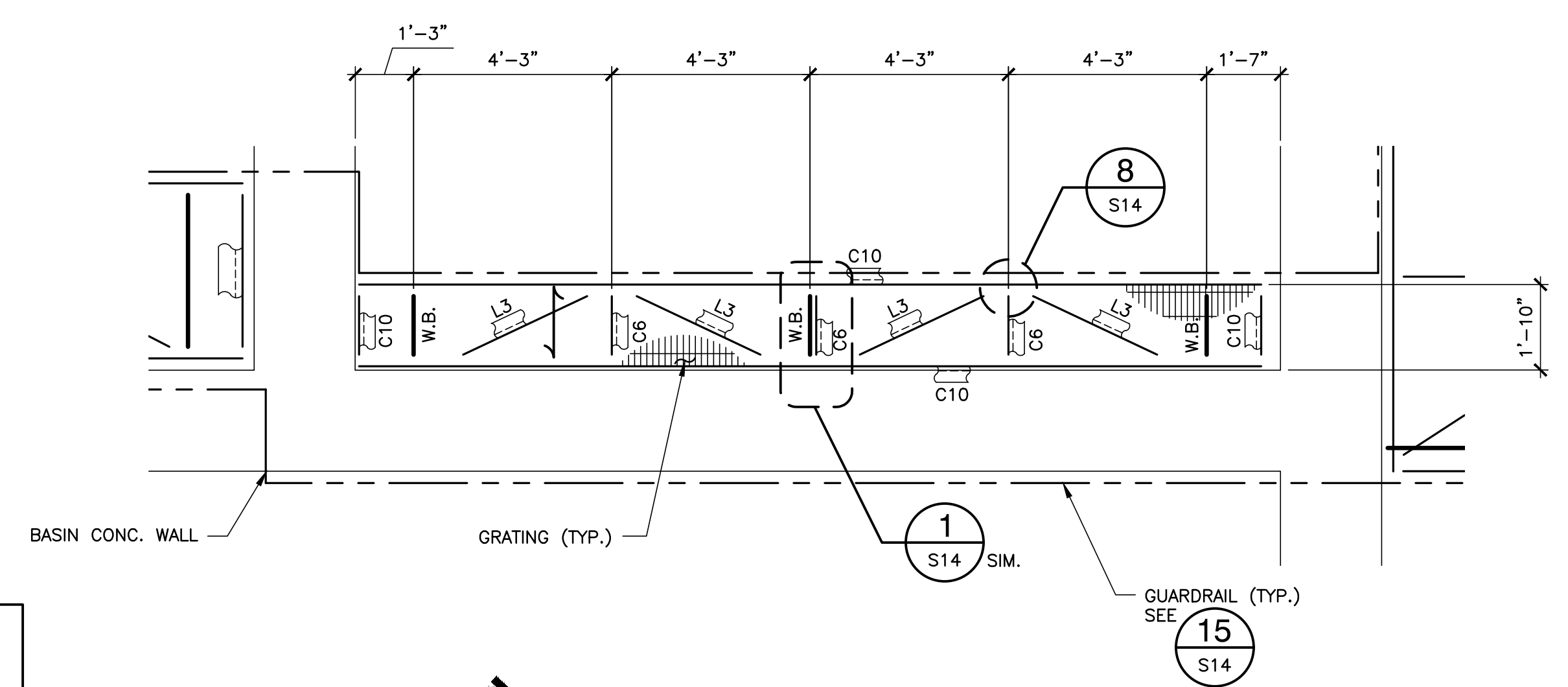
1 STAIR & WALKWAY FRAMING PLAN
S9 SCALE: 3/8" = 1'-0"

LEGEND:

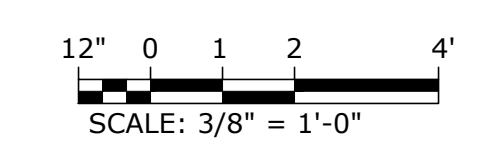
	1/4" FRP GRATING
	SPAN DIRECTION OF GRATING
W.B.	WALL BRACKET SEE 1/S14
C12	ALUM. C12x10.4
C10	ALUM. C10x5.28
C6	ALUM. C6x3.0
L3	ALUM. L3x3x3/4



