

August 19, 2014
BOARD OF COUNTY COMMISSIONERS
ORANGE COUNTY, FLORIDA

ADDENDUM NO. 7
IFB NO. Y14-748
ORANGE COUNTY EASTERN WATER RECLAMATION FACILITY
PHASE V AND CENTRIFUGE DEWATERING IMPROVEMENTS

BID OPENING: August 28, 2014 at 2:00 PM

This addendum is hereby incorporated into the bid documents of the project referenced above. The following items are clarifications, corrections, additions, deletions and/or revisions to and shall take precedence over the original documents. Additions are indicated by underlining, deletions are indicated by ~~strikethrough~~.

A. FRONT END DOCUMENT CHANGES

Not Used.

B. SPECIFICATIONS

1. Remove Bid Package, B Section 11315, Progressing Cavity Pumps
2. Remove Bid Package A, Section 11284, High Density Polymer Slide Gates
3. Replace Bid Package A, Section 11281, Fabricated Stainless Steel Slide Gates

C. DRAWINGS

Bid Package A (Phase V Improvements):

No.	Sheet No.	Sheet Title	Comments
13	C-101	Existing WRF Site Plan	Reference Note 4
122	S-500-304	Pretreatment Structure Sections IV of IV	Reference Note 6
127	S-500-504	Pretreatment Structure Details IV of IV	Reference Note 6
174	D-230-101	Ph I-II 2 nd Anoxic Tanks Demolition	Reference Note 1
188	D-252-104	Sec Clarifiers 3 & 4 RAS PS-Enlarged Plan	Reference Note 5

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226	D-390-102	Effluent Pump Station Modifications Improvement Plan	Reference Note 7
228	D-390-302	Effluent Pump Station Modifications Sections	Reference Note 7
242	D-500-105	Pretreatment Structure Loading Area Foundation Plan	Reference Note 3
250	D-500-303	Pretreatment Structure Sections	Reference Note 6

Bid Package B (Centrifuge Dewatering Improvements):

No.	Sheet No.	Sheet Title	Comments
57	D-650-101	Centrifuge Dewatering Building Floorplan	Reference Note 2

Drawing Notes:

1. Reference General Information No. 1
2. Reference Bidder Question 21
3. Reference Bidder Questions 23
4. Reference Bidder Question 12 & 41
5. Reference Bidder Question 18
6. Reference Bidder Question 19
7. Reference General Information No. 2

D. BIDDER QUESTIONS

1. After reviewing project documents and Addendum 4, both Andritz (specified supplier) and EnviroSales (local rep for Andritz) believe that the County bid documents will not allow a competitive bid for the Centrifuges Section 11371.

The reason for this is that the Seepex Pumps (Section 11351) are sole sourced and the Ashbrook Simon Hartley High Density Polymer Slide gates (Section 11284) are now effectively sole sourced (as Hambaker has advised that it is not bidding those gates per addendum 4)

It is our belief that the representative for these 2 sole sourced items will “package” these sole source items with the Alfa Laval centrifuges and multiple other bid sections on bid day (as noted in Addendum 4, pages 3-4, item 3), effectively eliminating the possibility of bids for Andritz (specified) and other specified suppliers to be considered by bidding contractors.

Further, the concept of bidding an “or equal” to break up a package sounds good but in reality it doesn’t work if there is a package. The bidding contractors will typically not accept bids for unspecified equipment due to the associated risks in using unspecified equipment.

We respect the County’s right to sole-source items from time to time such as was done with the grit system and Hydro International.

However we request that sole sourcing not impact other major process equipment items.

As representative for Andritz, we request that the County allow for the centrifuges to be bid competitively by one of the following methods:

1. Remove the Progressive Cavity pumps and the High Density Polymer Slide gates from the bid. Pre-negotiate the price and proposal for the Seepex Pumps (Section 11351) and the Ashbrook Simon Hartley High Density Polymer Slide gates (Section 11284) similar to the way which the County handled the grit equipment by Hydro International.
2. Specify other acceptable suppliers for Progressive Cavity Pumps (Section 11351) in addition to Seepex and specify other acceptable suppliers for the High Density Polymer Slide gates (Section 11284) in addition to Ashbrook Simon Hartley.
3. Remove the centrifuges from the Bid, and by means of an Evaluated Bid , pre-select the centrifuge supplier and pre-negotiate the price and scope for the Centrifuges Section 11371 similar to the way which the County handled the grit equipment by Hydro International.

Please let me know if you have any questions or need additional information. I am available to meet with you and/or others at the County, and/or your Consultant at your convenience.

Bid Package A, Section 11284, High Density Polymer Slide Gates and Bid Package B, Section 11315, Progressing Cavity Pumps, are removed from the Contract Documents. Bid Package A, Specification Section 11281, Fabricated Stainless Steel Slide Gates is revised. (Attachment)

2. Sheet D-500-502, Note 3 States that all Odor Control System Piping shall be Stainless Steel unless otherwise noted. Please confirm that Sheet G-004 Flow Stream Identification takes precedence over this note, and that all OA-1 Piping will be Fiberglass as indicated.

Odor control ducts shall be FRP and are labeled with the OA-1 designation as noted in the Flow Stream Identification Table on G-004 and in the Drawings. Reference Addendum 6, Bidder Question 94 with regard to the WM-1 piping (DIP), that was revised to be WM-2 (PVC). Notes 1-3 on Drawing D-500-502 pertain to the water supply, WM-2, noted for both the Biofilter as well as the eyewash and hose assembly.

3. Specifications Section 02665.C.3: State that the final design requirements of the Rejects Storage Pond lining will be completed by the Liner Systems Engineer. The final design will not be completed until after award of the bid. This includes the calculations and final design/product selection of the type of geocomposite, the size and spacing of the high water check valves and the slope ventilation details, and the final termination details of the Geosynthetic liner system.
 - i. For the purpose of qualifying our bid should we utilize the drawings as they exist and use industry standard details, terminations, etc. based on what is shown?
 - ii. Since final design is not complete and there are multiple choices for geocomposite drainage thickness and drainage capabilities all at varying prices is there a basis geocomposite to use for qualifying the bid?
 - iii. How will cost changes associated with revised materials and details via final design be handled?

Please reference the revised Drawings C-139 and C-140 as well as the responses provided to Addendum 6, Bidder Questions 37, 66, 67, 78, 79, 81, 89, 102, 134, 135, 145, 146, 152, 153, 177, 183. Orange County Utilities is not able to provide response in regards to the responsibility of a Bidder in the evaluation of the requirements of the Contract Documents for development of a Bid.

4. Can you please clarify what type of valve is to be used when valve type is not indicated in valve tag list? For example, 251-V-32 & 33 are check valves. Check valve type is not indicated and several type of check valves are listed in spec 15100. There are several valves other than this that do not indicate what type of valve to be used on the valve tag list. Can the valve tag list be revised to include a valve type for each valve listed?

The taglist will not be reissued to specify each type of check valve on the project. Specification Section 15100 describes the types of check valves. Specialized check valves are designated within either the Drawings and/or the taglist. The valves in question at Process 251-V-32 and 251-V-33 are Type 720 Cast Iron Swing Check Valves, per specification Section 15100-25, Part 2.P.7.a. For clarification purpose, all check valves at the RAS/WAS Pumping Stations (Processes 251, 252, 253, 352 & 450) are also Type 720 Swing Check Valves.

5. According to Detail "A" on C-140, we are to sod new lined reject pond. Are we just to install sod on slope, down to elevation 88, and not the pond bottom? Please clarify.

Please reference Addendum 6, Bidder Question 67. In response to that question Drawings C-139 and C-140 were issued in Addendum 6 which contained the following Note 10; THE 5:1 EMBANKMENT DOWN INTO THE REJECT STORAGE POND IS TO BE GRASSED WITH SOD OUT 5' FROM THE TOE OF SLOPE INTO THE POND. SEED AND MULCH MAY BE USED FOR GRASSING THE POND BOTTOM.

6. Reference Specification 09220 paragraph 2.5, Item B1. "Provide paper-backed lath unless otherwise indicated." Does this rule apply to the 3 part stucco system required for the exterior face of the CMU walls for the Preliminary Treatment Structure?

No, Section 09220, Part 2.5.B is revised as noted:

~~*B. Paper Backing: FS UU-B-790, Type I Grade D, Style 2 vapor-permeable paper.*~~

~~*Provide paper-backed lath unless otherwise indicated.*~~

7. Reference Specification 09220 paragraph 2.5, Item B1. "Provide paper-backed lath unless otherwise indicated." Does this rule apply to the 3 part stucco system required for the exterior face of the CMU walls for the West Electrical Building?

No, Section 09220, Part 2.5.B is revised as noted:

~~*B. Paper Backing: FS UU-B-790, Type I Grade D, Style 2 vapor-permeable paper.*~~

~~*Provide paper-backed lath unless otherwise indicated.*~~

8. Reference Specification 09900. It is unclear if the following existing structures are to receive coating applied to the concrete walls or slabs, please clarify the limits and desired system of coating for the following structures:

- i. 390 Effluent Pump Station
- ii. 420 Basin 7 East
- iii. 450 Secondary Clarifier 10 & 11
- iv. 495 PH: IV Plant Lift Station

Please reference Bid Package A, Specification Section 09900-31, Part 3.L.11 for the concrete coating schedule, which states the following prior to the schedule; The following coating schedule is a general table to aid the General Contractor in describing the coating system to be applied within the major structures. The Contractor shall be responsible to reference the remainder of the Contract Documents for all other areas that require coating. Not all structures to be coated are identified within the following table

With respect to the 4 existing process areas noted, they are not included in the Work.

9. Can you please clarify polywrap color required on this project? Our vendor per email below says that colors dark grey and dark brown can not be furnished for this project because of insufficient quantities. Would detectable marking tape be allowed in lieu of these colors?

2.A.1 "The encasement shall consist of low-density polyethylene wrap of at least 8-mil thickness conforming to AWWA C105. The polyethylene wrap

shall be colored per process, refer to flow stream identification in the drawings.”

Bid Packages A and B, Specification Section 09954-1, Section 2.A.1 is revised as follows;

1. *The encasement shall consist of low-density polyethylene wrap of at least 8-mil thickness conforming to AWWA C105. The polyethylene wrap shall be colored per process where possible, refer to flow stream identification in the drawings.*

10. Also, are color detectable marking balls required by each valve or dip buried fitting?

Please reference the valve collar detail as shown on Drawing C-501/Detail 5, Note 1 states the following; BROZE (OR STAINLESS STEEL) IDENTIFICATION DISC SHALL BE REQUIRED FOR ALL VALVES, EXCEPT HYDRANT VALVES.

11. Reference Specification section 01664, System Start up and Testing, as well as Addendum #3, response to question 68, that states:

“The owner will activate all valves, gates , etc.... Although the contractor is responsible for pumping down the volume of the tanks into the collection system to the two in-plant pump stations.”

- i. For the initial drawdown, after closing the slide gates to stop influent flow, would not the tanks simply drain naturally through the system, and thereby eliminate the need for pumping?
- ii. If the influent can drain naturally via plant hydraulics’, why can’t the reclaimed water used for testing drain naturally as well?

The plant drains are small in diameter and many of the respective isolation valves inoperable and in the closed position. One cannot rely on the existing drain system in order to drain the volume of the tanks within the durations noted in the Contract Documents. But if the existing drains and valves are determined to be operable they may be used to supplement pumping. The volume of fluid in the tanks will “drain naturally” downstream to the elevation of the next downstream hydraulic control element in the gravity process profile, but they will not drain empty as implied, please reference the Hydraulic Profile on Drawings G-009 through G-011.

12. Reference Specification section 01664, System Start up and Testing, as well as Addendum #3, response to question 68, that states:

“...the contractor may divert the flow to either process 395 or 495 in-plant lift stations.”

- i. Can this diversion be accomplished via plant equipment, utilizing the plant pipe system? ,or are portable pumps and external pipe the only way to accomplish this task?
- ii. We cannot locate Lift Station 395 on the plans furnished in the bid documents. Please locate lift station 395 in the same manner that Lift Station 495 is identified.
- iii. Please furnish drawings (as built or most up to date) of existing Lift Stations 395 and 495 so we can develop a discharge plan if plant pipe and pumps cannot be utilized for flow diversion.

*Please reference the response provided to Addendum 7, Bidder Question 11 with respect to the existing drain system. Record Drawings for the Phase III In-Plant Lift Station will not be included in the Contract Documents as no Work is being performed in that location. It is a triplex lift station with submersible centrifugal sewage pumps in a wet well, similar to Process 495, which has Work illustrated on D-495-101. Although unlike Process 495, the discharge piping is below grade with access hatches to the isolation and check valves. Drawing C-101 is revised to illustrate the location of the Phase III In-Plant Lift Station (Process 395) it is in the northwest corner of the site (**Attachment**).*

13. Reference Specification 02665 regarding the requirement to retain a Professional Engineer for the liner system design as well as Addendum #3, answer to question #12, regarding “performance specifications”
- i. To date we have not located a firm who can meet this performance specification.
 - ii. Can the owner or engineer please provide a reference to a manufacturer, installer, supplier, etc. that was utilized to develop the specification requirements
 - iii. Note: It is our experience that engineers research product requirements with either suppliers, installers, or manufacturers, prior to

writing performance specifications in order to ascertain if the specification is possible; conforms with industry standards; etc.

Please reference the revised Drawings C-139 and C-140 as well as the responses provided to Addendum 6, Bidder Questions 37, 66, 67, 78, 79, 81, 89, 102, 134, 135, 145, 146, 152, 153, 177, 183. Orange County Utilities is not able to provide references for engineers meeting the requirements of Specification Section 02665, Part 1.C.2 for the Liner System Engineer. In addition to other engineers, multiple manufacturers, fabricators and installers were consulted in the development of the contract documents. One of the manufacturers, fabricators and installers contacted was Colorado Lining International, Inc.

14. We assume that the storage location for salvaged equipment is located on site. Please confirm that there will be no offsite storage required. If offsite storage is required please provide the storage address.

There will be no offsite storage of salvaged equipment. All storage will be within the process facilities illustrated within Bid Package A, Drawing C-101, in a location as designated by the Orange County RPR

15. We have read through the Geotechnical Report as well as the specifications and Structure uplift is not addressed. We assume that structures, when taken out of service, will not uplift or float. Please confirm.

The Geotechnical Report is an Attachment to the Contract Documents for purposes of reference. It is not included within the Contract Documents. The Bidder is requesting for Orange County Utilities to confirm a future unknown condition, which Orange County Utilities cannot provide. For historical information as an operating facility, Orange County Utilities has taken multiple basins out service in the past without incidence of uplift.

16. Do blowers exist in Blower Structure 220, or have they been previously removed?

Blowers used to be located in the Process 220 area as shown on Drawing D-220-103 and they were relocated during a prior Project.

17. Bid Package A, Drawing C-117, Enlarged Plan, shows the existing 30" FM to be abandoned starting a tee connection. Is a line stop required at this point to isolate the section of line to be abandoned?

Reference Addendum 6, Bidder Questions 17 & 36.

18. Bid Package A, Drawing D-252-102 appears to show 12" MJ plugs being installed at the 12" x 12" Tees on the clarifier drain lines. Due to the location of these tees relative to the clarifier bottom slab, would it be acceptable to plug these lines at the 90 degree bends that turn up to the existing RAS pumps?

Reference Bid Package A, Drawing D-252-104 is revised, illustrating a 12" MJ Plug on the 90 degree bend up (2 locations). (Attachment)

19. Bid Package A, Drawing S-500-504, Detail F shows Weir Plates at Downstream Weir Gates. I am unable to locate these Detail reference on the drawings in order to confirm the quantity and size. Please clarify.

Please reference Drawing S-500-304 and D-500-303. Detail F on Drawing S-500-304 is revised for clarity (Attachment)

20. Bid Package B, Drawing D-610-101 and D-630-103. The valve tag lists call for 1" Air Release Valves, however, Detail 2 on Drawing D-503 referenced shows a 2" ARV. Please clarify whether ARV is to be 1" or 2".

Please reference Addendum No. 6, General Information 6 where the Phase I/II WAS Booster Pump Station was deleted from the Contract Documents. The Air Release valves at Process 630 are to be 1" as noted in the Tag List and Drawing D-630-103. Specification Section 15108, Part 2.H.1 is revised as follows;

- 1. Type 1225--Sewage Air-Release Valves, 2 through 4 Inches, Class 150*

21. Bid Package B, Drawing D-650-101. The 4" DR-1 line going from the reducing wye to the carbon absorber shows a 6" Plug Valve in the line. Please clarify if this is to be a 4" plug valve.

The valve is to be a 4 PV please reference the revised Drawing D-650-101 (Attachment).

22. Bid Package A, D-500-105 there is a Trench Drain Shown. On drawing S-500-105 and S-500-302 the Trench Drain is called Polydrain Trench. There isn't any specification for this drain and related grating. Would you please provide them?

Reference Addendum 6, Bidder Questions 99 and 127 which included revisions to Drawing S-500-105. There is no specification for the trench drain. Please provide trench drain as shown on the revised Drawing S-500-105 issued in Addendum 7. In addition, the trench drain shall have slotted stainless steel grating with invert sloped to coordinate with outlet piping shown on sheet D-500-105.

23. Bid Package A, Drawing S-500-105 the poly drain is shown as being 34'8" long. On drawing D-500-106 it scales 52'0" long. What is the actual length of the trench drain?

*It is 34'8". Please also reference Addendum 6, Bidder Questions 99 and 127 which included revisions to Drawing S-500-105. The trench drain and associated piping is not shown on sheet D-500-106 but rather on sheet D-500-105. The trench drain is drawn correctly to scale at 34'8" however the scale below "Plan" was 1/4"=1'0" and was corrected to be 3/8"=1'0". A manufacturer's product has been specified for the "vault" where the backwater check valve and trap primer injection are located (**Attachment**).*

24. Bid Package A, On G-004 Flow Stream Identification note 8 Coordinate Connection and elevations at structures w/process, mechanical and plumbing drawings. There aren't any plumbing drawings. Would you clarify

Noted, there are no specific plumbing drawings in either bid package.

25. Bid Package A of specifications, there is only a listing for HVAC Insulation, 15080. Does any piping get insulated and if so what lines and a specification?

Please reference Part 3 of the specification 15080 indicating Ducts and Piping which are to be insulated, and the quantity and type of insulation required.

26. Please confirm that the 6" Scum Drain shown on sheet D-620-104 to Manhole 20 is existing, and that the contractor will only be responsible for connecting to the existing wall pipe, and installing the new Wye Fitting & Flushing Assembly on both Holding Tanks. The note seems to indicate that the contractor will be responsible for routing new drain lines to the existing MH 20, yet has no provision for demoing or abandoning the existing drain lines at this location.

Reference Addendum No. 3, Bidder Questions 44-46.

27. Sheet D-630-104 Seems to indicate that the Exposed Polymer (PS-1) should be insulated inside the building, please confirm.

Reference Addendum 6, Bidder Question 126. The Process 630 Building is not enclosed. It is a prefabricated metal building with a roof open on all sides.

28. Will the County require the Buried PS-1 to be Double Contained?

No.

29. Section 13300 I 2 ask for an optional one year maintenance contract amount. The bid form already ask for 2 year and 5 year Warranty. Is this still required?

The Bidder's question is believed to refer to Bid Package A, Specification Section 13300, paragraph 3.I.2.

