

November 8, 2019
BOARD OF COUNTY COMMISSIONERS
ORANGE COUNTY, FLORIDA
Y20-719-TA / ADDENDUM # 5
EASTERN REGIONAL WATER SUPPLY FACILITY - SODIUM HYPOCHLORITE
SYSTEM CONVERSION TO BULK

Bid Opening Date: ~~November 12, 2019~~ November 19, 2019

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

A. Bid opening date has changed from ~~November 12, 2019~~ to November 19, 2019.

B. CLARIFICATIONS

1. Q: Reference Sections 13300 2.14 D & 13615 2.03 F 4c 2a:

The CPU specified for the Temporary Hypo PLC Panel is obsolete and no longer available through factory supported channels. Please provide alternate solution.

A: Please see updated Section 13300, 2.14 B.

2. Q: Reference Section 13300 2.14 C and Drawing I-02:

The existing rack layout does not indicate there are enough spare slots to account for the number of I/O modules required for the I/O shown on Drawing I-02. Please confirm there are sufficient I/O spares available on the existing cards or confirm that enough I/O will be made available via the demolition of the existing equipment to satisfy the needs of the new system.

A: There will be more I/O being removed from the existing equipment than being added by the new system. There is also a total of 8 available slots (Rack 2 has 1 open slot and Rack 3 has 7 open slots) in Existing 75-LCP-8, if needed.

3. Q: Reference Drawings I-02:

The communications between 50-LCP-5 & RIO-5 appears to be Ethernet over fiber. The existing (and specified) Quantum PLC platform does not support remote I/O over Ethernet. The platform does support CPU-to-CPU communications over Ethernet, however the specified CPU is obsolete as referenced in the prior question. Please clarify the communications between 50-LCP-5 & RIO-5.

A: CPU shall be Schneider M580. Refer to Specification modifications provided below in Part B of this addendum.

4. Q: Can the county provide the drawings for control panel 75-LCP-8 and 50-LCP-5?

A: See attached drawings for control panel 75-LCP-8 and 50-LCP-5.

5. Q: Please clarify the intent of the specification with regards to updating the existing iHistorian software:

- Reference Section 13610 A. 6. “iHistorian” typically does not reside on workstations, it is a server based package which resides on a server. Workstations with iFix can have a “historian” package however this is not iHistorian.
 - Please clarify if the upgrades requested are for “iHistorian” server licenses or “historian” licenses at the workstation level.
 - Please quantify the number of license upgrades required.
 - Please provide the “REVs” of the current licenses that are to be upgraded.

A: The ERWSF has a centralized Historian (iHistorian V5.0 w/20000 Points). The only workstations with standalone Historians are for remote plant PC-HMI computers for local trending, with everything sent to the centralized iHistorian as well. No upgrades are anticipated for the iHistorian at the workstation level. Refer to Specification modifications provided below in Part B of this addendum.

6. Q: I see a specification for Soil Cement Base in this project, however I can't locate any reference to this type of work in the drawings, summary of work, or bid documents outside of the actual Specification section. Will this project require Soil Cement Base? If so, please help us understand where it is to be applied.

A: Roadway base material shall be installed per the Construction Drawings, specifically detail #9 of sheet C501. Section 02572 Soil Cement Base is not required. Refer to Specification modifications below in Part B of this addendum.

7. Q: The following two statements are conflicting and confusing as is. Can you provide clarity for us? In reference to Sheet S-001, Foundation Notes A & C.

Note A = A. NO GEOTECHNICAL/SUBSURFACE INVESTIGATION WAS PREVIOUSLY PERFORMED FOR THIS PROJECT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTRACT A GEOTECHNICAL ENGINEER TO CONFIRM ASSUMED ALLOWABLE BEARING STATED BELOW. GEOTECHNICAL ENGINEER SHALL BE RETAINED BY CONTRACTOR TO PROVIDE OBSERVATION AND TESTING SERVICES DURING THE GRADING AND FOUNDATION

PHASE OF CONSTRUCTION. INSPECTION AND TESTING REPORTS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER.

Note C= GEOTECHNICAL ENGINEER SHALL BE RETAINED BY OWNER TO PROVIDE OBSERVATION AND TESTING SERVICES DURING THE GRADING AND FOUNDATION PHASE OF CONSTRUCTION. INSPECTION AND TESTING REPORTS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER.

A: Note C shall apply. Refer to Drawing modifications below in Part C of this addendum.

8. Q: The Quantum PLC is obsolete and can no longer be purchased. Is it acceptable to bid the M580 PLC model #BMEP583040 and the related I/O modules?

A: Yes.

9. Q: Does the owner have PLC software to program the M580 PLC? That is the Modicon EcoStruxureControl Expert software.

A: Yes.

10. Q: Process 50 building - Can you provide the elevation of the building or provide a section drawing with the proper illustration?

A: Top of the exterior CMU wall (top of parapet) is approximately 25'4" above the finished floor along the proposed generator room. The top of the double tees in the proposed sodium hypochlorite room is approximately 22'2" above the finished floor.

11. Q: Process 50 building - Is the underside of the ceiling deck to as well as the structural framing to be painted or just touched up where disturbed by construction?

A: Underside and structural framing shall be recoated where disturbed by construction.

12. Q: Process 50 building - Is the smooth exterior CMU block to be painted or is it pre-colored and will just need to be waterproofed as is being done with the split-faced block?

A: All exterior block is integral color block. Exterior block shall be sealed with water repellent masonry coating per Section 07100.

13. Q: Process 75 building - Do you want the floors to have a non-skid finish. During the walk-through yesterday, wherever the floor was wet, it was very slick.

- A: Coatings for floors shall as specified in Sections 09900 and 09671.
14. Q: **Process 75 building - Is the smooth exterior CMU block to be painted or is it pre-colored and will just need to be waterproofed as is being done with the split-faced block?**
- A: All exterior block is integral color block. Exterior block shall be sealed with water repellent masonry coating per Section 07100.
15. Q: **Process 75 building - Will the trenches require coating replacement and will the piping in the trenches require re-painting?**
- A: Coating in trench shall be replaced with floor coating. All PVC piping shall be coated per Section 09900.
16. Q: **Is the underside of the ceiling deck to as well as the structural framing to be painted or just touched up where disturbed by construction?**
- A: Underside and structural framing shall be recoated where disturbed by construction.
17. Q: **Process 75 - There is overhead piping up in the ceiling areas of the dosing room and storage room of the building. Will this require re-coating of existing or only touch up of disturbed areas?**
- A: Underside and structural framing shall be recoated of areas disturbed by construction. Refer to S103 for proposed wall replacement plan for removing/installing new storage tanks.
18. Q: **Drawing D-503, Details 1 and 2, shows the Contractor connecting a new 1" hypochlorite line to an existing 6" hypochlorite line. The details appear to show the 6" line is above grade but the 6" line was not visible during the site visit but there was a lot of on-going construction in this area and the 6" line could have broken off by a bulldozer. Request the approximate height (either above or below grade) of the tie-point on the existing 6" pipe with the new 1" pipe.**
- A: The 6-inch PVC line is existing, in place and above grade as shown in the detail. The exiting 6-inch PVC line is approximately 2.5 to 3 feet above grade.
19. Q: **Drawing D-504, Detail 1 shows an existing 1" outlet on the 48" pipe to be removed and directs the Contractor to install a new 3" flanged outlet on the 48" pipe. During the site visit I inspected the vault and found that there is not 1" outlet on the pipe and instead is a brand new saddle with a 2" corporation stop. Can the Contractor use this new saddle and 2" corporation stop for the new 1" hypochlorite feed? If the answer is no, can we install a new saddle with a 2" corporation**

stop in lieu of welding a 3” flanged fitting to this pipe and hot tapping it?

A: Contractors shall bid the job as shown.

20. Q: Drawing D-106 shows two existing flanged outlets on the 48” piping that can be used for the new chlorine injection piping. The site visit did not show these flanges. Can we install a new saddle with a 2” corporation stop in lieu of welding a 3” flanged fitting to this pipe and hot tapping it?

A: All flanged outlets shown on D106 are either currently installed or being installed as part of the current construction project. Contractors shall bid the job as shown.

21. Q: Drawing D-102 shows the length of all of the hypochlorite injection lines. Most of the feed points are over 600’. Feeding a 12% hypochlorite solution over 600’ is very problematic because of hypochlorite off-gassing, particularly in the summer. You may want to consider “cutting” the hypochlorite to a lower strength such as 5% to avoid this problem or designing a new chemical trench that runs due east out of the Hypochlorite Feed Room to the injection points.

A: Contractors shall bid the job as shown.

22. Q: One of the purposes of the additional site visit request and subsequent site visit yesterday was to get WMBE subcontractors to the site (we had three there) in an attempt to meet the 25% goal. All have asked for additional time to the following week to get their bids to us. Request a time extension to December 10th to increase WMBE participation and allow time to answer questions that arose as a result of the site visit.

A: Refer to revised bid date in this Addendum.

23. Q: Process 75 - Is the intent to remove the existing coatings in the Dosing Room and Bulk Storage Rooms floors or to touch up where disturbed?

A: All flooring to be removed and coated per the Drawings and specifications.

24. Q: Spec 09900, 2.02 L., states coatings for the interior floors for the maintenance building is covered by 09671 specs. Which building is the Maintenance Building?

A: There is no maintenance building in this project. Floor coatings shall be as specified in the architectural drawings, specification Section 09900 and specification Section 09671. Refer to Specification modifications below in Part C of this addendum.

25. Q: **Drawing D103 calls for replacing the existing rotameter with a new one (See Note #3). Who is the manufacturer of this product and do you have any specifications that can be reviewed?**
- A: Existing rotameters are manufactured by King Instrument Company. Rotameters have borosilicate glass meter in a stainless-steel housing.
26. Q: **The specification section 09900 Painting and the finish schedule differ on the class 5 floor coating locations for both building 50 and 75, the specs say all floors are class 5, can you please clarify the floor coatings system required for each room/area.**
- A: All floors in areas designated to have epoxy finish shall be per Specification 09671 except for those inside of chemical containment areas and chemical feed rooms. Floors in chemical containment areas, and chemical feed rooms, along with walls in chemical containment areas and walls within chemical pumps rooms (half way up), and interior surfaces of injection vaults and chemical trenches disturbed during construction shall be per Class 5 in Section 09900. Refer to Specification modifications below in Part C of this addendum.
27. Q: **The specification section 09900 Painting and the finish schedule differ on the class 5 wall coating locations for both building 50 and 75, can you please clarify the room and height for the class 5 wall coatings?**
- A: See response to Question 26 above. Height of CMU wall in the sodium hypochlorite pump room is approximately 12 feet above finish floor per A102.
28. Q: **Can you please clarify which buildings and rooms have the 09671 Resinous Flooring installed?**
- A: See response to Question 26 above.

A. Part H Specifications

1. Section 01000, Add the following:

1.14 Sanitary Sewer Overflows

- A. The contractor shall be liable for any and all sanitary sewer overflows associated with the Contract, regardless of fault. The Contractor shall be liable for all County personnel labor and equipment costs, penalties and fines resulting from sanitary sewer overflows. Such occurrences may be considered violations of Florida Statutes or administrative rules and may result in additional liability beyond that outlined below for damages and restoration, and the judicial imposition of civil penalties, pursuant to Sections 403.121 and 403.161 Fla Stat. Contractor will be assessed the following penalties for any and each Sanitary Sewer Overflow:

1. For a domestic or industrial wastewater violation not involving a surface water or groundwater quality violation, OCU shall assess a penalty of \$2,000 for each unpermitted or unauthorized event or occurrence.
2. For an unpermitted or unauthorized discharge that resulted in a surface water or groundwater quality violation, OCU shall assess a penalty of \$5,000 for each unpermitted or unauthorized event or occurrence.
3. In addition, for any and all unpermitted or unauthorized discharge, OCU shall assess a penalty in the amount of \$1.00 per gallon of sanitary sewer overflow, up to a maximum amount of \$100,000 per each Sanitary Sewer Overflow.

2. Section 02572, Delete Section 02572 Soil Cement Base in its entirety.

3. Section 09900, 2.02 E.,1., modify as shown below:

1. Class 5 exposures consist of exposed concrete surfaces that are subject to splashing, spillage and fumes of chemicals. The following would be included:
 - a. Surfaces in the chemical rooms modified during the sodium hypochlorite conversion including:
 - (1) All floors inside the Process Building 75 sodium hypochlorite containment area and sodium hypochlorite feed pump room and Process Building 50 (sodium hypochlorite room).
 - (2) All floors inside the Process Building 50 sodium hypochlorite containment area.
 - ~~(2)~~(3) Walls for chemical containment areas.
 - ~~(3)~~(4) Bottom half of walls inside the chemical feed room in Process Building 75 ~~and inside the sodium hypochlorite room in Process Building 50.~~
 - ~~(4)~~(5) Interior surfaces of chemical injection vaults and chemical trenches disturbed during construction.

4. Section 09900, 2.02 L, modify as shown below:

- L. Class 12 Exposures - Interior Floors (Epoxy)
 1. Class 12 exposures consist of interior concrete floors called out to have epoxy flooring in the Drawings in areas not called out to have chemical resistant coatings. Coatings for the interior floors ~~of the maintenance building~~ where specified to have epoxy floors is covered in Section 09671.

5. Section 13300, 2.14 B., replace in its entirety with the following:

- B. RIO-5 rack layout consists of the following items. Coordinate with system manufacturer for exact I/O and provide cards and spares as necessary for a fully functional system:

<u>New RIO-5 16-Slot Rack Layout</u>		
<u>Rack 1</u>	<u>Slot 1</u>	<u>Power Supply</u>
<u>Rack 1</u>	<u>Slot 2</u>	<u>CPU</u>
<u>Rack 1</u>	<u>Slot 3</u>	<u>16-point relay output isolated module</u>
<u>Rack 1</u>	<u>Slot 4</u>	<u>16-point relay output isolated module</u>
<u>Rack 1</u>	<u>Slot 5</u>	<u>16-point discrete input non-isolated module</u>
<u>Rack 1</u>	<u>Slot 6</u>	<u>16-point discrete input non-isolated module</u>
<u>Rack 1</u>	<u>Slot 7</u>	<u>8-point analog input module</u>
<u>Rack 1</u>	<u>Slot 8</u>	<u>8-point analog input module</u>
<u>Rack 1</u>	<u>Slot 9</u>	<u>8-point analog output module</u>
<u>Rack 1</u>	<u>Slot 10</u>	<u>8-point analog output module</u>
<u>Rack 1</u>	<u>Slot 11</u>	<u>Spare</u>
<u>Rack 1</u>	<u>Slot 12</u>	<u>Spare</u>
<u>Rack 1</u>	<u>Slot 13</u>	<u>Spare</u>
<u>Rack 1</u>	<u>Slot 14</u>	<u>Spare</u>
<u>Rack 1</u>	<u>Slot 15</u>	<u>Spare</u>
<u>Rack 1</u>	<u>Slot 16</u>	<u>Spare</u>

6. Section 13610, 1.01, A. 6., Delete in its entirety.

7. Section 13615, 2.03. F. 4.2.a., modify as shown below:

- a. The plant shall be automatically controlled by a Schneider M580 programmable logic controller (PLC)-Modicon Quantum programmable logic controller (PLC) 140CPU43412A, 486, 800 Kb, 2 Modbus Ports, 1 Modbus Plus, Key Switch to Start/Memory Protect/ Start Controller.

B. Drawings

1. Drawing S001, under Foundations, DELETE note A. in its entirety.

C. All other terms, conditions, and specifications of the IFB remain unchanged.

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

Receipt acknowledged by:

Authorized Signature

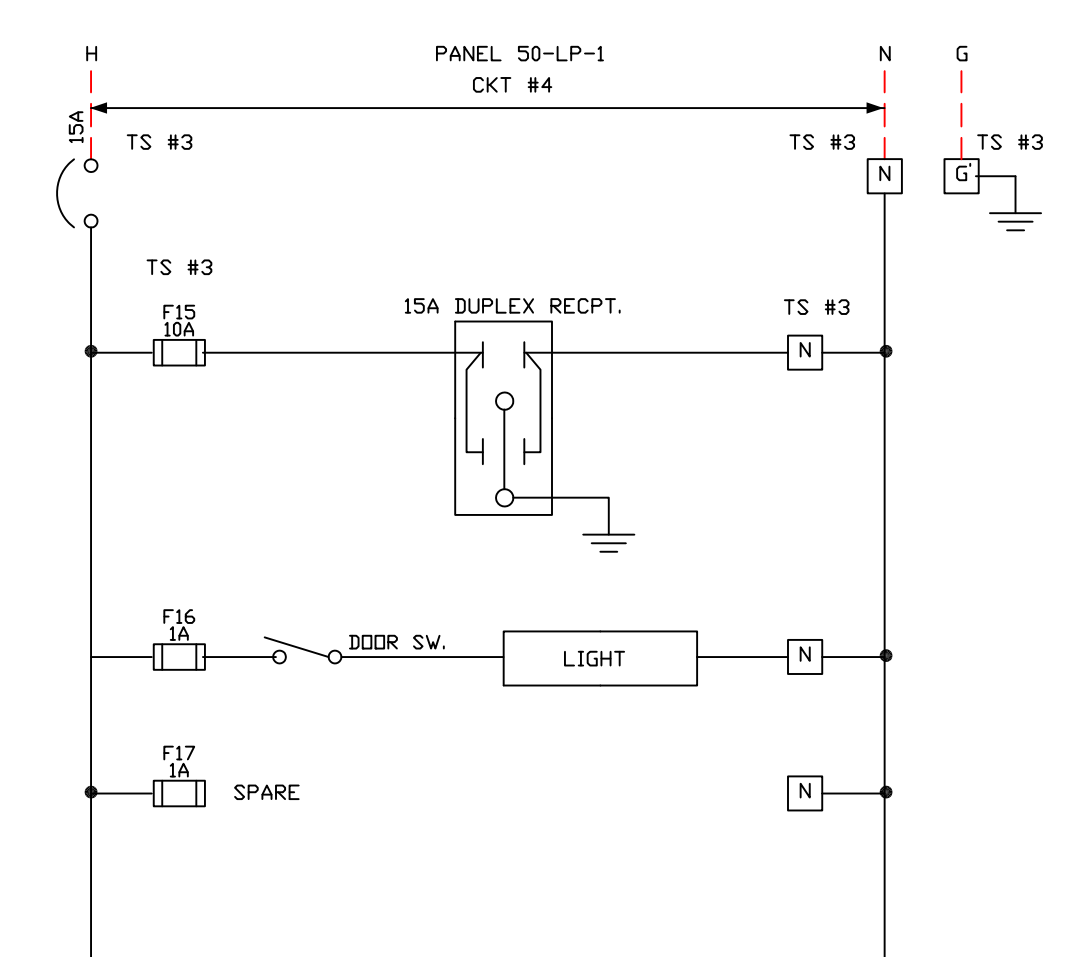
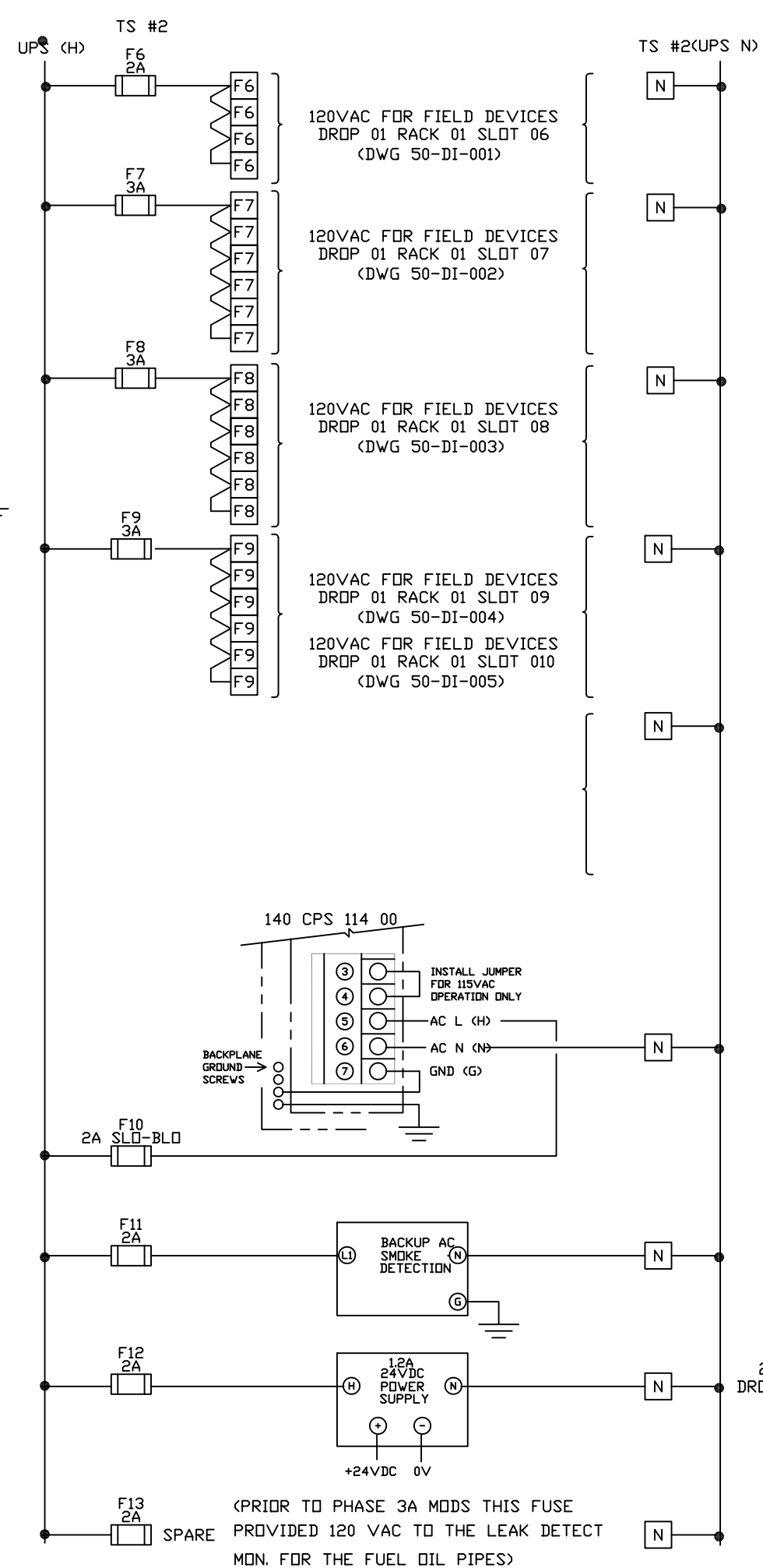
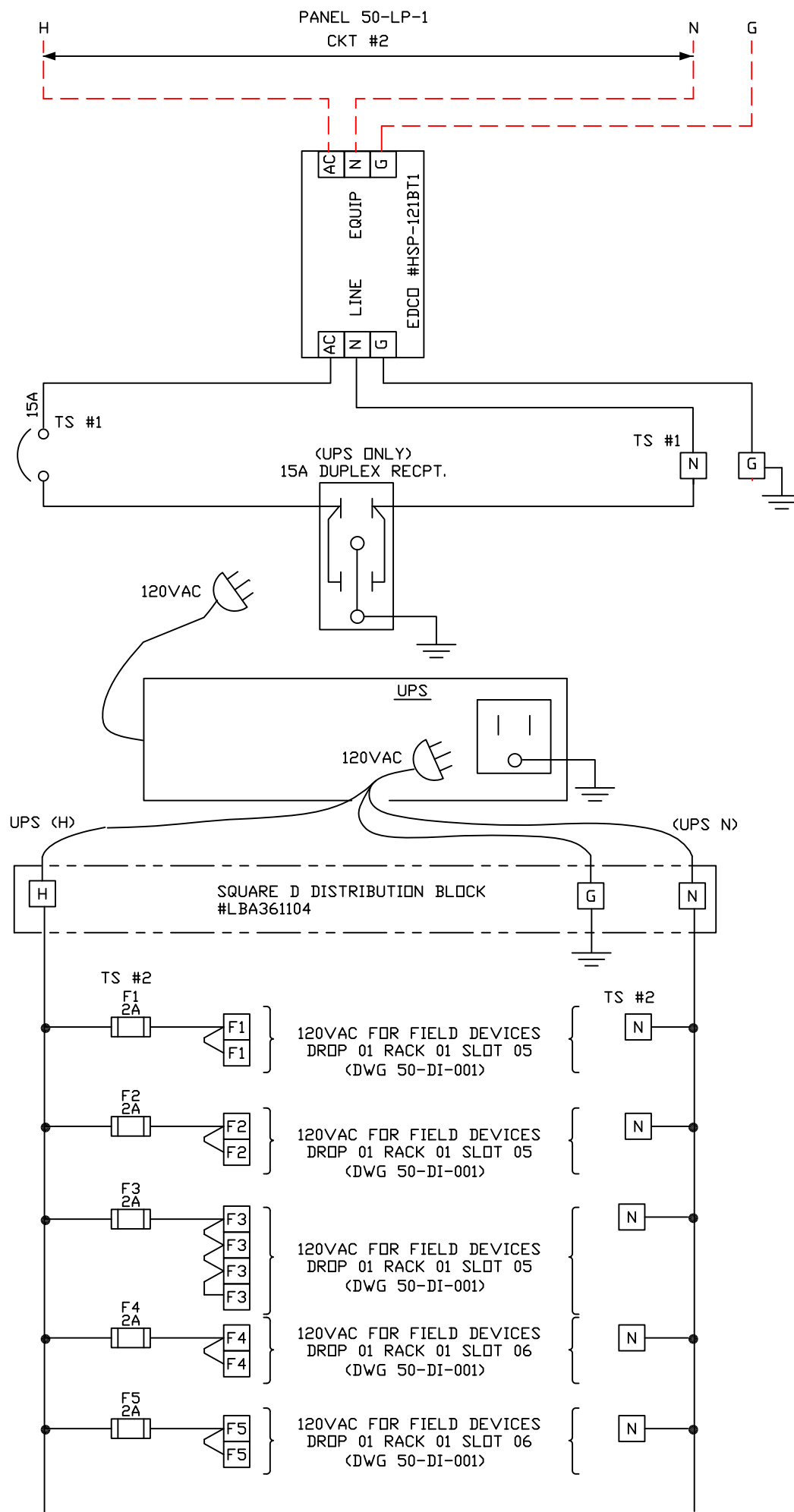
Date Signed

Title

Name of Firm

SECTION 11

50-LCP-5 PLC Panel (04/29/16 version)



NOTES:

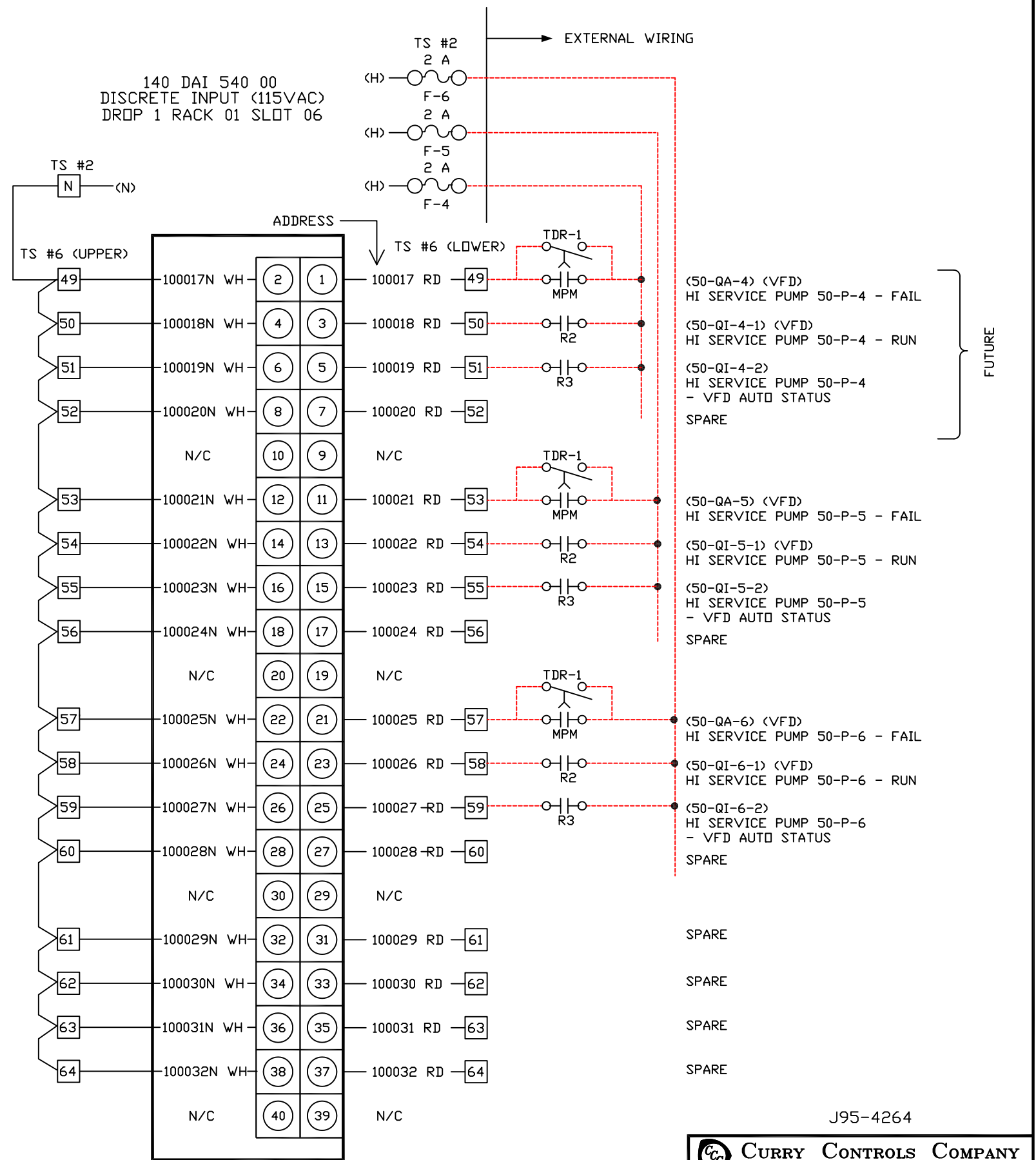
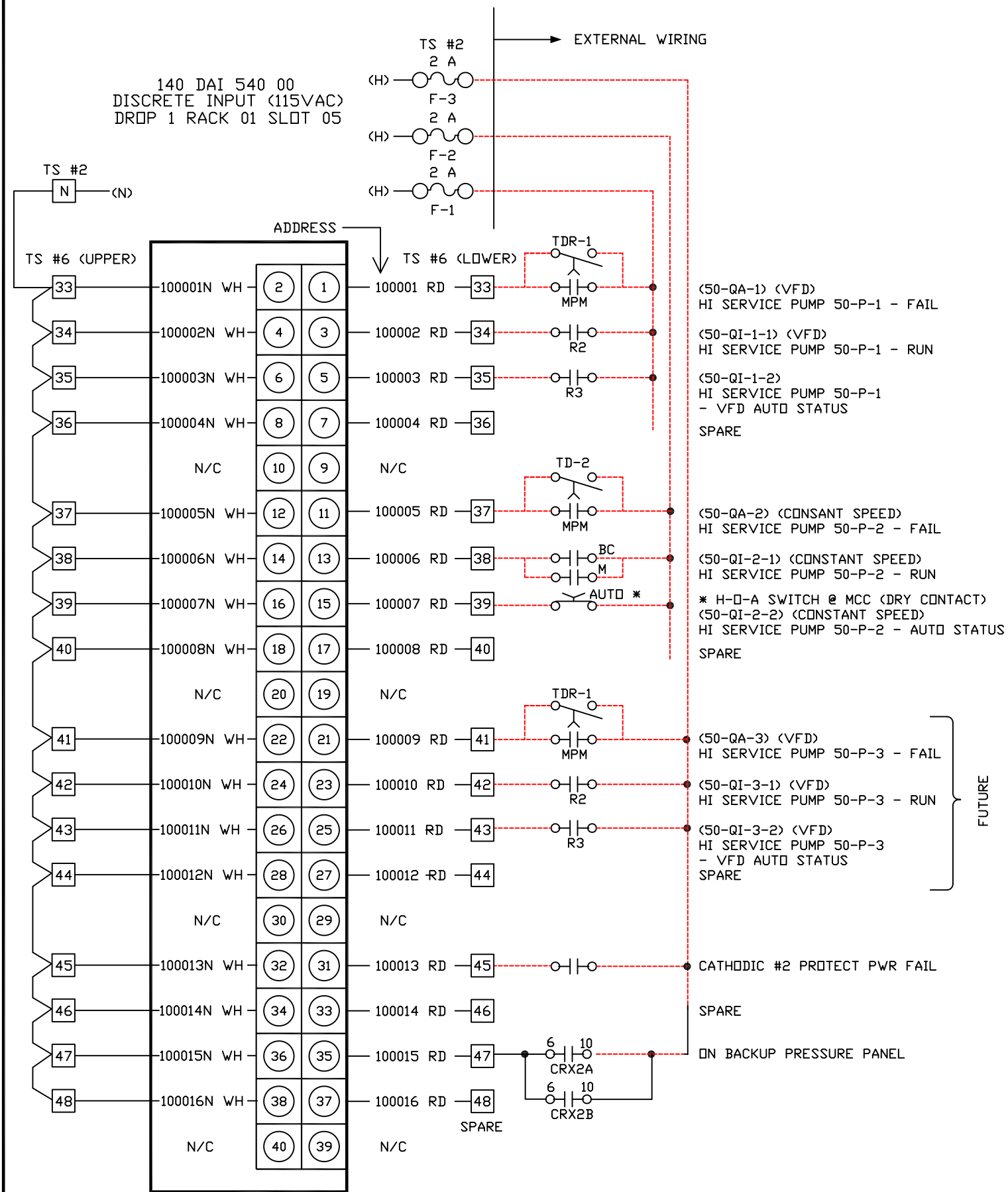
1. REFERENCE BOLYE SCHEMATIC DIAGRAMS DE-26 FOR PANEL 50-LP-1.
2. REFERENCE BOLYE P&ID'S 50-I.1.1, THRU 50I.1.4.
3. REFERENCE CURRY CONTROLS 50-LCP-5 CONTROL PANEL LAYOUT DWG. 50-LCP-5A.

24VDC FOR ANALOG DEVICES
DROP 01 RACK 01 SLOT 10 THRU 16
(DWG 50-AI-001 THRU 003)
(DWG 50-AD-001 & 002)

J95-4264

CURRY CONTROLS COMPANY LAKELAND, FLORIDA			
DATE 09/11/96	DRAWN BY R.D.T.	ENGINEER R.D.T.	SCALE N.T.S.
TITLE-DESCRIPTION 50-LCP-5 PLC POWER WIRING			
PROJECT - EASTERN REGIONAL W.S.F. ORANGE COUNTY, FL			DRAWING NUMBER 50-LCP-5B

2 PH. 3A MODS 4/29/16	REB
1 ADD DWG 09/09/96	JRM
REVISION	DATE
APVD BY	

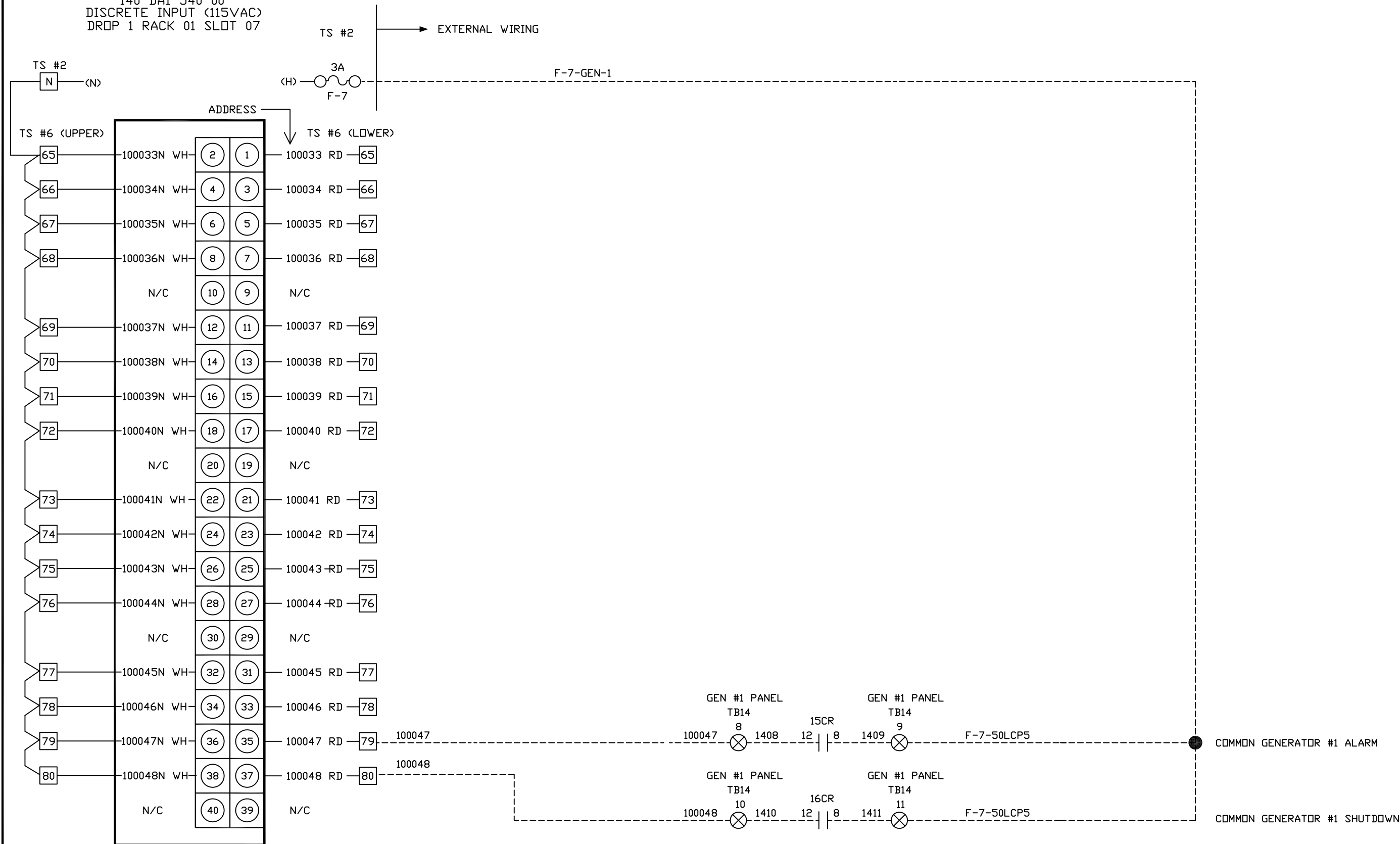


J95-4264

CURRY CONTROLS COMPANY
LAKELAND, FLORIDA

5 PH. 3A MODS 04/29/16	REB	DATE	04/01/96	DRAWN BY	D.F.F.	ENGINEER	D.F.F.	SCALE	N.T.S.
4 RELAY CHG. 03/08/12	REB	TITLE-DESCRIPTION							
3 PR. PANEL 02/17/11	REB	50-LCP-5							
2 AS BUILT 02/06/98	AAL	PLC I/O WIRING							
1 CHG I/O LOAD 09/09/96	JRM	PROJECT -							DRAWING NUMBER
REVISION	DATE	APVD BY	EASTERN REGIONAL W.S.F.				50-DI-001		
			ORANGE COUNTY, FL						

140 DAI 540 00
DISCRETE INPUT (115VAC)
DROP 1 RACK 01 SLOT 07



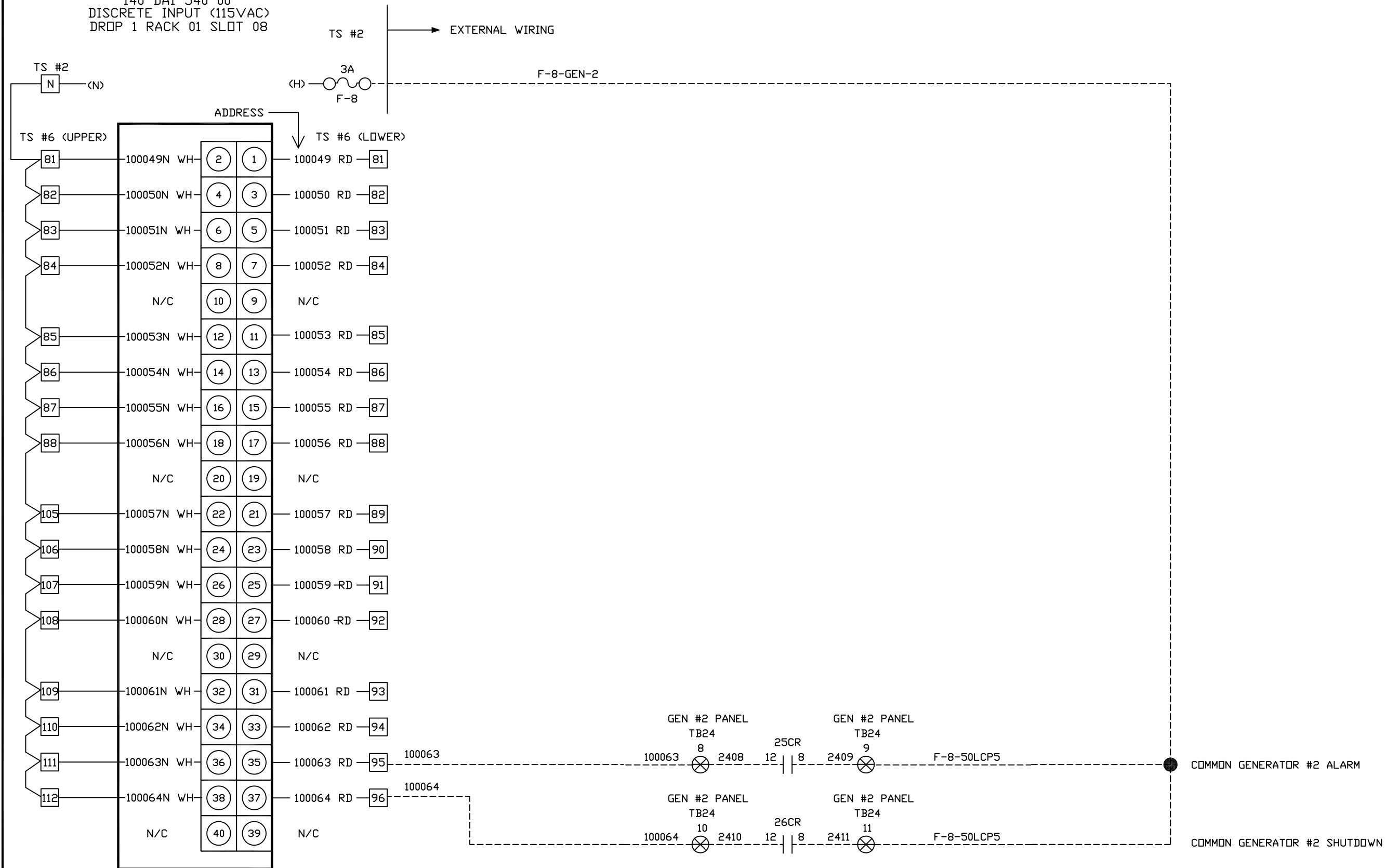
- NOTES:
1. REFERENCE CURRY CONTROLS 50-LCP-5 CONTROL PANEL LAYOUT DWG. 50-LCP-5A & 5B.
 2. REFERENCE IEM, INC. DRAWINGS 1_SCH_02 & 1_WD_02.

- TERMINAL LEGEND
- ⊗ TERMINAL IN THE IEM GEN #1 PANEL
 - △ TERMINAL IN THE ORIGINAL IPS MASTER PANEL
 - 80 TERMINAL IN 50-LCP-5 PLC PANEL

2 IEM PANEL	04/14/16	REB
1 CHG I/O LOAD	09/09/96	JRM
REVISION	DATE	APVD BY

CURRY CONTROLS COMPANY LAKELAND, FLORIDA			
DATE	DRAWN BY	ENGINEER	SCALE
04/01/96	D.F.F.	D.F.F.	N.T.S.
TITLE-DESCRIPTION 50-LCP-5 PLC I/O WIRING			
PROJECT - EASTERN REGIONAL W.S.F. ORANGE COUNTY, FL			DRAWING NUMBER 50-DI-002

140 DAI 540 00
DISCRETE INPUT (115VAC)
DROP 1 RACK 01 SLOT 08



NOTES:

1. REFERENCE CURRY CONTROLS 50-LCP-5 CONTROL PANEL LAYOUT DWG. 50-LCP-5A & 5B.
2. REFERENCE IEM, INC. DRAWINGS 1_SCH_04 & 1_WD_02.

TERMINAL LEGEND

- TERMINAL IN THE IEM GEN #2 PANEL
- TERMINAL IN THE ORIGINAL IPS MASTER PANEL
- TERMINAL IN 50-LCP-5 PLC PANEL

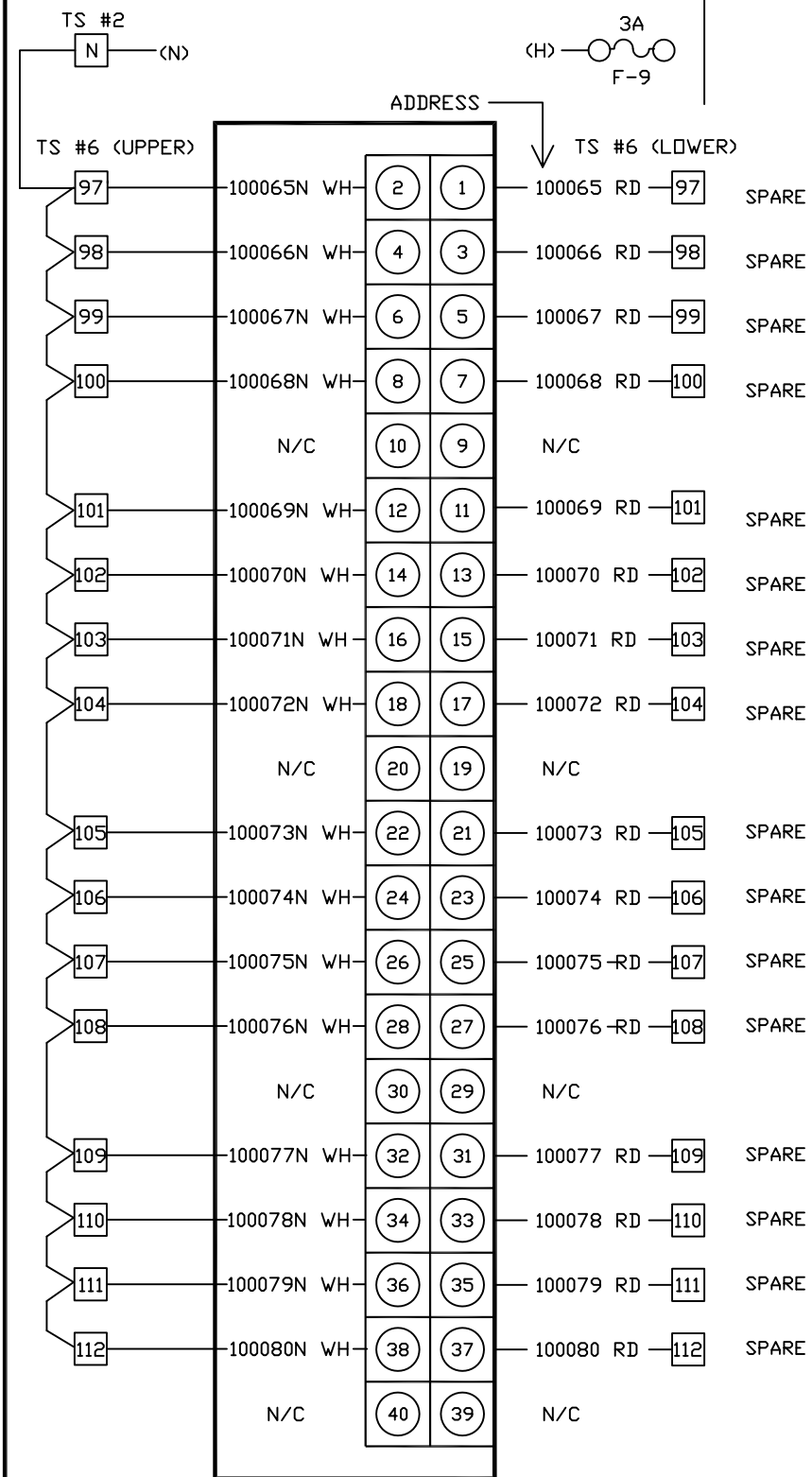
J95-4264
GENERATOR #2

CURRY CONTROLS COMPANY LAKELAND, FLORIDA			
DATE 04/01/96	DRAWN BY D.F.F.	ENGINEER D.F.F.	SCALE N.T.S.
TITLE-DESCRIPTION 50-LCP-5 PLC I/O WIRING			
PROJECT - EASTERN REGIONAL W.S.F. ORANGE COUNTY, FL			DRAWING NUMBER 50-DI-003

3 IEM PANEL	04/14/16	REB
2 CHG T.B. #	03/27/97	RDT
1 CHG I/O LOAD	09/09/96	JRM
REVISION	DATE	APVD BY

140 DAI 540 00
DISCRETE INPUT (115VAC)
DROP 1 RACK 01 SLOT 09

TS #2 → EXTERNAL WIRING



NOTES:

1. REFERENCE BOLYE SCHEMATIC DIAGRAMS DE-10 & DE-15.
2. REFERENCE BOLYE P&ID 50-I.1.1.
3. REFERENCE CURRY CONTROLS 50-LCP-5 CONTROL PANEL LAYOUT DWG. 50-LCP-5A & 5B.
3. REFERENCE INDUSTRIAL POWER SYSTEMS, INC. DWG. D95-045375 SHEET 9, 10, 11, & 12.

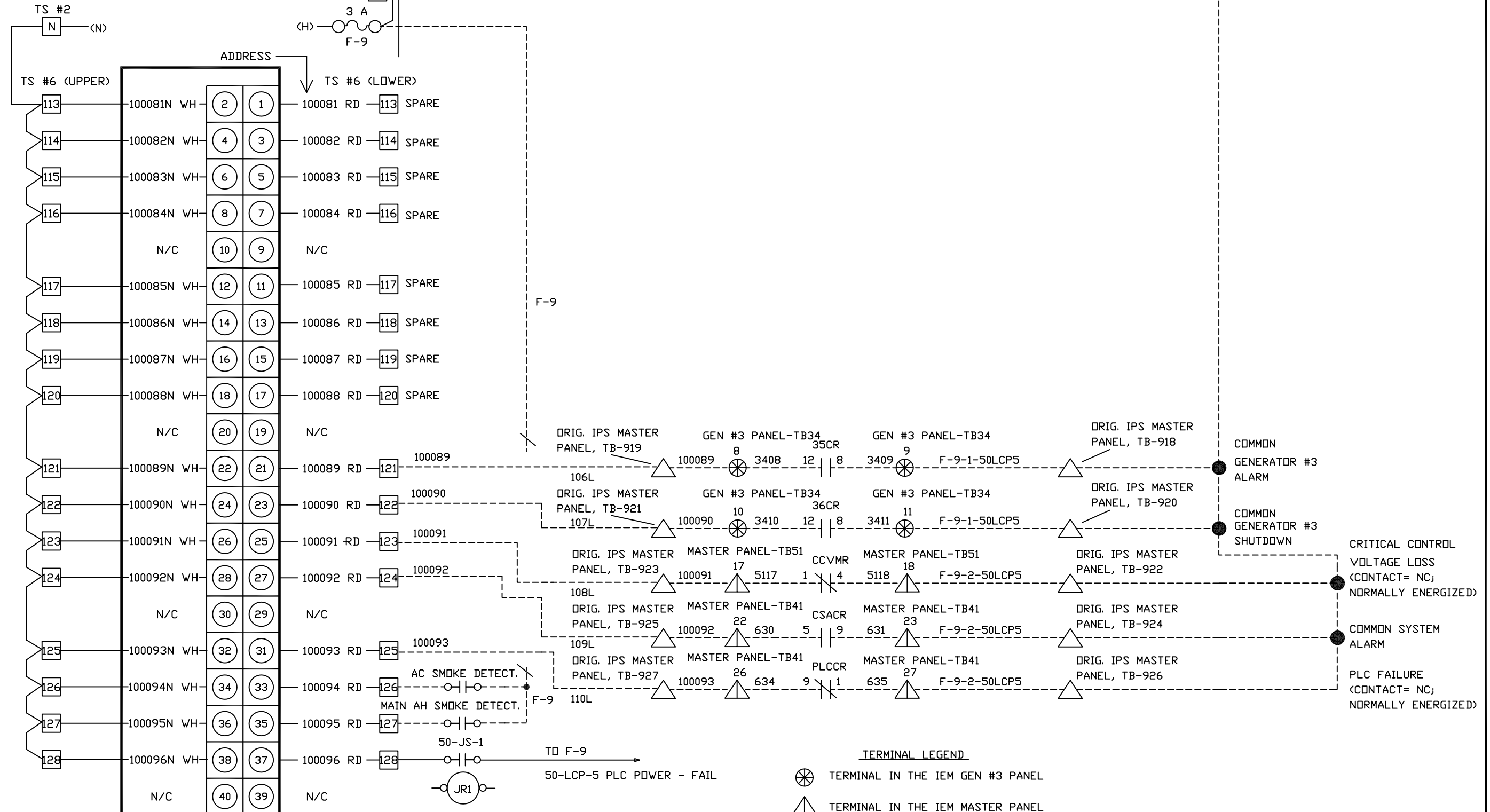
J95-4264
GENERATOR SWITCHGEAR

CURRY CONTROLS COMPANY LAKELAND, FLORIDA			
DATE 04/01/96	DRAWN BY D.F.F.	ENGINEER D.F.F.	SCALE N.T.S.
TITLE-DESCRIPTION 50-LCP-5 PLC I/O WIRING			
PROJECT - EASTERN REGIONAL W.S.F. ORANGE COUNTY, FL			DRAWING NUMBER 50-DI-004

2 PH. 3A MODS 4/29/16 REB
1 CHG I/O LOAD 09/09/96 JRM

REVISION	DATE	APVD BY
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140 DAI 540 00
DISCRETE INPUT (115VAC)
DROP 1 RACK 01 SLOT 10



- NOTES:
1. REFERENCE CURRY CONTROLS 50-LCP-5 CONTROL PANEL LAYOUT DWG. 50-LCP-5A & 5B.
 2. REFERENCE IEM, INC. DRAWINGS 1_SCH_06, 1_SCH_09, & 1_WD_02.

CURRY CONTROLS COMPANY
LAKELAND, FLORIDA

DATE	DRAWN BY	ENGINEER	SCALE
04/01/96	D.F.F.	D.F.F.	N.T.S.