2 STAIR & WALKWAY FRAMING PLAN
S10 SCALE: 3/8" = 1'-0"



3 WALKWAY FRAMING PLAN
S9 SCALE: 3/8" = 1'-0"



ADDENDUM #2	ADD/REVISE WALKWAYS	ISSUED FOR BID	REVISION
8/21/24	05/31/23	12/01/23	DATE
MFV	MH	FRM	BY

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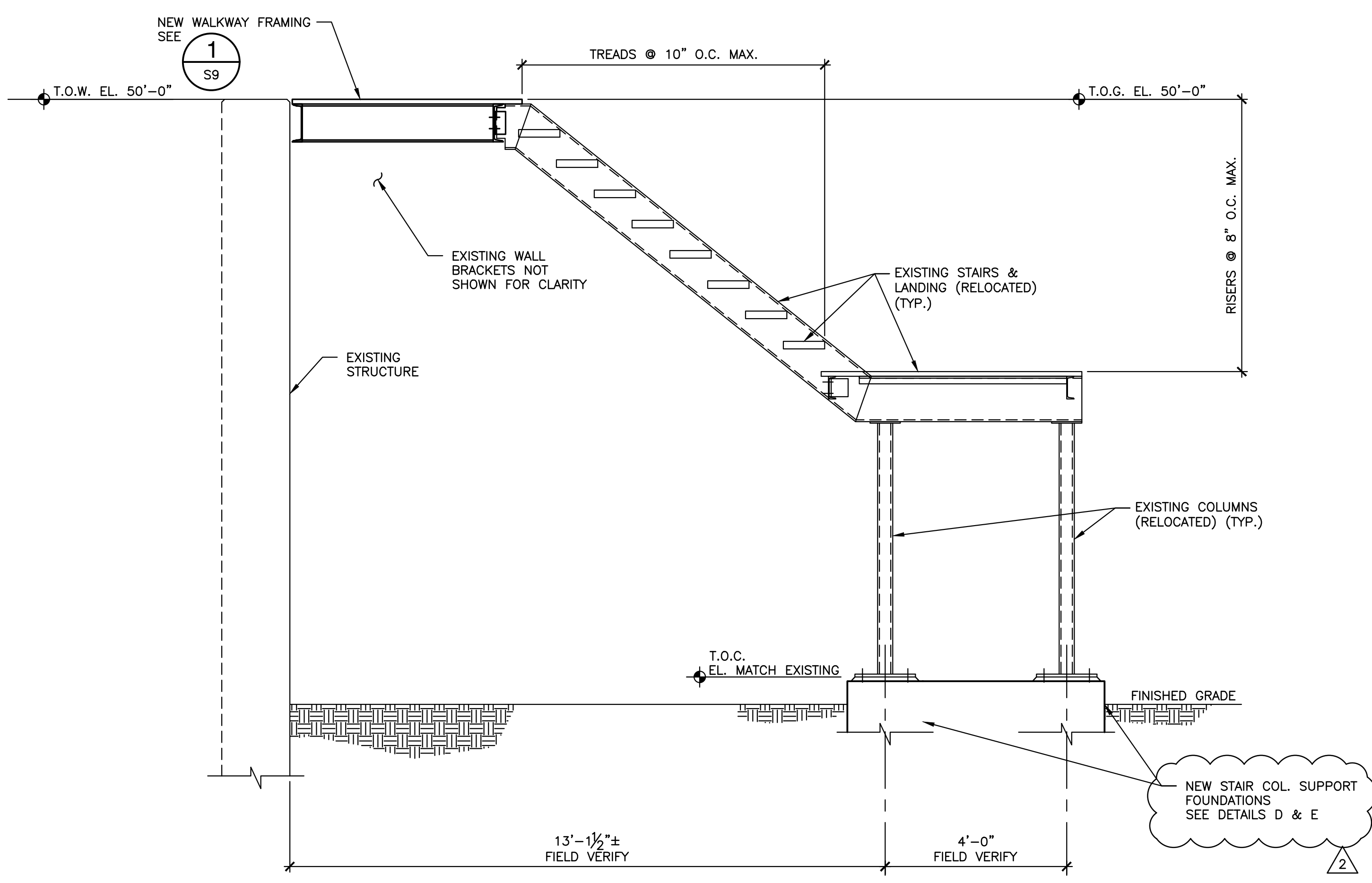
SEAL
Mark F. Weiss
Professional Engineer
No. 31432
8/21/2024