In general the majority of equipment furnished on the Project will include a manufacturer's warranty period that is generally three year with additive alternative for two additional years. However, some equipment may have other warranty periods as noted within their individual Specification Sections. The maintenance contract is required to cover the ISS services in Section 13300 and related specifications, in addition to the general manufacturers' warranties required in the bid form.

For clarification, see the following revisions:

Bid Package A, Section 13300, paragraph 3.I.1. REVISE as follows: A written maintenance contract executed by the ISS shall be provided to the Owner for onsite warranty services. This contract shall include all labor and emergency calls providing on site response within 24 hours, to provide complete system operability for a period of one year ~~after the successful completion of the PAT~~ following Final Completion.

Bid Package A, Section 13300, paragraph 3.I.2. DELETE this paragraph in its entirety.

30. Addendum 3 contains section 13325 (dated October 2012). The original bid documents contain section 13325 (dated 8 October 2013). The two different versions of the sections are quite different. Which section do we need to follow?

Addendum 1, Additional Information 1 included the addition of the Work of Bid Package C, the EWRW Wetlands Outfall Data Recorder Improvements, into the Project. The Bidder's question noting "Addendum 3" is believed to be incorrect, as Addendum 1 included Bid Package C which included Specification Section 13325 with the date of October 2012 in the footer. The Bidder's question noting the "original bid documents" is believed to pertain to Bid Package A, the Phase V Improvements. Each Section is pertinent to each respective Bid Package; therefore both Sections are to be followed with respect to the Work.

In response to the overlap between the Work within the different Bid Packages, see the following revisions:

- i. Bid Package A, Section 13325, paragraph 2.E.1.
 - a. REVISE the first sentence to read as follows: The internal temperature of all panels shall be regulated so as not to exceed 400 degrees Fahrenheit the rated operating temperature limits of all components mounted therein.
 - b. ADD the following sentence to the end of the paragraph: ISS shall submit heat calculations for every control panel.
- ii. Bid Package A, Section 13325, paragraph 2.E. ADD the following new paragraph 2.E.3 as follows: For outdoor panels, provide an integral heater, fan, and adjustable thermostat to reduce condensation and maintain the minimum internal panel temperature. Mount the unit near the bottom of the enclosure with discharge away from heat-sensitive equipment. Heater shall be Hoffman DAH or equal.
- iii. Bid Package A, Section 13325, paragraph 2.G.1.h. ADD the following text to the end of the paragraph: Discrete inputs and outputs (DI and DO) shall have two terminals per point with adjacent terminal assignments. Analog inputs and outputs (AI and AO) shall have three terminals per shielded pair connection with adjacent terminal assignments for each point. The third terminal is for shielded ground connection for cable pairs. Ground the shielded signal cable at the PLC cabinet. All active and spare PLC and controller points shall be wired to terminal blocks.
- iv. Bid Package A, Section 13325, paragraph 2.G.1.i. REVISE this paragraph as follows: Each 4-20 mA analog signal loop shall be individually fused. Each group of four (4) or eight (8) discrete loops inputs or outputs associated with a given PLC I/O module for a common piece of equipment shall be fused.

- v. *Bid Package C, Section 13325, paragraph 2.07.A.4.g. ADD the following sentence to the end of the paragraph: Wire connectors shall be the hook fork type with insulated barrel for crimp type compression connection to the wire.*
- vi. *Bid Package C, Section 13325, paragraph 2.07.A.4.j. DELETE this paragraph in its entirety.*
- vii. *Bid Package C, Section 13325, paragraph 2.07.A.6. REPLACE the entire paragraph with the following:*
 - 6. Wire colors shall be:
 - a. Line Power: Black
 - b. Neutral: White
 - c. AC Control: Red
 - d. DC Control: Blue
 - e. DC common: Gray
 - f. Equipment/Chassis Ground: Green
 - g. Externally-Powered Interlocks: Yellow

- 31. Base Bid Item 7a is for import of Common Fill. Specification section 02200 does not define common fill. Please provide a definition on common fill.

Please reference Addendum 6, Parts B.3 and B.6. Specification Section 02200 was replaced in Addendum 6 and included as an Attachment. Common Fill is noted in 02200-4, Part 2.D.

- 32. Refer to Package B, Specification 16440-3 Part 2.A.2.a. This spec states "The top of the ductbank shall be a minimum 36 inches below the finished grade." However, drawing E-101 shows ductbank section with a 24-inch minimum cover. Please clarify the minimum cover requirement.

Specification Section 16440-3, Part 2.A.2.a is revised as follows;

- a. *Concrete encased ducts and ductbanks shall be used for all underground power and communication systems. The top of the ductbank shall be minimum ~~24~~ 36 inches below the finished grade. The size of the ductbanks shall be designed in accordance with latest edition of NEC and attached detail drawings. All ductbanks shall be dyed red for safety.*

33. Bid Package A, Drawing G-004, Note 26 reads "It is the responsibility of the contractor to include in the bid to excavate by hand all areas." Please clarify the intent of this note.

The intent of the note is as it is written.

34. In Bid Package A, I am unable to locate any sections thru the site electrical ductbanks showing number, size and arrangement of conduits. Can this information be made available?

Please Reference Drawing E-910 and Specification Section 16100-0, Part 1.C.4 regarding the responsibility of the Contractor to develop detailed conduit and ductbank routing for the Work.

35. Reference Drawing D-220-104, Note 2. This note reads "Contractor to confirm gates indicated are functional. Contractor shall include provisions and allocation in bid in order provide means to isolate flow should gates indicated are not functional". This note (or a similar note) appears on multiple drawing for multiple processes. This places a tremendous risk on the contractor and requires the contractor to carry costs for an unknown condition that may or may not exist. In an effort to insure that all bidders are evaluating the same condition and that the Contractors are not carrying monies that may not be required, please establish and allowance for this work. This will provide a level bidding environment and provide a means for the Owner to recover a known dollar amount should the work be determined to not be required.

The note is referenced in multiple locations because it is unknown if those respective gates and valves are functional. To provide a response in Addendum 4 to Bidder Question 119, Orange County Utilities EWRf Operations staff actuated the gates in question at Phase I/II 2nd Anoxic (Process 230). Hence the response noted to that question that the gates were functional. That in part is the basis of the response noted in Addendum 7, Bidder Question 36, that since those gates were determined to be functional that does not mean it applies to all gates and valves where this note or similar notes are throughout the Contract documents. Orange County Utilities is not able to provide response in regards to the responsibility of a Bidder in the evaluation of the requirements of the Contract Documents for development of a Bid.

36. Reference Addendum #4, answer to question 119, that states, “OCU has confirmed that the gates illustrated on Drawing D – 230 -102 pertaining to Note 2 are functional.” Can we assume that on other drawings, where the owner has specified the use of existing gates to isolate flow, that these gates are also functional, and the requirement for the contractor to include provisions and allocation in bid in order to provide means to isolate flow should the gates indicated are not functional, is not valid and can be ignored?

No, reference the response provided in Addendum 7, Bidder Question 35.

37. Reference Drawings; Sheet D-620-104 Detail 1: Is the “V” notch weir for round tank continuous around the entire perimeter of the effluent launder channel?

Yes.

38. Reference Drawings; Sheet D-620-104 Detail A: Is the 12” scum baffle continuous around the entire perimeter of the effluent launder channel?

Yes.

39. Reference Specification 09900. It is unclear if the following existing structures are to receive coating applied to the concrete walls or slabs, please clarify the limits and desired system of coating for the following structures

- i. 620 WAS Holding Tank (620-TK-1)
- ii. 620 WAS Holding Tank (620-TK-2)

The interior of the Process 620 WAS Holding Tanks is to be coated with System 31. The Coating Schedule on Specification Section 09900-26, Part 3.L.9 is revised as follows;

Process Number	Process Name	Surface or Item	Coating System No.
150	North Electrical Building	Interior	81
150	North Electrical	Exterior	71

Process Number	Process Name	Surface or Item	Coating System No.
	Building		
<u>620</u>	<u>WAS Holding Tanks</u>	<u>Interior</u>	<u>31</u>
650	Centrifuge Dewatering Building	Equipment Platform Floor	Refer to Structural Drawings
650	Centrifuge Dewatering Building	Truck Scale Pits	Refer to Structural Drawings
650	Centrifuge Dewatering Building	Exposed interior concrete surfaces	81
650	Centrifuge Dewatering Building	Clear Sealer on exterior concrete & masonry	73
650	Centrifuge Dewatering Building	Interior masonry surfaces	81
650	Centrifuge Dewatering Building	Exterior masonry surfaces	71
650	Centrifuge Dewatering Building	Exterior concrete surfaces	32

40. Bid Package A, Section 01664-8 Part.2 states that the contractor will be responsible for pumping down the Reject Storage Pond and Rapid Infiltration Basins in order to perform the work within the contract documents.

- a. Please clarify the discharge point for the Reject water. Will the reject water need to go back to the head of the plant?
- b. Since there is no liner currently in the existing Reject Pond, can the contractor pump the Reject Pond into the existing Rapid Infiltration Basins?
- c. Please clarify the discharge location for the Rapid Infiltration Basins.

At the time in which the Contractor determines to commence work within the Reject Pond if there is Non-Compliant Effluent within the Reject Pond, then it is to be pumped to the Phase III Preliminary Treatment Facility (Process 300) for treatment. Non-Compliant Effluent within the Reject Pond cannot be pumped into the RIBs. The RIBs do not have a discharge location as they are Rapid Infiltration Basins.

41. We can't seem to find Process 395 anywhere on the drawings?

*Drawing C-101 is revised to illustrate the location of the Phase III In-Plant Lift Station (Process 395) it is in the northwest corner of the site. **(Attachment)***

42. The specifications are silent on environmental/hazardous conditions. Do any known environmental/hazardous conditions currently exist at the site? If not known but uncovered during construction will the work be handled via Article 13 of the general conditions? Will the Owner be the "generator" of such environmental/hazardous conditions if uncovered at the site?

There are no known environmental/hazardous conditions at the site. If not known but uncovered during construction, the work will be handled differently than described in Article 7, and the Contractor will not be held responsible for the conditions at the time of uncovering unknown environmental/hazardous conditions. For specifics on how this situation will be handled if it arises, refer to the latest version (2007) of Standard General Conditions of the Construction Contract prepared by Engineers Joint Contract Documents Committee (EJCDC), Article 4, paragraph titled "Hazardous Environmental Condition at Site"

Be advised the response to Addendum 7, Bidder Question 42, shall replace the responses issued prior on Addendum 6, Bidder Questions 91 and Addendum 6, Bidder Question 149

43. Reference Bid Package A, for system startup and testing by the Contractor, are there any other chemicals, in addition to the MicroC2000, that is required to be provided by the contractor. Please confirm that the MicroC2000 is the only chemical to be provided by the contractor, and the owner will provide all other chemicals, if any, for testing?

MicroC2000 is the only chemical that is to be supplied by the Contractor for the operation of the biological process in the BNRs as required for System Start-Up and Testing. Other chemicals may be required by the Contractor for the Work, such as reagents for new analyzers or instruments, etc...

44. We have read the Geo Report and floatation was not addressed. Are there any concerns regarding structure floatation, when any tanks are dewatered for construction improvements? Please confirm that ground dewatering is not required when existing tanks are out of service, or when new tanks and structures are complete but not yet placed into service (filled)?

The Geotechnical Report is an Attachment to the Contract Documents for purposes of reference. It is not included within the Contract Documents. Please reference Addendum 7, Bidder Question 15 in regard to a portion of the Bidder's Question pertaining to existing structures. In regard to the second portion of the Bidder's Question, pertaining to the Work included in the Contract, the Owner cannot direct a Contractor regarding the Means and Methods of the Contractor to perform the Work.

45. Who will be the contract administrator for this project? Will it be the "owner" or a representative for the "owner".

An employee of Orange County Utilities will serve as the Owner's Resident Project Representative (RPR). The Owner's RPR will serve as the point of contact between the General Contractor and Orange County Utilities.

46. Regarding added bid items 6A and 7A to Bid Package A, are we to assume the bid item 6A, 90,000 CY of unsuitable material in the Reject pond is in addition to the 24" of excavation shown on drawings, or a quantified volume of the 24" excavation shown on the drawings? Furthermore are we to assume the bid item 7A, 90,000 cy of import fill, is to replace the additional unsuitable material or a quantified volume of the 24" of ballast on top of the PVC liner? Please clarify.

Orange County Utilities is unable to confirm assumptions regarding individual's review of Contract Documents. Unit priced bid item 6A was added for excavating, hauling and disposing of unsuitable material encountered during the execution of the Work. Unit priced Bid Priced Bid Item 6B was added pertaining to the import of Common Fill material. The Bidder's question is correct in that the intent of the Common Fill import is for compensation of Unsuitable Material removed.

E. ADDITIONAL INFORMATION:

1. Reference the revisions at the Mixer in Process 231, on Drawing D-230-101. Operations relocated an existing Invent Mixer and installed it in this location. The existing Mixer is to be salvaged (**Attachment**).

2. The following revisions were made at the Process 390 Effluent Pumping Station Drawings D-390-102 & D-390-302 **(Attachment)**
 - a. Replacing the concrete pipe supports under the check valves with flanged pipe supports.
 - b. Revising the type and location of the air release valves at the pump discharge (valve numbers 5, 9, 13, 16, 19) and 42" header (valve numbers 22 & 23)
 - c. Adding Note 4 and the dimensions at pump bowl and HWL within the Section on D-390-302 **(Attachment)**

F. The Bidder shall acknowledge receipt of this addendum by completing the applicable section in the solicitation or by completion of the acknowledgement information on the addendum. Either form of acknowledgement must be completed and returned not later than the date and time for receipt of the bid.

G. All other terms and conditions remain the same.

Receipt acknowledged by:

Authorized Signature	Date Signed
Title	
Name of Firm	

**BOARD OF COUNTY COMMISSIONERS
ORANGE COUNTY, FLORIDA**

**ADDENDUM NO. 7
IFB NO. Y14-748**

**ORANGE COUNTY EASTERN WATER RECLAMATION FACILITY
PHASE V AND CENTRIFUGE DEWATERING IMPROVEMENTS**

**SPECIFICATIONS
BID PACKAGE A**

SECTION 11281 FABRICATED STAINLESS STEEL SLIDE GATES

PART 1 - GENERAL

A. Description

This section includes materials, installation, and testing of fabricated stainless steel slide and weir gates, open channel or wall mounted conforming to AWWA C561 and as supplemented herein.

B. Submittals

1. Submit shop drawings in accordance with the General Conditions, Section 01300 and the following.
2. Submit dimensional drawings.
3. Submit manufacturer's catalog data and detail drawings showing slide gate parts and described by material of construction, specification (such as AISI, ASTM, SAE, or CDA), and grade or type. Show coatings. Identify each slide gate by tag number to which the catalog data and detail sheets pertain.
4. Submit calculations to show that gates, stems, and lifts meet the specifications.
5. Submit manufacturer's installation instructions.

C. Manufacturer's Services

Provide equipment manufacturer's services at the jobsite for the minimum labor days listed below, travel time excluded:

1. Two (2) labor days for each service listed in the subsection on "Service Conditions" to check the installation and advise during start-up, testing, and adjustment of the equipment.
2. Two (2) labor days (one (1) day for each shift) to instruct the County's personnel in the operation and maintenance of the equipment. If there are difficulties in operation of the equipment due to the manufacturer's design or fabrication, additional service shall be provided at no cost to the Owner.
3. Refer to Section 01010 for additional requirements.

PART 2 - MATERIALS

A. Manufacturers and Models

1. Type 3 slide gates shall be of the self-contained upward-opening type with guides for embedding in concrete. Type 3 slide gates shall be Fontaine Series 25, Whipps Series 921, or WACO Environmental Products Series 8500.
2. Type 4 slide gates shall be of the self-contained upward opening type designed to mount on the face of concrete walls. Type 4 slide gates shall be Fontaine Series 20, Whipps Series 923, or WACO Environmental Products Series 8500.

B. Weir Gates

Weir gates shall be of the self-contained downward-opening type designed to mount on the face of concrete walls. Weir gates shall have rising stems. Weir gates more than 5 feet wide shall have double stems. Design the gate to be lowered for opening and to be raised for closing. Gate design and materials of construction shall conform to the descriptions of slide gates. Manufacturers: Fontaine, Whipps, or WACO.

C. Slide Gate Design

1. Slide gates and appurtenances shall comply with AWWA C561, except as modified herein.
2. Provide slide gates complete with gates, guides, frames, baseplates, seats, stems, stem guides, seals, actuators, and anchor bolts. Design slide gates for minimum seating and unseating heads of 10 feet. Measure the seating and unseating heads from the top surface of the water to the centerline of the disc.
3. Under the design seating and unseating heads, the leakage shall not exceed 0.05 gpm per foot of wetted seating perimeter.
4. Slide gates shall have rising stems.
5. Provide offset bevel box operating system for gates there the centerline elevation of handwheel or crank is greater than 48-inches from floor elevation. Centerline of offset bevel box operating system crank shall be 36-inches from floor elevation.

6. Provide extension for actuator to place handwheel interior to new guardrails where guardrail blocks access to actuator.

D. Frames for Self-Contained Slide Gates

Design frames to be suitable for bolting to concrete walls or for grouting into channel recesses as noted herein. Furnish flush inverts for wall-mounted gates and flush inverts for channel-mounted gates as noted herein.

E. Guides

1. The guides shall extend in one continuous piece from the gate invert to form posts for crank operated floor stand. The extended guides or posts shall require no additional reinforcing to support the operator. The guide frames shall be fabricated from plates and angles suitable for the loads imparted to it by the water head and operator in accordance with design guidelines and safety factors herein. All stainless steel frame components shall be a minimum of 1/4-inch thick.
2. Provide a flush invert at the bottom of the frame. Provide a rubber insert to function as a seating surface for the gate disc.
3. Provide rubber J-bulb seals or self-adjusting UHMWPE seals along the sides of the gates.
4. Provide replaceable polyethylene bearing strips in the guides. Provide strips along both sides of the guide channels containing the disc to insure no metal to metal surface contact. Alternatively, mount the replaceable polyethylene bearing strips on the disc.
5. Provide rubber or UHMWPE J-bulb seals or self-adjusting UHMWPE seals along the top of the gate for submerged applications.
6. All adjustable J-bulb seals shall be secured by stainless steel retainer bars of the same alloy as the frame.
7. Rubber J-bulb seals shall have a fluorocarbon film vulcanized and bonded to the sealing surface of the bulb. The film shall be minimum 0.060-inch thick Buckhorn Rubber abrasion-resistant Fluorocarbon Film No. 4508 or equal. Test fluorocarbon film for adhesion bond per ASTM D 413 using either the machine method or the

deadweight method. There shall be no separation between the fluorocarbon film and the rubber when subjected to a load of 30 lbs per inch of width.

F. Disc

1. Fabricate the disc using stainless steel flat plate with stainless steel structural or formed members welded to the plate. Provide disc components with a minimum material thickness of 1/4-inch.
2. The disc shall be a one-piece plate, reinforced with ribs so that the disc will not deflect more than 1/720 of the gate span or 1/16-inch, whichever is less, at design head. Attach reinforcing ribs to disc by welding; do not use bolting. Reinforcing ribs shall extend into the guides such that they overlap the seating surface of the guide. Vertical reinforcing ribs can also be provided adjacent to the guides to ensure deflection remains within the specified limits. Design the disc so that all surfaces are free of metal-to-metal contact with the frames.