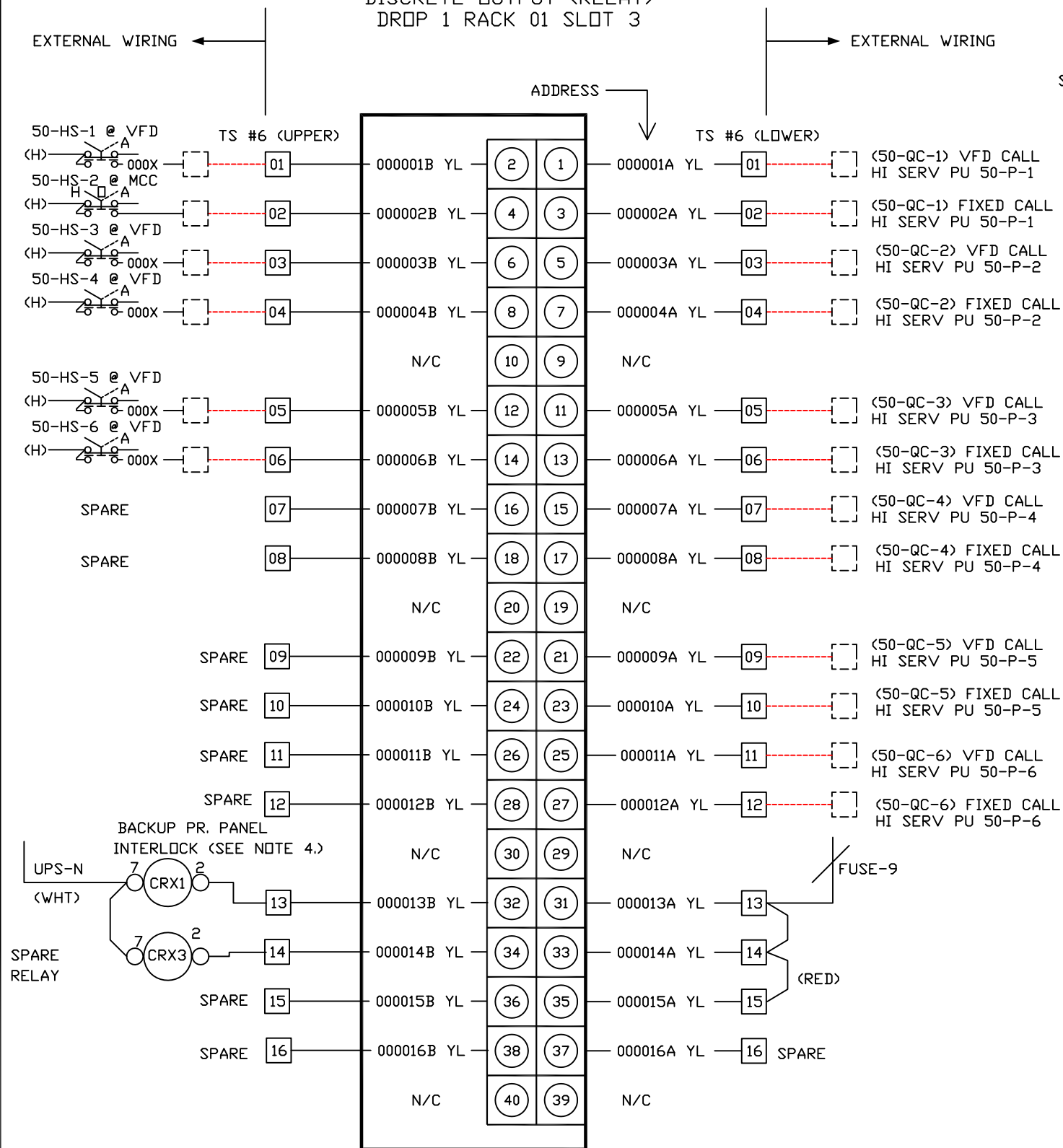
TITLE-DESCRIPTION
**50-LCP-5
PLC I/O WIRING**

REVISION	DATE	APVD BY
IEM PANEL 04/14/16		REB
AS BUILT 02/06/98		AAL
2 CHG I/O LOAD 09/09/96		JRH

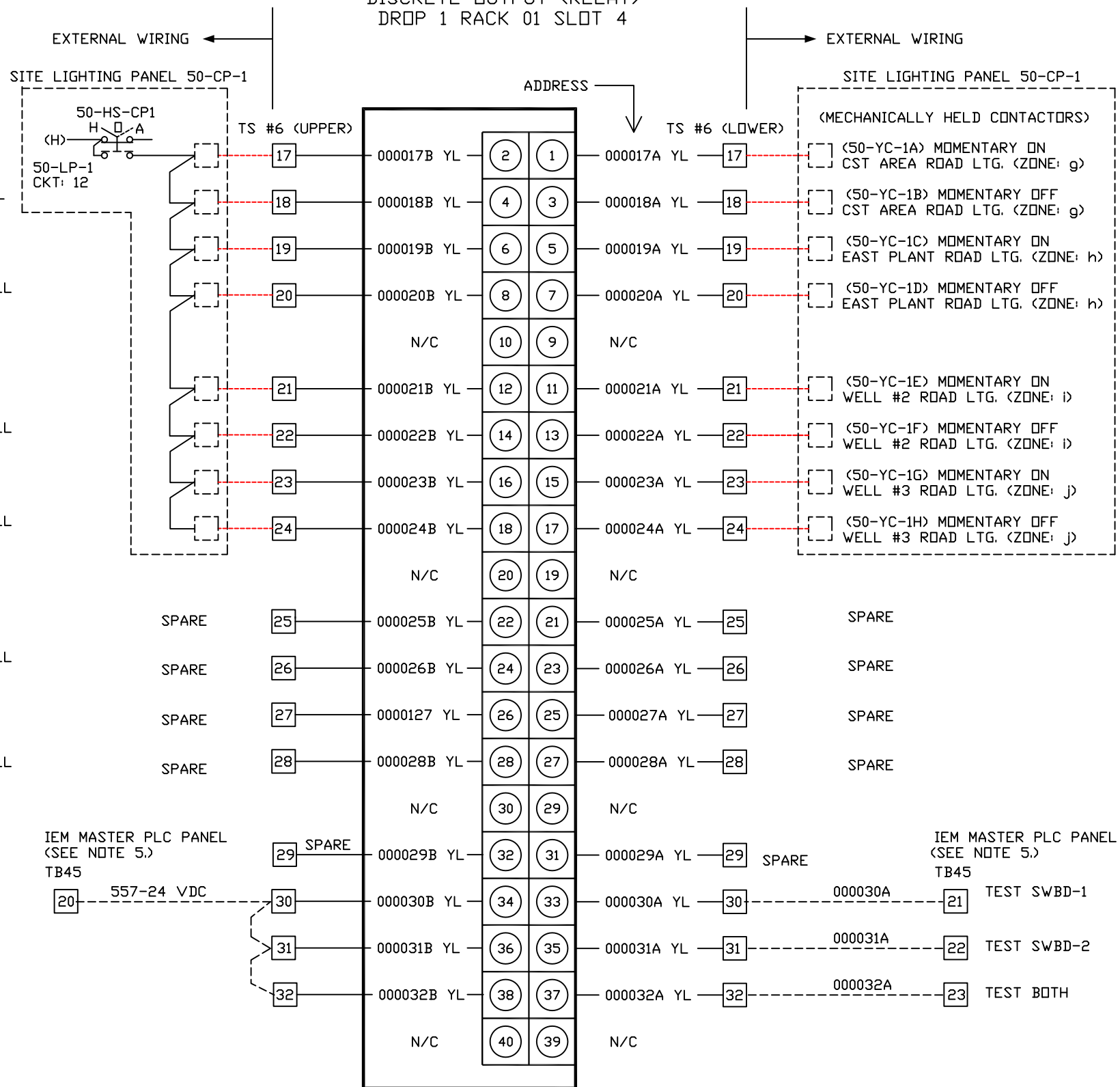
PROJECT - EASTERN REGIONAL W.S.F. ORANGE COUNTY, FL

DRAWING NUMBER
50-DI-005

140 DRA 840 00
DISCRETE OUTPUT (RELAY)
DROP 1 RACK 01 SLOT 3



140 DRA 840 00
DISCRETE OUTPUT (RELAY)
DROP 1 RACK 01 SLOT 4



NOTES:

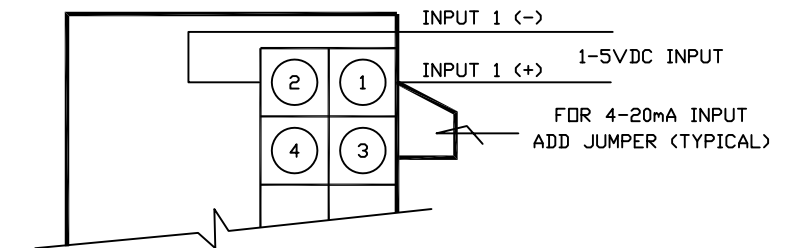
1. REFERENCE BOLYE SCHEMATIC DIAGRAMS DE-10 & 15 (PUMPS), DE-32 (LIGHTING).
2. REFERENCE BOLYE P&ID'S 50-I.1.1, 1.3, 1.4.
3. REFERENCE CURRY CONTROLS 50-LCP-5 CONTROL PANEL LAYOUT DWG. 50-LCP-5A & 5B.
4. SEE DRAWING 8394-BP-PNL-PW-002.
5. REFERENCE IEM DRAWING 1_WD_02; IEM JOB #91670.

J95-4264

CURRY CONTROLS COMPANY
LAKELAND, FLORIDA

5 IEM TEST POINTS	3/24/16 REB	DATE	04/01/96	DRAWN BY	D.F.F.	ENGINEER	D.F.F.	SCALE	N.T.S.
4 RELAY CHANGE	3/08/12 REB	TITLE-DESCRIPTION							
3 BACKUP PR. PANEL 2/17/11 REB									
2 CHG I/O LOAD 3/11/97 JRM									
1 CHG I/O LOAD 9/16/96 JRM									
PROJECT - EASTERN REGIONAL W.S.F. ORANGE COUNTY, FL								DRAWING NUMBER	
								50-DO-001	

140 ACI 030 00
 ANALOG INPUT (1-5VDC / 4-20mA)
 DROP 1 RACK 01 SLOT 11



ADDRESS

300001

300002

300003

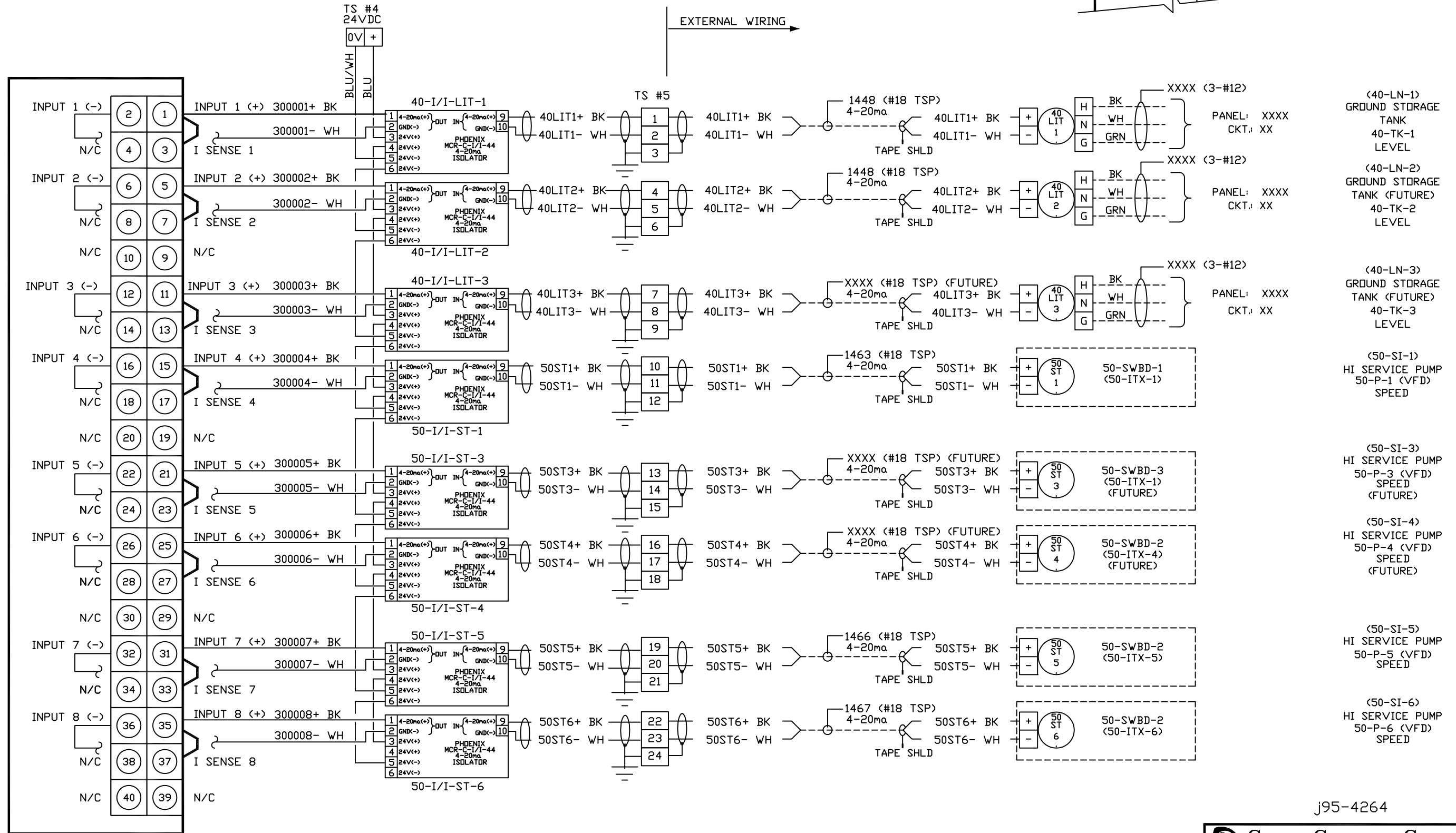
300004

300005

300006

300007

300008



NOTES:

1. REFERENCE BOLYE SCHEMATIC WIRING DIAGRAMS DE-10 (VFD'S).
2. REFERENCE BOLYE P&ID'S 40-I.1.1 & 50-I.1.1.
3. REFERENCE CURRY CONTROLS 50-LCP-5 CONTROL PANEL LAYOUT DWG. 50-LCP-5A & 5B.

J95-4264

CURRY CONTROLS COMPANY LAKELAND, FLORIDA			
DATE 04/04/96	DRAWN BY D.F.F.	ENGINEER D.F.F.	SCALE N.T.S.
TITLE-DESCRIPTION 50-LCP-5 PLC I/O WIRING			
PROJECT - EASTERN REGIONAL W.S.F. ORANGE COUNTY, FLA			DRAWING NUMBER 50-AI-001

1 CHG I/O LOAD 9.19.96 JRM
 0 CONSTRUCTION 02/09/96 JRM

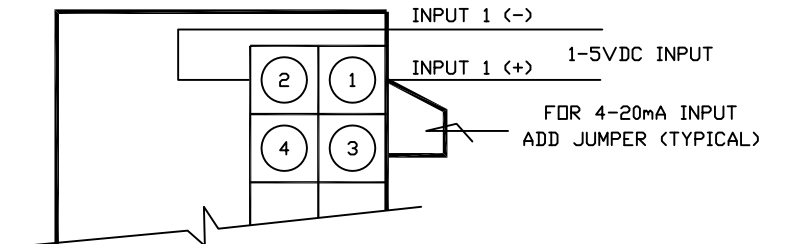
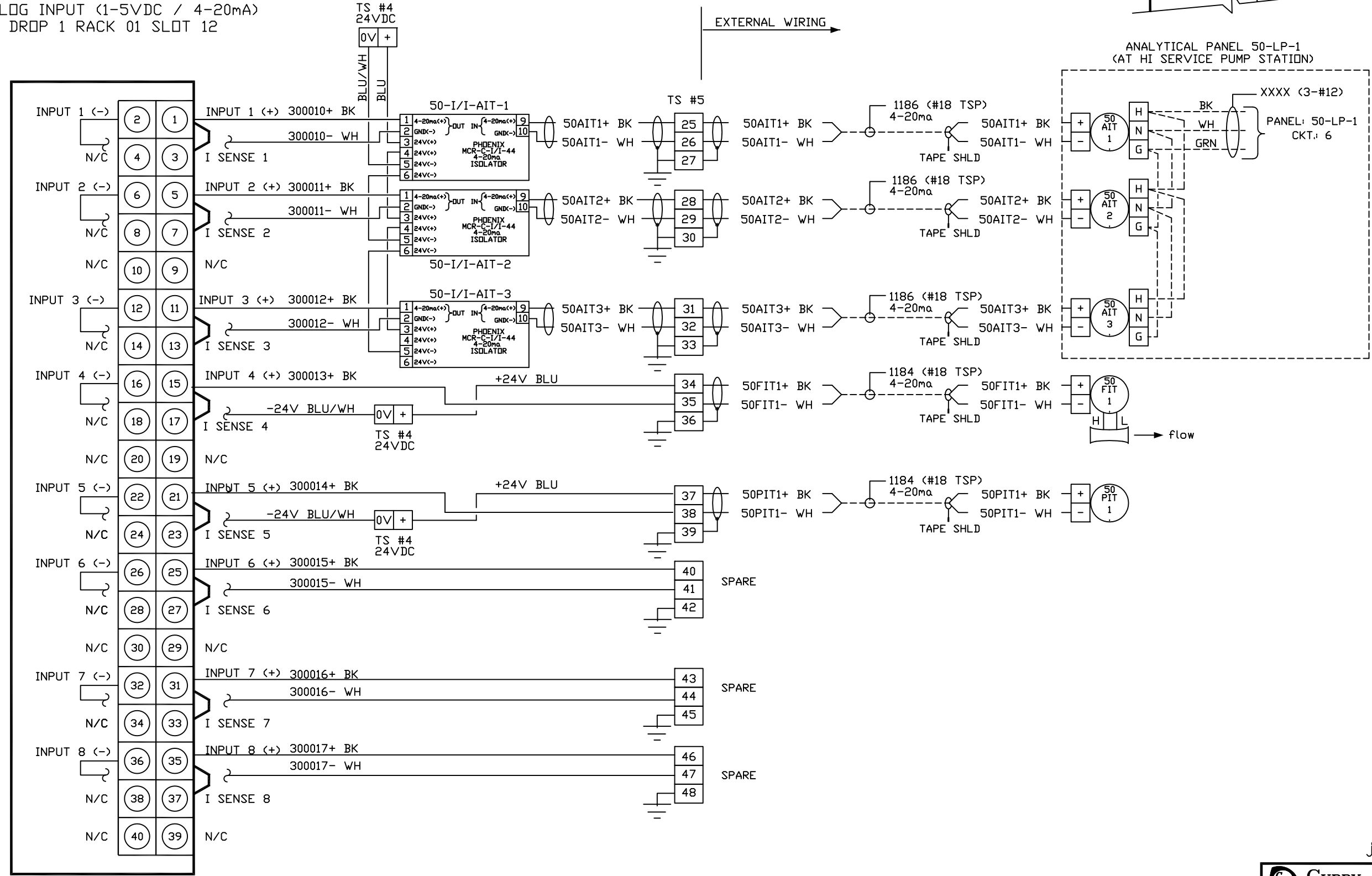
REVISION	DATE	APVD BY
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140 ACI 030 00
 ANALOG INPUT (1-5VDC / 4-20mA)
 DROP 1 RACK 01 SLOT 12

ADDRESS



300010
 300011
 300012
 300013
 300014
 300015
 300016
 300017



(50-AN-1)
 HI SERVICE PUMP
 DISTRIBUTION HEADER
 CL2 RESIDUAL

(50-AN-1)
 HI SERVICE PUMP
 DISTRIBUTION HEADER
 pH

(50-AN-1)
 HI SERVICE PUMP
 DISTRIBUTION HEADER
 TURBIDITY

(50-FI-1)
 HI SERVICE PUMP
 DISTRIBUTION HEADER
 FLOW

(50-PI-1)
 HI SERVICE PUMP
 DISTRIBUTION HEADER
 PRESSURE

NOTES:

1. REFERENCE BOLYE P&ID 50-I.1.2.
2. REFERENCE CURRY CONTROLS 50-LCP-5 CONTROL PANEL LAYOUT DWG. 50-LCP-5A & 5B.

j95-4264

CURRY CONTROLS COMPANY LAKELAND, FLORIDA			
DATE 04/04/96	DRAWN BY D.F.F.	ENGINEER D.F.F.	SCALE N.T.S.
TITLE-DESCRIPTION 50-LCP-5 PLC I/O WIRING			
PROJECT - EASTERN REGIONAL W.S.F. ORANGE COUNTY, FLA			DRAWING NUMBER 50-AI-002

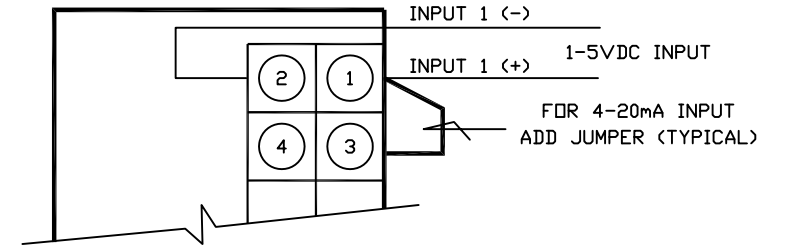
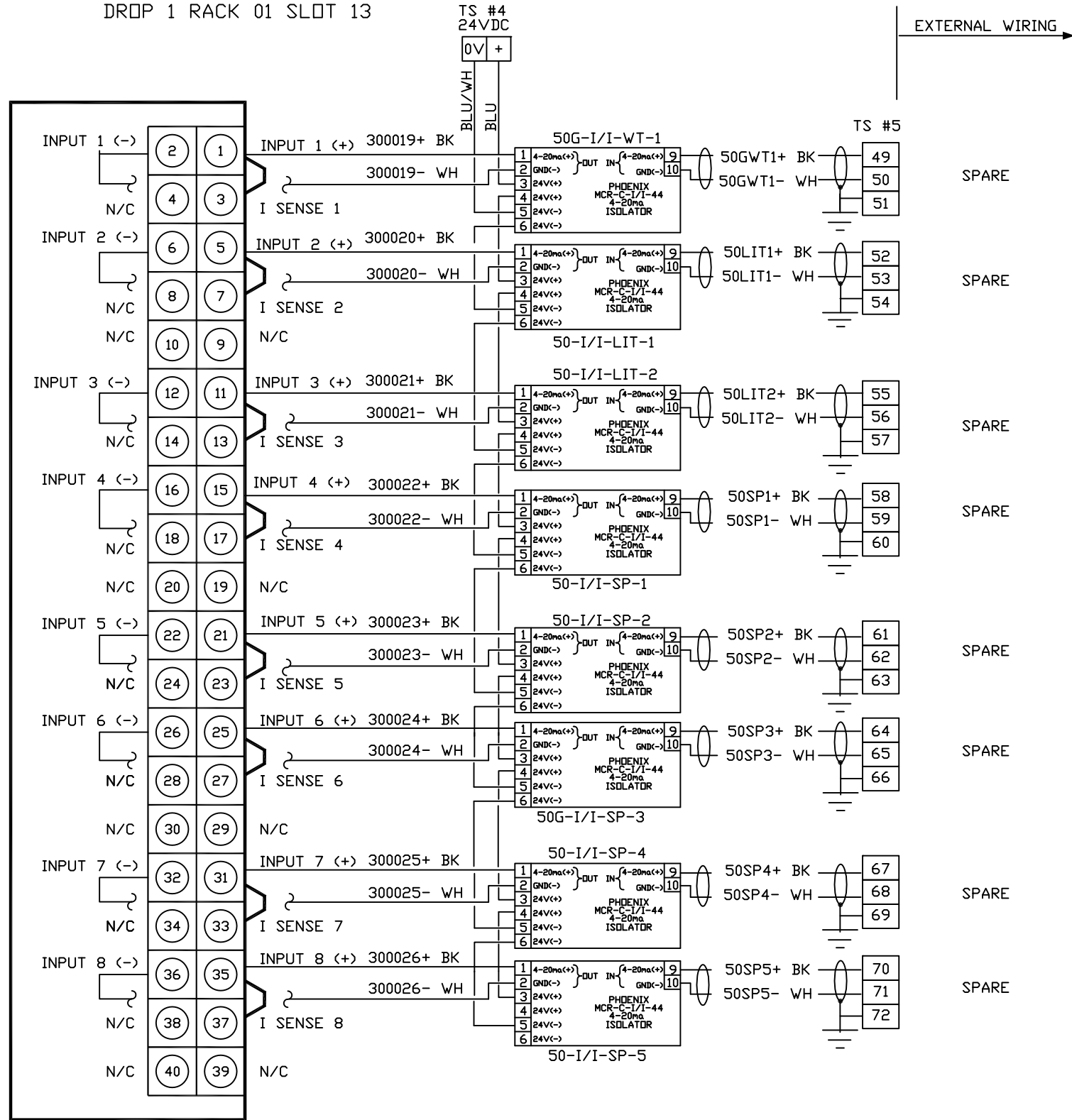
1 CHG I/O LOAD 9.19.96	JRM	
0 CONSTRUCTION 02/09/96	JRM	
REVISION	DATE	APVD BY

140 ACI 030 00
 ANALOG INPUT (1-5VDC / 4-20mA)
 DROP 1 RACK 01 SLOT 13

ADDRESS



300019
 300020
 300021
 300022
 300023
 300024
 300025
 300026



NOTES:

1. REFERENCE BOLYE P&ID 50-I.1.3.
2. REFERENCE CURRY CONTROLS 50-LCP-5 CONTROL PANEL LAYOUT DWG. 50-LCP-5A & 5B.

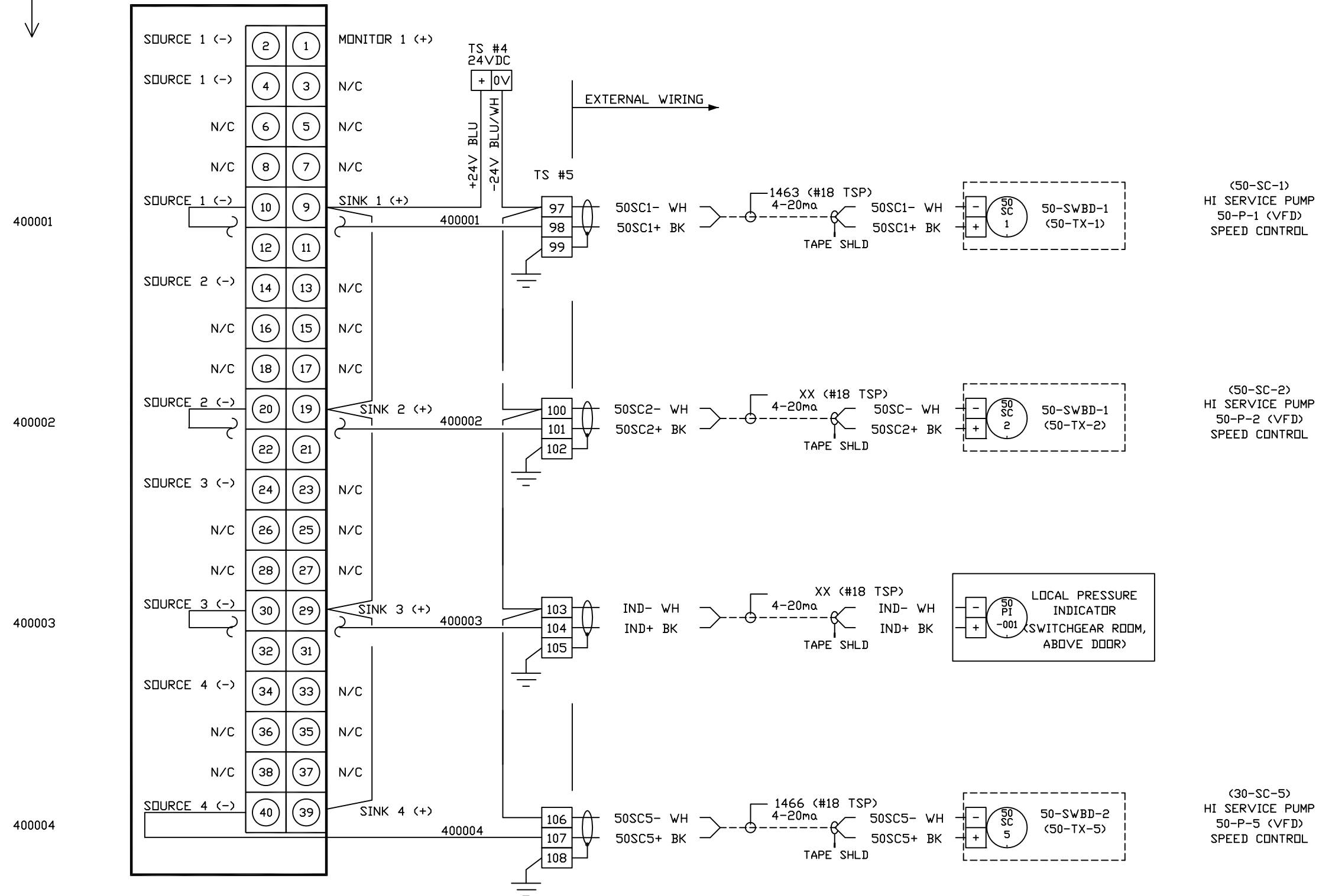
J95-4264

CURRY CONTROLS COMPANY LAKELAND, FLORIDA			
DATE	DRAWN BY	ENGINEER	SCALE
04/04/96	D.F.F.	D.F.F.	N.T.S.
TITLE-DESCRIPTION			
50-LCP-5 PLC I/O WIRING			
PROJECT -			DRAWING NUMBER
EASTERN REGIONAL W.S.F. ORANGE COUNTY, FLA			50-AI-003

2 PHASE 3A MODS 4/29/16 REB		
1	CHG I/O LOAD 9/19/96	JRM
0	CONSTRUCTION 02/09/96	JRM
REVISION	DATE	APVD BY

140 ACD 020 00
 ANALOG OUTPUT (4-20mA)
 DROP 1 RACK 01 SLOT 14

ADDRESS
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NOTES:

1. REFERENCE BOLYE SCHEMATIC DIAGRAMS DE-10 (VFD'S) & DE-4 (MCC).
2. REFERENCE BOLYE P&ID 50-I.1.1.
3. REFERENCE CURRY CONTROLS 50-LCP-5 CONTROL PANEL LAYOUT DWG. 50-LCP-5A & 5B.

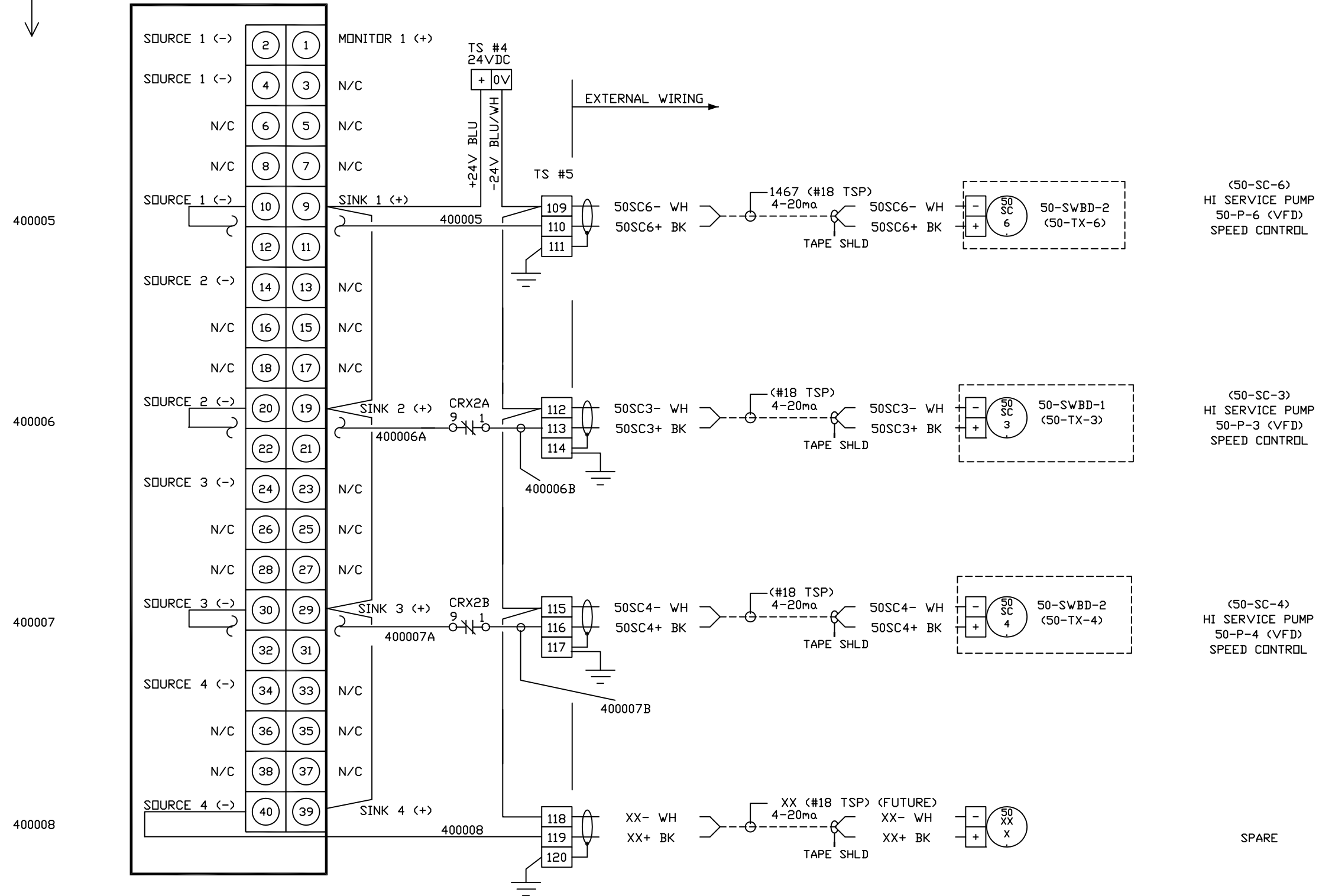
j95-4264

CURRY CONTROLS COMPANY LAKELAND, FLORIDA			
DATE 04/04/96	DRAWN BY D.F.F.	ENGINEER D.F.F.	SCALE N.T.S.
TITLE-DESCRIPTION 50-LCP-5 PLC I/O WIRING			
PROJECT - EASTERN REGIONAL ORANGE COUNTY, FLA			DRAWING NUMBER 50-A0-001

2 BACKUP PR. PANEL	2/17/11	REB
1 CHG I/O LOAD	9/19/96	JRM
REVISION	DATE	APVD BY

140 ACD 020 00
 ANALOG OUTPUT (4-20mA)
 DROP 1 RACK 01 SLOT 15

ADDRESS
 ↓



NOTES:

1. REFERENCE BOLYE SCHEMATIC DIAGRAMS DE-10 (VFD'S) & DE-4 (MCC).
2. REFERENCE BOLYE P&ID 50-I.1.1.
3. REFERENCE CURRY CONTROLS 50-LCP-5 CONTROL PANEL LAYOUT DWG. 50-LCP-5A & 5B.

j95-4264

CURRY CONTROLS COMPANY
 LAKELAND, FLORIDA

DATE 04/04/96	DRAWN BY D.F.F.	ENGINEER D.F.F.	SCALE N.T.S.
------------------	--------------------	--------------------	-----------------

3 RELAY CHG.	3/08/12	REB	TITLE-DESCRIPTION 50-LCP-5 PLC I/O WIRING	DRAWING NUMBER 50-AD-002
2 BACKUP PR. PANEL	2/17/11	REB	PROJECT - EASTERN REGIONAL ORANGE COUNTY, FLA	
1 CHG I/O LOAD	9/19/96	JRM		
REVISION	DATE	APVD BY		

**Orange County
Eastern Regional
Water Treatment Facility
Phase 2B Expansion
Sodium Hypochlorite
Generation System
75-LCP-8**

DESIGN & DRAWINGS BY:



Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6173 fax

DRAWING #	REV.	DESCRIPTION	DRAWING #	REV.	DESCRIPTION	DRAWING #	REV.	DESCRIPTION	DRAWING #	REV.	DESCRIPTION
AAA	-	COVER	E01	-	POWER WIRING	L01	-	HYDROGEN CONCENTRATION 75-AIT-1	L49	-	TRANSFER METERING PUMP SPEED CONTROL 75-MP-1
BBB	-	DRAWING INDEX	E02	-	DIGITAL INPUTS #1	L02	-	HYDROGEN CONCENTRATION 75-AIT-2	L50	-	TRANSFER METERING PUMP SPEED CONTROL 75-MP-2
CCC	-	SYMBOLS	E03	-	DIGITAL INPUTS #2	L03	-	RECTIFIER CURRENT 75-EC-01	L51	-	TRANSFER METERING PUMP SPEED CONTROL 75-MP-3
DDD	-	UL INFORMATION	E04	-	DIGITAL INPUTS #3	L04	-	RECTIFIER VOLTAGE 75-EC-01	L52	-	TRANSFER METERING PUMP SPEED CONTROL 75-MP-4
M01	-	CONTROL PANEL ENCLOSURE	E05	-	DIGITAL INPUTS #4	L05	-	RECTIFIER CURRENT 75-EC-02	L53	-	TRANSFER METERING PUMP SPEED CONTROL 75-MP-5
M02	-	BACK PANEL	E06	-	DIGITAL INPUTS #5	L06	-	RECTIFIER VOLTAGE 75-EC-02	L54	-	TRANSFER METERING PUMP SPEED CONTROL 75-MP-6
			E07	-	DIGITAL INPUTS #6	L07	-	RECTIFIER CURRENT 75-EC-03	L55	-	TRANSFER METERING PUMP SPEED CONTROL 75-MP-7
			E08	-	DIGITAL INPUTS #7	L08	-	RECTIFIER VOLTAGE 75-EC-03	L56	-	TRANSFER METERING PUMP SPEED CONTROL 75-MP-8
			E09	-	DIGITAL INPUTS #8	L09	-	RECTIFIER CURRENT 75-EC-04	L57	-	RECTIFIER CONTROL 75-EC-01
			E10	-	DIGITAL INPUTS #9	L10	-	RECTIFIER VOLTAGE 75-EC-04	L58	-	RECTIFIER CONTROL 75-EC-02
			E11	-	DIGITAL INPUTS #10	L11	-	RECTIFIER CURRENT 75-EC-05	L59	-	RECTIFIER CONTROL 75-EC-03
			E12	-	DIGITAL OUTPUTS #1	L12	-	RECTIFIER VOLTAGE 75-EC-05	L60	-	RECTIFIER CONTROL 75-EC-04
			E13	-	DIGITAL OUTPUTS #2	L13	-	RECTIFIER CURRENT 75-EC-06			
			E14	-	DIGITAL OUTPUTS #3	L14	-	RECTIFIER VOLTAGE 75-EC-06			
			E15	-	DIGITAL OUTPUTS #4	L15	-	HSP STATION FLOW 75-FIT-104			
			E16	-	DIGITAL OUTPUTS #5	L16	-	AERATION/AQC SUPPLY FLOW 75-FIT-105			
			E17	-	ANALOG INPUTS #1	L17	-	TRANSFER PUMP FLOW 75-FIT-106			
			E18	-	ANALOG INPUTS #2	L18	-	AERATION/AQC RETURN FLOW 75-FIT-107			
			E19	-	ANALOG INPUTS #3	L19	-	BRINE/SALT TANK LEVEL 75-LIT-1A			
			E20	-	ANALOG INPUTS #4	L20	-	STORAGE TANK LEVEL 75-LIT-1B			
			E21	-	ANALOG INPUTS #5	L21	-	BRINE/SALT TANK LEVEL 75-FIT-2A			
			E22	-	ANALOG INPUTS #6	L22	-	STORAGE TANK LEVEL 75-LIT-2B			
			E23	-	ANALOG OUTPUTS #1	L23	-	BRINE/SALT TANK LEVEL 75-LIT-3A			
			E24	-	ANALOG OUTPUTS #2	L24	-	STORAGE TANK LEVEL 75-LIT-3B			
			E25	-	ANALOG OUTPUTS #3	L25	-	TRANSFER METERING PUMP SPEED 75-MP-1			
			E26	-	RELAY OUTPUTS #1	L26	-	TRANSFER METERING PUMP SPEED 75-MP-2			
			E27	-	RELAY OUTPUTS #2	L27	-	TRANSFER METERING PUMP SPEED 75-MP-3			
			E28	-	RELAY OUTPUTS #3	L28	-	TRANSFER METERING PUMP SPEED 75-MP-4			
						L29	-	INJECTION METERING PUMP SPEED 75-MP-5			
						L30	-	INJECTION METERING PUMP SPEED 75-MP-6			
						L31	-	INJECTION METERING PUMP SPEED 75-MP-7			
						L32	-	INJECTION METERING PUMP SPEED 75-MP-8			
						L33	-	INJECTION PRESSURE 75-PIT-104			
						L34	-	AERATION/AQC PRESSURE 75-PIT-105			
						L35	-	INJECTION TRANSFER PRESSURE 75-PIT-106			
						L36	-	AERATION/AQC RETURN PRESSURE 75-PIT-107			
						L37	-	MCC1 METERING			
						L38	-	MCC2 METERING			
						L39	-	REC-2A METERING			
						L40	-	REC-2B METERING			
						L41	-	ROTARY NO. 1-A FLOW			
						L42	-	ROTARY NO. 1-B FLOW			
						L43	-	ROTARY NO. 2-A FLOW			
						L44	-	ROTARY NO. 2-B FLOW			
						L45	-	ROTARY NO. 3-A FLOW			
						L46	-	ROTARY NO. 3-B FLOW			
						L47	-	ROTARY NO. 4-A FLOW			
						L48	-	ROTARY NO. 4-B FLOW			

- NOTES: 1. 7.
2. 8.
3. 9.
4. 10.
5. 11.
6.

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	



ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 DRAWING INDEX	DWG. NO. BBB REV. 3

MANUFACTURER	JOB NUMBER	TAG NUMBER
ROCHA CONTROLS	2-3-128	75-LCP-8

75-LCP-8

INCOMING POWER 120 VOLT AC 15 AMP 1 PHASE 60 HZ

	MANUFACTURER	PART NUMBER	WIRE RANGE	TQ (LB/IN)	ADDITIONAL INFORMATION
TERMINALS	SQUARE D	PK15GTA	14-10	20	GROUND BAR
	PHOENIX	30 03 34 7	30-12	5.31-7.08	TERMINAL
	PHOENIX	30 04 10 0	26-10	5.31-7.08	FUSE HOLDER TERMINAL

- A) 12 AWG /16 AWG FOR POWER DISTRIBUTION AND CONTROL
- B) 16 AWG SHIELDED TWISTED PAIR FOR ANALOG SIGNALS, 300V
- C) USE ONLY COPPER WIRE RATED 600v 90 DEG. C FOR CONTROLS WIRING

	MANUFACTURER	PART NUMBER	FUSE RATING	FUSE IDENTIFICATION NUMBER	ADDITIONAL INFORMATION
FUSES	LITTELFUSE	218.063	.063 AMP	SF1-SF60	N/A
	LITTELFUSE	218.250	1/4 AMP	FU11-FU15	N/A
	LITTELFUSE	218.125	1/8 AMP	FU1-FU10, FU16, FU17	N/A

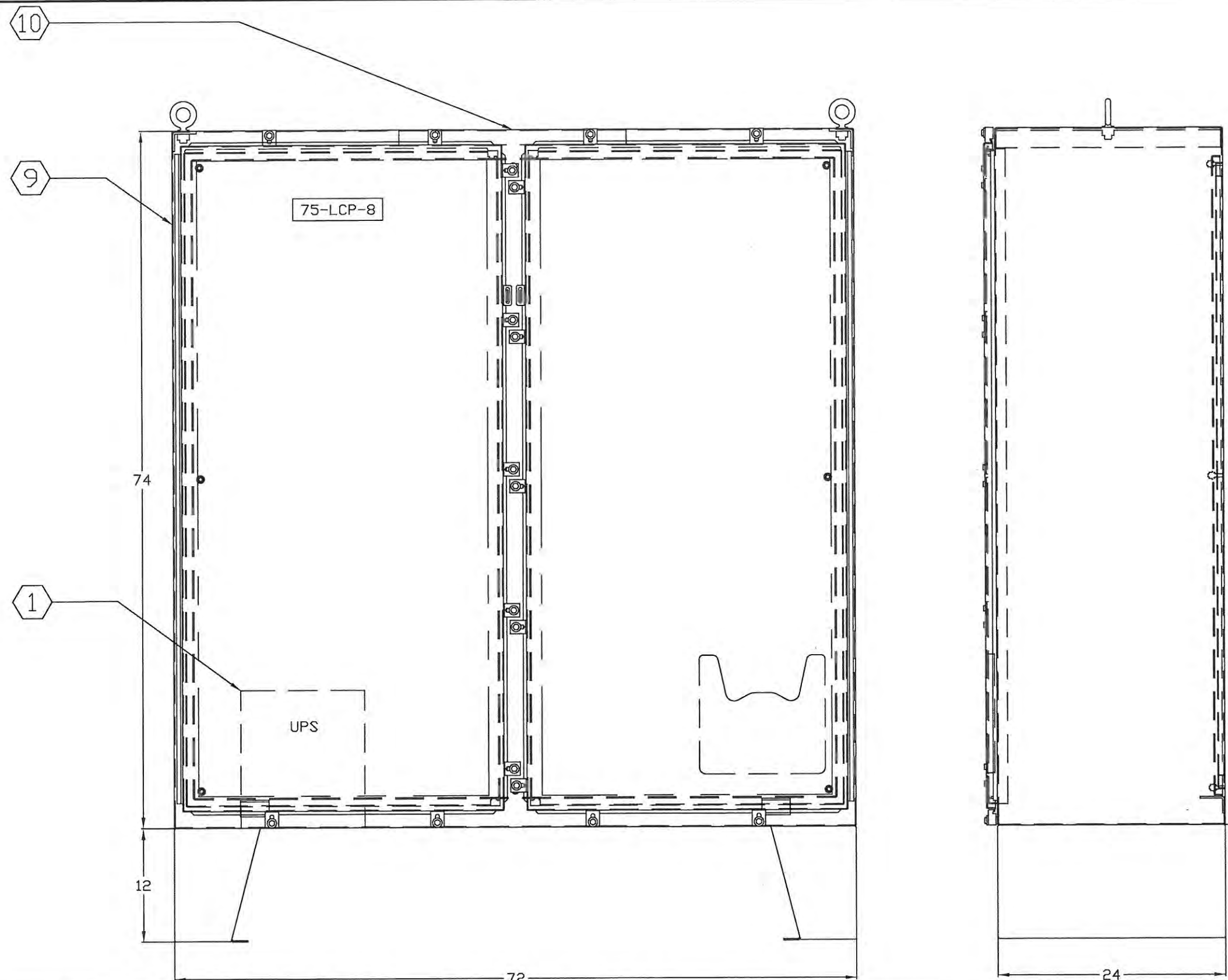
- NOTES: 1. 7.
 2. 8.
 3. 9.
 4. 10.
 5. 11.
 6.

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	DRAWN D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	



ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO.	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 UL INFORMATION	DWG. NO.	DDD
		REV.	3

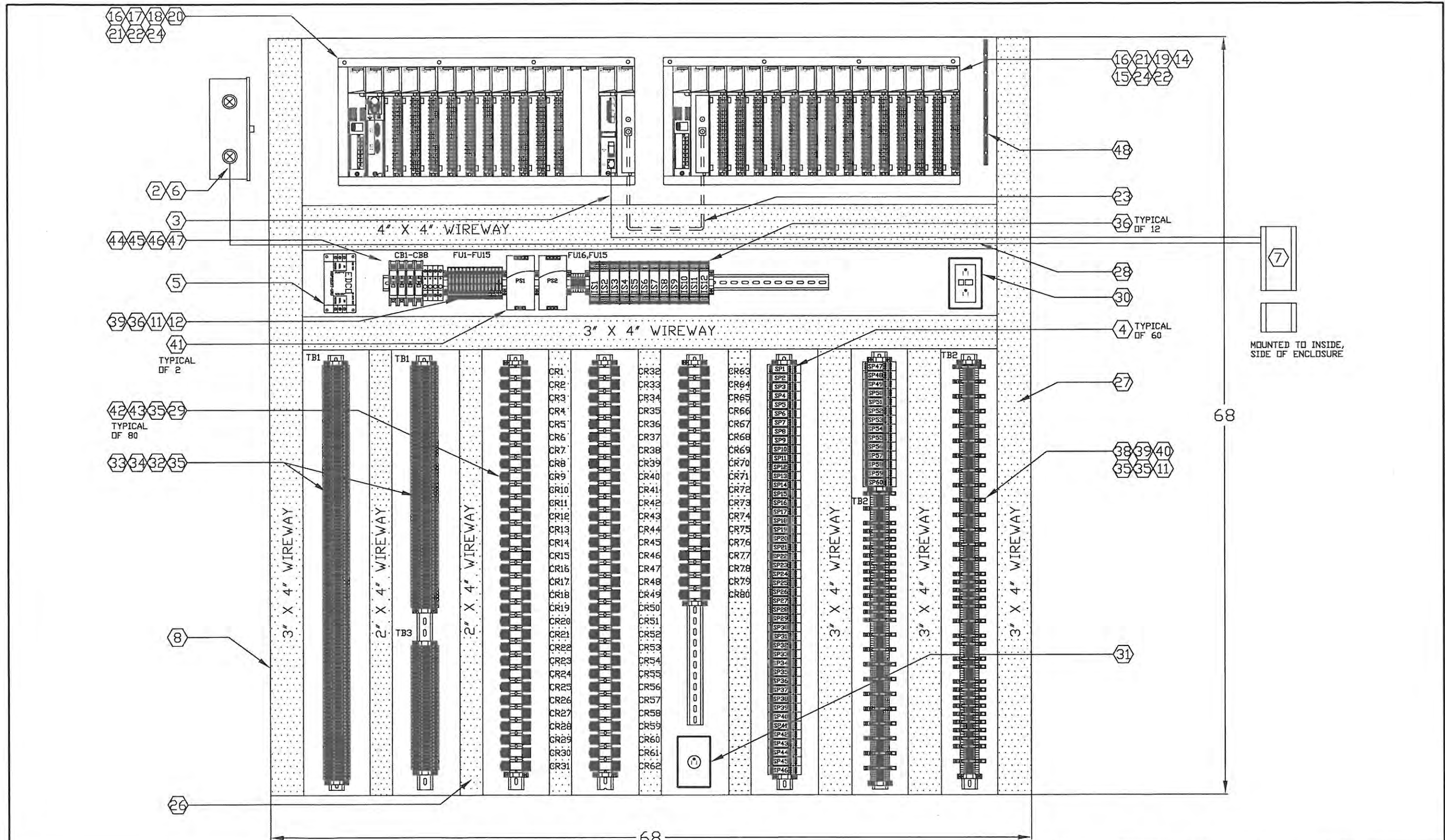


- NOTES:
- 1.
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 - 11.

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	DRAWN	
2	08/23/05	AS-BUILT	DRP	D. PENATZER	1/27/05
3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 ENCLOSURE (FRONT)	DWG. NO. M01
		REV. 3

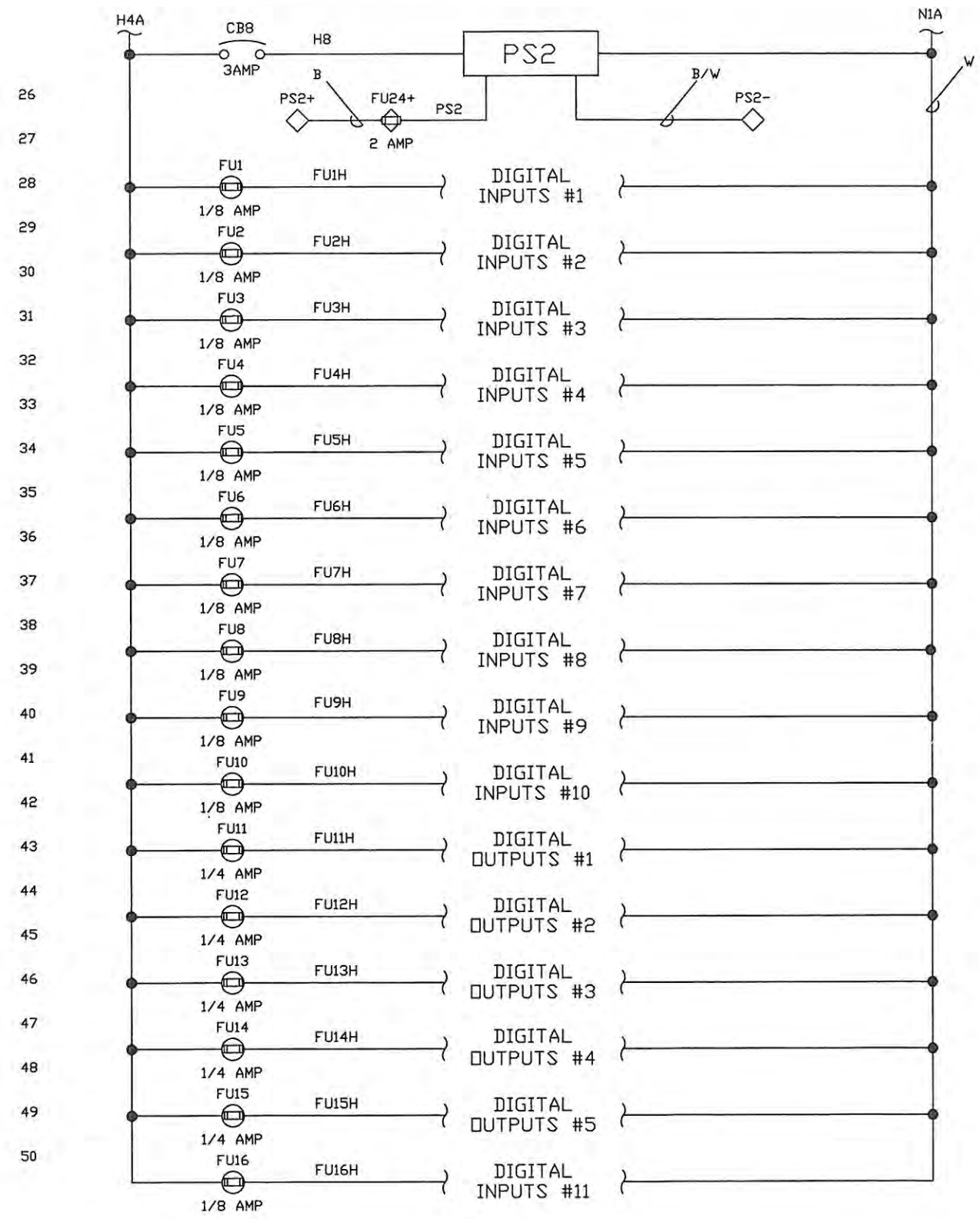
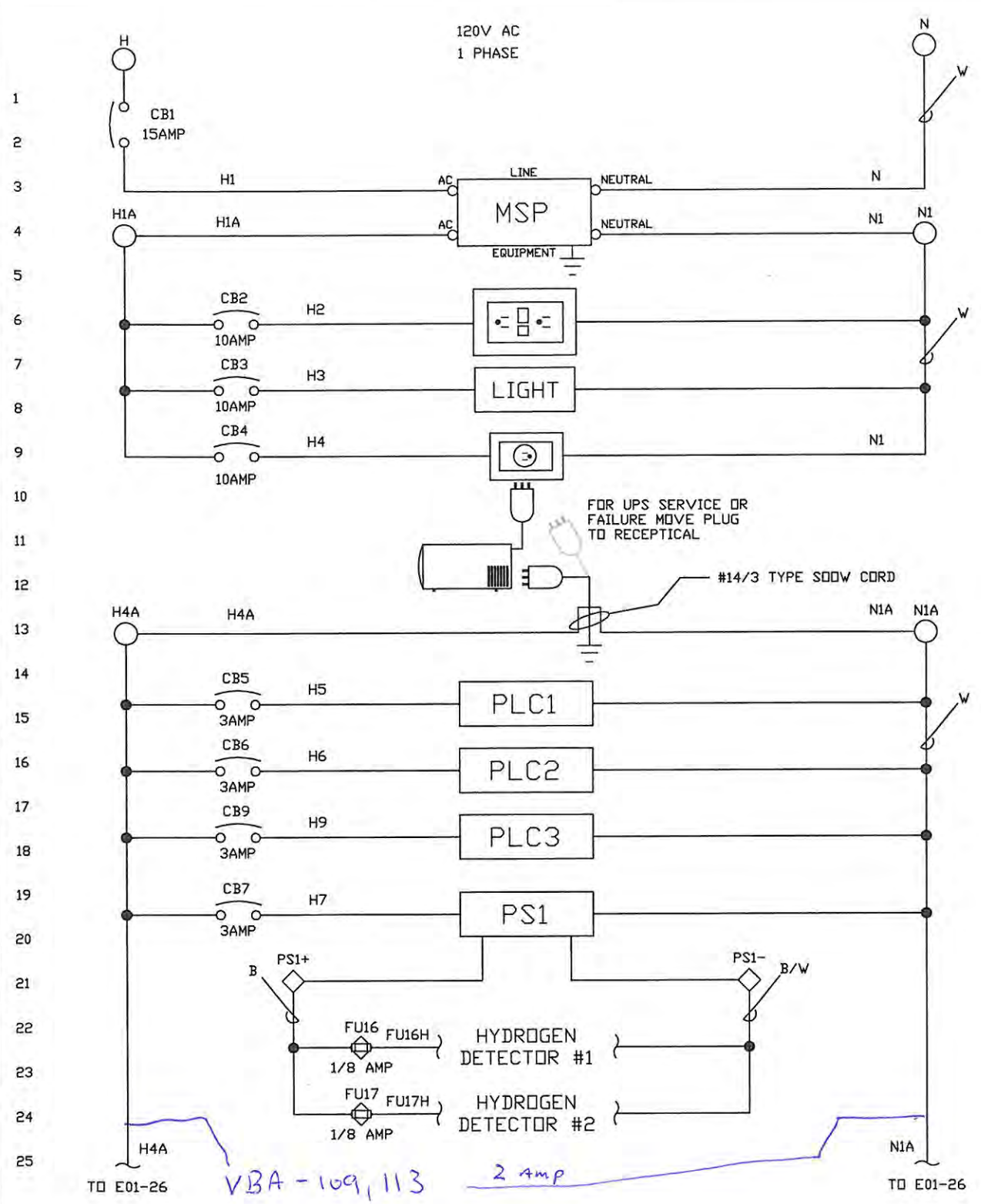


NOTES:

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	DRAWN	
2	08/23/05	AS-BUILT	DRP	D. PENATZER	1/27/05
3	09/19/06	AS-INSTALLED	MD	CHECKED	


ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 Fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 ENCLOSURE (BACK PANEL)	DWG. NO. M02	REV. 3



ALL FIELD WIRING WILL BE IN ACCORDANCE WITH THE (N.E.C) NATIONAL ELECTRIC CODE, AND ALL INTERNATIONAL, STATE, AND LOCAL CODES. ROCHA CONTROLS SHALL NOT BE RESPONSIBLE FOR THIS ACTION.

