Jacobs

ADDENDUM NO. 3 Date: March 24, 2026
TO THE CONTRACT DOCUMENTS Project No.: D3755100

for the construction of
WRIGHT SMITH JR WWTP ELECTRICAL, I & C AND HVAC MODIFICATIONS PROJECT
MOBILE AREA WATER AND SEWER SERVICES (MAWSS)
MOBILE, AL

To All Planholders and/or Prospective Bidders:

The following changes, additions, and/or deletions are hereby made a part of the Contract Documents for the construction of Wright Smith Jr WWTP Electrical, I & C and HVAC Modifications Project dated January 2026 as fully and completely as if the same were fully set forth therein:

A. **PART 1—MAWSS STANDARD SPECIFICATIONS**

1. The Proposal form is hereby reissued in its entirety for use by all bidders with significant changes as follows:

   - revise alternate bid 3 to replace the high-mast light fixture bulbs rather than the entire fixture
   - revise alternate bid 5 to obtain a unit price for replacement of high-mast light fixture bulbs rather than the entire fixture
   - change Alternate 6 into Alternates 6 and 7 with single bid amounts for the buildings as indicated under each alternate
   - Renumber Alternates 7 and 8 to be Alternates 8 and 9 and request a single bid amount total for the various wire sizes.

2. Section 01 11 00 Summary of Work is hereby reissued in its entirety with changes to reflect the changes in the Proposal form and also indicate the inclusion of the primary power service and transformer within the project scope of work.

B. **PART 2—TECHNICAL SPECIFICATIONS**

1. Specification Section 40 90 00 is revised to delete subparagraphs 1.01.B.3.g.1 thru 3 and add subparagraphs 1.01.B.21 to read as follows:

   21. Incorporate the existing SCADA Network Panel in the Sludge Pump and Gas Generation Building (Facility 56) into the new fiber optic loop for the control network. The existing network connection is single-mode fiber. Convert the components in this panel to be compatible with the new fiber optic network.

       a. Install networking equipment, fiber optic components, and other panel components as identified in the Drawings and Specifications. b. PICS is responsible for supplying components necessary to deliver a fully functional network control panel.

b. Remove existing network and fiber optic components that are deemed unnecessary once the new fiber optic control network is installed.

c. Coordinate with Owner regarding whether removed components should be returned to the Owner or discarded appropriately.

d. Configuration of Ethernet switch shall be by ASP.

2. Specification Section 40 90 00 Supplements 2, 3, and 4 are reissued to include changes as indicated.

3. Revise 40_90_00 Supplement 3 as reissued to ADD I/O for the bypass contact state of Secondary Effluent Pumps 1 and 2.

C. **PART 3—<u>DRAWINGS</u>**

1. Revise Drawing 05-E-2001(as issued with Addendum 2) to Delete P01, P02 and the new transformer at 58-OEB and reroute P10 to run from the manhole to the existing transformer (to be replaced) (See item 3 and 6 below for sequencing notes)

2. Revise all 58-Operations Electric Building (58- OEB) Drawings to delete the transformer. Retain the driveway as per Drawing 05-C-2002.

3. Revise Power Ductbank Sections of Drawing 05-E-6003 (as issued with Addendum 2) as follows:

- Delete sections P01 and P02.
- Delete the [1000E3] connection from the existing boiler main disconnect to the main switchboard in sections P05, P06, and P09.
- Add to sections P05, P06, and P09 the [2500E3] feed from main switchboard to existing/new transformer.
- Show the [2500E3] conduits routed parallel to the other contents of these ductbank sections rather than incorporated into the same duct.
- Route the [2000E4] conduits for the generator connection to the main switchboard with the [2500E3] conduits.
- Delete the [1000E3] feed to the 800A disconnect feeding the boiler as indicated in section P10 and replace it with [2500E3] (6 conduits for: (6) 3-1/2”C, 3#600,#350G) to be constructed in two phases. Install three of the parallel runs of [2500E3] as Phase 1, intercepting the existing three 3-1/2” conduits running from the transformer to the removed 800A boiler feed breaker. This will provide a connection from the transformer to the main switchboard in 58-OEB. Install the additional three parallel runs of [2500E3] as Phase 2, run from the manhole to the transformer. This will complete the full set of 6

conductors per phase for the [2500E3] circuit from the transformer to 58-OEB. (See item 6 below for sequencing notes)

4. Revise Drawing 06-E-6001 as follows:

   - Change “Alabama Power Company Transformer” to “Primary Service Transformer”
   - Add transformer rating information (2000kVA, 22.86kV Delta – 480Y/277V, 5.75% impedance.
   - Change the incoming power feed from [3200E3] to be [2500E3]
   - Change the main switchboard’s main breaker trip rating to 2500A.
   - Add General Note 5 as follows: “Switchboard feed shall be initially from the existing transformer. Contractor shall replace the transformer once all power demands from the existing 52 - Generator Electrical Building have been disconnected.”
   - Delete the [1000E3] feed to the 800A existing boiler disconnect.
   - Delete the 800A feed breaker in the main switchboard for the existing boiler.

5. Revise all 52-E Drawings to mark the existing transformer for replacement, mark the exterior 800A breaker cabinet for demolition, and add a note as follows: “Contractor shall replace the transformer once all power demands from the existing 52 - Generator Electrical Building have been disconnected.”

6. Revise Drawing 01-G-005 Sequence of Construction to include the following notes:

   - 10. Interruption of utility power for removal of the boiler feed leads at the existing incoming power transformer shall be coordinated with MAWSS to allow generator support of the plant operations through the existing switchboard in 52 - Generator Electrical Building. Outage shall be no more than 4 hours and shall occur during daylight hours.
   - 11. Installation of duct bank P10 shall occur in two phases. Phase 1 shall intercept the existing duct bank of 3 3-1/2” conduits routed from the transformer to the 800A boiler feed disconnect. Interruption of utility power for Phase 1 connection of 58-OEB to the existing primary power transformer shall be coordinated with MAWSS to allow generator support of the plant operations through the existing switchboard in 52 - Generator Electrical Building. Outage shall be no more than 4 hours and shall occur during daylight hours.
   - 12. While the plant main power feed is in the Phase 1 configuration:
     - Its ampacity shall be ~1260A.

- Coordinate switchboard selection to initially set the main breaker trip setting or rating plug at 1250A.
- Confirm switchboard power metering is functional and will provide accurate power information to the Owner.
- Coordinate with Owner: movement of plant loads from 52-GEB to 58-OEB and equipment run from 58-OEB in order to limit the demand through the reduced plant main power feed while in this configuration.

- 13. Phase 2 of the installation of duct bank P10 shall occur after all loads have been moved to 58-OEB. Phase 2 shall include:
  - The temporary removal of the existing transformer and removal of the power feeds from the transformer to 52-GEB
  - The installation of the 2nd half of the [2500E3] circuit in duct P10, using new conduit.
  - Updating of the main switchboard's trip setting or main rating plug to the full 2500A capacity.
  - The reinstallation of the existing transformer.
- 14. Interruption of utility power for the Phase 2 connection shall be coordinated with MAWSS to allow generator support of the plant operations through the new switchboard in 58-OEB. Outage shall be no more than 72 hours.
- 15. Interruption of utility power for replacement of the primary power transformer shall be coordinated with MAWSS to allow generator support of the plant operations through the new switchboard in 58-OEB. Outage shall be no more than 8 hours and shall occur during daylight hours.

7. Revise Drawing 01-G-0010 to delete General Note 3 regarding dampers on fire-rated wall penetrations.

8. Revise Drawings 05-E-2001 and 05-E-6004 as follows:
   - Route an additional set of 350kcmil cable to MCC 7 in the Secondary Electrical Building from the Generator Electrical Building. The route shall utilize an existing spare 3" conduit from the Generator Electrical Building westward to the manhole at the east end of duct P13, and continue to the manhole at the west end of duct P14. Add a new 3" conduit continuing to the Secondary Electrical Building routed along the existing power duct bank P15 and p16 and extending along the existing duct bank (not shown) to the Secondary Electrical Building
   - Route an additional set of 350kcmil cable to MCC 4 in the Sludge Pump / Gas Generation from the Generator Electrical Building. The route shall utilize an existing spare 3" conduit from the Generator Electrical Building to

the Sludge Pump / Gas Generation. If the aforementioned spare is unavailable, connect to and utilize one of the existing 3" conduits routed from the to-be demolished boiler 600A breaker panel to the Sludge Pump / Gas Generation Building.

9. Revise Drawing 05-E-2001 to ADD General Note 3 to read “Bid Alternate 5 for the unit price replacement of high mast light bulbs shall replace existing bulbs with Sylvania LED120HIDR/840 or equal.

10. Revise Drawing 05-E-2002 as follows:
    - Add 6-#14 with 1 #14G discrete signal conductors between 55-PAC-1 in the Secondary Electric Building and the freestanding diesel-driven pump at the transfer pump station. Conductors shall utilize existing control conduits to reach the transfer pump station from the Secondary Electric Building. Add the I/O as indicated in the revised I/O list of 40 90 00 Supplement 3. PICS shall coordinate onsite diesel pump signals and add interposing relays in 55-CP-1 if necessary.
    - Revise Key Note 3 to require the replacement of the high mast light bulbs in addition to the lifting mechanism. Bulbs shall be Sylvania LED120HIDR/840 or equal.

11. Revise 06-E-6003 to show [150PV3] for secondary effluent pumps 1/3/4 and [175PV3] for secondary effluent pump 2. Update one-line diagram on 06-E-6004 to show integral full voltage bypasses on all four secondary effluent pump VFD’s. Update secondary effluent pump control diagram on 06-E-6202 to include schematic and control signals for an integral full voltage bypass starter. Bypass starters for these drives will be integral to the units and not require an additional set of power conductors from MCC6/7

12. Drawings 06-E-0001, 06-E-0003 and 56-E shall be revised to reflect Primary Digester Mixer #2’s motor is currently powered off the bus of MCC 3 with a fused disconnect located on Facility 56’s north wall. Drawings 06-E-6001, 06-E-6003 and 56-E drawings shall be revised to retain the wall-mounted disconnect with the replacement feed to the disconnect off of a 30A breaker in MCC 3. Additionally, under a separate contract, a power feed to Primary Digester Mixer #1’s motor is to be installed by others to be powered off the bus of MCC 3 with a fused disconnect located on Facility 56’s north wall. This wall-mounted disconnect shall also be retained with the replacement feed to the disconnect off of a 30A breaker in MCC 3 of Facility 56.

13. Revise drawing 52-E-2001 to reflect circuit 2000E4 to the existing generator is to be routed though duct P11 exiting the Generator Electrical building at the southeast corner.

14. Reference Drawings 59-TY-2001, and 59-TY-6001, the drawings shall be revised to reflect that doors 101C and 102A will have electrified strikes instead of magnetic locks. Additionally, those electrified strikes will be provided and installed by others prior to this project with final connection and activation to be under this project. Door control shall be per detail 2813-005.

15. Revise Drawing 06-E-6001 to show Panel P's main breaker and bus rating as 150A.

16. Revise Drawing 06-E-6001 to indicate a 225A breaker and feed ([225E3]) to panel MB1 at the maintenance building.

17. Revise 06-E-6002 on 05-E-6003 to show [200PV3] for influent pump VFD feeds in accordance with riser on 06-E-6201. Full voltage bypass for this drive shall be integral to the unit and not require an additional set of power conductors from MCC1/2.

D. **PART 4 – March 16, 2026 PRE-BID CONFERENCE**

1. The annotated Agenda from the Pre-Bid Conference as conducted on March 16, 2026 is herewith attached for information. This agenda does not alter the contract documents but only consolidates information already found in the contract documents or included in this addendum.
2. The sign-in sheet from the Pre-Bid Conference is herewith attached for information.

E. **PART 5 - QUESTIONS AND RESPONSES (Q and R)**:

1. Q: Is the security system replacement including all cameras, door locks, door status components, interconnecting fiber and recording system to be entirely provided and installed under this contract?

   R: Yes. The contract documents reflect a complete and fully functional system to be provided under this contract. The only exception is the provision of limited components as indiacted in the drawing changes of 59-TY drawings as indicated by this addendum.

2. Q: Who owns the incoming fiber and what coordination is required with them?

   R: The incoming fiber is owned by Unity Fiber (Gabe Watson 251-391-8759). The required conduits of this project include a path for the incoming fiber to be rerouted to the Operations Electrical building. Contractor shall coordinate with Unity Fiber for the routing and terminations of that fiber so as to minimi9ze outage of service to the WWTP.

3. Q: Where does power come from for the free-standing camera poles?

   R: A: Per 05-TY-6002 and 6003, the power source for camera poles is indicated by the panel and circuit on the riser diagrams for each pole mounted SWP. For poles CP01,04 and 06, reconnect the power supply serving the existing poles.

4. Q: Where the duct bank sections indicated existing conduit, are we to assume the conduit is empty at this time?

   R: No, The conduits reflected as existing but noted to be used for the fiber loops are a combination of currently empty spares or conduits currently containing existing fiber or control wiring as scheduled to be removed during the work.

5. Q: Are Owner’s manuals available on the existing generator and ATS??

   R: The subject drawings have not been located to date.

6. Q: New building 58 north corner is over laying an existing 4 ea-3" PVC electrical conduit run. Will the conduits need to be relocated? 4-3" PVC conduits indicate that it is a feeder or feeders to larger loads. What do they feed? What will need to be shut down to relocate conduits? Can the building foot print be shifted south to avoid the existing conduits?

   R: Per Drawing 05-C-2002, the duct bank was located by Ground Penetrating Radar to have a top elevation varying from 21.4 to 24.6. adjacent to the building. The subgrade of the building's northwest corner footer is at 25.5. The subgrade of the stair landing is 23.5. As there is not a physical conflict, the ducts will not need to be relocated.

7. Q: A cost to relocate “unknown utility -see note 3 " on drawings can not be given until utility is identified. Will cost of relocating "unknown utilities" that are obstructing new construction be handled on a T&M basis during construction?

   R: Per Keynote 3 of 05-C-2002, Contractor is to identify unknown utilities' contents and connection points and provide that information to MAWSS for direction. If necessary to be relocated, such relocation will be compensated using the Owner's contingency allowance.

8. Q: Ref Video Security System - Are poles purchased and installed by Security (Div 28)? If so, where are the specifications for the pole part number?

   R: See Detail 2813-040 for the required pole model. The referenced work is to be completed as a part of the subject contract. Division of work by the Contractor among subcontractors is at the Contractor's discretion.

9. Q: In Addendum 1, Part 3-Drawings #3- Remove existing camera pole, cameras, and wireless equipment, who is responsible for this?

   R: The referenced work is to be completed as a part of the subject contract. Division of work by the Contractor among subcontractors is at the Contractor's discretion.

10. Q: In Addendum 1, Part 3-Drawings #4 - is any demolition required besides installing new equipment?

    R: Required demolition is as noted under Key Note 7. Protect the existing intercom, gate, fence and other components not indiacted to be removed and coordinate reconnection as indicated.

11. Q: Drawing 99-TY-5003, detail 2813-032 and 2813-030, existing wall that could be block walls and ceilings that are not dropped tiles, are 4" boxes surface mounted?

    R: Yes. Where wall-mount or ceiling-mount cameras are to be installed on existing CMU walls or exposed concrete ceilings, the termination box shall be surface-mount.

12. Q: Is a workstation/computer to be included in this bid?

    R: See drawing 54-E-2001.

13. Q: Does this job has a Architectural Precast finish/ If so, are there pics or samples to match of the existing building?

    R: See specification section 13 34 23 Paragraph 2.03.L. Color selection will be made during the submittal process.

14. Q: Are there any wall section drawings that shows the depth of the panels? Are the panels insulated?

    R: See specification section 13 34 23 regarding wall panel minimum thickness and insulation.

15. Q: Are the panels structural or would they be cladding?

    R: See specification section 13 34 23. All panels are structural.

16. Q: Drawing 01-G-0015 General Note #15 states to add a surge suppressor for circuits 600V or less. Clarify which existing panels or equipment will require new surge protectors and specify size for existing equipment.

    R: This applies only to new circuits.

17. Q: Drawing 01-G-0015 General Note #32 states all underground in ductbank or outdoor cable to be tray cable. The "general circuit conductor identification in drawing 01-G-0014 shows single conductors. Clarify if underground 600V wire is to be multiconductor tray cable or single conductor wire fire taped in manholes.

    R: Underground/outdoor 600V rated cable shall be single conductor wire as indicated on the conductor schedules, and rated for installation in Cable tray and/or direct burial and continuous submersion where installed in underground ducts.

18. Q: Is dual rated THHN-2 single conductor 600V wire acceptable for wire sizes larger than #6? THHN-2 dual rated 600V wire is rated for below grade use.

    R: No, use cable with XHHW-2 insulation for sizes #6AWG and larger.

19. Q: Drawing 05-E-2001 indicates new electrical handholes to be 2ft x 2ft on site drawings. The handhole detail on sheet 99-E-603 show minimum of 48" required. Please clarify size required.

    R: Size listed on the site drawings is for the anticipated minimum dimensions based on quantity/size of conduits. Conform to detail 2605-444 for handhole construction.

All Bidders shall acknowledge receipt and acceptance of Addendum No. 3 in the Bid Form or by submitting the Addendum with the bid package. Bid Forms submitted without acknowledgment or without this Addendum will be considered in nonconformance.

Jacobs.

David Carr, P.E.
Project Manager

Appended hereto and part of Addendum No. 3:

Proposal – Ad 3
01 11 00 Summary of Work – Ad 3
26 12 02B Pad-Mounted Transformers - Ad3
40 90 00 Supplement 2
40 90 00 Supplement 3
40 90 00 Supplement 4
3-16 Prebid Conference agenda
3-16_ prebid_signin_sheet

END OF ADDENDUM

PROPOSAL

TO: BOARD OF WATER AND SEWER COMMISSIONERS OF THE CITY OF MOBILE, ALABAMA

Submitted:_____
(Date)

The undersigned, as Bidder, hereby declares that he has examined the site of the Work and informed himself fully in regard to all conditions pertaining to the place where the Work is to be done; that he has examined the Plans and Specifications for the Work and all Contract Documents relative thereto, and has read the Board's Standard Specifications and all General Conditions and Special Provisions furnished; and that he has satisfied himself relative to the Work to be performed.

The Bidder proposes and agrees, if this Proposal is accepted, to contract with the Board of Water and Sewer Commissioners of the City of Mobile, Alabama, in the form of contract specified to furnish all materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the following Work:

WRIGHT SMITH JR. WWTP ELECTRICAL, I & C AND HVAC MODIFICATIONS
JACOBS PROJECT NO. D3755100

in full and complete accordance with the shown, noted, described and reasonably intended requirements of the Plans, Specifications and all other Contract Documents to the full and entire satisfaction of the Board of Water and Sewer Commissioners of the City of Mobile, Alabama with a definite understanding that no money will be allowed for extra work except as set forth in the attached General Conditions and other Contract Documents for the lump sum or unit prices listed opposite each item.

It is agreed that the description under each item, being briefly stated, implies, although it does not mention, all incidentals and that the prices stated are intended to cover all such work, materials and incidentals as constitute Bidder's obligations as described in the Specifications and any details not specifically mentioned, but evidently included in the Contract shall be compensated for the item in which it most logically is included.

The Owner reserves the right to award the Contract to the lowest responsible and responsive Bidder. The basis of award for this project shall be based upon the Total Base Bid plus the total amount of alternates that are selected by the Owner.

As reflected by the bid schedule below, the Bidder shall include an Owner's Contingency Allowance in the amount of $200,000.00 in the total base bid price.