G. Actuator Support Yoke for Self-Contained Slide Gates

Attach the actuator support yoke to the extensions of the guides. Provide two angles bolted to opposite sides of the guide extensions. Mount the actuator on a plate bolted to the support yoke. Maximum deflection of the yoke shall not exceed 1/4-inch when subjected to a load induced by an 80-pound pull on the actuator or 1/360 span when subjected to a load induced by a 40-pound pull on the actuator, whichever is less.

H. Stems and Stem Guides

1. Lifting stems shall be one piece, with a minimum diameter of 1-1/2 inches. The stem shall withstand an actuator effort of 80-pounds without buckling, assuming the critical buckling load as determined by using the Euler Column Formula with $C = 2.0$. The stem shall have a minimum diameter of 1-1/2 inches. The threaded portion shall have machine cut or machine rolled, full depth Acme threads, polished to a 16 microinch finish or better. Support the stems with stem guides such that the L/R ratio for the unsupported part of the stem does not exceed 200.

2. The stem connection to the disc shall be either the clevis type, with structural members welded to the slide and containing two bolts to secure the stem to the disc, or a threaded and bolted or keyed thrust nut supported in a welded nut pocket. The pocket shall be capable of withstanding a load of 80-pounds on the actuator.
3. Provide tandem stems and actuators when the gate width is more than twice the gate height and for weir gates 5 feet or more in width.

I. Materials of Construction

Materials of construction shall conform to the requirements listed below:

Component	Material	Specification
Guides	Stainless steel	ASTM A240 or A276, Type 316L
Disc, yoke	Stainless steel	ATSM A240 or A276, Type 316L
Stems, stem guides, bushings, pivot pin	Stainless steel	ASTM A276, Type 316
Bolts, fasteners (including anchor bolts)	Stainless steel	ASTM A193, F593 or F594; Grade B8M or ASTM A276, Type 316
Lift nut	Bronze	ASTM B62 or ASTM B584, Alloys C83600, C83800, or C86500
J-bulb seals, flush bottom seals	Rubber	ASTM D2000, Grades BC610, BC611, BC612, BC613, BC614, or BC615
Floor Stand	Stainless steel or Aluminum	ASTM A240, Type 316L; or Tenzaloy aluminum
Hand Wheel	Aluminum	ASTM B 209 or B 308, Alloy 6061-T6 or 6063-T6

J. Actuators

1. Provide manual actuators unless otherwise indicated in the drawings. Where possible provide Acme threaded handwheel lifts without gear reduction for gates having design seating heads 10-feet or less. Provide a flanged lift nut to engage the threaded portion of the stem. Support the lift nut on nonmetallic thrust washers or

ball or roller bearings. Provide manual crank-operated lift with gear reduction for gates having design seating heads greater than 10 feet. Maximum pull required to open the gate shall not exceed 40-pounds. Support crank-operated lift nuts only on ball or roller bearings. The crank handle shall be removable. Provide a 2-inch-square nut configured to allow the use of a portable electric actuator.

2. Provide a graduated clear plastic stem cover to show the gate position in increments of 1/4-inch. Provide vent holes to prevent condensation.

K. Floor Stands

1. Design crank-operated or handwheel-operated floor stand hoists to permit gate operation with 40-pounds of maximum effort under the head conditions noted in the drawings.
2. Provide floor stand hoists that can also accommodate a portable electric actuator.
3. Coat cast iron floor stands per Section 09900, System No. 10. All stainless steel weld burn and weld slag shall be mechanically passivated in accordance with ASTM A380 to provide a uniform finish.

L. Spare Parts

1. Provide the following spare parts for each size of slide or weir gate:

Quantity	Description
1	Standnut for each size
4	Stem guides of each type and size
1 set	self-adjusting seal and Flush bottom seals for each type and size gate
1	Stem Covers for each type and size gate
5	Tubes of Recommended Grease

2. Pack spare parts in a wooden box; label with the manufacturer's name and local representative's name, address, and telephone number; and attach list of materials contained within.

PART 3 - EXECUTION

A. Slide Gate Designations and Designs

1. Provide the following stainless steel slide gates:

Tag	Type	Opening Width (ft)	Opening Height (ft)	Bottom of Opening EL	Top of Opening EL	Deck EL
231-SG-1	Wall Mounted	3'-0"	3'-0"	86.00	89.00	96.50
335-SG-1	Wall Mounted	2'-6" ⁽¹⁾	2'-6" ⁽¹⁾	82.75	85.25	99.00
336-SG-1	Wall Mounted	2'-6" ⁽¹⁾	2'-6" ⁽¹⁾	82.75	85.25	99.00
360-SG-1	Wall Mounted	4'-0"	4'-10"	81.00	85.83	88.00
360-SG-2	Wall Mounted	4'-0"	4'-10"	81.00	85.83	88.00
360-SG-3	Wall Mounted	4'-0"	4'-10"	81.00	85.83	88.00
360-SG-4	Wall Mounted	4'-0"	4'-10"	81.00	85.83	88.00
360-SG-5	Wall Mounted	4'-0"	4'-10"	81.00	85.83	88.00
360-SG-6	Wall Mounted	4'-0"	4'-10"	81.00	85.83	88.00
360-SG-7	Wall Mounted	4'-0"	4'-10"	81.00	85.83	88.00
562-SG-1	Wall Mounted	3'-6" ⁽¹⁾	3'-6" ⁽¹⁾	74.05	77.55	95.00
563-SG-1	Wall Mounted	3'-0" ⁽¹⁾	3'-0" ⁽¹⁾	74.82	77.82	95.00
564-SG-1	Wall Mounted	2'-6" ⁽¹⁾	2'-6" ⁽¹⁾	75.20	77.70	95.00
564-SG-2	Wall Mounted	2'-6" ⁽¹⁾	2'-6" ⁽¹⁾	75.20	77.70	95.00
565-SG-1	Wall Mounted	3'-6" ⁽¹⁾	3'-6" ⁽¹⁾	81.50	85.00	94.00
<u>500-SG-1</u>	<u>Channel Mounted</u>	<u>5'-0"</u>	<u>8'-0"</u>	<u>102.83</u>	<u>112.00</u>	<u>112.00</u>
<u>500-SG-2</u>	<u>Wall Mounted</u>	<u>5'-0"</u>	<u>8'-0"</u>	<u>102.83</u>	<u>112.00</u>	<u>112.00</u>
<u>500-SG-3</u>	<u>Wall Mounted</u>	<u>5'-0"</u>	<u>8'-0"</u>	<u>102.83</u>	<u>112.00</u>	<u>112.00</u>
<u>500-SG-4</u>	<u>Wall Mounted</u>	<u>5'-0"</u>	<u>8'-0"</u>	<u>102.83</u>	<u>112.00</u>	<u>112.00</u>

Tag	Type	Opening Width (ft)	Opening Height (ft)	Bottom of Opening EL	Top of Opening EL	Deck EL
<u>500-SG-5</u>	<u>Wall Mounted</u>	<u>5'-0"</u>	<u>8'-0"</u>	<u>102.83</u>	<u>112.00</u>	<u>112.00</u>
<u>500-SG-6</u>	<u>Channel Mounted</u>	<u>5'-0"</u>	<u>8'-0"</u>	<u>102.83</u>	<u>112.00</u>	<u>112.00</u>
<u>500-SG-7</u>	<u>Channel Mounted</u>	<u>5'-0"</u>	<u>8'-0"</u>	<u>102.83</u>	<u>112.00</u>	<u>112.00</u>
<u>500-SG-8</u>	<u>Wall Mounted</u>	<u>5'-0"</u>	<u>8'-0"</u>	<u>102.83</u>	<u>112.00</u>	<u>112.00</u>
<u>500-SG-9</u>	<u>Wall Mounted</u>	<u>5'-0"</u>	<u>8'-0"</u>	<u>102.83</u>	<u>112.00</u>	<u>112.00</u>
<u>500-SG-10</u>	<u>Wall Mounted</u>	<u>5'-0"</u>	<u>8'-0"</u>	<u>102.83</u>	<u>112.00</u>	<u>112.00</u>
<u>500-SG-11</u>	<u>Wall Mounted</u>	<u>5'-0"</u>	<u>8'-0"</u>	<u>102.83</u>	<u>112.00</u>	<u>112.00</u>
<u>500-SG-12</u>	<u>Channel Mounted</u>	<u>5'-3"</u>	<u>8'-0"</u>	<u>102.25</u>	<u>112.00</u>	<u>112.00</u>
<u>500-SG-13</u>	<u>Channel Mounted</u>	<u>5'-0"</u>	<u>8'-0"</u>	<u>102.25</u>	<u>112.00</u>	<u>112.00</u>
<u>500-SG-14</u>	<u>Channel Mounted</u>	<u>5'-0"</u>	<u>8'-0"</u>	<u>102.25</u>	<u>112.00</u>	<u>112.00</u>
<u>500-SG-15</u>	<u>Channel Mounted</u>	<u>5'-0"</u>	<u>8'-0"</u>	<u>102.25</u>	<u>112.00</u>	<u>112.00</u>
<u>500-SG-16</u>	<u>Channel Mounted</u>	<u>5'-0"</u>	<u>8'-0"</u>	<u>102.25</u>	<u>112.00</u>	<u>112.00</u>
<u>500-SG-17</u>	<u>Channel Mounted</u>	<u>5'-3"</u>	<u>8'-0"</u>	<u>102.25</u>	<u>112.00</u>	<u>112.00</u>
<u>580-SG-1</u>	<u>Wall Mounted</u>	<u>4'-0" (1)</u>	<u>4'-0" (1)</u>	<u>69.62</u>	<u>73.62</u>	<u>87.00</u>
<u>580-SG-2</u>	<u>Wall Mounted</u>	<u>2'-0" (1)</u>	<u>2'-0" (1)</u>	<u>76.00</u>	<u>78.00</u>	<u>87.00</u>
<u>580-SG-3</u>	<u>Wall Mounted</u>	<u>4'-0" (1)</u>	<u>4'-0" (1)</u>	<u>72.00</u>	<u>76.00</u>	<u>87.00</u>

(1) Dimension corresponds to the nominal size of a pipe.

B. Weir Gate Designations and Designs

1. Provide the following stainless steel weir gates:

Tag	Type	Opening Width (ft)	Opening Height (ft)	T/Wall EL	T/Weir Gate EL	Deck EL
221-WG-1	Wall Mounted	10'-6"	3'-0"	93.00	94.75	96.88

Tag	Type	Opening Width (ft)	Opening Height (ft)	T/Wall EL	T/Weir Gate EL	Deck EL
222-WG-2	Wall Mounted	10'-6"	3'-0"	93.00	94.75	96.88
223-WG-3	Wall Mounted	10'-6"	3'-0"	92.96	93.60	97.00
224-WG-4	Wall Mounted	10'-6"	2'-8"	93.13	93.60	97.00
231-WG-1	Wall Mounted	8'-0"	2'-8"	92.50	93.00	96.50
335-WG-1	Wall Mounted	10'-0"	4'-0"	95.00	95.33	99.00
335-WG-2	Wall Mounted	10'-0"	4'-0"	95.00	95.33	99.00
336-WG-1	Wall Mounted	10'-0"	4'-0"	95.00	95.33	99.00
336-WG-2	Wall Mounted	10'-0"	4'-0"	95.00	95.33	99.00
360-WG-1	Wall Mounted	8'-0"	3'-0"	85.00	86.53	88.00
360-WG-2	Wall Mounted	8'-0"	1'-8"	85.00	86.53	88.00
360-WG-3	Wall Mounted	8'-0"	3'-0"	85.00	86.53	88.00
561-WG-1	Wall Mounted	8'-0"	3'-0"	82.00	85.00	95.00
562-WG-1	Wall Mounted	9'-0"	1'-6"	86.00	87.50	95.00
563-WG-1	Wall Mounted	9'-0"	1'-6"	86.17	87.50	95.00
564-WG-1	Wall Mounted	7'-0"	2'-0"	86.37	88.37	95.00
564-WG-2	Wall Mounted	7'-0"	2'-0"	86.37	88.37	95.00
<u>500-WG-1</u>	<u>Wall Mounted</u>	<u>10'-0"</u>	<u>3'-0"</u>	<u>104.75</u>	<u>104.75</u>	<u>112.00</u>
<u>500-WG-2</u>	<u>Wall Mounted</u>	<u>10'-0"</u>	<u>3'-0"</u>	<u>104.75</u>	<u>104.75</u>	<u>112.00</u>
<u>500-WG-3</u>	<u>Wall Mounted</u>	<u>10'-0"</u>	<u>3'-0"</u>	<u>104.75</u>	<u>104.75</u>	<u>112.00</u>
<u>500-WG-4</u>	<u>Wall Mounted</u>	<u>10'-0"</u>	<u>3'-0"</u>	<u>104.75</u>	<u>104.75</u>	<u>112.00</u>

C. Welding

Welder qualification shall comply with AWS D1.6 Welding rod and electrodes shall comply with AWS A5.4.

D. Painting and Coating

Coat cast-iron and steel surfaces above deck level, including actuators and floor stands, per Section 09900,

System No. 10. Apply prime coat at factory. Color of finish coat shall be provided by the OWNER.

E. Installation

1. Install epoxy anchors for wall mounted gates using templates. Epoxy anchors shall be Type 316 stainless steel threaded rod adhesive anchors. Epoxy adhesive shall comply with ASTM C881, Type IV, Grade 3, Class B or C. Adhesive shall be Rawl Power-Fast, Hilti HIT RE 500, Simpson Epoxy-tie with SET epoxy, or equal. Epoxy anchor assemblies shall be ICBO approved.
2. Comply with AWWA C561, paragraph 4.6.

F. Field Testing

1. Operate each slide gate through two complete cycles. Gates shall operate without sticking or binding.
2. Determine the pulling force required to turn the handwheel with a torque wrench. Pulling force required shall be less than the limit specified.
3. Fill channels to which the gates are attached with water. Measure leakage through each slide gate. Measure the actual field seating and unseating heads. The allowable leakage shall be as specified above. If the leakage rate is exceeded, adjust or replace the gate and retest until it passes.

G. Contract Closeout

Provide in accordance with Section 01700.

H. Warranty

1. The Manufacturer shall furnish a written warranty covering materials and workmanship for the equipment provided for a period of three (3) years. The warranty period shall begin at the date of substantial completion of the respective process in which the equipment is installed.
2. The manufacturer shall furnish, deliver, and install new parts to replace the defective parts. The manufacturer shall furnish all supervision, labor, equipment, and materials to repair or replace components which have failed as defined by the warranty at no cost to the Owner.

3. Leakage shall be no more than that allowed by the AWWA C561 Standard during the guarantee period.
4. Door (disc) shall be free of sticking or binding as judged by the Engineer (move freely via operator provided) with no exercising required. Gate operators are to be warranted by the operator manufacturer.

I. Additive Warranty

Reference Specification Section 01025 for two (2) years in additional warranty duration to warranty stated above.

J. Certification

Provide a written certification from the equipment manufacturer that the equipment has been properly installed according to the plans, specifications and manufacturer's specifications, and that the equipment is operating normally. Make all necessary corrections and adjustments at no additional cost to the Owner.

END OF SECTION

**BOARD OF COUNTY COMMISSIONERS
ORANGE COUNTY, FLORIDA**

**ADDENDUM NO. 7
IFB NO. Y14-748**

**ORANGE COUNTY EASTERN WATER RECLAMATION FACILITY
PHASE V AND CENTRIFUGE DEWATERING IMPROVEMENTS**

**DRAWINGS
BID PACKAGE A**

1

2

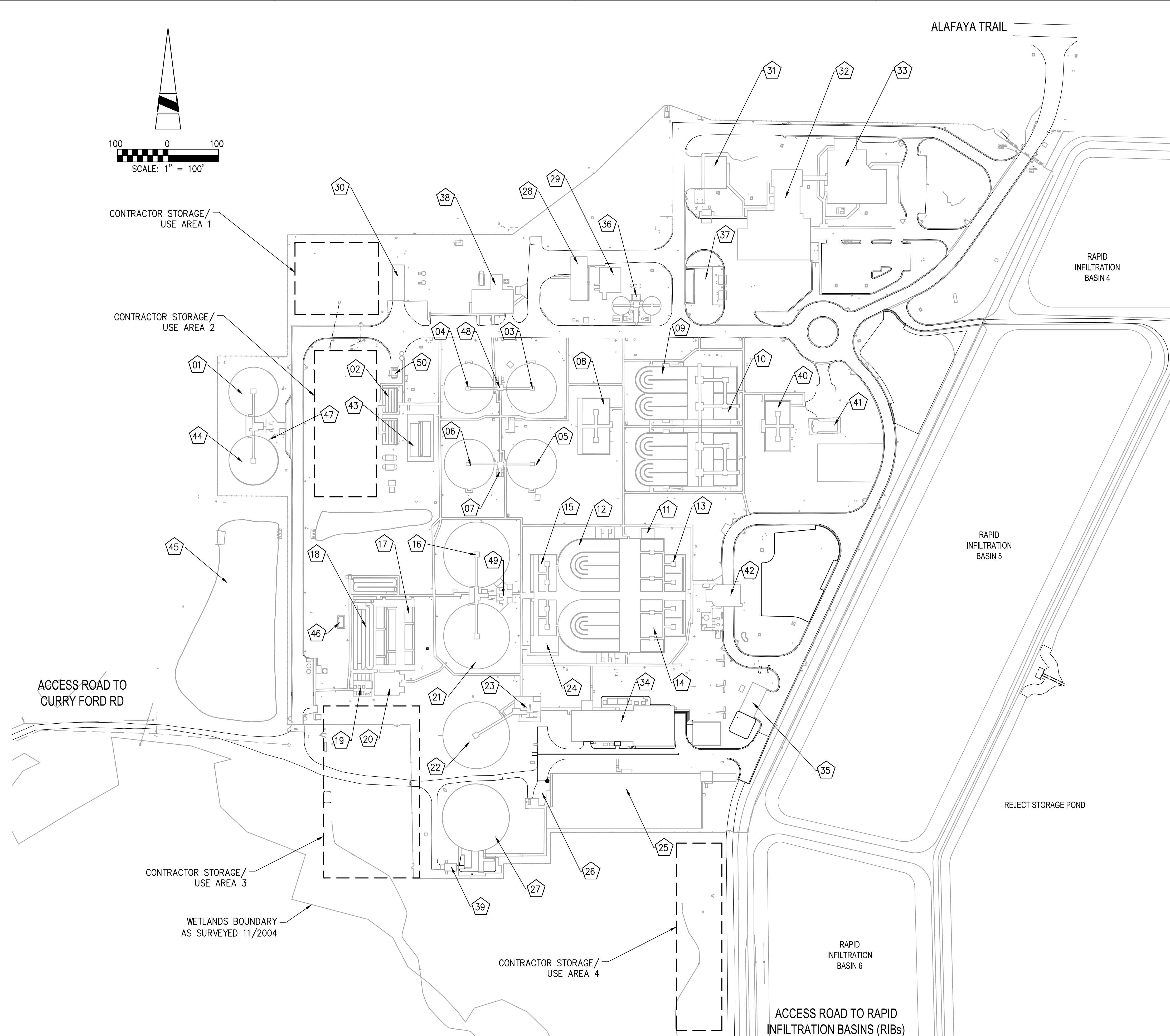
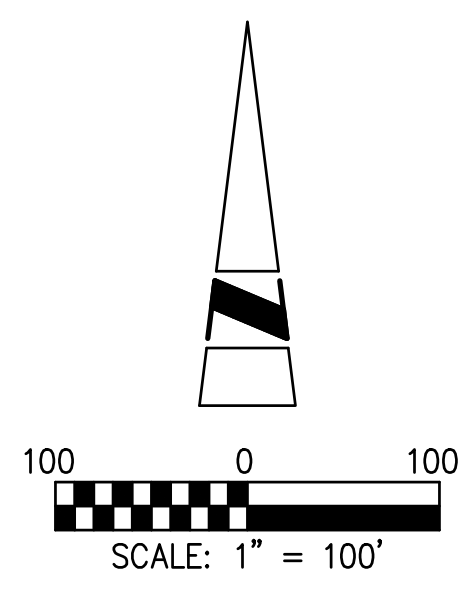
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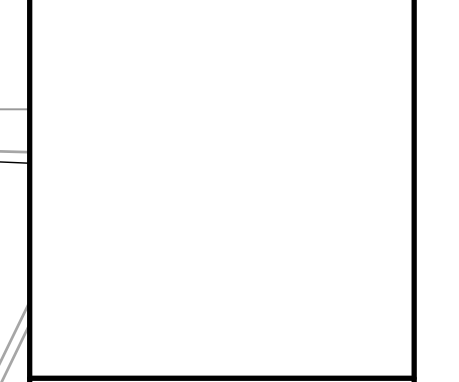
5