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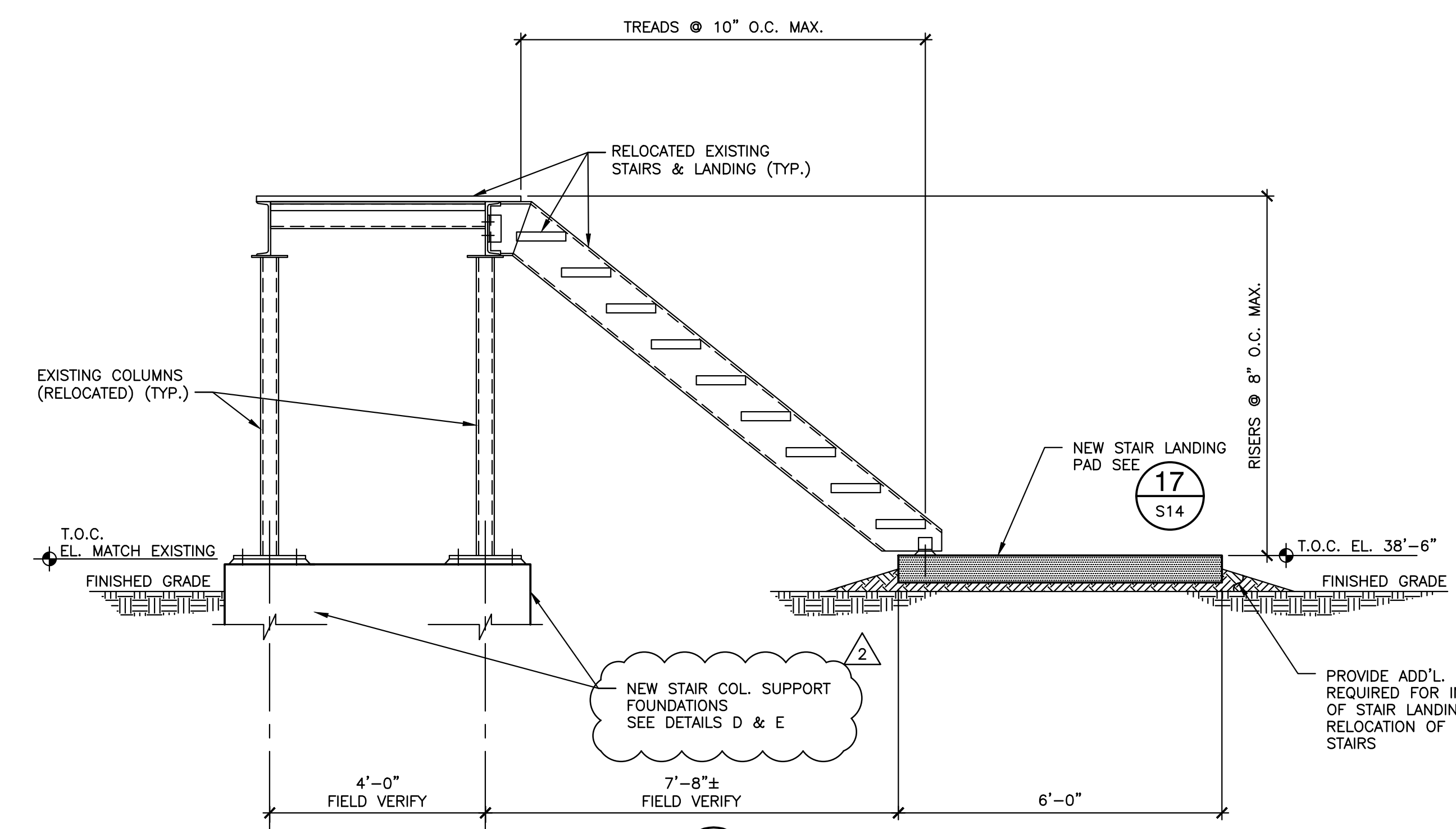
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