Bidder will complete the work in accordance with the Contract Documents for the following price:

All work under Base Bid exclusive of Owner's Contingency Allowance $_____

Owner's Contingency Allowance: $ 200,000.00

TOTAL LUMP SUM BASE BID (total of above and equal to total bid)

$_____Dollars and _____Cents
(words)

$_____
(numerals)

Alternate No 1. – Additional Asphalt Overlay (Unit Price Basis)

Bidder further proposes that if the Board of Water and Sewer Commissioners of the City of Mobile, Alabama elects to direct and include additional asphalt milling and overlay of existing paved areas (concurrent with other paving operations) inclusive of all associated work as necessary to complete the milling and overlay, the Contract Price will be increased on a unit price basis of $_____ (numerals) per square yard in the bid quantity of 1,000 square yards for a total amount of:

_____Dollars and _____Cents
(words)

$_____
(numerals)

Alternate No 2. – Asphalt Replacement (Unit Price Basis)

Bidder further proposes that if the Board of Water and Sewer Commissioners of the City of Mobile, Alabama elects to direct and include asphalt removal and replacement with 3 inches thick asphalt (concurrent with other paving operations) inclusive of all associated work as necessary to complete the replacement, the Contract Price will be increased on a unit price basis of $_____ (numerals) per square yard in the bid quantity of 200 square yards for a total amount of:

_____Dollars and _____Cents (words)

$_____
(numerals)

Alternate No 3. – High-Mast Light Lifting Mechanism and Fixture Bulb Replacement

Bidder further proposes that if the Board of Water and Sewer Commissioners of the City of Mobile, Alabama elects to direct and include replacement of the high-mast light lifting mechanism and all the bulbs of the light fixtures on the pole as indicated in the Drawings inclusive of all associated work as necessary to complete the replacement, the Contract Price will be increased in the amount of:

_____Dollars and _____Cents
(words)

$_____
(numerals)

Alternate No 4. – Wright Smith Jr. WWTP Entrance Sign

Bidder further proposes that if the Board of Water and Sewer Commissioners of the City of Mobile, Alabama elects to direct and include the construction of a Main Entry Sign at the Wright Smith Jr. WWTP along with any and all associated components and efforts as required to complete the work as indicated in the contract documents, the Contract Price will be increased in the amount of:

_____Dollars and _____Cents
(words)

$_____
(numerals)

Alternate No 5. – High-Mast Light Fixture Bulb Replacement (Unit Price Basis)

Bidder further proposes that if the Board of Water and Sewer Commissioners of the City of Mobile, Alabama elects to direct and include replacement of high-mast light fixture bulbs on various poles as directed by the Owner inclusive of all associated work as necessary to complete the replacement, the Contract Price will be increased on a unit price basis of $_____ (numerals) per bulb in the bid quantity of 10 bulbs for a total amount of:

_____Dollars and _____Cents
(words)

$_____
(numerals)

Alternate No 6. –Internal Wiring and Fixture Replacement of Buildings: 10- Supervisor's Office, 20 - Influent Lift Station, 50 - Chlorine Building and 56 - Sludge Pump and Gas General Building (Exclusive of gas compressor room)

Bidder further proposes that if the Board of Water and Sewer Commissioners of the City of Mobile, Alabama elects to direct and include the rewiring of the identified structures, the Contract Price will be increased in the amount of:

_____Dollars and _____Cents
(words)

$_____
(numerals)

Alternate No 7. –Internal Wiring and Fixture Replacement of Buildings: 52- Generator Electrical, 54 – Operations, 55 - Secondary Electrical and 57 - Sludge Transfer

Bidder further proposes that if the Board of Water and Sewer Commissioners of the City of Mobile, Alabama elects to direct and include the rewiring of the identified structures, the Contract Price will be increased in the amount of:

_____Dollars and _____Cents
(words)

$_____
(numerals)

Alternate No 8. – Selected 480V Conductor Replacement (Selected Unit Price Basis)

Bidder further proposes that if the Board of Water and Sewer Commissioners of the City of Mobile, Alabama elects to direct and include the replacement of selected 480V conductors within existing conduits, the Contract Price will be increased in the unit-price based amount per conductor size and type as indicated below:

Conductor Size	Conductor Type	Unit Price	Unit	Allowance Length	Extension
10 AWG	GND		LF	1500	
12 AWG	GND		LF	2000	
10 AWG	THHN		LF	1500	
12 AWG	THHN		LF	2500	
				Total Alternate 8 w/ All Conductors =	

Alternate No 9. – Selected 120/240 and 480V Conductor Replacement (Selected Unit Price Basis)

Bidder further proposes that if the Board of Water and Sewer Commissioners of the City of Mobile, Alabama elects to direct and include the replacement of selected 120/240 and 480V conductors within existing conduits, the Contract Price will be increased in the unit-price based amount per conductor size and type as indicated below:

Conductor Size	Conductor Type	Unit Price	Unit Price	Allowance Length	Extension
6 AWG	GND		LF	1000	
10 AWG	GND		LF	1500	
12 AWG	GND		LF	2500	
2/0 AWG	THHN		LF	4000	
8 AWG	THHN		LF	10000	
10 AWG	THHN		LF	1500	
12 AWG	THHN		LF	7000	
#2/0 AWG	TYPE 9		LF	1800	
#3/0 AWG	TYPE 9		LF	300	
1/0 AWG	XHHW		LF	1500	
				Total Alternate 9 w/ All Conductors =	

The bidder attest that his bid is based upon the following manufacturer/supplier selections and changes will not be made after the bid:

(**Bidder is to write in or circle the selected manufacturer or supplier**)

Section Number	Description	Manufacturer/Supplier
03 40 00	Precast Building Elements	_____ (Bidder to Identify)
26 29 23	Adjustable Frequency Drive	Danfoss (Basis of Design)
		Eaton Cutler Hammer
		Siemens Robicon
		Square D
28 00 00	Security Integrator	Security Engineering Inc.
		Guardian Integrators
40 90 01	Integrator	Hargrove and Associates, LLC
		Electric Machine Control, Inc.
		Prime Controls, LP
		Prism Systems, Inc.
		Revere Control Systems, Inc.

The Bidder further proposes and agrees hereby to commence the Work with an adequate force, plant and equipment at the time stated in the notice to the Contractor from the Engineers to proceed, and fully complete performance within 270 consecutive calendar days from and after the date stated in said notice.

The undersigned further agrees that, in case of failure on his part to execute the said Contract and the bond within 10 consecutive calendar days after written notice being given of the award of the Contract, the check or bid bond in the amount of 5 percent of this bid accompanying this bid, and the monies payable thereon, shall be paid into the funds of the Board of Water and Sewer Commissioners of the City of Mobile, Alabama as liquidated damages for such failure; otherwise the check or bid bond accompanying this Proposal shall be returned to the undersigned:

Attached hereto is a certified check on the _____
Bank of _____or a Bid Bond for the sum of _____
_____ Dollars ($_____)

made payable to the Board of Water and Sewer Commissioners of the City of Mobile, Alabama.

By_____
(Legal Signature)

_____
(Printed Name and Title)

Witness:_____
(Legal Signature)

Witness:_____
(Legal Signature)

ADDRESS:

_____

_____

CONTRACTOR'S LICENSE NO:

_____

BIDDER acknowledges receipt of the following ADDENDA:

_____

SECTION 01 11 00
SUMMARY OF WORK

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

A. The completed Work will provide Owner with the components at the Wright Smith Jr. WWTP as generally enumerated as follows:

1. Replacement electrical power service, transformers, switchgear, multiple MCC's, variable frequency drives and accessories in multiple buildings.
2. A modified SCADA system and fiber optic ring providing fiber interconnectivity to multiple buildings.
3. New security access control, security lighting, and video security components as associated with the new facility.
4. Two new buildings designated as the Operations Electrical Building and the Secondary Electrical Building-2.
5. Replacement RTU's in multiple buildings.
6. Replacement LED lighting in multiple buildings.
7. Replacement ventilation fans, air conditioning units and accessories in multiple buildings.
8. Additional ventilation fans and accessories in multiple buildings.
9. Miscellaneous site/civil improvements associated with the new buildings.

B. Alternates:

1. The Owner may accept or reject any additive alternate at its sole discretion irrespective of its acceptance of any other Additive Alternate except as indicated herein.
2. Either or both of Additive Alternates 1 and 2 may or may not be accepted by the Owner at any time at or after the award of the Contract up to the initiation of the majority of the Project's required pavement operations at the Owner's sole discretion. The quantities of either additive alternate is at the Owner's discretion without a change in the Contract time or the unit price up to a quantity to encompass all of the existing paved areas of the facility. Unused or overages on quantities will be the basis of a change order modifying the Contract amount. The acceptance of these additive alternates will not be a basis for a change in the Contract time.
3. Acceptance of Alternate 8 and/or 9 establishes a unit price allowance for the indicated conductor sizes up to the indicated quantities. Use of

the bid unit prices beyond those quantities shall only be at the mutual agreement of Owner and Contractor.

4. Alternates are as described below:
   a. Alternate No. 1: Provide additional asphalt milling and overlay on a unit price basis as bid. Milling and overlay shall be of the areas as directed by the Owner and in accordance with the Contract details for milling and overlay. Where exiting pavement striping is removed, replacement striping shall be considered incidental to the replacement unit price.
   b. Alternate No. 2: Provide asphalt replacement on a unit price basis as bid. Replacement shall be of the areas as directed by the Owner and in accordance with the specification requirements for asphalt patching. Where exiting pavement striping is removed, replacement striping shall be considered incidental to the replacement unit price.
   c. Alternate No. 3: Provide and install replacement high-mast light lifting mechanism and full replacement of the bulbs in all the light fixtures of the pole as indicated on sheet 05-E-2002 with mechanism and bulbs as specified. NOTE: Pole lifting mechanism is currently inoperable.
   d. Alternate No. 4: Wright Smith Jr. WWTP Entrance Sign to include the supply and construction of the entrance sign with lighting as indicated in the Drawings.
   e. Alternate No. 5: Replace light bulbs on the fixtures on the high-mast light poles as indicted by the Owner with bulbs as specified on a per each basis inclusive of all associated work as necessary to complete the replacement.
   f. Alternate No. 6 and Alternate No. 7: Replace all 120/240V conductors not already scheduled to be replaced where those conductors run within the same building on a lump sum basis. Replacement shall include all 120/240V switches and plugs with materials as specified within the identified buildings. Replacement conductors shall utilize the existing conduits to the fullest extent possible but shall include replacement conduit where reuse of the existing is not possible. Replacement includes any and all associated components and efforts as required to complete the Work. Where work requires the removal of batt insulation, the insulation shalt be replaced with equivalent R-value insulation as a component of the bid price. Where drop-in acoustic tile ceilings are contracted for just the tiles to be replaced but the building rewiring under this alternate requires the removal of the acoustic tile grid, the grid shall be replaced in the affected rooms as a component of the respective alternate bid price. For building 56 Sludge pump and Gas Generator Building, the gas generator building is excluded from the alternate’s scope of work.

g. Alternate No. 8: Replace selected 480V conductors not already scheduled to be replaced where those conductors run within the same building. Replacement conductors shall utilize the existing conduits to the fullest extent possible but shall include replacement where reuse of the existing is not possible. Work under this unit price includes replacement any conduit seals along with any and all associated components and efforts as required to complete the installation of the new conductors. Replacements shall be of the size, type, and location as directed by the Owner with payment on a per-foot unit-price basis by conductor size and type per the bid schedule. Payment will be made based upon the actual length installed with a minimum of 30 feet per required pull as tracked by the Owner's representative.

h. Alternate No. 9: Replace selected 120/240 and 480V conductors not already scheduled to be replaced where those conductors run from a building to the load outside the building or between loads outside a building. Replacement conductors shall utilize the existing conduits to the fullest extent possible. Where reuse of the existing conduit is not possible, Owner will provide direction on use of spare conduits or replacement as an Owner’s Allowance allocation. Work under this unit price includes replacement of any conduit seals along with any and all associated components and efforts as required to complete the installation of the new conductors. Replacements shall be of the size, type, and location as directed by the Owner with payment on a per-foot unit-price basis by conductor size and type per the bid schedule. Payment will be made based upon the actual length installed with a minimum of 60 feet per required pull as tracked by the Owner's representative.

i. A Contract time change is not associated with any of these alternates.

1.02 PROVISIONS FOR FUTURE WORK

A. Provisions for future construction are shown on the Drawings.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 26 12 02
OIL-FILLED PAD MOUNTED TRANSFORMERS

PART 1 GENERAL

1.01 REFERENCES

A. The following is a list of standards which may be referenced in this section:

1. ASTM International (ASTM): D3487, Standard Specification for Mineral Insulating Oil Used in Electrical Apparatus.
2. Institute of Electrical and Electronics Engineers, Inc. (IEEE):
   a. 386, Standard for Separable Insulated Connector Systems for Power Distribution Systems Above 600V.
   b. C57.12.00, Standard General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers.
   c. C57.12.22, Pad-Mounted, Compartmental-Type, Self-Cooled, Three-Phase Distribution Transformers with High-Voltage Bushings, 2,500 kVA and Smaller.
   d. C57.12.26, Pad-Mounted, Compartmental-Type, Self-Cooled, Three-Phase Distribution Transformers for Use with Separable Insulated High Voltage Connectors.
   e. C57.12.28, Switchgear and Transformers—Pad-Mounted Equipment, Enclosure Integrity.
   f. C57.12.90, Standard Test Code for Liquid Immersed Distribution, Power, and Regulating Transformers.
   g. C57.106, Guide for Acceptance and Maintenance of Insulating Oil in Equipment.
   h. C62.11, Metal-Oxide Surge Arresters for Alternating-Current Power Circuits (>1 kV).
3. National Electrical Manufacturers Association (NEMA):
   a. TR 1, Transformers, Regulators, Reactors.
   b. TP 1, Guide for Determining Energy Efficiency for Distribution Transformers.
4. National Fire Protection Association (NFPA): 70, National Electrical Code (NEC).
5. UL.
6. United States Department of Energy: Code of Federal Regulations, Final Rule 10 CPR Part 431 DOE 2016 efficiency.

1.02 SUBMITTALS

A. Action Submittals:

1. Descriptive information.
2. Dimensional drawings.
3. Transformer nameplate data, including efficiency.
4. Schematic and connection diagrams.
5. Seismic anchorage and bracing drawings and cut sheets, as required by Section 01 88 15, Anchorage and Bracing.

B. Informational Submittals:

1. Seismic anchorage and bracing calculations as required by Section 01 88 15, Anchorage and Bracing.
2. Component and attachment testing seismic certificate of compliance as required by Section 01 45 33, Special Inspection, Observation, and Testing.
3. Operation and Maintenance Data: As specified in Section 01 78 23, Operation and Maintenance Data.
4. Factory test reports.

1.03 QUALITY ASSURANCE

A. Design, test, and assemble in accordance with applicable standards of NEMA TR 1, IEEE C57.12.00, IEEE C57.12.22, IEEE C57.12.26, and IEEE C57.12.90.

1.04 EXTRA MATERIALS

A. Furnish, tag, and box for shipment and storage and deliver prior to 90 percent Project completion the following spare parts, special tools, and materials:

1. One quart of paint to match color and quality of equipment final shop finish.
2. One spare fuse links for each replaceable fuse size.
3. Pentahead socket for 1/2-inch socket drive.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Eaton.

B. Square D Co.

C. General Electric.

2.02 GENERAL

A. Integral Unit: Compartmental type unit consisting of transformer, oil-filled tank, and high and low voltage terminating compartments, assembled on a common structural base.

B. Anchor Bolts: Type 316 stainless steel,sized by equipment manufacturer, and as specified in Section 05 50 00, Metal Fabrications.

2.03 TRANSFORMER

A. kVA Rating: 2000kVA.

B. Primary Voltage: 22.86kV line-to-line, three-phase, 60-Hz.

C. Secondary Voltage: 480 volts, three-phase, three-wire, 60 Hz.

D. BIL Rating:

1. 125 kV BIL for 15 kV insulation class transformers.
2. 30 kV BIL for secondary.

E. Temperature Rise: 65 degrees C above 30 degrees average ambient with maximum ambient not to exceed 40 degrees C.

F. Impedance:

1. 1.35 percent minimum for transformers rated 150 kVA and less.
2. 3.0 percent minimum for transformers rated 225, 300, and 500 kVA.
3. 5.75 percent for transformers rated 750 kVA and above.

G. Efficiency: Meet or exceed DOE 2016 efficiency requirements.

H. Dielectric Coolant: Fully biodegradable, nontoxic, and nonbio-accumulating fluid, qualifying as “less flammable” per NEC 450.23; Factory Mutual Approved or UL Classified.

I. Primary Taps:

1. Full capacity, two 2-1/2 percent below and two 2-1/2 percent above, rated voltage.
2. Externally operated no-load tap changer.
3. Provisions for locking handle in any position.

J. Coil Conductors: Copper windings.

K. Wye-wye transformers wound on five-legged or triplex cores.

L. Sound Level: In accordance with manufacturer's standards.

2.04 ENCLOSURE

A. In accordance with IEEE C57.12.28 requirements.

B. Welded carbon steel transformer tank, with cooling panels when required, and lifting eyes.

C. 12-gauge sheet steel terminal compartment enclosure having no exposed screws, bolts, or other fasteners that are externally removable.

D. Color: Provide gray finish as approved by Engineer.

2.05 TERMINAL COMPARTMENTS

A. General: IEEE C57.12.28, enclosed high and low voltage compartments side by side, separated by steel barrier, bolted to transformer tank.

1. Doors:
    a. Individual, full-height, air-filled.
    b. Low voltage door with three-point latching mechanism, vault type handle, and single padlocking provision.
    c. High voltage door fastenings inaccessible until low voltage door has been opened.
    d. Door Bolts: Penta-head type.
    e. Lift-off, stainless steel hinges and door stops.
    f. Removable front sill to facilitate rolling or skidding over conduit stubs.
    g. Recessed lock pocket, with steel door release bolt adjacent to secondary compartment door handle.

B. High Voltage Compartment:

1. Deadfront in accordance with IEEE C57.12.26 type construction.
2. Protective fuses.
3. High voltage bushings.
4. Transformer grounding pad.
5. Surge arresters with barriers.
6. Radial feed, two position sectionalizing load-break switch.

C. Low Voltage Compartment:

1. Livefront in accordance with IEEE C57.12.26 type construction.
2. Low voltage bushings.
3. Grounding pad.
4. Stainless steel equipment nameplate.
5. Liquid level gauge.
6. 1-inch upper filter press and filling plug.
7. Drain valve with sampling device.
8. Dial type thermometer.
9. Pressure relief valve.
10. Pressure relief device, self-resealing with indicator.
11. Pressure-vacuum gauge.
12. Mounting provision for current and potential transformers.
13. Nameplate.

2.06 BUSHINGS

A. High Voltage:

1. Deadfront Termination:
   a. Universal bushing well rated at 15 kV in accordance with IEEE 386.
   b. Bushings externally clamped and front removable.
   c. Rated for 200 amperes continuous, 95 kV BIL.
   d. Standoff brackets located adjacent to bushings.
   e. Insulated Standoff Bushings: Class 15 kV, 95 kV BIL, 200 and 600 amperes, complete with EPDM rubber body, stainless steel eyebolt with brass pressure foot, and stainless steel base bracket.

B. Low Voltage:

1. Molded epoxy bushing clamped to tank with 8 hole spade type terminals.
2. Rated 150 percent of continuous full-load current, 30 kV BIL, 600 volts.
3. Internally connected neutral extending to neutral bushing.

2.07 HIGH VOLTAGE SWITCHING

A. Internal, oil-immersed, gang-operated load-break, manually operated switches.

B. Hot stick operated handle located in high voltage compartment.

C. Capable of operating at full-load current.

D. Feed Switch: Two-position, ON/OFF radial.

2.08 HIGH VOLTAGE PROTECTION

A. Combination Oil-Immersed Bayonet Expulsion and Current Limiting Fuses:

1. Accessibility:
   a. Bayonet expulsion fuse accessible through primary compartment.
   b. Current-limiting fuse accessible through tank handhole.
2. Expulsion Fuse for Low Current Faults: Interrupting capacity of 1,800 amperes rms asymmetrical.
3. Current Limiting for High Current Faults: Interrupting capacity of 50,000 amperes rms symmetrical.
4. Bayonet fuse externally replaceable with hot stick.

2.09 TANK GROUNDING PADS

A. High and Low Voltage Compartments:

1. Connected together with bare No. 2/0 stranded copper conductors.
2. Wye-wye high and low voltage neutrals internally connected with link and brought out to insulated low voltage bushing externally grounded to tank.
3. Low voltage neutral connected to externally mounted insulating bushing in low voltage compartment and grounded to tank with removable strap.

2.10 TAP CHANGER WARNING SIGN

A. Red laminated plastic, engraved to white core.

B. Engrave to Read: DO NOT OPERATE WHEN TRANSFORMER ENERGIZED.

C. Mount above tap changer handle.

2.11 FACTORY TESTS

A. Production tests in accordance with IEEE C57.12.90 and IEEE C57.12.00, Section 8 and Table 16.

B. Dielectric test in accordance with IEEE C57.12.26.

PART 3 EXECUTION

3.01 GENERAL

A. Secure to mounting pads with anchor bolts.

B. Install plumb and longitudinally in alignment with pad or adjacent building wall.

C. Ground neutrals and enclosures in accordance with applicable codes.

3.02 ADJUSTMENTS

A. Adjust voltage taps to obtain rated output voltage under normal operating load conditions.

END OF SECTION

SUPPLEMENT 2
PAC AND NETWORK EQUIPMENT LIST

Notes

1. This Equipment List is an estimate only; it is the responsibility of the PIC supplier to provide all components necessary for a fully functional PAC system that will meet the specifications.
2. A/R = "As Required" to meet functional requirements.
3. All decommissioned devices and patch cables shall be provided to owner as spares.
4. Provide and install new panel door nameplates for all panels modified at Smith WWTP in this project.

Code	Description	Qty.	Model	Manufacturer	Comments
	58-CP-1, OPERATIONS ELECTRICAL BUILDING				Provide all required ancillary PAC hardware including but not limited to module wiring connectors and 5069-FPD potential distributors (as needed) for a fully functional PAC system
Y321	CompactLogix 5380 Controller with 3 MB User Memory,2 GB SD card, USB Port, Dual Ethernet Ports	1	5069-L330ER	Allen Bradley	CPU
~~Y322~~	~~CompactLogix 120VAC Power Supply (5V @ 4A)~~	~~1~~	~~1769-PA4~~	~~Allen Bradley~~	~~Power Supply~~
Y3231	CompactLogix Discrete Input Module	5	5069-IB16	Allen Bradley	24VDC; 16 point module (18 Pin)
Y3232	CompactLogix Discrete Output Module	2	5069-OB16	Allen Bradley	24VDC; 16 point module (18 Pin)
Y3233	CompactLogix Analog Input Module	3	5069-IF4IH	Allen Bradley	4 isolated point module, current and voltage (18 Pin)
Y3234	CompactLogix Analog Output Module	2	5069-OF4IH	Allen Bradley	4 isolated point module, current (18 Pin)
Y040	Uninterruptible Power Supply	1	GXT5 Series	Vertiv	1500 VA or as necessary to meet runtime requirement. Include relay card and interposing relays as necessary.
	Fiber optic patch cables, Cat6 patch cables	A/R			Provide as necessary in appropriate lengths and specified colors.