EXISTING PROCESS AND STRUCTURE LABELS

NUMBER	DESC	TAG
01	PH I/II EXISTING CLARIFIER NO. 7	PROCESS 247
02	PH I/II CHLORINE CONTACT TANKS	PROCESS 280
03	PH I/II CLARIFIER NO. 1	PROCESS 241
04	PH I/II CLARIFIER NO. 2	PROCESS 242
05	PH I/II CLARIFIER NO. 3	PROCESS 243
06	PH I/II CLARIFIER NO. 4	PROCESS 244
07	PH I/II RAS/WAS PUMP STATION 2	PROCESS 252
08	PH I/II 2nd ANOXIC	PROCESS 230
09	PH I/II AERATION BASINS	PROCESS 220
10	PH I/II 1st ANOXIC BASINS	PROCESS 215
11	PH I/II BLOWER ENCLOSURE	PROCESS 220
12	PH III AERATION BASINS	PROCESS 320
13	PH III FERMENTATION	PROCESS 310
14	PH III 1ST ANOXIC BASINS	PROCESS 315
15	PH III 2nd ANOXIC BASINS	PROCESS 330
16	PH III CLARIFIER NO. 5	PROCESS 345
17	PH III ABW FILTERS	PROCESS 370
18	CHLORINE CONTACT TANKS	PROCESS 380
19	EFFLUENT PUMP STATION	PROCESS 390
20	PH III FLOCCULATION TANK	PROCESS 360
21	PH III CLARIFIER NO. 6	PROCESS 346
22	PH III CLARIFIER NO. 9	PROCESS 349
23	PH III RAS/WAS PUMP STATION 2	PROCESS 352
24	PH III BLOWER BUILDING	PROCESS 180
25	PH IV BNR BASIN NO. 7	PROCESS 420
26	PH IV IN-PLANT LIFT STATION	PROCESS 495
27	PH IV CLARIFIER NO. 10	PROCESS 440
28	BELT FILTER PRESS DEWATERING BLDG	PROCESS 140
29	BIOSOLIDS HANDLING BLDG	PROCESS 145
30	CHEMICAL STORAGE BLDG	PROCESS 135
31	NORTH ELECTRICAL BUILDING	PROCESS 150
32	MAINTENANCE BLDG	PROCESS 175
33	OPERATIONS & CONTROL BLDG	PROCESS 170
34	MAIN ELECTRICAL / BLOWER BLDG	PROCESS 185
35	SOUTH ELECTRICAL BLDG	PROCESS 160
36	WAS HOLDING TANKS	PROCESS 620
37	FUEL DEPOT	-
38	NORTH CONTROL BLDG	PROCESS 155
39	CLARIFIER NO. 10 ELECTRICAL BLDG	PROCESS 190
40	PH I/II FERMENTATION	PROCESS 210
41	PH I/II PRETREATMENT	(ABANDONED)
42	PH III PRETREATMENT	PROCESS 300
43	PH I/II ABW FILTERS	PROCESS 270
44	PH I/II CLARIFIER NO. 8	PROCESS 248
45	PH III STORMWATER POND	-
46	PH IV DISK FILTER	PROCESS 470
47	PH I/II RAS/WAS PUMP STATION 3	PROCESS 253
48	PH I/II RAS/WAS PUMP STATION 1	PROCESS 251
49	PH III RAS/WAS PUMP STATION 1	PROCESS 351
50	PH III IN-PLANT LS	PROCESS 395



MARK	DATE	MADE BY	CHECKED	DESCRIPTION



ORANGE COUNTY UTILITIES DEPARTMENT
 EASTERN WATER RECLAMATION FACILITY
 PHASE V IMPROVEMENTS
EXISTING WRF SITE PLAN

CIVIL

WILLIAM D. MARSHALL, P.E.
 FLORIDA PROFESSIONAL LICENSE NO. 65292

PROJECT NO:	60222491
CAD DWG FILE:	C-101
DESIGNED BY:	WDM
DRAWN BY:	QRR
DEPT CHECK:	CFE
PROJ CHECK:	MDC
DATE:	OCTOBER 2013
SCALE:	AS NOTED

C-101
 13 OF 527

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 LAST UPDATE: Thursday, August 14, 2014 1:47:20 PM PLOT DATE: Thursday, August 14, 2014 7:07:49 PM
 PLOTTED: MarsholliW
 ANSI D - 14-Aug-14

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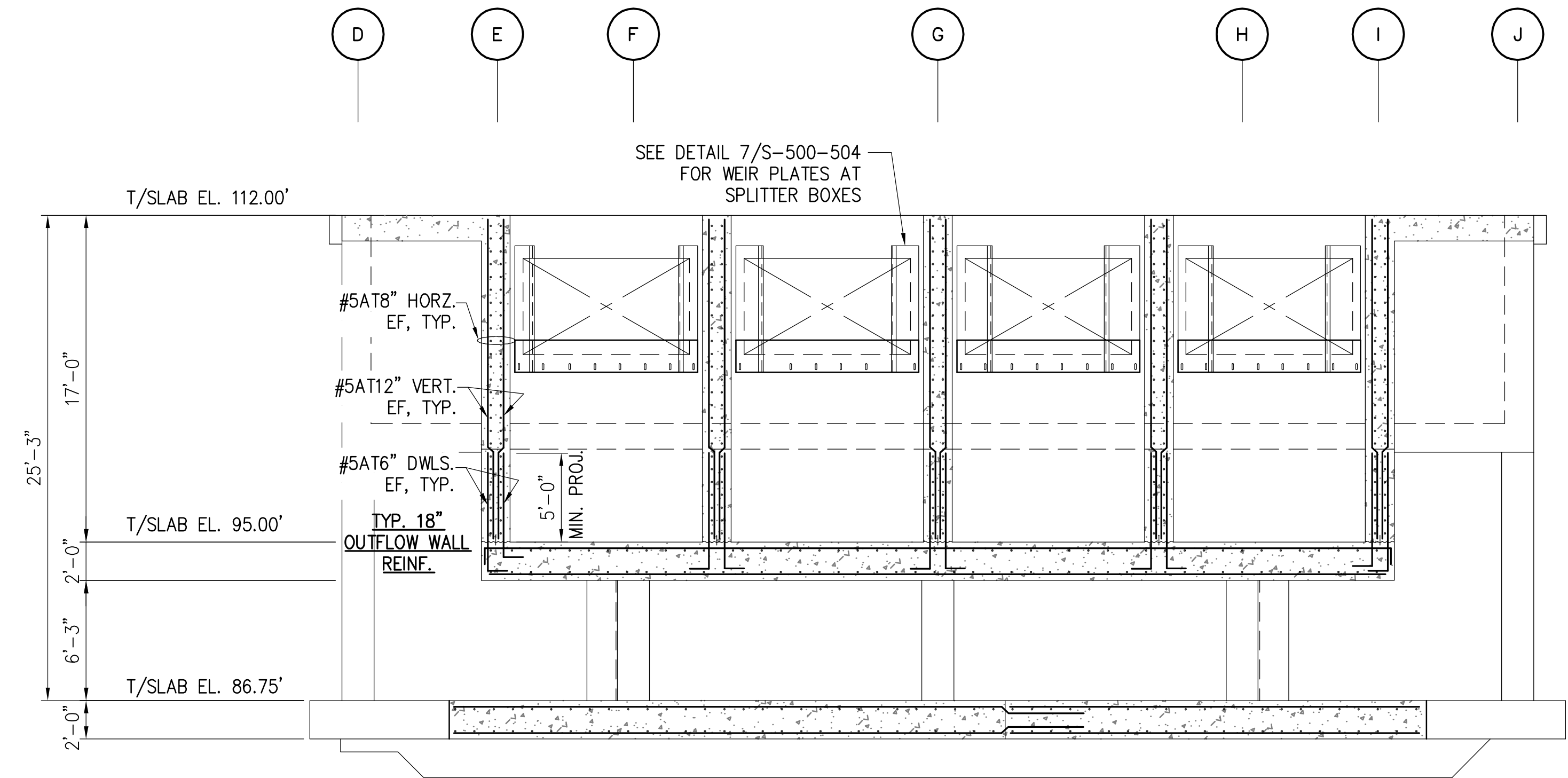
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D

C

B

A



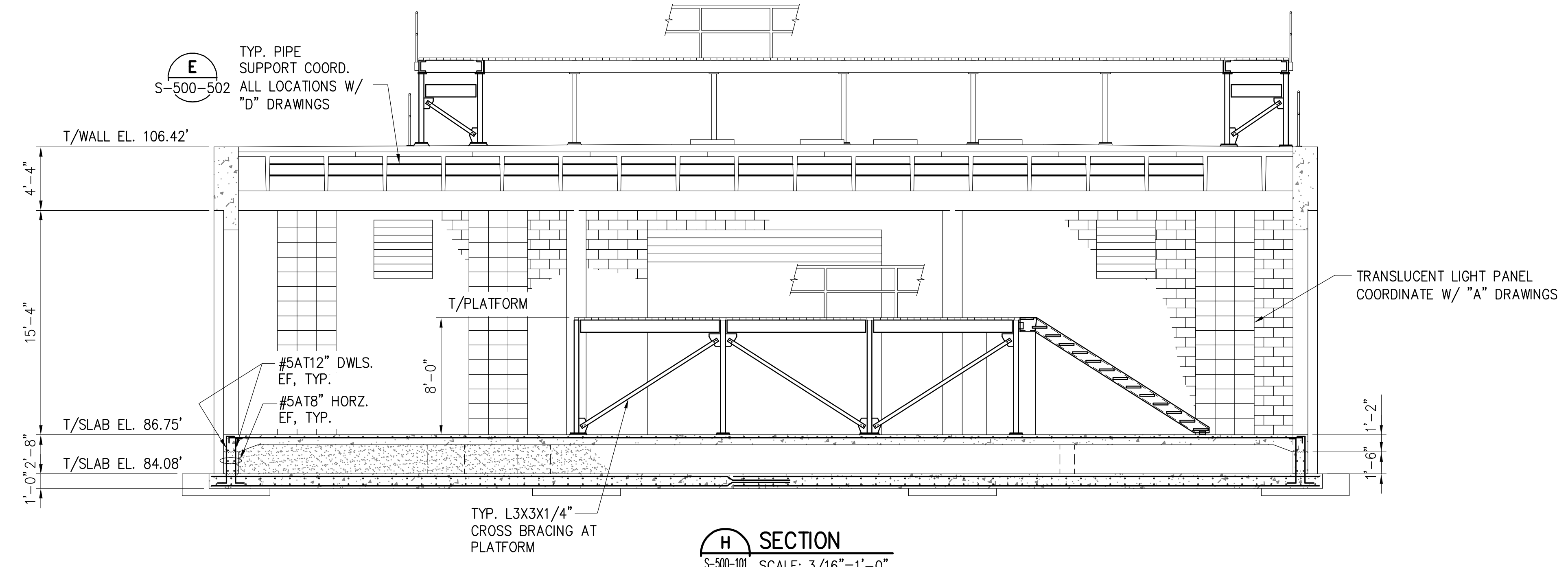
G SECTION
S-500-101 SCALE: 3/16"=1'-0"

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6



H SECTION
S-500-101 SCALE: 3/16"=1'-0"

1

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REVISIONS

MARK	DATE	MADE BY	CHECKED	DESCRIPTION



ORANGE COUNTY UTILITIES DEPARTMENT
EASTERN WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS
PRETREATMENT STRUCTURE
SECTIONS IV OF V
STRUCTURAL

PROJECT NO: 60222491
CAD DWG FILE: S-500-301
DESIGNED BY: JS
DRAWN BY: DM
DEPT CHECK: ---
PROJ CHECK: BE
DATE: OCTOBER 2013
SCALE: AS NOTED

S-500-304
122 OF 527

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PLOT DATE: Thursday, August 14, 2014 3:41:31 PM
PLOTTED: \$(GETVAR,?)
ANSI D - 14-Aug-14

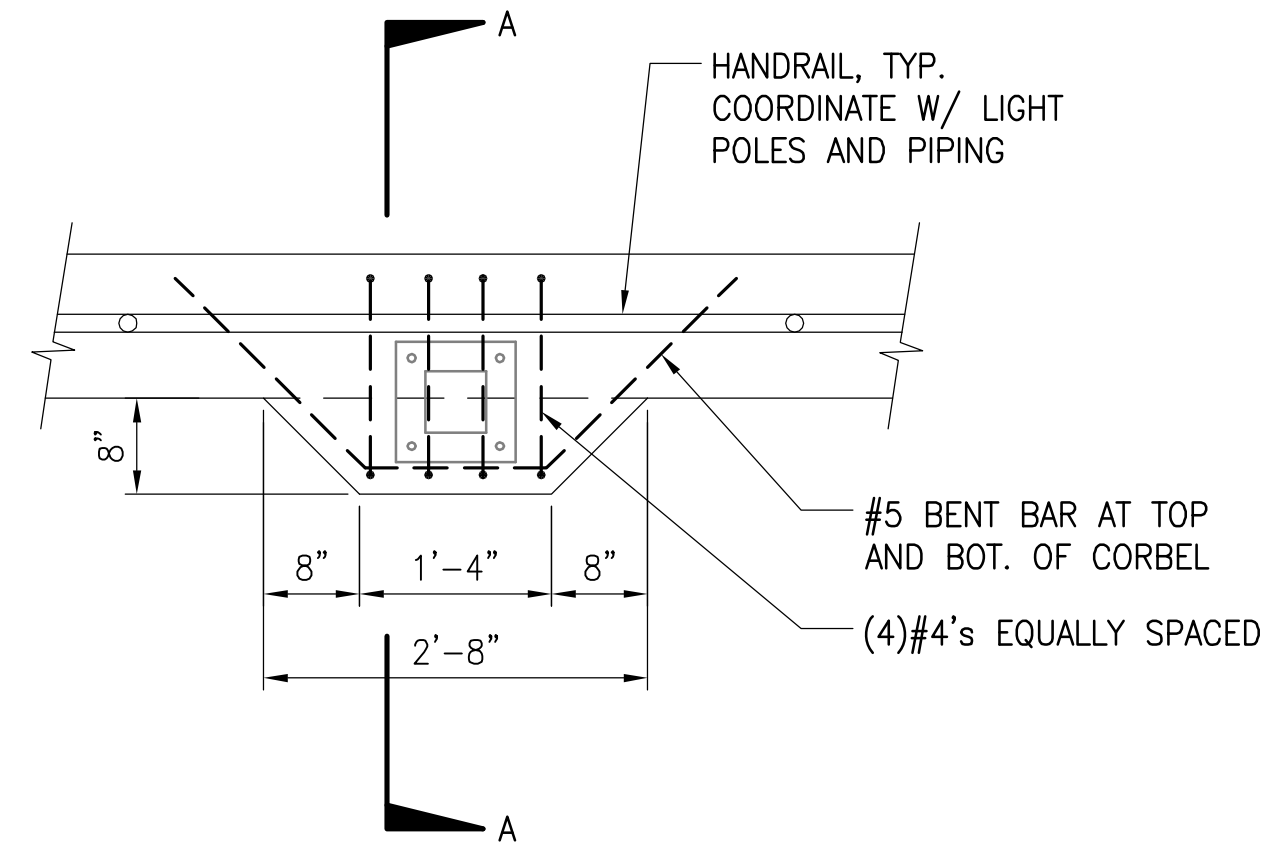
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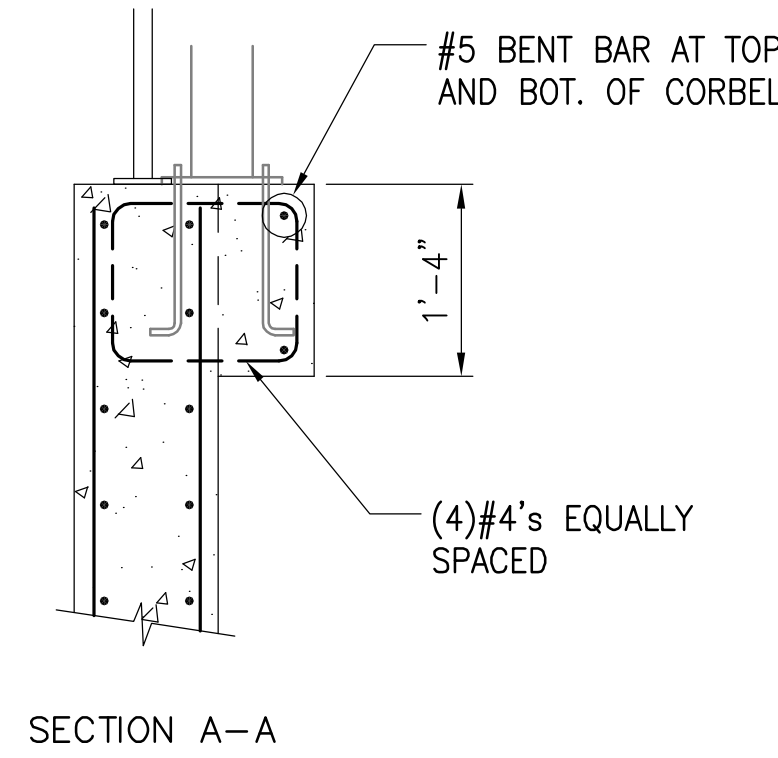
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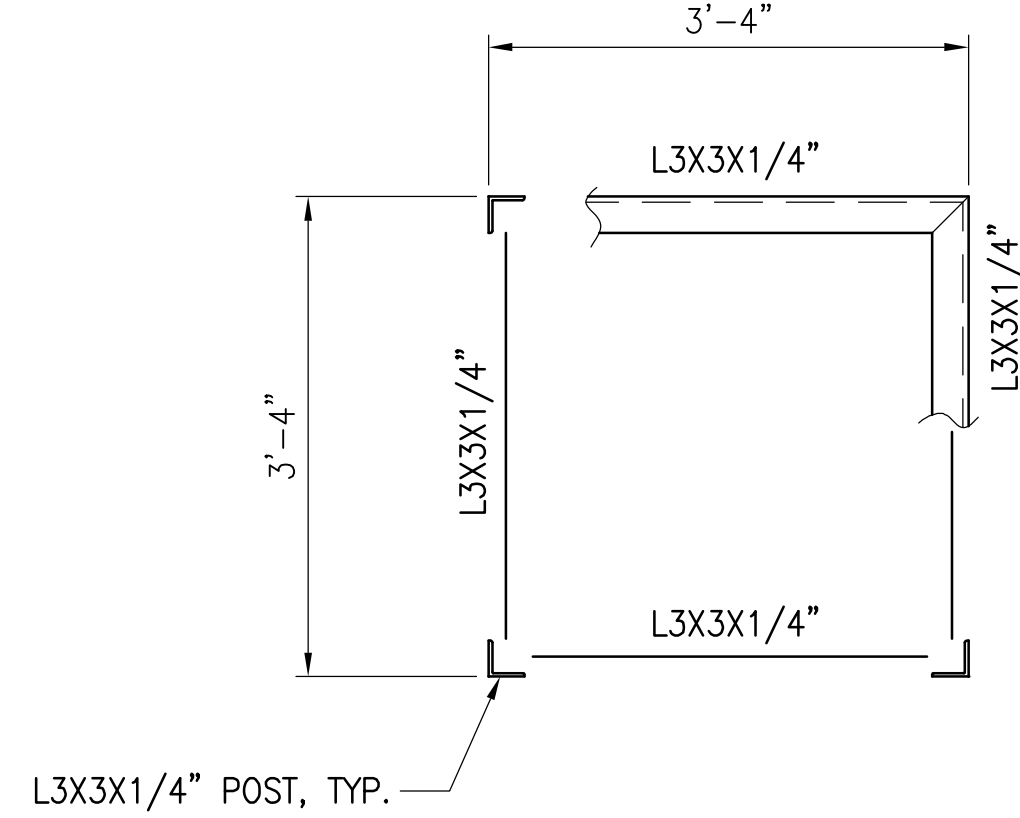