- NOTES: 1. --- DENOTES FIELD WIRING
2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED.
3. Y DENOTES #14 AWG YELLOW WIRE
4. B DENOTES #14 AWG BLUE WIRE
5. B/W DENOTES #14 AWG BLUE/WHITE TRACER 10.
6. ALL SHIELDED WIRE #18 AWG
7. ○ TBI TERMINAL BLOCK
8. ◇ TBI TERMINAL BLOCK
9. ⊕ TBI FUSED TERMINAL
10. ⊕ TBI FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP	D. PENATZER	1/27/05
3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS

Municipal & Industrial Control Systems

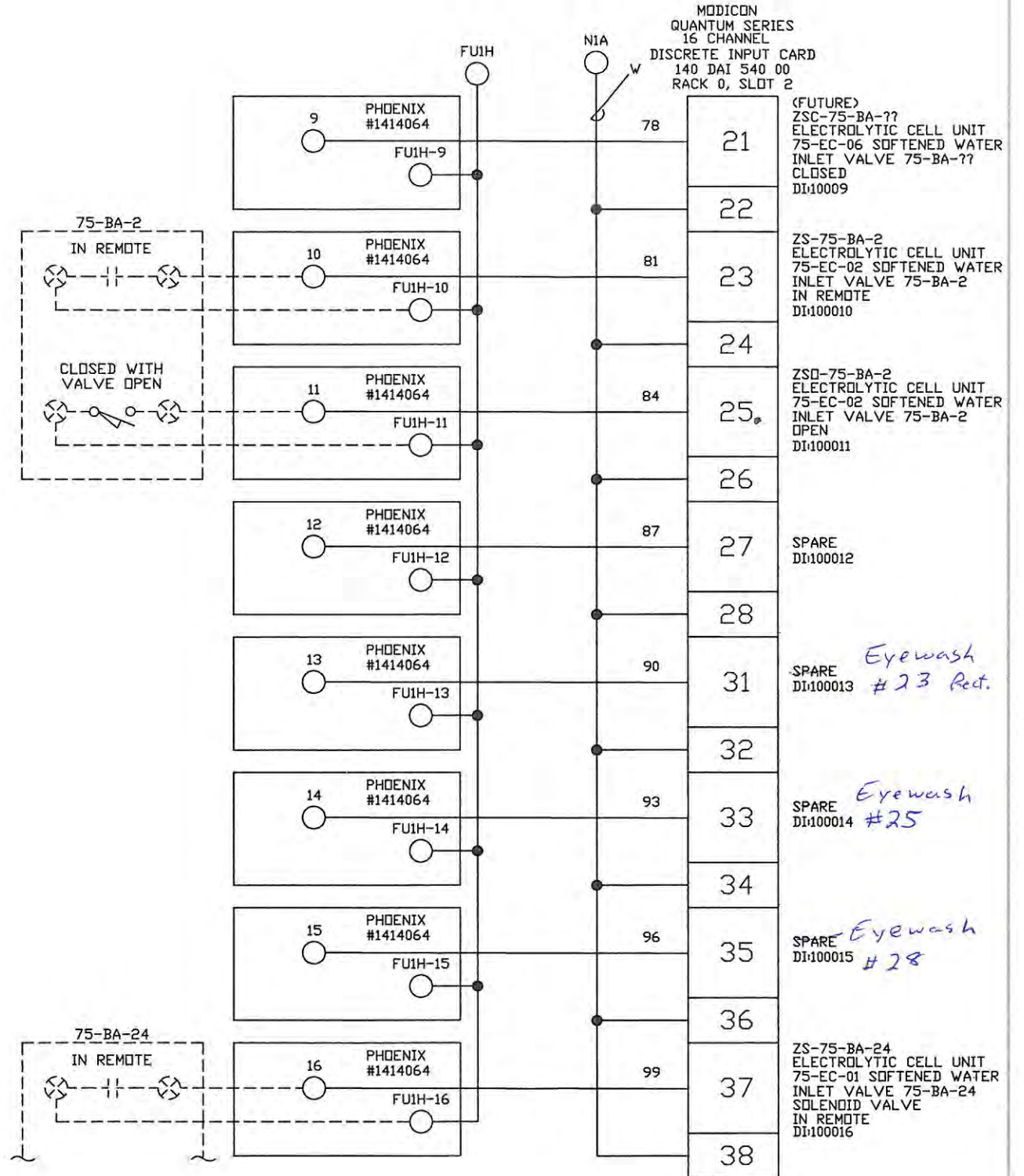
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO.	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 POWER WIRING	DWG. NO.	E01
		REV.	3

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INTERNATIONAL, STATE, AND LOCAL CODES. ROCHA CONTROLS SHALL NOT BE RESPONSIBLE FOR THIS ACTION. ALL FIELD WIRING WILL BE IN ACCORDANCE WITH THE (N.E.C) NATIONAL ELECTRIC CODE, AND ALL

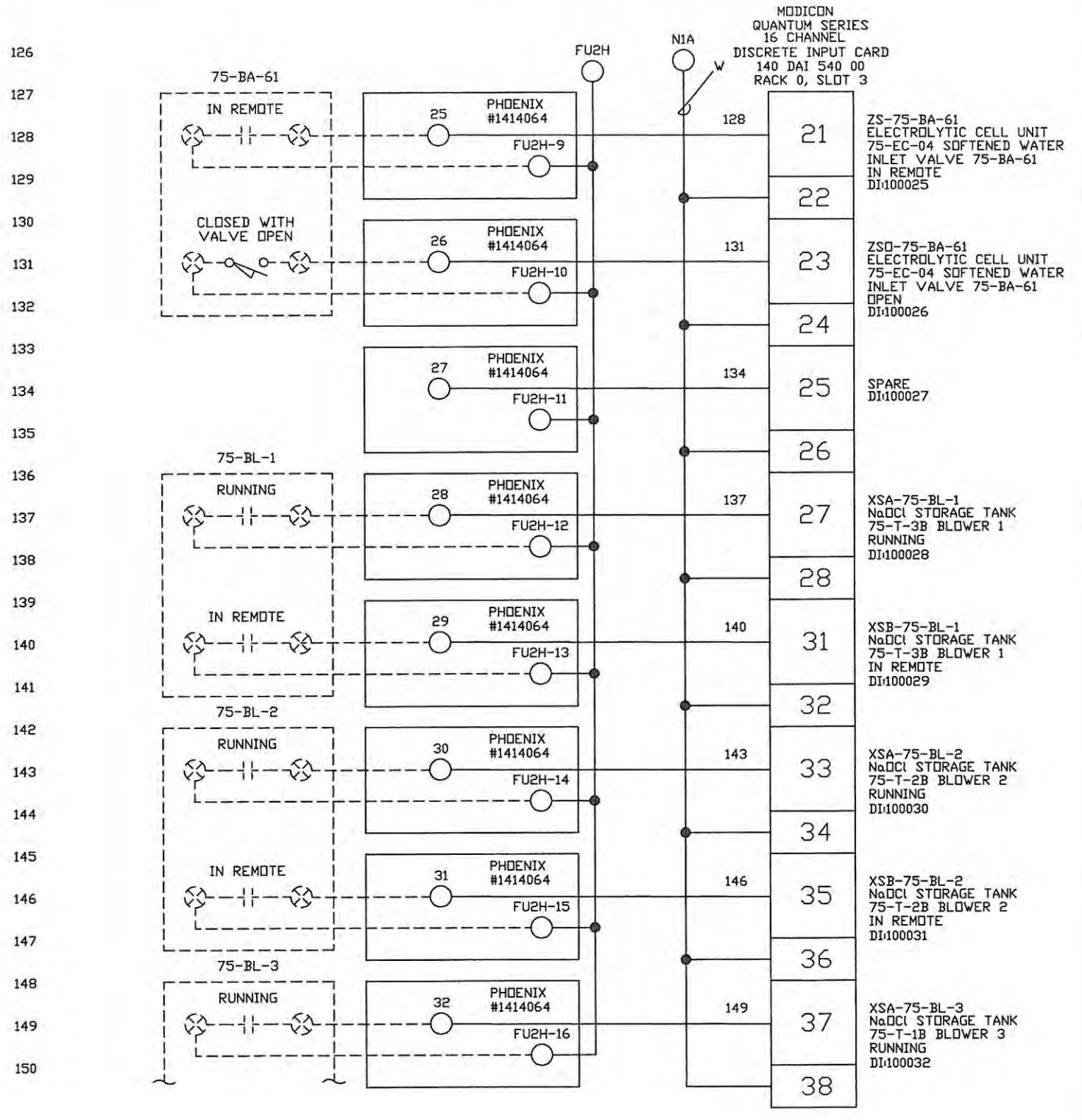
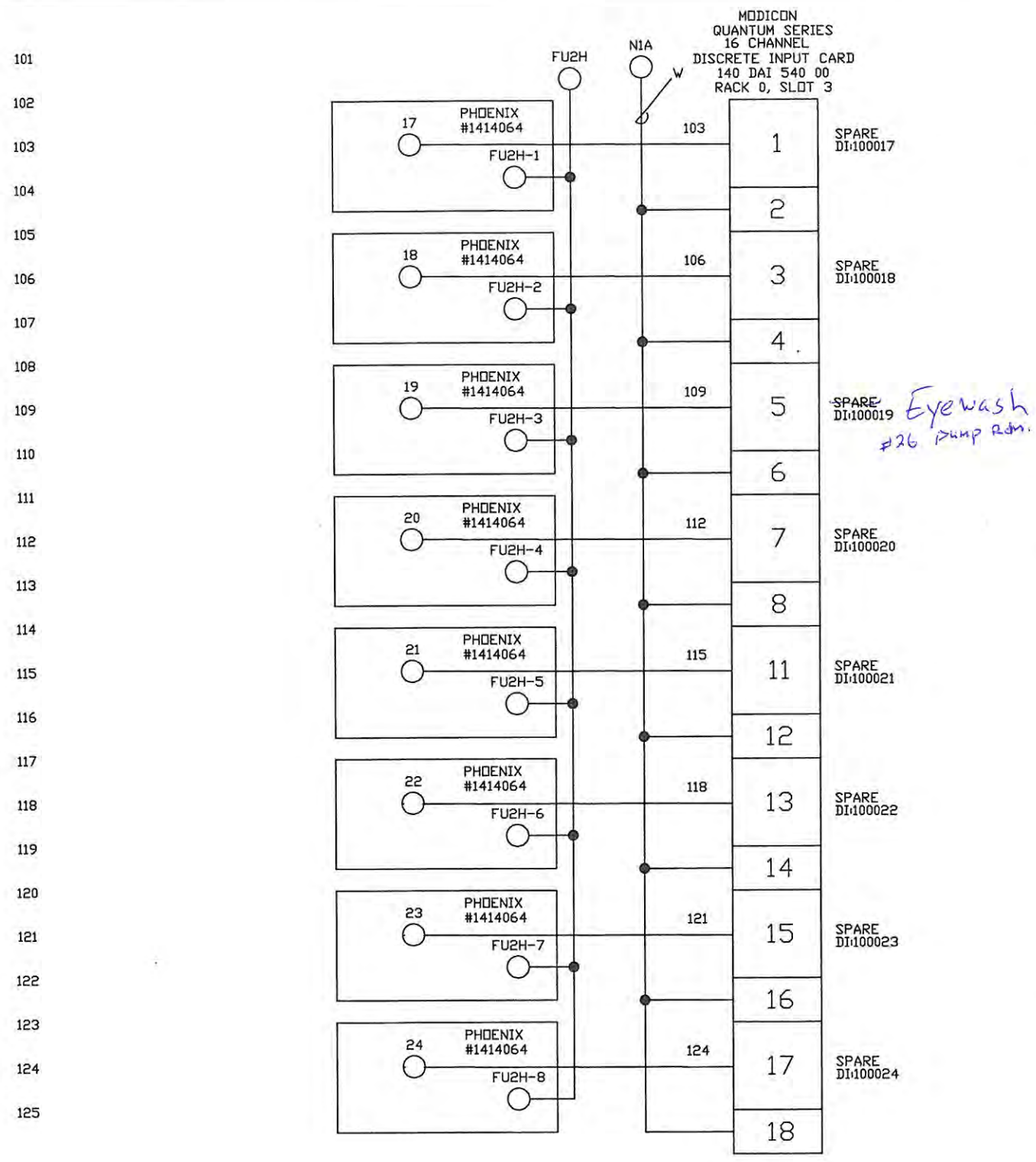
CONFIDENTIAL
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- NOTES: 1. --- DENOTES FIELD WIRING
2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED.
3. Y DENOTES #14 AWG YELLOW WIRE
4. B DENOTES #14 AWG BLUE WIRE
5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AWG
7. ○ TB1 TERMINAL BLOCK
8. ◇ TB2 TERMINAL BLOCK
9. ⊞ TB1 FUSED TERMINAL
10. ⊞ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP	D. PENATZER	1/27/05
3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO.	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 DIGITAL INPUTS #1	DWG. NO.	E02
		REV.	3



INTERNATIONAL, STATE, AND LOCAL CODES. ROCHA CONTROLS SHALL NOT BE RESPONSIBLE FOR THIS ACTION. ALL FIELD WIRING WILL BE IN ACCORDANCE WITH THE (N.E.C) NATIONAL ELECTRIC CODE, AND ALL

- NOTES:
- 1. --- DENOTES FIELD WIRING
 - 2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED.
 - 3. Y DENOTES #14 AWG YELLOW WIRE
 - 4. B DENOTES #14 AWG BLUE WIRE
 - 5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
 - 6. ALL SHIELDED WIRE #18 AWG
 - 7. ○ TBI TERMINAL BLOCK
 - 8. ◇ TBI TERMINAL BLOCK
 - 9. ⊞ TBI FUSED TERMINAL
 - 10. ⊞ TBI FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

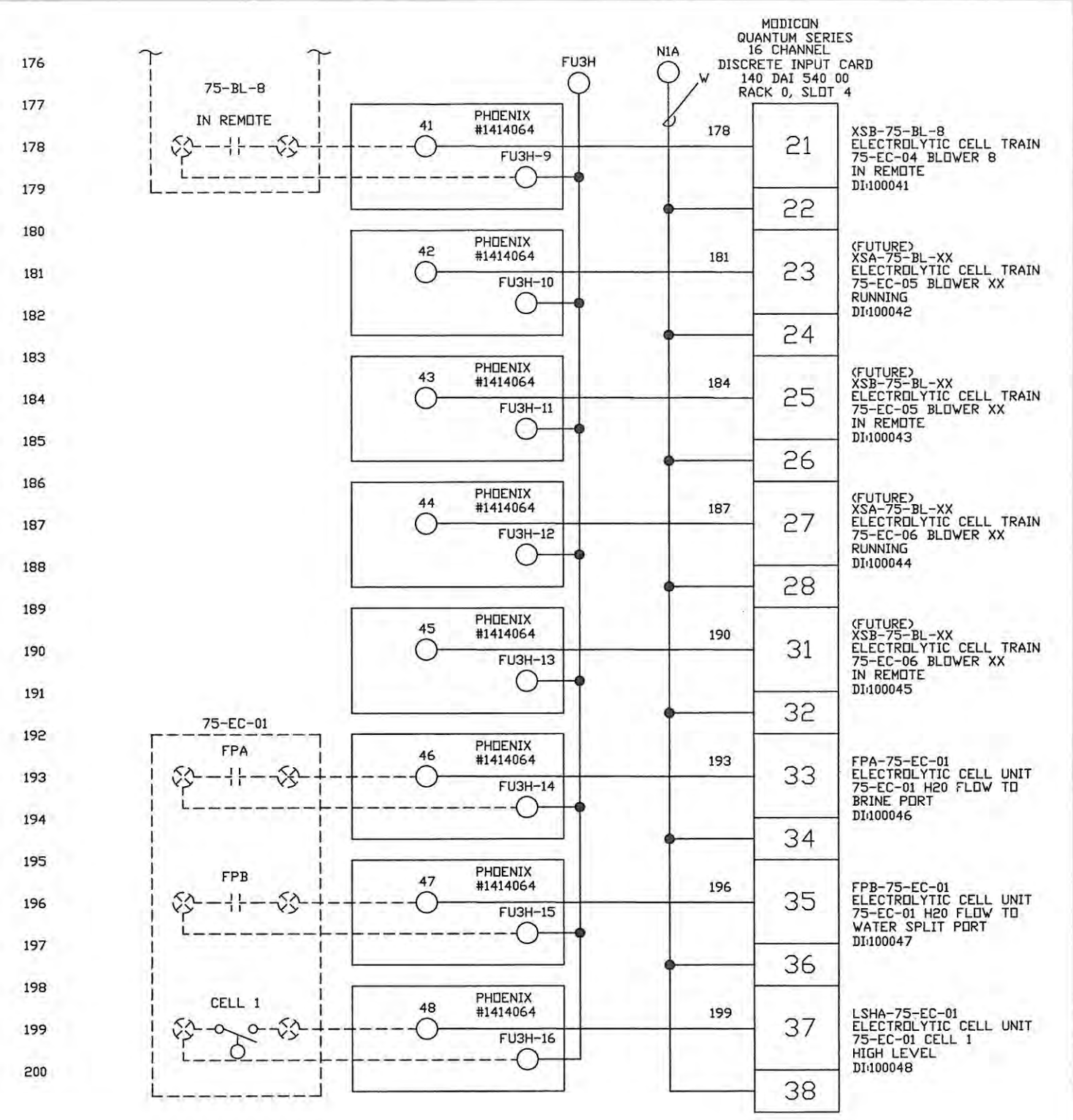
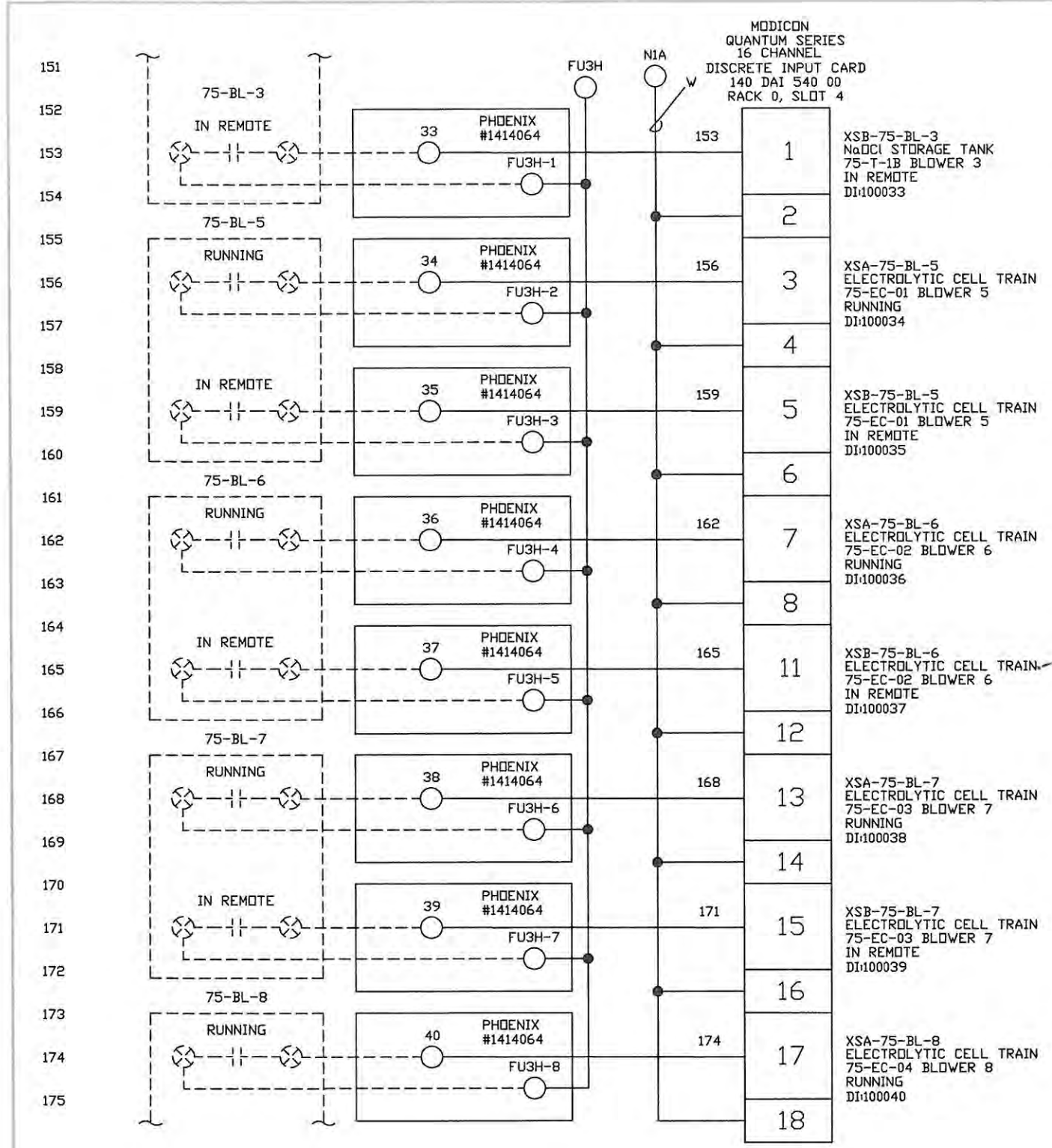
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT ORANGE COUNTY UTILITIES
EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION

TITLE 75-LCP-8
DIGITAL INPUTS #2

CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128	DWG. NO. E03	REV. 3
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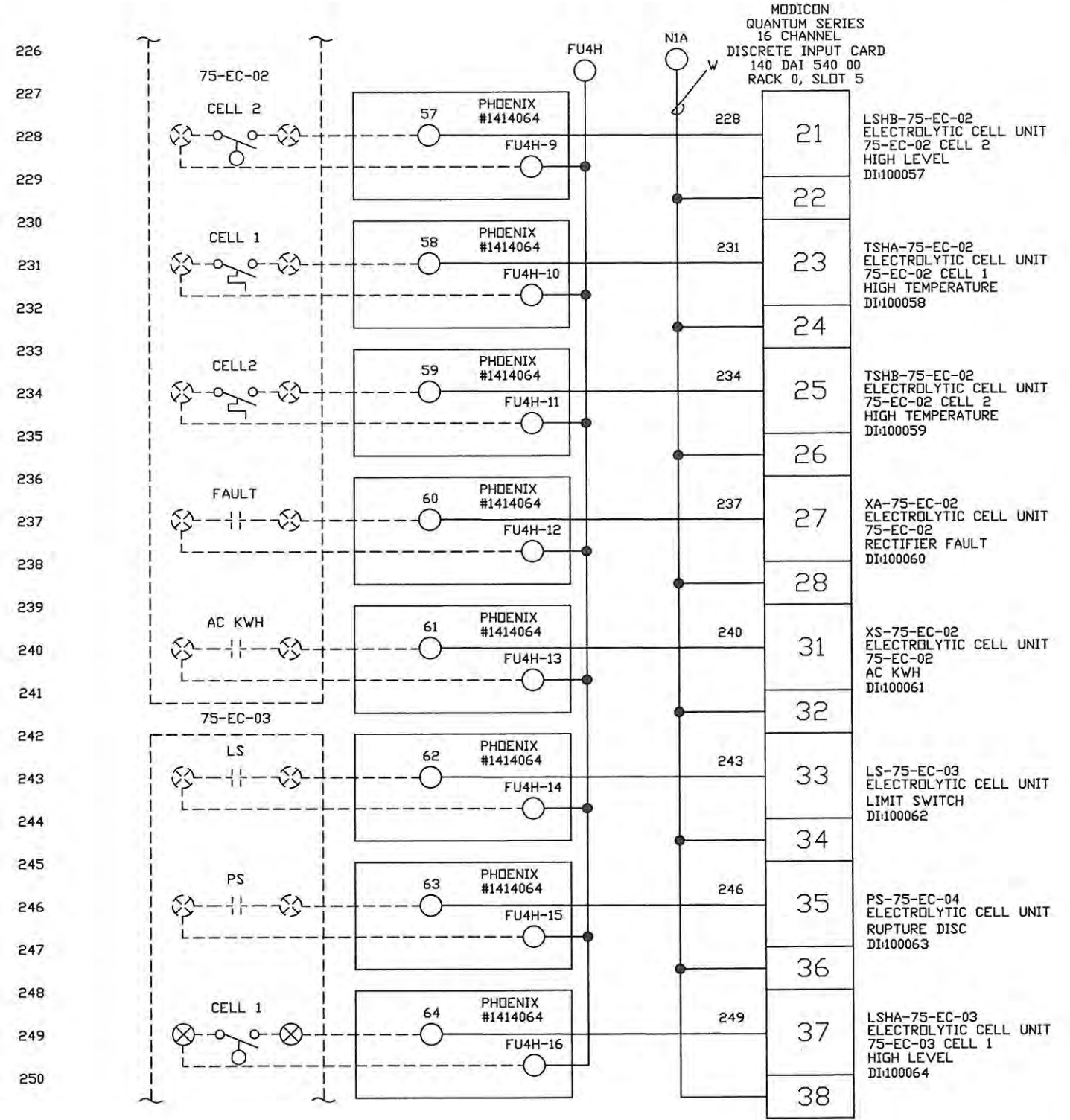
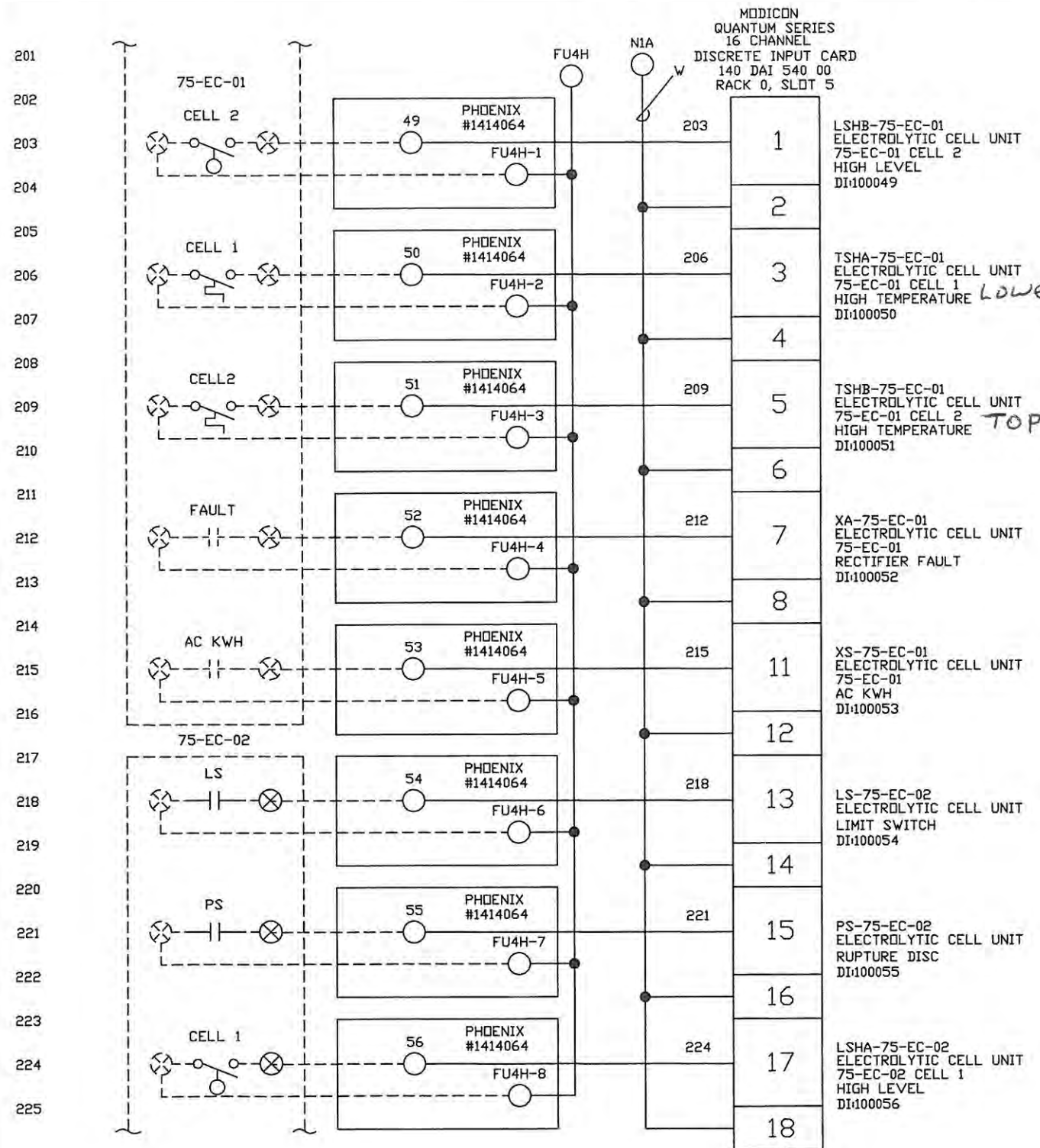
- NOTES:
- 1. --- DENOTES FIELD WIRING
 - 2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AVG RED.
 - 3. Y DENOTES #14 AVG YELLOW WIRE
 - 4. B DENOTES #14 AVG BLUE WIRE
 - 5. B/W DENOTES #14 AVG BLUE/WHITE TRACER
 - 6. ALL SHIELDED WIRE #18 AVG
 - 7. ○ T81 TERMINAL BLOCK
 - 8. ◇ T82 TERMINAL BLOCK
 - 9. □ T81 FUSED TERMINAL
 - 10. ◇ T82 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

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 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 DIGITAL INPUTS #3	DWG. NO. E04	REV. 3

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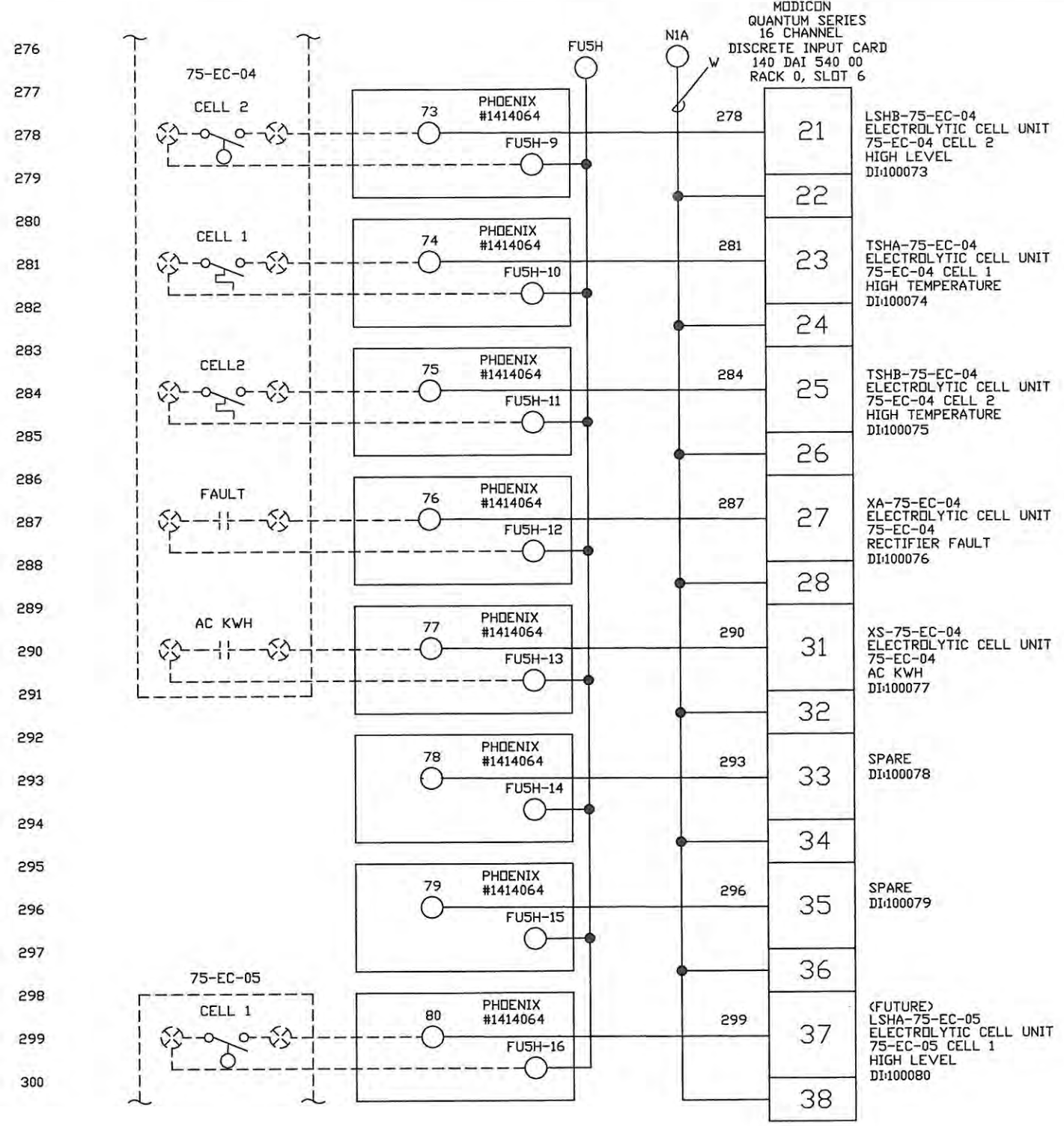
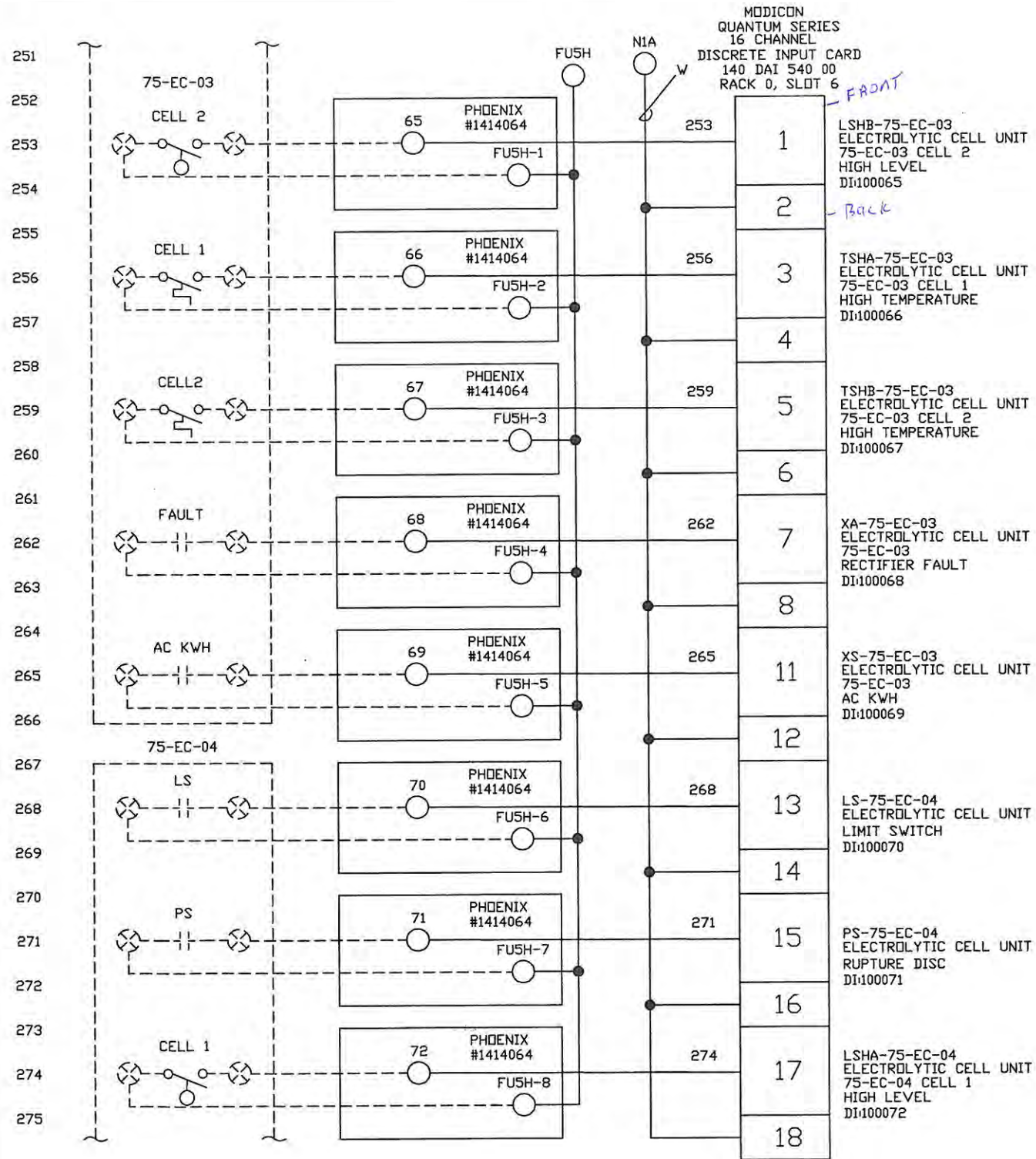
- NOTES: 1. --- DENOTES FIELD WIRING
2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED.
3. Y DENOTES #14 AWG YELLOW WIRE
4. B DENOTES #14 AWG BLUE WIRE
5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AWG
7. ○ TB1 TERMINAL BLOCK
8. ◇ TB2 TERMINAL BLOCK
9. ⊕ TB1 FUSED TERMINAL
10. ⊕ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

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CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 DIGITAL INPUTS #4	DWG. NO. E05
	REV. 3



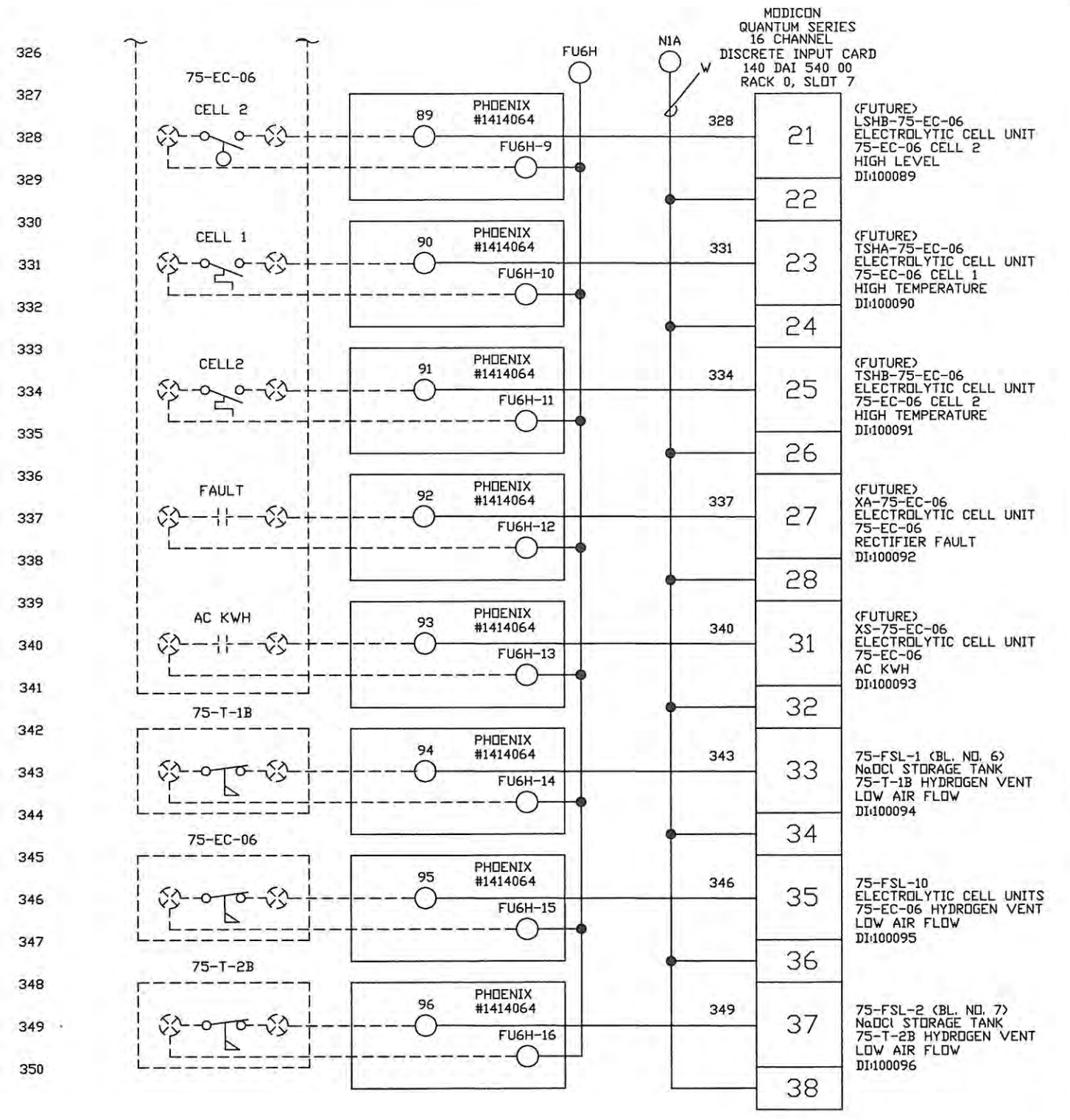
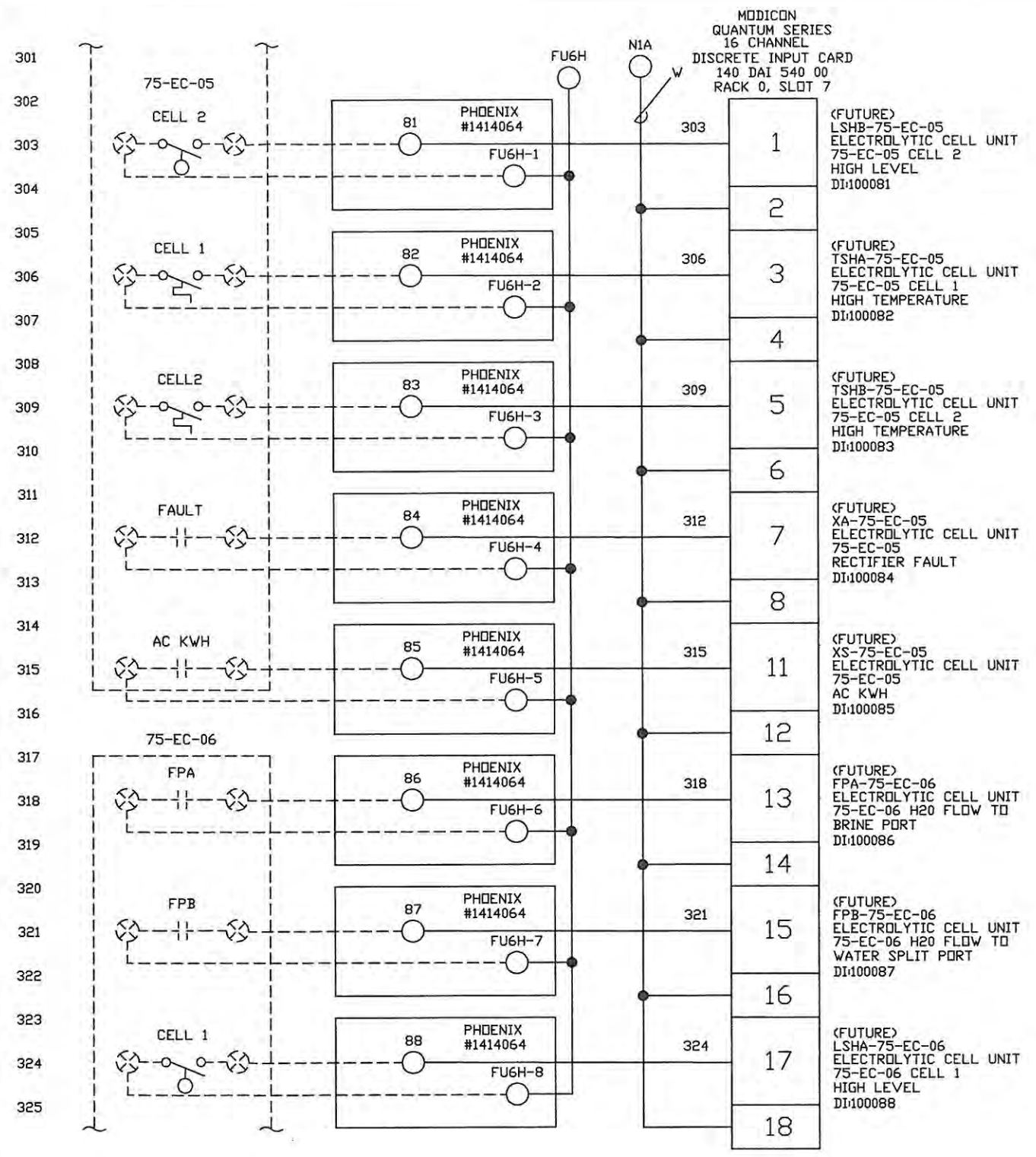
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- NOTES:
- DENOTES FIELD WIRING
 - UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED.
 - Y DENOTES #14 AWG YELLOW WIRE
 - B DENOTES #14 AWG BLUE WIRE
 - B/W DENOTES #14 AWG BLUE/WHITE TRACER
 - ALL SHIELDED WIRE #18 AWG
 - TB1 TERMINAL BLOCK
 - ◇ TB2 TERMINAL BLOCK
 - ⊞ TB1 FUSED TERMINAL
 - ⊞ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

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CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 DIGITAL INPUTS #5	DWG. NO. E06	REV. 3



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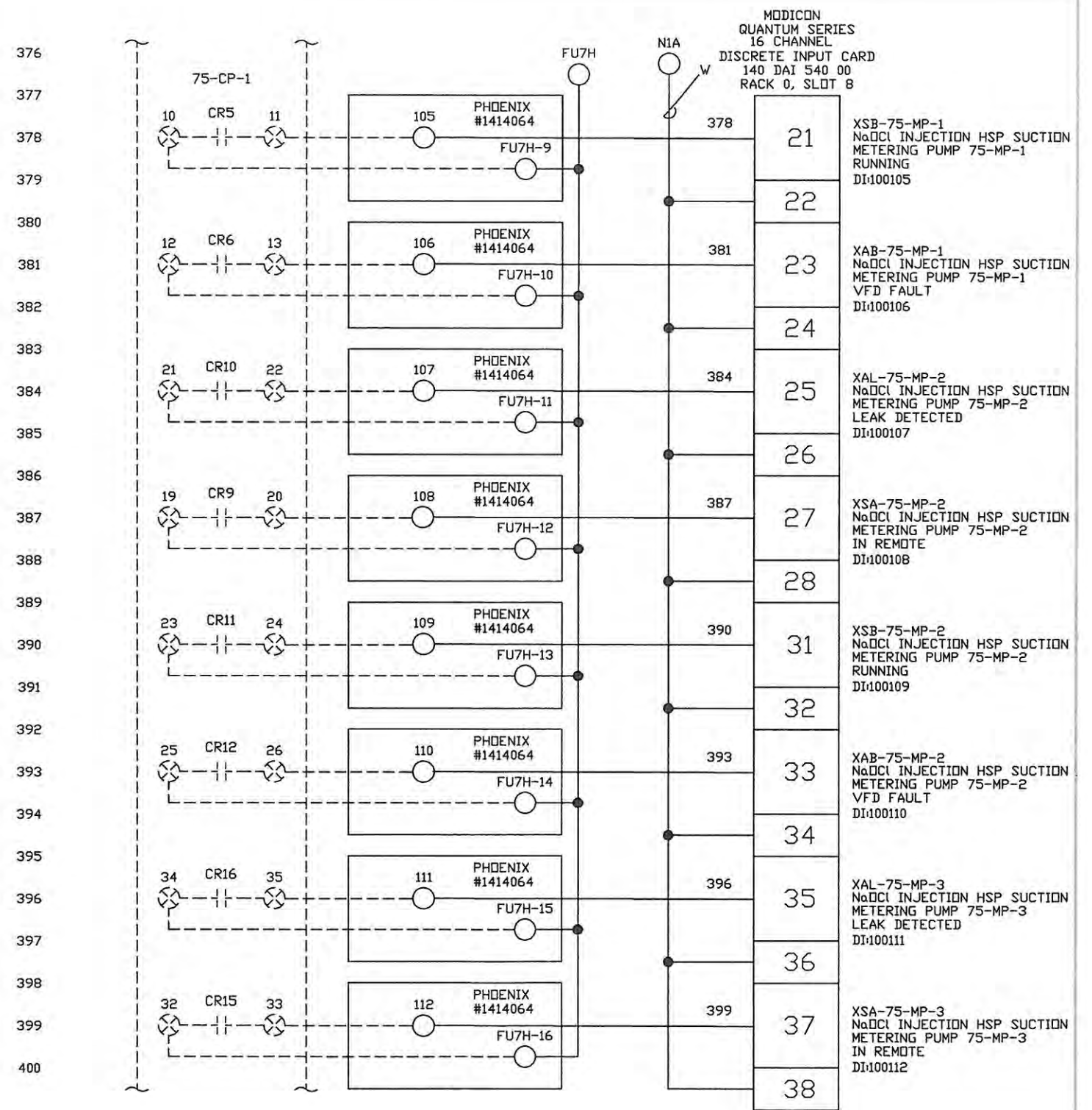
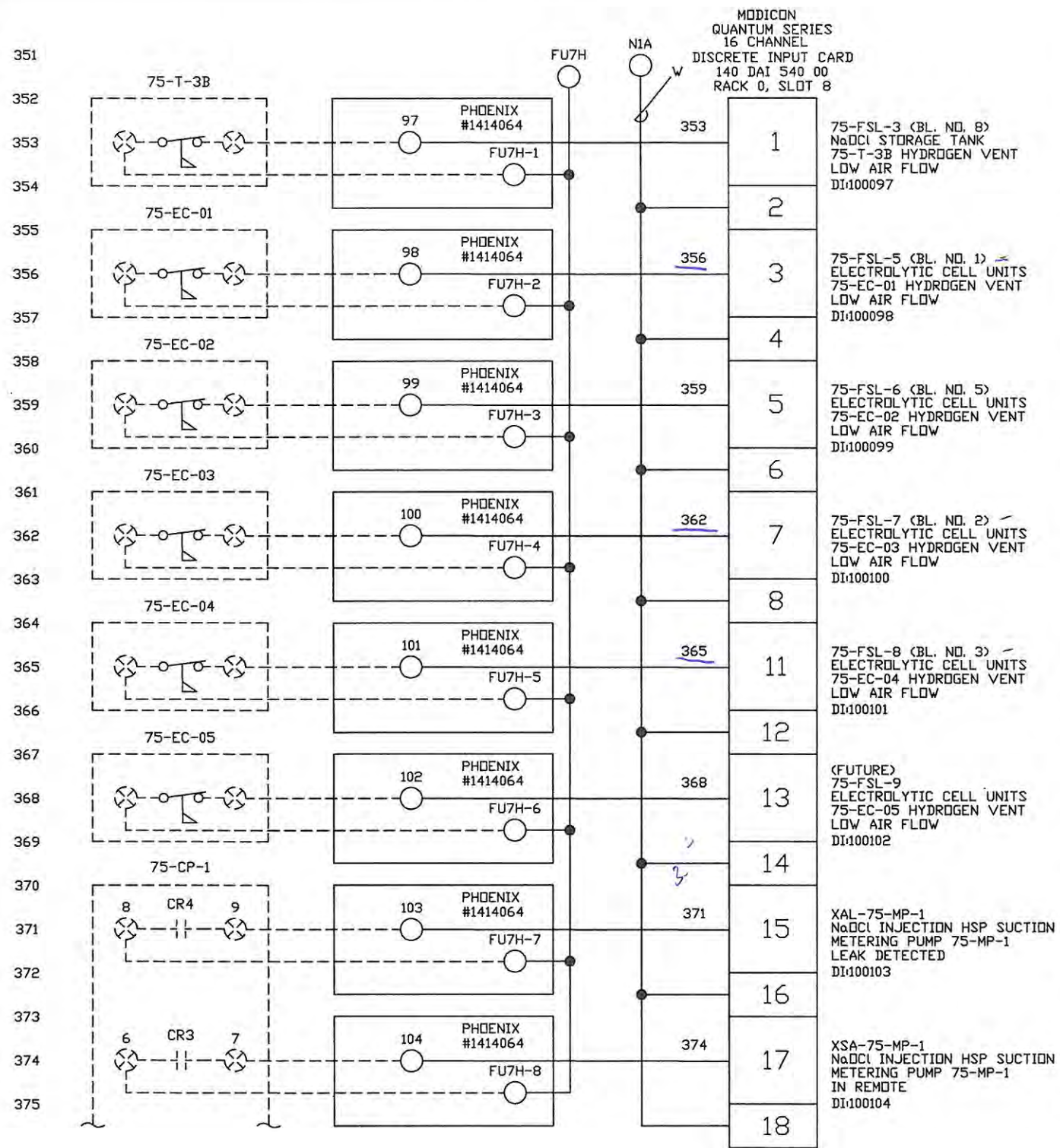
- NOTES: 1. --- DENOTES FIELD WIRING
 2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AVG RED.
 3. Y DENOTES #14 AVG YELLOW WIRE
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 5. B/W DENOTES #14 AVG BLUE/WHITE TRACER
 6. ALL SHIELDED WIRE #18 AVG
 7. ○ TB1 TERMINAL BLOCK
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 9. ⊕ TB1 FUSED TERMINAL
 10. ⊕ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