Code	Description	Qty.	Model	Manufacturer	Comments
	54-CP-1, OPERATIONS BUILDING, CONTROL ROOM				Provide all required ancillary PAC hardware including but not limited to module wiring connectors and 5069-FPD potential distributors (as needed) for a fully functional PAC system
Y321	CompactLogix 5380 Controller with 3 MB User Memory,2 GB SD card, USB Port, Dual Ethernet Ports	1	5069-L330ER	Allen Bradley	CPU
~~Y322~~	~~CompactLogix 120VAC Power Supply (5V @ 4A)~~	~~1~~	~~1769-PA4~~	~~Allen Bradley~~	~~Power Supply~~
Y3231	CompactLogix Discrete Input Module	2	5069-IB16	Allen Bradley	24VDC; 16 point module (18 Pin)
Y3232	CompactLogix Discrete Output Module	1	5069-OB16	Allen Bradley	24VDC; 16 point module (18 Pin)
Y3233	CompactLogix Analog Input Module	5	5069-IF4IH	Allen Bradley	4 isolated point module, current and voltage (18 Pin)
Y3234	CompactLogix Analog Output Module	1	5069-OF4IH	Allen Bradley	4 isolated point module, current (18 Pin)
Y040	Uninterruptible Power Supply	1	GXT5 Series	Vertiv	1500 VA or as necessary to meet runtime requirement. Include relay card and interposing relays as necessary.
Y232	Fiber Optic Patch Panel	1 ~~2~~	SPH-01P	Corning	(1) CCH-CP24-E4 ~~(2) CCH-CP12-E4~~ Connector Housing; Provide fiber jumpers
Y108	~~Stratix~~ Managed Ethernet Switch (ENS-1, ENS-2)	2	FortiSwitch FSR-108F	Fortinet	SCADA Field Ethernet Switch, (2) MM SFP required.
	Fiber optic patch cables, Cat6 patch cables	A/R			Provide as necessary in appropriate lengths and specified colors.

Code	Description	Qty.	Model	Manufacturer	Comments
	52-CP-1, GENERATOR ELECTRICAL BUILDING				Provide all required ancillary PAC hardware including but not limited to module wiring connectors and 5069-FPD potential distributors (as needed) for a fully functional PAC system
Y321	CompactLogix 5380 Controller with 3 MB User Memory,2 GB SD card, USB Port, Dual Ethernet Ports	1	5069-L330ER	Allen Bradley	CPU
~~Y322~~	~~CompactLogix 120VAC Power Supply (5V @ 4A)~~	~~1~~	~~1769-PA4~~	~~Allen Bradley~~	~~Power Supply~~
Y3231	CompactLogix Discrete Input Module	4	5069-IB16	Allen Bradley	24VDC; 16 point module (18 Pin)
Y3232	CompactLogix Discrete Output Module	1	5069-OB16	Allen Bradley	24VDC; 16 point module (18 Pin)
Y3233	CompactLogix Analog Input Module	6	5069-IF4IH	Allen Bradley	4 isolated point module, current and voltage (18 Pin)
Y3234	CompactLogix Analog Output Module	0	5069-OF4IH	Allen Bradley	4 isolated point module, current (18 Pin)
Y040	Uninterruptible Power Supply	1	GXT5 Series	Vertiv	1500 VA or as necessary to meet runtime requirement. Include relay card and interposing relays as necessary.
Y232	Fiber Optic Patch Panel (FOPP-1, FOPP-2)	2	SPH-01P	Corning	(2) CCH-CP24-E4 ~~(2) CCH-CP12-E4~~ Connector Housings; Provide fiber jumpers
Y108	~~Stratix~~ Managed Ethernet Switch (ENS-1, ENS-2)	2 ~~1~~	FortiSwitch FSR-108F	Fortinet	SCADA Field Ethernet Switch, (2) MM SFP required.
~~Y108~~	~~Stratix Managed Ethernet Switch (ENS-2)~~	~~1~~	~~FortiSwitch FSR-108F~~	~~Fortinet~~	~~SCADA Field Ethernet Switch, (1) SM SFP required.~~
	Fiber optic patch cables, Cat6 patch cables	A/R			Provide as necessary in appropriate lengths and specified colors.

Code	Description	Qty.	Model	Manufacturer	Comments
	55-CP-1, SECONDARY ELECTRICAL BUILDING 1				Provide all required ancillary PAC hardware including but not limited to module wiring connectors and 5069-FPD potential distributors (as needed) for a fully functional PAC system
Y321	CompactLogix 5380 Controller with 3 MB User Memory,2 GB SD card, USB Port, Dual Ethernet Ports	1	5069-L330ER	Allen Bradley	CPU
~~Y322~~	~~CompactLogix 120VAC Power Supply (5V @ 4A)~~	~~1~~	~~1769-PA4~~	~~Allen Bradley~~	~~Power Supply~~
Y3231	CompactLogix Discrete Input Module	5	5069-IB16	Allen Bradley	24VDC; 16 point module (18 Pin)
Y3232	CompactLogix Discrete Output Module	2	5069-OB16	Allen Bradley	24VDC; 16 point module (18 Pin)
Y3233	CompactLogix Analog Input Module	6	5069-IF4IH	Allen Bradley	4 isolated point module, current and voltage (18 Pin)
Y3234	CompactLogix Analog Output Module	4	5069-OF4IH	Allen Bradley	4 isolated point module, current (18 Pin)
Y040	Uninterruptible Power Supply	1	GXT5 Series	Vertiv	1500 VA or as necessary to meet runtime requirement. Include relay card and interposing relays as necessary.
Y232	Fiber Optic Patch Panel	1 ~~2~~	SPH-01P	Corning	(1) CCH-CP24-E4 ~~(2) CCH-CP12-E4~~ Connector Housing; Provide fiber jumpers
Y108	~~Stratix~~ Managed Ethernet Switch	1	FortiSwitch FSR-108F	Fortinet	SCADA Field Ethernet Switch, (2) MM SFP required.
	Fiber optic patch cables, Cat6 patch cables	A/R			Provide as necessary in appropriate lengths and specified colors.

Code	Description	Qty.	Model	Manufacturer	Comments
	60-CP-1, EFFLUENT PUMP STATION BUILDING				Provide all required ancillary PAC hardware including but not limited to module wiring connectors and 5069-FPD potential distributors (as needed) for a fully functional PAC system
Y321	CompactLogix 5380 Controller with 3 MB User Memory,2 GB SD card, USB Port, Dual Ethernet Ports	1	5069-L330ER	Allen Bradley	CPU
~~Y322~~	~~CompactLogix 120VAC Power Supply (5V @ 4A)~~	~~1~~	~~1769-PA4~~	~~Allen Bradley~~	~~Power Supply~~
Y3231	CompactLogix Discrete Input Module	4	5069-IB16	Allen Bradley	24VDC; 16 point module (18 Pin)
Y3232	CompactLogix Discrete Output Module	1	5069-OB16	Allen Bradley	24VDC; 16 point module (18 Pin)
Y3233	CompactLogix Analog Input Module	2	5069-IF4IH	Allen Bradley	4 isolated point module, current and voltage (18 Pin)
Y3234	CompactLogix Analog Output Module	2	5069-OF4IH	Allen Bradley	4 isolated point module, current (18 Pin)
Y040	Uninterruptible Power Supply	1	GXT5 Series	Vertiv	1500 VA or as necessary to meet runtime requirement. Include relay card and interposing relays as necessary.
Y232	Fiber Optic Patch Panel	1 ~~2~~	SPH-01P	Corning	(1) CCH-CP24-E4 ~~(2) CCH-CP12-E4~~ Connector Housing; Provide fiber jumpers
Y108	~~Stratix~~ Managed Ethernet Switch	1	FortiSwitch FSR-108F	Fortinet	SCADA Field Ethernet Switch, (2) MM SFP required.
	Fiber optic patch cables, Cat6 patch cables	A/R			Provide as necessary in appropriate lengths and specified colors.

Code	Description	Qty.	Model	Manufacturer	Comments
	SCADA NETWORK PANEL, SLUDGE PUMP & GAS BLDG				Existing control panel in Sludge Pump & Gas Generation Building
Y108	~~Stratix~~ Managed Ethernet Switch	1	FortiSwitch FSR-108F	Fortinet	SCADA Field Ethernet Switch, (2) MM SFP required. ~~(1) SM SFP required.~~
Y232	Fiber Optic Patch Panel	1	SPH-01P	Corning	(1) CCH-CP24-E4 Connector Housing; Provide fiber jumpers
	Fiber optic patch cables, Cat6 patch cables	A/R			Provide as necessary in appropriate lengths and specified colors.

Code	Description	Qty.	Model	Manufacturer	Comments
	MCP-200, HEADWORKS SCREENING CONTROL PANEL 1				Existing vendor (package) control panel
Y232	Fiber Optic Patch Panel	1 ~~2~~	SPH-01P	Corning	(1) CCH-CP24-E4 ~~(2) CCH-CP12-E4~~ Connector Housing; Provide fiber jumpers. NOTE: Compact FOPPs (such as DINSpace SNAP series) also allowed.
Y108	~~Stratix~~ Managed Ethernet Switch	1	FortiSwitch FSR-108F	Fortinet	SCADA Field Ethernet Switch, (2) MM SFP required.
	Fiber optic patch cables, Cat6 patch cables	A/R			Provide as necessary in appropriate lengths and specified colors.
	DC Power Supply	1			Provide DC power to Ethernet switch. Fuse AC input and DC output.

Code	Description	Qty.	Model	Manufacturer	Comments
	MCP-250, HEADWORKS SCREENING CONTROL PANEL 2				Existing vendor (package) control panel
Y232	Fiber Optic Patch Panel	1 ~~2~~	SPH-01P	Corning	(1) CCH-CP24-E4 ~~(2) CCH-CP12-E4~~ Connector Housing; Provide fiber jumpers. NOTE: Compact FOPPs (such as DINSpace SNAP series) also allowed.
Y108	~~Stratix~~ Managed Ethernet Switch	1	FortiSwitch FSR-108F	Fortinet	SCADA Field Ethernet Switch, (2) MM SFP required.
	Fiber optic patch cables, Cat6 patch cables	A/R			Provide as necessary in appropriate lengths and specified colors.
	DC Power Supply	1			Provide DC power to Ethernet switch. Fuse AC input and DC output.

Code	Description	Qty.	Model	Manufacturer	Comments
	MCP-510, GRIT SYSTEM CONTROL PANEL 1				Existing vendor (package) control panel
Y232	Fiber Optic Patch Panel	1 ~~2~~	SPH-01P	Corning	(1) ~~(2)~~ CCH-CP12-E4 Connector Housings; Provide fiber jumpers. NOTE: Compact FOPPs (such as DINSpace SNAP series) also allowed.
Y108	~~Stratix~~ Managed Ethernet Switch	1	FortiSwitch FSR-108F	Fortinet	SCADA Field Ethernet Switch, (1) ~~(2)~~ MM SFP required.
	Fiber optic patch cables, Cat6 patch cables	A/R			Provide as necessary in appropriate lengths and specified colors.
	DC Power Supply	1			Provide DC power to Ethernet switch. Fuse AC input and DC output.

Code	Description	Qty.	Model	Manufacturer	Comments
	MCP-520, GRIT SYSTEM CONTROL PANEL 2				Existing vendor (package) control panel
Y232	Fiber Optic Patch Panel	1 ~~2~~	SPH-01P	Corning	(1) ~~(2)~~ CCH-CP12-E4 Connector Housings; Provide fiber jumpers. NOTE: Compact FOPPs (such as DINSpace SNAP series) also allowed.
Y108	~~Stratix~~ Managed Ethernet Switch	1	FortiSwitch FSR-108F	Fortinet	SCADA Field Ethernet Switch, (1) ~~(2)~~ MM SFP required.
	Fiber optic patch cables, Cat6 patch cables	A/R			Provide as necessary in appropriate lengths and specified colors.
	DC Power Supply	1			Provide DC power to Ethernet switch. Fuse AC input and DC output.

Code	Description	Qty.	Model	Manufacturer	Comments
	SECURITY SWITCH PANEL (SWP)	19			Control panels for Security equipment fiber optic network access. See Control Panel Schedule (40 90 00, Supplement 4). See Drawing 99-TY-5002, Detail 2813-026.
Y232	Fiber Optic Patch Panel	1 ~~2~~ per SWP	SPH-01P	Corning	For each SWP, also include: (1) CCH-CP24-E4 ~~(2) CCH-CP12-E4~~ Connector Housing
	Fiber optic patch cables, Cat6 patch cables	A/R			Provide as necessary in appropriate lengths and specified colors.
	Uninterruptible Power Supply and Battery	1 per SWP	2907160 (UPS) 1274119 (Battery)	Phoenix Contact	See Drawing 05-TY-6002 (typical) and other Security Riser drawings.
	DC Power Supply	1 per SWP			Provide 48 VDC power to POE Ethernet switch. Fuse AC input and DC output.

58-PAC-1 I/O LIST			
PAC TAG	DESCRIPTION	TYPE	COMMENTS
WSRTU01_XA032	Primary Clarifiers Clarifier 2 Alarms Torque Fault	DI	New wiring from MCC 1/2
WSRTU01_JI032	Primary Clarifiers Clarifier 2 Status Running	DI	New wiring from MCC 1/2
WSRTU01_XA031	Primary Clarifiers Clarifier 1 Alarms Torque Fault	DI	New wiring from MCC 1/2
WSRTU01_JI031	Primary Clarifiers Clarifier 1 Status Running	DI	New wiring from MCC 1/2
WSRTU01_JI901	Primary Sludge & Scum Pump 4 Status Running	DI	New wiring from MCC 1/2
WSRTU01_JI902	Primary Sludge & Scum Pump 3 Status Running	DI	New wiring from MCC 1/2
WSRTU01_JI903	Primary Sludge & Scum Pump 2 Status Running	DI	New wiring from MCC 1/2
WSRTU01_JI904	Primary Sludge & Scum Pump 1 Status Running	DI	New wiring from MCC 1/2
WSRTU01_XA033	Primary Clarifiers Clarifier 3 Alarms Torque Fault	DI	New wiring from MCC 1/2
WSRTU01_JI033	Primary Clarifiers Clarifier 3 Status Running	DI	New wiring from MCC 1/2
WSRTU01_JI034	Primary Clarifiers Clarifier 4 Status Running	DI	New wiring from MCC 1/2
WSRTU01_XA034	Primary Clarifiers Clarifier 4 Alarms Torque Fault	DI	New wiring from MCC 1/2
WSRTU01_JI869C	Disinfection Scrubber Fan Running	DI	New wiring from MCC 1/2
WSRTU01_JI869B	Disinfection Scrubber Pump Running	DI	New wiring from MCC 1/2
WSRTU01_JI869A	Disinfection Scrubber System Ready	DI	New wiring from MCC 1/2
WSRTU02_QA025	Influent PS Pump 5 Alarms VFD Fault	DI	New wiring from MCC 1/2
WSRTU02_XA025A	Influent PS Pump 5 Alarms Seal Fail	DI	New wiring from MCC 1/2
WSRTU02_MA021	Influent PS Pump 1 Alarms Seal Fail	DI	New wiring from MCC 1/2
WSRTU02_TA021A	Influent PS Pump 1 Alarms High Motor Temp	DI	New wiring from MCC 1/2
WSRTU02_ZI021A_IN	Influent PS Pump 1 Status VFD in AUTO	DI	New wiring from MCC 1/2
WSRTU02_JI021	Influent PS Pump 1 Status VFD Running	DI	New wiring from MCC 1/2
WSRTU02_QA021	Influent PS Pump 1 Alarms VFD Fault	DI	New wiring from MCC 1/2
WSRTU02_ZI021C	Influent PS Pump 1 Status VFD Mode Feedback	DI	New wiring from MCC 1/2
WSRTU02_ZI021D	Influent PS Pump 1 Status Bypass Mode Feedback	DI	New wiring from MCC 1/2
WSRTU02_MA022	Influent PS Pump 2 Alarms Seal Fail	DI	New wiring from MCC 1/2
WSRTU02_TA022A_IN	Influent PS Pump 2 Alarms High Temp	DI	New wiring from MCC 1/2
WSRTU02_ZI022A_IN	Influent PS Pump 2 Status VFD in AUTO	DI	New wiring from MCC 1/2
WSRTU02_JI022	Influent PS Pump 2 Status VFD Running	DI	New wiring from MCC 1/2
WSRTU02_QA022	Influent PS Pump 2 Alarms VFD Fault	DI	New wiring from MCC 1/2

WSRTU02_ZI022C	Influent PS Pump 2 Status VFD Mode Feedback	DI	New wiring from MCC 1/2
WSRTU02_ZI022D	Influent PS Pump 2 Status Bypass Mode Feedback	DI	New wiring from MCC 1/2
WSRTU02_MA023	Influent PS Pump 3 Status High Moisture	DI	New wiring from MCC 1/2
WSRTU02_TA023A_IN	Influent PS Pump 3 Status High Temp	DI	New wiring from MCC 1/2
WSRTU02_ZI023A_IN	Influent PS Pump 3 Status VFD in AUTO	DI	New wiring from MCC 1/2
WSRTU02_JI023	Influent PS Pump 3 Status VFD Running	DI	New wiring from MCC 1/2
WSRTU02_QA023	Influent PS Pump 3 Alarms VFD Fault	DI	New wiring from MCC 1/2
WSRTU02_ZI023C	Influent PS Pump 3 Status VFD Mode Feedback	DI	New wiring from MCC 1/2
WSRTU02_ZI023D	Influent PS Pump 3 Status Bypass Mode Feedback	DI	New wiring from MCC 1/2
WSRTU02_MA024	Influent PS Pump 4 Alarms Seal Fail	DI	New wiring from MCC 1/2
WSRTU02_TA024A_IN	Influent PS Pump 4 Alarms High Temp	DI	New wiring from MCC 1/2
WSRTU02_ZI024A	Influent PS Pump 4 Status VFD in AUTO	DI	New wiring from MCC 1/2
WSRTU02_JI024	Influent PS Pump 4 Status Running	DI	New wiring from MCC 1/2
WSRTU02_QA024	Influent PS Pump 4 Alarms VFD Fault	DI	New wiring from MCC 1/2
WSRTU02_JI025	Influent PS Pump 5 Status Running	DI	New wiring from MCC 1/2
WSRTU02_ZI025A	Influent PS Pump 5 Status VFD in AUTO	DI	New wiring from MCC 1/2
WSRTU02_JI092	Post Thickener Rake Status Running	DI	New wiring from MCC 1/2
WSRTU02_ZI092	Post-Thickener Rake Torque Fault	DI	New wiring from MCC 1/2
WSRTU02_ZI021B	Influent PS Pump 1 Status Field-Remote	DI	Existing RTU-2 wiring; rewire to 58-CP-1
WSRTU02_ZI022B	Influent PS Pump 2 Status Field-Remote	DI	Existing RTU-2 wiring; rewire to 58-CP-1
WSRTU02_ZI023B	Influent PS Pump 3 Status Field-Remote	DI	Existing RTU-2 wiring; rewire to 58-CP-1
	Influent PS Pump 4 Status Field-Remote	DI	Assumed to exist; field verify
WSRTU02_ZI025B	Influent PS Pump 5 Status Field-Remote	DI	Existing RTU-2 wiring; rewire to 58-CP-1
	58-CP-1 Panel Intrusion	DI	
	58-CP-1 AC Power Fail	DI	
	58-CP-1 DC Power Fail	DI	
	58-CP-1 UPS Battery Low Alarm	DI	Provide UPS relay card; interposing relay
	58-CP-1 UPS Failure Alarm	DI	Provide UPS relay card; interposing relay
WSRTU02_QS021A	Influent PS Pump 1 Status RunCommand	DO	New wiring from MCC 1/2
WSRTU02_HS021B	Influent Pump #1 VFD Remote Drive Mode	DO	New wiring from MCC 1/2
WSRTU02_HS021C	Influent Pump #1 VFD Remote Stop	DO	New wiring from MCC 1/2
WSRTU02_HS021D	Influent Pump #1 VFD Remote Bypass Mode	DO	New wiring from MCC 1/2
WSRTU02_QS022A	Influent PS Pump 2 Status RunCommand	DO	New wiring from MCC 1/2
WSRTU02_HS022B	Influent Pump #2 VFD Remote Drive Mode	DO	New wiring from MCC 1/2