TYPICAL LIGHT SUPPORT CORBEL

A DETAIL
S-500-104 SCALE: 3/4"=1'-0"

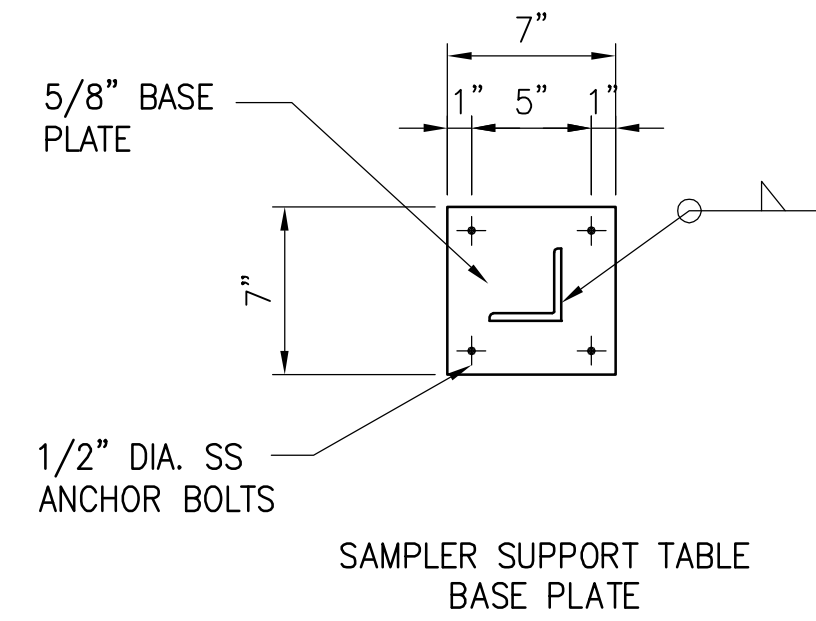


SECTION A-A



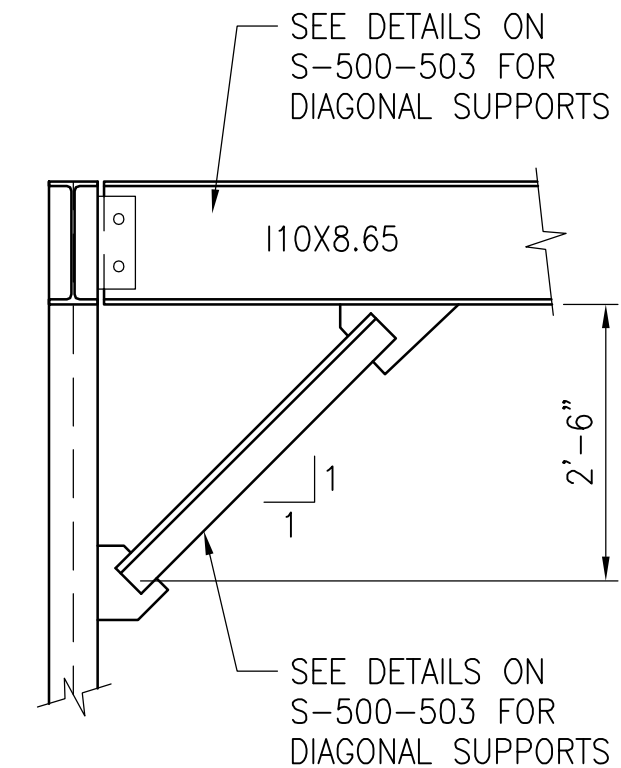
SAMPLER SUPPORT TABLE

B DETAIL
S-500-104 SCALE: 3/4"=1'-0"



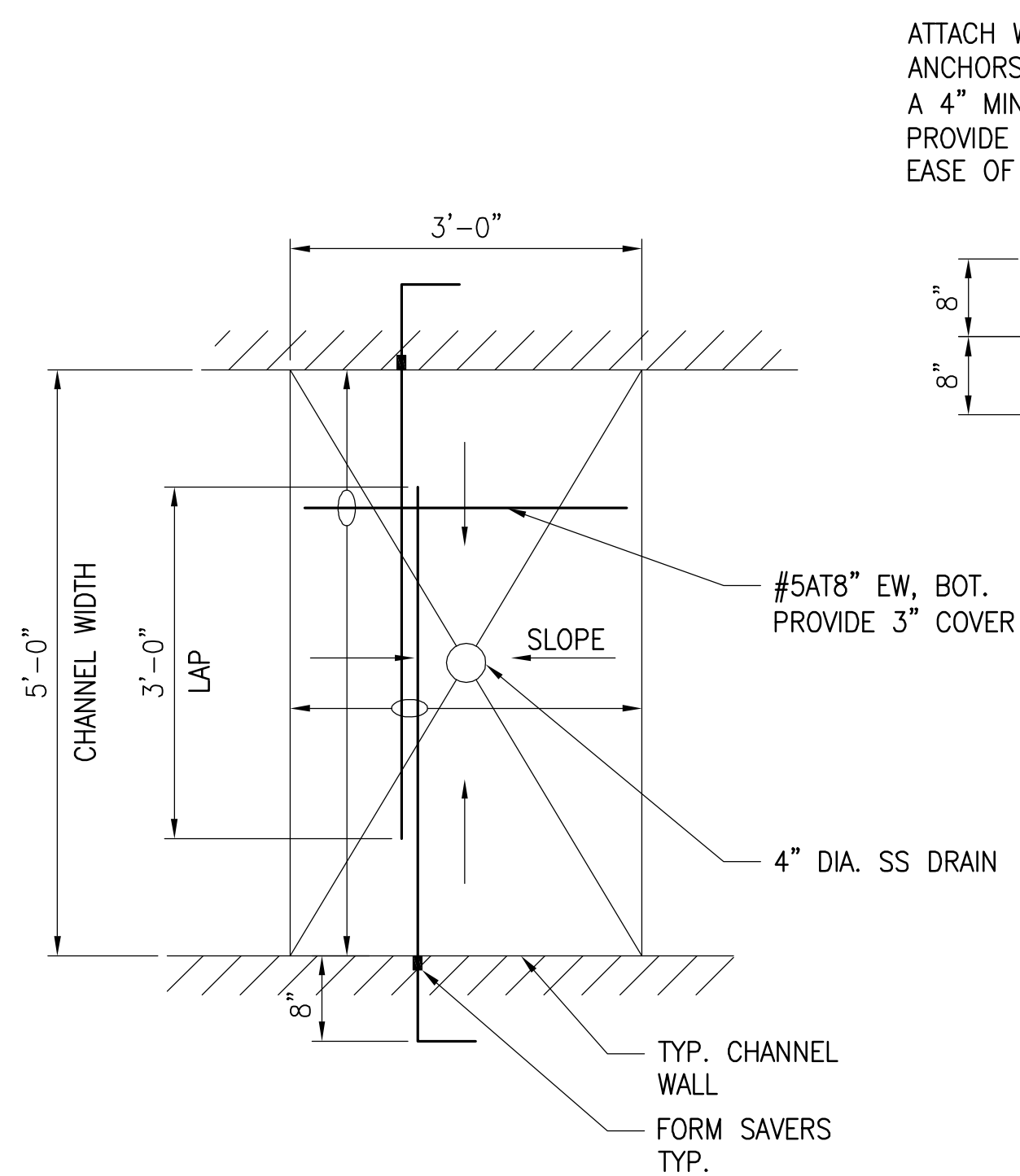
SAMPLER SUPPORT TABLE
BASE PLATE

NOTE: 1) ALL MATERIAL TO BE ALUMINUM
AND ALL MEMBERS SHALL BE ALL WELDED.
2) HEIGHT TO BE COORDINATED W/ OWNER.



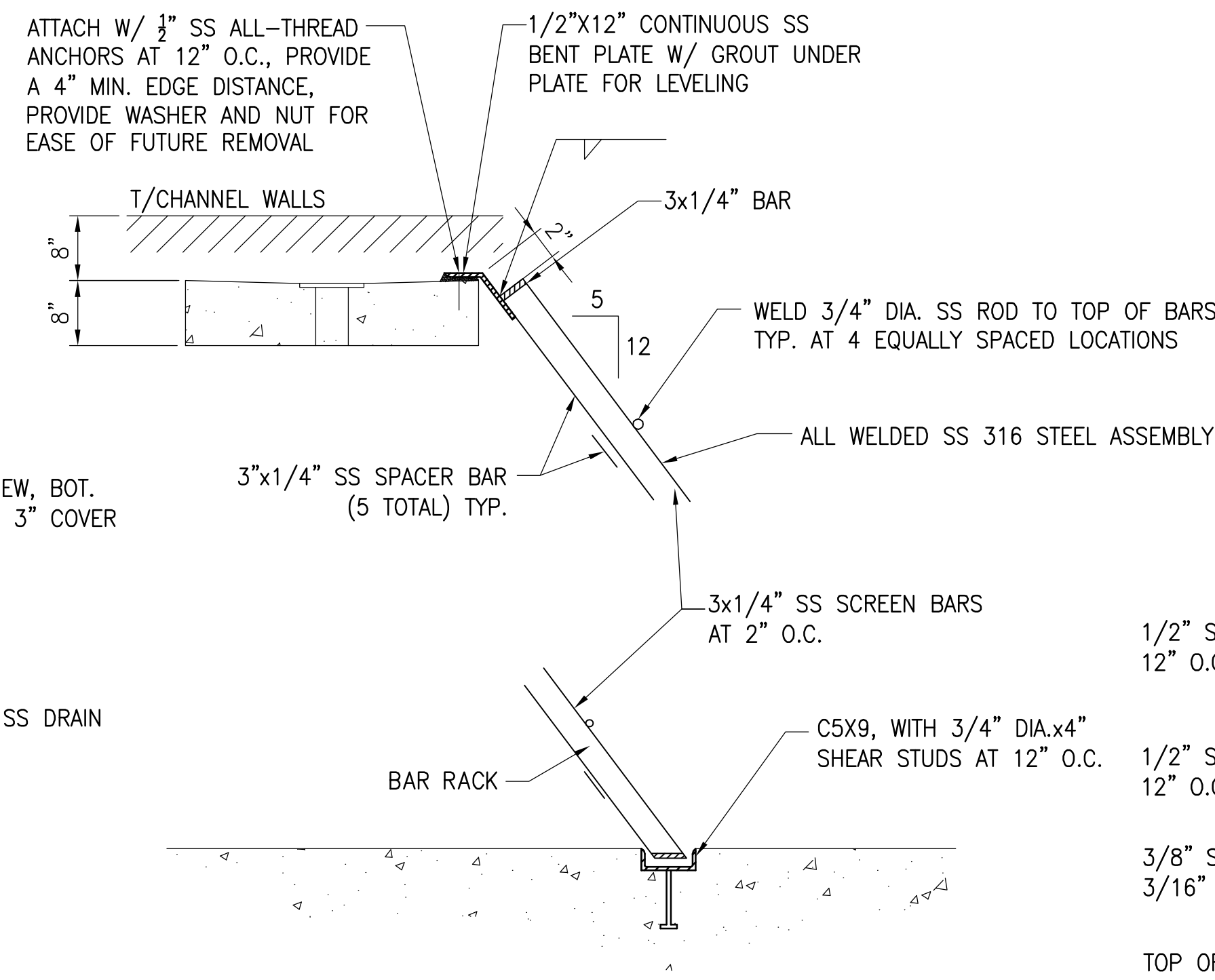
SLUICE TROUGH SUPPORTS

C DETAIL
S-500-106 SCALE: 3/4"=1'-0"

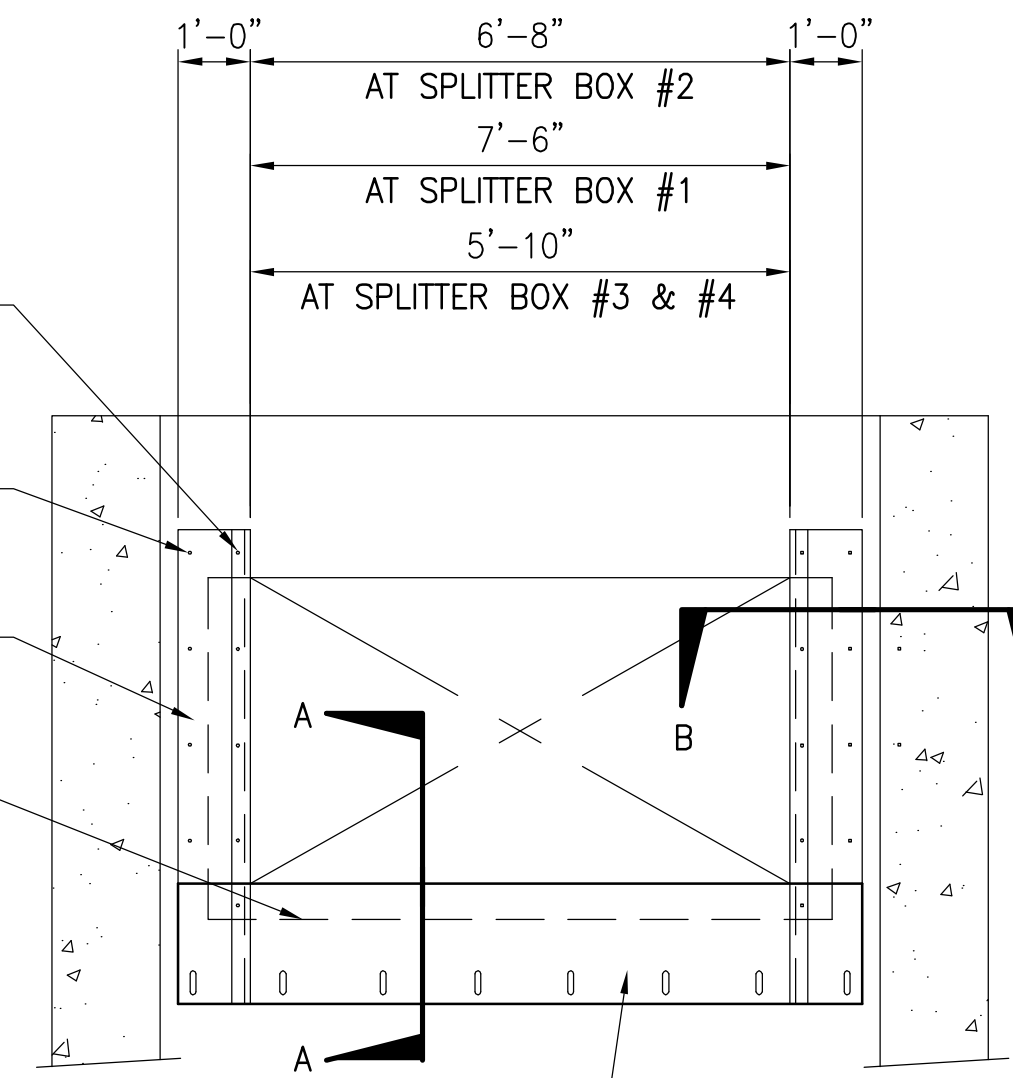


PRETREATMENT STRUCTURE BAR RACK AND DRAINAGE SLAB

D DETAIL
S-500-104 SCALE: 1"=1'-0"



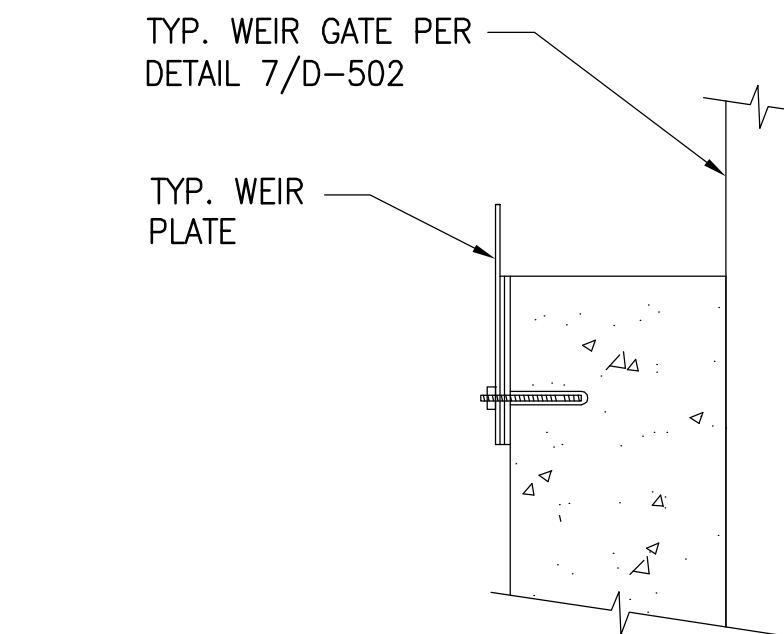
NOTE:
1) PROVIDE A MAXIMUM GAP OF 2" ON EACH SIDE OF THE
BAR RACK.