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TITLE 75-LCP-8 DIGITAL INPUTS #6	DWG. NO. E07	REV. 3



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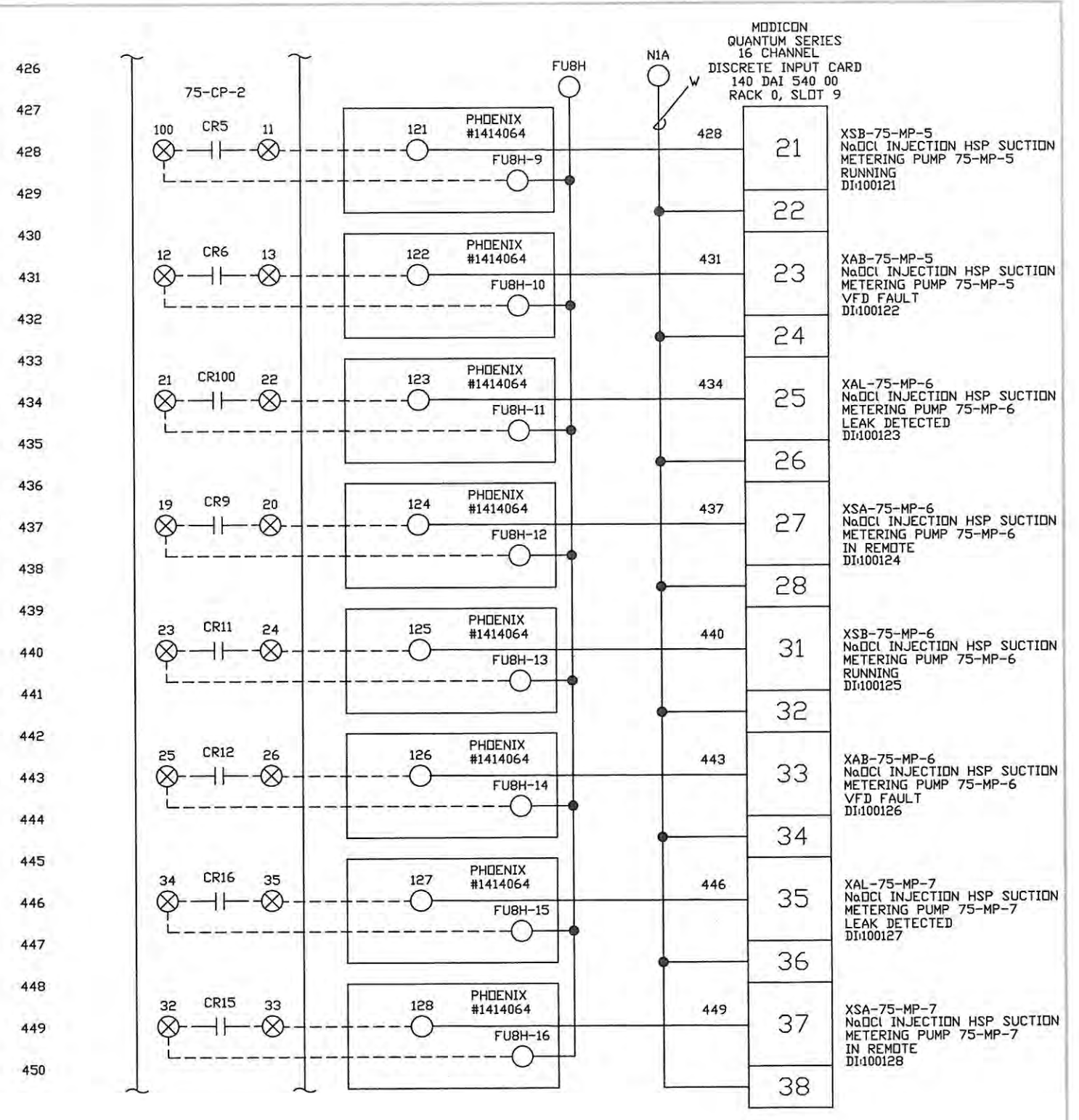
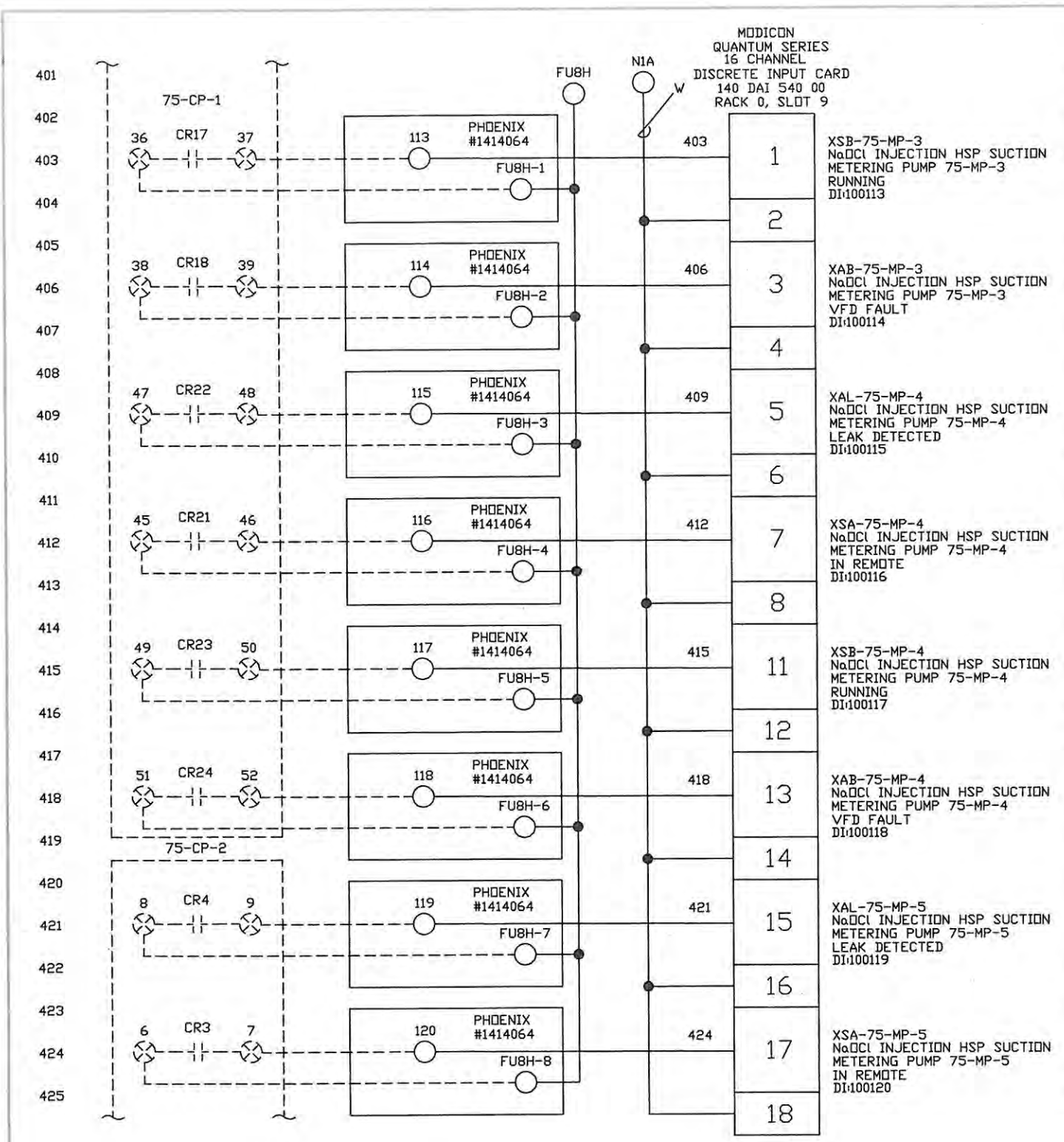
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REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

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CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO.	
TITLE	75-LCP-8 DIGITAL INPUTS #7	ROCHA CONTROLS INC. PROJ. NO. 2-3-128	
		DWG. NO.	EOB
		REV.	3



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- NOTES:
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 - Y DENOTES #14 AVG YELLOW WIRE
 - B DENOTES #14 AVG BLUE WIRE
 - B/W DENOTES #14 AVG BLUE/WHITE TRACER
 - ALL SHIELDED WIRE #18 AVG
 - T81 TERMINAL BLOCK
 - ◇ T82 TERMINAL BLOCK
 - T81 FUSED TERMINAL
 - ◇ T82 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	DRAWN	1/27/05
2	08/23/05	AS-BUILT	DRP	D. PENATZER	1/27/05
3	09/19/06	AS-INSTALLED	MD	CHECKED	

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Municipal & Industrial Control Systems
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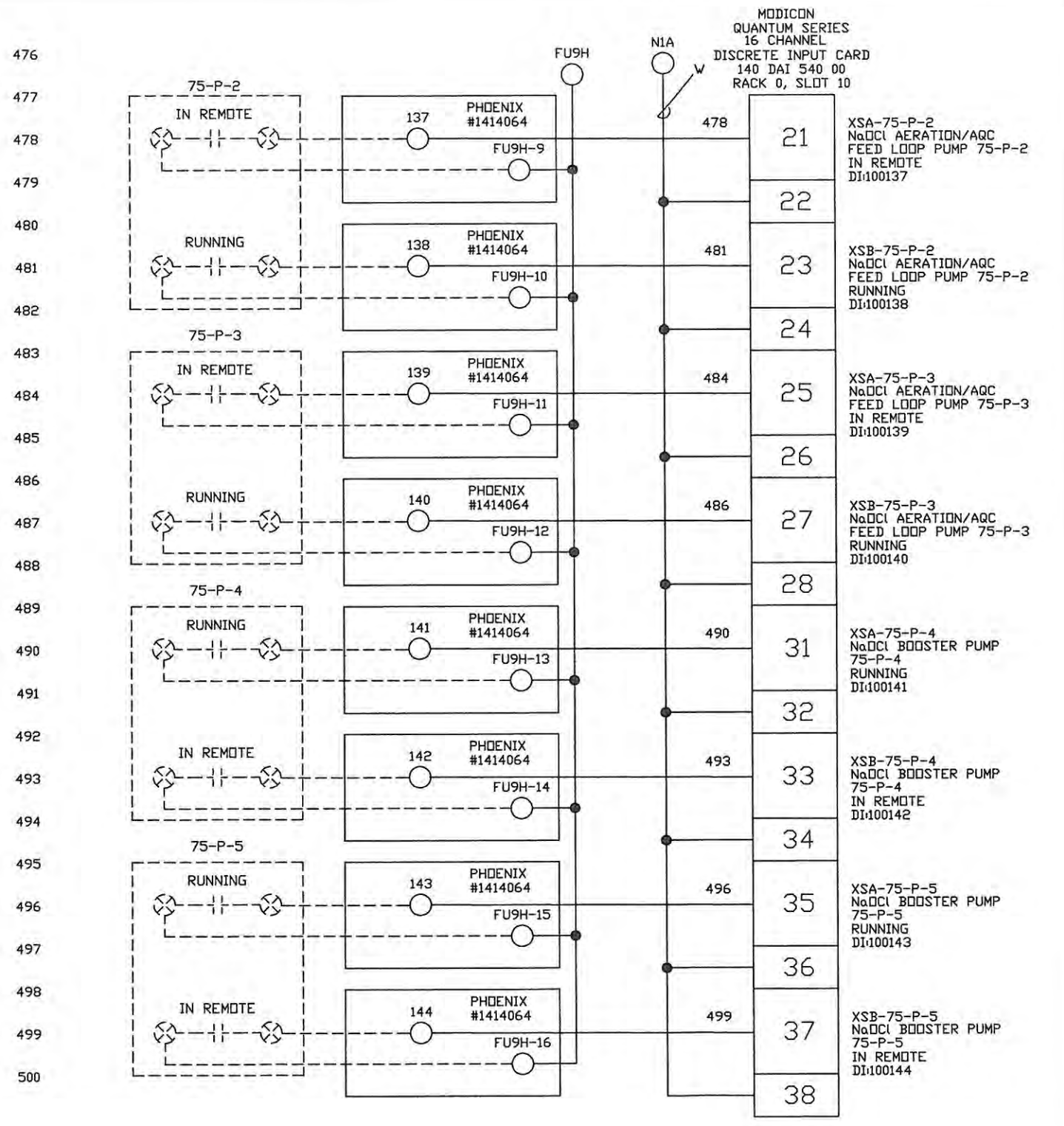
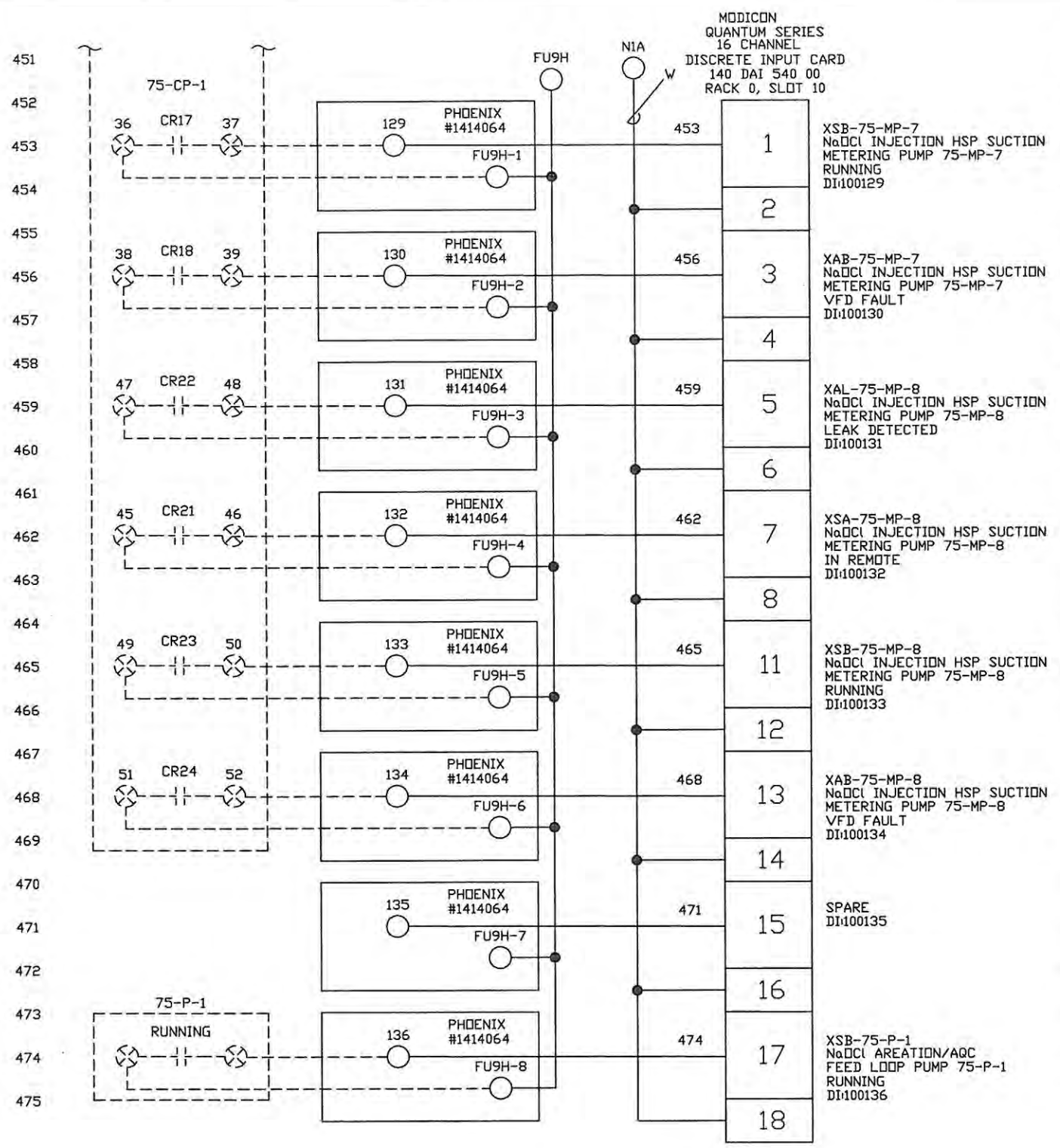
CLIENT ORANGE COUNTY UTILITIES
EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION

TITLE 75-LCP-8
DIGITAL INPUTS #8

CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128

DWG. NO. E09

REV. 3



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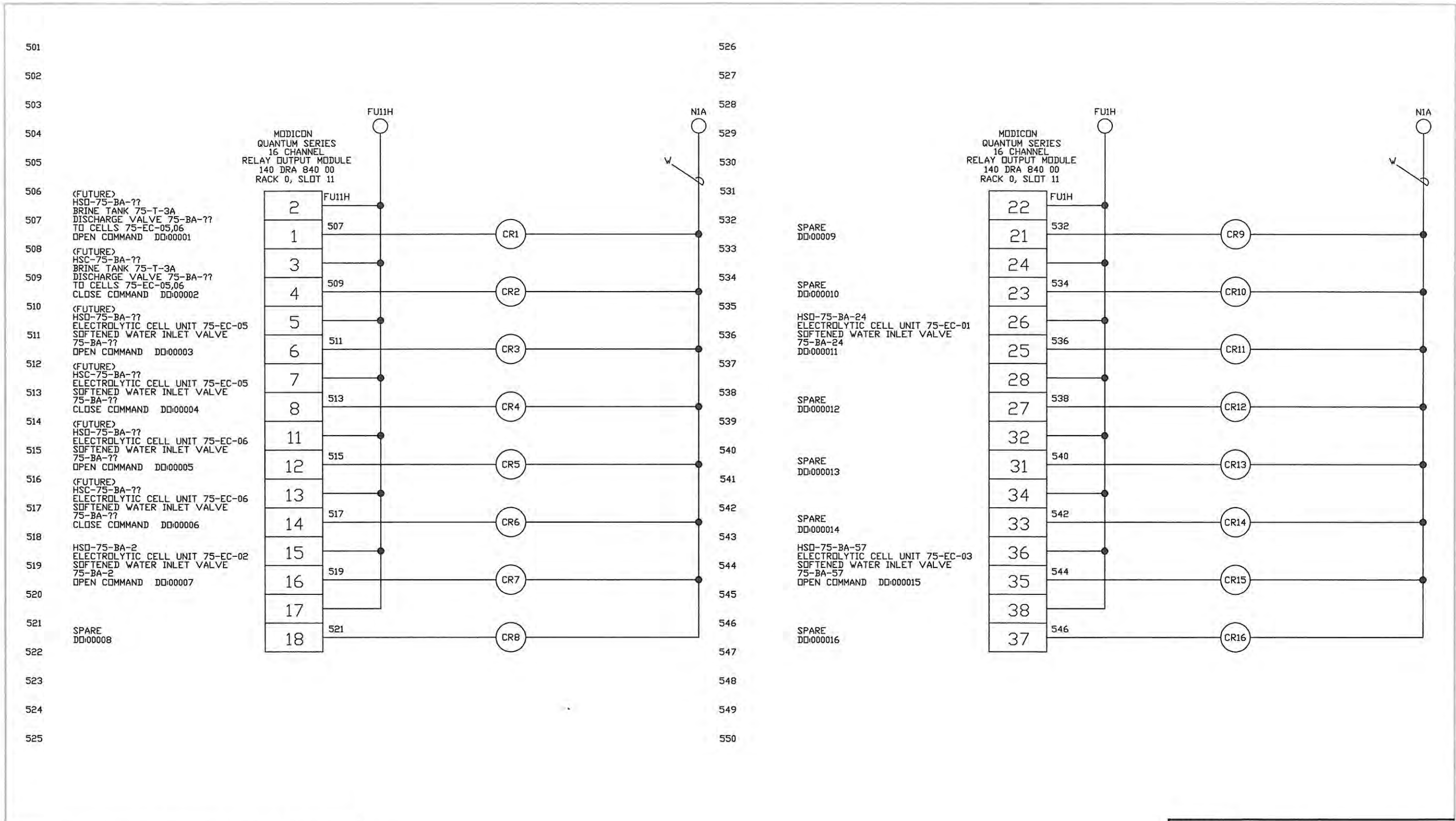
- NOTES:
- DENOTES FIELD WIRING
 - UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED.
 - Y DENOTES #14 AWG YELLOW WIRE
 - B DENOTES #14 AWG BLUE WIRE
 - B/W DENOTES #14 AWG BLUE/WHITE TRACER
 - ALL SHIELDED WIRE #18 AWG
 - T81 TERMINAL BLOCK
 - ◇ T82 TERMINAL BLOCK
 - ⊞ T81 FUSED TERMINAL
 - ⊞ T82 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

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CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 DIGITAL INPUTS #9	DWG. NO. E10	REV. 3



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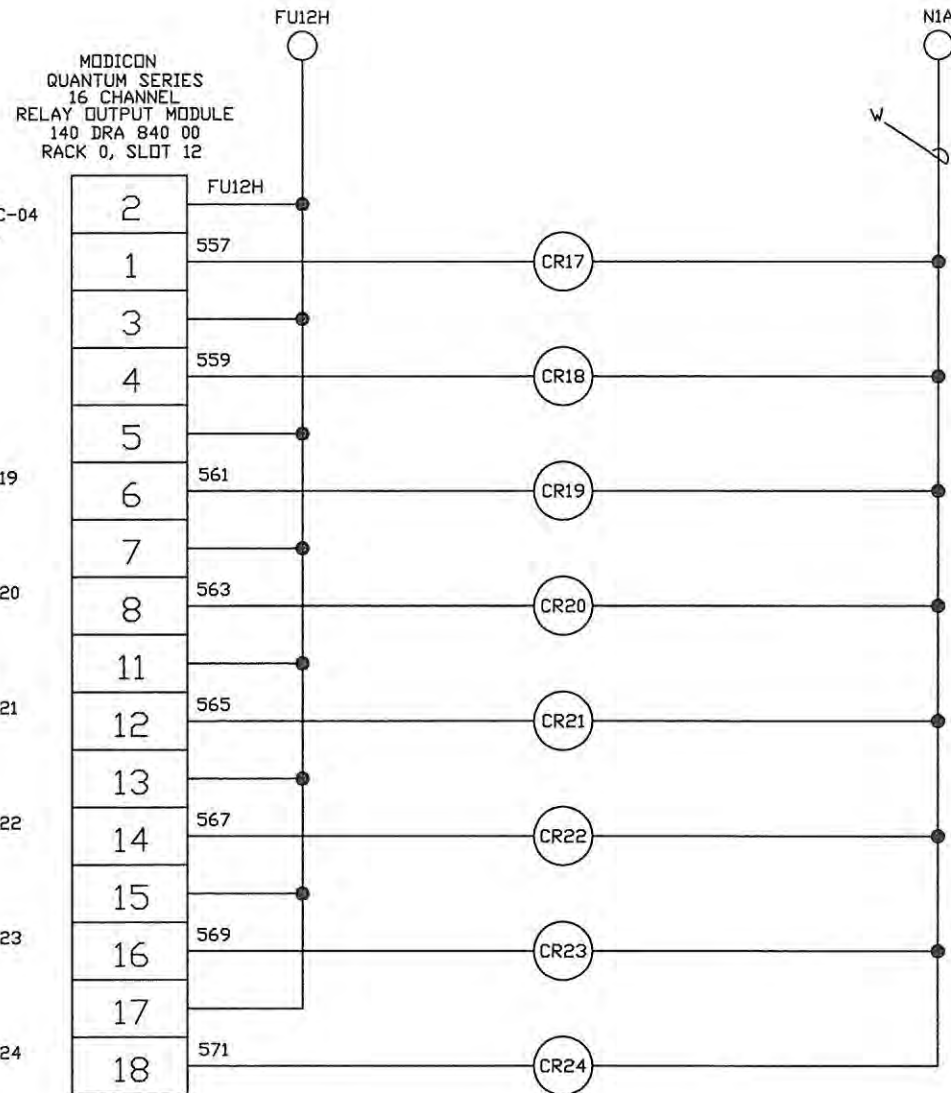
- NOTES:
- 1. --- DENOTES FIELD WIRING
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 - 3. Y DENOTES #14 AWG YELLOW WIRE
 - 4. B DENOTES #14 AWG BLUE WIRE
 - 5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
 - 6. ALL SHIELDED WIRE #18 AWG
 - 7. ○ T81 TERMINAL BLOCK
 - 8. ◇ T82 TERMINAL BLOCK
 - 9. ⊕ T81 FUSED TERMINAL
 - 10. ⊕ T82 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	DRAWN D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 DIGITAL OUTPUTS #1	DWG. NO. E11	REV. 3

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HSD-75-BA-61
ELECTROLYTIC CELL UNIT 75-EC-04
SOFTENED WATER INLET VALVE
75-BA-61
OPEN COMMAND DD000017

SPARE
DD000018

HSR-75-BL-1
NaOCl STORAGE TANK 75-T-3B
BLOWER 1
CALL TO RUN COMMAND DD000019

HSR-75-BL-2
NaOCl STORAGE TANK 75-T-2B
BLOWER 2
CALL TO RUN COMMAND DD000020

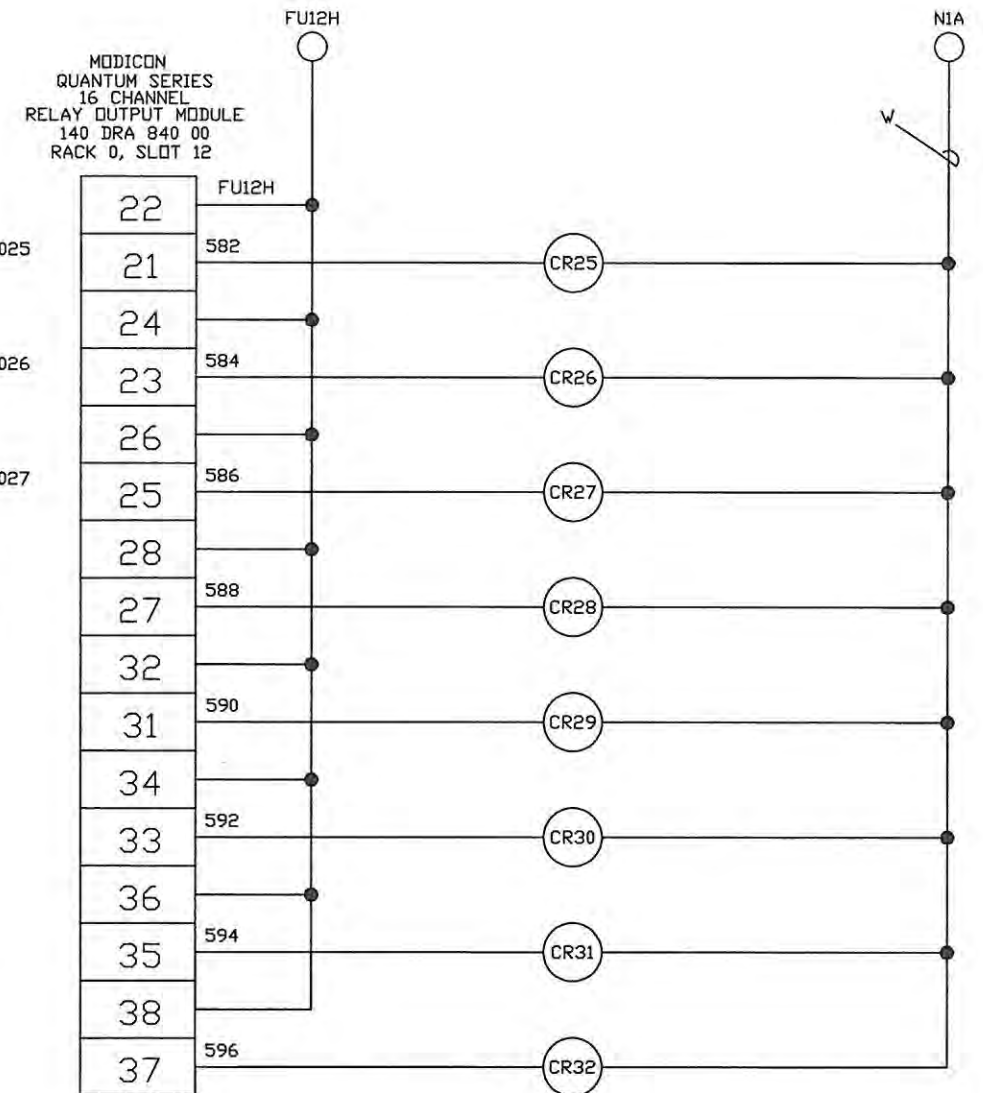
HSR-75-BL-3
NaOCl STORAGE TANK 75-T-1B
BLOWER 3
CALL TO RUN COMMAND DD000021

HSR-75-BL-5
ELECTROLYTIC CELL TRAIN
75-EC-01 BLOWER 5
CALL TO RUN COMMAND DD000022

HSR-75-BL-6
ELECTROLYTIC CELL TRAIN
75-EC-02 BLOWER 6
CALL TO RUN COMMAND DD000023

HSR-75-BL-7
ELECTROLYTIC CELL TRAIN
75-EC-03 BLOWER 7
CALL TO RUN COMMAND DD000024

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HSR-75-BL-8
ELECTROLYTIC CELL TRAIN
75-EC-04 BLOWER 8
CALL TO RUN COMMAND DD000025

(FUTURE)
HSR-75-BL-XX
ELECTROLYTIC CELL TRAIN
75-EC-05 BLOWER XX
CALL TO RUN COMMAND DD000026

(FUTURE)
HSR-75-BL-XX
ELECTROLYTIC CELL TRAIN
75-EC-06 BLOWER XX
CALL TO RUN COMMAND DD000027

HSS-75-EC-01
ELECTROLYTIC CELL UNIT
75-EC-01 RECTIFIER
START COMMAND DD000028

SPARE
DD000029

SPARE
DD000030

HSS-75-EC-02
ELECTROLYTIC CELL UNIT
75-EC-02 RECTIFIER
START COMMAND DD000031

SPARE
DD000032

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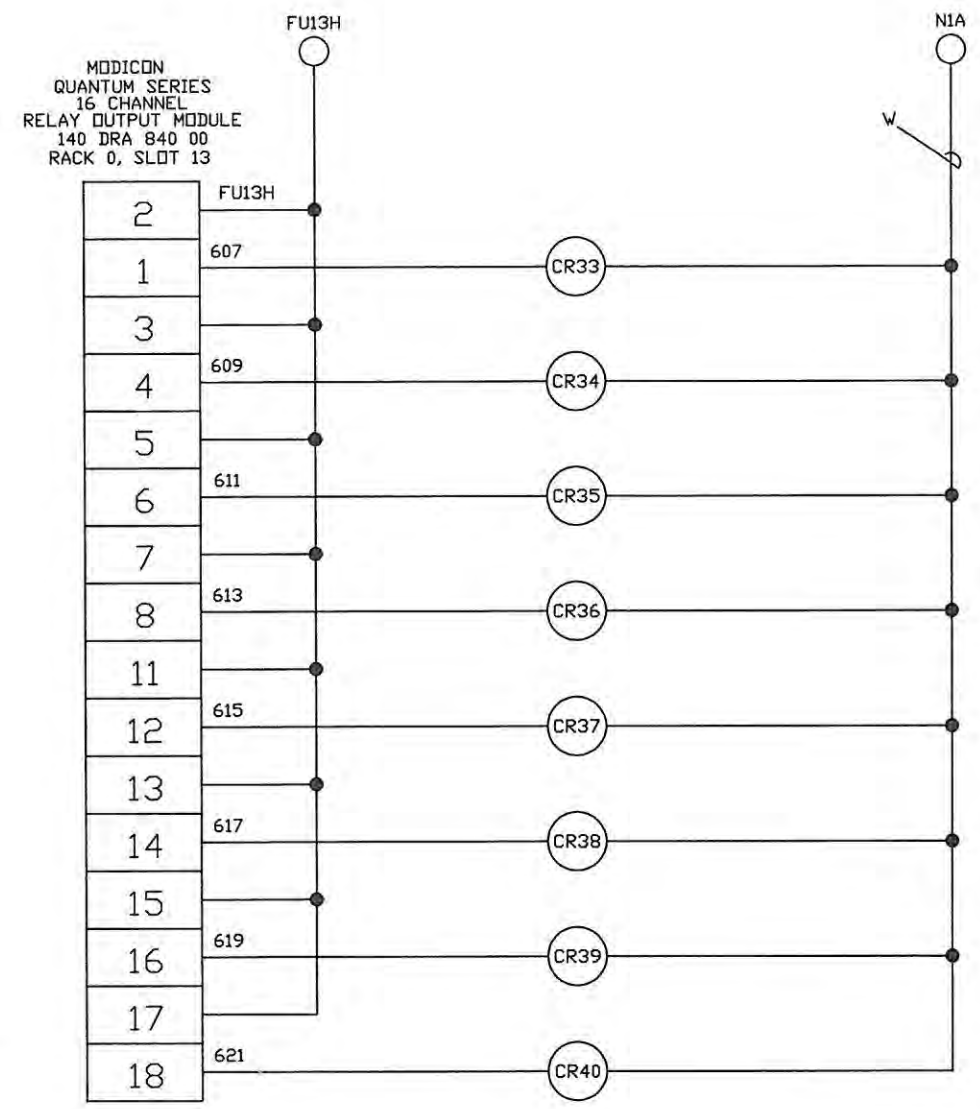
- NOTES: 1. --- DENOTES FIELD WIRING
2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED.
3. Y DENOTES #14 AWG YELLOW WIRE
4. B DENOTES #14 AWG BLUE WIRE
5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AWG
7. ○ TB1 TERMINAL BLOCK
8. ◇ TB2 TERMINAL BLOCK
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10. ⊕ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

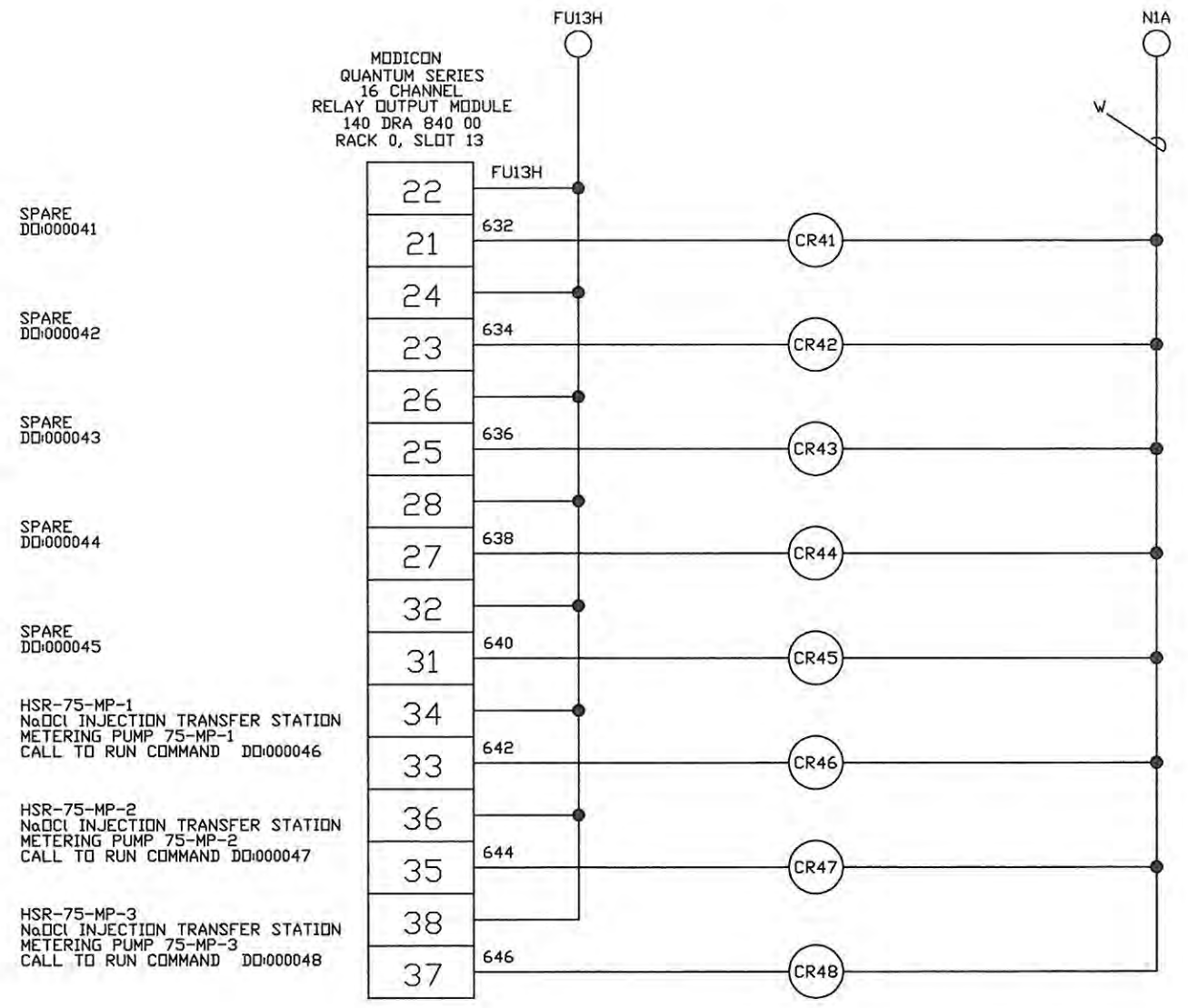
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO.	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 DIGITAL OUPUTS #2	DWG. NO.	E12
		REV.	3

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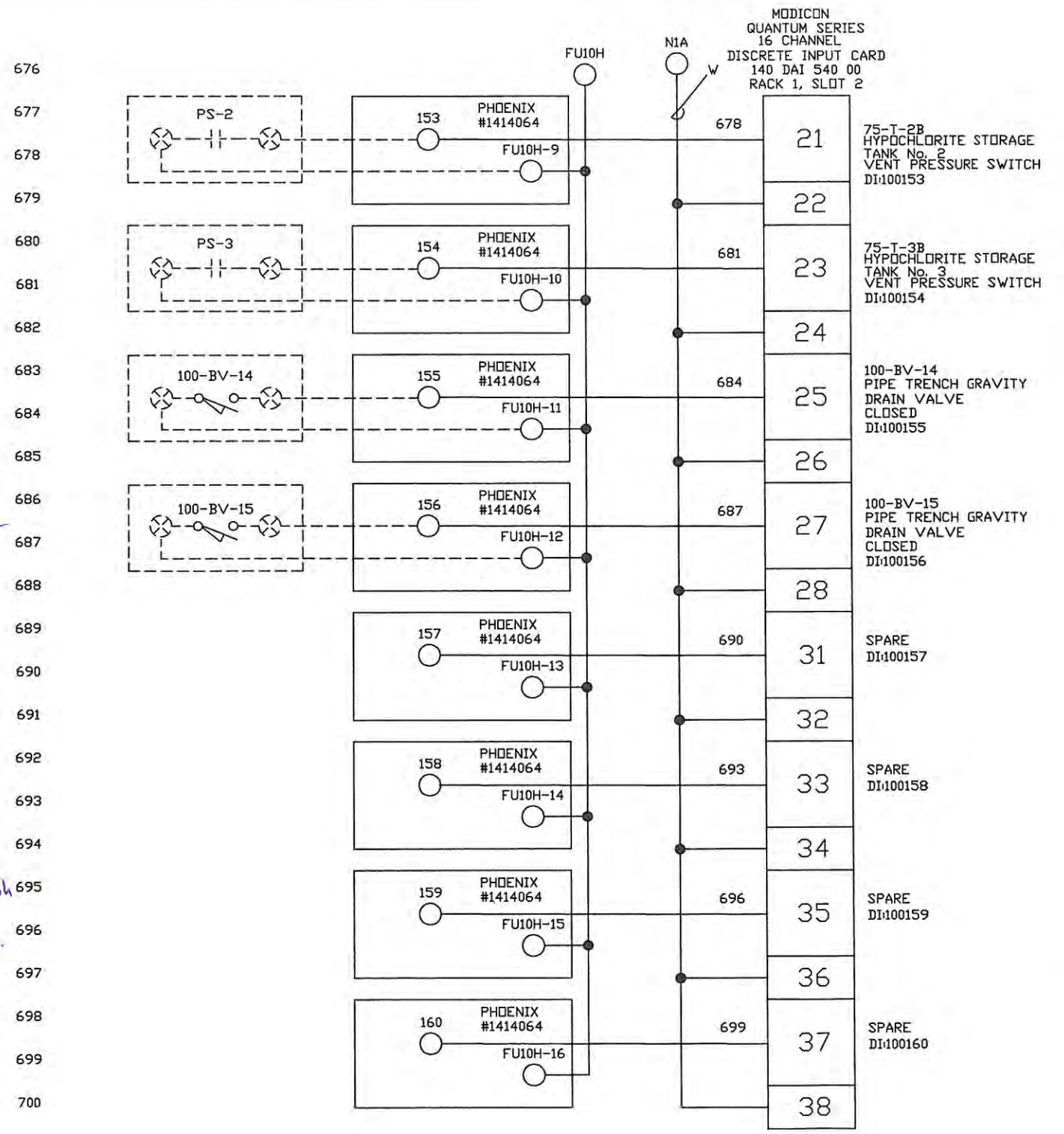
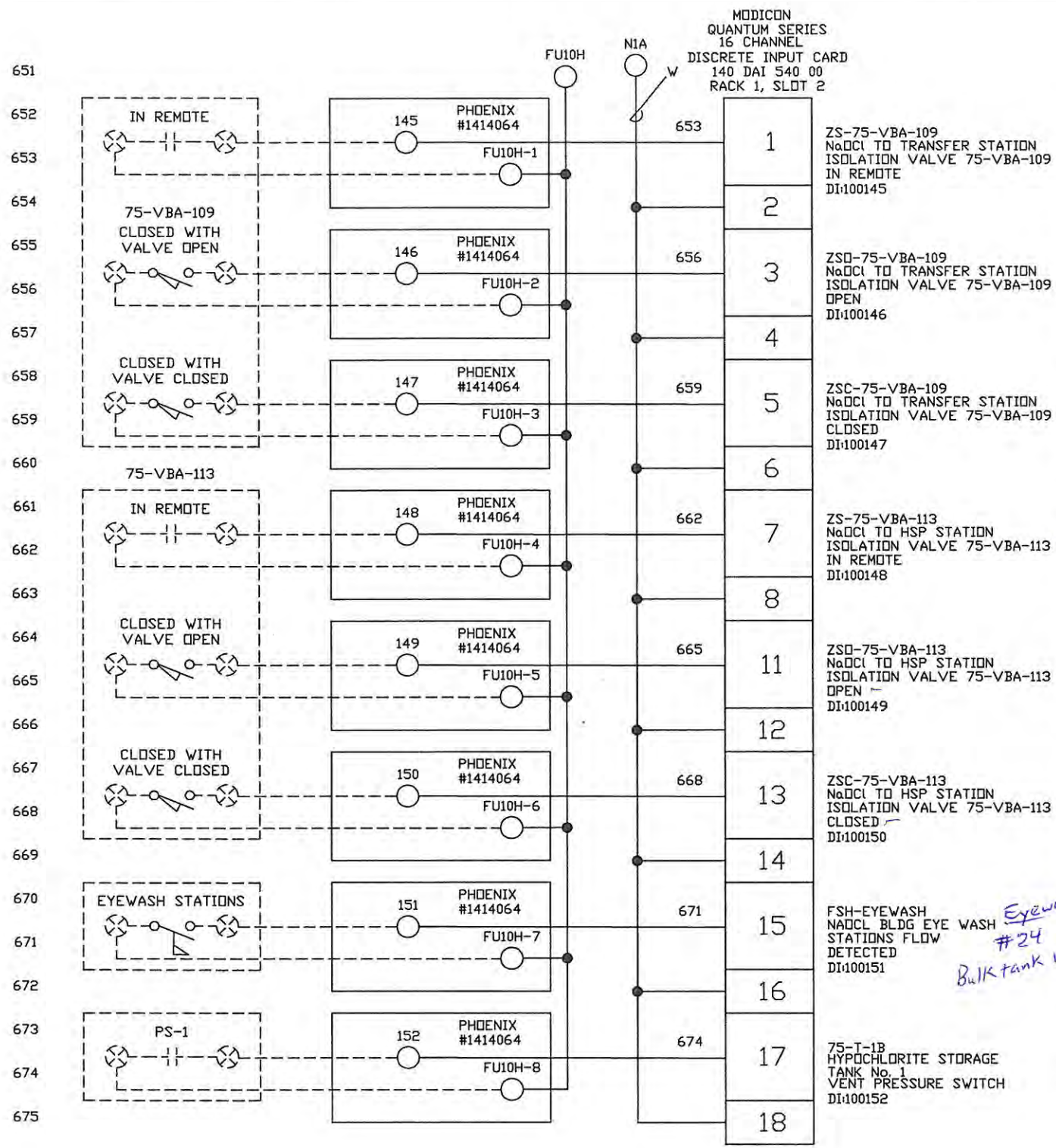
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- NOTES: 1. --- DENOTES FIELD WIRING 7. ○ TB1 TERMINAL BLOCK
2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED. 8. ◇ TB2 TERMINAL BLOCK
3. Y DENOTES #14 AWG YELLOW WIRE 9. ⊕ TB1 FUSED TERMINAL
4. B DENOTES #14 AWG BLUE WIRE 10. ⊖ TB2 FUSED TERMINAL
5. B/W DENOTES #14 AWG BLUE/WHITE TRACER 10. 6. ALL SHIELDED WIRE #18 AWG

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	DRAWN D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/08	AS-INSTALLED	MD	CHECKED	

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CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 DIGITAL OUTPUTS #3	DWG. NO. E13	REV. 3



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 - 2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED.
 - 3. Y DENOTES #14 AWG YELLOW WIRE
 - 4. B DENOTES #14 AWG BLUE WIRE
 - 5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
 - 6. ALL SHIELDED WIRE #18 AWG
 - 7. ○ TBI TERMINAL BLOCK
 - 8. ◇ TBI TERMINAL BLOCK
 - 9. □ TBI FUSED TERMINAL
 - 10. □ TBI FUSED TERMINAL

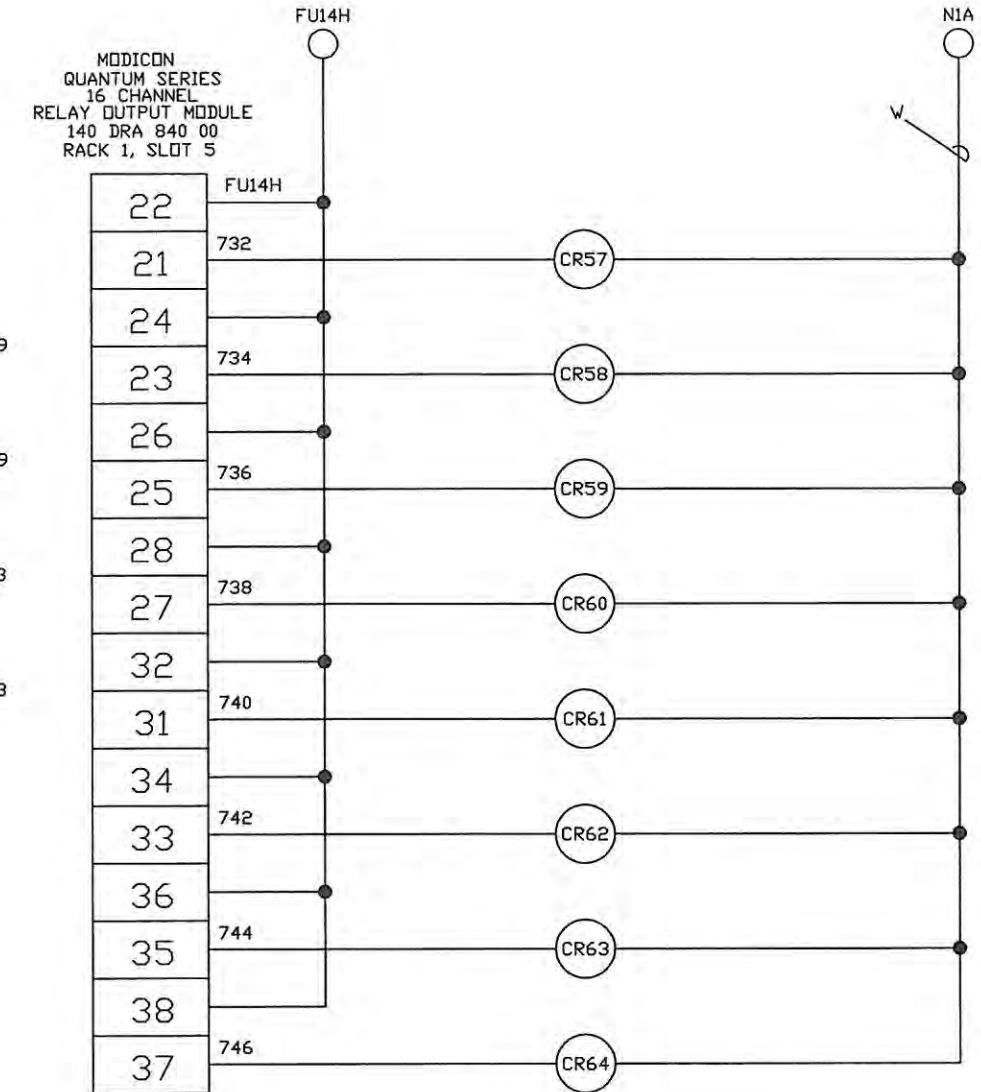
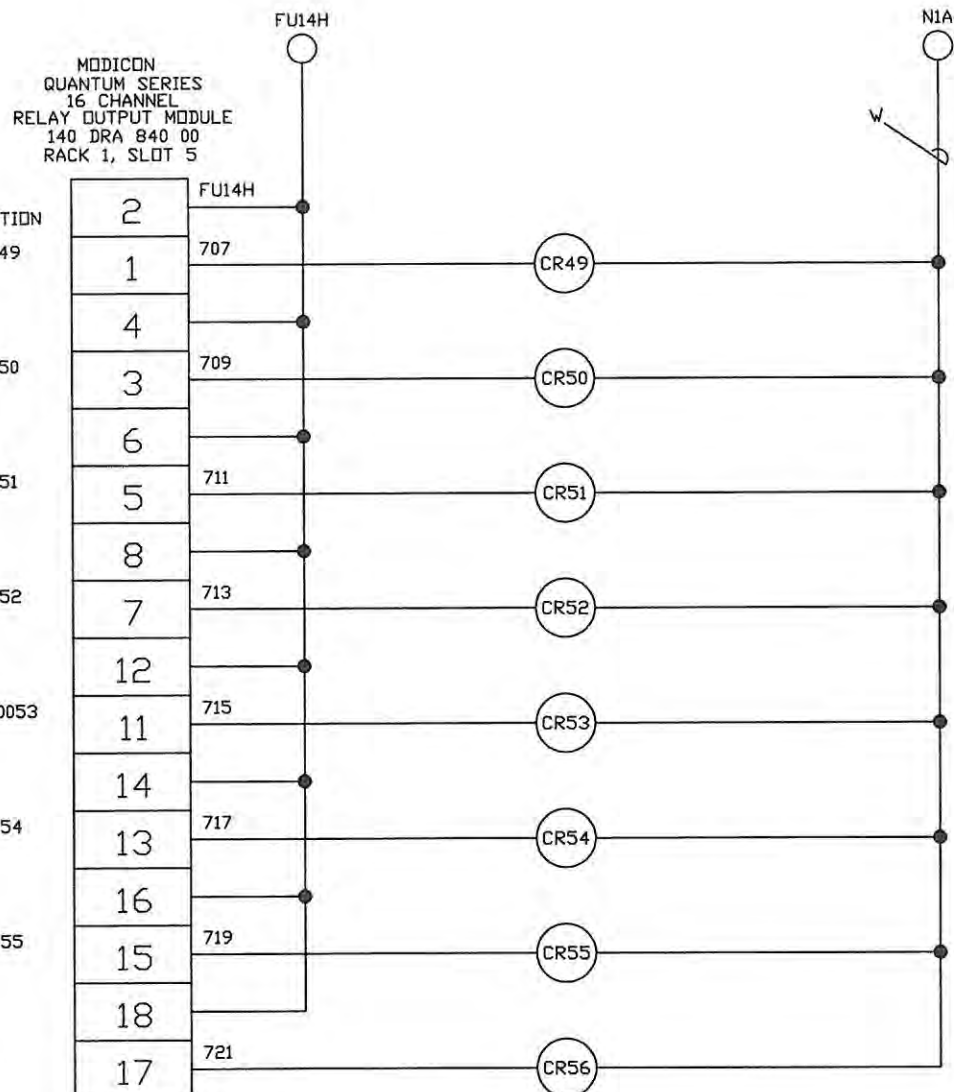
REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO.	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 DIGITAL INPUTS #10	DWG. NO.	E14
		REV.	3

701
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HSR-75-MP-4
NaOCl INJECTION TRANSFER STATION
METERING PUMP 75-MP-4
CALL TO RUN COMMAND DD:000049

HSR-75-MP-5
NaOCl INJECTION HSP SUCTION
METERING PUMP 75-MP-5
CALL TO RUN COMMAND DD:000050

HSR-75-MP-6
NaOCl INJECTION HSP SUCTION
METERING PUMP 75-MP-6
CALL TO RUN COMMAND DD:000051

HSR-75-MP-7
NaOCl INJECTION HSP SUCTION
METERING PUMP 75-MP-7
CALL TO RUN COMMAND DD:000052

HSR-75-MP-8
NaOCl INJECTION HSP SUCTION
METERING PUMP 75-MP-8
CALL TO RUN COMMAND V DD:000053

HSR-75-P-2
NaOCl AERATION/AQC
FEED LOOP PUMP 75-P-2
CALL TO RUN COMMAND DD:000054

HSR-75-P-3
NaOCl AERATION/AQC
FEED LOOP PUMP 75-P-3
CALL TO RUN COMMAND DD:000055

HSS-75-P-4
NaOCl BOOSTER PUMP
75-P-4
START COMMAND DD:000056

HSS-75-P-5
NaOCl BOOSTER PUMP
75-P-5
START COMMAND DD:000057

HSD-75-VBA-109
NaOCl TO TRANSFER STATION
ISOLATION VALVE 75-VBA-109
OPEN COMMAND DD:000058

HSC-75-VBA-109
NaOCl TO TRANSFER STATION
ISOLATION VALVE 75-VBA-109
CLOSE COMMAND DD:000059

HSD-75-VBA-113
NaOCl TO HSP STATION
ISOLATION VALVE 75-VBA-113
OPEN COMMAND DD:000060

HSC-75-VBA-113
NaOCl TO HSP STATION
ISOLATION VALVE 75-VBA-113
CLOSE COMMAND DD:000061

SPARE
DD:000062

SPARE
DD:000063

SPARE
DD:000064

INTERNATIONAL, STATE, AND LOCAL CODES. ROCHA CONTROLS SHALL NOT BE RESPONSIBLE FOR THIS ACTION.
ALL FIELD WIRING WILL BE IN ACCORDANCE WITH THE (N.E.C) NATIONAL ELECTRIC CODE, AND ALL