WSRTU02_HS022C	Influent Pump #2 VFD Remote Stop	DO	New wiring from MCC 1/2
WSRTU02_HS022D	Influent Pump #2 VFD Remote Bypass Mode	DO	New wiring from MCC 1/2
WSRTU02_QS023A	Influent PS Pump 3 Status RunCommand	DO	New wiring from MCC 1/2
WSRTU02_HS023B	Influent Pump #3 VFD Remote Drive Mode	DO	New wiring from MCC 1/2
WSRTU02_HS023C	Influent Pump #3 VFD Remote Stop	DO	New wiring from MCC 1/2
WSRTU02_HS023D	Influent Pump #3 VFD Remote Bypass Mode	DO	New wiring from MCC 1/2
WSRTU02_HS025A	Influent Pump #5 Run Relay	DO	New wiring from MCC 1/2
WSRTU02_QS024A	Influent PS Pump 4 Status RunCommand	DO	New wiring from MCC 1/2
WSRTU02_QS025	Influent PS Pump 5 Status RunCommand	DO	New wiring from MCC 1/2
WSRTU02_XI021	Influent PS Pump 1 Motor Load	AI	New wiring from MCC 1/2
WSRTU02_SIC021	Influent PS Pump 1 Speed Feedback	AI	New wiring from MCC 1/2
WSRTU02_SIC022	Influent PS Pump 2 Speed Feedback	AI	New wiring from MCC 1/2
WSRTU02_XI022	Influent PS Pump 2 Motor Load	AI	New wiring from MCC 1/2
WSRTU02_SIC023	Influent PS Pump 3 Speed Feedback	AI	New wiring from MCC 1/2
WSRTU02_XI023	Influent PS Pump 3 Motor Load	AI	New wiring from MCC 1/2
WSRTU02_SIC024	Influent PS Pump 4 Speed Feedback	AI	New wiring from MCC 1/2
WSRTU02_XI024	Influent PS Pump 4 Motor Load	AI	New wiring from MCC 1/2
WSRTU02_SIC025	Influent PS Pump 5 Speed Feedback	AI	New wiring from MCC 1/2
	Influent PS Pump 5 Motor Load	AI	Assumed to exist; field verify
WSRTU02_SCC021	Influent PS Pump 1 Speed Command	AO	New wiring from MCC 1/2
WSRTU02_SCC022	Influent PS Pump 2 Speed Command	AO	New wiring from MCC 1/2
WSRTU02_SCC023	Influent PS Pump 3 Speed Command	AO	New wiring from MCC 1/2
WSRTU02_SCC024	Influent PS Pump 4 Speed Manual Cmd	AO	New wiring from MCC 1/2
WSRTU02_SCC025	Influent PS Pump 5 Speed Manual Cmd	AO	New wiring from MCC 1/2

54-PAC-1 (Formerly RTU-1) I/O LIST			
PAC TAG	DESCRIPTION	TYPE	COMMENTS
WSRTU01_JI027	Splitter Box Preaerator Blower Status Running	DI	
WSRTU01_ZI027	Splitter Box Preaerator Blower Command AutoMode	DI	
WSRTU01_JI905	Primary Sludge & Scum Pump 5 Status Running	DI	
WSRTU01_JI906	Primary Sludge & Scum Pump 6 Status Running	DI	

WSRTU01_JI907	Primary Sludge & Scum Pump 7 Status Running	DI	
WSRTU01_PAH864A	Disinfection Chlorine Vacuum #1 High	DI	
WSRTU01_TAH862	Disinfection Chlorine Evaporator High Temperature	DI	
WSRTU01_PAH864B	Disinfection Chlorine Vacuum #2 High	DI	
WSRTU01_PAL864A	Disinfection Chlorine Vacuum #1 Low	DI	
WSRTU01_XA867	Disinfection Chlorine CL2 Leak	DI	
WSRTU01_PAL864B	Disinfection Chlorine Vacuum #2 Low	DI	
WSRTU01_QA865	Disinfection Chlorine CL2 Regulator Low	DI	
WSRTU01_QA855	Disinfection Sulfonator SO2 Regulator Low	DI	
WSRTU01_XA857	Disinfection Sulfonator SO2 Leak	DI	
WSRTU01_PAH854B	Disinfection Sulfonator Sulfonator #1 SO2 Vacuum High	DI	
WSRTU01_TAH852	Disinfection Sulfonator SO2 Evaporator High Temp	DI	
WSRTU01_PAH854A	Disinfection Sulfonator Sulfonator #2 SO2 Vacuum High	DI	
WSRTU01_PAL854B	Disinfection Sulfonator Sulfonator #1 SO2 Vacuum Low	DI	
WSRTU01_PAL854A	Disinfection Sulfonator Sulfonator #2 SO2 Vacuum Low	DI	
WSRTU01_JI102	Sludge Transfer Pump to Truck P1-2 Status Running	DI	
WSRTU01_JI101	Sludge Transfer Pump to Truck P1-1 Status Running	DI	
WSRTU01_JI091	Pre-Thickener Rake Status Running	DI	
WSRTU01_JI103	Sludge Transfer Pump to Truck P1-3 Status Running	DI	
OFFICE_UP_TRBL	Fire Suppression Office Upstairs Fire Suppression System Trouble	DI	
WSRTU01_XA091	Pre-Thickener Rake Alarms Torque Fault	DI	
OFFICE_UP_ALM	Fire Suppression Office Upstairs Fire Suppression System Alarm	DI	
OFFICE_DN_TRBL	Fire Suppression Office Downstairs Fire Suppression System Trouble	DI	
OFFICE_DN_ALM	Fire Suppression Office Downstairs Fire Suppression System Alarm	DI	
	54-CP-1 Panel Intrusion	DI	
	54-CP-1 AC Power Fail	DI	
	54-CP-1 DC Power Fail	DI	
	54-CP-1 UPS Battery Low Alarm	DI	Provide UPS relay card; interposing relay
	54-CP-1 UPS Failure Alarm	DI	Provide UPS relay card; interposing relay
WSRTU01_HC027	Splitter Box Preaerator Blower Status RunCommand	DO	
WSRTU01_QS861A	Remote Switch For CL2 Field Controller	DO	Deleted - Field Verify
WSRTU01_QS850	Remote Switch For SO2 Field Controller	DO	Deleted - Field Verify
WSRTU01_OPENGATECMD	Unused	DO	Field Verify
WSRTU01_FI033	Primary Sludge & Scum Flow	AI	

WSRTU01_ZI861A	Disinfection Chlorine CL2 Flow	AI	
WSRTU01_WT868B	Disinfection Sulfonator SO2 Scale 2 Weight	AI	
WSRTU01_WT868D	Disinfection Chlorine CL2 Scale 2 Weight	AI	
WSRTU01_FI005	Sludge Transfer Truck Loading Flow	AI	
WSRTU01_FI034	Primary Sludge & Scum Flow 2	AI	
WSRTU01_WT868A	Disinfection Sulfonator SO2 Scale 1 Weight	AI	
WSRTU01_WT868C	Disinfection Chlorine CL2 Scale 1 Weight	AI	
WSRTU01_ZI850	Disinfection Sulfonator SO2 Valve Position	AI	
WSRTU01_FI081	Pre-Thickener P95 Flow	AI	
WSRTU01_LI040	Pre-Thickener Sludge Blanket Level	AI	
WSRTU01_FI007	Gas Flows Waste Gas Flow	AI	
WSRTU01_FI122	Gas Flows Influent Gas Flow	AI	
WSRTU01_FI082	Pre-Thickener P96 Flow	AI	
WSRTU01_RIC861A	Cl2 Ratio Set	AO	Deleted - Field Verify
WSRTU01_RIC850	SO2 Ratio Set	AO	Deleted - Field Verify

52-PAC-1 (Formerly RTU-2) I/O LIST

PAC TAG	DESCRIPTION	TYPE	COMMENTS
WSRTU02_JI030	Electrical RTU2 Phase Failure	DI	To be deleted
WSRTU02_LAH011D	Head Works Side #1 Level High	DI	Deleted - Field Verify
WSRTU02_JI011	Headworks Right Side (#1) Climb Screen Status Running	DI	Deleted - Field Verify
WSRTU02_JI012	Headworks Left Side (#2) Climb Screen Status Running	DI	Deleted - Field Verify
WSRTU02_LAH012D	Headworks Right Side Level High	DI	Deleted - Field Verify
WSRTU02_ZI016	Headworks Conveyer Command AutoMode	DI	Deleted - Field Verify
WSRTU02_ZI017	Preaerator Blower 1 Command AutoMode	DI	Deleted - Field Verify
WSRTU02_JI017	Preaerator Blower 1 Status Running	DI	Deleted - Field Verify
WSRTU02_ZI019	Preaerator Blower 3 Command AutoMode	DI	Deleted - Field Verify
WSRTU02_JI019	Preaerator Blower 3 Status Running	DI	Deleted - Field Verify
WSRTU02_XA025B		DI	Deleted - Field Verify
WSRTU02_JI018	Preaerator Blower 2 Status Running	DI	Deleted - Field Verify

WSRTU02_ZI018	Preaerator Blower 2 Command AutoMode	DI	Deleted - Field Verify
WSRTU02_JI035	Electrical Generator Running	DI	Wiring from 52-TJB-1
WSRTU02_XA035	Electrical Generator General Alarm	DI	Wiring from 52-TJB-1
WSRTU02_QI021B	Influent PS Low Float - Pump Enable	DI	Wiring from 52-TJB-1
WSRTU02_LA021A_IN	Influent PS Wet Well Level Transmitter Failure	DI	Wiring from 52-TJB-1
WSRTU02_JI025OLD		DI	Deleted - Field Verify
WSRTU02_ZI025OLD		DI	Deleted - Field Verify
WSRTU02_LAH021A	Influent PS Pumps Dry Well High Level	DI	Wiring from 52-TJB-1
WSRTU02_JI095	Pre-Thickener Pumps P95 Status Running	DI	Wiring from 52-TJB-1
WSRTU02_ZI095	Pre-Thickener Pumps P95 Status Field-Remote	DI	Wiring from 52-TJB-1
WSRTU02_JI096	Pre-Thickener Pumps P96 Status Running	DI	Wiring from 52-TJB-1
WSRTU02_ZI096	Pre-Thickener Pumps P96 In Auto	DI	Wiring from 52-TJB-1
WSRTU02_JI122	Digesters Heat Exchangers Hot Water Pump #2 Running	DI	Wiring from 52-TJB-1
WSRTU02_JI121	Digesters Heat Exchangers Hot Water Pump #1 Running	DI	Wiring from 52-TJB-1
WSRTU02_LLI050	Digesters Heat Exchangers Hot Water Make Up Tank Low Level	DI	Wiring from 52-TJB-1
WSRTU02_JI047	Digesters Sludge Recirc P112 Status Running	DI	Wiring from 52-TJB-1
WSRTU02_ZI047	Digesters Sludge Recirc P112 Status MCC-Remote	DI	Wiring from 52-TJB-1
WSRTU02_JI048	Digesters Sludge Recirc P113 Status Running	DI	Wiring from 52-TJB-1
WSRTU02_ZI048	Digesters Sludge Recirc P113 Status MCC-Remote	DI	Wiring from 52-TJB-1
WSRTU02_JI111	Digesters Mixing Gas Compressor #1 Running	DI	Wiring from 52-TJB-1
WSRTU02_JI112	Digesters Mixing Gas Compressor #2 Running	DI	Wiring from 52-TJB-1
WSRTU02_JI113	Digesters Mixing Gas Compressor #3 Running	DI	Wiring from 52-TJB-1
WSRTU02_JI114	Digesters Mixing Gas Compressor #4 Running	DI	Wiring from 52-TJB-1
WSRTU02_JI046	Digesters Sludge Recirc P111 Status Running	DI	Wiring from 52-TJB-1
WSRTU02_ZI046	Digesters Sludge Recirc P111 Status MCC-Remote	DI	Wiring from 52-TJB-1
WSRTU02_JI115	Digesters Heat Exchangers Gas Boiler Running	DI	Wiring from 52-TJB-1
RTU2_TRBL	Fire Suppression Generator Building Fire Suppression System Trouble	DI	Wiring from 52-TJB-1
RTU2_ALM	Fire Suppression Generator Building Fire Suppression System Alarm	DI	Wiring from 52-TJB-1
WSRTU2_PS1_OK	Electrical RTU2 Power Supply 1 Fault	DI	To be deleted
WSRTU2_PS2_OK	Electrical RTU2 Power Supply 2 Fault	DI	To be deleted
WSRTU02_FQI100_PULSE	Influent Flow Totalizer Pulse	DI	Wiring from 52-TJB-1
WSRTU02_FQI110_PULSE	Band Screen Channel Flow Totalizer Pulse	DI	~~Deleted - Field Verify~~ Wiring from 52-TJB-1
WSRTU02_LSH110	Band Screen Channel High Level Float	DI	~~Deleted - Field Verify~~ Wiring from 52-TJB-1
WSRTU02_SCRN110_ON	Band Screen Running	DI	~~Deleted - Field Verify~~ Wiring from 52-TJB-1

WSRTU02_SCRN110_FAIL	Band Screen Fail	DI	~~Deleted - Field Verify~~ Wiring from 52-TJB-1
WSRTU02_SCRN110_ESTOP	Band Screen Estopped	DI	~~Deleted - Field Verify~~ Wiring from 52-TJB-1
WSRTU02_SCRN120_ON	Band Screen Press Running	DI	~~Deleted - Field Verify~~ Wiring from 52-TJB-1
WSRTU02_SCRN120_FAIL	Band Screen Press Fail	DI	~~Deleted - Field Verify~~ Wiring from 52-TJB-1
WSRTU02_P130_ON	Band Screen Wash Water Pump Running	DI	~~Deleted - Field Verify~~ Wiring from 52-TJB-1
WSRTU02_P130_FAIL	Band Screen Wash Water Pump Fail	DI	~~Deleted - Field Verify~~ Wiring from 52-TJB-1
	52-CP-1 Panel Intrusion	DI	
	52-CP-1 AC Power Fail	DI	
	52-CP-1 DC Power Fail	DI	
	52-CP-1 UPS Battery Low Alarm	DI	Provide UPS relay card; interposing relay
	52-CP-1 UPS Failure Alarm	DI	Provide UPS relay card; interposing relay
WSRTU02_HS110	Grit Remover Status RunCommand	DO	
WSRTU02_HS017	Preaerator Blower 1 Status RunCommand	DO	Deleted - Field Verify
WSRTU02_HS019	Preaerator Blower 3 Status RunCommand	DO	Deleted - Field Verify
WSRTU02_HS018	Preaerator Blower 2 Status RunCommand	DO	Wiring from 52-TJB-1
WSRTU02_HC095	Pre-Thickener Pumps P95 Status RunCommand	DO	Wiring from 52-TJB-1
WSRTU02_HC096	Pre-Thickener Pumps P96 Status RunCommand	DO	Wiring from 52-TJB-1
WSRTU02_HS046	Digesters Sludge Recirc P111 Status RunCommand	DO	Wiring from 52-TJB-1
WSRTU02_HS047	Digesters Sludge Recirc P112 Status RunCommand	DO	Wiring from 52-TJB-1
WSRTU02_HS048	Digesters Sludge Recirc P113 Status RunCommand	DO	Wiring from 52-TJB-1
WSRTU02_LI011A	Headworks Differential Level Left Side	AI	Deleted - Field Verify
WSRTU02_LI012	Headworks Differential Level Right Side	AI	Deleted - Field Verify
WSRTU02_LI011B	Headworks Level A	AI	Deleted - Field Verify
WSRTU02_LI012B	Headworks Level B	AI	Deleted - Field Verify
WSRTU02_XI035_RAW	Influent Generator Amps	AI	Wiring from 52-TJB-1
WSRTU02_LIC021	Influent PS Wet Well Level	AI	Wiring from 52-TJB-1
INFLUENT_FLOW	WS Influent Flow	AI	Deleted - Field Verify
WSRTU02_LT3000		AI	Deleted - Field Verify
WSRTU02_LT4000		AI	Deleted - Field Verify
WSRTU02_TI042	Digesters Digester 1 Sludge Temperature	AI	Wiring from 52-TJB-1
WSRTU02_TI043	Digesters Digester 2 Sludge Temperature	AI	Wiring from 52-TJB-1
WSRTU02_TI045	Digesters Digester 2 Temperature	AI	Wiring from 52-TJB-1
WSRTU02_TI044	Digesters Digester 1 Temperature	AI	Wiring from 52-TJB-1
WSRTU02_LI110A	Band Screen Upstream Level	AI	~~Deleted - Field Verify~~ Wiring from 52-TJB-1

WSRTU02_LI110B	Band Screen Downstream Level	AI	~~Deleted - Field Verify~~ Wiring from 52-TJB-1
WSRTU02_FIT100	Influent PS Sewage Flow	AI	Wiring from 52-TJB-1
WSRTU02_FIT200	Headworks Discharge Flow	AI	Wiring from 52-TJB-1
WSRTU02_FIT110	Band Screen Channel Flow	AI	~~Deleted - Field Verify~~ Wiring from 52-TJB-1
WSRTU02_XI025	Electrical MCC1 Amps	AI	To be deleted

55-PAC-1 (Formerly RTU-3) I/O LIST

PAC TAG	DESCRIPTION	TYPE	COMMENTS
WSRTU03_JI043	Intermediate Clarifiers Rake 3 Status Running	DI	AKA Intermediate Clarifier 1; New wiring from MCC 6/7
WSRTU03_XA043	Intermediate Clarifiers Rake 3 Alarms Starter Fault	DI	AKA Intermediate Clarifier 1; New wiring from MCC 6/7
WSRTU03_JI044	Intermediate Clarifiers Rake 4 Status Running	DI	AKA Intermediate Clarifier 2; New wiring from MCC 6/7
WSRTU03_XA044	Intermediate Clarifiers Rake 4 Alarms Starter Fault	DI	AKA Intermediate Clarifier 2; New wiring from MCC 6/7
WSRTU03_ZI037	Recycle Pump 1 Status Field-Remote	DI	AKA Launder Recirc Pump; New wiring from MCC 6/7
WSRTU03_JI037	Recycle Pump 1 Status Running	DI	AKA Launder Recirc Pump; New wiring from MCC 6/7
WSRTU03_XA037	Recycle Pump 1 Alarms VFD Fault	DI	AKA Launder Recirc Pump; New wiring from MCC 6/7
WSRTU03_ZI038	Recycle Pump 2 Status Field-Remote	DI	AKA Launder Recirc Pump; New wiring from MCC 6/7
WSRTU03_JI038	Recycle Pump 2 Status Running	DI	AKA Launder Recirc Pump; New wiring from MCC 6/7
WSRTU03_XA038	Recycle Pump 2 Alarms VFD Fault	DI	AKA Launder Recirc Pump; New wiring from MCC 6/7
WSRTU03_ZI039	Recycle Pump 3 Status Field-Remote	DI	AKA Launder Recirc Pump; New wiring from MCC 6/7
WSRTU03_JI039	Recycle Pump 3 Status Running	DI	AKA Launder Recirc Pump; New wiring from MCC 6/7
WSRTU03_XA039	Recycle Pump 3 Alarms VFD Fault	DI	AKA Launder Recirc Pump; New wiring from MCC 6/7
WSRTU03_ZI051A_IN	Secondary LS Pump 3 Status VFD in AUTO	DI	New wiring from MCC 6/7
WSRTU03_JI051	Secondary LS Pump 3 Status VFD Running	DI	New wiring from MCC 6/7
WSRTU03_XA051	Secondary LS Pump 3 Alarms VFD Fault	DI	New wiring from MCC 6/7
WSRTU03_ZI051B	Secondary Pump #3 VFD In Remote	DI	New wiring from MCC 6/7
WSRTU03_ZI051C	Secondary Pump #3 VFD Drive Mode	DI	New wiring from MCC 6/7
WSRTU03_ZI051D	Secondary LS Pump 3 Status Bypass Running	DI	New wiring from MCC 6/7
WSRTU03_ZI052A_IN	Secondary LS Pump 2 Status VFD in AUTO	DI	New wiring from MCC 6/7
WSRTU03_JI052	Secondary LS Pump 4 Status VFD Running	DI	New wiring from MCC 6/7
WSRTU03_XA052	Secondary LS Pump 4 Alarms VFD Fault	DI	New wiring from MCC 6/7
WSRTU03_ZI052B	Secondary LS Pump #4 VFD In Remote	DI	New wiring from MCC 6/7
WSRTU03_ZI052C	Secondary LS Pump #4 VFD Drive Mode	DI	New wiring from MCC 6/7