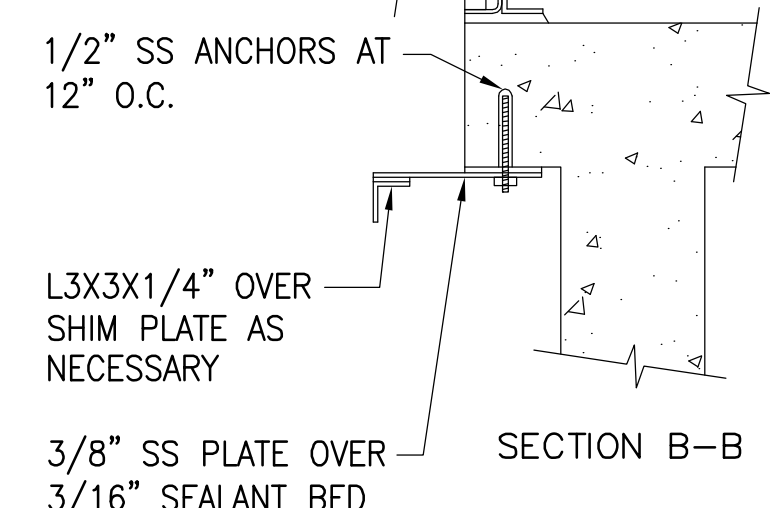
TYP. WEIR PLATE PER
DETAIL 7/D-503

WEIR PLATES AT DOWNSTREAM WEIR GATES

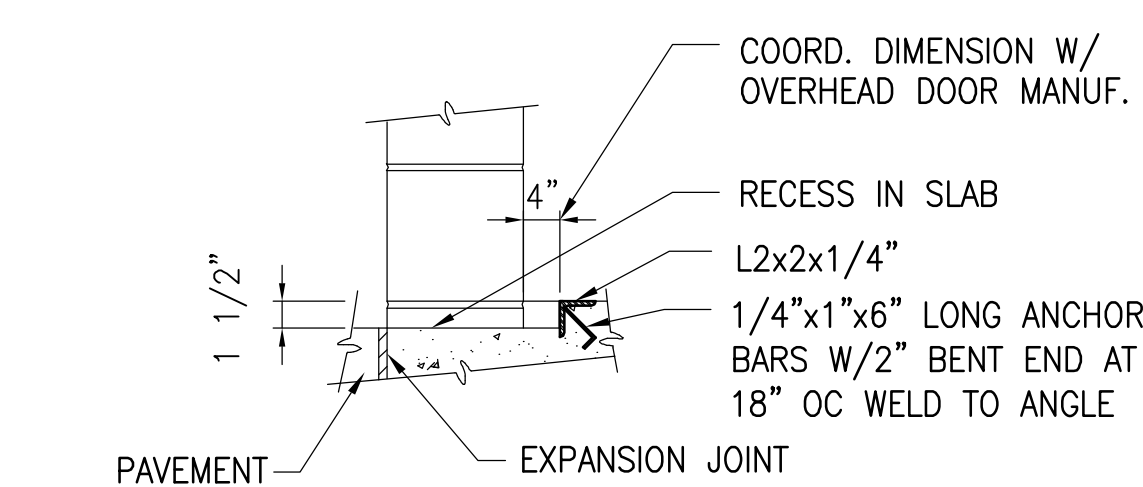
F DETAIL
S-500-504 SCALE: 1"=1'-0"



TYP. WEIR GATE PER
DETAIL 7/D-502



NOTE:
1) CONFIRM WEIR LENGTHS AND GENERAL
PLATE SIZES W/ FIELD CONDITIONS AND OTHER
DRAWINGS PRIOR TO ANY FABRICATION.
2) ALL SS TO BE TYPE 316.



ROLL-UP DOOR THRESHOLD AT PRETREATMENT BUILDING

E DETAIL
S-500-504 SCALE: 1"=1'-0"

MARK	DATE	MADE BY	CHECKED	DESCRIPTION

AECOM
AECOM TECHNICAL SERVICES, INC.
1111 EAST 17TH AVENUE, SUITE 200
DENVER, COLORADO 80202
PHONE: 303.435.3535

CERTIFICATE OF AUTHORIZATION NO. ES-8115

ORANGE COUNTY UTILITIES DEPARTMENT
EASTERN WATER RECLAMATION FACILITY
PHASE V IMPROVEMENTS
PRETREATMENT STRUCTURE
DETAILS IV OF IV
STRUCTURAL

PROJECT NO:	60222491
CAD DWG FILE:	S-500-504
DESIGNED BY:	JS
DRAWN BY:	DM
DEPT CHECK:	----
PROJ CHECK:	BE
DATE:	OCTOBER 2013
SCALE:	AS NOTED

PATH/FILENAME: F:\AECOM\10-176 EWRP PHASE V\A04\STRU\S-500-504.DWG
LAST UPDATE: Thursday, August 14, 2014 3:53:44 PM PLOT DATE: Thursday, August 14, 2014 3:45:04 PM
PLOTTED: \$(GETVAR??)
ANSI D - 14-Aug-14

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2

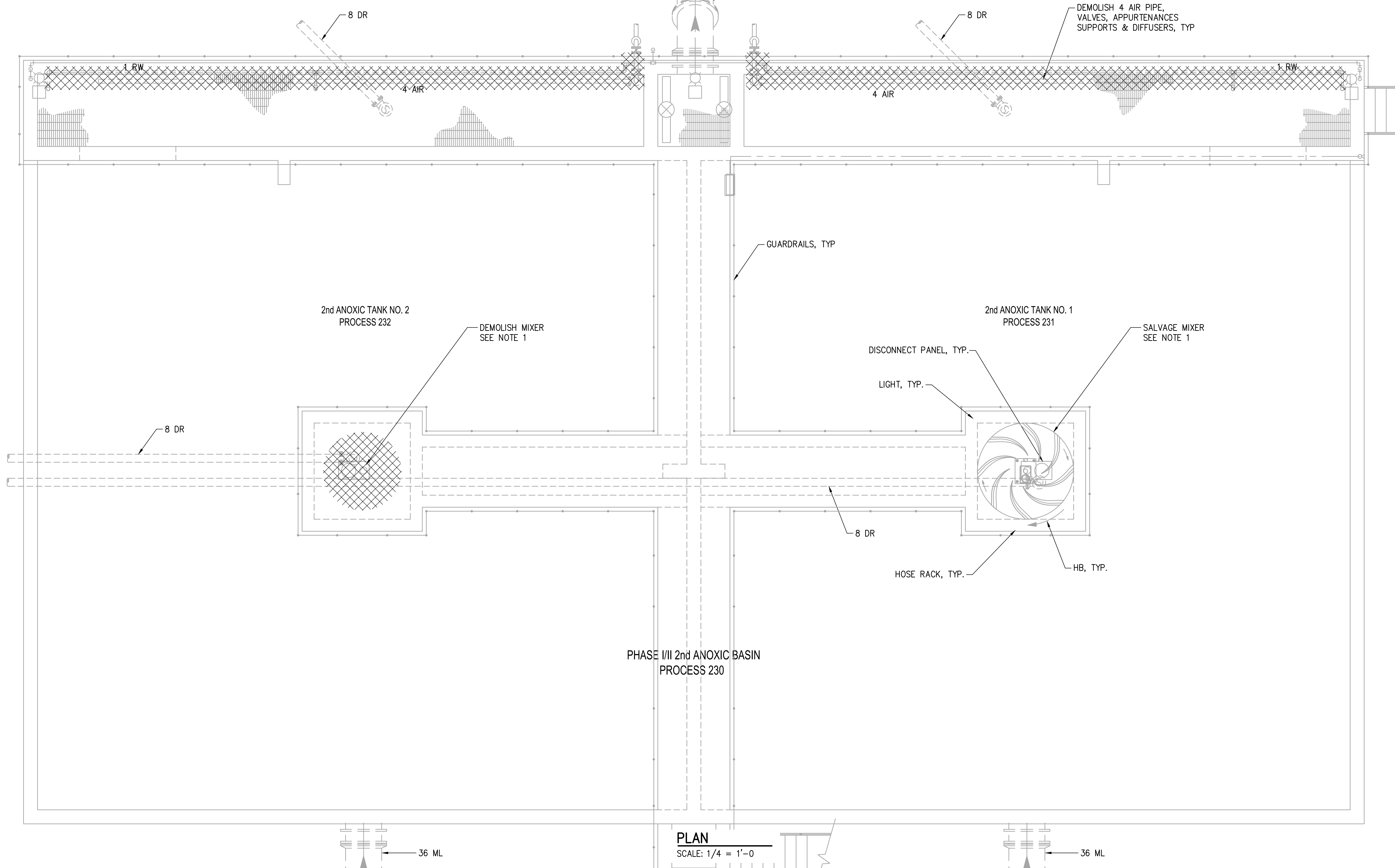
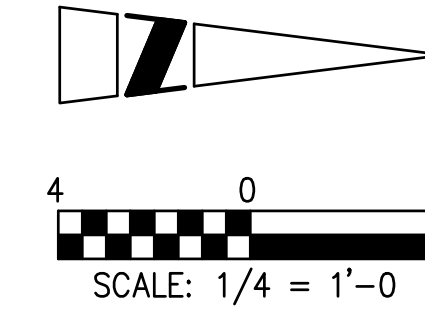
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NOTES:

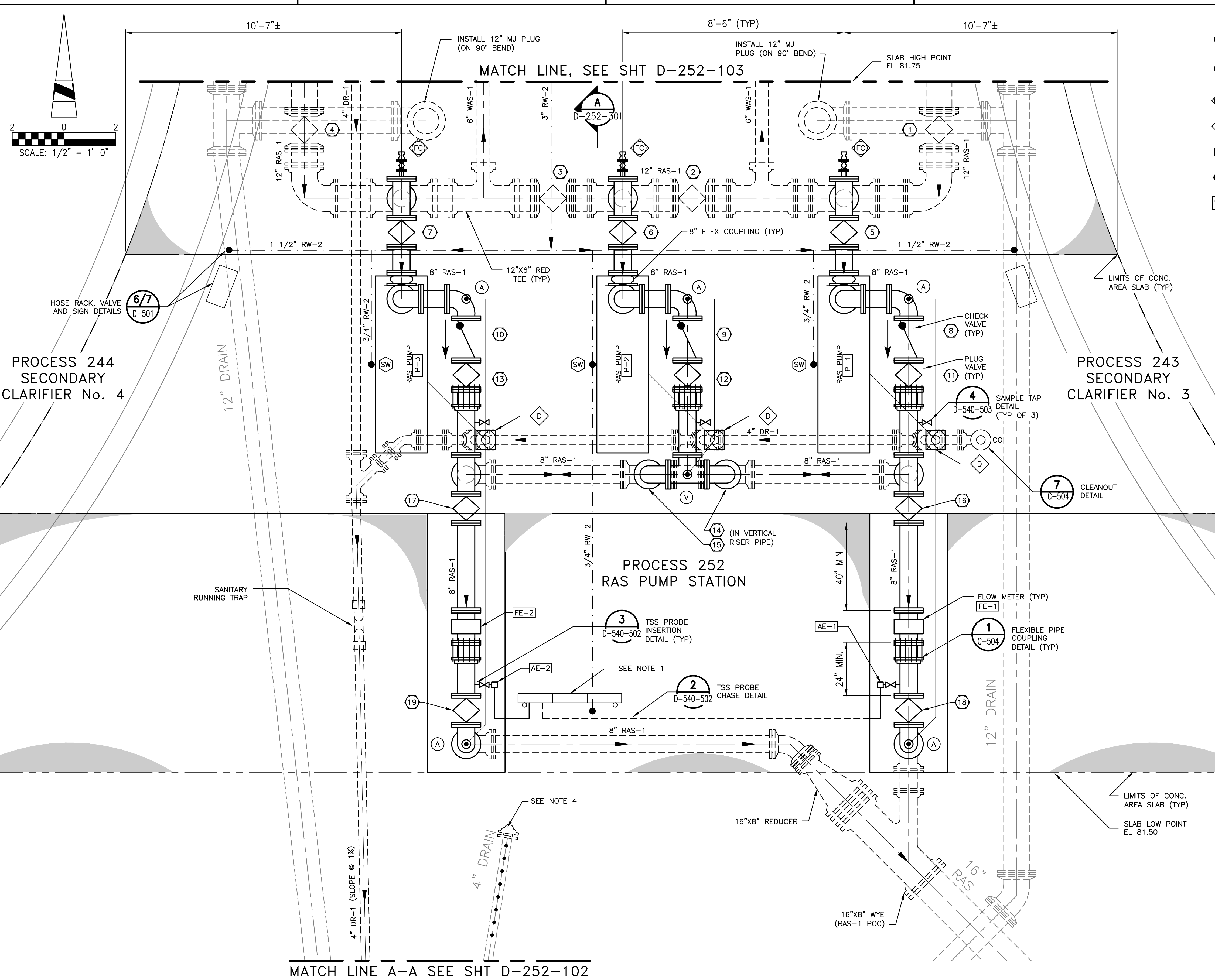
- 1. CONTRACTOR TO CUT AB & DRILL TO 1" BELOW FINISHED SURFACE AND PACK WITH NON-SHRINK GROUT. FILL VOIDS OF EXISTING HOLES COMPLETELY WITH NON-SHRINK GROUT.



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

ORANGE COUNTY UTILITIES DEPARTMENT EASTERN WATER RECLAMATION FACILITY PHASE V IMPROVEMENTS PH I-II 2ND ANOXIC TANKS DEMOLITION PLAN MECHANICAL PROCESS	
PROJECT NO: 60222491	DATE: OCTOBER 2013
CAD DWG FILE: D-230-101	SCALE: AS NOTED
DESIGNED BY: WDM	
DRAWN BY: QRR	
DEPT CHECK: CFE	
PROJ CHECK: MDC	
D-230-101	
174 OF 527	
AECOM AECOM TECHNICAL SERVICES, INC. ONE ANEXO, FLORIDA 32801 PHONE: 407.843.6522	
WILLIAM D. MARSHALL, PE FLORIDA PROFESSIONAL LICENSE NO. 65292	
CERTIFICATE OF AUTHORIZATION NO. EB-816	
MARK	DATE
MADE BY	CHECKED
DESCRIPTION	REVISIONS

PATH/FILENAME: X:\ORANGE COUNTY\ESTERN WRF\60222491\ENR_5--FINAL-DESIGN\00 CAD SHEETS\D-230-101.DWG
 LAST UPDATE: Tuesday, August 12, 2014 12:29:32 PM PLOT DATE: Thursday, August 14, 2014 7:07:56 PM
 PLOTTED: MarsholliW
 ANSI D - 12-Aug-14



- LEGEND:**
- (A) AIR RELEASE VALVE (ARV) ASSEMBLY D-504
 - (V) AIR VENT VALVE (AVV) ASSEMBLY D-540-503
 - (FC) FLUSHING CONNECTION ASSEMBLY D-540-503
 - (D) EQUIPMENT DRAIN D-540-503
 - (SW) PUMP SEAL WATER ASSEMBLY D-504
 - (XX) VALVE NUMBER
 - "AAA"-XX" EQUIPMENT NUMBER

- NOTES:**
- AIT-1 (TSS), FIT-1 AND FIT-2, MOUNTED ON COMMON EQUIPMENT RACK.
 - "AAA"-XX" EQUIPMENT TAG, COMPLETE EQUIPMENT TAG FOR PUMP AND EQUIPMENT IS 252-AAA-XX, WHERE "AAA" IS THE EQUIPMENT TYPE (I.E. "P") AND "XX" IS THE EQUIPMENT NUMBER.
 - XX VALVE TAG, COMPLETE VALVE TAG IS 252-V-XX, WHERE "XX" IS THE VALVE NUMBER.
 - INSTALL MJ CAPS OR PLUG WATERTIGHT AND GROUT FILL ALL LINES ABANDONED IN PLACE.
 - SEE D-240-100 FOR ADDITIONAL NOTES.

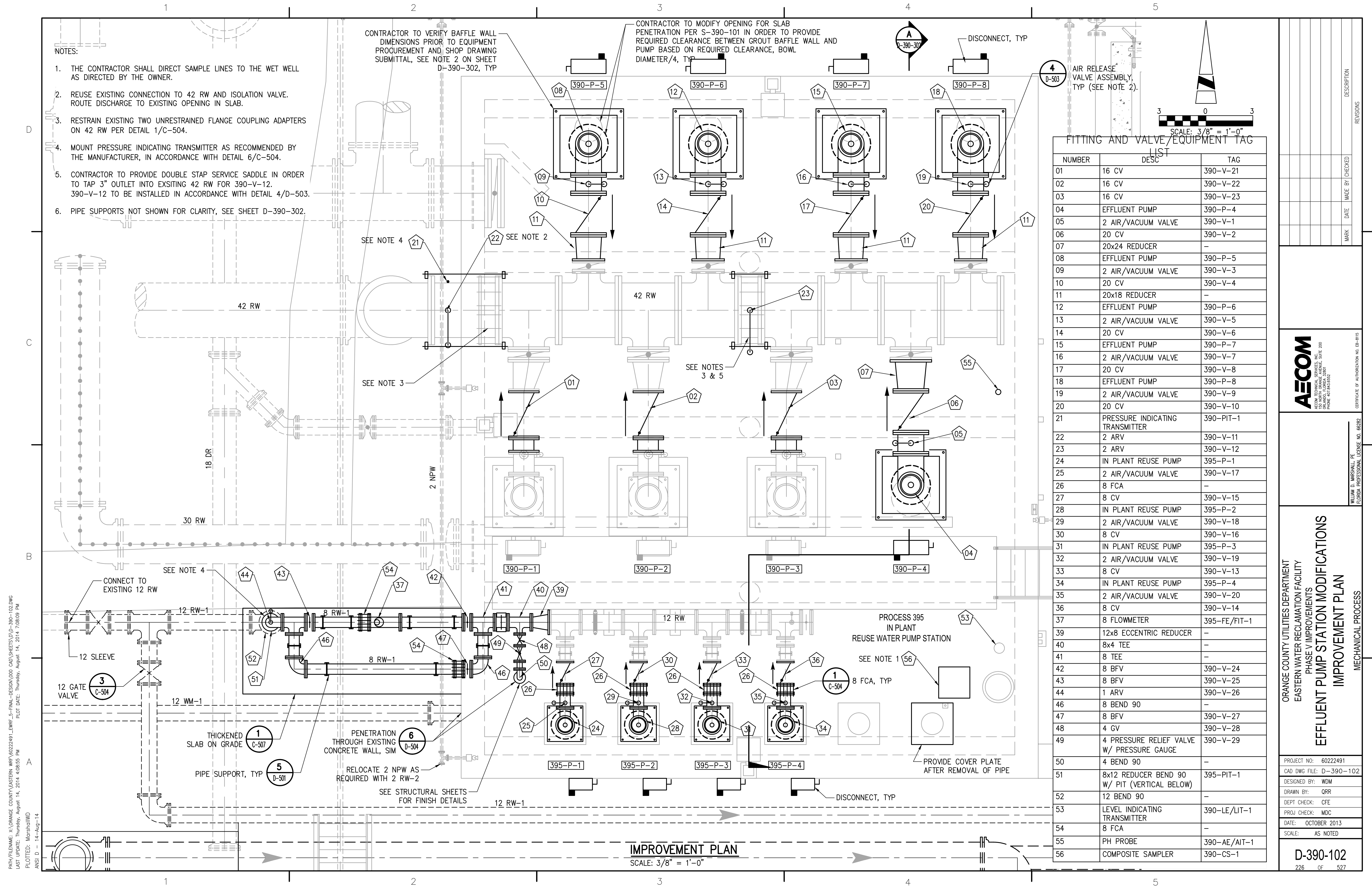
**PROCESS 252
EQUIPMENT/VALVE TAG TABLE**

TAG	EQUIPMENT/VALVE	COMMENT
P-1	RAS PUMP 1	-
P-2	RAS PUMP 2	-
P-3	RAS PUMP 3	-
FE-1	RAS FLOW METER 1	-
FE-2	RAS FLOW METER 2	-
FIT-1	FLOW TRANSMITTER 1	-
FIT-2	FLOW TRANSMITTER 2	-
AE-1	TOTAL SOLIDS METER 1	-
AE-2	TOTAL SOLIDS METER 2	-
AIT-1	TOTAL SOLIDS TRANSMITTER	-
1-4	12" MJ PLUG VALVES	-
5-7	8" FLG PLUG VALVES	-
8-10	8" FLG CHECK VALVES	-
11-19	8" FLG PLUG VALVES	-