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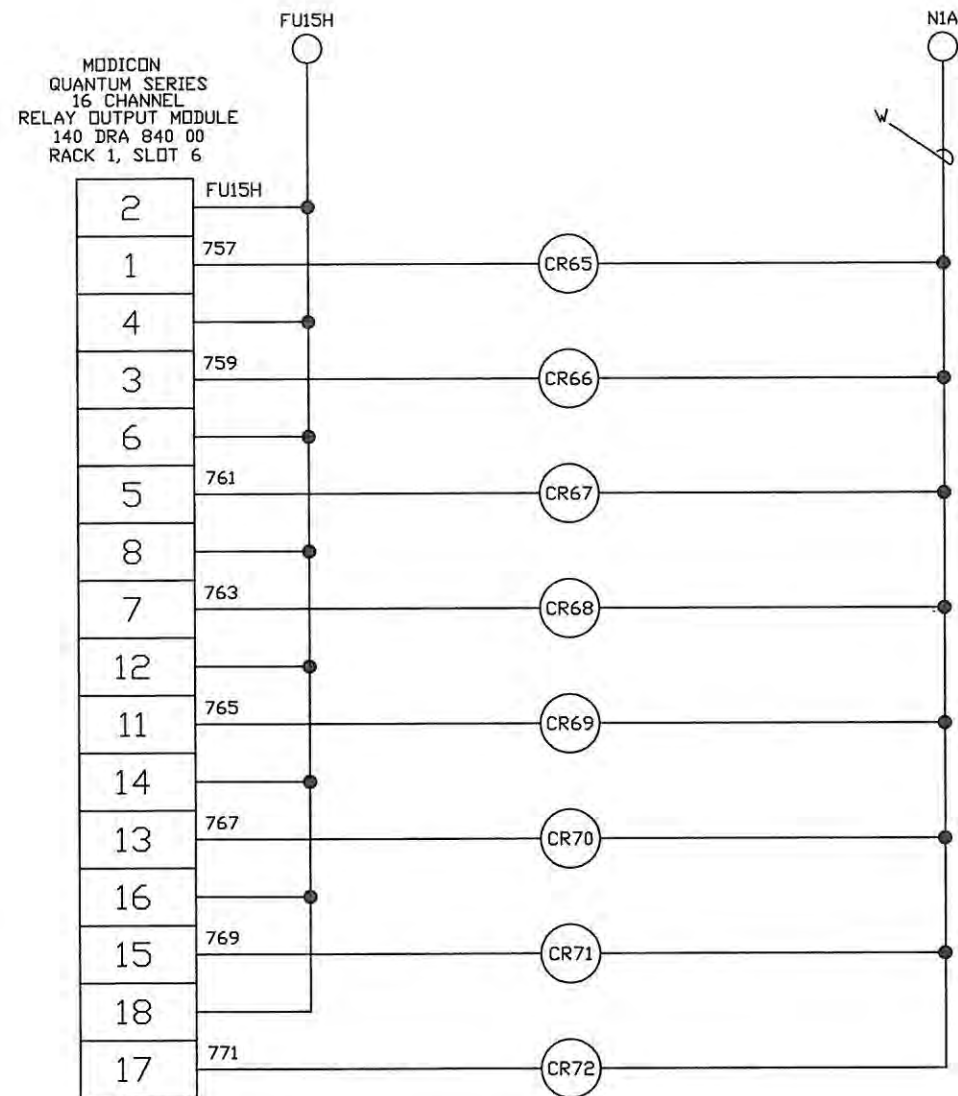
- NOTES:
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 - Y DENOTES #14 AWG YELLOW WIRE
 - B DENOTES #14 AWG BLUE WIRE
 - B/W DENOTES #14 AWG BLUE/WHITE TRACER
 - ALL SHIELDED WIRE #18 AWG
 - T81 TERMINAL BLOCK
 - ◇ T82 TERMINAL BLOCK
 - ⊖ T81 FUSED TERMINAL
 - ⊖ T82 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

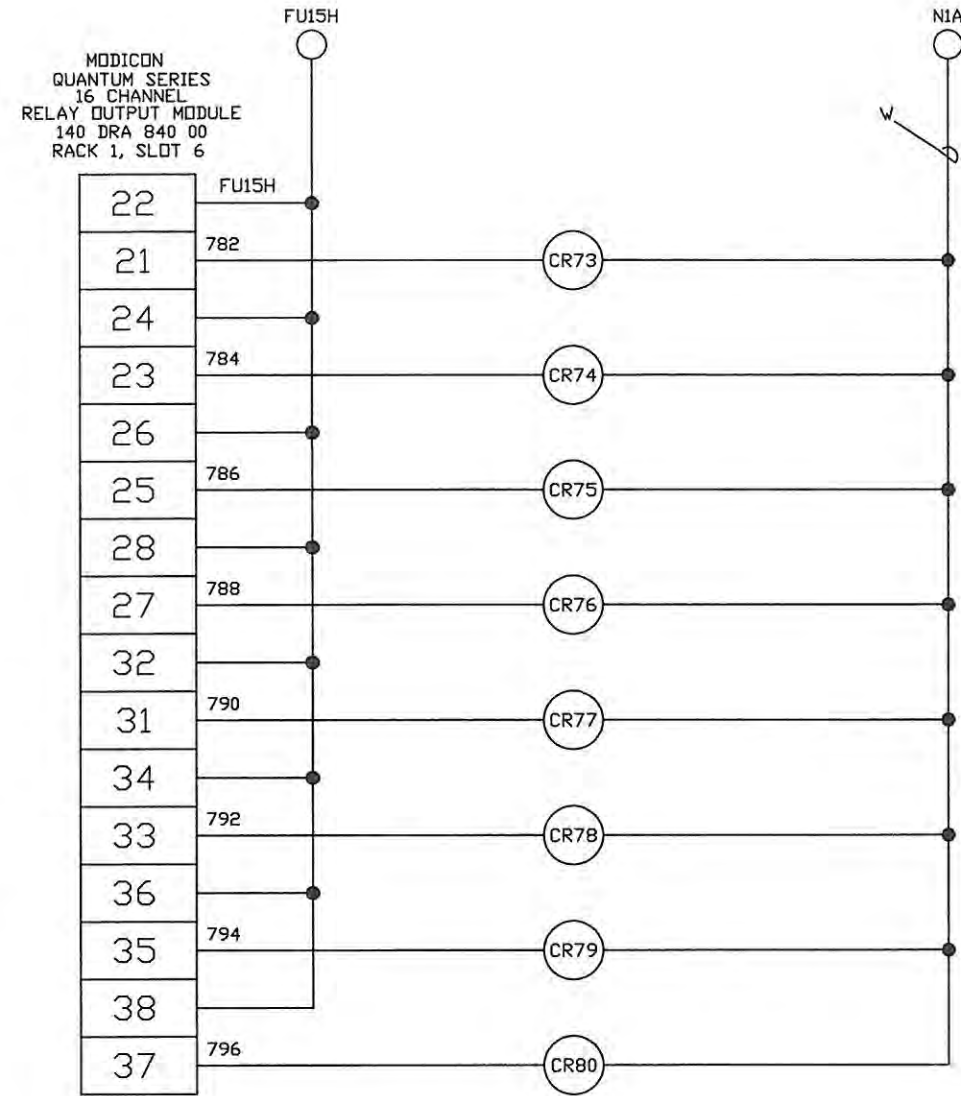
ROCHA CONTROLS Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 DIGITAL OUTPUTS #4	DWG. NO. E15	REV. 3

751
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INTERNATIONAL, STATE, AND LOCAL CODES. ROCHA CONTROLS SHALL NOT BE RESPONSIBLE FOR THIS ACTION. ALL FIELD WIRING WILL BE IN ACCORDANCE WITH THE (N.E.C) NATIONAL ELECTRIC CODE, AND ALL

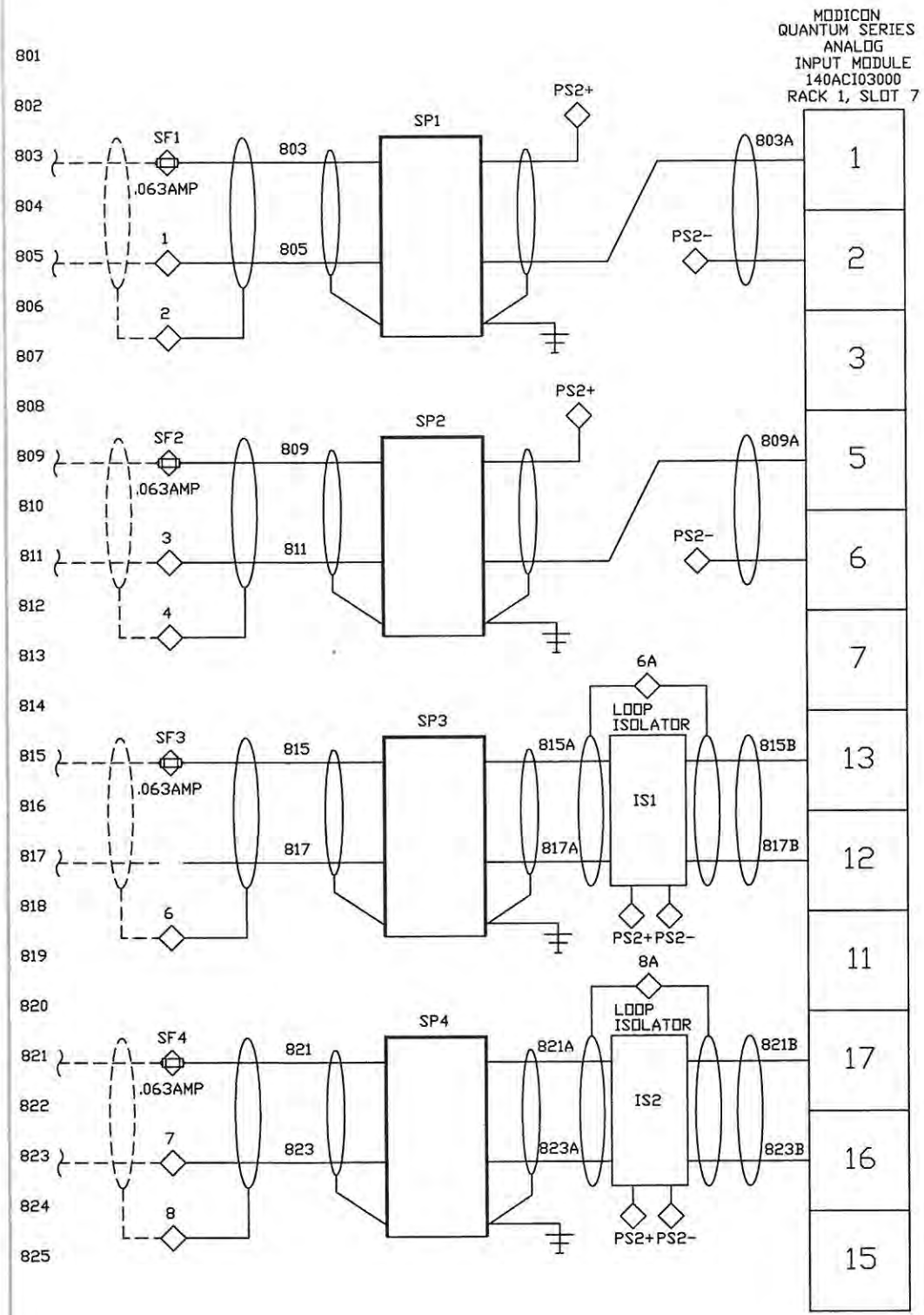
CONFIDENTIAL
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5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AWG
7. ○ TB1 TERMINAL BLOCK
8. ◇ TB2 TERMINAL BLOCK
9. ⊖ TB1 FUSED TERMINAL
10. ⊖ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 DIGITAL OUTPUTS #5	DWG. NO. E16	REV. 3

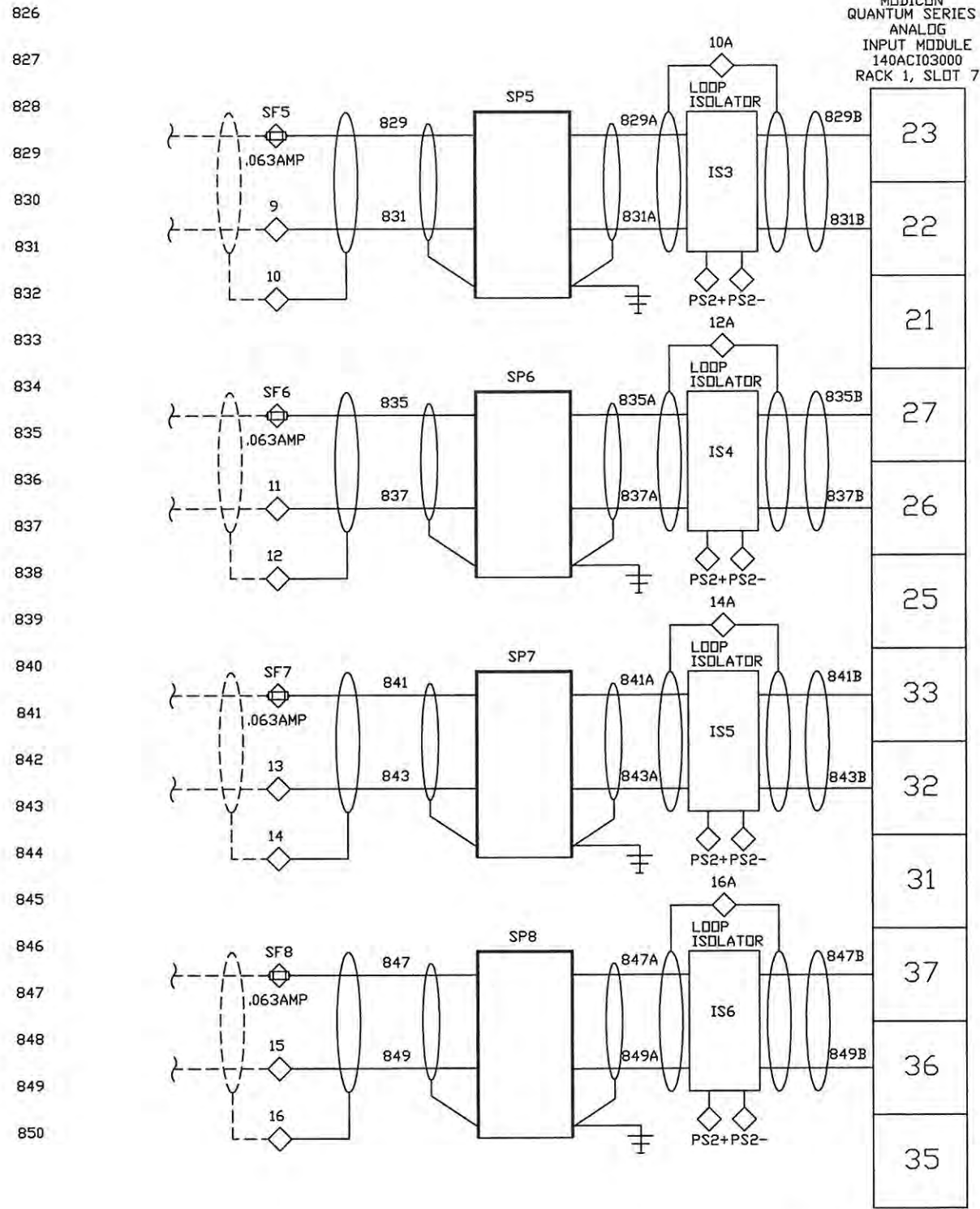


75-AIT-1
NaOCl GENERATION BUILDING
HYDROGEN CONCENTRATION
0-4 %
AI:30001

75-AIT-2
NaOCl GENERATION BUILDING
HYDROGEN CONCENTRATION
0-4 %
AI:30002

ZI-75-EC-01
ELECTROLYTIC CELL
TRAIN 75-EC-01
RECTIFIER CURRENT
0-1500 AMPS
AI:30003

ZV-75-EC-01
ELECTROLYTIC CELL
TRAIN 75-EC-01
RECTIFIER VOLTAGE
0-110 VDC
AI:30004



ZI-75-EC-02
ELECTROLYTIC CELL
TRAIN 75-EC-02
RECTIFIER CURRENT
0-1500 AMPS
AI:30005

ZV-75-EC-02
ELECTROLYTIC CELL
TRAIN 75-EC-02
RECTIFIER VOLTAGE
0-110 VDC
AI:30006

ZI-75-EC-03
ELECTROLYTIC CELL
TRAIN 75-EC-03
RECTIFIER CURRENT
0-1500 AMPS
AI:30007

ZV-75-EC-03
ELECTROLYTIC CELL
TRAIN 75-EC-03
RECTIFIER VOLTAGE
0-110 VDC
AI:30008

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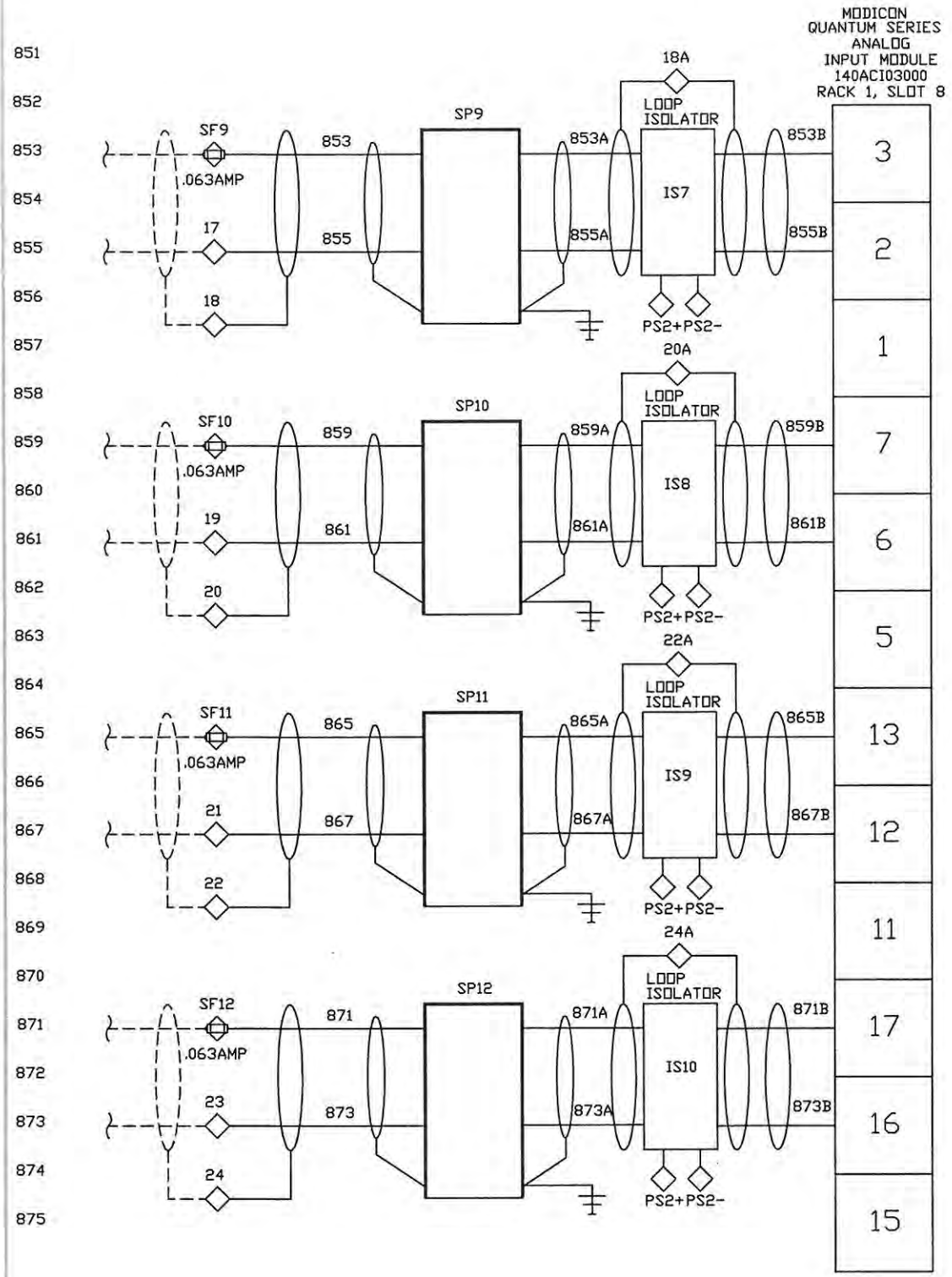
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 5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
 6. ALL SHIELDED WIRE #18 AWG
 7. ○ T81 TERMINAL BLOCK
 8. ◇ T82 TERMINAL BLOCK
 9. ⊕ T81 FUSED TERMINAL
 10. ⊕ T82 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

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CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-B ANALOG INPUTS #1	DWG. NO. E17
	REV. 3

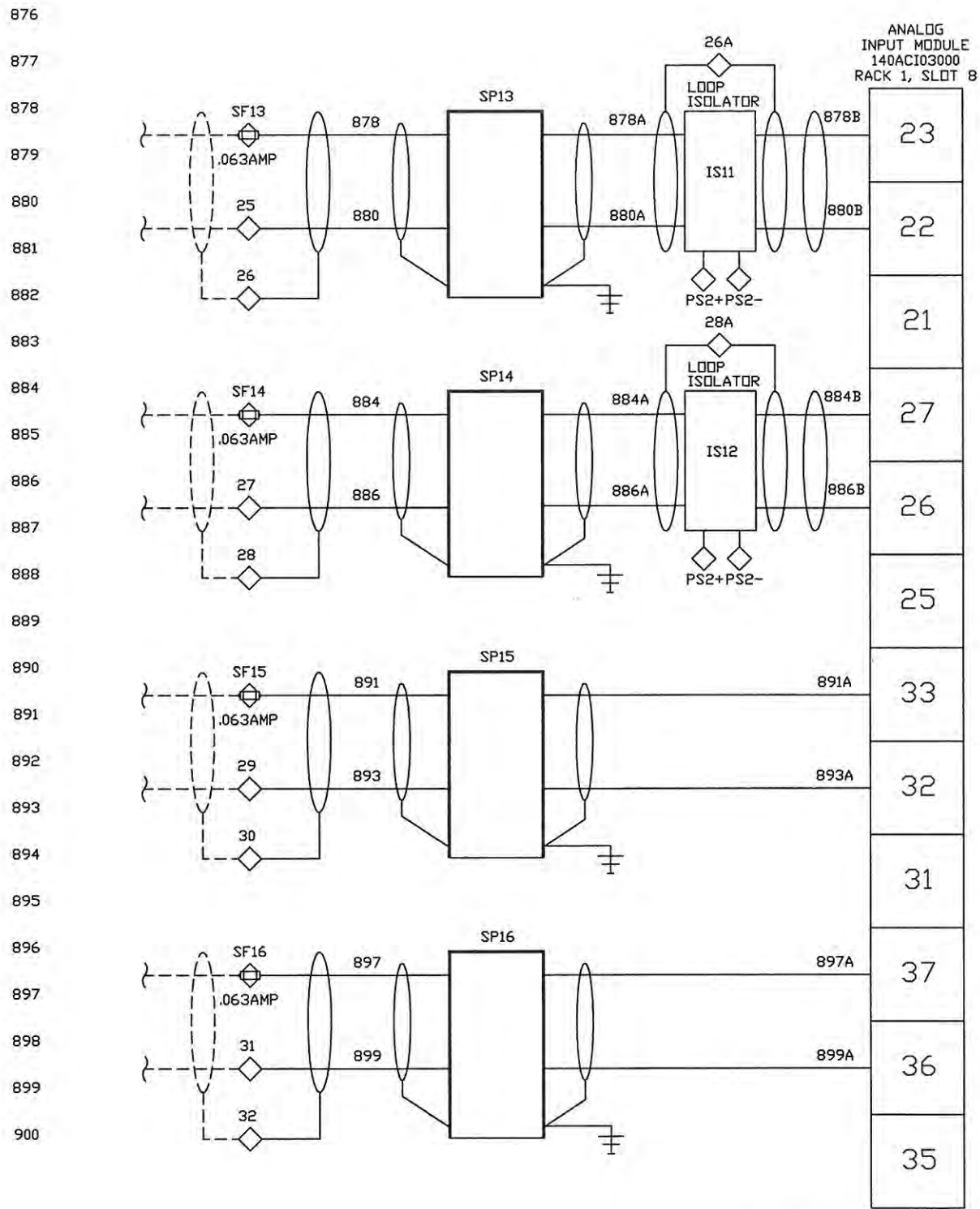


ZI-75-EC-04
ELECTROLYTIC CELL
TRAIN 75-EC-04
RECTIFIER CURRENT
0-1500 AMPS
AI:300010

(FUTURE)
ZV-75-EC-04
ELECTROLYTIC CELL
TRAIN 75-EC-04
RECTIFIER VOLTAGE
0-110 VDC
AI:300011

(FUTURE)
ZI-75-EC-05
ELECTROLYTIC CELL
TRAIN 75-EC-05
RECTIFIER CURRENT
0-1500 AMPS
AI:300012

ZV-75-EC-05
ELECTROLYTIC CELL
TRAIN 75-EC-05
RECTIFIER VOLTAGE
0-110 VDC
AI:300013



ZI-75-EC-06
ELECTROLYTIC CELL
TRAIN 75-EC-06
RECTIFIER CURRENT
0-1500 AMPS
AI:300013

ZV-75-EC-06
ELECTROLYTIC CELL
TRAIN 75-EC-06
RECTIFIER VOLTAGE
0-110 VDC
AI:300014

75-FIT-104
NaOCl INJECTION
HSP STATION
FLOW
0-40 GPM
AI:300015

75-FIT-105
NaOCl AERATION/AQC
FEED LOOP SUPPLY
FLOW
0-80 GPM
AI:300016

INTERNATIONAL, STATE, AND LOCAL CODES. ROCHA CONTROLS SHALL NOT BE RESPONSIBLE FOR THIS ACTION. ALL FIELD WIRING WILL BE IN ACCORDANCE WITH THE (N.E.C) NATIONAL ELECTRIC CODE, AND ALL

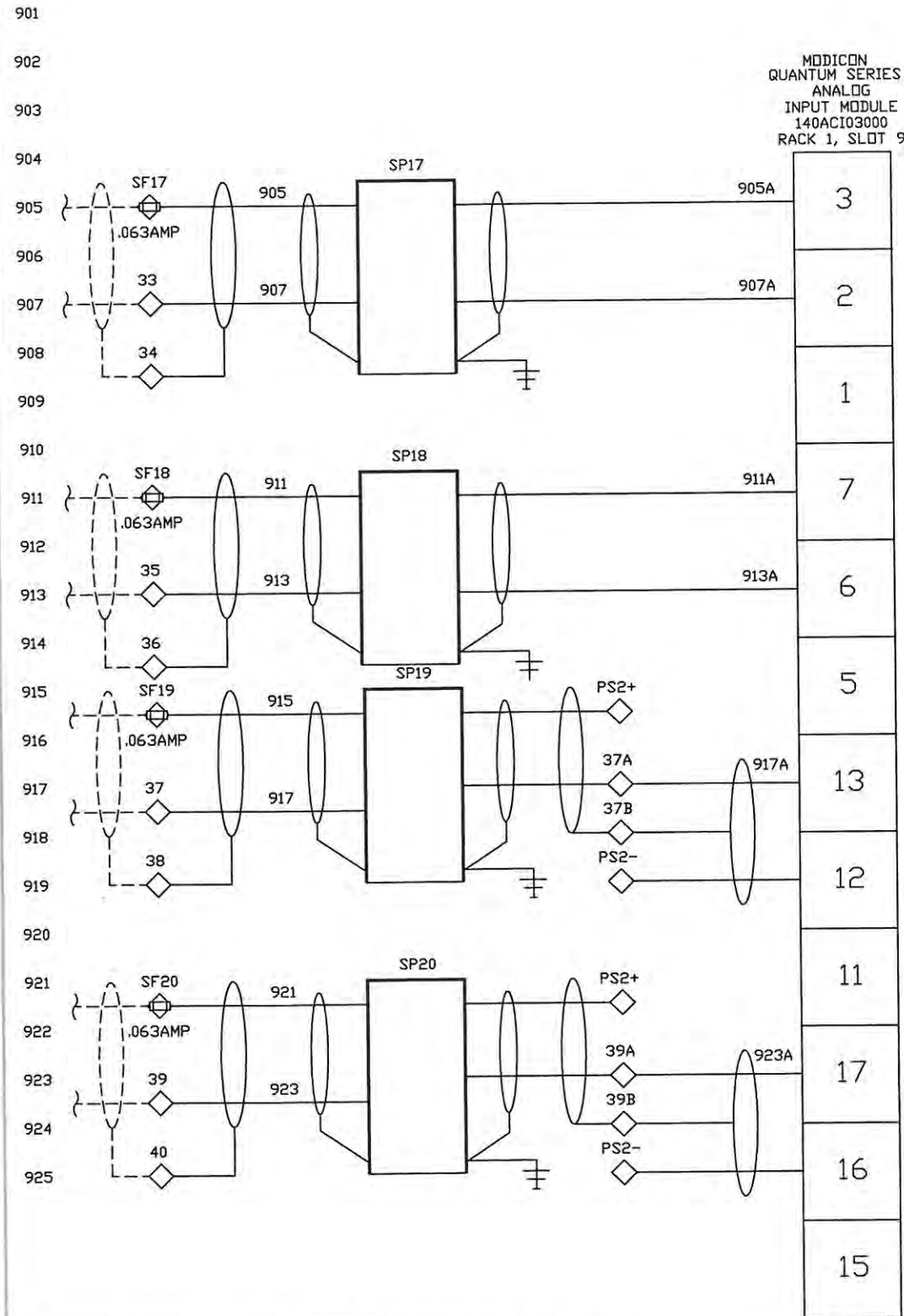
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 4. B DENOTES #14 AWG BLUE WIRE
 5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
 6. ALL SHIELDED WIRE #18 AWG
 7. ○ TB1 TERMINAL BLOCK
 8. ◇ TB2 TERMINAL BLOCK
 9. ⊞ TB1 FUSED TERMINAL
 10. ⊞ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP	D. PENATZER	1/27/05
3	09/19/08	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 ANALOG INPUTS #2	DWG. NO. E18	REV. 3

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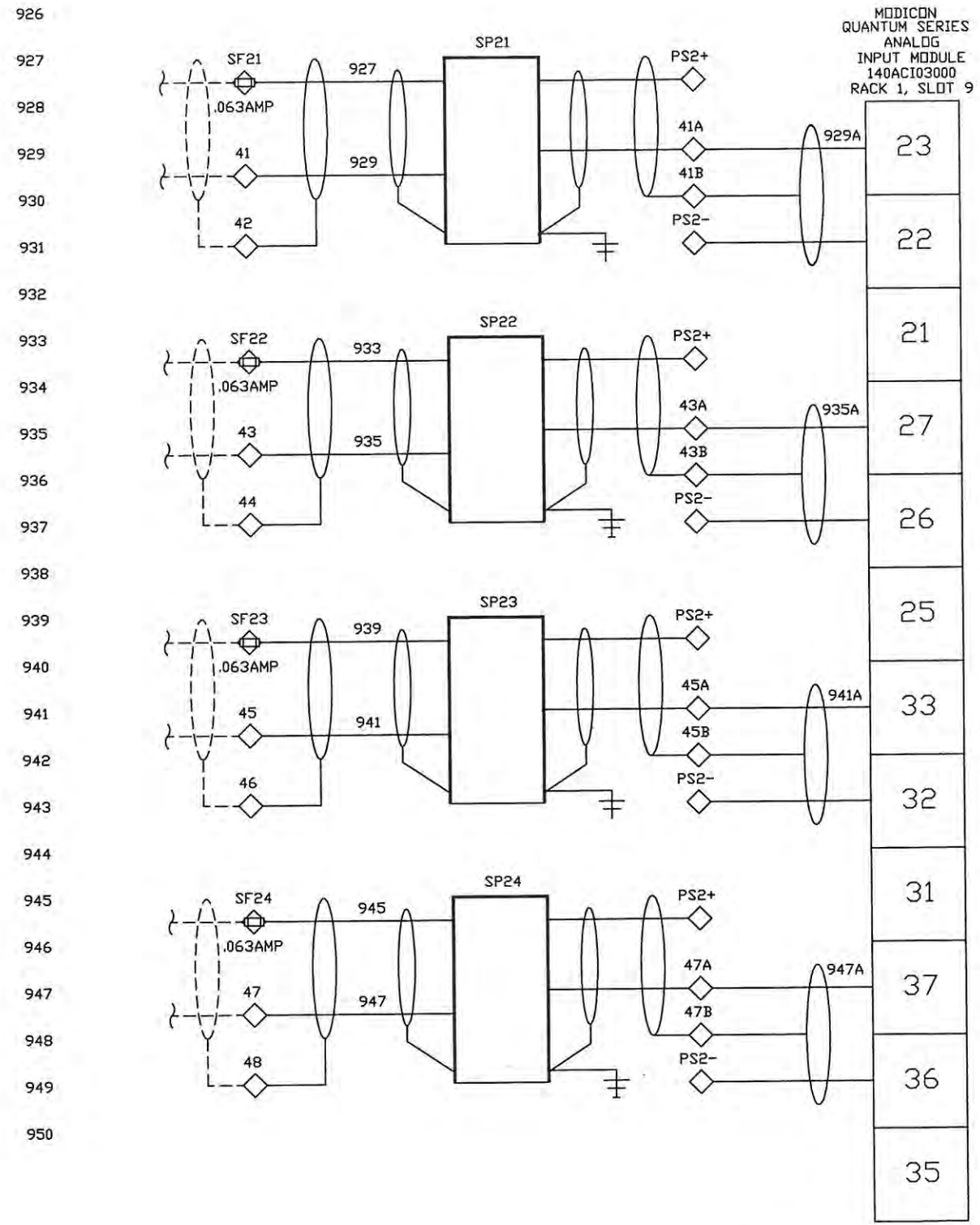


75-FIT-106
NaOCl INJECTION
TRANSFER PUMP STATION
FLOW
0-50 GPM
AI:300017 ^{1a}

75-FIT-107
NaOCl AERATION/AQC
FEED LOOP RETURN
FLOW
0-80 GPM
AI:300018 ^{2a}

75-LIT-1A
BRINE/SALT STORAGE TANK
75-T-1A
LEVEL
1.5-28 FEET
AI:300019 ²¹

75-LIT-1B
NaOCl STORAGE TANK
75-T-1B
LEVEL
0-12 FEET
AI:300020 ²²



75-LIT-2A
BRINE/SALT STORAGE TANK
75-T-2A
LEVEL
1.5-28 FEET
AI:300021 ²³

75-LIT-2B
NaOCl STORAGE TANK
75-T-2B
LEVEL
0-12 FEET
AI:300022 ²⁴

(FUTURE)
75-LIT-3A
BRINE/SALT STORAGE TANK
75-T-3A
LEVEL
1.5-28 FEET
AI:300023 ²⁵

75-LIT-3B
NaOCl STORAGE TANK
75-T-3B
LEVEL
0-12 FEET
AI:300024 ²⁶

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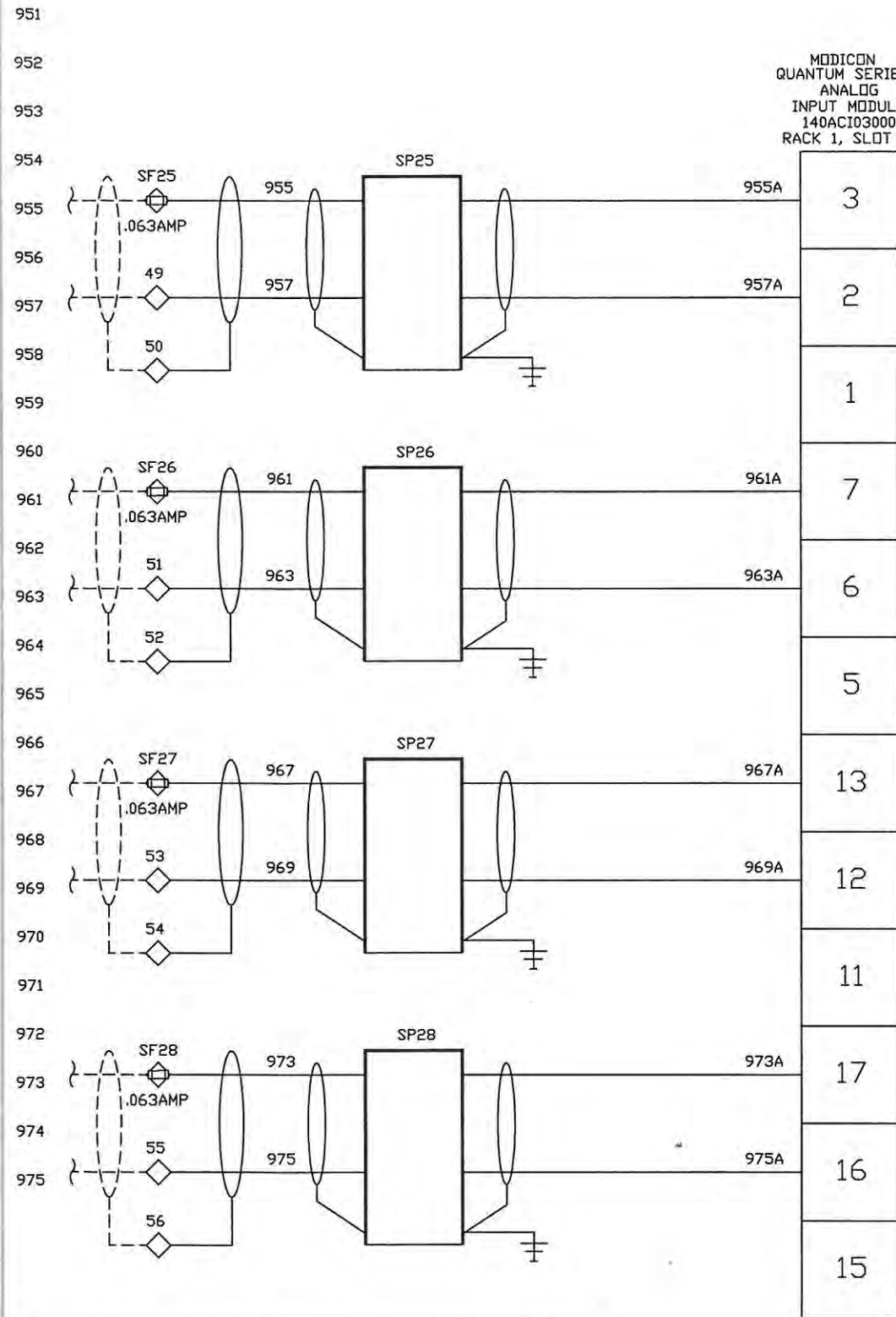
INTERNATIONAL, STATE, AND LOCAL CODES. ROCHA CONTROLS SHALL NOT BE RESPONSIBLE FOR THIS ACTION. ALL FIELD WIRING WILL BE IN ACCORDANCE WITH THE (N.E.C) NATIONAL ELECTRIC CODE, AND ALL

- NOTES: 1. --- DENOTES FIELD WIRING 7. ○ TB1 TERMINAL BLOCK
2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED. 8. ◇ TB2 TERMINAL BLOCK
3. Y DENOTES #14 AWG YELLOW WIRE 9. ⊕ TB1 FUSED TERMINAL
4. B DENOTES #14 AWG BLUE WIRE 10. ⊕ TB2 FUSED TERMINAL
5. B/W DENOTES #14 AWG BLUE/WHITE TRACER 10. 6. ALL SHIELDED WIRE #18 AWG

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
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CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 ANALOG INPUTS #3	DWG. NO. E19 REV. 3

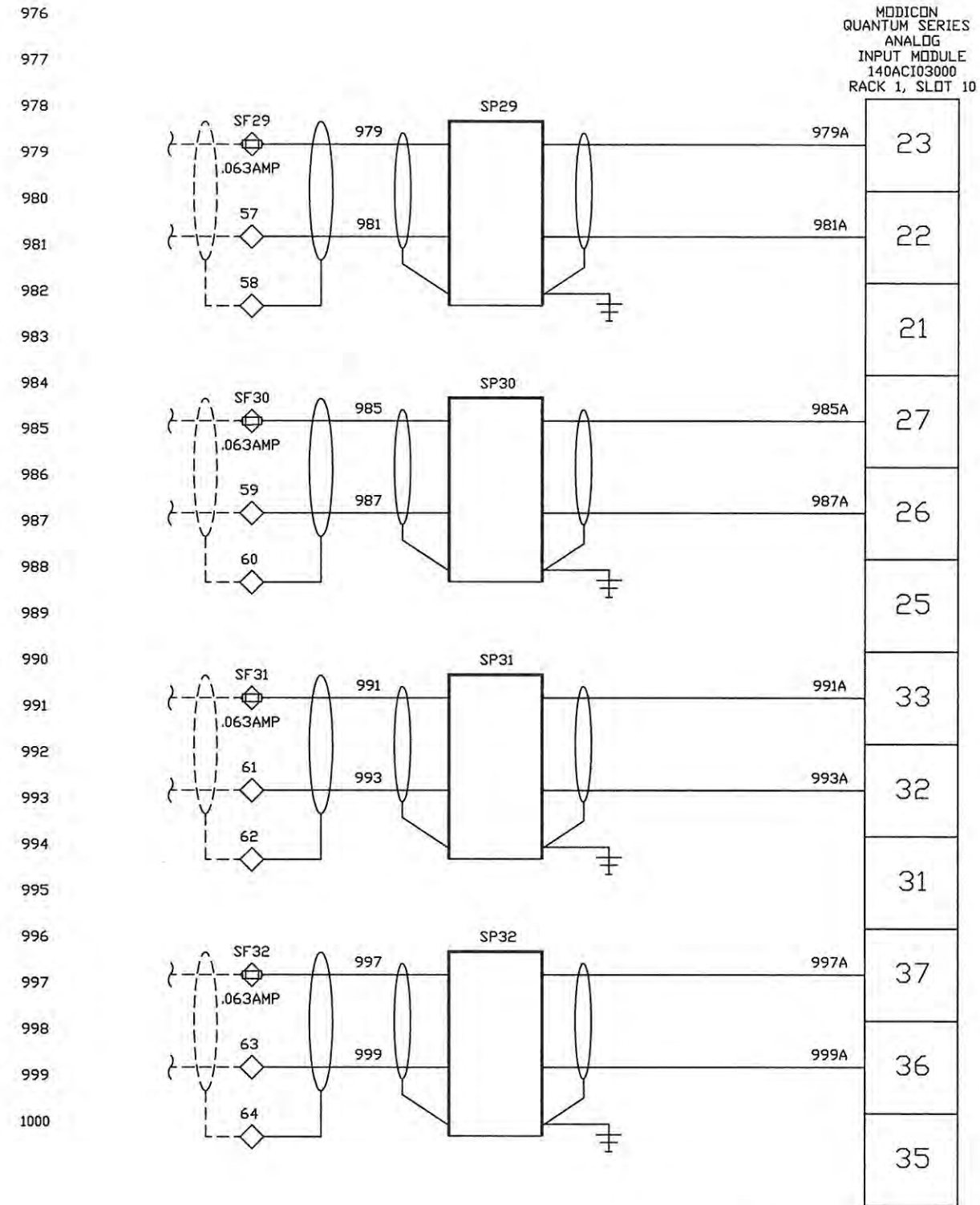


SI-75-MP-1
NaOCl INJECTION TRANSFER
STATION METERING PUMP
75-MP-1 SPEED
0-100%
AI300025
32

SI-75-MP-2
NaOCl INJECTION TRANSFER
STATION METERING PUMP
75-MP-2 SPEED
0-100%
AI300026
31

SI-75-MP-3
NaOCl INJECTION TRANSFER
STATION METERING PUMP
75-MP-3 SPEED
0-100%
AI300027 30

SI-75-MP-4
NaOCl INJECTION TRANSFER
STATION METERING PUMP
75-MP-4 SPEED
0-100%
AI300028 31



SI-75-MP-5
NaOCl INJECTION HSP
SUCTION METERING PUMP
75-MP-5 SPEED
0-100%
AI300029
32

SI-75-MP-6
NaOCl INJECTION HSP
SUCTION METERING PUMP
75-MP-6 SPEED
0-100%
AI300030
33

SI-75-MP-7
NaOCl INJECTION HSP
SUCTION METERING PUMP
75-MP-7 SPEED
0-100%
AI300031
34

SI-75-MP-8
NaOCl INJECTION HSP
SUCTION METERING PUMP
75-MP-8 SPEED
0-100%
AI300032
35

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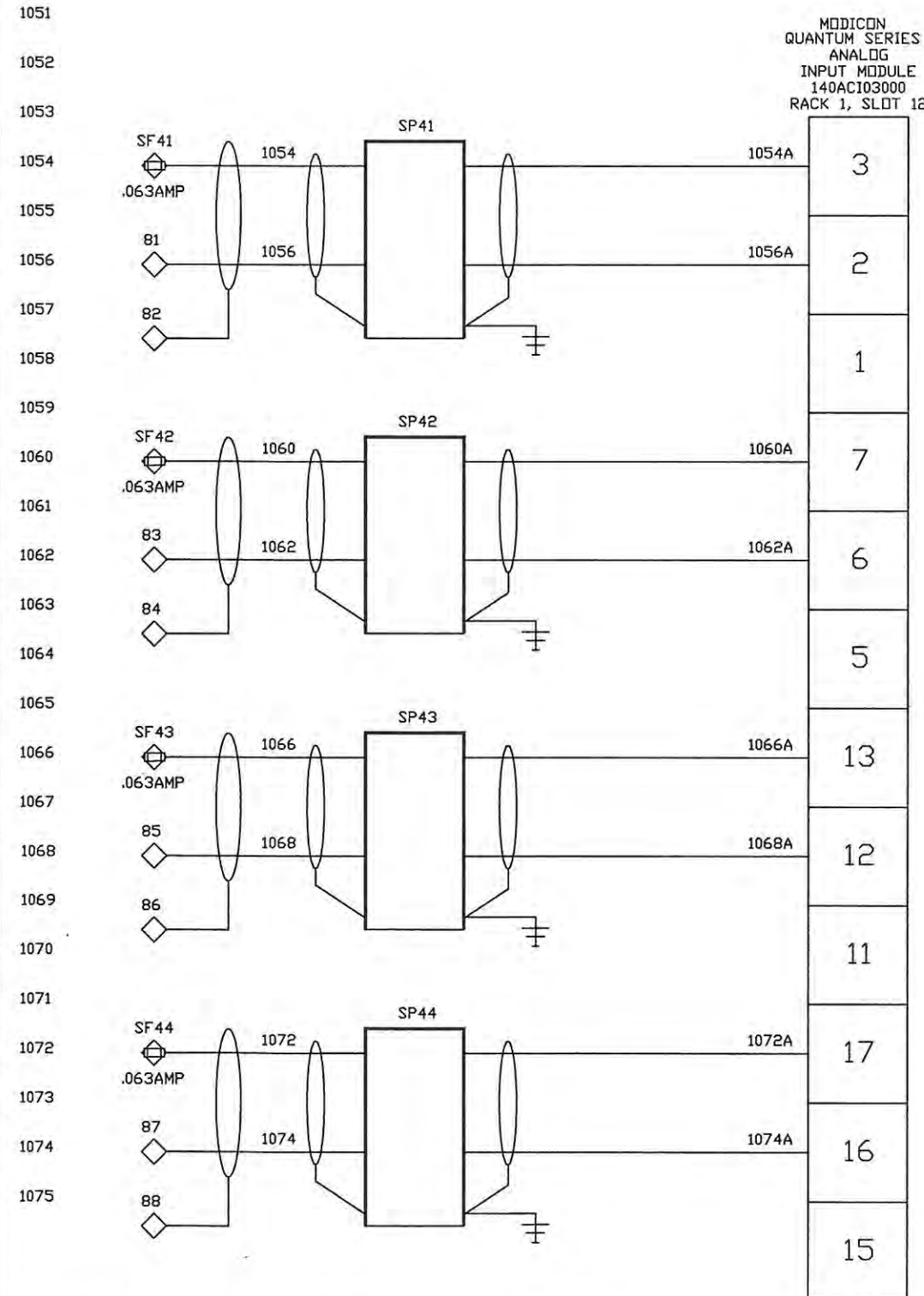
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1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
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3	09/19/06	AS-INSTALLED	MD	CHECKED	

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CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO.	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 ANALOG INPUTS #4	DWG. NO.	E20
		REV.	3



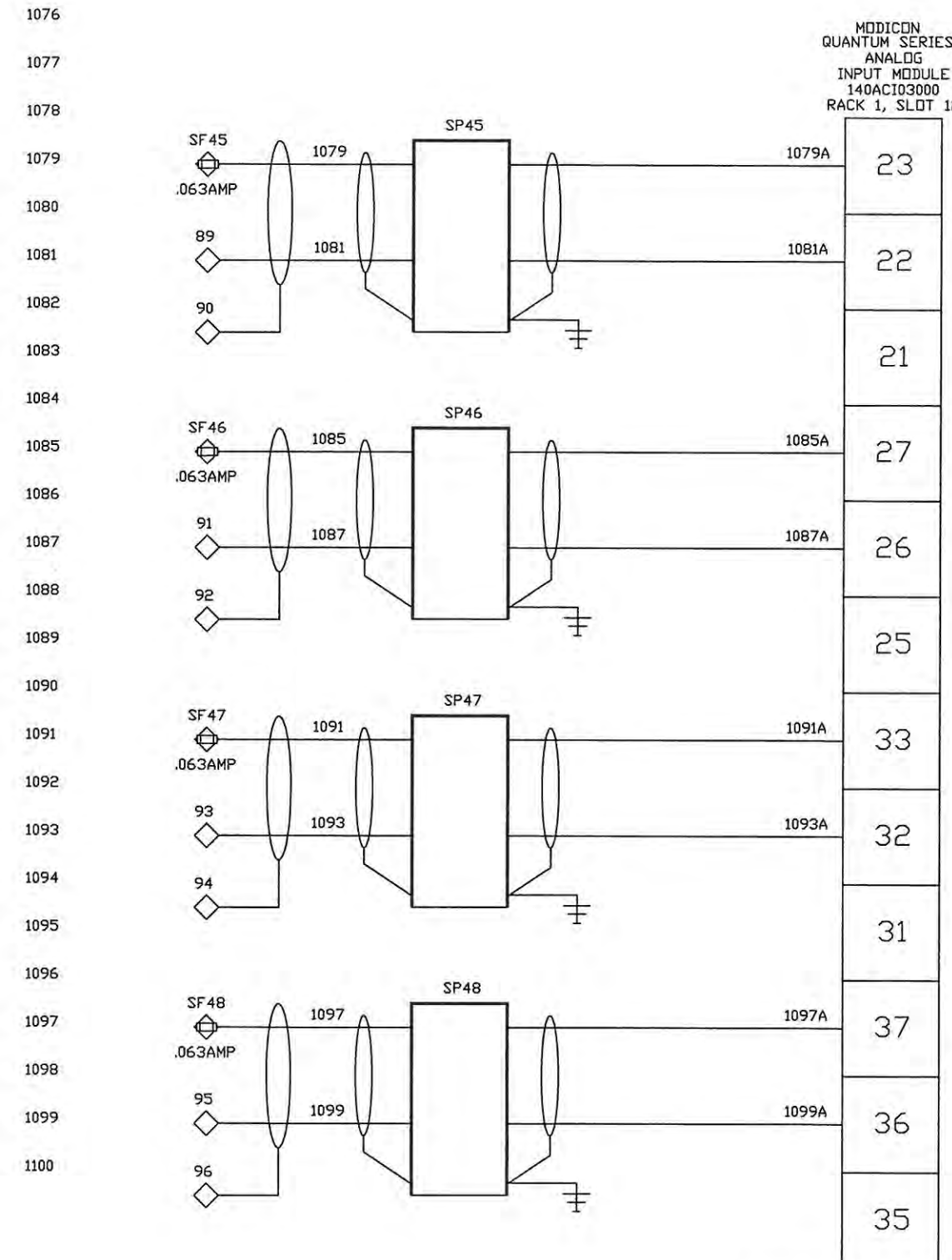
MODICON
QUANTUM SERIES
ANALOG
INPUT MODULE
140ACI03000
RACK 1, SLOT 12

ROTARY NO. 1-A
FLOW
AI:300048
46

ROTARY NO. 1-B
FLOW
AI:300042
47

ROTARY NO. 2-A
FLOW
AI:300048
48

ROTARY NO. 2-B
FLOW
AI:300044
49



MODICON
QUANTUM SERIES
ANALOG
INPUT MODULE
140ACI03000
RACK 1, SLOT 12

ROTARY NO. 3-A
FLOW
AI:300048
50

ROTARY NO. 3-B
FLOW
AI:300048
51

ROTARY NO. 4-A
FLOW
AI:300048
52

ROTARY NO. 4-B
FLOW
AI:300048
53

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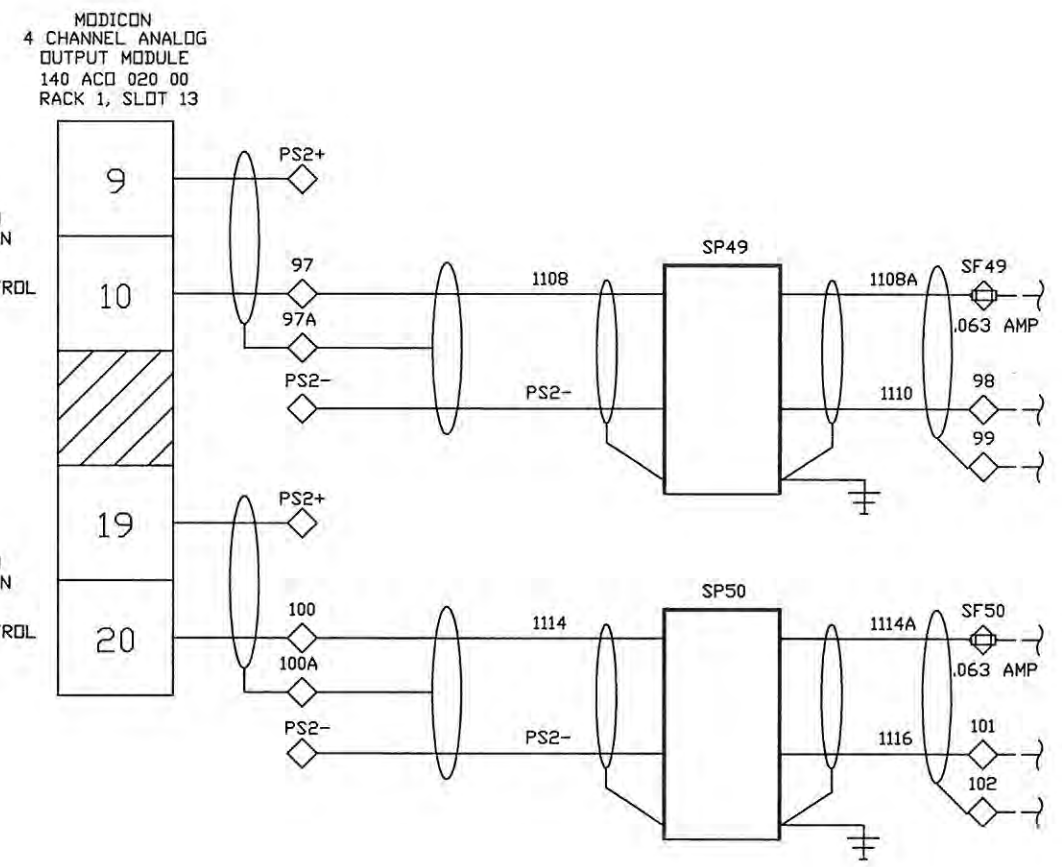
- NOTES:
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 - Y DENOTES #14 AWG YELLOW WIRE
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 - ALL SHIELDED WIRE #18 AWG
 - TB1 TERMINAL BLOCK
 - ◇ TB2 TERMINAL BLOCK
 - ⊖ TB1 FUSED TERMINAL
 - ⊖ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

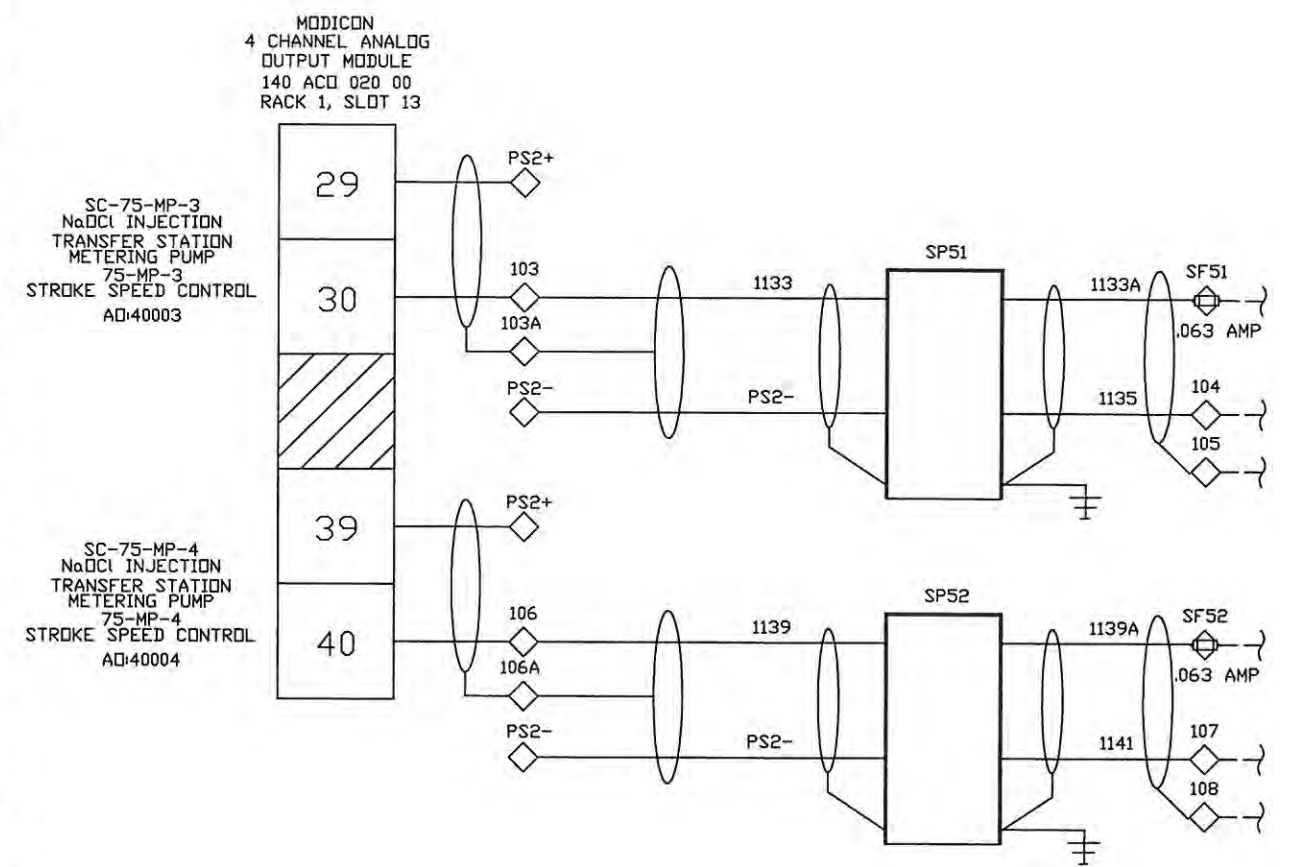
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 ANALOG INPUTS #6	DWG. NO. E22	REV. 3

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INTERNATIONAL, STATE, AND LOCAL CODES. ROCHA CONTROLS SHALL NOT BE RESPONSIBLE FOR THIS ACTION.
ALL FIELD WIRING WILL BE IN ACCORDANCE WITH THE (N.E.C) NATIONAL ELECTRIC CODE, AND ALL

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AND MAY NOT BE RELEASED, REPRODUCED, OR USED WITHOUT WRITTEN CONSENT
AND MUST BE RETURNED UPON REQUEST.