WSRTU03_ZI052D	Secondary LS Pump 4 Status Bypass Running	DI	New wiring from MCC 6/7
WSRTU03_ZI053A_IN	Secondary LS Pump 3 Status VFD in AUTO	DI	New wiring from MCC 6/7
WSRTU03_JI053	Secondary LS Pump 1 Status Running	DI	New wiring from MCC 6/7
WSRTU03_XA053	Secondary LS Pump 1 Alarms VFD Fault	DI	New wiring from MCC 6/7
WSRTU03_ZI054A_IN	Secondary LS Pump 4 Status VFD in AUTO	DI	New wiring from MCC 6/7
WSRTU03_JI054	Secondary LS Pump 2 Status Running	DI	New wiring from MCC 6/7
WSRTU03_XA054	Secondary LS Pump 2 Alarms VFD Fault	DI	New wiring from MCC 6/7
WSRTU03_JI061	Nitrification Recirc. Pump 1 Status Running	DI	AKA Filter Recirc Pump; New wiring from MCC 6/7
WSRTU03_ZI061	Nitrification Recirc. Pump 1 Command AutoMode	DI	AKA Filter Recirc Pump; New wiring from MCC 6/7
WSRTU03_JI062	Nitrification Recirc. Pump 2 Status Running	DI	AKA Filter Recirc Pump; New wiring from MCC 6/7
WSRTU03_ZI062	Nitrification Recirc. Pump 2 Command AutoMode	DI	AKA Filter Recirc Pump; New wiring from MCC 6/7
WSRTU03_JI063	Nitrification Recirc. Pump 3 Status Running	DI	AKA Filter Recirc Pump; New wiring from MCC 6/7
WSRTU03_ZI063	Nitrification Recirc. Pump 3 Command AutoMode	DI	AKA Filter Recirc Pump; New wiring from MCC 6/7
WSRTU03_JI064	Nitrification Recirc. Pump 4 Status Running	DI	AKA Filter Recirc Pump; New wiring from MCC 6/7
WSRTU03_ZI064	Nitrification Recirc. Pump 4 Command AutoMode	DI	AKA Filter Recirc Pump; New wiring from MCC 6/7
WSRTU03_XA051B	Secondary LS Pumps Wet Well Transmitter Fail	DI	Wiring from 55-TJB-1
RTU3_TRBL	Fire Suppression RTU3 Building Fire Suppression System Trouble	DI	Wiring from 55-TJB-1
RTU3_ALM	Fire Suppression RTU3 Building Fire Suppression System Alarm	DI	Wiring from 55-TJB-1
WSRTU03_ZI041A	Secondary Clarifier #1 Actuator In Auto	DI	Wiring from 55-TJB-1
WSRTU03_ZI036A	Secondary Clarifier #2 Actuator In Auto	DI	Wiring from 55-TJB-1
WSRTU03_ZI011A	Final Clarifier Valves Discharge Valve 1 Status Field-Remote	DI	Wiring from 55-TJB-1
WSRTU03_ZI012A	Final Clarifier Valves Discharge Valve 2 Status Field-Remote	DI	Wiring from 55-TJB-1
WSRTU03_JI081	Post-Aeration Mixer 1 Status Running	DI	Wiring from 55-TJB-1
WSRTU03_JI082	Post-Aeration Mixer 2 Status Running	DI	Wiring from 55-TJB-1
WSRTU03_JI083	Reuse Water Pump #1 Running	DI	Wiring from 55-TJB-1
WSRTU03_ZI083	Reuse Water Pump #1 In Auto	DI	Wiring from 55-TJB-1
WSRTU03_JI084	Reuse Water Pump 2 Status Running	DI	Wiring from 55-TJB-1
WSRTU03_ZI084	Reuse Water Pump 2 Command AutoMode	DI	Wiring from 55-TJB-1
WSRTU03_QI051B	Secondary LS Low Float	DI	Wiring from 55-TJB-1
WSRTU03_ZI101	Trickle Filters Discharge Valve 1 Status Field-Remote	DI	Wiring from 55-TJB-1
WSRTU03_ZI102	Trickle Filters Discharge Valve 2 Status Field-Remote	DI	Wiring from 55-TJB-1
WSRTU02_JI071	Final Clarifier Rakes Rake 1 Status Running	DI	Existing RTU-2 wiring; New wiring from MCC 6/7
WSRTU02_XA071	Final Clarifier Rakes Rake 1 Alarms Starter Fault	DI	Existing RTU-2 wiring; New wiring from MCC 6/7
WSRTU02_JI072	Final Clarifier Rakes Rake 2 Final Clarifier Rake #2 Running	DI	Existing RTU-2 wiring; New wiring from MCC 6/7

WSRTU02_XA072	Final Clarifier Rakes Rake 2 Alarms Starter Fault	DI	Existing RTU-2 wiring; New wiring from MCC 6/7
	55-CP-1 Panel Intrusion	DI	
	55-CP-1 AC Power Fail	DI	
	55-CP-1 DC Power Fail	DI	
	55-CP-1 UPS Battery Low Alarm	DI	Provide UPS relay card; interposing relay
	55-CP-1 UPS Failure Alarm	DI	Provide UPS relay card; interposing relay
	Diesel Pump (at Secondary Pump Station) Run Status	DI	New wiring to onsite diesel pump
	Diesel Pump (at Secondary Pump Station) Common Alarm	DI	New wiring to onsite diesel pump
WSRTU03_HC037A	Recycle Pump 1 Status RunCommand	DO	AKA Launder Recirc Pump; Wiring from MCC 6/7
WSRTU03_HC037B	Recycle Pump #1 Stop	DO	AKA Launder Recirc Pump; Wiring from MCC 6/7
WSRTU03_HC038A	Recycle Pump 2 Status RunCommand	DO	AKA Launder Recirc Pump; Wiring from MCC 6/7
WSRTU03_HC038B	Recycle Pump #2 Stop	DO	AKA Launder Recirc Pump; Wiring from MCC 6/7
WSRTU03_HC039A	Recycle Pump 3 Status RunCommand	DO	AKA Launder Recirc Pump; Wiring from MCC 6/7
WSRTU03_HC039B	Recycle Pump #3 Stop	DO	AKA Launder Recirc Pump; Wiring from MCC 6/7
WSRTU03_QS051A	Secondary LS Pump 3 Status RunCommand	DO	New wiring from MCC 6/7
WSRTU03_JY051B	Secondary Pump #3 VFD Remote Drive Mode	DO	New wiring from MCC 6/7
WSRTU03_JY051C	Secondary Pump #3 VFD Remote Stop	DO	New wiring from MCC 6/7
WSRTU03_JY051D	Secondary Pump #3 VFD Remote Bypass Mode	DO	New wiring from MCC 6/7
WSRTU03_QS052A	Secondary LS Pump 4 Status RunCommand	DO	New wiring from MCC 6/7
WSRTU03_JY052B	Secondary Pump #4 VFD Remote Drive Mode	DO	New wiring from MCC 6/7
WSRTU03_JY052C	Secondary Pump #4 VFD Remote Stop	DO	New wiring from MCC 6/7
WSRTU03_JY052D	Secondary Pump #4 VFD Remote Bypass Mode	DO	New wiring from MCC 6/7
WSRTU03_QS053A	Secondary LS Pump 1 Status RunCommand	DO	New wiring from MCC 6/7
WSRTU03_QS054A	Secondary LS Pump 2 Status RunCommand	DO	New wiring from MCC 6/7
WSRTU03_HS061	Nitrification Recirc. Pump 1 Status RunCommand	DO	AKA Filter Recirc Pump; New wiring from MCC 6/7
WSRTU03_HS062	Nitrification Recirc. Pump 2 SS	DO	AKA Filter Recirc Pump; New wiring from MCC 6/7
WSRTU03_HS063	Nitrification Recirc. Pump 3 Status RunCommand	DO	AKA Filter Recirc Pump; New wiring from MCC 6/7
WSRTU03_HS064	Nitrification Recirc. Pump 4 Status RunCommand	DO	AKA Filter Recirc Pump; New wiring from MCC 6/7
WSRTU03_HS083	Reuse Water Pump 1 SS	DO	Wiring from 55-TJB-1
WSRTU03_HS084	Reuse Water Pump 2 SS	DO	Wiring from 55-TJB-1
	Diesel Pump (at Secondary Pump Station) Run Command	DI	New wiring to onsite diesel pump
WSRTU03_ZI036	Intermediate Clarifiers Discharge Valve 2 Position Feedback	AI	Wiring from 55-TJB-1
WSRTU03_FI035	Recycle Flow	AI	Wiring from 55-TJB-1
WSRTU03_SIC037	Recycle Pump 1 Speed Feedback	AI	AKA Launder Recirc Pump; New wiring from MCC 6/7

WSRTU03_SIC038	Recycle Pump 2 Speed Feedback	AI	AKA Launder Recirc Pump; New wiring from MCC 6/7
WSRTU03_SIC039	Recycle Pump 3 Speed Feedback	AI	AKA Launder Recirc Pump; New wiring from MCC 6/7
WSRTU03_SIC051	Secondary LS Pump 3 Speed Feedback	AI	New wiring from MCC 6/7
WSRTU03_LIC051	Secondary LS Pumping Station Level	AI	Wiring from 55-TJB-1
WSRTU03_SIC052	Secondary LS Pump 4 Speed Feedback	AI	New wiring from MCC 6/7
WSRTU03_SIC053	Secondary LS Pump 1 Speed Feedback	AI	New wiring from MCC 6/7
WSRTU03_SIC054	Secondary LS Pump 2 Speed Feedback	AI	New wiring from MCC 6/7
WSRTU03_FI071	Disinfection Flow CCC Flow	AI	Wiring from 55-TJB-1
WSRTU03_XI851	Post-Aeration CL2 Analyzer	AI	Wiring from 55-TJB-1
WSRTU03_XI850	Post-Aeration SO2 Analyzer	AI	Wiring from 55-TJB-1
WSRTU03_ZI041	Intermediate Clarifiers Discharge Valve 1 Position Feedback	AI	Wiring from 55-TJB-1
WSRTU03_ZT101	Trickle Filters Discharge Valve 1 Position Feedback	AI	Wiring from 55-TJB-1
WSRTU03_ZT102	Trickle Filters Discharge Valve 2 Position Feedback	AI	Wiring from 55-TJB-1
WSRTU03_ZI011B	Final Clarifier Valves Discharge Valve 1 Position Feedback	AI	Wiring from 55-TJB-1
WSRTU03_ZI012B	Final Clarifier Valves Discharge Valve 2 Position Feedback	AI	Wiring from 55-TJB-1
WSRTU03_HIC041	Intermediate Clarifiers Discharge Valve 1 Commanded Position	AO	Wiring from 55-TJB-1
WSRTU03_HIC036	Intermediate Clarifiers Discharge Valve 2 Commanded Position	AO	Wiring from 55-TJB-1
WSRTU03_SCC037	Recycle Pump #1 VFD Speed SP	AO	AKA Launder Recirc Pump; New wiring from MCC 6/7
WSRTU03_SCC038	Recycle Pump #2 VFD Speed SP	AO	AKA Launder Recirc Pump; New wiring from MCC 6/7
WSRTU03_SCC039	Recycle Pump #3 VFD Speed SP	AO	AKA Launder Recirc Pump; New wiring from MCC 6/7
WSRTU03_SCC051	Secondary Pump #3 VFD Speed SP	AO	New wiring from MCC 6/7
WSRTU03_SCC052	Secondary Pump #4 VFD Speed SP	AO	New wiring from MCC 6/7
WSRTU03_SCC053	Secondary Pump #1 VFD Speed SP	AO	New wiring from MCC 6/7
WSRTU03_SCC054	Secondary Pump #2 VFD Speed SP	AO	New wiring from MCC 6/7
WSRTU03_HIC012	Final Clarifier Valves Discharge Valve 2 Commanded Position	AO	Wiring from 55-TJB-1
WSRTU03_HIC101	Trickle Filters Discharge Valve 1 Commanded Position	AO	Wiring from 55-TJB-1
WSRTU03_HIC102	Trickle Filters Discharge Valve 2 Commanded Position	AO	Wiring from 55-TJB-1
WSRTU03_HIC011	Final Clarifier Valves Discharge Valve 1 Commanded Position	AO	Wiring from 55-TJB-1

60-PAC-1 (Formerly RTU-5) I/O LIST

PAC TAG	DESCRIPTION	TYPE	COMMENTS
WSRTU05_GENRUNNING	Effluent Area Generator Running	DI	

WSRTU05_GENALARM	Effluent Area Generator Alarm	DI	
WSRTU05_ATSGEN	Effluent Area Generator ATS on GEN	DI	
WSRTU05_ATSUTILITY	Effluent Area Generator ATS on UTIL	DI	
WSRTU05_ATSAUTO	Effluent Area Generator ATS AUTO	DI	
WSRTU05_ATSALARM	Effluent Area Generator ATS Alarm	DI	
WSRTU05_FIRESUPSYS	Effluent Area Fire Supp Active	DI	
WSRTU05_WETWELLHIGHLVL	Effluent Wet Well High Level Float	DI	
WSRTU05_RESET	Reset Pushbutton	DI	
WSRTU05_FAULTDRIVE1	Effluent Pump 1 VFD Fault	DI	
WSRTU05_FAULTDRIVE2	Effluent Pump 2 VFD Fault	DI	
WSRTU05_FAULTDRIVE3	Effluent Pump 3 VFD Fault	DI	
WSRTU05_FAULTDRIVE4	Effluent Pump 4 VFD Fault	DI	
WSRTU05_FAULTDRIVE5	Effluent Pump 5 VFD Fault	DI	
WSRTU05_CHKVLV1	Effluent Pump 1 Check Valve Closed	DI	
WSRTU05_CHKVLV2	Effluent Pump 2 Check Valve Closed	DI	
WSRTU05_CHKVLV3	Effluent Pump 3 Check Valve Closed	DI	
WSRTU05_CHKVLV4	Effluent Pump 4 Check Valve Closed	DI	
WSRTU05_CHKVLV5	Effluent Pump 5 Check Valve Closed	DI	
WSRTU05_VFDRUN1	Effluent Pump 1 VFD Running	DI	
WSRTU05_VFDRUN2	Effluent Pump 2 VFD Running	DI	
WSRTU05_VFDRUN3	Effluent Pump 3 VFD Running	DI	
WSRTU05_VFDRUN4	Effluent Pump 4 VFD Running	DI	
WSRTU05_VFDRUN5	Effluent Pump 5 VFD Running	DI	
WSRTU05_VFDBYPASS1	Effluent Pump 1 VFD Bypassed	DI	
WSRTU05_VFDBYPASS2	Effluent Pump 2 VFD Bypassed	DI	
WSRTU05_VFDBYPASS3	Effluent Pump 3 VFD Bypassed	DI	
WSRTU05_VFDBYPASS4	Effluent Pump 4 VFD Bypassed	DI	
WSRTU05_VFDBYPASS5	Effluent Pump 5 VFD Bypassed	DI	
WSRTU05_VFDHOAAUTO1	Effluent Pump 1 HOA in AUTO	DI	
WSRTU05_VFDHOAAUTO2	Effluent Pump 2 HOA in AUTO	DI	
WSRTU05_VFDHOAAUTO3	Effluent Pump 3 HOA in AUTO	DI	
WSRTU05_VFDHOAAUTO4	Effluent Pump 4 HOA in AUTO	DI	
WSRTU05_VFDHOAAUTO5	Effluent Pump 5 HOA in AUTO	DI	
WSRTU05_VFDSPDSELSWTCH1	Effluent Pump 1 Speed Select Switch	DI	

WSRTU05_VFDSPDSELSWTCH2	Effluent Pump 2 Speed Select Switch	DI	
WSRTU05_VFDSPDSELSWTCH3	Effluent Pump 3 Speed Select Switch	DI	
WSRTU05_VFDSPDSELSWTCH4	Effluent Pump 4 Speed Select Switch	DI	
WSRTU05_VFDSPDSELSWTCH5	Effluent Pump 5 Speed Select Switch	DI	
WSRTU05_PHASEFAILRELAY	Effluent Pump CP Power Fail	DI	
WSRTU05_DIESELMONLEAK	Effluent Area Gen Fuel Leak	DI	
WSRTU05_DIESELMONPWRFAIL	Effluent Area Gen Fuel System Power Fail	DI	
WSRTU05_DIESELMONWATERLEAK	Effluent Area Gen Water In Fuel	DI	
WSRTU05_DIESELMONGENALARM	Effluent Area Gen Fuel Alarm	DI	
WSRTU05_Pmp1DiscOn	Effluent Pump 1 Disconnect On	DI	
WSRTU05_Pmp2DiscOn	Effluent Pump 2 Disconnect On	DI	
WSRTU05_Pmp3DiscOn	Effluent Pump 3 Disconnect On	DI	
WSRTU05_Pmp4DiscOn	Effluent Pump 4 Disconnect On	DI	
WSRTU05_Pmp5DiscOn	Effluent Pump 5 Disconnect On	DI	
WSRTU05_AerationRunning		DI	Field verify signal.
WSRTU05_WaterPumpRunning		DI	Field verify signal.
WSRTU05_LSL506	Effluent Wet Well Low Level Float	DI	
	60-CP-1 Panel Intrusion	DI	Add panel intrusion switch if necessary
	60-CP-1 AC Power Fail	DI	Add power fail relay if necessary
	60-CP-1 DC Power Fail	DI	Add power fail relay(s) if necessary
	60-CP-1 UPS Battery Low Alarm	DI	Provide UPS relay card; interposing relay
	60-CP-1 UPS Failure Alarm	DI	Provide UPS relay card; interposing relay
WSRTU05_VFDRUNCMD1_I	Effluent Pump 1 VFD Run Command	DO	
WSRTU05_VFDRUNCMD2_I	Effluent Pump 2 VFD Run Command	DO	
WSRTU05_VFDRUNCMD3_I	Effluent Pump 3 VFD Run Command	DO	
WSRTU05_VFDRUNCMD4_I	Effluent Pump 4 VFD Run Command	DO	
WSRTU05_VFDRUNCMD5_I	Effluent Pump 5 VFD Run Command	DO	
WSRTU05_VFDSPDFB1	Effluent Pump 1 VFD Speed Feedback	AI	
WSRTU05_VFDSPDFB3	Effluent Pump 3 VFD Speed Feedback	AI	
WSRTU05_VFDSPDFB4	Effluent Pump 4 VFD Speed Feedback	AI	
WSRTU05_VFDSPDFB5	Effluent Pump 5 VFD Speed Feedback	AI	
WSRTU05_VFDSPDFB2	Effluent Pump 2 VFD Speed Feedback	AI	
WSRTU05_WETWELLLVL	Effluent Wet Well Level	AI	
WSRTU05_VFDRUNCMD1	Effluent Pump 1 VFD Speed Command	AO	

WSRTU05_VFDRUNCMD2	Effluent Pump 2 VFD Speed Command	AO	
WSRTU05_VFDRUNCMD3	Effluent Pump 3 VFD Speed Command	AO	
WSRTU05_VFDRUNCMD4	Effluent Pump 4 VFD Speed Command	AO	
WSRTU05_VFDRUNCMD5	Effluent Pump 5 VFD Speed Command	AO	

MCP-200 I/O LIST

PAC TAG	DESCRIPTION	TYPE	COMMENTS
WSRTU02_SCRN200A_REM	Headworks Screen 1 Status Field-Remote	DI	Via New Control Network
WSRTU02_SCRN200A_ON	Headworks Screen 1 Status Running	DI	Via New Control Network
WSRTU02_SCRN200A_ALM	Headworks Screen 1 Alarms Common Alarm	DI	Via New Control Network
WSRTU02_LSH200	Headworks Screen 1 Alarms Alarm Word Channel Level High	DI	Via New Control Network
WSRTU02_SCRN200B_REM	Headworks Screen 1 Press Status LOR-Status	DI	Via New Control Network
WSRTU02_SCRN200B_ON	Headworks Screen 1 Press Status Running	DI	Via New Control Network
WSRTU02_SCRN200_ALM	Headworks Screen 1 Alarms Alarm	DI	Via New Control Network
WSRTU02_HS200	Headworks Screen 1 Start Cycle Output	DO	Via New Control Network
WSRTU02_LI201A	Headworks Screen 1 Upstream Level	AI	Via New Control Network
WSRTU02_LI201B	Headworks Screen 1 Downstream Level	AI	Via New Control Network

MCP-250 I/O LIST

PAC TAG	DESCRIPTION	TYPE	COMMENTS
WSRTU02_SCRN250A_REM	Headworks Screen 2 Status Field-Remote	DI	Via New Control Network
WSRTU02_SCRN250A_ON	Headworks Screen 2 Status Running	DI	Via New Control Network
WSRTU02_SCRN250A_ALM	Headworks Screen 2 Press Alarms Common Alarm	DI	Via New Control Network
WSRTU02_LSH250	Headworks Screen 2 Alarms Alarm Word Channel Level High	DI	Via New Control Network
WSRTU02_SCRN250B_REM	Headworks Screen 2 Press Status LOR-Status	DI	Via New Control Network
WSRTU02_SCRN250B_ON	Headworks Screen 2 Press Status Running	DI	Via New Control Network
WSRTU02_SCRN250B_ALM	Headworks Screen 2 Press Alarms Common Alarm	DI	Via New Control Network
WSRTU02_HS250	Headworks Screen 2 Start Cycle Output	DO	Via New Control Network
WSRTU02_LI251A	Headworks Screen 2 Upstream Level	AI	Via New Control Network

WSRTU02_LI251B	Headworks Screen 2 Downstream Level	AI	Via New Control Network

MCP-510 I/O LIST			
PAC TAG	DESCRIPTION	TYPE	COMMENTS
WSRTU02_JI510A	Grit Pump 1 Status Running	DI	Via New Control Network
WSRTU02_QA510A	Grit Pump 1 Alarms Starter Fault	DI	Via New Control Network
WSRTU02_ZI510A	Grit Pump 1 Status LOR-Status	DI	Via New Control Network
WSRTU02_JI510B	Grit Snail 1 Status Running	DI	Via New Control Network
WSRTU02_QA510B	Grit Pump 1 Fault	DI	Via New Control Network
WSRTU02_ZI510B	Grit Snail 1 Status LOR-Status	DI	Via New Control Network
WSRTU02_ZI510C	Grit Teacup 1 Remote	DI	Via New Control Network
WSRTU02_ZI510	Grit System 1 Auto Ready	DI	Via New Control Network
WSRTU02_QA510	Grit System 1 Common Alarm	DI	Via New Control Network
WSRTU02_QS510	Headworks Grit 1 Cycle Init	DO	Via New Control Network