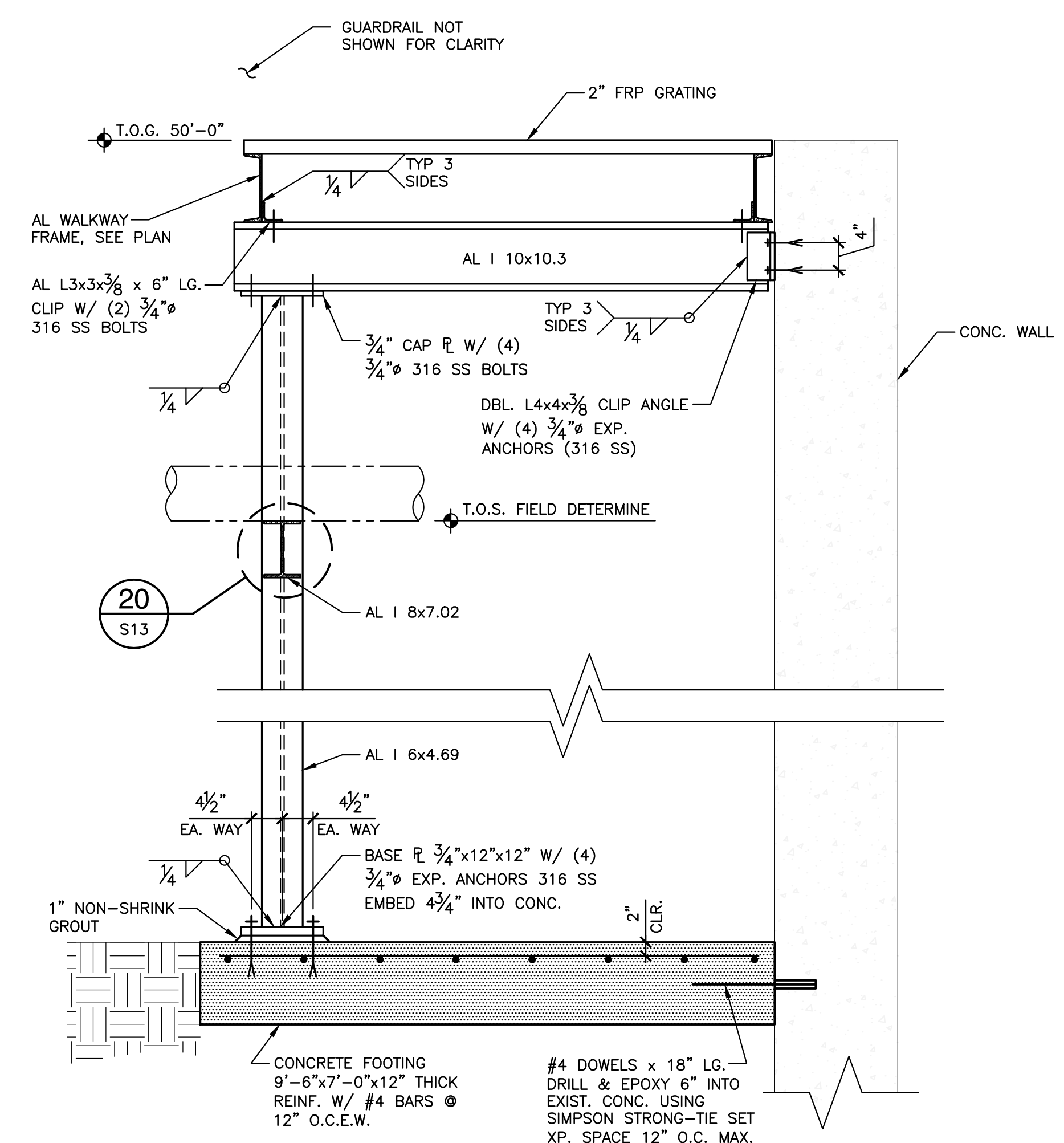
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WALKWAY FRAMING PLAN I