- NOTES:
- 1. - - - DENOTES FIELD WIRING
 - 2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED.
 - 3. Y DENOTES #14 AWG YELLOW WIRE
 - 4. B DENOTES #14 AWG BLUE WIRE
 - 5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
 - 6. ALL SHIELDED WIRE #18 AWG
 - 7. ○ TB1 TERMINAL BLOCK
 - 8. ◇ TB2 TERMINAL BLOCK
 - 9. □ TB1 FUSED TERMINAL
 - 10. □ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

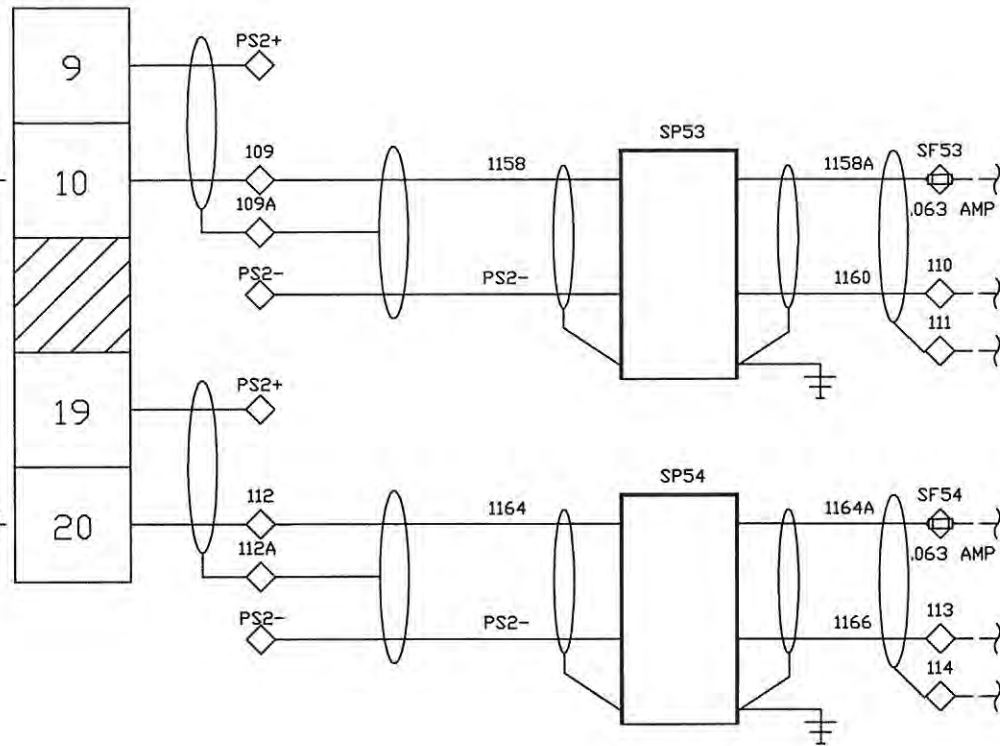
CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 ANALOG OUTPUTS #1	DWG. NO. E23	REV. 3

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MODICON
4 CHANNEL ANALOG
OUTPUT MODULE
140 ACD 020 00
RACK 1, SLOT 14

SC-75-MP-5
NaOCl INJECTION
HSP SUCTION
METERING PUMP
75-MP-5
STROKE SPEED CONTROL
ADI40005

SC-75-MP-6
NaOCl INJECTION
HSP SUCTION
METERING PUMP
75-MP-6
STROKE SPEED CONTROL
ADI40006

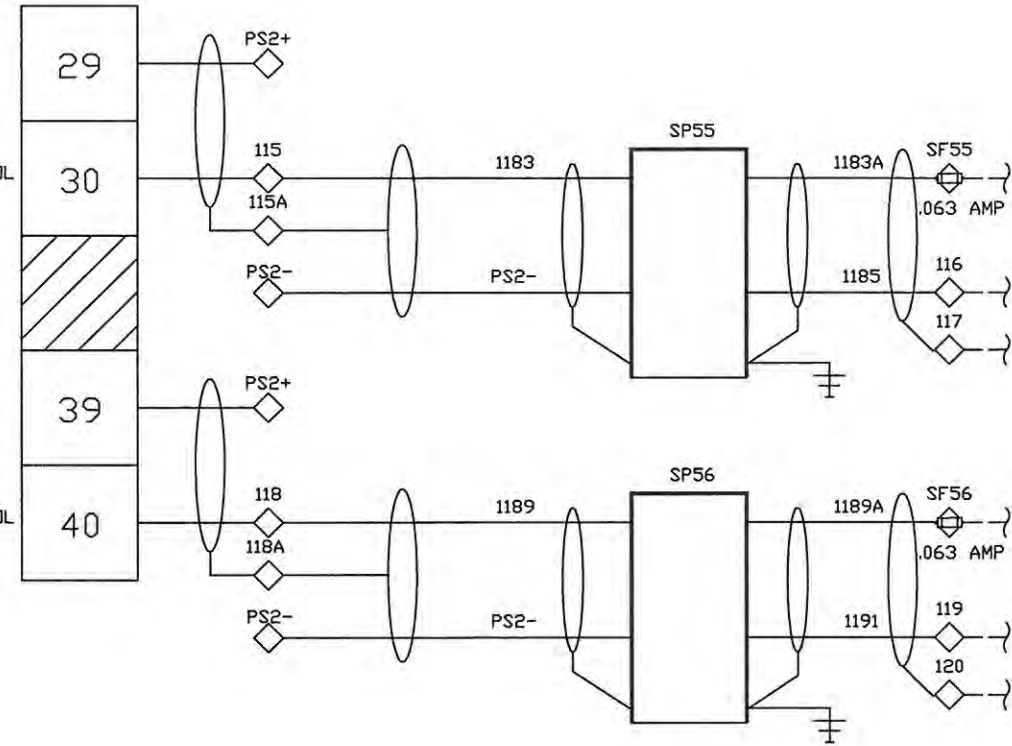


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MODICON
4 CHANNEL ANALOG
OUTPUT MODULE
140 ACD 020 00
RACK 1, SLOT 14

SC-75-MP-7
NaOCl INJECTION
HSP SUCTION
METERING PUMP
75-MP-7
STROKE SPEED CONTROL
ADI40007

SC-75-MP-8
NaOCl INJECTION
HSP SUCTION
METERING PUMP
75-MP-8
STROKE SPEED CONTROL
ADI40008



INTERNATIONAL, STATE, AND LOCAL CODES. ROCHA CONTROLS SHALL NOT BE RESPONSIBLE FOR THIS ACTION. ALL FIELD WIRING WILL BE IN ACCORDANCE WITH THE (N.E.C) NATIONAL ELECTRIC CODE, AND ALL

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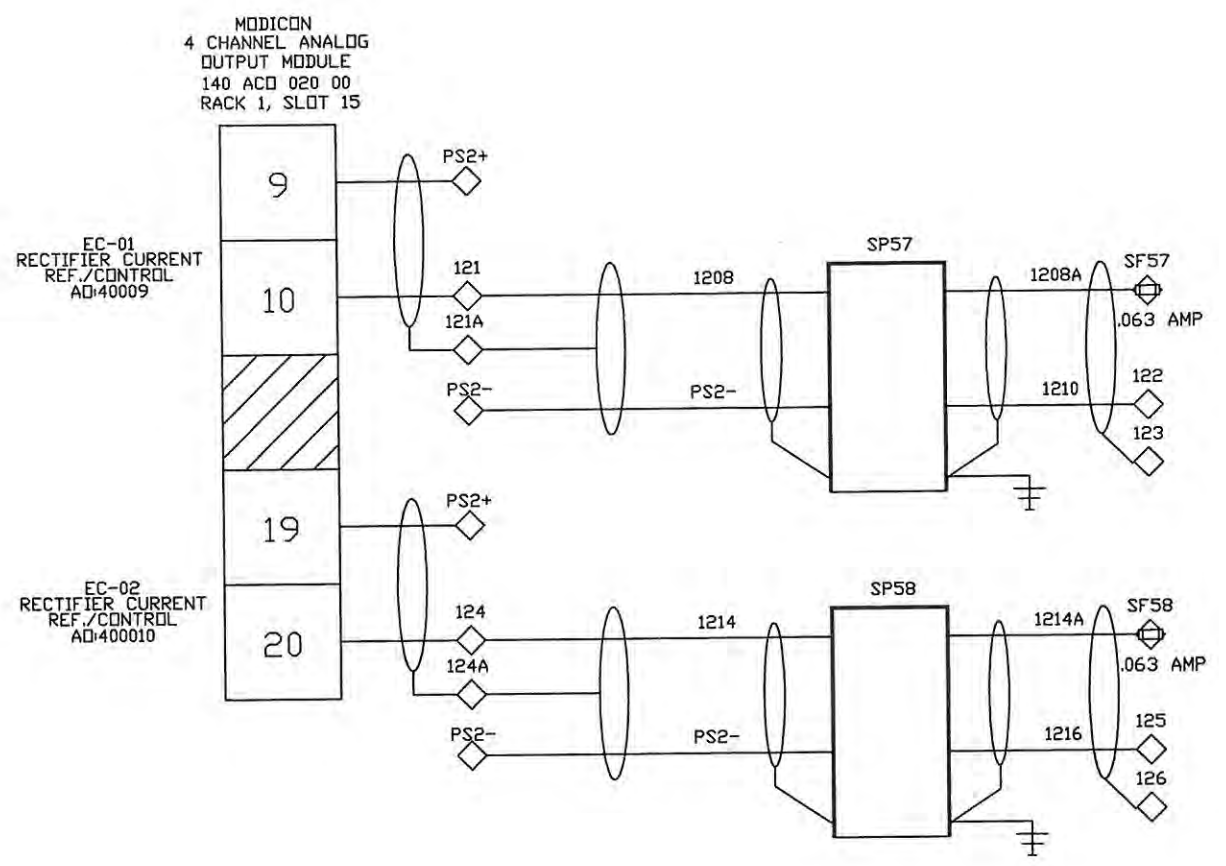
- NOTES: 1. --- DENOTES FIELD WIRING
2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED.
3. Y DENOTES #14 AWG YELLOW WIRE
4. B DENOTES #14 AWG BLUE WIRE
5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AWG
7. ○ TB1 TERMINAL BLOCK
8. ◇ TB2 TERMINAL BLOCK
9. ⊞ TB1 FUSED TERMINAL
10. ⊞ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

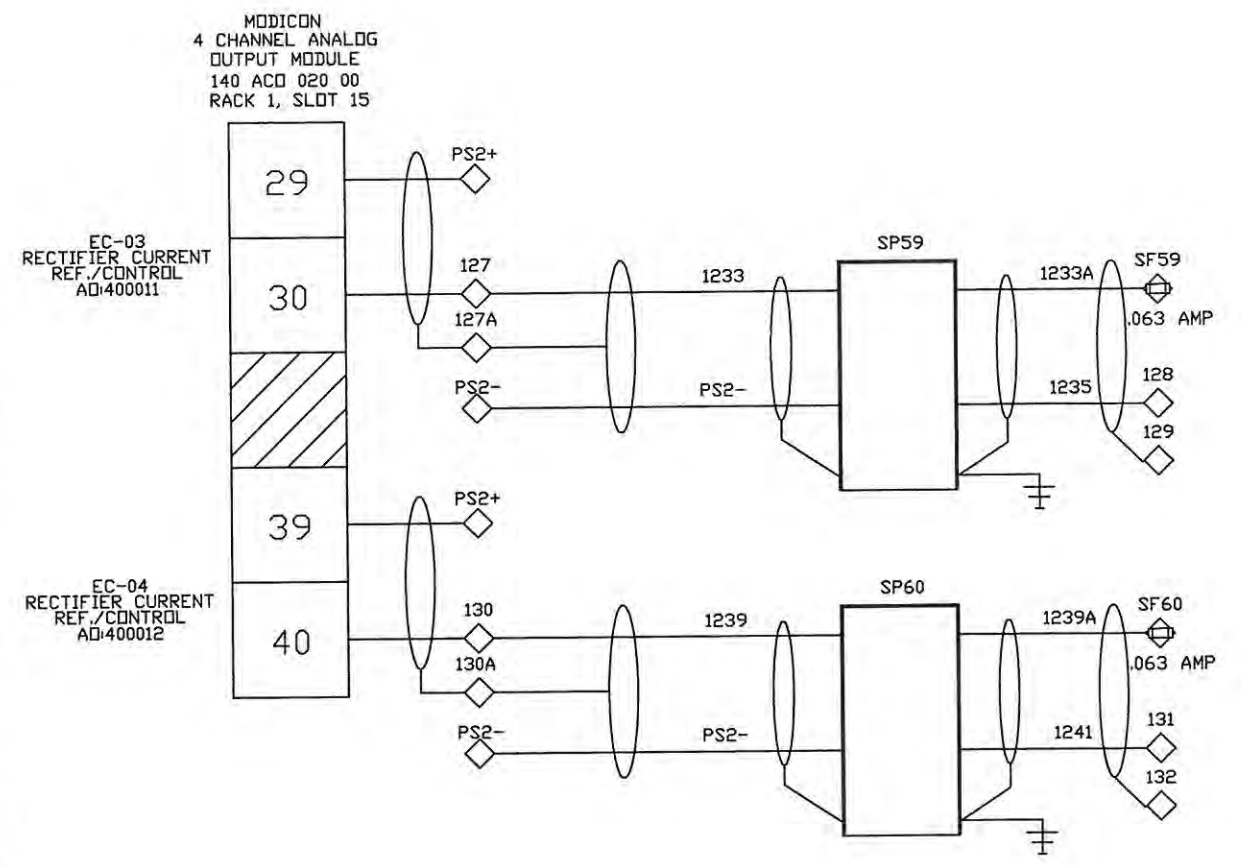
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO.	
TITLE	75-LCP-8 ANALOG OUTPUTS #2	ROCHA CONTROLS INC. PROJ. NO. 2-3-128	
DWG. NO.	E24	REV.	3

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INTERNATIONAL, STATE, AND LOCAL CODES. ROCHA CONTROLS SHALL NOT BE RESPONSIBLE FOR THIS ACTION. ALL FIELD WIRING WILL BE IN ACCORDANCE WITH THE (N.E.C) NATIONAL ELECTRIC CODE, AND ALL

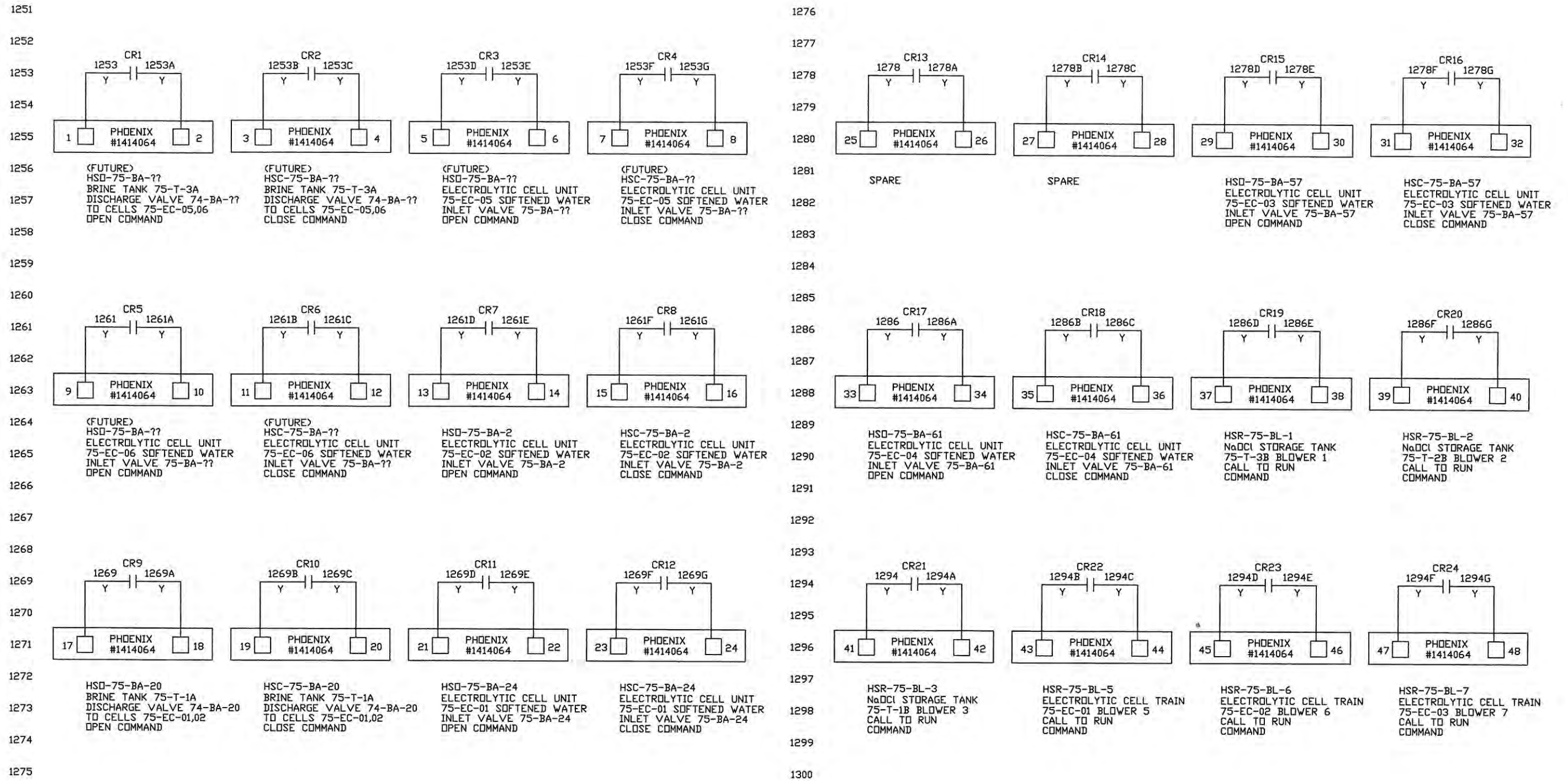
- NOTES: 1. --- DENOTES FIELD WIRING
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3. Y DENOTES #14 AWG YELLOW WIRE
4. B DENOTES #14 AWG BLUE WIRE
5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AWG
7. ○ T81 TERMINAL BLOCK
8. ◇ T82 TERMINAL BLOCK
9. □ T81 FUSED TERMINAL
10. □ T82 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

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CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 ANALOG OUTPUTS #3	DWG. NO. E25 REV. 3



INTERNATIONAL, STATE, AND LOCAL CODES. ROCHA CONTROLS SHALL NOT BE RESPONSIBLE FOR THIS ACTION. ALL FIELD WIRING WILL BE IN ACCORDANCE WITH THE (N.E.C) NATIONAL ELECTRIC CODE, AND ALL

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NOTES:

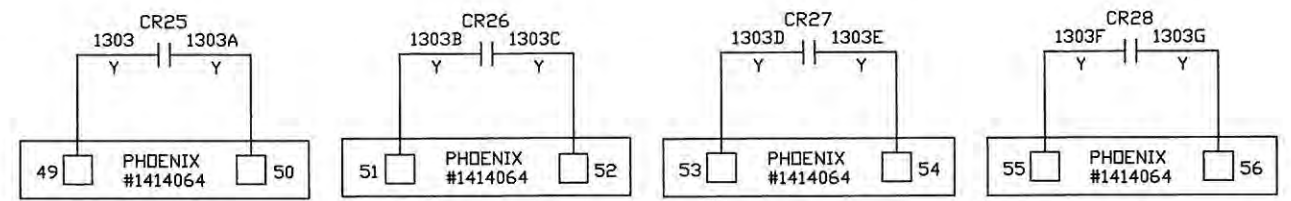
- DENOTES FIELD WIRING
- UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED.
- Y DENOTES #14 AWG YELLOW WIRE
- B DENOTES #14 AWG BLUE WIRE
- B/W DENOTES #14 AWG BLUE/WHITE TRACER
- ALL SHIELDED WIRE #18 AWG
- TB1 TERMINAL BLOCK
- ◇ TB2 TERMINAL BLOCK
- ⊖ TB1 FUSED TERMINAL
- ⊖ TB2 FUSED TERMINAL
- TB3 TERMINAL BLOCK

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP	D. PENATZER	1/27/05
3	09/19/06	AS-INSTALLED	MD	CHECKED	

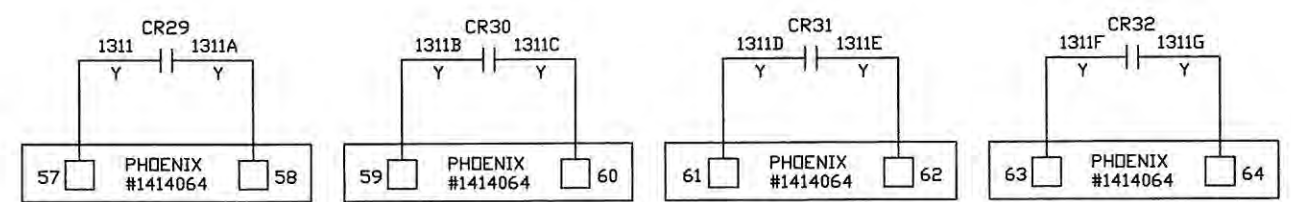
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Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 RELAY OUTPUTS #1	DWG. NO. E26	REV. 3

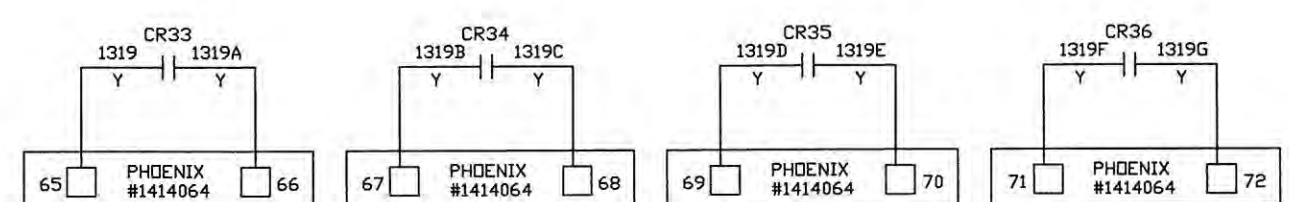
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PHOENIX #1414064
HSR-75-BL-8
ELECTROLYTIC CELL TRAIN
75-EC-04 BLOWER B
CALL TO RUN
COMMAND
(FUTURE)
HSR-75-BL-XX
ELECTROLYTIC CELL TRAIN
75-EC-05 BLOWER XX
CALL TO RUN
COMMAND
(FUTURE)
HSR-75-BL-XX
ELECTROLYTIC CELL TRAIN
75-EC-06 BLOWER XX
CALL TO RUN
COMMAND
HSS-75-EC-01
ELECTROLYTIC CELL UNIT
75-EC-01 RECTIFIER
START COMMAND

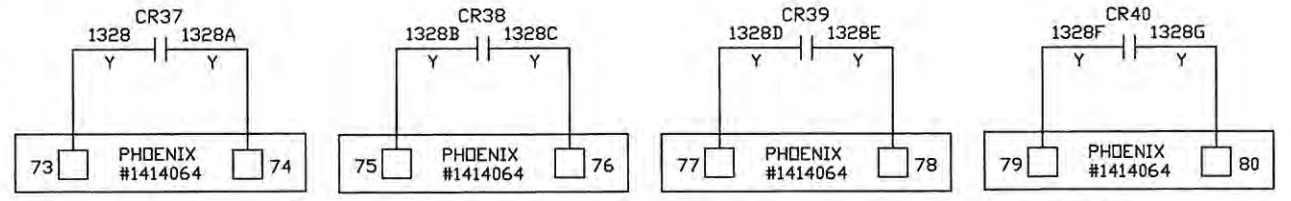


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HSS-75-EC-02
ELECTROLYTIC CELL UNIT
75-EC-02 RECTIFIER
START COMMAND
SPARE

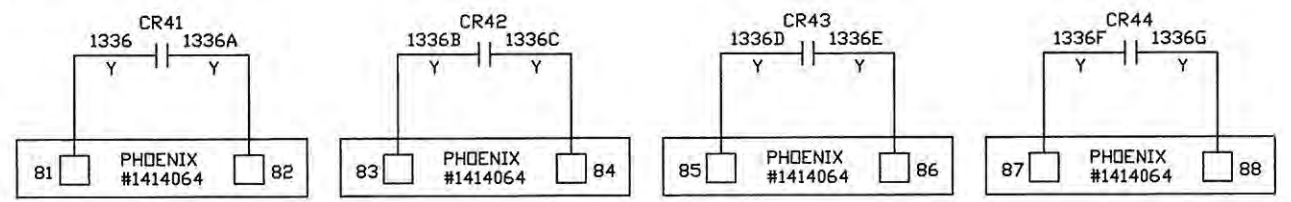


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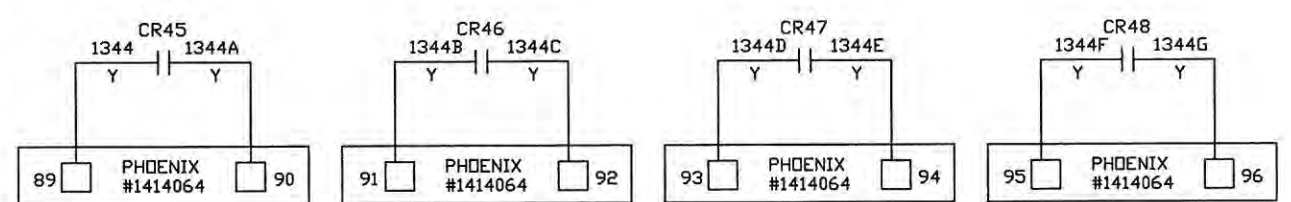
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(FUTURE)
HSS-75-EC-05
ELECTROLYTIC CELL UNIT
75-EC-05 RECTIFIER
START COMMAND



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(FUTURE)
SA-75-EC-06
ELECTROLYTIC CELL UNIT
75-EC-06
SHUTDOWN ALARM
HSR-75-MP-1
NaOCl INJECTION TRANSFER
STATION METERING PUMP
75-MP-1
CALL TO RUN
COMMAND
HSR-75-MP-2
NaOCl INJECTION TRANSFER
STATION METERING PUMP
75-MP-2
CALL TO RUN
COMMAND
HSR-75-MP-3
NaOCl INJECTION TRANSFER
STATION METERING PUMP
75-MP-3
CALL TO RUN
COMMAND

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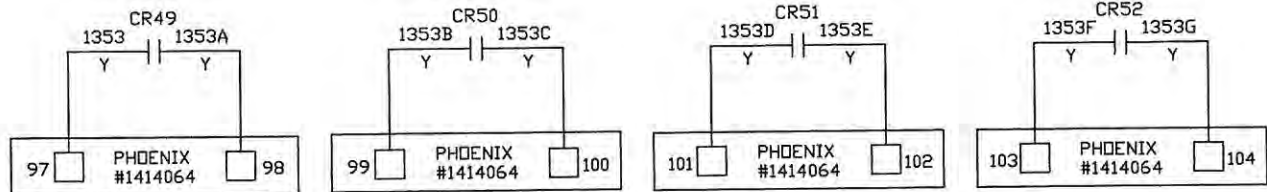
- NOTES: 1. --- DENOTES FIELD WIRING
2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED.
3. Y DENOTES #14 AWG YELLOW WIRE
4. B DENOTES #14 AWG BLUE WIRE
5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AWG
7. ○ TB1 TERMINAL BLOCK
8. ◇ TB2 TERMINAL BLOCK
9. ⊕ TB1 FUSED TERMINAL
10. ⊕ TB2 FUSED TERMINAL
11. □ TB3 TERMINAL BLOCK

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD		

ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 RELAY OUTPUTS #2	DWG. NO. E27	REV. 3

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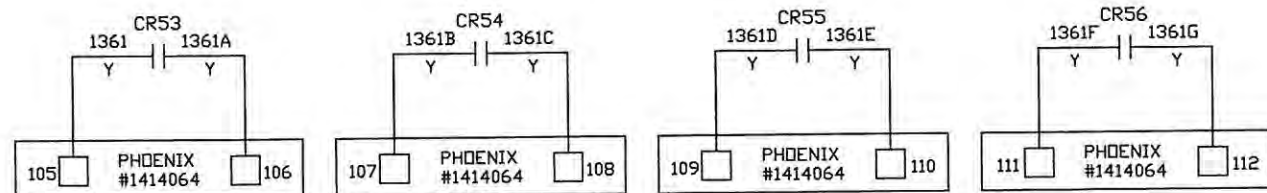


HSR-75-MP-4
NaOCl INJECTION TRANSFER
STATION METERING PUMP
75-MP-4
CALL TO RUN
COMMAND

HSR-75-MP-5
NaOCl INJECTION HSP
SUCTION METERING PUMP
75-MP-5
CALL TO RUN
COMMAND

HSR-75-MP-6
NaOCl INJECTION HSP
SUCTION METERING PUMP
75-MP-6
CALL TO RUN
COMMAND

HSR-75-MP-7
NaOCl INJECTION HSP
SUCTION METERING PUMP
75-MP-7
CALL TO RUN
COMMAND

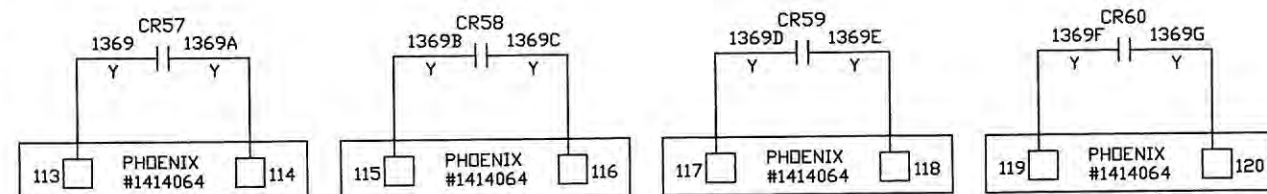


HSR-75-MP-8
NaOCl INJECTION HSP
SUCTION METERING PUMP
75-MP-8
CALL TO RUN
COMMAND

HSR-75-P-2
NaOCl AERATION/AQC
FEED LOOP PUMP
75-P-2
CALL TO RUN
COMMAND

HSR-75-P-3
NaOCl AERATION/AQC
FEED LOOP PUMP
75-P-3
CALL TO RUN
COMMAND

HSS-75-P-4
NaOCl BOOSTER
PUMP 75-P-4
START COMMAND



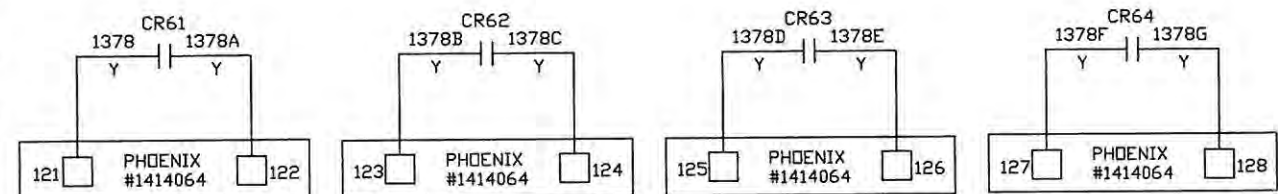
HSS-75-P-5
NaOCl BOOSTER
PUMP 75-P-5
START COMMAND

HSD-75-VBA-109
NaOCl TO TRANSFER
STATION ISOLATION
VALVE 75-VBA-109
OPEN
COMMAND

HSC-75-VBA-109
NaOCl TO TRANSFER
STATION ISOLATION
VALVE 75-VBA-109
CLOSE
COMMAND

HSD-75-VBA-113
NaOCl TO HSP
STATION ISOLATION
VALVE 75-VBA-113
OPEN
COMMAND

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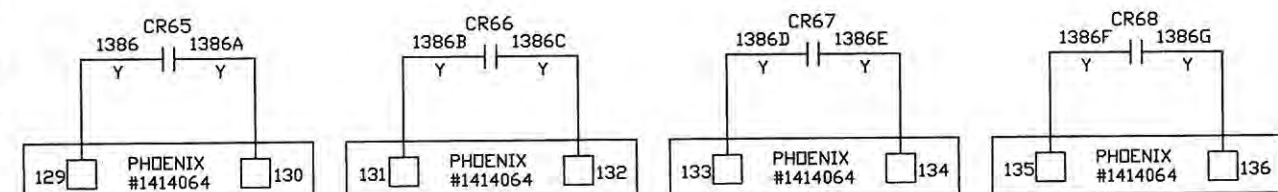


HSC-75-VBA-113
NaOCl TO HSP
STATION ISOLATION
VALVE 75-VBA-113
CLOSE
COMMAND

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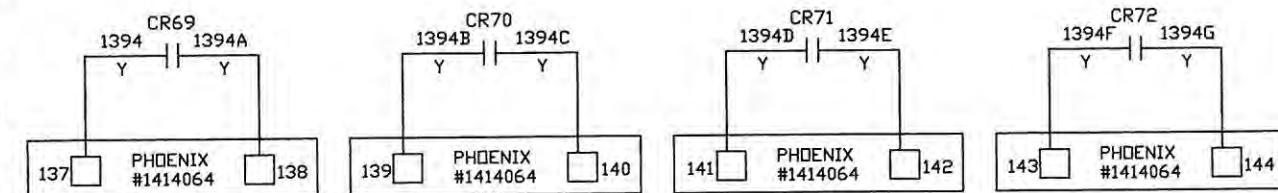


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- NOTES:
1. --- DENOTES FIELD WIRING
 2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED.
 3. Y DENOTES #14 AWG YELLOW WIRE
 4. B DENOTES #14 AWG BLUE WIRE
 5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
 6. ALL SHIELDED WIRE #18 AWG
 7. TB1 TERMINAL BLOCK
 8. TB2 TERMINAL BLOCK
 9. TB1 FUSED TERMINAL
 10. TB2 FUSED TERMINAL
 11. TB3 TERMINAL BLOCK

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
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3	09/19/06	AS-INSTALLED	MD	CHECKED	

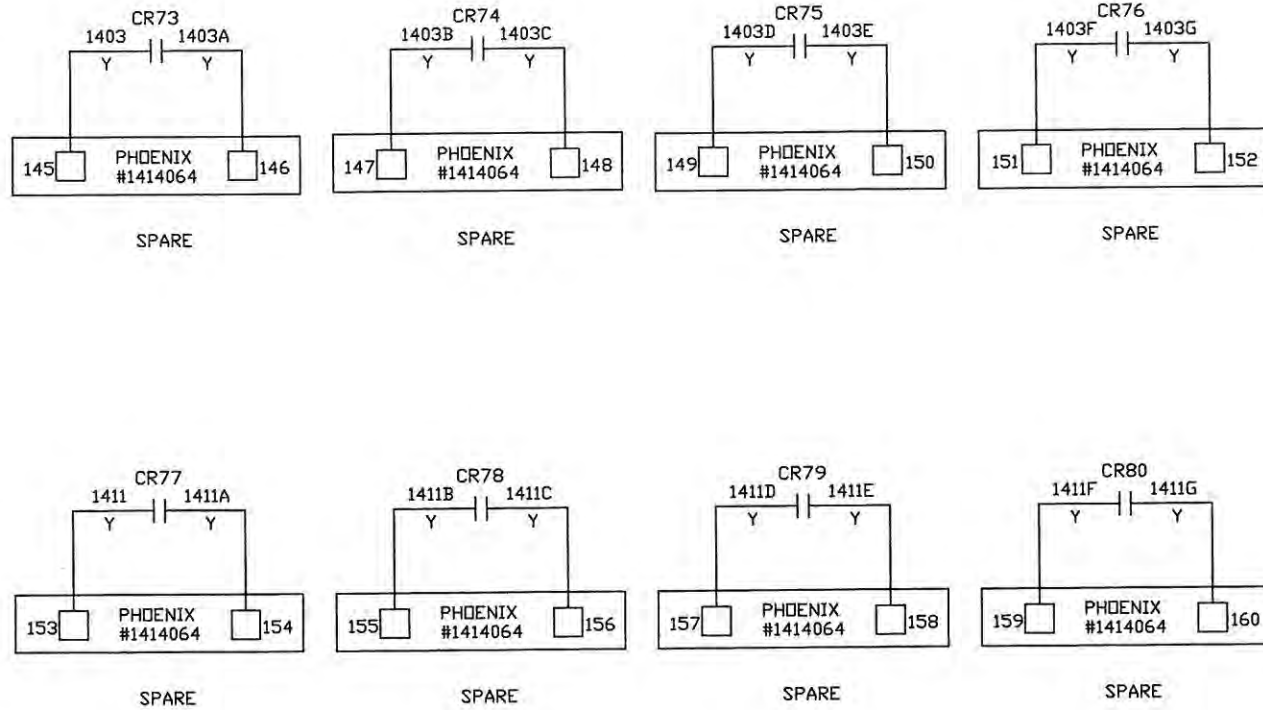
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Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

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CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO.	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 RELAY OUTPUTS #3	DWG. NO.	E28
		REV.	3

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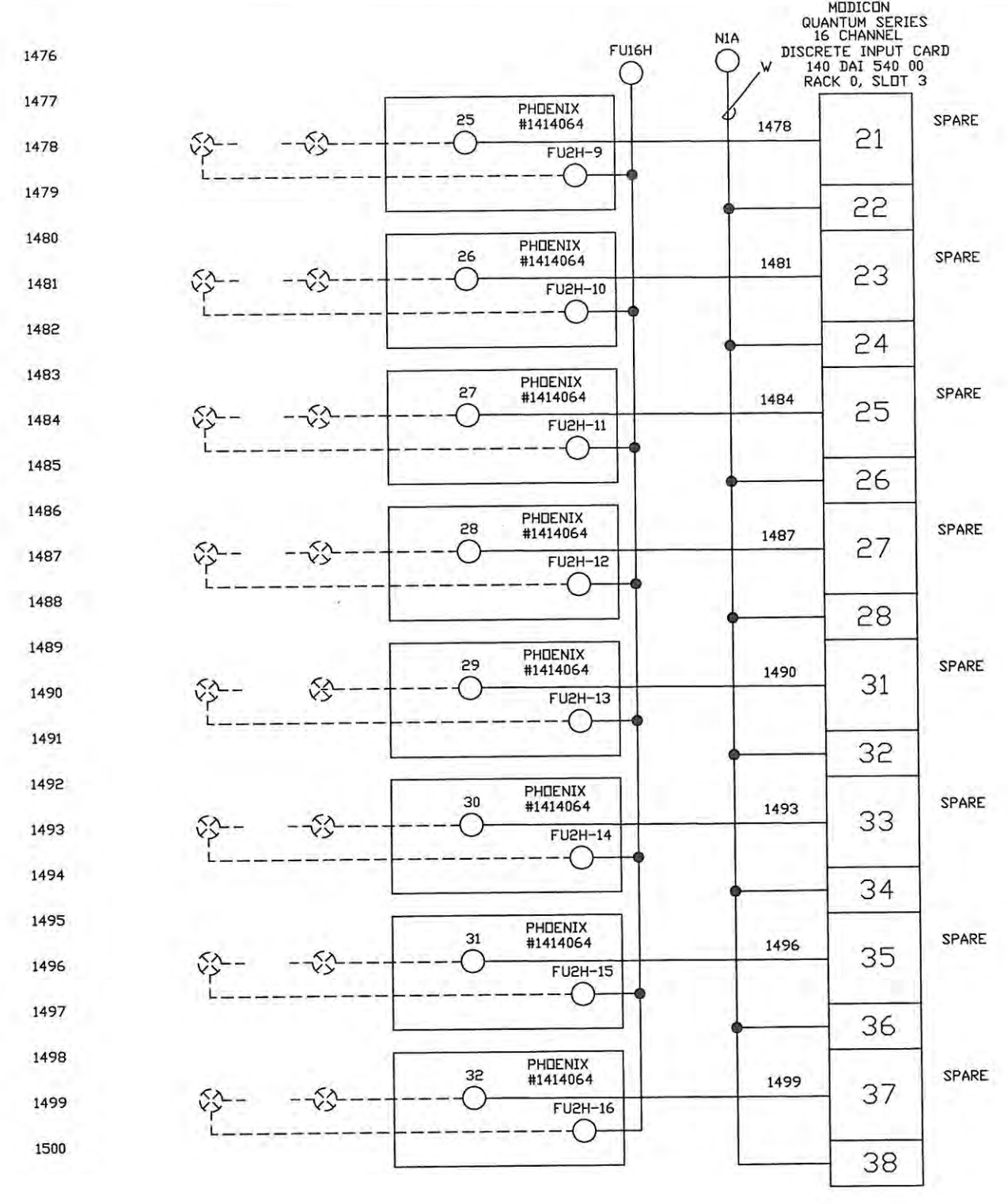
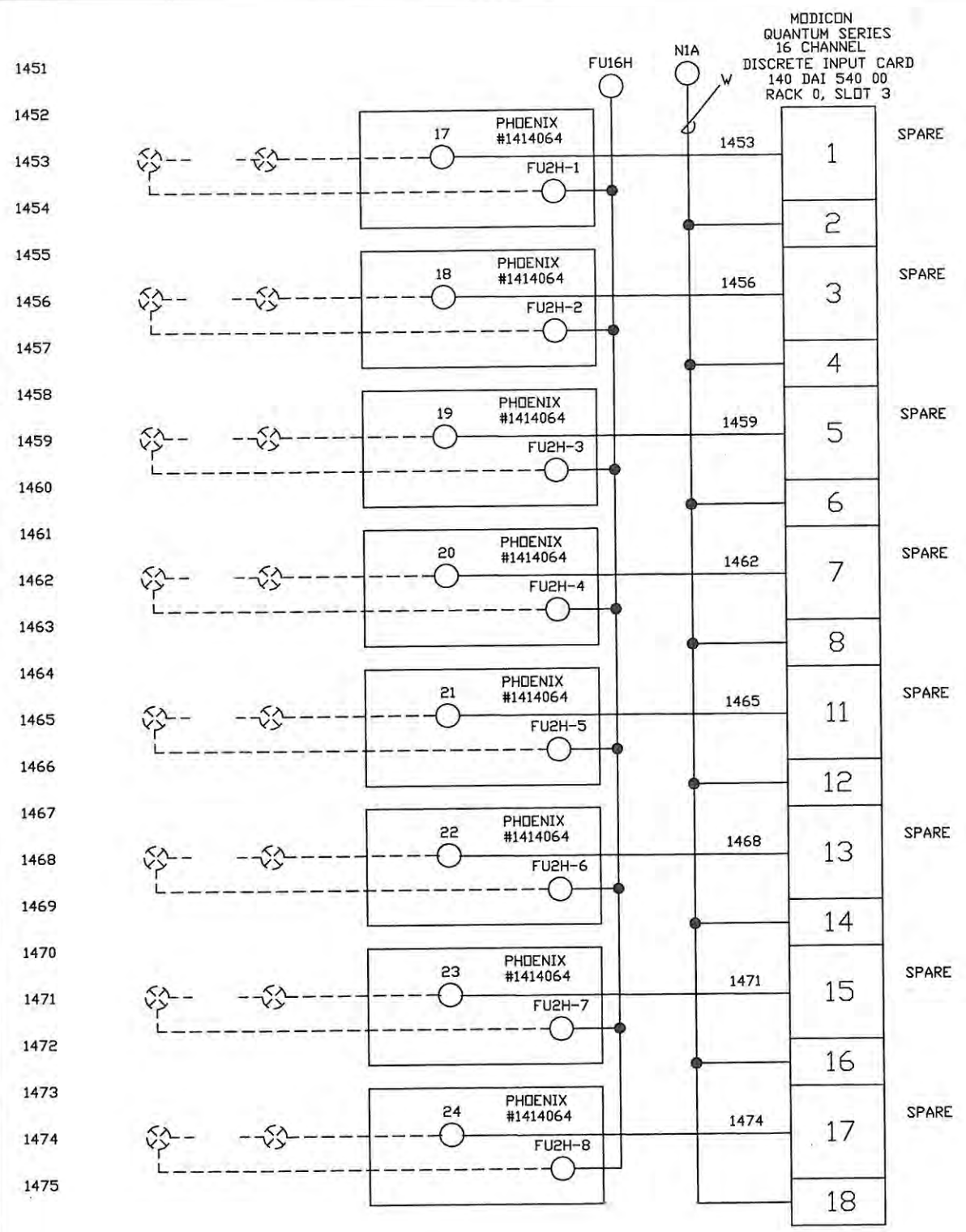
- NOTES: 1. --- DENOTES FIELD WIRING
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3. Y DENOTES #14 AWG YELLOW WIRE
4. B DENOTES #14 AWG BLUE WIRE
5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AWG
7. ○ T81 TERMINAL BLOCK
8. ◇ T82 TERMINAL BLOCK
9. ⊕ T81 FUSED TERMINAL
10. ⊕ T82 FUSED TERMINAL
11. □ T83 TERMINAL BLOCK

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	DRAWN D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

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CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO.	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 RELAY OUTPUTS #4	DWG. NO.	E29
		REV.	3



INTERNATIONAL, STATE, AND LOCAL CODES. ROCHA CONTROLS SHALL NOT BE RESPONSIBLE FOR THIS ACTION. ALL FIELD WIRING WILL BE IN ACCORDANCE WITH THE (N.E.C) NATIONAL ELECTRIC CODE, AND ALL

- NOTES:
- DENOTES FIELD WIRING
 - UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED.
 - Y DENOTES #14 AWG YELLOW WIRE
 - B DENOTES #14 AWG BLUE WIRE
 - B/W DENOTES #14 AWG BLUE/WHITE TRACER
 - ALL SHIELDED WIRE #18 AWG
 - T1 TERMINAL BLOCK
 - T2 TERMINAL BLOCK
 - T1 FUSED TERMINAL
 - T2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

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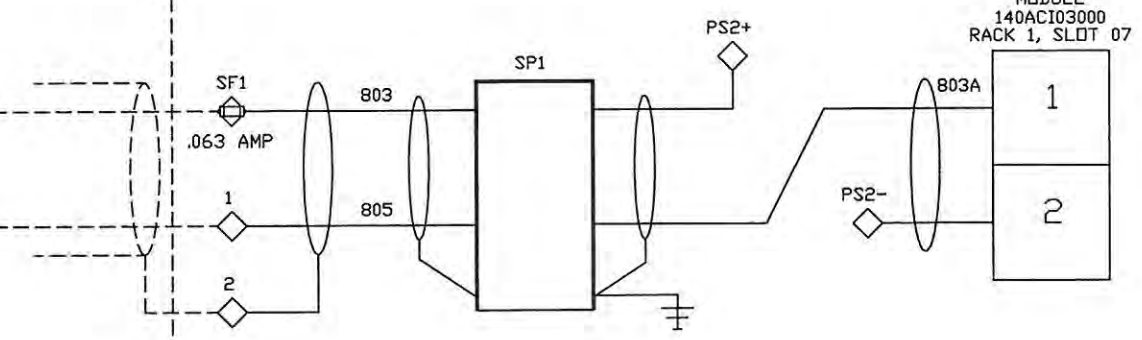
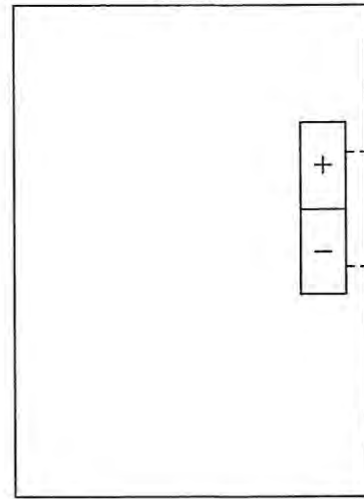
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CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 DIGITAL INPUTS #2	DWG. NO. E30	REV. 3

FIELD

PLC CONTROL PANEL

75-AIT-1
NaOCL GENERATION BUILDING
HYDROGEN CONCENTRATION
0-4%



ALL FIELD WIRING WILL BE IN ACCORDANCE WITH THE (N.E.C) NATIONAL ELECTRIC CODE, AND ALL INTERNATIONAL, STATE, AND LOCAL CODES. ROCHA CONTROLS SHALL NOT BE RESPONSIBLE FOR THIS ACTION.