MCP-520 I/O LIST			
PAC TAG	DESCRIPTION	TYPE	COMMENTS
WSRTU02_JI520A	Grit Pump 2 Status Running	DI	Via New Control Network
WSRTU02_QA520A	Grit Pump 2 Alarms Starter Fault	DI	Via New Control Network
WSRTU02_ZI520A	Grit Pump 2 Status LOR-Status	DI	Via New Control Network
WSRTU02_JI520B	Grit Snail 2 Status Running	DI	Via New Control Network
WSRTU02_QA520B	Grit Pump 2 Fault	DI	Via New Control Network
WSRTU02_ZI520B	Grit Snail 2 Status LOR-Status	DI	Via New Control Network
WSRTU02_ZI520C	Grit Teacup 2 Remote	DI	Via New Control Network
WSRTU02_ZI520	Grit System 2 Auto Ready	DI	Via New Control Network
WSRTU02_QA520	Grit System 2 Common Alarm	DI	Via New Control Network
WSRTU02_QS520	Headworks Grit 2 Cycle Init	DO	Via New Control Network

Existing RTU-1 I/O LIST						
PAC TAG	DESCRIPTION	TYPE	Existing RTU (for reference only)			COMMENTS
			RACK	SLOT	POINT	
WSRTU01_JI027	Splitter Box Preaerator Blower Status Running	DI	1	1	1	
WSRTU01_ZI027	Splitter Box Preaerator Blower Command AutoMode	DI	1	1	2	
WSRTU01_XA032	Primary Clarifiers Clarifier 2 Alarms Torque Fault	DI	1	1	3	
WSRTU01_JI032	Primary Clarifiers Clarifier 2 Status Running	DI	1	1	4	
WSRTU01_XA031	Primary Clarifiers Clarifier 1 Alarms Torque Fault	DI	1	1	5	
WSRTU01_JI031	Primary Clarifiers Clarifier 1 Status Running	DI	1	1	6	
WSRTU01_JI901	Primary Sludge & Scum Pump 4 Status Running	DI	1	1	7	
WSRTU01_JI902	Primary Sludge & Scum Pump 3 Status Running	DI	1	1	8	
WSRTU01_JI903	Primary Sludge & Scum Pump 2 Status Running	DI	1	1	9	
WSRTU01_JI904	Primary Sludge & Scum Pump 1 Status Running	DI	1	1	10	
WSRTU01_XA033	Primary Clarifiers Clarifier 3 Alarms Torque Fault	DI	1	1	11	
WSRTU01_JI033	Primary Clarifiers Clarifier 3 Status Running	DI	1	1	12	
WSRTU01_JI034	Primary Clarifiers Clarifier 4 Status Running	DI	1	1	13	
WSRTU01_XA034	Primary Clarifiers Clarifier 4 Alarms Torque Fault	DI	1	1	14	
WSRTU01_JI905	Primary Sludge & Scum Pump 5 Status Running	DI	1	1	15	
WSRTU01_JI906	Primary Sludge & Scum Pump 6 Status Running	DI	1	1	16	
WSRTU01_JI907	Primary Sludge & Scum Pump 7 Status Running	DI	1	1	17	
WSRTU01_PAH864A	Disinfection Chlorine Vacuum #1 High	DI	1	1	18	
WSRTU01_TAH862	Disinfection Chlorine Evaporator High Temperature	DI	1	1	19	
WSRTU01_PAH864B	Disinfection Chlorine Vacuum #2 High	DI	1	1	20	
WSRTU01_PAL864A	Disinfection Chlorine Vacuum #1 Low	DI	1	1	21	
WSRTU01_XA867	Disinfection Chlorine CL2 Leak	DI	1	1	22	
WSRTU01_PAL864B	Disinfection Chlorine Vacuum #2 Low	DI	1	1	23	
WSRTU01_QA865	Disinfection Chlorine CL2 Regulator Low	DI	1	1	25	
WSRTU01_JI869C	Disinfection Scrubber Fan Running	DI	1	1	26	
WSRTU01_JI869B	Disinfection Scrubber Pump Running	DI	1	1	27	
WSRTU01_QA855	Disinfection Sulfonator SO2 Regulator Low	DI	1	1	28	
WSRTU01_XA857	Disinfection Sulfonator SO2 Leak	DI	1	1	29	
WSRTU01_PAH854B	Disinfection Sulfonator Sulfonator #1 SO2 Vacuum High	DI	1	1	30	
WSRTU01_TAH852	Disinfection Sulfonator SO2 Evaporator High Temp	DI	1	1	31	
WSRTU01_PAH854A	Disinfection Sulfonator Sulfonator #2 SO2 Vacuum High	DI	1	1	32	
WSRTU01_PAL854B	Disinfection Sulfonator Sulfonator #1 SO2 Vacuum Low	DI	1	2	1	
WSRTU01_PAL854A	Disinfection Sulfonator Sulfonator #2 SO2 Vacuum Low	DI	1	2	3	
WSRTU01_JI102	Sludge Transfer Pump to Truck P1-2 Status Running	DI	1	2	4	

WSRTU01_JI101	Sludge Transfer Pump to Truck P1-1 Status Running	DI	1	2	5	
WSRTU01_JI091	Pre-Thickener Rake Status Running	DI	1	2	6	
WSRTU01_JI103	Sludge Transfer Pump to Truck P1-3 Status Running	DI	1	2	7	
OFFICE_UP_TRBL	Fire Suppression Office Upstairs Fire Suppression System Trouble	DI	1	2	8	
WSRTU01_XA091	Pre-Thickener Rake Alarms Torque Fault	DI	1	2	9	
OFFICE_UP_ALM	Fire Suppression Office Upstairs Fire Suppression System Alarm	DI	1	2	10	
OFFICE_DN_TRBL	Fire Suppression Office Downstairs Fire Suppression System Trouble	DI	1	2	11	
OFFICE_DN_ALM	Fire Suppression Office Downstairs Fire Suppression System Alarm	DI	1	2	12	
WSRTU01_JI869A	Disinfection Scrubber System Ready	DI	1	2	13	
WSRTU01_HC027	Splitter Box Preaerator Blower Status RunCommand	DO	1	3	2	
WSRTU01_QS861A	Remote Switch For CL2 Field Controller	DO	1	3	3	Deleted - Field Verify
WSRTU01_QS850	Remote Switch For SO2 Field Controller	DO	1	3	4	Deleted - Field Verify
WSRTU01_OPENGATECMD	Unused	DO	1	3	5	Field Verify
WSRTU01_FI033	Primary Sludge & Scum Flow	AI	1	4	1	
WSRTU01_ZI861A	Disinfection Chlorine CL2 Flow	AI	1	4	2	
WSRTU01_WT868B	Disinfection Sulfonator SO2 Scale 2 Weight	AI	1	4	3	
WSRTU01_WT868D	Disinfection Chlorine CL2 Scale 2 Weight	AI	1	4	4	
WSRTU01_FI005	Sludge Transfer Truck Loading Flow	AI	1	4	5	
WSRTU01_FI034	Primary Sludge & Scum Flow 2	AI	1	4	6	
WSRTU01_WT868A	Disinfection Sulfonator SO2 Scale 1 Weight	AI	1	4	7	
WSRTU01_WT868C	Disinfection Chlorine CL2 Scale 1 Weight	AI	1	4	8	
WSRTU01_ZI850	Disinfection Sulfonator SO2 Valve Position	AI	1	4	9	
WSRTU01_FI081	Pre-Thickener P95 Flow	AI	1	4	10	
WSRTU01_LI040	Pre-Thickener Sludge Blanket Level	AI	1	4	11	
WSRTU01_FI007	Gas Flows Waste Gas Flow	AI	1	4	12	
WSRTU01_FI122	Gas Flows Influent Gas Flow	AI	1	4	13	
WSRTU01_FI082	Pre-Thickener P96 Flow	AI	1	4	15	
WSRTU01_RIC861A	Cl2 Ratio Set	AO	1	5	1	Deleted - Field Verify
WSRTU01_RIC850	SO2 Ratio Set	AO	1	5	2	Deleted - Field Verify

Existing RTU-2 I/O LIST

PAC TAG	DESCRIPTION	TYPE	Existing RTU (for reference only)			COMMENTS
			RACK	SLOT	POINT	
WSRTU02_JI030	Electrical RTU2 Phase Failure	DI	1	1	1	
WSRTU02_LAH011D	Head Works Side #1 Level High	DI	1	1	2	Deleted - Field Verify
WSRTU02_JI011	Headworks Right Side (#1) Climb Screen Status Running	DI	1	1	3	Deleted - Field Verify
WSRTU02_JI012	Headworks Left Side (#2) Climb Screen Status Running	DI	1	1	4	Deleted - Field Verify

WSRTU02_LAH012D	Headworks Right Side Level High	DI	1	1	5	Deleted - Field Verify
WSRTU02_QA025	Influent PS Pump 5 Alarms VFD Fault	DI	1	1	6	
WSRTU02_ZI016	Headworks Conveyer Command AutoMode	DI	1	1	7	Deleted - Field Verify
WSRTU02_ZI017	Preaerator Blower 1 Command AutoMode	DI	1	1	8	Deleted - Field Verify
WSRTU02_JI017	Preaerator Blower 1 Status Running	DI	1	1	9	Deleted - Field Verify
WSRTU02_ZI019	Preaerator Blower 3 Command AutoMode	DI	1	1	10	Deleted - Field Verify
WSRTU02_JI019	Preaerator Blower 3 Status Running	DI	1	1	11	Deleted - Field Verify
WSRTU02_XA025A	Influent PS Pump 5 Alarms Seal Fail	DI	1	1	12	
WSRTU02_XA025B		DI	1	1	13	Deleted - Field Verify
WSRTU02_JI018	Preaerator Blower 2 Status Running	DI	1	1	14	Deleted - Field Verify
WSRTU02_ZI018	Preaerator Blower 2 Command AutoMode	DI	1	1	15	Deleted - Field Verify
WSRTU02_JI035	Electrical Generator Running	DI	1	1	16	
WSRTU02_XA035	Electrical Generator General Alarm	DI	1	1	17	
WSRTU02_QI021B	Influent PS Low Float - Pump Enable	DI	1	1	18	
WSRTU02_MA021	Influent PS Pump 1 Alarms Seal Fail	DI	1	1	19	
WSRTU02_TA021A	Influent PS Pump 1 Alarms High Motor Temp	DI	1	1	20	
WSRTU02_ZI021A_IN	Influent PS Pump 1 Status VFD in AUTO	DI	1	1	21	
WSRTU02_JI021	Influent PS Pump 1 Status VFD Running	DI	1	1	22	
WSRTU02_QA021	Influent PS Pump 1 Alarms VFD Fault	DI	1	1	23	
WSRTU02_ZI021B	Influent PS Pump 1 Status Field-Remote	DI	1	1	24	
WSRTU02_ZI021C	Influent PS Pump 1 Status VFD Mode Feedback	DI	1	1	25	
WSRTU02_ZI021D	Influent PS Pump 1 Status Bypass Mode Feedback	DI	1	1	26	
WSRTU02_LA021A_IN	Influent PS Wet Well Level Transmitter Failure	DI	1	1	27	
WSRTU02_MA022	Influent PS Pump 2 Alarms Seal Fail	DI	1	1	28	
WSRTU02_TA022A_IN	Influent PS Pump 2 Alarms High Temp	DI	1	1	29	
WSRTU02_ZI022A_IN	Influent PS Pump 2 Status VFD in AUTO	DI	1	1	30	
WSRTU02_JI022	Influent PS Pump 2 Status VFD Running	DI	1	1	31	
WSRTU02_QA022	Influent PS Pump 2 Alarms VFD Fault	DI	1	1	32	
WSRTU02_ZI022B	Influent PS Pump 2 Status Field-Remote	DI	1	2	1	
WSRTU02_ZI022C	Influent PS Pump 2 Status VFD Mode Feedback	DI	1	2	2	
WSRTU02_ZI022D	Influent PS Pump 2 Status Bypass Mode Feedback	DI	1	2	3	
WSRTU02_MA023	Influent PS Pump 3 Status High Moisture	DI	1	2	4	
WSRTU02_TA023A_IN	Influent PS Pump 3 Status High Temp	DI	1	2	5	
WSRTU02_ZI023A_IN	Influent PS Pump 3 Status VFD in AUTO	DI	1	2	6	
WSRTU02_JI023	Influent PS Pump 3 Status VFD Running	DI	1	2	7	
WSRTU02_QA023	Influent PS Pump 3 Alarms VFD Fault	DI	1	2	8	
WSRTU02_ZI023B	Influent PS Pump 3 Status Field-Remote	DI	1	2	9	
WSRTU02_ZI023C	Influent PS Pump 3 Status VFD Mode Feedback	DI	1	2	10	
WSRTU02_ZI023D	Influent PS Pump 3 Status Bypass Mode Feedback	DI	1	2	11	
WSRTU02_JI025OLD		DI	1	2	12	Deleted - Field Verify

WSRTU02_ZI025OLD		DI	1	2	13	Deleted - Field Verify
WSRTU02_LAH021A	Influent PS Pumps Dry Well High Level	DI	1	2	14	
WSRTU02_JI095	Pre-Thickener Pumps P95 Status Running	DI	1	2	16	
WSRTU02_ZI095	Pre-Thickener Pumps P95 Status Field-Remote	DI	1	2	17	
WSRTU02_JI096	Pre-Thickener Pumps P96 Status Running	DI	1	2	18	
WSRTU02_ZI096	Pre-Thickener Pumps P96 In Auto	DI	1	2	19	
WSRTU02_JI092	Post Thickener Rake Status Running	DI	1	2	20	
WSRTU02_JI122	Digesters Heat Exchangers Hot Water Pump #2 Running	DI	1	2	21	
WSRTU02_JI121	Digesters Heat Exchangers Hot Water Pump #1 Running	DI	1	2	22	
WSRTU02_LLI050	Digesters Heat Exchangers Hot Water Make Up Tank Low Level	DI	1	2	23	
WSRTU02_JI047	Digesters Sludge Recirc P112 Status Running	DI	1	2	24	
WSRTU02_ZI047	Digesters Sludge Recirc P112 Status MCC-Remote	DI	1	2	25	
WSRTU02_JI048	Digesters Sludge Recirc P113 Status Running	DI	1	2	26	
WSRTU02_ZI048	Digesters Sludge Recirc P113 Status MCC-Remote	DI	1	2	27	
WSRTU02_JI111	Digesters Mixing Gas Compressor #1 Running	DI	1	2	28	
WSRTU02_JI112	Digesters Mixing Gas Compressor #2 Running	DI	1	2	29	
WSRTU02_JI113	Digesters Mixing Gas Compressor #3 Running	DI	1	2	30	
WSRTU02_JI114	Digesters Mixing Gas Compressor #4 Running	DI	1	2	31	
WSRTU02_ZI092	Post-Thickener Rake Torque Fault	DI	1	2	32	
WSRTU02_JI071	Final Clarifier Rakes Rake 1 Status Running	DI	1	3	1	
WSRTU02_XA071	Final Clarifier Rakes Rake 1 Alarms Starter Fault	DI	1	3	2	
WSRTU02_JI072	Final Clarifier Rakes Rake 2 Final Clarifier Rake #2 Running	DI	1	3	3	
WSRTU02_XA072	Final Clarifier Rakes Rake 2 Alarms Starter Fault	DI	1	3	4	
WSRTU02_JI046	Digesters Sludge Recirc P111 Status Running	DI	1	3	5	
WSRTU02_ZI046	Digesters Sludge Recirc P111 Status MCC-Remote	DI	1	3	6	
WSRTU02_MA024	Influent PS Pump 4 Alarms Seal Fail	DI	1	3	7	
WSRTU02_TA024A_IN	Influent PS Pump 4 Alarms High Temp	DI	1	3	8	
WSRTU02_ZI024A	Influent PS Pump 4 Status VFD in AUTO	DI	1	3	9	
WSRTU02_JI024	Influent PS Pump 4 Status Running	DI	1	3	10	
WSRTU02_QA024	Influent PS Pump 4 Alarms VFD Fault	DI	1	3	11	
WSRTU02_JI025	Influent PS Pump 5 Status Running	DI	1	3	12	
WSRTU02_ZI025A	Influent PS Pump 5 Status VFD in AUTO	DI	1	3	13	
WSRTU02_ZI025B	Influent PS Pump 5 Status Field-Remote	DI	1	3	14	
WSRTU02_JI115	Digesters Heat Exchangers Gas Boiler Running	DI	1	3	15	
RTU2_TRBL	Fire Suppression Generator Building Fire Suppression System Trouble	DI	1	3	17	
RTU2_ALM	Fire Suppression Generator Building Fire Suppression System Alarm	DI	1	3	18	
WSRTU2_PS1_OK	Electrical RTU2 Power Supply 1 Fault	DI	1	3	21	
WSRTU2_PS2_OK	Electrical RTU2 Power Supply 2 Fault	DI	1	3	22	
WSRTU02_FQI100_PULSE	Influent Flow Totalizer Pulse	DI	1	3	23	
WSRTU02_FQI110_PULSE	Band Screen Channel Flow Totalizer Pulse	DI	1	3	24	~~Deleted - Field Verify~~

WSRTU02_LSH110	Band Screen Channel High Level Float	DI	1	3	25	~~Deleted - Field Verify~~
WSRTU02_SCRN110_ON	Band Screen Running	DI	1	3	26	~~Deleted - Field Verify~~
WSRTU02_SCRN110_FAIL	Band Screen Fail	DI	1	3	27	~~Deleted - Field Verify~~
WSRTU02_SCRN110_ESTOP	Band Screen Estopped	DI	1	3	28	~~Deleted - Field Verify~~
WSRTU02_SCRN120_ON	Band Screen Press Running	DI	1	3	29	~~Deleted - Field Verify~~
WSRTU02_SCRN120_FAIL	Band Screen Press Fail	DI	1	3	30	~~Deleted - Field Verify~~
WSRTU02_P130_ON	Band Screen Wash Water Pump Running	DI	1	3	31	~~Deleted - Field Verify~~
WSRTU02_P130_FAIL	Band Screen Wash Water Pump Fail	DI	1	3	32	~~Deleted - Field Verify~~
WSRTU02_HS110	Grit Remover Status RunCommand	DO	1	4	1	
WSRTU02_HS200	Headworks Screen 1 Start Cycle Output	DO	1	4	2	
WSRTU02_HS250	Headworks Screen 2 Start Cycle Output	DO	1	4	3	
WSRTU02_HS017	Preaerator Blower 1 Status RunCommand	DO	1	4	4	Deleted - Field Verify
WSRTU02_HS019	Preaerator Blower 3 Status RunCommand	DO	1	4	5	Deleted - Field Verify
WSRTU02_HS018	Preaerator Blower 2 Status RunCommand	DO	1	4	7	Deleted - Field Verify
WSRTU02_QS021A	Influent PS Pump 1 Status RunCommand	DO	1	4	8	
WSRTU02_HS021B	Influent Pump #1 VFD Remote Drive Mode	DO	1	4	9	
WSRTU02_HS021C	Influent Pump #1 VFD Remote Stop	DO	1	4	10	
WSRTU02_HS021D	Influent Pump #1 VFD Remote Bypass Mode	DO	1	4	11	
WSRTU02_QS022A	Influent PS Pump 2 Status RunCommand	DO	1	4	12	
WSRTU02_HS022B	Influent Pump #2 VFD Remote Drive Mode	DO	1	4	13	
WSRTU02_HS022C	Influent Pump #2 VFD Remote Stop	DO	1	4	14	
WSRTU02_HS022D	Influent Pump #2 VFD Remote Bypass Mode	DO	1	4	15	
WSRTU02_QS023A	Influent PS Pump 3 Status RunCommand	DO	1	4	16	
WSRTU02_HS023B	Influent Pump #3 VFD Remote Drive Mode	DO	1	4	17	
WSRTU02_HS023C	Influent Pump #3 VFD Remote Stop	DO	1	4	18	
WSRTU02_HS023D	Influent Pump #3 VFD Remote Bypass Mode	DO	1	4	19	
WSRTU02_HS025A	Influent Pump #5 Run Relay	DO	1	4	20	
WSRTU02_HC095	Pre-Thickener Pumps P95 Status RunCommand	DO	1	4	21	
WSRTU02_HC096	Pre-Thickener Pumps P96 Status RunCommand	DO	1	4	22	
WSRTU02_HS046	Digesters Sludge Recirc P111 Status RunCommand	DO	1	4	23	
WSRTU02_HS047	Digesters Sludge Recirc P112 Status RunCommand	DO	1	4	24	
WSRTU02_HS048	Digesters Sludge Recirc P113 Status RunCommand	DO	1	4	25	
WSRTU02_QS024A	Influent PS Pump 4 Status RunCommand	DO	1	4	28	
WSRTU02_QS510	Headworks Grit 1 Cycle Init	DO	1	4	29	
WSRTU02_QS520	Headworks Grit 2 Cycle Init	DO	1	4	30	
WSRTU02_QS025	Influent PS Pump 5 Status RunCommand	DO	1	4	31	
WSRTU02_LI011A	Headworks Differential Level Left Side	AI	1	5	1	Deleted - Field Verify
WSRTU02_LI012	Headworks Differential Level Right Side	AI	1	5	2	Deleted - Field Verify
WSRTU02_LI011B	Headworks Level A	AI	1	5	3	Deleted - Field Verify
WSRTU02_LI012B	Headworks Level B	AI	1	5	4	Deleted - Field Verify