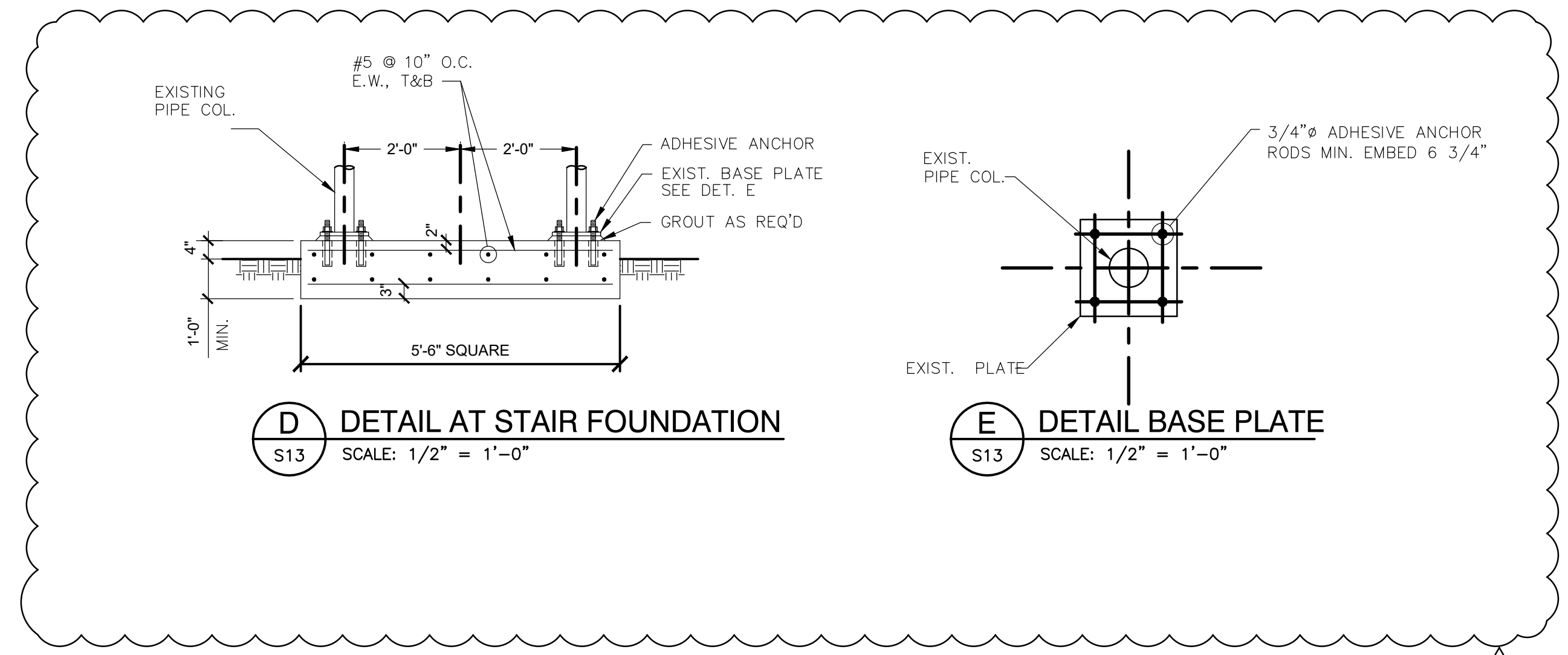
A SECTION AT STAIR
S13 SCALE: 1/2" = 1'-0"



B SECTION AT STAIR
S13 SCALE: 1/2" = 1'-0"

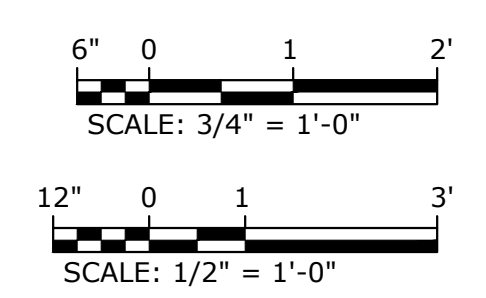


C SECTION AT PIPE SUPPORT FRAME
S13 SCALE: 3/4" = 1'-0"



D DETAIL AT STAIR FOUNDATION
S13 SCALE: 1/2" = 1'-0"

E DETAIL BASE PLATE
S13 SCALE: 1/2" = 1'-0"



ADDENDUM #2	DATE	BY
ADD/REVISE WALKWAYS	05/31/23	FRM
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