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 4. B DENOTES #14 AWG BLUE WIRE
 5. B/W DENOTES #14 AWG BLUE/WHITE TRACER 10.
 6. ALL SHIELDED WIRE #18 AWG
7. ○ TB1 TERMINAL BLOCK
 8. ◇ TB2 TERMINAL BLOCK
 9. □ TB1 FUSED TERMINAL
 10. ◇ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	DRAWN	1/27/05
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3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

CLIENT ORANGE COUNTY UTILITIES
 EASTERN REGIONAL WATER TREATMENT
 FACILITY PHASE 2B EXPANSION

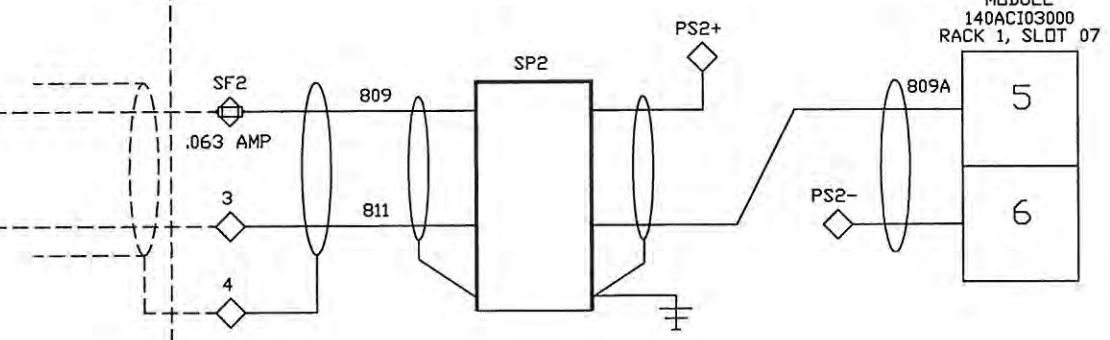
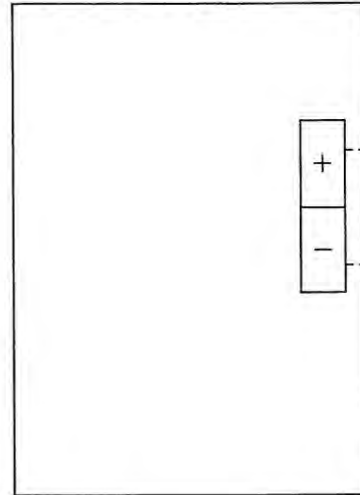
TITLE 75-LCP-8
 LOOP DIAGRAM
 HYDROGEN CONCENTRATION 75-AIT-1

CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128	DWG. NO. LD1	REV. 3
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FIELD

PLC CONTROL PANEL

75-AIT-2
NoOCL GENERATION BUILDING
HYDROGEN CONCENTRATION
0-4%



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 5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
 6. ALL SHIELDED WIRE #18 AWG
 7. ○ TB1 TERMINAL BLOCK
 8. ◇ TB2 TERMINAL BLOCK
 9. □ TB1 FUSED TERMINAL
 10. ◇ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
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2	08/23/05	AS-BUILT	DRP	D. PENATZER	1/27/05
3	09/19/06	AS-INSTALLED	MD	CHECKED	

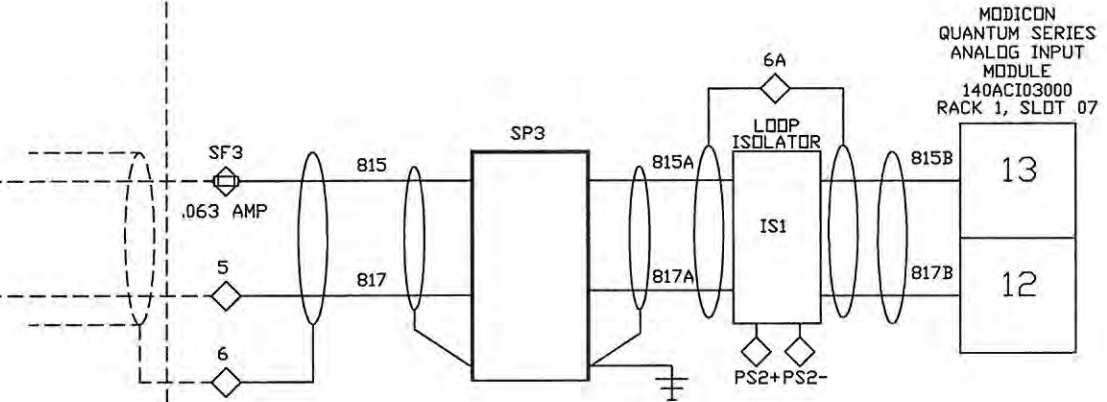
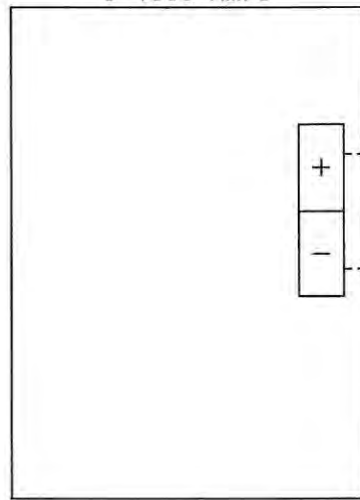
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CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 LOOP DIAGRAM HYDROGEN CONCENTRATION 75-AIT-2	DWG. NO. L02 REV. 3

FIELD

PLC CONTROL PANEL

ZI-75-EC-01
ELECTROLYTIC CELL TRAIN 75-EC-01
RECTIFIER CURRENT
0-1500 AMPS



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4. B DENOTES #14 AWG BLUE WIRE
5. B/W DENOTES #14 AWG BLUE/WHITE TRACER 10.
6. ALL SHIELDED WIRE #18 AWG
7. ○ TBI TERMINAL BLOCK
8. ◇ TBI TERMINAL BLOCK
9. ⊕ TBI FUSED TERMINAL
10. ⊕ TBI FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	DRAWN	
2	08/23/05	AS-BUILT	DRP	D. PENATZER	1/27/05
3	09/19/06	AS-INSTALLED	MD	CHECKED	



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CLIENT ORANGE COUNTY UTILITIES
EASTERN REGIONAL WATER TREATMENT
FACILITY PHASE 2B EXPANSION

TITLE 75-LCP-8
LOOP DIAGRAM
RECTIFIER CURRENT 75-EC-01

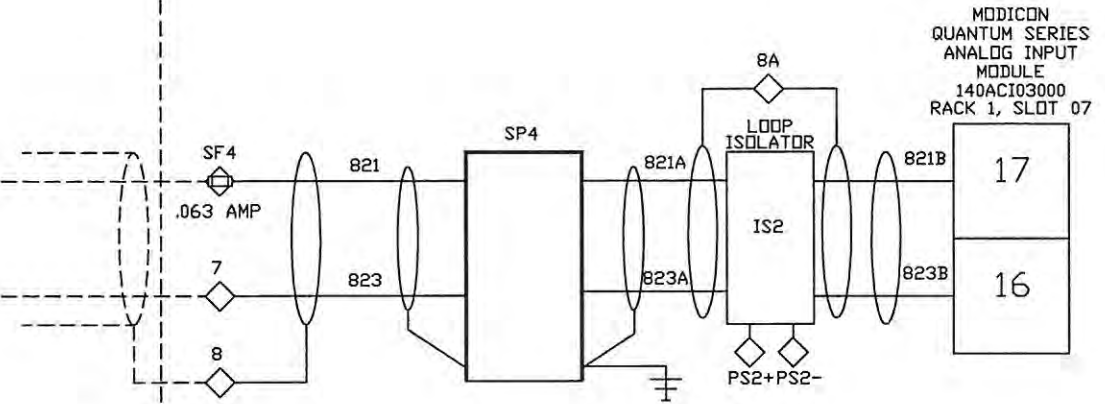
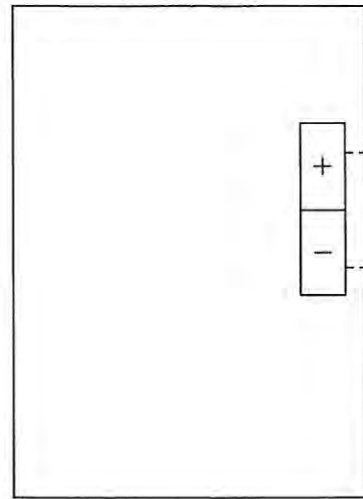
CLIENT
PROJ. NO.
ROCHA CONTROLS INC.
PROJ. NO. 2-3-128

DWG. NO. L03
REV. 3

FIELD

PLC CONTROL PANEL

ZV-75-EC-01
ELECTROLYTIC CELL TRAIN 75-EC-01
RECTIFIER VOLTAGE
0-110 VDC



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 5. B/W DENOTES #14 AVG BLUE/WHITE TRACER 10.
 6. ALL SHIELDED WIRE #18 AWG
7. ○ TB1 TERMINAL BLOCK
 8. ◇ TB2 TERMINAL BLOCK
 9. ⊕ TB1 FUSED TERMINAL
 10. ⊕ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
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3	09/19/06	AS-INSTALLED	MD	CHECKED	

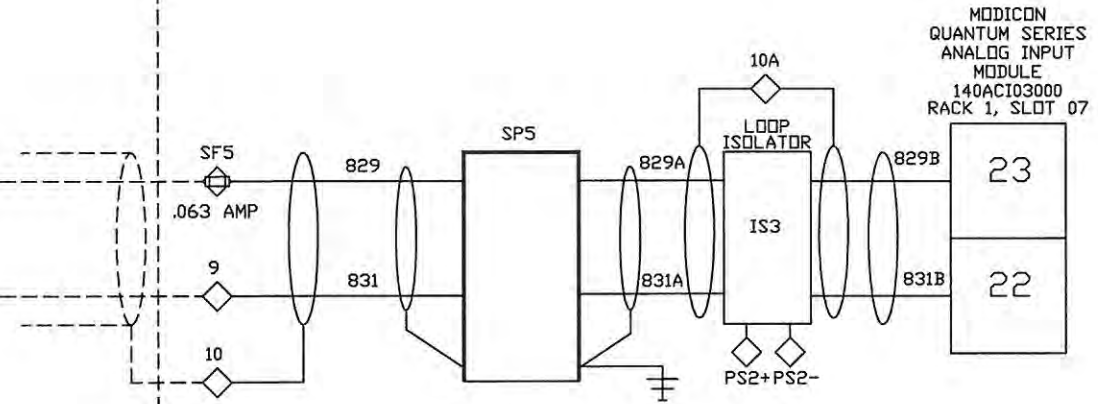
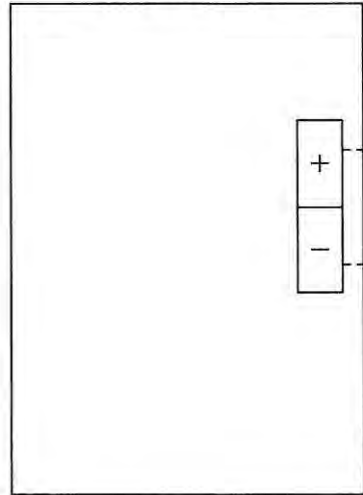
ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO.	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM RECTIFIER VOLTAGE 75-EC-01	DWG. NO.	L04
		REV.	3

FIELD

PLC CONTROL PANEL

ZI-75-EC-02
ELECTROLYTIC CELL TRAIN
75-EC-02 RECTIFIER CURRENT
0-1500 AMPS



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 8. ◇ TB2 TERMINAL BLOCK
 9. ⊕ TB1 FUSED TERMINAL
 10. ⊕ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
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1	04/11/05	RE-SUBMITTAL	DRP	DRAWN D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

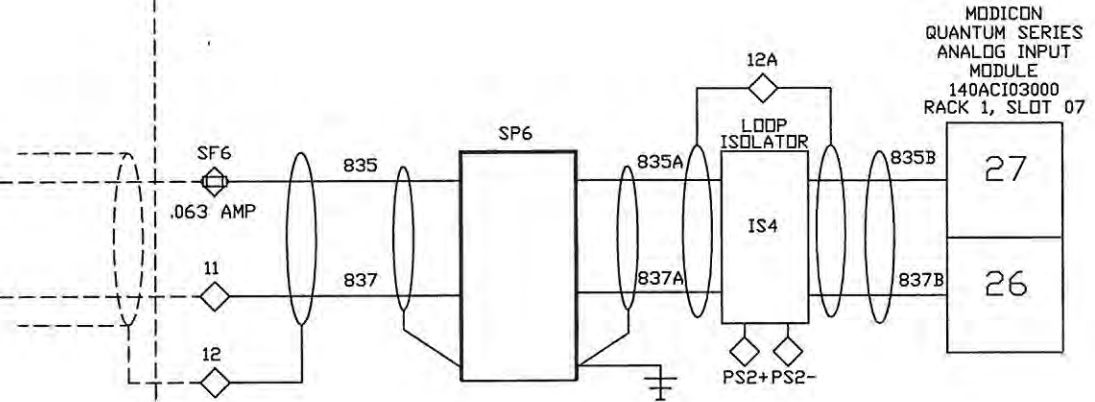
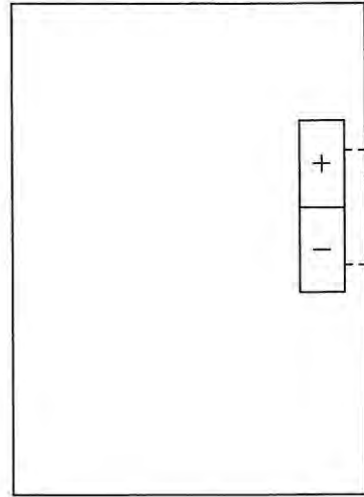
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 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM RECTIFIER CURRENT 75-EC-02	DWG. NO. L05
		REV. 3

FIELD

PLC CONTROL PANEL

ZV-75-EC-02
ELECTROLYTIC CELL TRAIN
75-EC-02 RECTIFIER VOLTAGE
0-110 VDC



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 7. ○ TB1 TERMINAL BLOCK
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 9. □ TB1 FUSED TERMINAL
 10. ◇ TB2 FUSED TERMINAL

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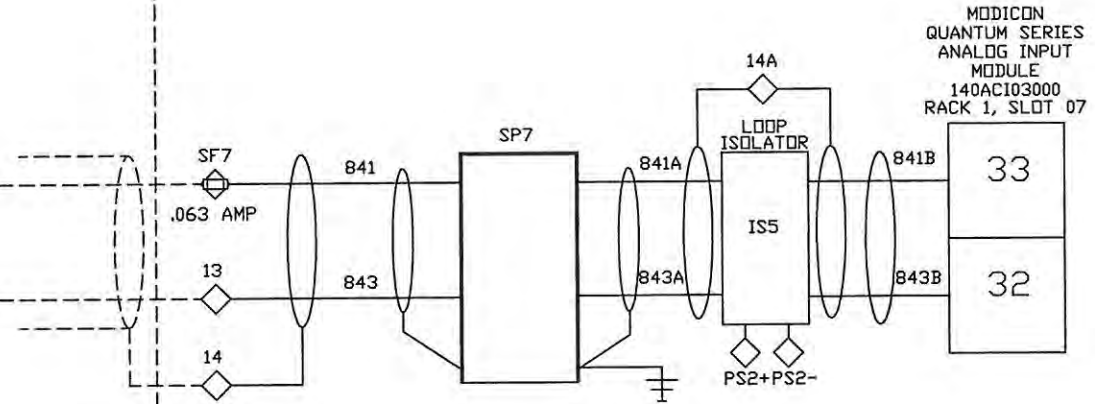
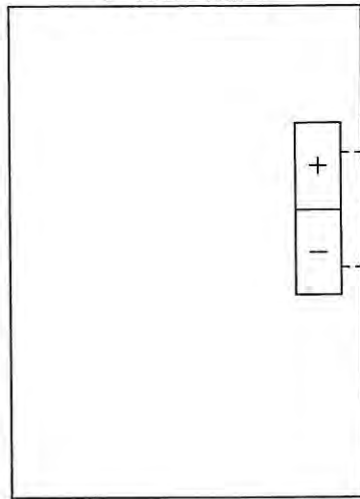
CLIENT ORANGE COUNTY UTILITIES
 EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION
 TITLE 75-LCP-8
 LOOP DIAGRAM
 RECTIFIER VOLTAGE 75-EC-02

CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128	DWG. NO. L06	REV. 3
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FIELD

PLC CONTROL PANEL

ZI-75-EC-03
ELECTROLYTIC CELL TRAIN
75-EC-03 RECTIFIER CURRENT
0-1500 AMPS



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5. B/W DENOTES #14 AVG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AVG
7. ○ TB1 TERMINAL BLOCK
8. ◇ TB2 TERMINAL BLOCK
9. ⊕ TB1 FUSED TERMINAL
10. ⊕ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
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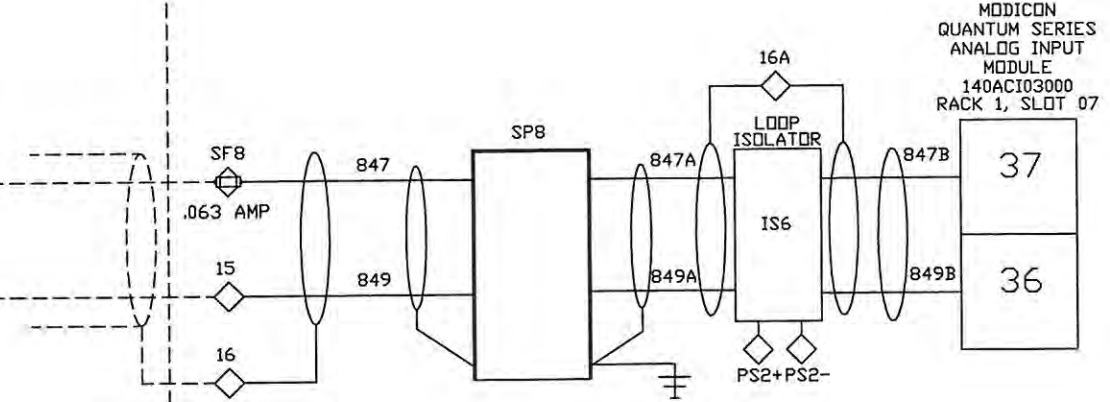
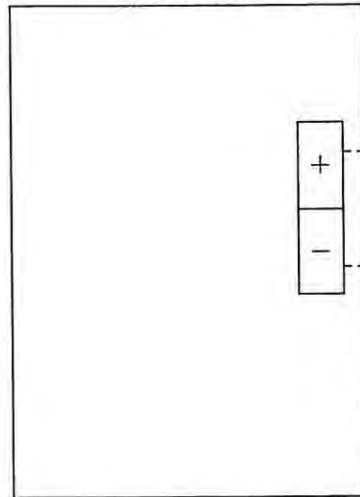
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 LOOP DIAGRAM RECTIFIER CURRENT 75-EC-03	DWG. NO. L07	REV. 3

FIELD

PLC CONTROL PANEL

ZV-75-EC-03
ELECTROLYTIC CELL TRAIN
75-EC-03 RECTIFIER VOLTAGE
0-110 VDC



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 - B/W DENOTES #14 AWG BLUE/WHITE TRACER
 - ALL SHIELDED WIRE #18 AWG
 - TB1 TERMINAL BLOCK
 - ◇ TB2 TERMINAL BLOCK
 - ⊖ TB1 FUSED TERMINAL
 - ⊖ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
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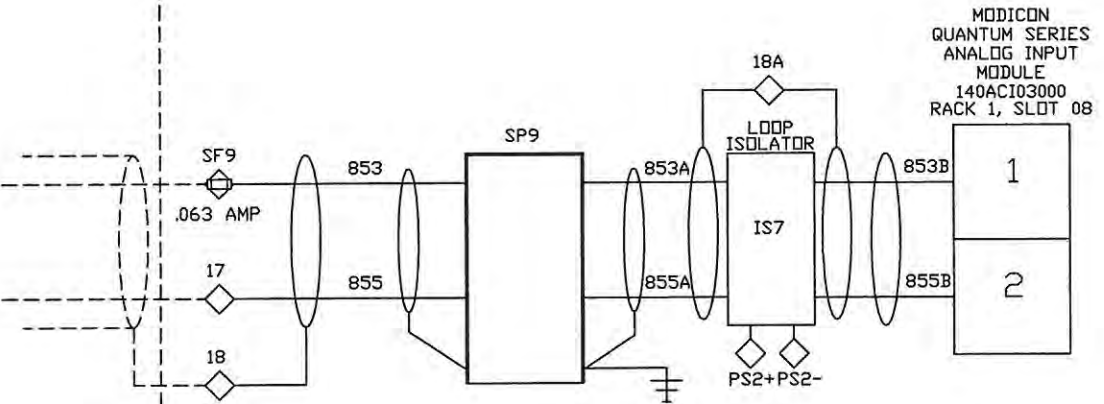
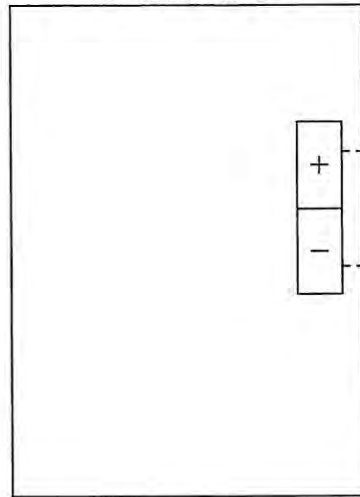
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CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 LOOP DIAGRAM RECTIFIER VOLTAGE 75-EC-03	DWG. NO. L08	REV. 3

FIELD

PLC CONTROL PANEL

ZI-75-EC-04
ELECTROLYTIC CELL TRAIN
75-EC-04 RECTIFIER CURRENT
0-1500 AMPS



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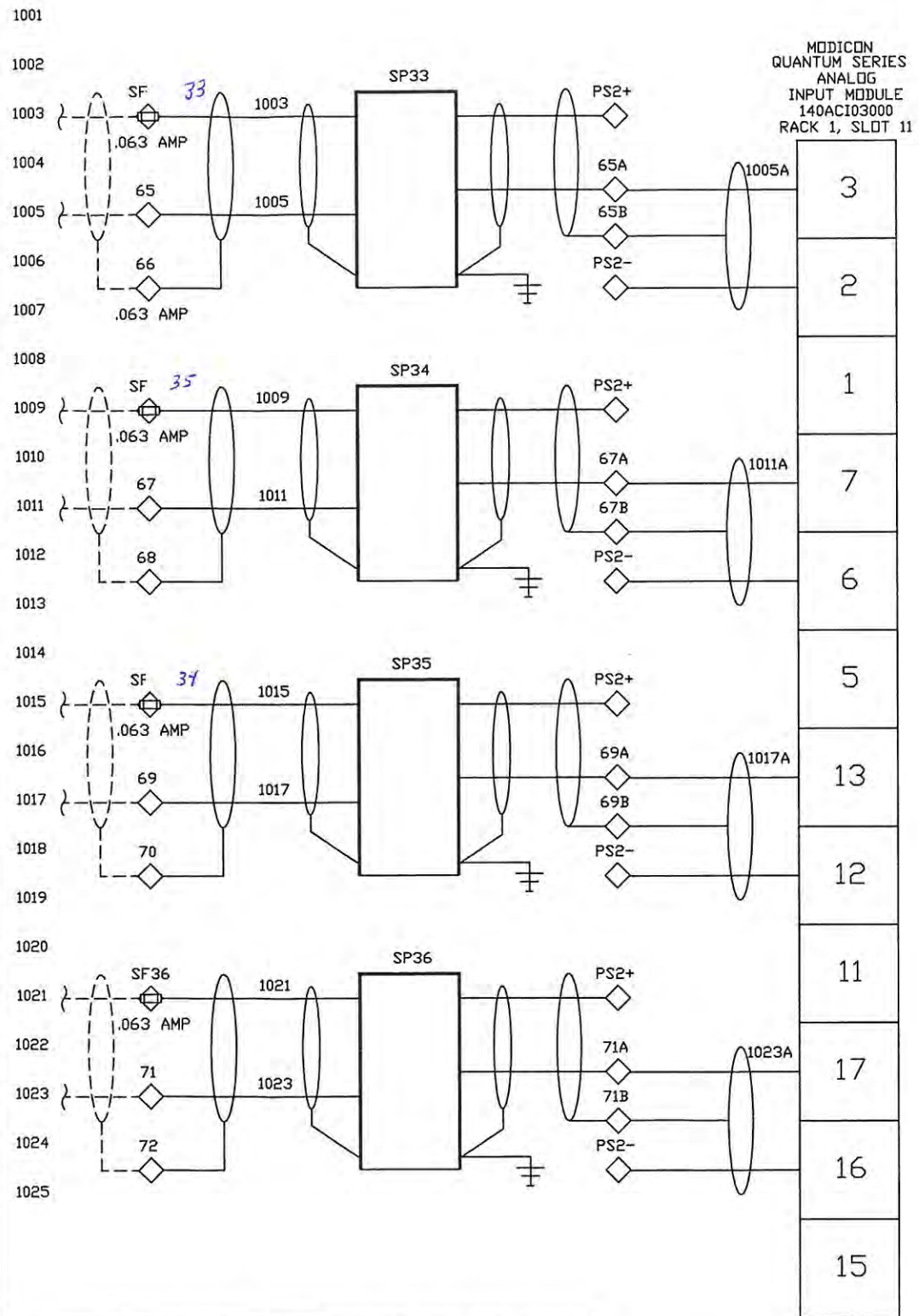
- NOTES: 1. --- DENOTES FIELD WIRING
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3. Y DENOTES #14 AWG YELLOW WIRE
4. B DENOTES #14 AWG BLUE WIRE
5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AWG
7. ○ T81 TERMINAL BLOCK
8. ◇ T82 TERMINAL BLOCK
9. □ T81 FUSED TERMINAL
10. ◇ T82 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT ORANGE COUNTY UTILITIES
EASTERN REGIONAL WATER TREATMENT
FACILITY PHASE 2B EXPANSION
TITLE 75-LCP-8
LOOP DIAGRAM
RECTIFIER CURRENT 75-EC-04

CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128	DWG. NO. L09	REV. 3
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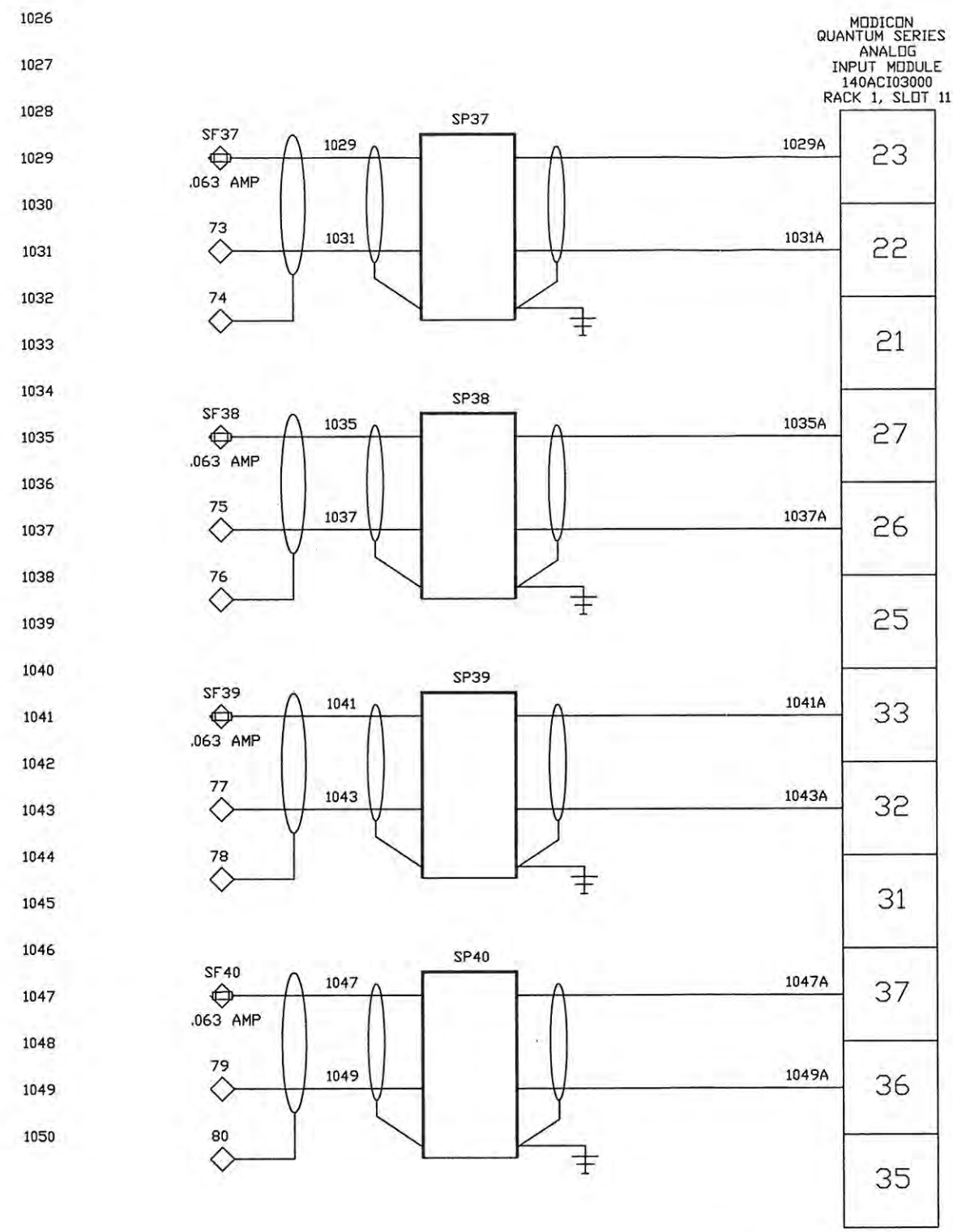


75-PIT-104
NaOCl INJECTION
HSP STATION
PRESSURE
0-35 PSIG
AI300037

75-PIT-105
NaOCl AERATION/AQC
FEED LOOP SUPPLY
PRESSURE
0-40 PSIG
AI300038

75-PIT-106
NaOCl INJECTION
TRANSFER STATION
PRESSURE
0-35 PSIG
AI300039

75-PIT-107
NaOCl AERATION/AQC
FEED LOOP RETURN
PRESSURE
0-40 PSIG
AI300040



MCC1
METERING
AI300041

MCC2
METERING
AI300042

REC-2A
METERING
AI300043

REC-2B
METERING
AI300044

INTERNATIONAL, STATE, AND LOCAL CODES. ROCHA CONTROLS SHALL NOT BE RESPONSIBLE FOR THIS ACTION. ALL FIELD WIRING WILL BE IN ACCORDANCE WITH THE (N.E.C) NATIONAL ELECTRIC CODE, AND ALL

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 5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
 6. ALL SHIELDED WIRE #18 AWG
 7. ○ TB1 TERMINAL BLOCK
 8. ◇ TB2 TERMINAL BLOCK
 9. □ TB1 FUSED TERMINAL
 10. ◇ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP	D. PENATZER	1/27/05
3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

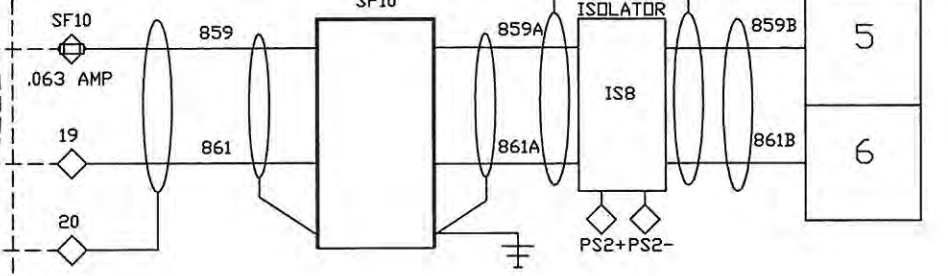
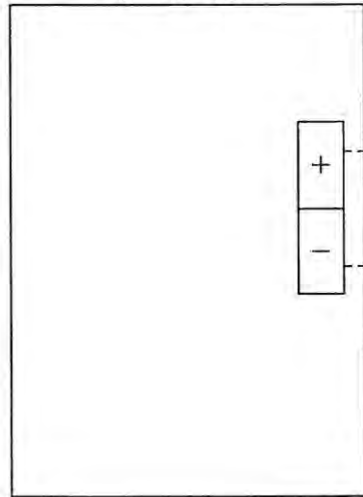
CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 ANALOG INPUTS #5	DWG. NO. E21	REV. 3

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FIELD

PLC CONTROL PANEL

ZV-75-EC-04
ELECTROLYTIC CELL TRAIN
75-EC-04 RECTIFIER VOLTAGE
0-110 VDC



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3	09/19/06	AS-INSTALLED	MD	CHECKED	

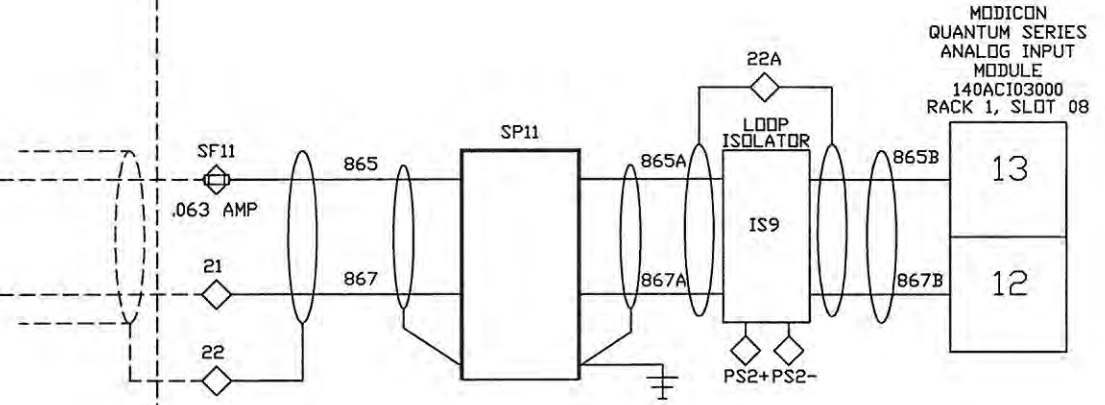
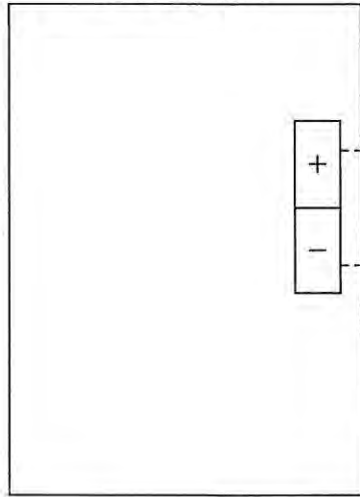
ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 LOOP DIAGRAM RECTIFIER VOLTAGE - 75-EC-04	DWG. NO. L10 REV. 3

FIELD

PLC CONTROL PANEL

(FUTURE)
Z1-75-EC-05
ELECTROLYTIC CELL TRAIN
75-EC-05 RECTIFIER CURRENT
0-1500 AMPS



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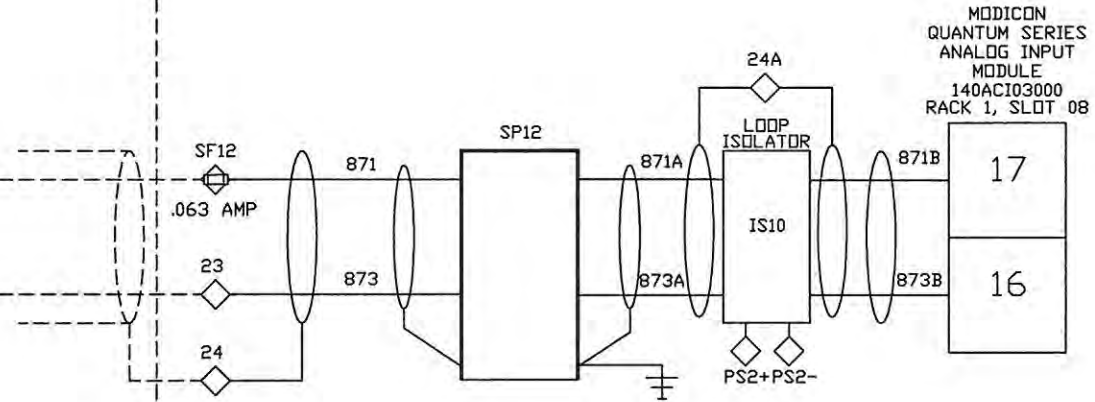
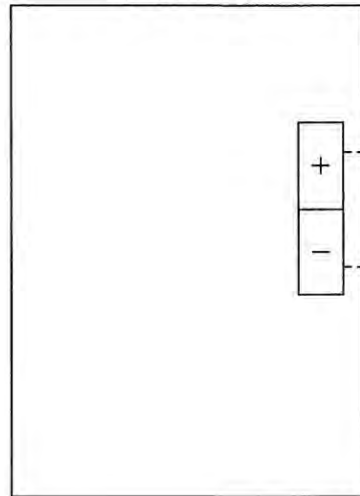
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TITLE	75-LCP-8 LOOP DIAGRAM RECTIFIER CURRENT 75-EC-05	DWG. NO.	L11
		REV.	3

FIELD

PLC CONTROL PANEL

(FUTURE)
ZV-75-EC-05
ELECTROLYTIC CELL TRAIN
75-EC-05 RECTIFIER VOLTAGE
0-110 VDC



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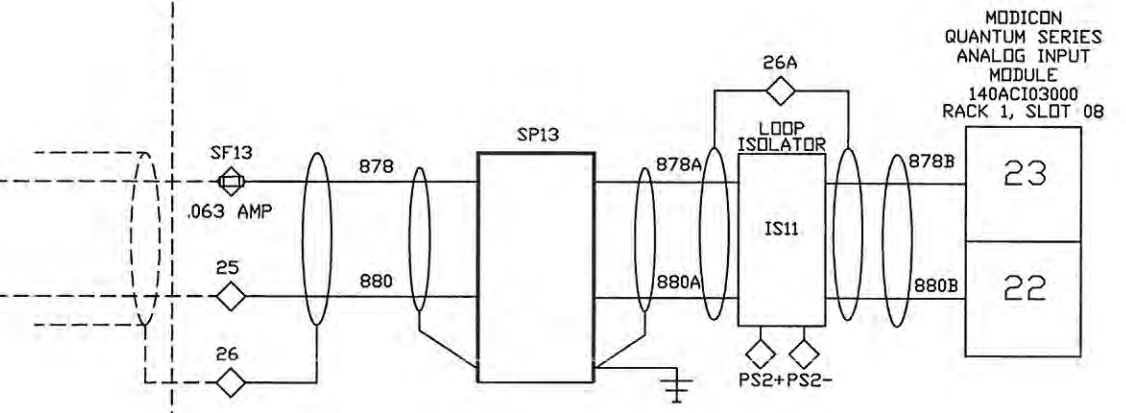
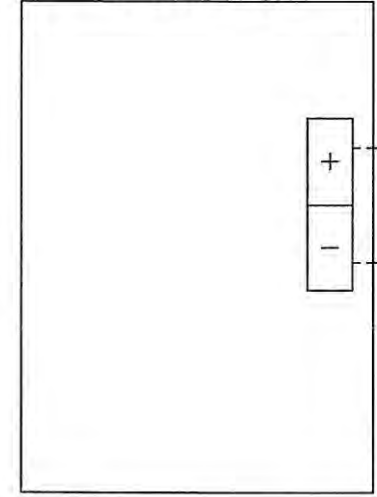
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CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-12B
TITLE 75-LCP-8 LOOP DIAGRAM RECTIFIER VOLTAGE 75-EC-05	DWG. NO. L12 REV. 3

FIELD

PLC CONTROL PANEL

ZI-75-EC-06
ELECTROLYTIC CELL TRAIN
75-EC-06 RECTIFIER CURRENT
0-1500 AMPS



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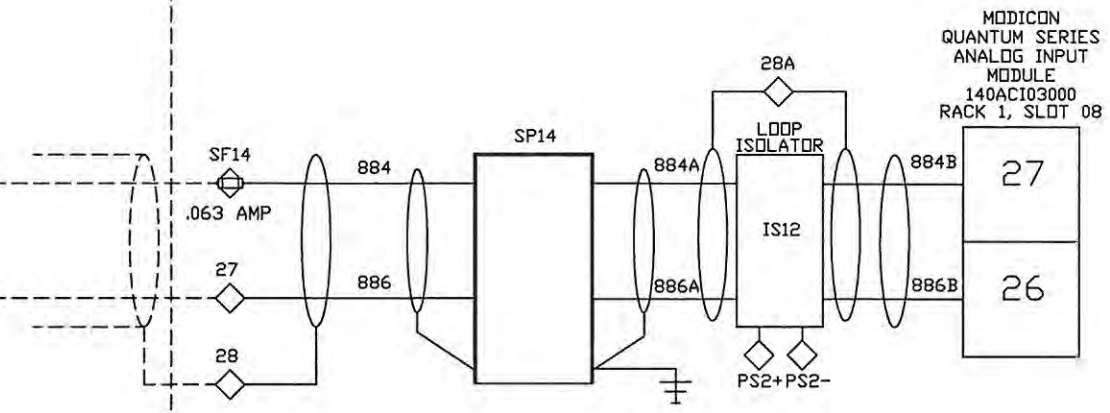
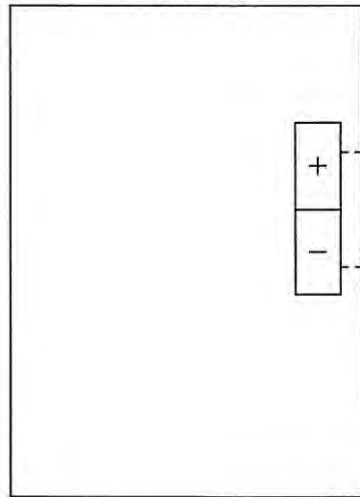
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CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM RECTIFIER CURRENT 75-EC-06	DWG. NO. L13
		REV. 3

FIELD

PLC CONTROL PANEL

ZV-75-EC-06
ELECTROLYTIC CELL TRAIN
75-EC-06 RECTIFIER VOLTAGE
0-110 VDC



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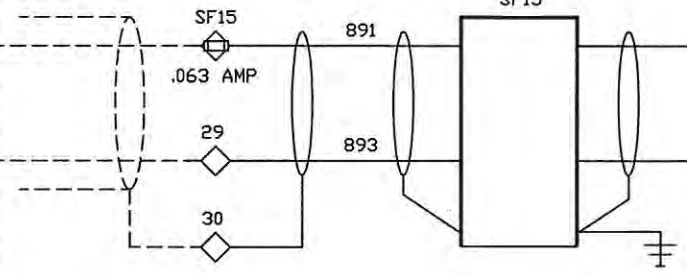
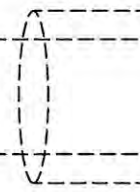
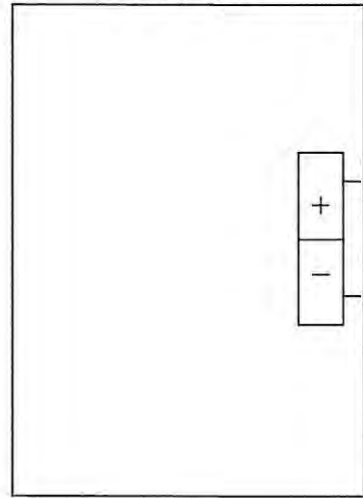
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CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 LOOP DIAGRAM RECTIFIER VOLTAGE 75-EC-06	DWG. NO. L14	REV. 3

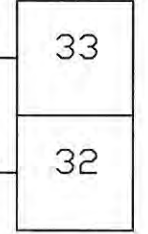
FIELD

PLC CONTROL PANEL

75-FIT-104
NaOCL INJECTION HSP STATION
FLOW
0-40 GPM



MODICON
QUANTUM SERIES
ANALOG INPUT
MODULE
140ACI03000
RACK 1, SLOT 08



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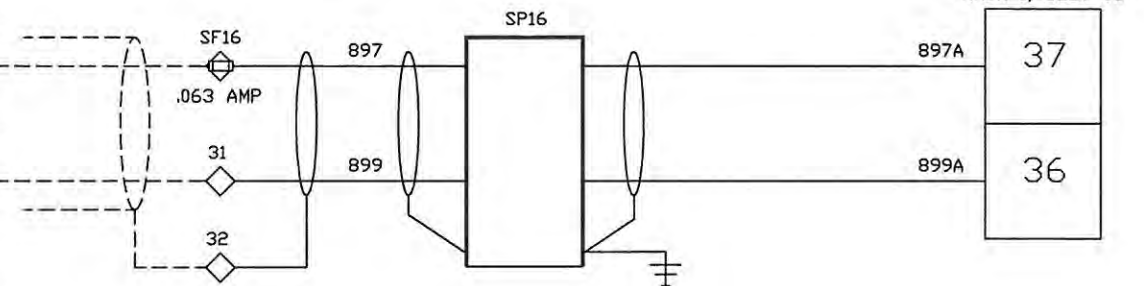
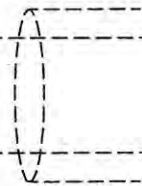
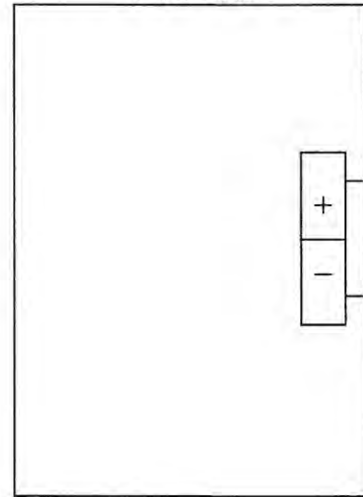
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT	ROCHA CONTROLS INC. PROJ. NO. 2-3-12B
TITLE	75-LCP-8 LOOP DIAGRAM HSP STATION FLOW 75-FIT-104	DWG. NO.	L15
		REV.	3

FIELD

PLC CONTROL PANEL

75-FIT-105
NaOCL AERATION/AQC FEED LOOP
SUPPLY FLOW
0-80 GPM



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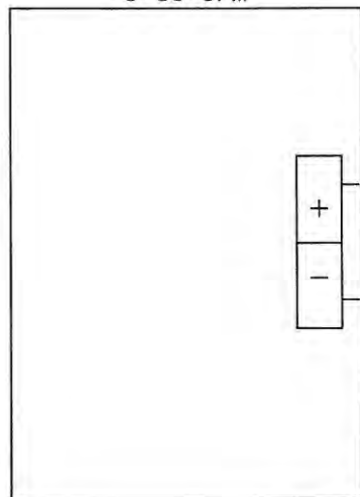
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CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 LOOP DIAGRAM AERATION/AQC SUPPLY FLOW 75-FIT-105	DWG. NO. L16 REV. 3

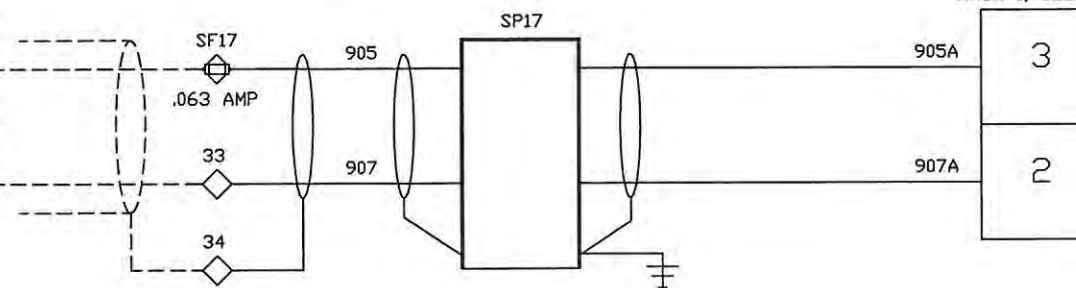
FIELD

PLC CONTROL PANEL

75-FIT-106
NaOCL INJECTION TRANSFER PUMP
STATION FLOW
0-50 GPM



MODICON
QUANTUM SERIES
ANALOG INPUT
MODULE
140ACI03000
RACK 1, SLOT 09



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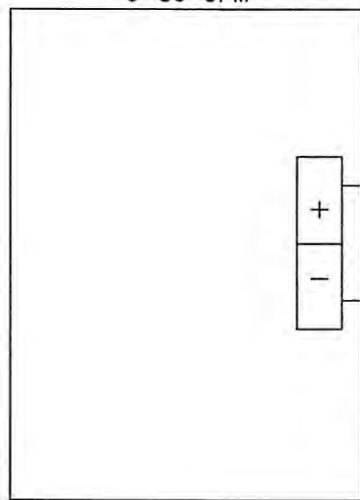
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TITLE	75-LCP-8 LOOP DIAGRAM TRANSFER PUMP FLOW 75-FIT-106	DWG. NO.	REV.
	L17		3

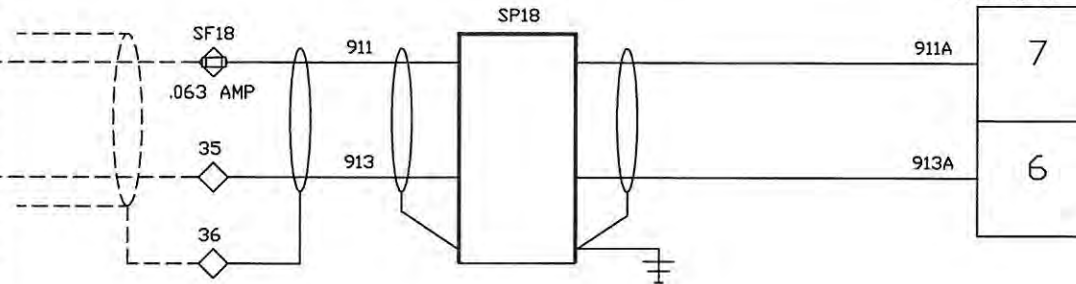
FIELD

PLC CONTROL PANEL

75-FIT-107
NaOCL AERATION/AQC FEED LOOP
RETURN FLOW
0-80 GPM



MODICON
QUANTUM SERIES
ANALOG INPUT
MODULE
140ACI03000
RACK 1, SLOT 09



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2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD		

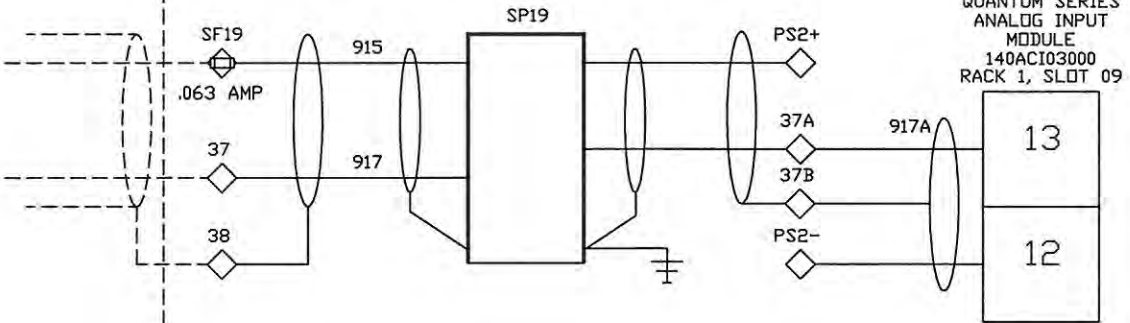
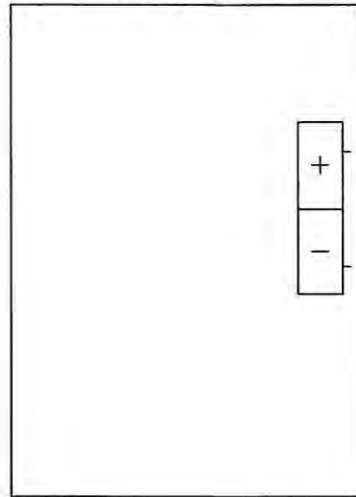
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd, Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM ARERATION/AQC RETURN FLOW 75-FIT-107	DWG. NO.	L18
		REV.	3

FIELD

PLC CONTROL PANEL

75-LIT-1A
BRINE/SALT STORAGE TANK
75-T-1A LEVEL
1.5-28 FEET



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ALL FIELD WIRING WILL BE IN ACCORDANCE WITH THE (N.E.C) NATIONAL ELECTRIC CODE, AND ALL INTERNATIONAL, STATE, AND LOCAL CODES. ROCHA CONTROLS SHALL NOT BE RESPONSIBLE FOR THIS ACTION.