WSRTU02_XI035_RAW	Influent Generator Amps	AI	1	5	5	
WSRTU02_XI021	Influent PS Pump 1 Motor Load	AI	1	5	6	
WSRTU02_SIC021	Influent PS Pump 1 Speed Feedback	AI	1	5	7	
WSRTU02_LIC021	Influent PS Wet Well Level	AI	1	5	8	
WSRTU02_SIC022	Influent PS Pump 2 Speed Feedback	AI	1	5	9	
WSRTU02_XI022	Influent PS Pump 2 Motor Load	AI	1	5	10	
WSRTU02_SIC023	Influent PS Pump 3 Speed Feedback	AI	1	5	11	
WSRTU02_XI023	Influent PS Pump 3 Motor Load	AI	1	5	12	
INFLUENT_FLOW	WS Influent Flow	AI	1	5	13	Deleted - Field Verify
WSRTU02_LT3000		AI	1	5	14	Deleted - Field Verify
WSRTU02_LT4000		AI	1	5	15	Deleted - Field Verify
WSRTU02_TI042	Digesters Digester 1 Sludge Temperature	AI	1	6	1	
WSRTU02_TI043	Digesters Digester 2 Sludge Temperature	AI	1	6	2	
WSRTU02_TI045	Digesters Digester 2 Temperature	AI	1	6	3	
WSRTU02_TI044	Digesters Digester 1 Temperature	AI	1	6	4	
WSRTU02_SCC021	Influent PS Pump 1 Speed Command	AO	1	7	1	
WSRTU02_SCC022	Influent PS Pump 2 Speed Command	AO	1	7	2	
WSRTU02_SCC023	Influent PS Pump 3 Speed Command	AO	1	7	3	
WSRTU02_SCC024	Influent PS Pump 4 Speed Manual Cmd	AO	1	7	4	
WSRTU02_SCC025	Influent PS Pump 5 Speed Manual Cmd	AO	1	7	5	
WSRTU02_SIC024	Influent PS Pump 4 Speed Feedback	AI	1	8	1	
WSRTU02_XI024	Influent PS Pump 4 Motor Load	AI	1	8	2	
WSRTU02_LI110A	Band Screen Upstream Level	AI	1	8	3	~~Deleted - Field Verify~~
WSRTU02_LI110B	Band Screen Downstream Level	AI	1	8	4	~~Deleted - Field Verify~~
WSRTU02_LI201A	Headworks Screen 1 Upstream Level	AI	1	8	5	
WSRTU02_LI201B	Headworks Screen 1 Downstream Level	AI	1	8	6	
WSRTU02_LI251A	Headworks Screen 2 Upstream Level	AI	1	8	7	
WSRTU02_LI251B	Headworks Screen 2 Downstream Level	AI	1	8	8	
WSRTU02_FIT100	Influent PS Sewage Flow	AI	1	8	9	
WSRTU02_FIT200	Headworks Discharge Flow	AI	1	8	10	
WSRTU02_FIT110	Band Screen Channel Flow	AI	1	8	11	~~Deleted - Field Verify~~
WSRTU02_SIC025	Influent PS Pump 5 Speed Feedback	AI	1	8	13	
WSRTU02_XI025	Electrical MCC1 Amps	AI	1	8	14	
WSRTU02_SCRN200A_REM	Headworks Screen 1 Status Field-Remote	DI	2	1	1	
WSRTU02_SCRN200A_ON	Headworks Screen 1 Status Running	DI	2	1	2	
WSRTU02_SCRN200A_ALM	Headworks Screen 1 Alarms Common Alarm	DI	2	1	3	
WSRTU02_LSH200	Headworks Screen 1 Alarms Alarm Word Channel Level High	DI	2	1	4	
WSRTU02_SCRN200B_REM	Headworks Screen 1 Press Status LOR-Status	DI	2	1	5	
WSRTU02_SCRN200B_ON	Headworks Screen 1 Press Status Running	DI	2	1	6	
WSRTU02_SCRN200_ALM	Headworks Screen 1 Alarms Alarm	DI	2	1	7	

WSRTU02_SCRN250A_REM	Headworks Screen 2 Status Field-Remote	DI	2	1	8	
WSRTU02_SCRN250A_ON	Headworks Screen 2 Status Running	DI	2	1	9	
WSRTU02_SCRN250A_ALM	Headworks Screen 1 Press Alarms Common Alarm	DI	2	1	10	
WSRTU02_LSH250	Headworks Screen 2 Alarms Alarm Word Channel Level High	DI	2	1	11	
WSRTU02_SCRN250B_REM	Headworks Screen 2 Press Status LOR-Status	DI	2	1	12	
WSRTU02_SCRN250B_ON	Headworks Screen 2 Press Status Running	DI	2	1	13	
WSRTU02_SCRN250B_ALM	Headworks Screen 2 Press Alarms Common Alarm	DI	2	1	14	
WSRTU02_JI510A	Grit Pump 1 Status Running	DI	2	1	15	
WSRTU02_QA510A	Grit Pump 1 Alarms Starter Fault	DI	2	1	16	
WSRTU02_ZI510A	Grit Pump 1 Status LOR-Status	DI	2	1	17	
WSRTU02_JI510B	Grit Snail 1 Status Running	DI	2	1	18	
WSRTU02_QA510B	Grit Pump 1 Fault	DI	2	1	19	
WSRTU02_ZI510B	Grit Snail 1 Status LOR-Status	DI	2	1	20	
WSRTU02_ZI510C	Grit Teacup 1 Remote	DI	2	1	21	
WSRTU02_ZI510	Grit System 1 Auto Ready	DI	2	1	22	
WSRTU02_QA510	Grit System 1 Common Alarm	DI	2	1	23	
WSRTU02_JI520A	Grit Pump 2 Status Running	DI	2	1	24	
WSRTU02_QA520A	Grit Pump 2 Alarms Starter Fault	DI	2	1	25	
WSRTU02_ZI520A	Grit Pump 2 Status LOR-Status	DI	2	1	26	
WSRTU02_JI520B	Grit Snail 2 Status Running	DI	2	1	27	
WSRTU02_QA520B	Grit Pump 2 Fault	DI	2	1	28	
WSRTU02_ZI520B	Grit Snail 2 Status LOR-Status	DI	2	1	29	
WSRTU02_ZI520C	Grit Teacup 2 Remote	DI	2	1	30	
WSRTU02_ZI520	Grit System 2 Auto Ready	DI	2	1	31	
WSRTU02_QA520	Grit System 2 Common Alarm	DI	2	1	32	

Existing RTU-3 I/O LIST

PAC TAG	DESCRIPTION	TYPE	Existing RTU (for reference only)			COMMENTS
			RACK	SLOT	POINT	
WSRTU03_JI043	Intermediate Clarifiers Rake 3 Status Running	DI	1	1	1	
WSRTU03_XA043	Intermediate Clarifiers Rake 3 Alarms Starter Fault	DI	1	1	2	
WSRTU03_JI044	Intermediate Clarifiers Rake 4 Status Running	DI	1	1	3	
WSRTU03_XA044	Intermediate Clarifiers Rake 4 Alarms Starter Fault	DI	1	1	4	
WSRTU03_ZI037	Recycle Pump 1 Status Field-Remote	DI	1	1	5	
WSRTU03_JI037	Recycle Pump 1 Status Running	DI	1	1	6	
WSRTU03_XA037	Recycle Pump 1 Alarms VFD Fault	DI	1	1	7	
WSRTU03_ZI038	Recycle Pump 2 Status Field-Remote	DI	1	1	8	

WSRTU03_JI038	Recycle Pump 2 Status Running	DI	1	1	9	
WSRTU03_XA038	Recycle Pump 2 Alarms VFD Fault	DI	1	1	10	
WSRTU03_ZI039	Recycle Pump 3 Status Field-Remote	DI	1	1	11	
WSRTU03_JI039	Recycle Pump 3 Status Running	DI	1	1	12	
WSRTU03_XA039	Recycle Pump 3 Alarms VFD Fault	DI	1	1	13	
WSRTU03_ZI051A_IN	Secondary LS Pump 3 Status VFD in AUTO	DI	1	1	14	
WSRTU03_JI051	Secondary LS Pump 3 Status VFD Running	DI	1	1	15	
WSRTU03_XA051	Secondary LS Pump 3 Alarms VFD Fault	DI	1	1	16	
WSRTU03_ZI051B	Secondary Pump #3 VFD In Remote	DI	1	1	17	
WSRTU03_ZI051C	Secondary Pump #3 VFD Drive Mode	DI	1	1	18	
WSRTU03_ZI051D	Secondary LS Pump 3 Status Bypass Running	DI	1	1	19	
WSRTU03_XA051B	Secondary LS Pumps Wet Well Transmitter Fail	DI	1	1	20	
WSRTU03_ZI052A_IN	Secondary LS Pump 2 Status VFD in AUTO	DI	1	1	21	
WSRTU03_JI052	Secondary LS Pump 4 Status VFD Running	DI	1	1	22	
WSRTU03_XA052	Secondary LS Pump 4 Alarms VFD Fault	DI	1	1	23	
WSRTU03_ZI052B	Secondary LS Pump #4 VFD In Remote	DI	1	1	24	
WSRTU03_ZI052C	Secondary LS Pump #4 VFD Drive Mode	DI	1	1	25	
WSRTU03_ZI052D	Secondary LS Pump 4 Status Bypass Running	DI	1	1	26	
WSRTU03_ZI053A_IN	Secondary LS Pump 3 Status VFD in AUTO	DI	1	1	27	
WSRTU03_JI053	Secondary LS Pump 1 Status Running	DI	1	1	28	
WSRTU03_XA053	Secondary LS Pump 1 Alarms VFD Fault	DI	1	1	29	
WSRTU03_ZI054A_IN	Secondary LS Pump 4 Status VFD in AUTO	DI	1	1	30	
WSRTU03_JI054	Secondary LS Pump 2 Status Running	DI	1	1	31	
WSRTU03_XA054	Secondary LS Pump 2 Alarms VFD Fault	DI	1	1	32	
WSRTU03_JI061	Nitrification Recirc. Pump 1 Status Running	DI	1	2	1	
WSRTU03_ZI061	Nitrification Recirc. Pump 1 Command AutoMode	DI	1	2	2	
WSRTU03_JI062	Nitrification Recirc. Pump 2 Status Running	DI	1	2	3	
WSRTU03_ZI062	Nitrification Recirc. Pump 2 Command AutoMode	DI	1	2	4	
WSRTU03_JI063	Nitrification Recirc. Pump 3 Status Running	DI	1	2	5	
WSRTU03_ZI063	Nitrification Recirc. Pump 3 Command AutoMode	DI	1	2	6	
WSRTU03_JI064	Nitrification Recirc. Pump 4 Status Running	DI	1	2	7	
WSRTU03_ZI064	Nitrification Recirc. Pump 4 Command AutoMode	DI	1	2	8	
RTU3_TRBL	Fire Suppression RTU3 Building Fire Suppression System Trouble	DI	1	2	9	
RTU3_ALM	Fire Suppression RTU3 Building Fire Suppression System Alarm	DI	1	2	10	
WSRTU03_ZI041A	Secondary Clarifier #1 Actuator In Auto	DI	1	2	11	
WSRTU03_ZI036A	Secondary Clarifier #2 Actuator In Auto	DI	1	2	12	
WSRTU03_ZI011A	Final Clarifier Valves Discharge Valve 1 Status Field-Remote	DI	1	2	13	
WSRTU03_ZI012A	Final Clarifier Valves Discharge Valve 2 Status Field-Remote	DI	1	2	14	
WSRTU03_JI081	Post-Aeration Mixer 1 Status Running	DI	1	2	15	
WSRTU03_JI082	Post-Aeration Mixer 2 Status Running	DI	1	2	16	

WSRTU03_JI083	Reuse Water Pump #1 Running	DI	1	2	17	
WSRTU03_ZI083	Reuse Water Pump #1 In Auto	DI	1	2	18	
WSRTU03_JI084	Reuse Water Pump 2 Status Running	DI	1	2	19	
WSRTU03_ZI084	Reuse Water Pump 2 Command AutoMode	DI	1	2	20	
WSRTU03_QI051B	Secondary LS Low Float	DI	1	2	21	
WSRTU03_ZI101	Trickle Filters Discharge Valve 1 Status Field-Remote	DI	1	2	23	
WSRTU03_ZI102	Trickle Filters Discharge Valve 2 Status Field-Remote	DI	1	2	25	
WSRTU03_HC037A	Recycle Pump 1 Status RunCommand	DO	1	3	1	
WSRTU03_HC037B	Recycle Pump #1 Stop	DO	1	3	2	
WSRTU03_HC038A	Recycle Pump 2 Status RunCommand	DO	1	3	3	
WSRTU03_HC038B	Recycle Pump #2 Stop	DO	1	3	4	
WSRTU03_HC039A	Recycle Pump 3 Status RunCommand	DO	1	3	5	
WSRTU03_HC039B	Recycle Pump #3 Stop	DO	1	3	6	
WSRTU03_QS051A	Secondary LS Pump 3 Status RunCommand	DO	1	3	7	
WSRTU03_JY051B	Secondary Pump #3 VFD Remote Drive Mode	DO	1	3	8	
WSRTU03_JY051C	Secondary Pump #3 VFD Remote Stop	DO	1	3	9	
WSRTU03_JY051D	Secondary Pump #3 VFD Remote Bypass Mode	DO	1	3	10	
WSRTU03_QS052A	Secondary LS Pump 4 Status RunCommand	DO	1	3	11	
WSRTU03_JY052B	Secondary Pump #4 VFD Remote Drive Mode	DO	1	3	12	
WSRTU03_JY052C	Secondary Pump #4 VFD Remote Stop	DO	1	3	13	
WSRTU03_JY052D	Secondary Pump #4 VFD Remote Bypass Mode	DO	1	3	14	
WSRTU03_QS053A	Secondary LS Pump 1 Status RunCommand	DO	1	3	15	
WSRTU03_QS054A	Secondary LS Pump 2 Status RunCommand	DO	1	3	16	
WSRTU03_HS061	Nitrification Recirc. Pump 1 Status RunCommand	DO	1	3	17	
WSRTU03_HS062	Nitrification Recirc. Pump 2 SS	DO	1	3	18	
WSRTU03_HS063	Nitrification Recirc. Pump 3 Status RunCommand	DO	1	3	19	
WSRTU03_HS064	Nitrification Recirc. Pump 4 Status RunCommand	DO	1	3	20	
WSRTU03_HS083	Reuse Water Pump 1 SS	DO	1	3	21	
WSRTU03_HS084	Reuse Water Pump 2 SS	DO	1	3	22	
WSRTU03_ZI036	Intermediate Clarifiers Discharge Valve 2 Position Feedback	AI	1	4	2	
WSRTU03_FI035	Recycle Flow	AI	1	4	3	
WSRTU03_SIC037	Recycle Pump 1 Speed Feedback	AI	1	4	4	
WSRTU03_SIC038	Recycle Pump 2 Speed Feedback	AI	1	4	5	
WSRTU03_SIC039	Recycle Pump 3 Speed Feedback	AI	1	4	6	
WSRTU03_SIC051	Secondary LS Pump 3 Speed Feedback	AI	1	4	7	
WSRTU03_LIC051	Secondary LS Pumping Station Level	AI	1	4	8	
WSRTU03_SIC052	Secondary LS Pump 4 Speed Feedback	AI	1	4	9	
WSRTU03_SIC053	Secondary LS Pump 1 Speed Feedback	AI	1	4	10	
WSRTU03_SIC054	Secondary LS Pump 2 Speed Feedback	AI	1	4	11	
WSRTU03_FI071	Disinfection Flow CCC Flow	AI	1	4	14	

WSRTU03_XI851	Post-Aeration CL2 Analyzer	AI	1	4	15	
WSRTU03_XI850	Post-Aeration SO2 Analyzer	AI	1	4	16	
WSRTU03_ZI041	Intermediate Clarifiers Discharge Valve 1 Position Feedback	AI	1	5	1	
WSRTU03_ZT101	Trickle Filters Discharge Valve 1 Position Feedback	AI	1	5	5	
WSRTU03_ZT102	Trickle Filters Discharge Valve 2 Position Feedback	AI	1	5	6	
WSRTU03_ZI011B	Final Clarifier Valves Discharge Valve 1 Position Feedback	AI	1	5	7	
WSRTU03_ZI012B	Final Clarifier Valves Discharge Valve 2 Position Feedback	AI	1	5	8	
WSRTU03_HIC041	Intermediate Clarifiers Discharge Valve 1 Commanded Position	AO	1	6	1	
WSRTU03_HIC036	Intermediate Clarifiers Discharge Valve 2 Commanded Position	AO	1	6	2	
WSRTU03_SCC037	Recycle Pump #1 VFD Speed SP	AO	1	6	3	
WSRTU03_SCC038	Recycle Pump #2 VFD Speed SP	AO	1	6	4	
WSRTU03_SCC039	Recycle Pump #3 VFD Speed SP	AO	1	6	5	
WSRTU03_SCC051	Secondary Pump #3 VFD Speed SP	AO	1	6	6	
WSRTU03_SCC052	Secondary Pump #4 VFD Speed SP	AO	1	6	7	
WSRTU03_SCC053	Secondary Pump #1 VFD Speed SP	AO	1	6	8	
WSRTU03_SCC054	Secondary Pump #2 VFD Speed SP	AO	1	7	1	
WSRTU03_HIC012	Final Clarifier Valves Discharge Valve 2 Commanded Position	AO	1	7	3	
WSRTU03_HIC101	Trickle Filters Discharge Valve 1 Commanded Position	AO	1	7	4	
WSRTU03_HIC102	Trickle Filters Discharge Valve 2 Commanded Position	AO	1	7	5	
WSRTU03_HIC011	Final Clarifier Valves Discharge Valve 1 Commanded Position	AO	1	7	6	

Existing RTU-5 I/O LIST

PAC TAG	DESCRIPTION	TYPE	Existing RTU (for reference only)			COMMENTS
			RACK	SLOT	POINT	
WSRTU05_GENRUNNING	Effluent Area Generator Running	DI	1	1	1	
WSRTU05_GENALARM	Effluent Area Generator Alarm	DI	1	1	2	
WSRTU05_ATSGEN	Effluent Area Generator ATS on GEN	DI	1	1	3	
WSRTU05_ATSUTILITY	Effluent Area Generator ATS on UTIL	DI	1	1	4	
WSRTU05_ATSAUTO	Effluent Area Generator ATS AUTO	DI	1	1	5	
WSRTU05_ATSALARM	Effluent Area Generator ATS Alarm	DI	1	1	6	
WSRTU05_FIRESUPSYS	Effluent Area Fire Supp Active	DI	1	1	7	
WSRTU05_WETWELLHIGHLVL	Effluent Wet Well High Level Float	DI	1	1	8	
WSRTU05_RESET	Reset Pushbutton	DI	1	1	9	
WSRTU05_FAULTDRIVE1	Effluent Pump 1 VFD Fault	DI	1	1	10	
WSRTU05_FAULTDRIVE2	Effluent Pump 2 VFD Fault	DI	1	1	11	
WSRTU05_FAULTDRIVE3	Effluent Pump 3 VFD Fault	DI	1	1	12	
WSRTU05_FAULTDRIVE4	Effluent Pump 4 VFD Fault	DI	1	1	13	