1 SECONDARY CLARIFIERS No. 3 & 4 - RAS PUMPING STATION
D-252-102 SCALE: 1/2" = 1'-0"

<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>NO.</th> <th>DATE</th> <th>MADE BY</th> <th>CHECKED</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	DATE	MADE BY	CHECKED	DESCRIPTION						<p align="center">ORANGE COUNTY UTILITIES DEPARTMENT EASTERN WATER RECLAMATION FACILITY PHASE V IMPROVEMENTS SEC CLARIFIERS 3 & 4 RAS PS - ENLARGED PLAN MECHANICAL PROCESS</p>
NO.	DATE	MADE BY	CHECKED	DESCRIPTION							
<p>AECOM AECOM TECHNICAL SERVICES, INC. ORLANDO, FLORIDA 32801 PHONE 407.945.0000</p>	<p>MPR MECHANICAL PROCESS REVISIONS WILKINSON, FL 32706</p>										
<p>PROJECT NO: 60222491 CAD DWG FILE: D-252-104 DESIGNED BY: RDW DRAWN BY: BLA DEPT CHECK: ---- PROJ CHECK: RDW DATE: OCTOBER 2013 SCALE: AS NOTED</p>											
<p>D-252-104 188 SHEET OF 527</p>											

PATH: \\FLEMMER_C:\WORK\ENR\PHASE 5\PHASE 5 DESIGN\DESIGN DRAWINGS\100% DRAWINGS\D-252-104.DWG
 LAST UPDATE: Wednesday, August 13, 2014 8:27:09 AM PLOT DATE: Wednesday, August 13, 2014 8:28:11 AM
 PLOTTED: Rick Wilson
 ANSI D - 13-Aug-14



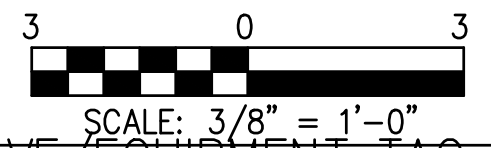
- NOTES:
1. THE CONTRACTOR SHALL DIRECT SAMPLE LINES TO THE WET WELL AS DIRECTED BY THE OWNER.
 2. REUSE EXISTING CONNECTION TO 42 RW AND ISOLATION VALVE. ROUTE DISCHARGE TO EXISTING OPENING IN SLAB.
 3. RESTRAIN EXISTING TWO UNRESTRAINED FLANGE COUPLING ADAPTERS ON 42 RW PER DETAIL 1/C-504.
 4. MOUNT PRESSURE INDICATING TRANSMITTER AS RECOMMENDED BY THE MANUFACTURER, IN ACCORDANCE WITH DETAIL 6/C-504.
 5. CONTRACTOR TO PROVIDE DOUBLE STAP SERVICE SADDLE IN ORDER TO TAP 3" OUTLET INTO EXISTING 42 RW FOR 390-V-12. 390-V-12 TO BE INSTALLED IN ACCORDANCE WITH DETAIL 4/D-503.
 6. PIPE SUPPORTS NOT SHOWN FOR CLARITY, SEE SHEET D-390-302.

CONTRACTOR TO VERIFY BAFFLE WALL DIMENSIONS PRIOR TO EQUIPMENT PROCUREMENT AND SHOP DRAWING SUBMITTAL, SEE NOTE 2 ON SHEET D-390-302, TYP

CONTRACTOR TO MODIFY OPENING FOR SLAB PENETRATION PER S-390-101 IN ORDER TO PROVIDE REQUIRED CLEARANCE BETWEEN GROUT BAFFLE WALL AND PUMP BASED ON REQUIRED CLEARANCE, BOWL DIAMETER/4, TYP

DISCONNECT, TYP

AIR RELEASE VALVE ASSEMBLY, TYP (SEE NOTE 2).



FITTING AND VALVE/EQUIPMENT TAG LIST

NUMBER	DESC	TAG
01	16 CV	390-V-21
02	16 CV	390-V-22
03	16 CV	390-V-23
04	EFFLUENT PUMP	390-P-4
05	2 AIR/VACUUM VALVE	390-V-1
06	20 CV	390-V-2
07	20x24 REDUCER	-
08	EFFLUENT PUMP	390-P-5
09	2 AIR/VACUUM VALVE	390-V-3
10	20 CV	390-V-4
11	20x18 REDUCER	-
12	EFFLUENT PUMP	390-P-6
13	2 AIR/VACUUM VALVE	390-V-5
14	20 CV	390-V-6
15	EFFLUENT PUMP	390-P-7
16	2 AIR/VACUUM VALVE	390-V-7
17	20 CV	390-V-8
18	EFFLUENT PUMP	390-P-8
19	2 AIR/VACUUM VALVE	390-V-9
20	20 CV	390-V-10
21	PRESSURE INDICATING TRANSMITTER	390-PIT-1
22	2 ARV	390-V-11
23	2 ARV	390-V-12
24	IN PLANT REUSE PUMP	395-P-1
25	2 AIR/VACUUM VALVE	390-V-17
26	8 FCA	-
27	8 CV	390-V-15
28	IN PLANT REUSE PUMP	395-P-2
29	2 AIR/VACUUM VALVE	390-V-18
30	8 CV	390-V-16
31	IN PLANT REUSE PUMP	395-P-3
32	2 AIR/VACUUM VALVE	390-V-19
33	8 CV	390-V-13
34	IN PLANT REUSE PUMP	395-P-4
35	2 AIR/VACUUM VALVE	390-V-20
36	8 CV	390-V-14
37	8 FLOWMETER	395-FE/FIT-1
39	12x8 ECCENTRIC REDUCER	-
40	8x4 TEE	-
41	8 TEE	-
42	8 BFV	390-V-24
43	8 BFV	390-V-25
44	1 ARV	390-V-26
46	8 BEND 90	-
47	8 BFV	390-V-27
48	4 GV	390-V-28
49	4 PRESSURE RELIEF VALVE W/ PRESSURE GAUGE	390-V-29
50	4 BEND 90	-
51	8x12 REDUCER BEND 90 W/ PIT (VERTICAL BELOW)	395-PIT-1
52	12 BEND 90	-
53	LEVEL INDICATING TRANSMITTER	390-LE/LIT-1
54	8 FCA	-
55	PH PROBE	390-AE/AIT-1
56	COMPOSITE SAMPLER	390-CS-1

IMPROVEMENT PLAN

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

PATH/FILENAME: X:\ORANGE COUNTY\WATER\WRF\60222491_FINAL-DESIGN\WDR-CAD\SHEETS\D-390-102.DWG
 LAST UPDATE: Thursday, August 14, 2014 4:08:55 PM PLOT DATE: Thursday, August 14, 2014 7:08:09 PM
 PLOTTED: Marsh/IWD
 ANSI D - 14-Aug-14

<p>ORANGE COUNTY UTILITIES DEPARTMENT EASTERN WATER RECLAMATION FACILITY PHASE V IMPROVEMENTS EFFLUENT PUMP STATION MODIFICATIONS IMPROVEMENT PLAN</p>	<p>MECHANICAL PROCESS</p>
<p>PROJECT NO: 60222491 CAD DWG FILE: D-390-102 DESIGNED BY: WDM DRAWN BY: QRR DEPT CHECK: CFE PROJ CHECK: MDC DATE: OCTOBER 2013 SCALE: AS NOTED</p>	
<p>D-390-102 226 OF 527</p>	

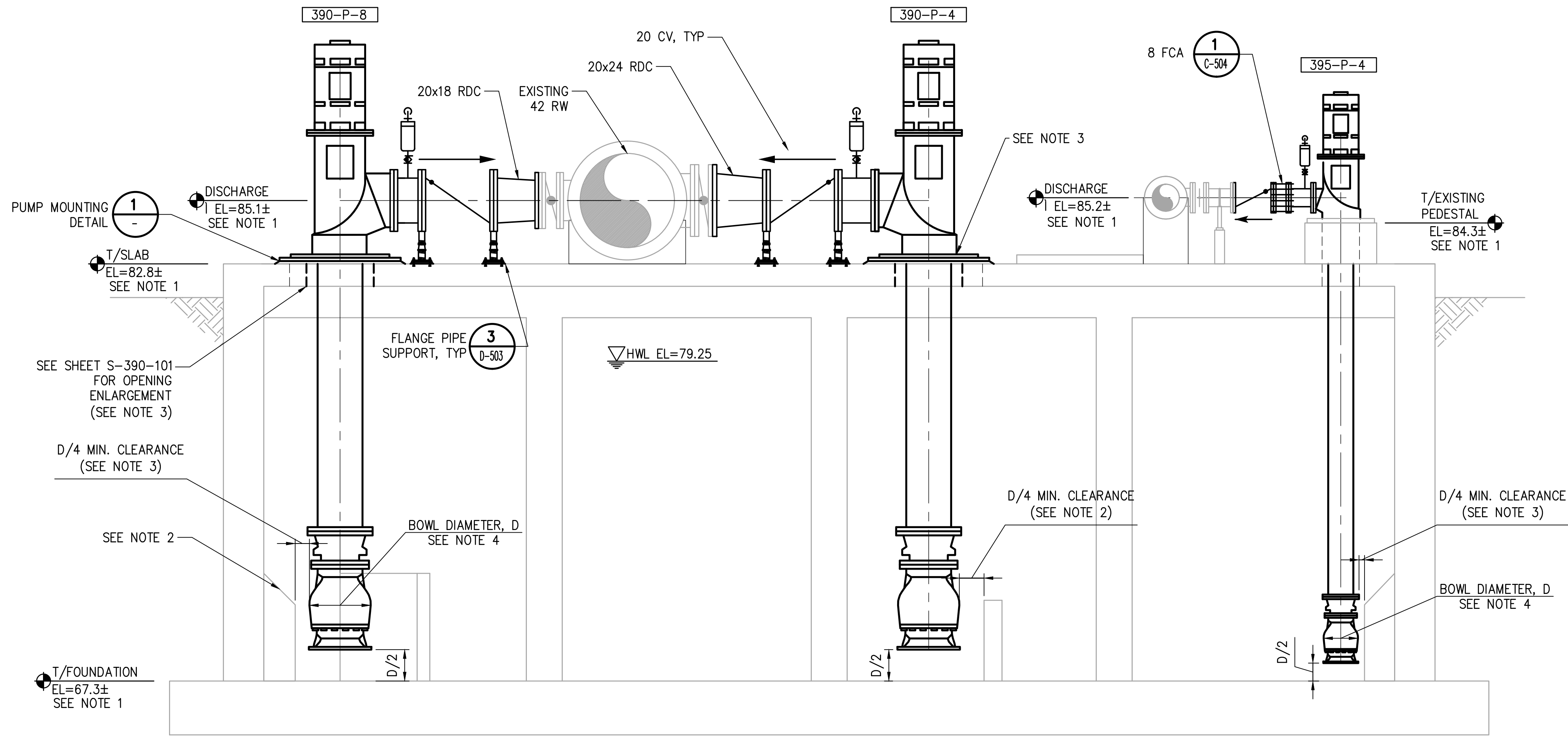
REVISIONS

NO.	DATE	DESCRIPTION

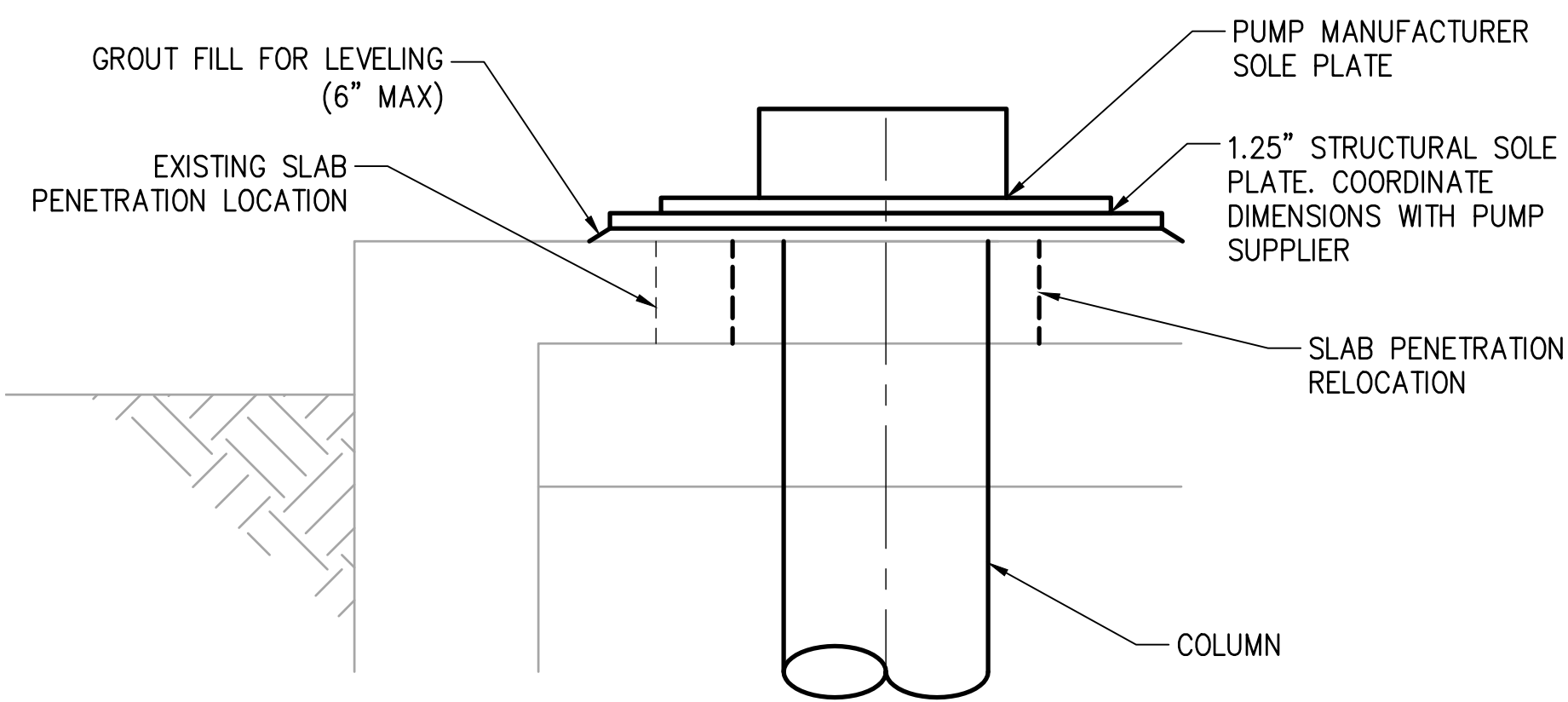
AECOM
AECOM TECHNICAL SERVICES, INC.
 200 N. W. 10th Street, Suite 200
 Ft. Lauderdale, FL 33304
 PHONE: 407.643.6522

WILLIAM D. MARSHALL, P.E.
 FLORIDA PROFESSIONAL LICENSE NO. 65292

PATH/FILENAME: X:\ORANGE COUNTY UTILITIES DEPARTMENT\ORANGE COUNTY WATER RECLAMATION FACILITY\DESIGN\DD\390-302.DWG
 LAST UPDATE: Thursday, August 14, 2014 4:08:28 PM
 PLOTTED: M:\sho\110
 ANSI D - 14-Aug-14



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



1 PUMPING DETAIL
 SCALE: NONE

NOTES:

1. THE INFORMATION REPRESENTED WAS DEVELOPED FROM RECORD DRAWINGS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ALL ELEVATIONS AND EXISTING CONDITIONS, IN ORDER TO COMPLETE WORK.
2. CONTRACTOR TO VERIFY BAFFLE WALL DIMENSIONS PRIOR TO EQUIPMENT PROCUREMENT AND SHOP DRAWING SUBMITTAL, SEE NOTE 3.
3. CONTRACTOR TO MODIFY OPENING FOR SLAB PENETRATION PER S-390-101 IN ORDER TO PROVIDE REQUIRED CLEARANCE BETWEEN GROUT BAFFLE WALL AND PUMP BASED ON REQUIRED CLEARANCE, BOWL DIAMETER/4.
4. THE DIMENSION "D" REFERS TO THE DIAMETER OF THE PUMP BOWL. PUMP DESIGN AND SETTING ARE BASED ON THIS VALUE. COORDINATE PUMP STATION DESIGN ELEMENTS WITH PUMP MANUFACTURER.

MARK	DATE	MADE BY	CHECKED	DESCRIPTION

SEE SHEET S-390-101 FOR OPENING ENLARGEMENT (SEE NOTE 3)

AECOM

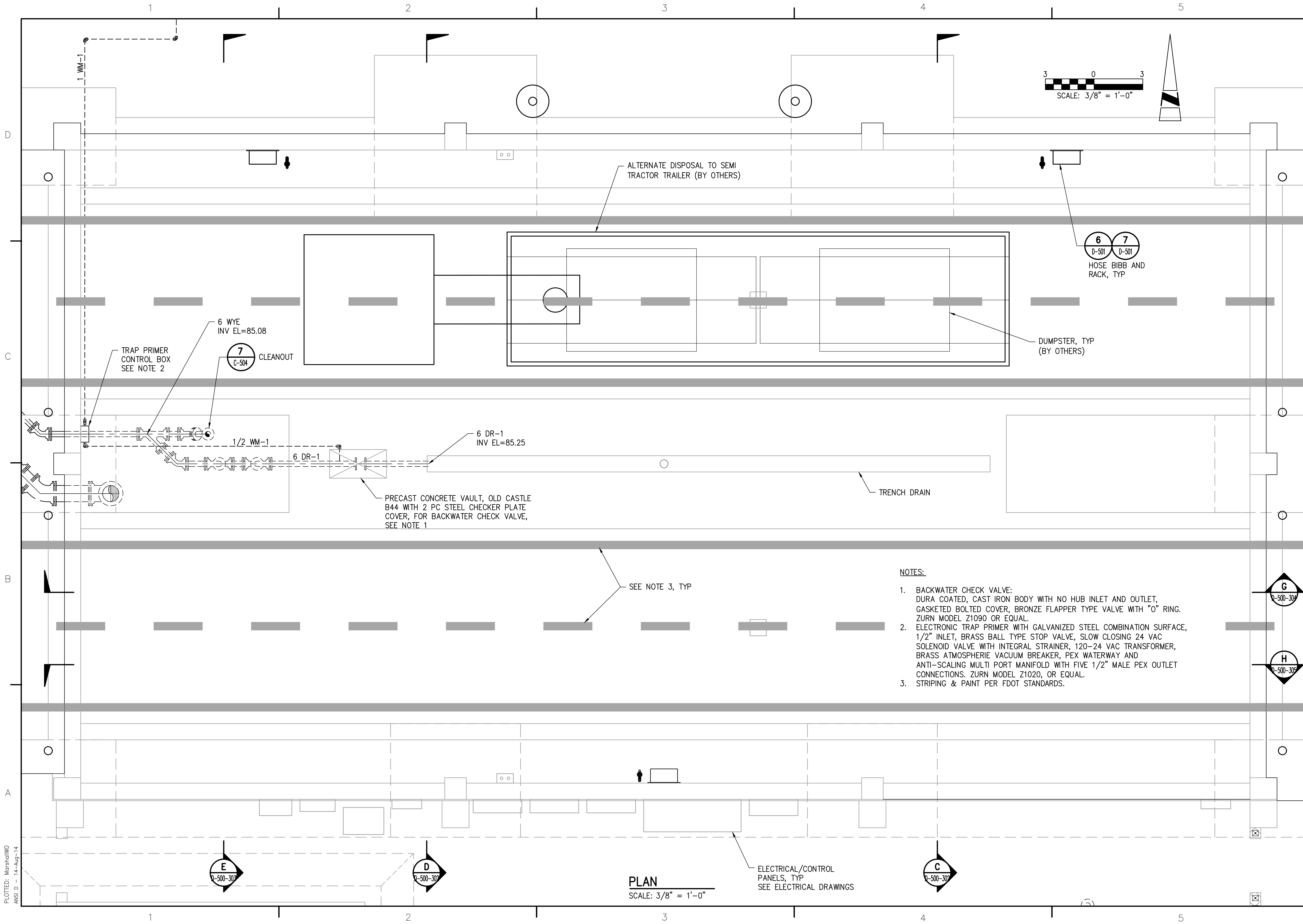
 AECOM TECHNICAL SERVICES, INC.
 2000 N. WINDY HILL ROAD, SUITE 200
 ORLANDO, FLORIDA 32801
 PHONE: 407.843.6522

WILLIAM D. MARSHALL, P.E.
 FLORIDA PROFESSIONAL LICENSE NO. 65292

ORANGE COUNTY UTILITIES DEPARTMENT
 EASTERN WATER RECLAMATION FACILITY
 PHASE V IMPROVEMENTS
EFFLUENT PUMP STATION MODIFICATIONS
SECTION
 MECHANICAL PROCESS

PROJECT NO:	60222491
CAD DWG FILE:	D-390-302
DESIGNED BY:	WDM
DRAWN BY:	QRR
DEPT CHECK:	CPE
PROJ CHECK:	MDC
DATE:	OCTOBER 2013
SCALE:	AS NOTED

PATH/FILENAME: X:\ORANGE COUNTY\WATER\WRF\60222491\ENR_5-FINAL-DESIGN\000 CAD SHEETS\000-105.DWG
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 ANSI D - 14-Aug-14

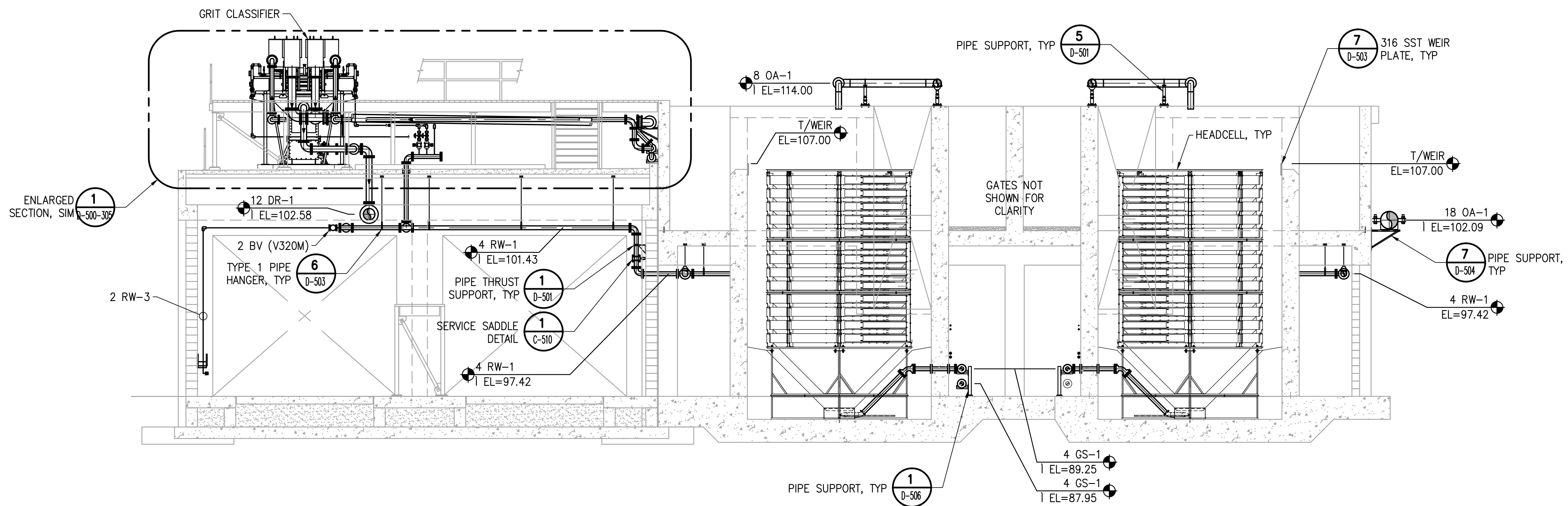


PLAN
 SCALE: 3/8" = 1'-0"

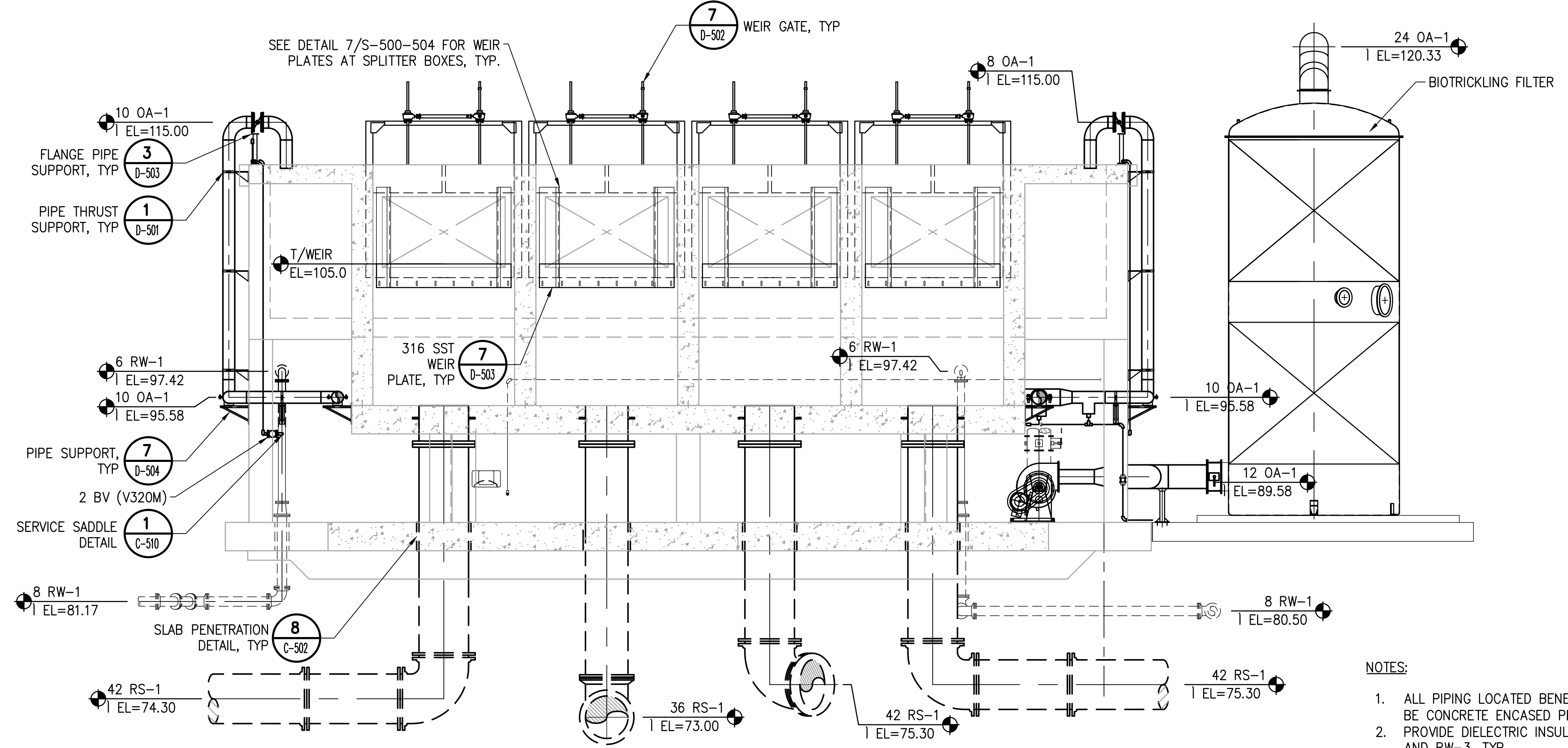
- NOTES:**
- BACKWATER CHECK VALVE:
DURA COATED, CAST IRON BODY WITH NO HUB INLET AND OUTLET, GASKETED BOLTED COVER, BRONZE FLAPPER TYPE VALVE WITH "O" RING. ZURN MODEL Z1090 OR EQUAL.
 - ELECTRONIC TRAP PRIMER WITH GALVANIZED STEEL COMBINATION SURFACE, 1/2" INLET, BRASS BALL TYPE STOP VALVE, SLOW CLOSING 24 VAC SOLENOID VALVE WITH INTEGRAL STRAINER, 120-24 VAC TRANSFORMER, BRASS ATMOSPHERIC VACUUM BREAKER, PEX WATERWAY AND ANTI-SCALING MULTI PORT MANIFOLD WITH FIVE 1/2" MALE PEX OUTLET CONNECTIONS. ZURN MODEL Z1020, OR EQUAL.
 - STRIPING & PAINT PER FDOT STANDARDS.

AECOM <small>AECOM TECHNICAL SERVICES, INC. 10000 W. BOCA RATON BLVD., SUITE 200 BOCA RATON, FLORIDA 33433 PHONE: 407.843.6522</small>		<small>CERTIFICATE OF AUTHORIZATION NO. EB-616</small>
<small>WILLIAM D. MARSHALL, PE FLORIDA PROFESSIONAL LICENSE NO. 65292</small>		<small>REVISIONS</small>
ORANGE COUNTY UTILITIES DEPARTMENT EASTERN WATER RECLAMATION FACILITY PHASE V IMPROVEMENTS PRETREATMENT STRUCTURE LOADING AREA FOUNDATION PLAN MECHANICAL PROCESS		
PROJECT NO: 60222491 CAD DWG FILE: D-500-105 DESIGNED BY: WDM DRAWN BY: QRR DEPT CHECK: CFE PROJ CHECK: MDC DATE: OCTOBER 2013 SCALE: AS NOTED		
D-500-105 242 OF 527		

1 2 3 4 5



E SECTION
SCALE: 3/16" = 1'-0"
SCALE: 3/16" = 1'-0"



F SECTION
SCALE: 3/16" = 1'-0"
SCALE: 3/16" = 1'-0"

- NOTES:
1. ALL PIPING LOCATED BENEATH STRUCTURES SHALL BE CONCRETE ENCASED PER DETAIL 2/C-510.
 2. PROVIDE DIELECTRIC INSULATION BETWEEN RW-1 AND RW-3, TYP

PATH/FILENAME: X:\ORANGE COUNTY UTILITIES\WRF\60222491_FINAL-DESIGN\000 CAD\SHETS\D-500-303.DWG
 LAST UPDATE: Thursday, August 14, 2014 7:05:01 PM PLOT DATE: Thursday, August 14, 2014 7:09:02 PM
 PLOTTED: Marsh@IWD
 ANSI D - 14-Aug-14

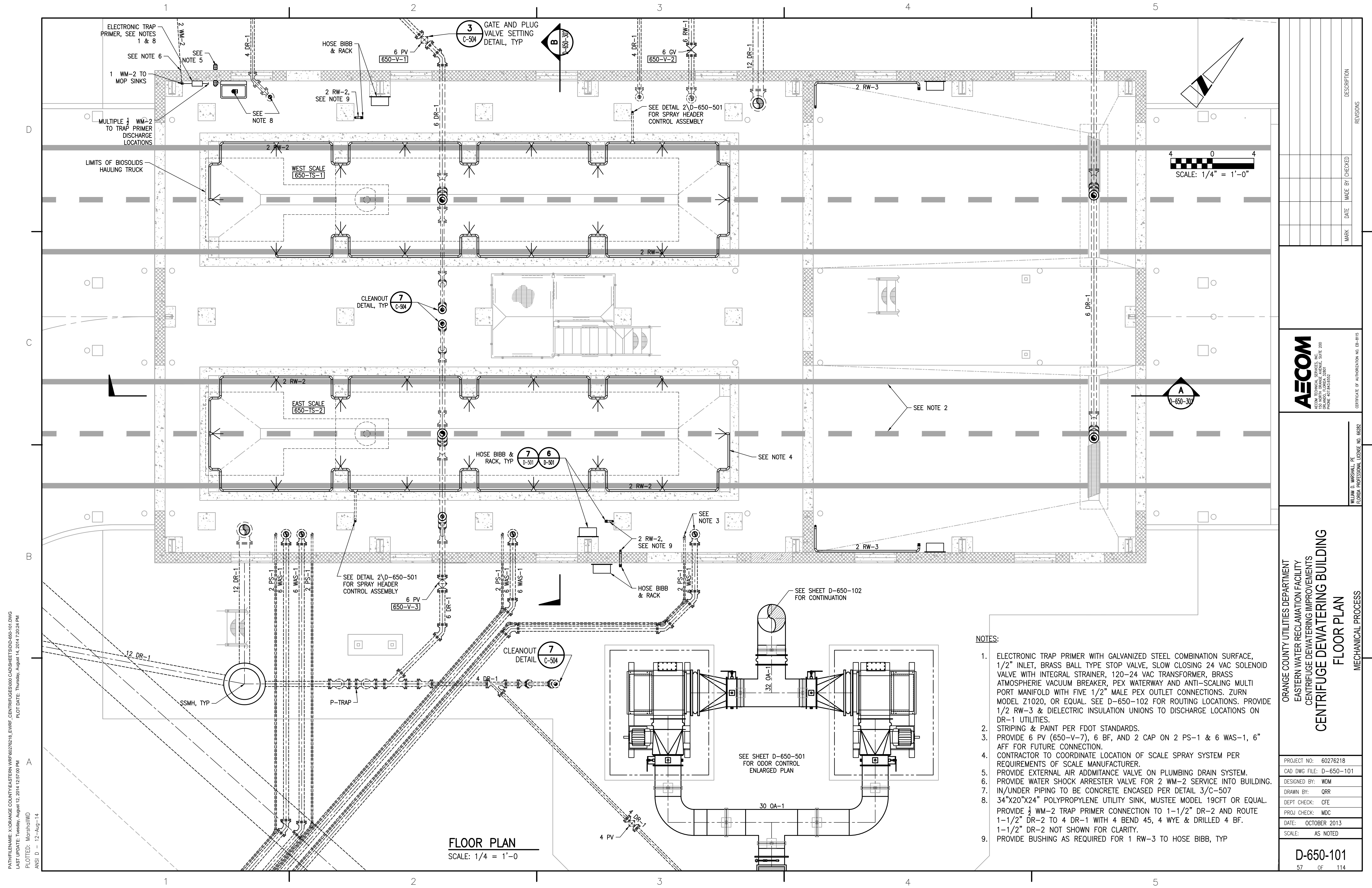
							<small> CERTIFICATE OF AUTHORIZATION NO. EB-816 WILLIAM D. MARSHALL, P.E. FLORIDA PROFESSIONAL LICENSE NO. 66582 </small>
ORANGE COUNTY UTILITIES DEPARTMENT EASTERN WATER RECLAMATION FACILITY PHASE V IMPROVEMENTS PRETREATMENT STRUCTURE SECTIONS MECHANICAL PROCESS							
<small> PROJECT NO: 60222491 CAD DWG FILE: D-500-303 DESIGNED BY: WDM DRAWN BY: QRR DEPT CHECK: CFE PROJ CHECK: MDC DATE: OCTOBER 2013 SCALE: AS NOTED </small>							
D-500-303 <small>250 OF 527</small>							

**BOARD OF COUNTY COMMISSIONERS
ORANGE COUNTY, FLORIDA**

**ADDENDUM NO. 7
IFB NO. Y14-748**

**ORANGE COUNTY EASTERN WATER RECLAMATION FACILITY
PHASE V AND CENTRIFUGE DEWATERING IMPROVEMENTS**

**DRAWINGS
BID PACKAGE B**



PATH: I:\ORANGE COUNTY\ESTERN WRF\60276218\E\WRF_CENTRIFUGES\000 CAD\SHSHEETS\00-650-101.DWG
 LAST UPDATE: Tuesday, August 12, 2014 12:57:00 PM
 PLOTTED: Mofsho\WD
 ANSI D - 12-Aug-14

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

- NOTES:**
- ELECTRONIC TRAP PRIMER WITH GALVANIZED STEEL COMBINATION SURFACE, 1/2" INLET, BRASS BALL TYPE STOP VALVE, SLOW CLOSING 24 VAC SOLENOID VALVE WITH INTEGRAL STRAINER, 120-24 VAC TRANSFORMER, BRASS ATMOSPHERIC VACUUM BREAKER, PEX WATERWAY AND ANTI-SCALING MULTI PORT MANIFOLD WITH FIVE 1/2" MALE PEX OUTLET CONNECTIONS. ZURN MODEL Z1020, OR EQUAL. SEE D-650-102 FOR ROUTING LOCATIONS. PROVIDE 1/2 RW-3 & DIELECTRIC INSULATION UNIONS TO DISCHARGE LOCATIONS ON DR-1 UTILITIES.
 - STRIPING & PAINT PER FDOT STANDARDS.
 - PROVIDE 6 PV (650-V-7), 6 BF, AND 2 CAP ON 2 PS-1 & 6 WAS-1, 6" AFF FOR FUTURE CONNECTION.
 - CONTRACTOR TO COORDINATE LOCATION OF SCALE SPRAY SYSTEM PER REQUIREMENTS OF SCALE MANUFACTURER.
 - PROVIDE EXTERNAL AIR ADMITTANCE VALVE ON PLUMBING DRAIN SYSTEM.
 - PROVIDE WATER SHOCK ARRESTER VALVE FOR 2 WM-2 SERVICE INTO BUILDING.
 - IN/UNDER PIPING TO BE CONCRETE ENCASED PER DETAIL 3/C-507
 - 34"x20"x24" POLYPROPYLENE UTILITY SINK, MUSTEE MODEL 19CFT OR EQUAL.
 - PROVIDE 1/2 WM-2 TRAP PRIMER CONNECTION TO 1-1/2" DR-2 AND ROUTE 1-1/2" DR-2 TO 4 DR-1 WITH 4 BEND 45, 4 WYE & DRILLED 4 BF. 1-1/2" DR-2 NOT SHOWN FOR CLARITY.
 - PROVIDE BUSHING AS REQUIRED FOR 1 RW-3 TO HOSE BIBB, TYP

<p>ORANGE COUNTY UTILITIES DEPARTMENT EASTERN WATER RECLAMATION FACILITY CENTRIFUGE DEWATERING IMPROVEMENTS FLOOR PLAN MECHANICAL PROCESS</p>	<p>AECOM <small>AECOM TECHNICAL SERVICES, INC. 2000 CENTRAL EXPRESSWAY, SUITE 200 ORLANDO, FLORIDA 32801 PHONE: 407.843.6522</small></p>
<p>PROJECT NO: 60276218 CAD DWG FILE: D-650-101 DESIGNED BY: WDM DRAWN BY: QRR DEPT CHECK: CFE PROJ CHECK: MDC DATE: OCTOBER 2013 SCALE: AS NOTED</p>	<p>WILLIAM D. MARSHALL, PE FLORIDA PROFESSIONAL LICENSE NO. 66982 CERTIFICATE OF AUTHORIZATION NO. EB-616</p>
<p>D-650-101 57 OF 114</p>	