WSRTU05_FAULTDRIVE5	Effluent Pump 5 VFD Fault	DI	1	1	14	
WSRTU05_CHKVLV1	Effluent Pump 1 Check Valve Closed	DI	1	1	15	
WSRTU05_CHKVLV2	Effluent Pump 2 Check Valve Closed	DI	1	1	16	
WSRTU05_CHKVLV3	Effluent Pump 3 Check Valve Closed	DI	1	1	17	
WSRTU05_CHKVLV4	Effluent Pump 4 Check Valve Closed	DI	1	1	18	
WSRTU05_CHKVLV5	Effluent Pump 5 Check Valve Closed	DI	1	1	19	
WSRTU05_VFDRUN1	Effluent Pump 1 VFD Running	DI	1	1	20	
WSRTU05_VFDRUN2	Effluent Pump 2 VFD Running	DI	1	1	21	
WSRTU05_VFDRUN3	Effluent Pump 3 VFD Running	DI	1	1	22	
WSRTU05_VFDRUN4	Effluent Pump 4 VFD Running	DI	1	1	23	
WSRTU05_VFDRUN5	Effluent Pump 5 VFD Running	DI	1	1	24	
WSRTU05_VFDBYPASS1	Effluent Pump 1 VFD Bypassed	DI	1	1	25	
WSRTU05_VFDBYPASS2	Effluent Pump 2 VFD Bypassed	DI	1	1	26	
WSRTU05_VFDBYPASS3	Effluent Pump 3 VFD Bypassed	DI	1	1	27	
WSRTU05_VFDBYPASS4	Effluent Pump 4 VFD Bypassed	DI	1	1	28	
WSRTU05_VFDBYPASS5	Effluent Pump 5 VFD Bypassed	DI	1	1	29	
WSRTU05_VFDHOAAUTO1	Effluent Pump 1 HOA in AUTO	DI	1	1	30	
WSRTU05_VFDHOAAUTO2	Effluent Pump 2 HOA in AUTO	DI	1	1	31	
WSRTU05_VFDHOAAUTO3	Effluent Pump 3 HOA in AUTO	DI	1	1	32	
WSRTU05_VFDHOAAUTO4	Effluent Pump 4 HOA in AUTO	DI	1	2	1	
WSRTU05_VFDHOAAUTO5	Effluent Pump 5 HOA in AUTO	DI	1	2	2	
WSRTU05_VFDSPDSELSWTCH1	Effluent Pump 1 Speed Select Switch	DI	1	2	3	
WSRTU05_VFDSPDSELSWTCH2	Effluent Pump 2 Speed Select Switch	DI	1	2	4	
WSRTU05_VFDSPDSELSWTCH3	Effluent Pump 3 Speed Select Switch	DI	1	2	5	
WSRTU05_VFDSPDSELSWTCH4	Effluent Pump 4 Speed Select Switch	DI	1	2	6	
WSRTU05_VFDSPDSELSWTCH5	Effluent Pump 5 Speed Select Switch	DI	1	2	7	
WSRTU05_PHASEFAILRELAY	Effluent Pump CP Power Fail	DI	1	2	8	
WSRTU05_DIESELMONLEAK	Effluent Area Gen Fuel Leak	DI	1	2	9	
WSRTU05_DIESELMONPWRFAIL	Effluent Area Gen Fuel System Power Fail	DI	1	2	10	
WSRTU05_DIESELMONWATERLEAK	Effluent Area Gen Water In Fuel	DI	1	2	11	
WSRTU05_DIESELMONGENALARM	Effluent Area Gen Fuel Alarm	DI	1	2	12	
WSRTU05_Pmp1DiscOn	Effluent Pump 1 Disconnect On	DI	1	2	13	
WSRTU05_Pmp2DiscOn	Effluent Pump 2 Disconnect On	DI	1	2	14	
WSRTU05_Pmp3DiscOn	Effluent Pump 3 Disconnect On	DI	1	2	15	
WSRTU05_Pmp4DiscOn	Effluent Pump 4 Disconnect On	DI	1	2	16	
WSRTU05_Pmp5DiscOn	Effluent Pump 5 Disconnect On	DI	1	2	17	
WSRTU05_AerationRunning		DI	1	2	18	Field verify signal.
WSRTU05_WaterPumpRunning		DI	1	2	19	Field verify signal.
WSRTU05_LSL506	Effluent Wet Well Low Level Float	DI	1	2	20	
WSRTU05_VFDRUNCMD1_I	Effluent Pump 1 VFD Run Command	DO	1	3	1	

WSRTU05_VFDRUNCMD2_I	Effluent Pump 2 VFD Run Command	DO	1	3	2	
WSRTU05_VFDRUNCMD3_I	Effluent Pump 3 VFD Run Command	DO	1	3	3	
WSRTU05_VFDRUNCMD4_I	Effluent Pump 4 VFD Run Command	DO	1	3	4	
WSRTU05_VFDRUNCMD5_I	Effluent Pump 5 VFD Run Command	DO	1	3	5	
WSRTU05_VFDSPDFB1	Effluent Pump 1 VFD Speed Feedback	AI	1	4	2	
WSRTU05_VFDSPDFB3	Effluent Pump 3 VFD Speed Feedback	AI	1	4	4	
WSRTU05_VFDSPDFB4	Effluent Pump 4 VFD Speed Feedback	AI	1	4	5	
WSRTU05_VFDSPDFB5	Effluent Pump 5 VFD Speed Feedback	AI	1	4	6	
WSRTU05_VFDSPDFB2	Effluent Pump 2 VFD Speed Feedback	AI	1	4	9	
WSRTU05_WETWELLLVL	Effluent Wet Well Level	AI	1	4	13	
WSRTU05_VFDRUNCMD1	Effluent Pump 1 VFD Speed Command	AO	1	5	1	
WSRTU05_VFDRUNCMD2	Effluent Pump 2 VFD Speed Command	AO	1	5	2	
WSRTU05_VFDRUNCMD3	Effluent Pump 3 VFD Speed Command	AO	1	5	3	
WSRTU05_VFDRUNCMD4	Effluent Pump 4 VFD Speed Command	AO	1	5	4	
WSRTU05_VFDRUNCMD5	Effluent Pump 5 VFD Speed Command	AO	1	5	5	

CONTROL PANEL SCHEDULE				
PANEL	**PANEL DESCRIPTION**	**NEMA Rating**	**APPROXIMATE SIZE (H x W x D)**	**COMMENTS**
SCADA NETWORK PANEL	SCADA Network Panel, Sludge Pump and Gas Generation Building 56 (existing SCADA panel)			Replace FOPP and field Ethernet switch in existing control panel.
MCP-200	Headworks Screening Control Panel 1 (existing vendor panel)			Add FOPP, field Ethernet switch, and DC power supply to existing control panel.
MCP-250	Headworks Screening Control Panel 2 (existing vendor panel)			Add FOPP, field Ethernet switch, and DC power supply to existing control panel.
MCP-510	Grit System 1 Control Panel (existing vendor panel)			Add FOPP, field Ethernet switch, and DC power supply to existing control panel.
MCP-520	Grit System 2 Control Panel (existing vendor panel)			Add FOPP, field Ethernet switch, and DC power supply to existing control panel.
20-SWP-01	Influent Pump Station Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Detail 2813-026.
LCP01-SWP-01	Headworks Light Pole 01 Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Detail 2813-026.
52-SWP-01	Generator Electrical Building Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Detail 2813-026.
56-SWP-01	Sludge Pump and Gas Generator Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Detail 2813-026.
CP01-SWP-01	Camera Pole 01 Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide UPS and 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Drawing 05-TY-6002 and Detail 2813-026.
59-SWP-01	Maintenance Building Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide UPS and 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Drawing 05-TY-6002 and Detail 2813-026.
60-SWP-01	Effluent Pump Building Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide UPS and 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Drawing 05-TY-6002 and Detail 2813-026.
CP02-SWP-01	Camera Pole 02 Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide UPS and 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Drawing 05-TY-6002 and Detail 2813-026.
51-SWP-01	Chlorine Analyzer Building Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide UPS and 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Drawing 05-TY-6002 and Detail 2813-026.
CP03-SWP-01	Camera Pole 03 Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide UPS and 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Drawing 05-TY-6002 and Detail 2813-026.

CONTROL PANEL SCHEDULE				
PANEL	**PANEL DESCRIPTION**	**NEMA Rating**	**APPROXIMATE SIZE (H x W x D)**	**COMMENTS**
CP04-SWP-01	Camera Pole 04 Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide UPS and 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Drawing 05-TY-6002 and Detail 2813-026.
62-SWP-01	Secondary Electrical Building 2 Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide UPS and 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Drawing 05-TY-6002 and Detail 2813-026.
57-SWP-01	Sludge Transfer Building Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide UPS and 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Drawing 05-TY-6002 and Detail 2813-026.
CP05-SWP-01	Camera Pole 05 Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide UPS and 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Drawing 05-TY-6002 and Detail 2813-026.
CP06-SWP-01	Camera Pole 06 Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide UPS and 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Drawing 05-TY-6002 and Detail 2813-026.
10-SWP-01	Supervisor's Office Building Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide UPS and 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Drawing 05-TY-6002 and Detail 2813-026.
50-SWP-01	Chlorine Building Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide UPS and 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Drawing 05-TY-6002 and Detail 2813-026.
61-SWP-01	Grease Treatment Facility Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide UPS and 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Drawing 05-TY-6002 and Detail 2813-026.
54-SWP-01	Operations Building Security Switch Panel	4X	24"x24"x8"	White exterior, 3-point latch, padlockable. Provide UPS and 48 VDC power supply for POE Ethernet switch. POE Ethernet switch and Ethernet surge suppression by ESS. See Drawing 05-TY-6002 and Detail 2813-026.

MEETING AGENDA

Prebid Conference – Annotated (annotations in bold and parenthesis)

PREPARED BY: MAWSS/Jacobs

PROJECT: Wright Smith Jr WWTP Electrical, I & C and HVAC Modifications Project

MEETING DATE: March 16, 2026

MEETING TIME: 9:30:00 a.m.

LOCATION: Wright Smith Jr WWTP

Agenda Items

Attendee Sign-In and Overview of Agenda

Attendance is MANDATORY except for attendees at the Prebid Conference as held on February 9. All potential bidders who did not attend the February 9 Prebid Conference must sign in on the attendance sheet in order to be listed on the bid tabulation and have their bid considered

Introductions

MAWSS

- Doug Cote – Assistant Director - Operations – Not Present
- Jed Barbour – WWTP Chief Operator

Jacobs

- David Carr – Project Manager

Overview of Project

- Purpose of Project – Replace outdated electrical, I & C, HVAC and security components
- Project Funding is through an SRF Loan
  - Bidders must comply with ADEM Supplementary Conditions requirements including DBE/WBE requirements in the preparation and submission of their bids
  - Contractor must adhere to ADEM Supplementary Conditions throughout project
- Project Major Components (See Spec Section 01 11 00 for complete listing)
  - Replace electrical switchgear, multiple MCC's, variable frequency drives and accessories in multiple buildings.
  - Modify SCADA system and fiber optic ring providing fiber interconnectivity to multiple buildings.
  - Install replacement security access control, security lighting, and video security components.
  - Install two new buildings designated as the Operations Electrical Building and the Secondary Electrical Building-2.
  - Replace RTU's in multiple buildings.
  - Replace LED lighting in multiple buildings.
  - Replace and add ventilation fans, air conditioning units and accessories in multiple buildings.
  - Conduct miscellaneous site/civil improvements associated with the new buildings.

- Bid Additive Alternates (per Spec 01 11 00):
    - Alternate 1 – Additional asphalt overlay within the treatment plant site for use at Owner's direction
    - Alternate 2 – Asphalt replacement within the treatment plant site at Owner's direction
    - Alternate 3 – Replace a high-mast light lifting mechanism and lights
    - Alternate 4 – Construct a plant sign
    - Alternate 5 – Replace on a unit cost basis selected high mast lights
    - Alternate 6 – Replace on a unit cost basis 120/240V wiring and accessories within selected buildings
    - Alternate 7 – Replace on a unit cost basis 480V wiring and accessories within selected building
    - Alternate 8 – Replace on a unit cost basis 120/240 and 480V wiring and accessories outside existing buildings

Bid Document Distribution

- Electronic Bid documents may be obtained from Charley.golden@jacobs.com as per the invitation to Bid
- Documents Included in Distribution
    - Contract Specifications (Document Volumes 1 through 2)
    - Contract Drawings (Document Volume 3)
    - Model Bid Package (to be printed in color)
    - Geotech Report
    - Selected WWTP As-Builts (in 2 parts)

Supplier Diversity Policy Objectives

- Bidders are encouraged to look for small diverse vendors and/or suppliers that can assist in the project.
- The Minority Business Enterprise (MBEs) and Women's Business Enterprise (WBEs) utilization objectives from the Supplemental General Conditions Section III are the only DBE Requirements for this project.
- The participation goals as indicated in the SRF Supplemental General Conditions Section III are not met, Contractor must include in their bid evidence of good faith effort per ADEM Supplementary Conditions.

Details of Bid Submittal

- Bids will only be accepted from document holders of record (ie – Obtained from Jacobs) who are represented at either the February 9 or this Prebid Conference as reflected by the sign-in sheet
- MAWSS will receive bid submissions at the Park Forest location as advertised. Bids sent by mail or by Fed Ex must arrive prior to 12:00 pm on day of bid opening. Bids not arriving before the indicated time will not be considered.
- Bid Submission Date and Time – April 6, 2026 @ 12:00 p.m.
- Bids will be opened at the regularly scheduled Board meeting on that date at 1:00 p.m.
- Documents must be printed on the colored paper and accompanied by the tabs on colored paper as per the Information to Bidders and in conformance with the model bid package as issued with the bid documents.
- Include in the Bid Package all items as required by the contract documents.
- The approved manufacturer/supplier table shall be completed as directed in the Proposal.
- Subcontracting Plan must be completed and executed for the bid to be considered as responsive. Subcontracting plan MUST include ALL Subcontractors and Suppliers regardless of their DBE standing
- SSO and Unpermitted Discharge Prevention Notification must be completed and executed for the bid to be considered as responsive.
- Addendums included with the bid may be limited to the addendum form and may exclude attachments to the addendum.
- Bid Bond may be in the form of a Certified Check, Bond, or Irrevocable Letter of Credit acceptable to MAWSS-5% of Bid not to exceed $10,000.
- "Other" tab must be followed by the following:
    - Applicable licenses
    - DBE supporting documentation (including indication of Good Faith Efforts for DBE utilization)

- Sealed bids shall be clearly labeled **" Bid for constructing Project # D3755100 - Wright Smith Jr WWTP Electrical, I & C and HVAC Modifications Project, to be opened at 1:00 p.m., Local Time, April 6, 2026"** with bidder's name and Alabama State Contractor's license number and discipline.
- If mailed, place sealed bid package in another envelope
- Basis of Award - Lowest responsive, responsible bidder for lump sum price including any combination of Bid Alternatives, as selected by MAWSS.
- Alternate combinations to be considered will be compliant with Section 01 11 00 Paragraph 1.01.B
- Award Timing- If the amounts of the Proposal are within the budgeted fund, MAWSS may authorize a director's award of the contract subject to the proposal's review and a recommendation of Jacobs.

Construction Details

- Existing Facilities Overview – 28MGD facility must be kept in functional operational service. The scope of work does not interfere with primary flow path but does require temporary measures to maintain power to critical components. Service interruptions may not impact the ability of the plant to receive wastewater or process it to within the permitted discharge standards. (See Spec Section 01 31 13)
- Project Final Completion in 270 calendar days
- Limited Notice to Proceed (LNTP) and General Notice to Proceed (GNTP) per Special Conditions Section 8
    - LNTP will allow Contractor to proceed with critical path component acquisitions and permitting with a delay in the contract time start by up to 180 days as determined per the contract documents.
    - Contractor's Progress Schedule shall reflect his critical path component delivery schedule and must be submitted as per the requirements of the notes of Drawing 01-G-0005
    - Anticipated critical path components are as listed in the Special Conditions and as identified on Drawing 01-G-0005.

Estimated Project Schedule

- Bid Opening – April 6, 2026
- Notice of Award (within 60 days of the bid opening) – late April to mid May
- Contractor to sign contract, furnish bonds and insurance certificates within 10 days of the Notice of Award –May
- Limited Notice to Proceed – Late May to early June
- General Notice to Proceed/Preconstruction Conference – TBD between late May and early December *
- Final Completion (270 days) – TBD between February 2027 and August 2027 *

  * Schedule depends upon the time span between the LNTP and the GNTP as derived from the critical path schedule development

General Specification and Drawing Notes

- Note per Section 10.1.27 that MAWSS is exempt from sales tax and Contractor shall adhere to the contract provisions to preclude payment of sales tax.
- Note in the Special Conditions Section 8.04 the added language regarding normal working hours and limitations to and conditions for working outside of normal hours.
- Note in the Special Conditions Section 10 that substitution requests must be received 14 days prior to the opening of bids. There will not be any substitutions for the named manufacturers in the bidder's proposal or as noted in the contract documents.
- A Land Disturbance permit application has been submitted to the City of Mobile and all known comments have been addressed as far as possible lacking additional comment by the City and the identification of the project's Contractor.
- City permitting has required approval of a PUD Modification which has been recommended for approval by City Staff to the Planning Commission. The Planning Commission will consider the application on March 19 followed by the City Council consideration at the next following Council meeting which is expected to be ahead of the Notice of Award.

- Contractor shall complete all permitting applications as required for the prosecution of the project. Where additional engineering information or documents are required, Contractor shall communicate those requirements to Jacobs and Jacobs will provide that information or documents.
- If Alternate 4 is accepted, Contractor will be required to submit a permit application for the sign to the City. Jacobs will provide the partially completed application for completion by the Contractor.
- Construction observation by the Engineer or his delegated representatives is periodic averaging eighteen hours per week over the duration of the contract. Contractor shall coordinate with Engineer for the observation of the work prior to each utility tie in, each concrete pour, and each major work activity commencement and routinely for the duration of the contract to allow Engineer the opportunity to observe the work. Any work indicated by Engineer to be observed by the Engineer shall not be concealed or covered without the Engineer having two week-days' notice of the Contractor's intent to do so.
- Note per Drawings Sheet 01-G-008 and specification Section 01 45 33 Owner will supply specialty inspections and testing on a periodic as-needed basis. Contractor shall coordinate with Engineer or Engineer's designee for each type and instance of testing and special inspections needed throughout the work. Owner may charge Contractor for testing and inspections when conditions as indicated under specification section 01 45 16.13 Par 1.05.F and G occur.
- Special Inspections by Delegated Engineers as per specification section 01 45 16.13 Supplement 3 - Special Inspection Note 2 of 01-G-008 shall be coordinated by the Contractor with the Delegated Engineer. (e.g.: Precast/Prefabricated Buildings)
- Per Specification Section 01 31 13, work by others may be performed concurrently with this project. That work may include the refurbishment of the maintenance building and the replacement of a digester dome. Contractor shall coordinate his work with the work of those contractors to avoid conflicts.
- Per Specification Section 01 50 00, a Contractor's field office must be provided. An Engineer's Field Office is not required.
- Per Specification Section 01 50 00 on-site parking is very limited and Contractor must arrange for off-site parking for its employees
- Per Drawing 01-G-004, erosion control must provide protection of nearby water bodies. Anticipate ADEM inspections of BMP's.
- Per Drawings 01-G-0004 and 01-G-0005, Contractor shall develop a project schedule and sequence of construction to incorporate the delivery timelines as provided by the major component providers to establish the basis for the date of the general notice to proceed and the project schedule for completion of the project within the contract time after the GNTP issuance.

Addenda & Inquiries

- Email or send any questions to Charley.golden@jacobs.com) by 4:00p.m. CDT on March 20, 2026.
- Addendum 1 was issued to current plan holders to incorporate changes arising from the February 9 prebid conference and responses to questions raised at this meeting and up through February 10, 2026.
- Addendum 1 included the February 9 prebid conference sign-in sheet and agenda with annotations
- Addendum 2 was issued to include responses to inquiries received through February 26, 2026.
- Addendum 3 will include the March 16 pre-Bid conference sign-in sheet and agenda with annotations along with responses to inquiries received through March 20.

Site Access for Review

The project site is available for review following this meeting as a guided tour. The tour guide is not authorized to respond to any questions and any information offered is not binding. Should additional site information be desired, a site visit prior to March 20, 2026 may be arranged by contacting Jed Barbour (JBARBOUR@mawss.com).

Questions

Questions will be accepted at this meeting. Where the response is readily available it will be made at the meeting. If the response will have a bearing on the contract cost or schedule, that response will be repeated in Addendum 3.

MAWSS
MOBILE AREA WATER & SEWER SYSTEM

Wright Smith Jr WWTP Electrical, I & C and HVAC Modifications Project Mobile Area Water and Sewer System

Mobile, AL

JACOBS Project No. D3755100

March 16, 2026 at 9:30 AM

2nd Mandatory Pre-Bid Conference Attendee Sign-In

Organization/Company (Please Print)	Contact Name (Please Print)	Email Address (Please Print)	Signature
Owner			
MAWSS	Doug Cote	DCote@MAWSS.com	
MAWSS	Jed Barbour	JBARBOUR@mawss.com	
Engineer			
Jacobs	David Carr	David.carr10@jacobs.com	
Jacobs	Shep Shepard / Shepherd	Shep.Shepherd@jacobs.com	
Other Attendees			
Josh Parker / EMC	Josh Parker	jparker@emcinc.com	
Justin Collins / EPB	Justin Collins	Justin.collins@enfrasolutions.com	
Scott Goodsell / Guardian	Scott Goodsell	scott.goodsell@guardianintegrators.com	
Moody Electric	Ray Webb	Rwebb@moodyelectric.net	
SET Systems	Josh Edwards	josh.edwards@seeenz.com	
Al Wiggins / Hargrove	Al Wiggins	AWiggins@hargrove-epc.com	
Hargrove	Bryan Sargent	bsargent@hargrove-epc.com	
~~Blake Bunch Yess Construction~~ ~~Kimo Dennis~~	Blake Bunch	blake.bunch@yess.construction.com	
Moody's Electric	Kimo Dennis	FDennis@moodyelectric.net	
EP Breaux	Guy Whaley	guy.whaley@enfrasolutions	
Pye Barker FS	David Aguirre	David.Aguirre@pyebarkerfs.com	