- NOTES:**
- 1. --- DENOTES FIELD WIRING
 - 2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED.
 - 3. Y DENOTES #14 AWG YELLOW WIRE
 - 4. B DENOTES #14 AWG BLUE WIRE
 - 5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
 - 6. ALL SHIELDED WIRE #18 AWG
 - 7. ○ TB1 TERMINAL BLOCK
 - 8. ◇ TB2 TERMINAL BLOCK
 - 9. ⊕ TB1 FUSED TERMINAL
 - 10. ⊕ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	DRAWN	1/27/05
2	08/23/05	AS-BUILT	DRP	D. PENATZER	1/27/05
3	09/19/06	AS-INSTALLED	MD	CHECKED	

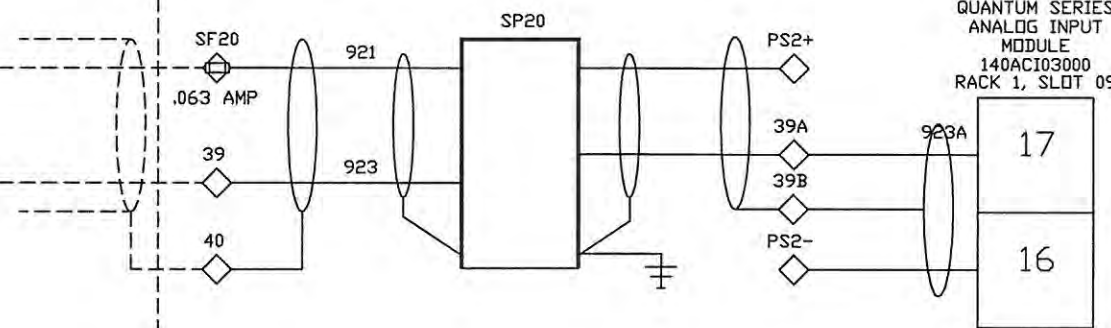
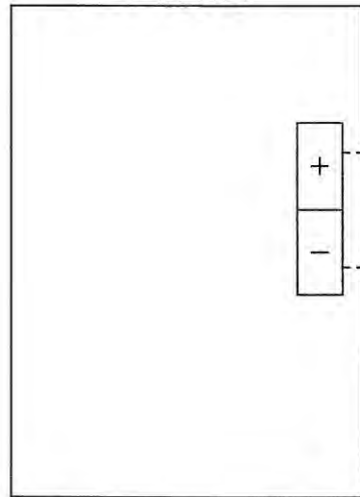
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 LOOP DIAGRAM BRINE/SALT TANK LEVEL 75-LIT-1A	DWG. NO. L19	REV. 3

FIELD

PLC CONTROL PANEL

75-LIT-1B
NaOCL STORAGE TANK 75-T-1B
LEVEL
0-12 FEET



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4. B DENOTES #14 AWG BLUE WIRE
5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AWG
7. ○ TBI TERMINAL BLOCK
8. ◇ TBI TERMINAL BLOCK
9. ⊕ TBI FUSED TERMINAL
10. ⊕ TBI FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
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3	09/19/06	AS-INSTALLED	MD	CHECKED	

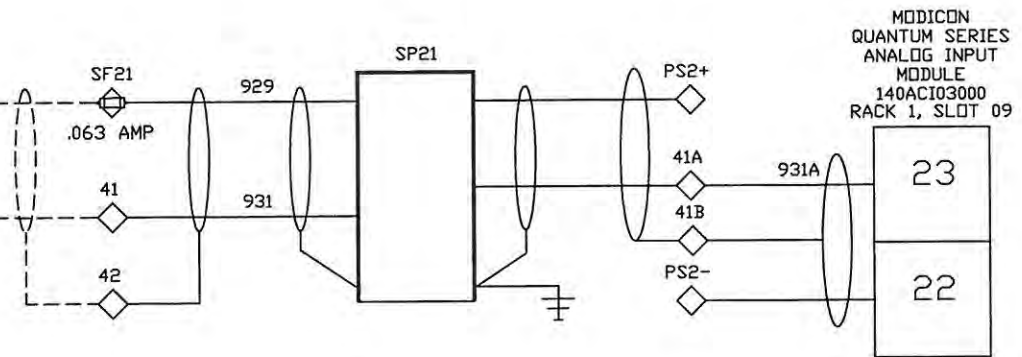
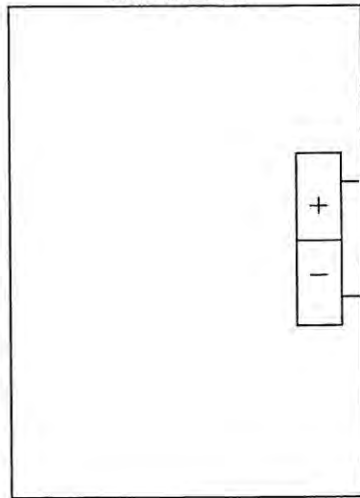
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM STORAGE TANK LEVEL 75-LIT-1B	DWG. NO.	L20
		REV.	3

FIELD

PLC CONTROL PANEL

75-LIT-2A
BRINE/SALT STORAGE TANK
75-T-2A LEVEL
1.5-28 FEET



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5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AWG
7. ○ TB1 TERMINAL BLOCK
8. ◇ TB2 TERMINAL BLOCK
9. ⊕ TB1 FUSED TERMINAL
10. ⊕ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
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3	09/19/06	AS-INSTALLED	MD	CHECKED	



Municipal & Industrial Control Systems

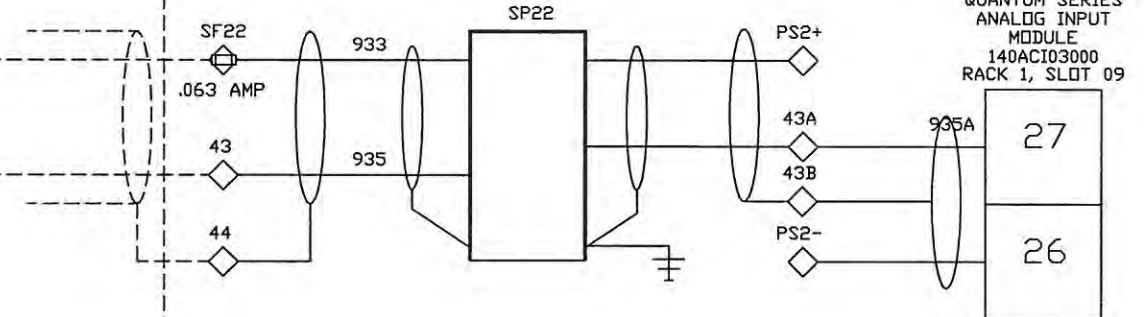
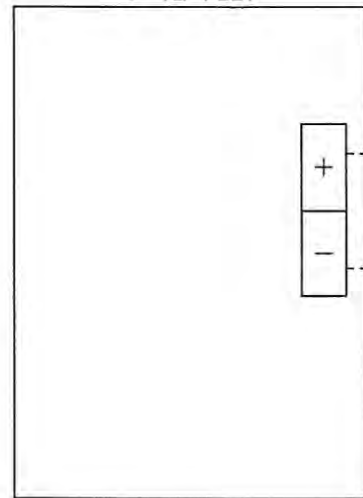
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM BRINE/SALT TANK LEVEL 75-LIT-2A	DWG. NO.	L21
		REV.	3

FIELD

PLC CONTROL PANEL

75-LIT-2B
NaOCL STORAGE TANK 75-T-2B
LEVEL
0-12 FEET



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NOTES:

1. --- DENOTES FIELD WIRING	7. ○ TBI TERMINAL BLOCK
2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED.	8. ◇ TBI TERMINAL BLOCK
3. Y DENOTES #14 AWG YELLOW WIRE	9. ⊕ TBI FUSED TERMINAL
4. B DENOTES #14 AWG BLUE WIRE	10. ⊕ TBI FUSED TERMINAL
5. B/W DENOTES #14 AWG BLUE/WHITE TRACER	
6. ALL SHIELDED WIRE #18 AWG	

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	DRAWN	
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3	09/19/06	AS-INSTALLED	MD	CHECKED	

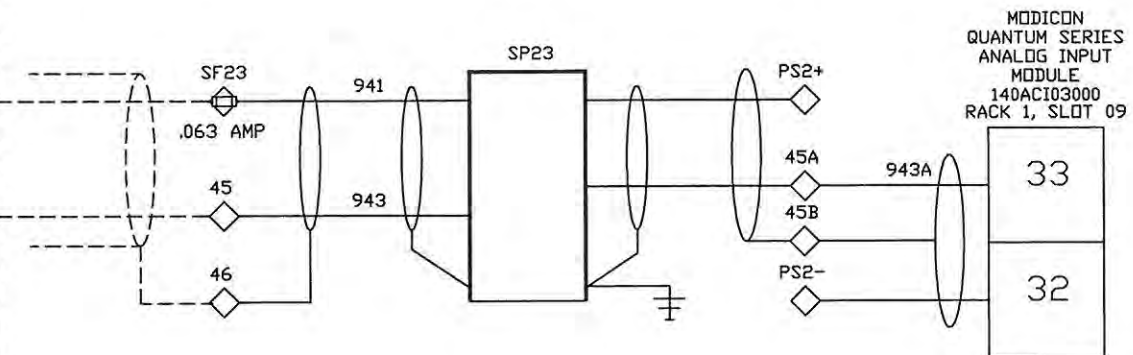
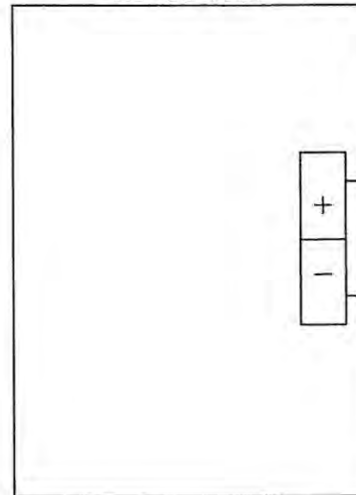
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT	ROCHA CONTROLS INC. PROJ. NO. 2-3-12B
TITLE	75-LCP-8 LOOP DIAGRAM STORAGE TANK LEVEL 75-LIT-2B	DWG. NO.	L22
		REV.	3

FIELD

PLC CONTROL PANEL

(FUTURE)
75-LIT-3A
BRINE/SALT STORAGE TANK
75-T-3A LEVEL
1.5-28 FEET



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5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AWG
7. ○ TB1 TERMINAL BLOCK
8. ◇ TB2 TERMINAL BLOCK
9. ⊖ TB1 FUSED TERMINAL
10. ⊖ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	DRAWN	1/27/05
2	08/23/05	AS-BUILT	DRP	D. PENATZER	
3	09/19/06	AS-INSTALLED	MD	CHECKED	

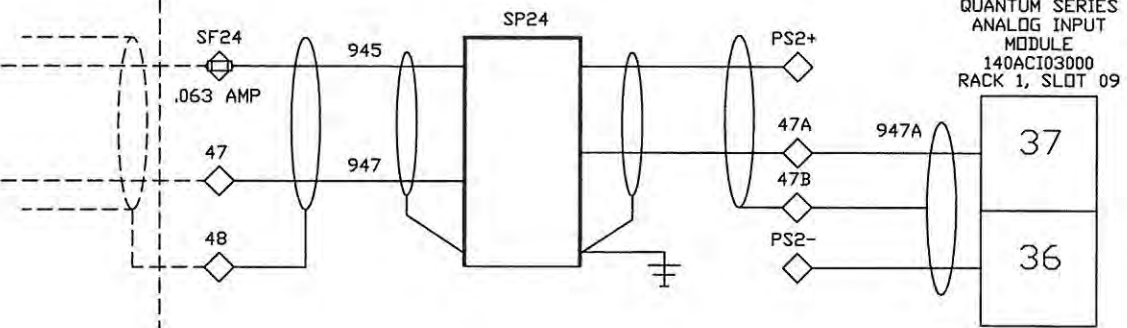
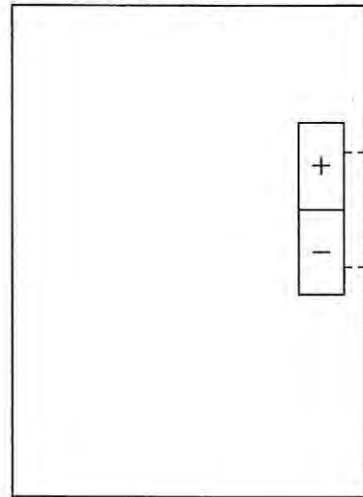
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM BRINE/SALT TANK LEVEL 75-LIT-3A	DWG. NO. L23
		REV. 3

FIELD

PLC CONTROL PANEL

75-LIT-3B
NaOCL STORAGE TANK 75-T-3B
LEVEL
0-12 FEET



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 3. Y DENOTES #14 AVG YELLOW WIRE
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 5. B/W DENOTES #14 AVG BLUE/WHITE TRACER 10.
 6. ALL SHIELDED WIRE #18 AWG
7. ○ TB1 TERMINAL BLOCK
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REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
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3	09/19/06	AS-INSTALLED	MD	CHECKED	

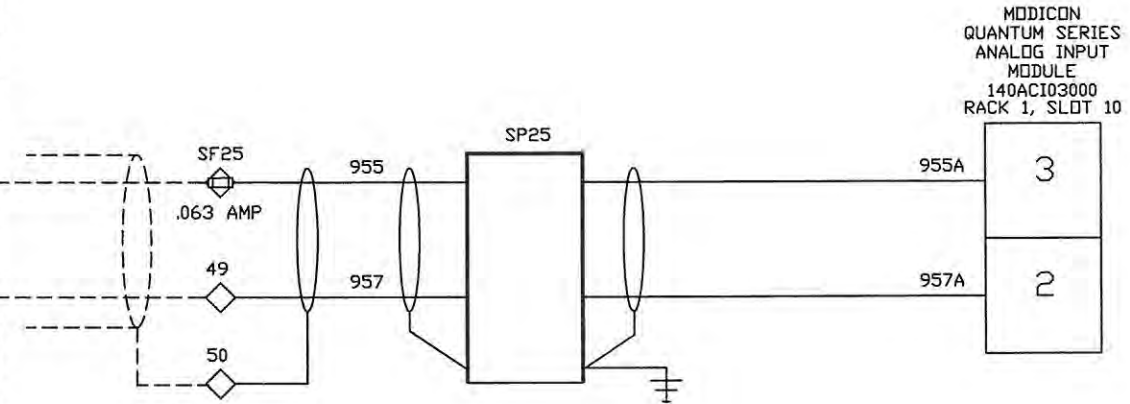
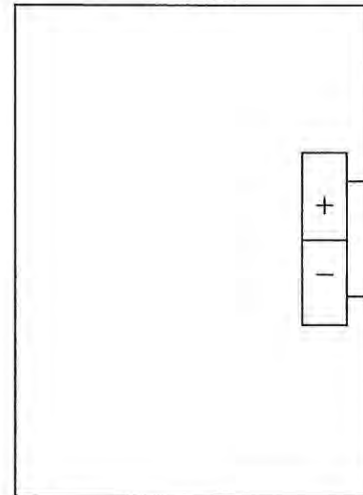
ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 Fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-12B
TITLE 75-LCP-8 LOOP DIAGRAM STORAGE TANK LEVEL 75-LIT-3B	DWG. NO. L24	REV. 3

FIELD

PLC CONTROL PANEL

SI-75-MP-1
NaOCl INJECTION TRANSFER STATION
METERING PUMP 75-MP-1 SPEED
0-100%



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5. B/W DENOTES #14 AWG BLUE/WHITE TRACER 10.
6. ALL SHIELDED WIRE #18 AWG
7. ○ TBI TERMINAL BLOCK
8. ◇ TBI TERMINAL BLOCK
9. ⊕ TBI FUSED TERMINAL
10. ⊕ TBI FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
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2	08/23/05	AS-BUILT	DRP	D. PENATZER	1/27/05
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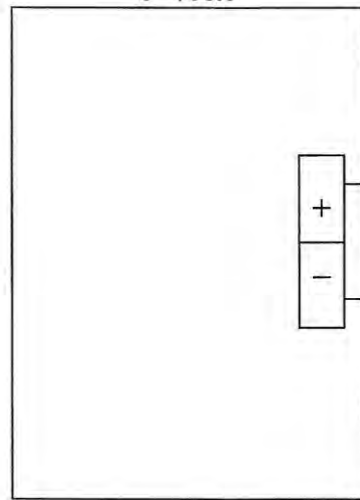
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 LOOP DIAGRAM TRANSFER METERING PUMP SPEED 75-MP-1	DWG. NO. L25	REV. 3

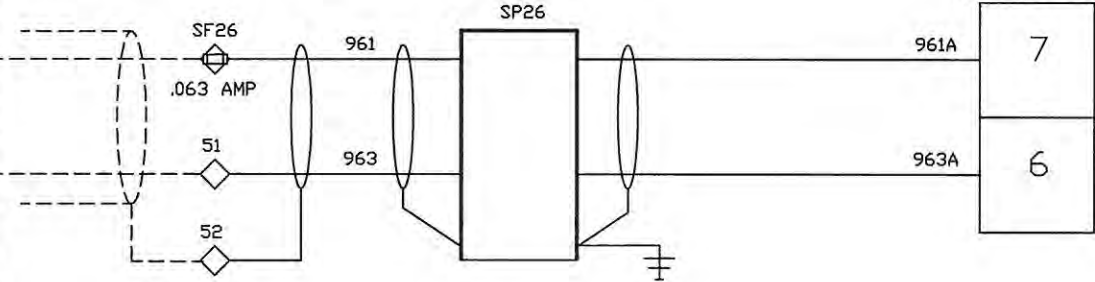
FIELD

PLC CONTROL PANEL

SI-75-MP-2
NaOCL INJECTION TRANSFER STATION
75-MP-2 SPEED
0-100%



MODICON
QUANTUM SERIES
ANALOG INPUT
MODULE
140ACI03000
RACK 1, SLOT 10



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6. ALL SHIELDED WIRE #18 AWG
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REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
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1	04/11/05	RE-SUBMITTAL	DRP	DRAWN	1/27/05
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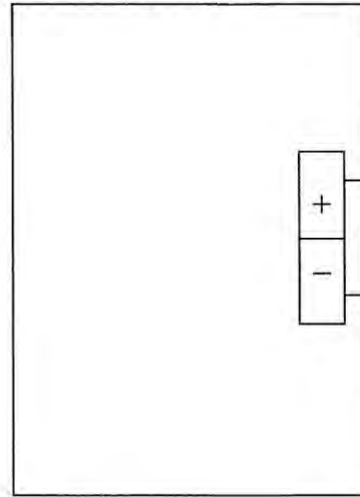
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM TRANSFER METERING PUMP SPEED 75-MP-2	DWG. NO.	L26
		REV.	3

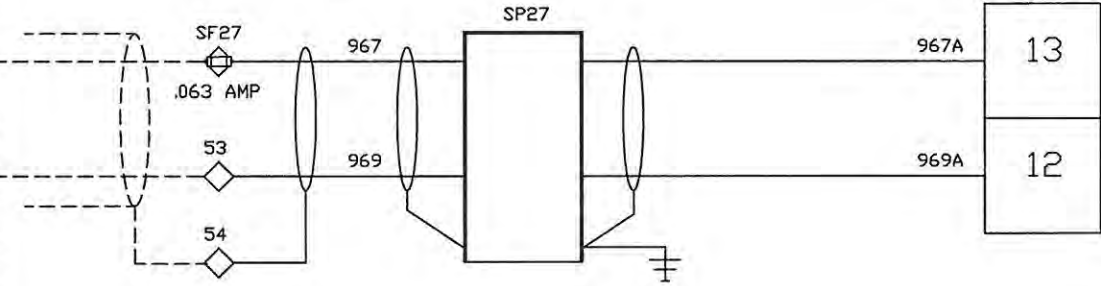
FIELD

PLC CONTROL PANEL

SI-75-MP-3
NaOCL INJECTION TRANSFER STATION
75-MP-3 SPEED
0-100%



MODICON
QUANTUM SERIES
ANALOG INPUT
MODULE
140ACI03000
RACK 1, SLOT 10



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6. ALL SHIELDED WIRE #18 AWG
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10. ⊕ TB2 FUSED TERMINAL

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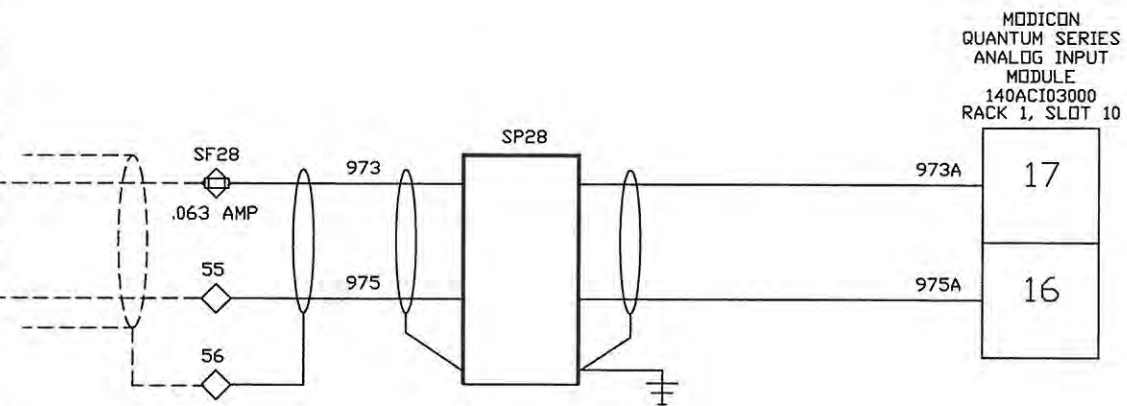
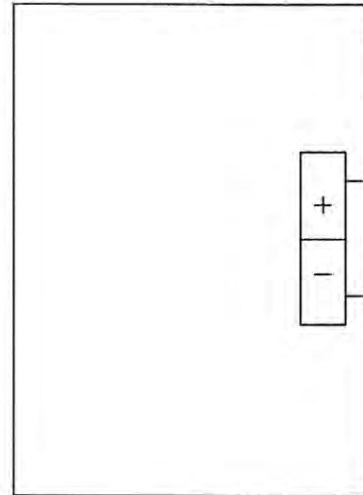
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd, Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 LOOP DIAGRAM TRANSFER METERING PUMP SPEED 75-MP-3	DWG. NO. L27	REV. 3

FIELD

PLC CONTROL PANEL

SI-75-MP-4
NaOCL INJECTION TRANSFER STATION
METERING PUMP 75-MP-4 SPEED
0-100%



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6. ALL SHIELDED WIRE #18 AWG
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8. ◇ TBI TERMINAL BLOCK
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REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
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1	04/11/05	RE-SUBMITTAL	DRP	DRAWN	1/27/05
2	08/23/05	AS-BUILT	DRP	D. PENATZER	1/27/05
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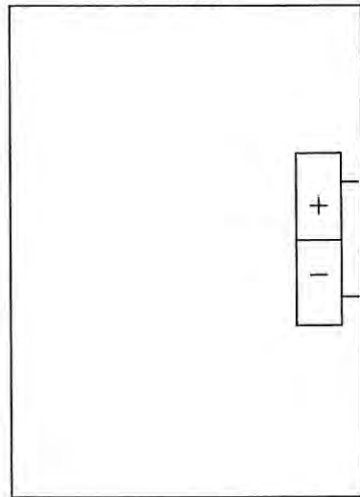
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Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT	ROCHA CONTROLS INC. PROJ. NO. 2-3-12B
TITLE	75-LCP-8 LOOP DIAGRAM TRANSFER METERING PUMP SPEED 75-MP-4	DWG. NO.	L28
		REV.	3

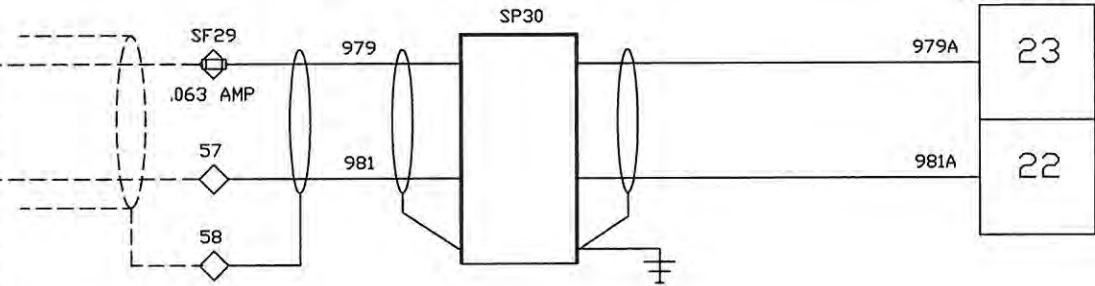
FIELD

PLC CONTROL PANEL

SI-75-MP-5
NaOCL INJECTION HSP SUCTION
METERING PUMP 75-MP-5 SPEED
0-100%



MODICON
QUANTUM SERIES
ANALOG INPUT
MODULE
140ACI03000
RACK 1, SLOT 10



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- NOTES: 1. --- DENOTES FIELD WIRING
2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED.
3. Y DENOTES #14 AWG YELLOW WIRE
4. B DENOTES #14 AWG BLUE WIRE
5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AWG
7. ○ TB1 TERMINAL BLOCK
8. ◇ TB2 TERMINAL BLOCK
9. ⊕ TB1 FUSED TERMINAL
10. ⊕ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	DRAWN	1/27/05
2	08/23/05	AS-BUILT	DRP	D. PENATZER	
3	09/19/06	AS-INSTALLED	MD	CHECKED	

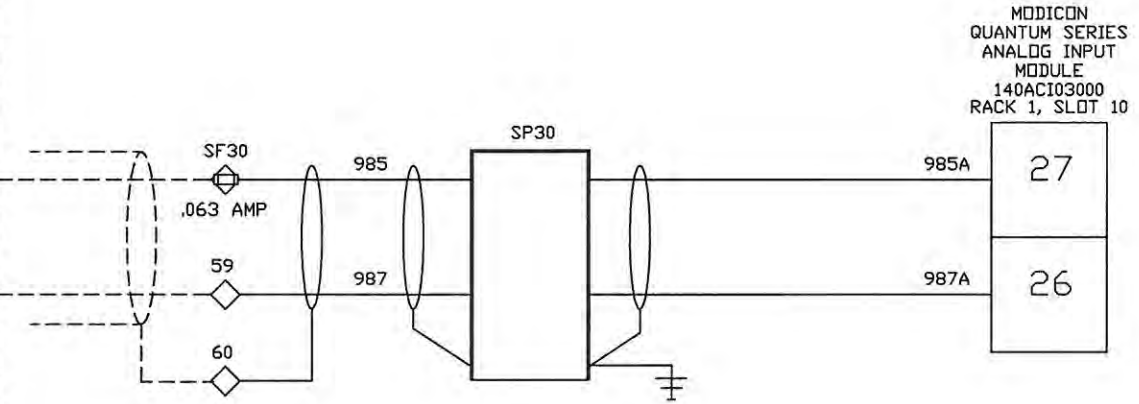
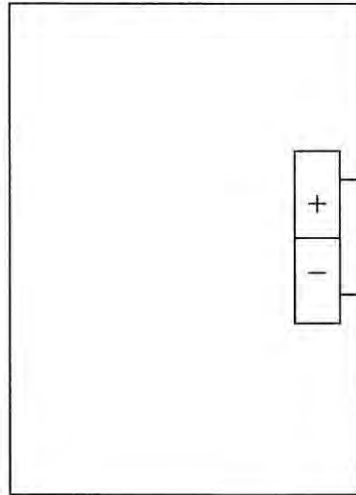
ROCHA CONTROLS Municipal & Industrial Control Systems
4847 North Florida Ave. Tampa, Florida 33603 813,234,3388 813,234,3545 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION
TITLE	75-LCP-8 LOOP DIAGRAM INJECTION METERING PUMP SPEED 75-MP-5	DWG. NO.	L29
		REV.	

FIELD

PLC CONTROL PANEL

SI-75-MP-6
NaOCL INJECTION HSP SUCTION
METERING PUMP 75-MP-6 SPEED
0-100%



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3. Y DENOTES #14 AVG YELLOW WIRE
4. B DENOTES #14 AVG BLUE WIRE
5. B/W DENOTES #14 AVG BLUE/WHITE TRACER 10.
6. ALL SHIELDED WIRE #18 AVG
7. ○ TBI TERMINAL BLOCK
8. ◇ TBI TERMINAL BLOCK
9. ⊕ TBI FUSED TERMINAL
10. ⊕ TBI FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD		

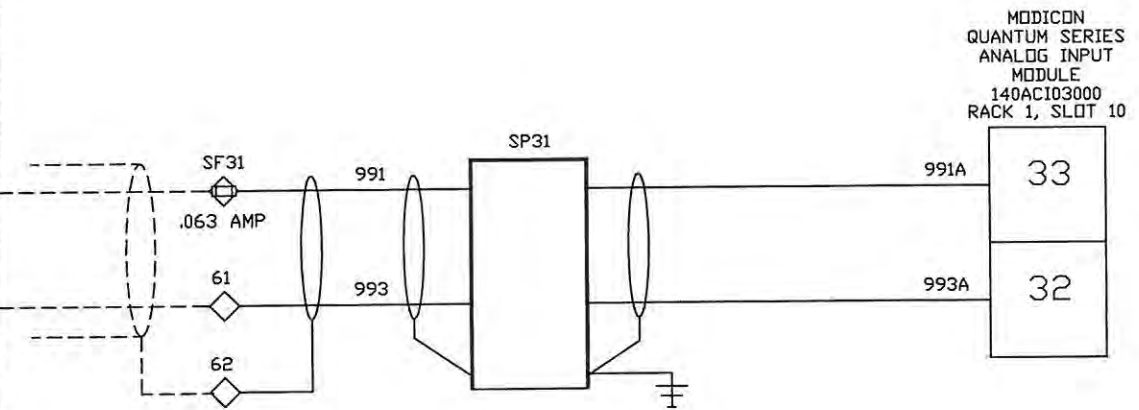
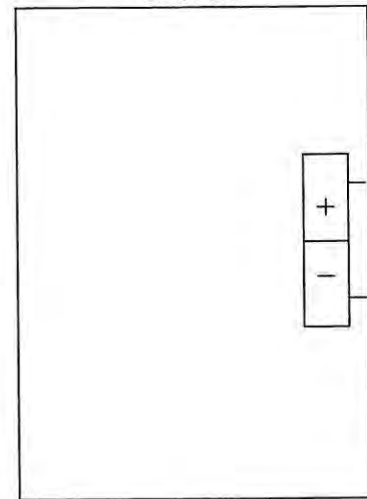
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 LOOP DIAGRAM INJECTION METERING PUMP SPEED 75-MP-6	DWG. NO. L30 REV. 3

FIELD

PLC CONTROL PANEL

SI-75-MP-7
NaOCL INJECTION HSP SUCTION
METERING PUMP 75-MP-7 SPEED
0-100%



MODICON
QUANTUM SERIES
ANALOG INPUT
MODULE
140ACI03000
RACK 1, SLOT 10

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5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AWG
7. ○ TB1 TERMINAL BLOCK
8. ◇ TB2 TERMINAL BLOCK
9. □ TB1 FUSED TERMINAL
10. ◇ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
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2	08/23/05	AS-BUILT	DRP	D. PENATZER	
3	09/19/06	AS-INSTALLED	MD	CHECKED	

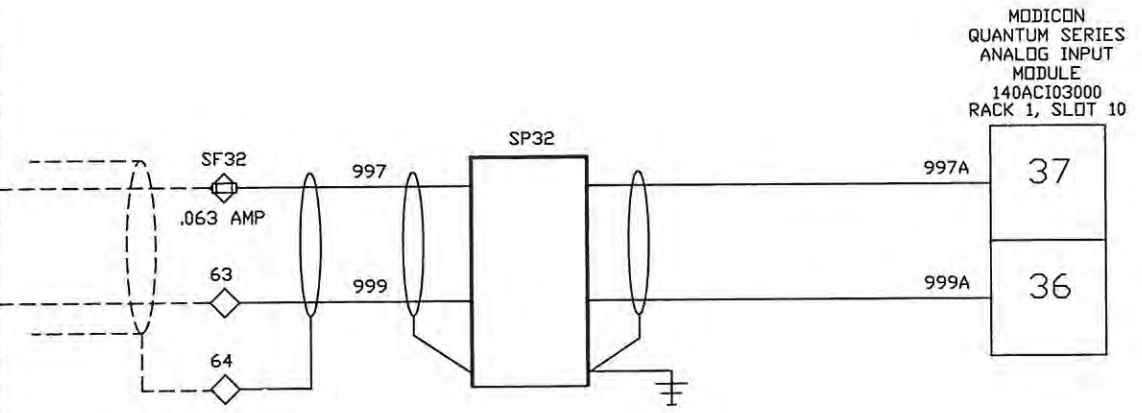
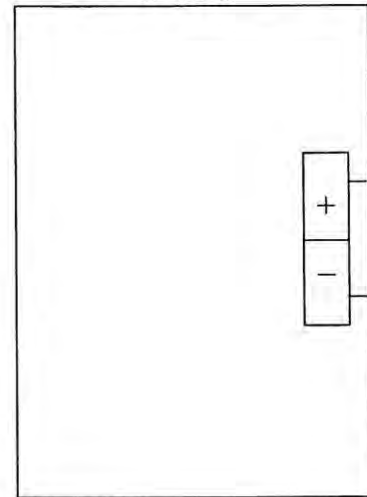
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM INJECTION METERING PUMP SPEED 75-MP-7	DWG. NO. L31
		REV. 3

FIELD

PLC CONTROL PANEL

SI-75-MP-8
NaOCL INJECTION HSP SUCTION
METERING PUMP 75-MP-8 SPEED
0-100%



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 - 6. ALL SHIELDED WIRE #18 AWG
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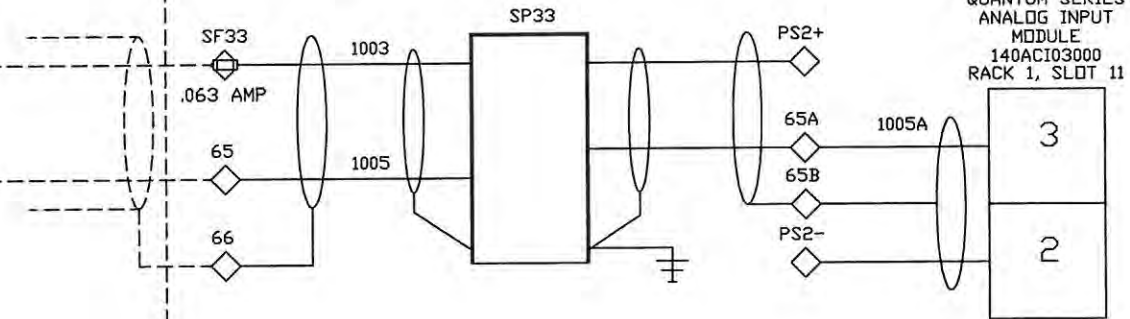
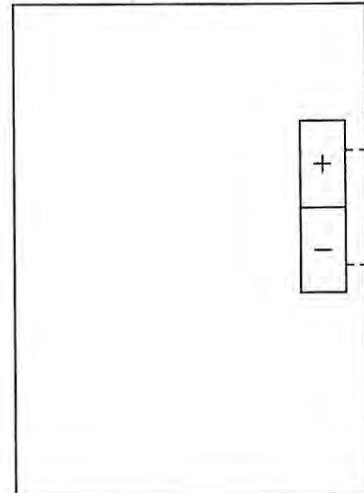
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM INJECTION METERING PUMP SPEED 75-MP-8	DWG. NO. L32
		REV. 3

FIELD

PLC CONTROL PANEL

75-PIT-104
NaOCL INJECTION HSP STATION
PRESSURE
0-35 PSIG



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 - 5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
 - 6. ALL SHIELDED WIRE #18 AWG
 - 7. ○ TB1 TERMINAL BLOCK
 - 8. ◇ TB2 TERMINAL BLOCK
 - 9. ⊕ TB1 FUSED TERMINAL
 - 10. ⊕ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
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1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP	D. PENATZER	1/27/05
3	09/19/06	AS-INSTALLED	MD	CHECKED	

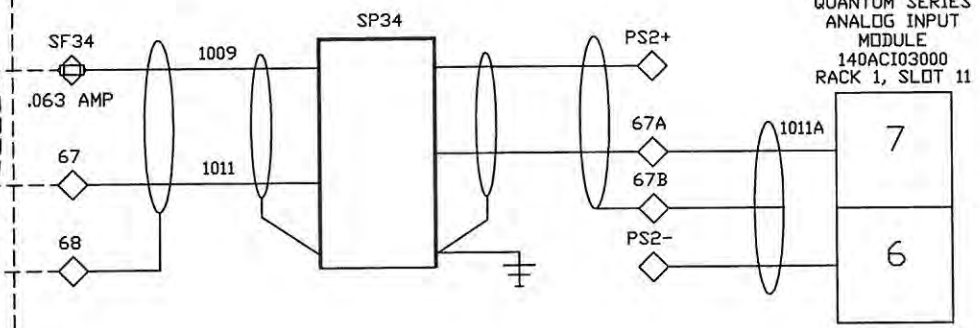
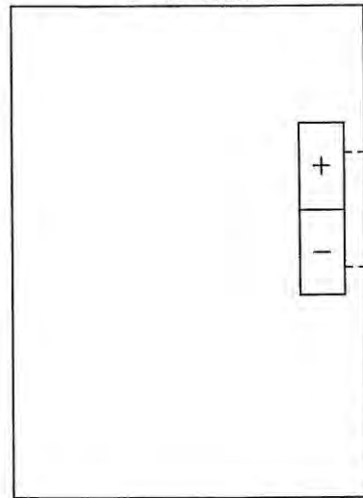
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 LOOP DIAGRAM INJECTION PRESSURE 75-PIT-104	DWG. NO. L33 REV. 3

FIELD

PLC CONTROL PANEL

75-PIT-105
NaOCL AERATION/AQC FEED LOOP
SUPPLY PRESSURE
0-40 PSIG



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5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AWG
7. ○ TBI TERMINAL BLOCK
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REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
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2	08/23/05	AS-BUILT	DRP	D. PENATZER	
3	09/19/06	AS-INSTALLED	MD	CHECKED	

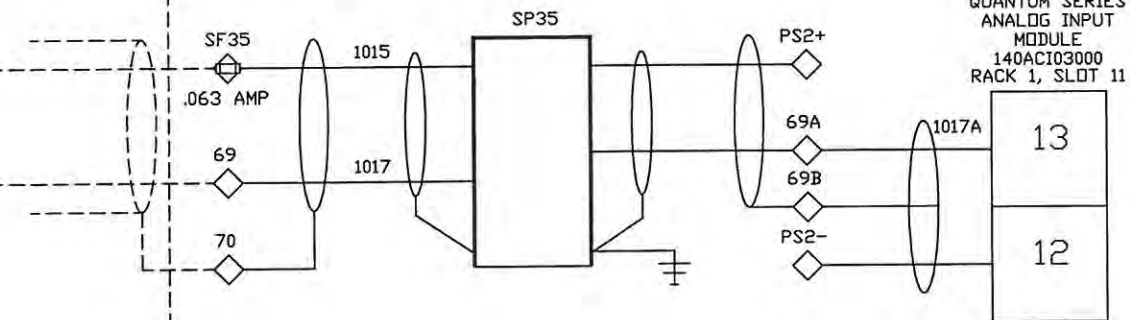
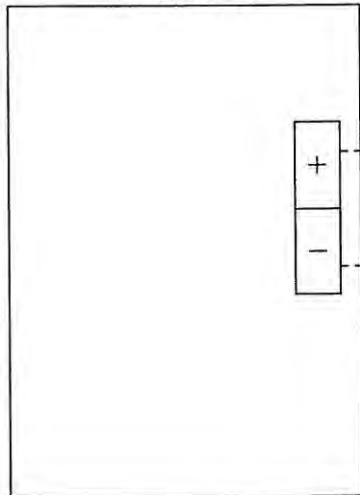
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM AERATION/AQC PRESSURE 75-PIT-105	DWG. NO. L34
		REV. 3

FIELD

PLC CONTROL PANEL

75-PIT-106
NaOCL INJECTION TRANSFER STATION
PRESSURE
0-35 PSIG



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 5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
 6. ALL SHIELDED WIRE #18 AWG
 7. ○ TB1 TERMINAL BLOCK
 8. ◇ TB2 TERMINAL BLOCK
 9. ⊕ TB1 FUSED TERMINAL
 10. ⊕ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	DRAWN	1/27/05
2	08/23/05	AS-BUILT	DRP	D. PENATZER	
3	09/19/06	AS-INSTALLED	MD	CHECKED	

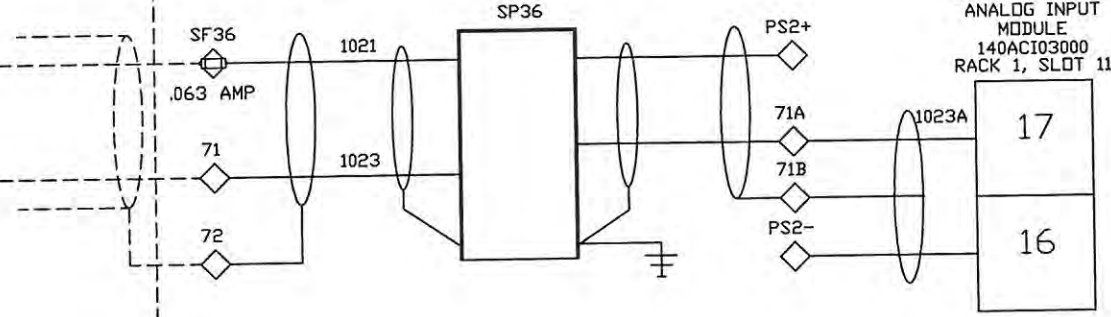
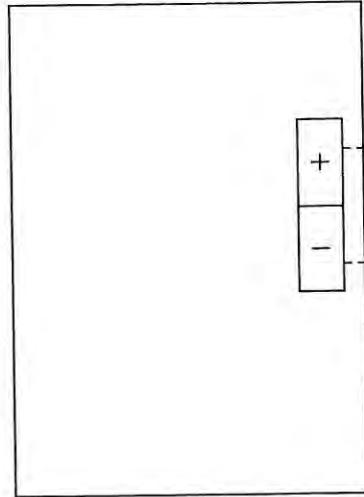
ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO.	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM INJECTION TRANSFER PRESSURE 75-PIT-106	DWG. NO.	L35
		REV.	3

FIELD

PLC CONTROL PANEL

75-PIT-107
NaOCL AERATION/AQC FEED LOOP
RETURN PRESSURE
0-40 PSIG



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5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AWG
7. ○ TBI TERMINAL BLOCK
8. ◇ TBI TERMINAL BLOCK
9. ⊕ TBI FUSED TERMINAL
10. ⊕ TBI FUSED TERMINAL

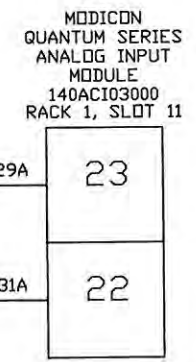
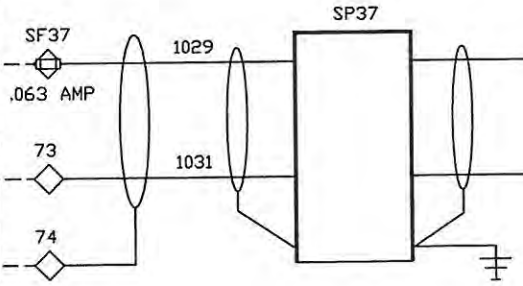
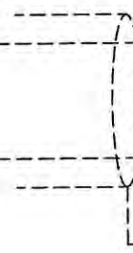
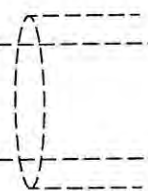
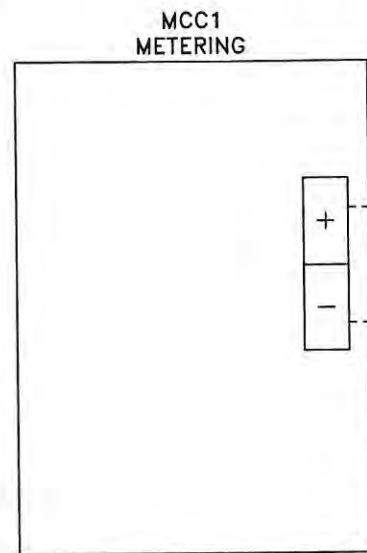
REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM AERATION/AQC RETURN PRESSURE 75-PIT-107	DWG. NO. L36
		REV. 3

FIELD

PLC CONTROL PANEL



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 3. Y DENOTES #14 AWG YELLOW WIRE
 4. B DENOTES #14 AWG BLUE WIRE
 5. B/W DENOTES #14 AWG BLUE/WHITE TRACER 10.
 6. ALL SHIELDED WIRE #18 AWG
 7. ○ T81 TERMINAL BLOCK
 8. ◇ T82 TERMINAL BLOCK
 9. □ T81 FUSED TERMINAL
 10. ◇ T82 FUSED TERMINAL

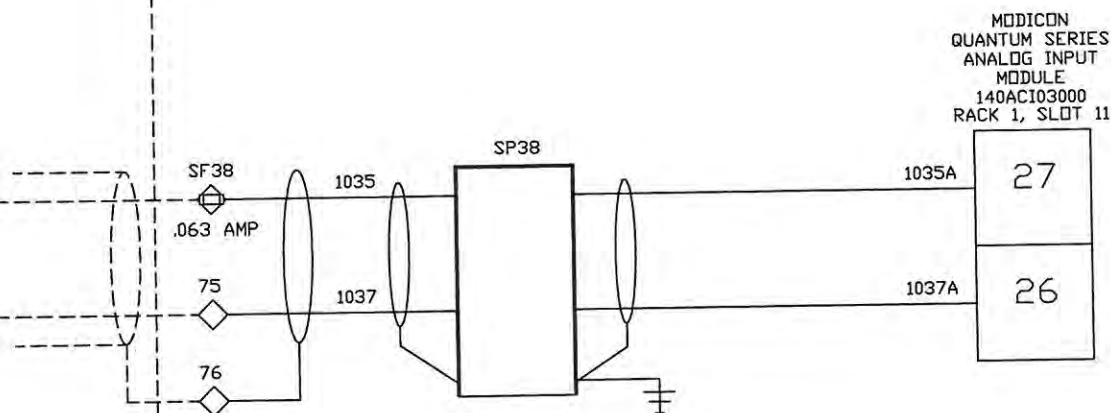
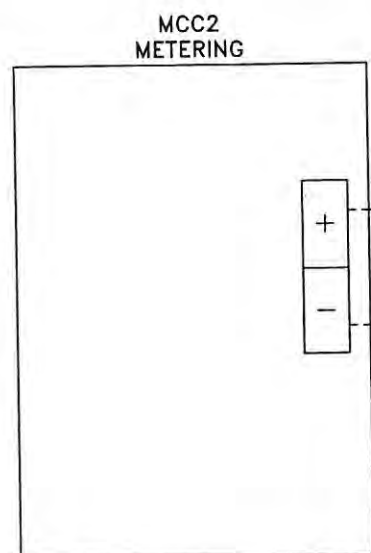
REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
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1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
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3	09/19/06	AS-INSTALLED	MD	CHECKED	

Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO.	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM MCC1 METERING	DWG. NO.	L37
		REV.	3

FIELD

PLC CONTROL PANEL



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 6. ALL SHIELDED WIRE #18 AWG
 7. ○ T81 TERMINAL BLOCK
 8. ◇ T82 TERMINAL BLOCK
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 10. ⊕ T82 FUSED TERMINAL

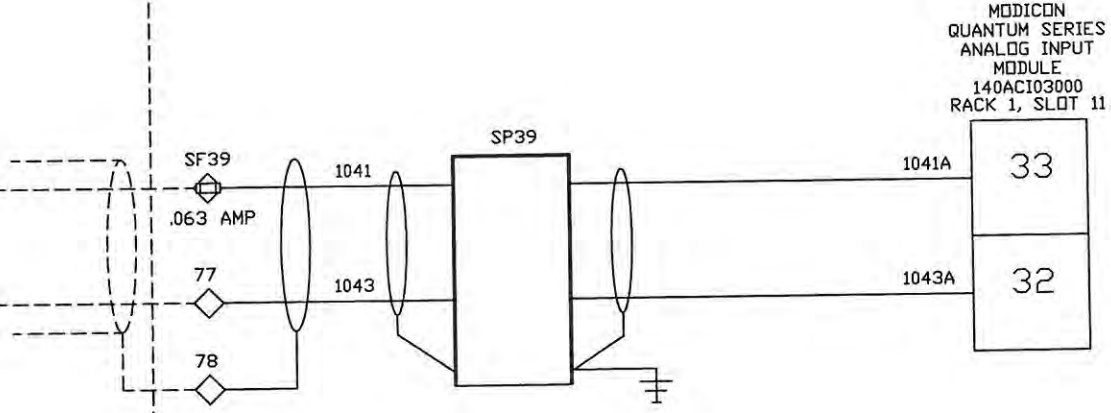
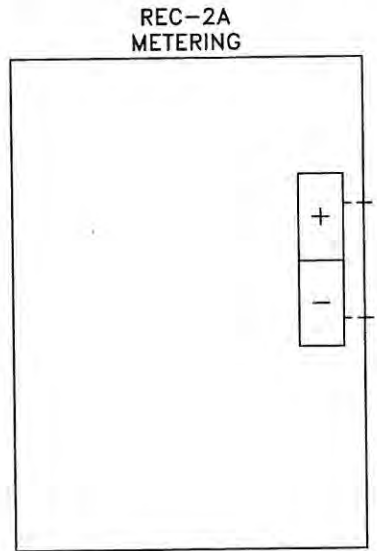
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1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD		

ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO.	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM MCC2 METERING	DWG. NO.	L38
		REV.	3

FIELD

PLC CONTROL PANEL



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ALL FIELD WIRING WILL BE IN ACCORDANCE WITH THE (N.E.C) NATIONAL ELECTRIC CODE, AND ALL INTERNATIONAL, STATE, AND LOCAL CODES. ROCHA CONTROLS SHALL NOT BE RESPONSIBLE FOR THIS ACTION.

- NOTES: 1. --- DENOTES FIELD WIRING
2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AWG RED.
3. Y DENOTES #14 AWG YELLOW WIRE
4. B DENOTES #14 AWG BLUE WIRE
5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AWG
7. ○ TB1 TERMINAL BLOCK
8. ◇ TB2 TERMINAL BLOCK
9. ⊞ TB1 FUSED TERMINAL
10. ⊞ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

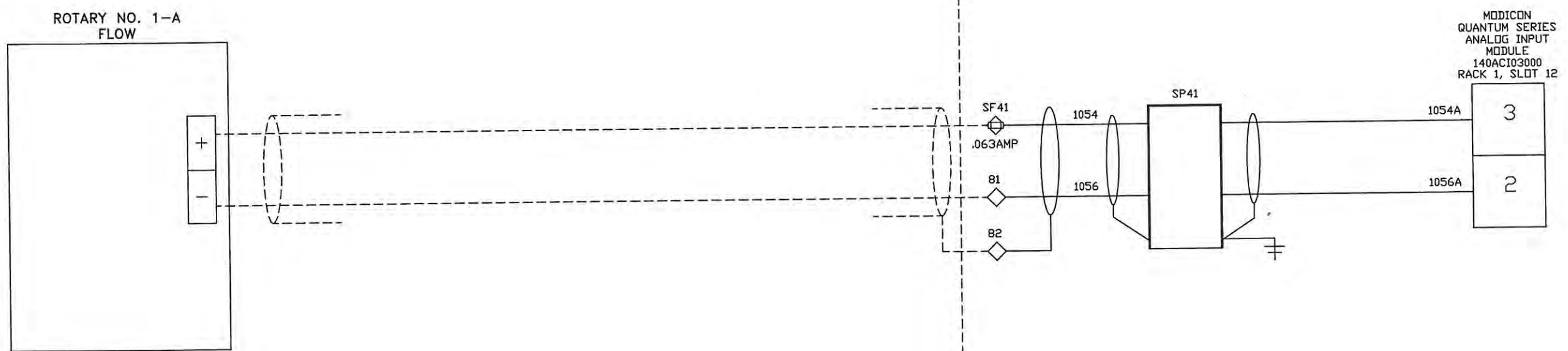
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 LOOP DIAGRAM REC-2A METERING	DWG. NO. L39	REV. 3

WIRE N.
BE #14
AL

FIELD

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 4. B DENOTES #14 AVG BLUE WIRE
 5. B/W DENOTES #14 AVG BLUE/WHITE TRACER
 6. ALL SHIELDED WIRE #18 AVG
 7. ○ TBI TERMINAL BLOCK
 8. ◇ TBI TERMINAL BLOCK
 9. ⊞ TBI FUSED TERMINAL
 10. ⊞ TBI FUSED TERMINAL

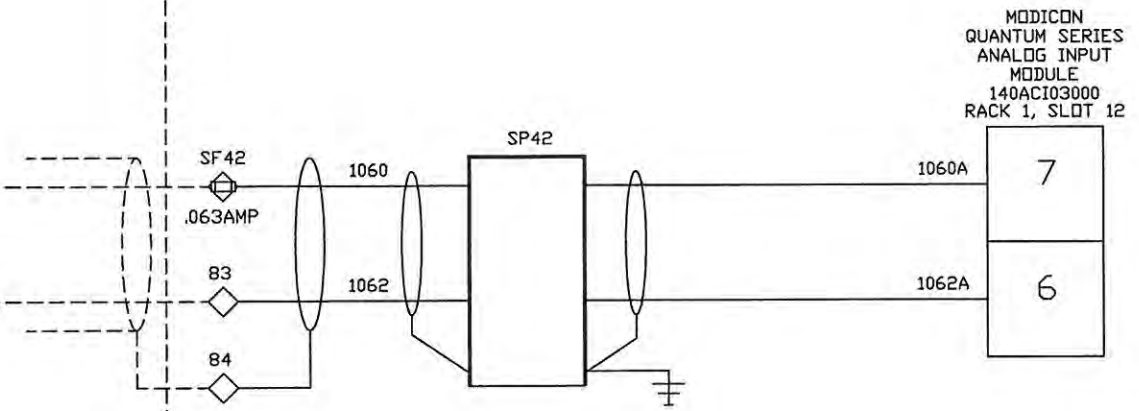
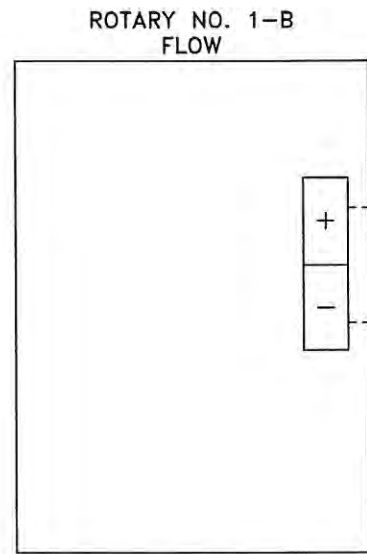
REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP	D. PENATZER	1/27/05
3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 LOOP DIAGRAM ROTARY NO. 1-A FLOW	DWG. NO. L41	REV. 3

FIELD

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 4. B DENOTES #14 AVG BLUE WIRE
 5. B/W DENOTES #14 AVG BLUE/WHITE TRACER 10.
 6. ALL SHIELDED WIRE #18 AWG
 7. ○ TB1 TERMINAL BLOCK
 8. ◇ TB2 TERMINAL BLOCK
 9. ⊕ TB1 FUSED TERMINAL
 10. ⊕ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	DRAWN D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

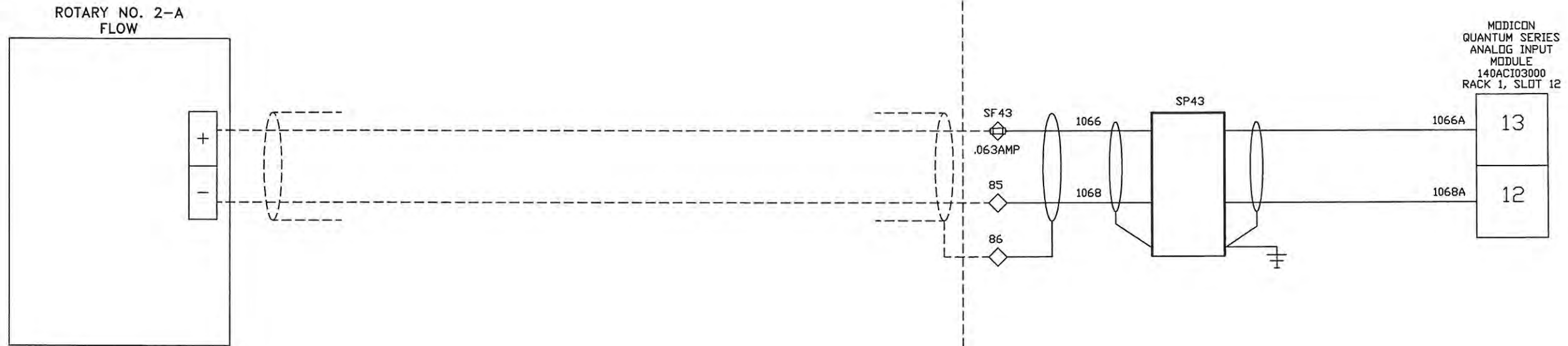
ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT ORANGE COUNTY UTILITIES
 EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION
 TITLE 75-LCP-B LOOP DIAGRAM ROTARY NO. 1-B FLOW

CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128	DWG. NO. L42	REV. 3
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FIELD

PLC CONTROL PANEL



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1	04/11/05	RE-SUBMITTAL	DRP	DRAWN	
2	08/23/05	AS-BUILT	DRP	D. PENATZER	1/27/05
3	09/19/06	AS-INSTALLED	MD	CHECKED	

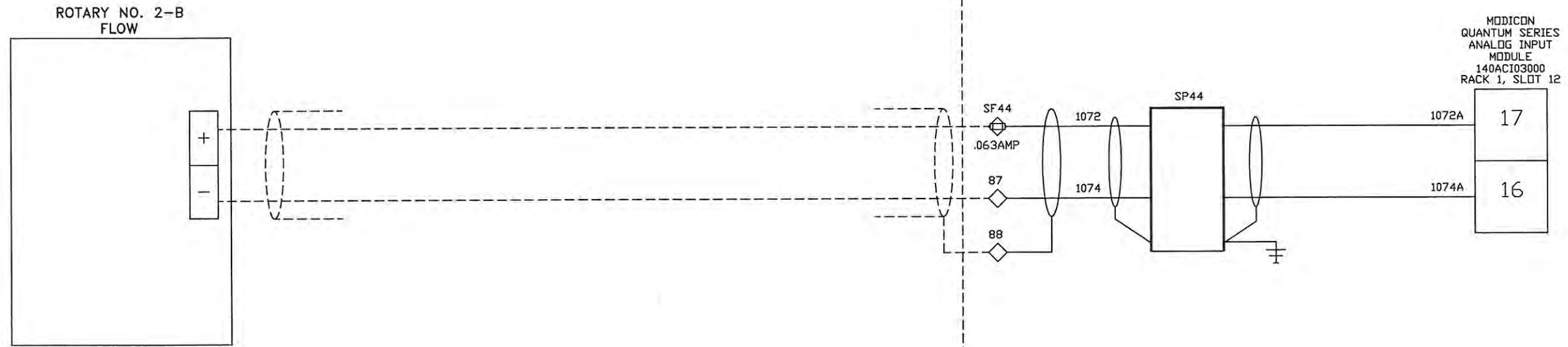
ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT ORANGE COUNTY UTILITIES
 EASTERN REGIONAL WATER TREATMENT
 FACILITY PHASE 2B EXPANSION
 TITLE 75-LCP-8
 LOOP DIAGRAM
 ROTARY NO. 2-A FLOW

CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
 DWG. NO. L43
 REV. 3

FIELD

PLC CONTROL PANEL



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 8. ◇ TB2 TERMINAL BLOCK
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 10. ⊖ TB2 FUSED TERMINAL

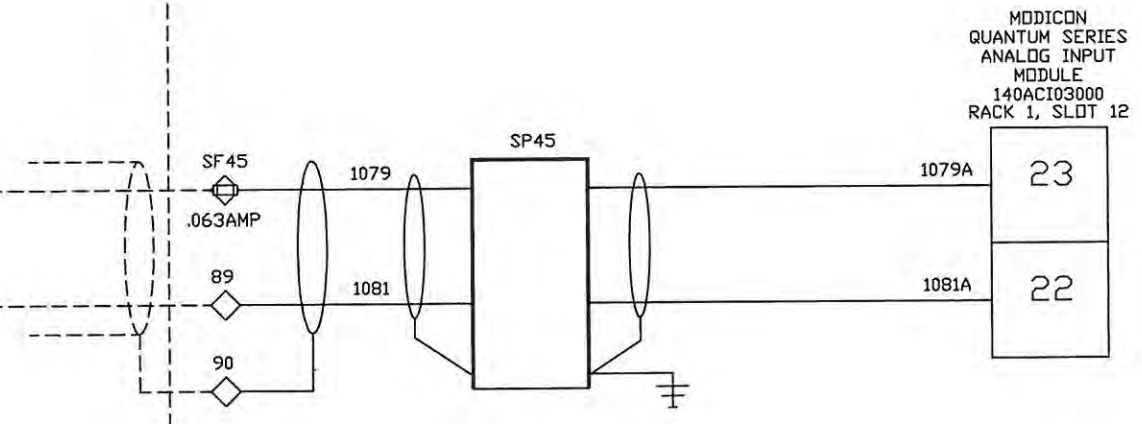
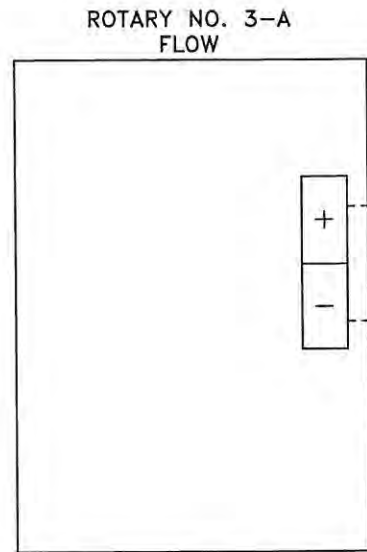
REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
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3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO.	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM ROTARY NO. 2-B FLOW	DWG. NO.	L44
		REV.	3

FIELD

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 6. ALL SHIELDED WIRE #18 AWG
 7. ○ TB1 TERMINAL BLOCK
 8. ◇ TB2 TERMINAL BLOCK
 9. ⊞ TB1 FUSED TERMINAL
 10. ⊞ TB2 FUSED TERMINAL

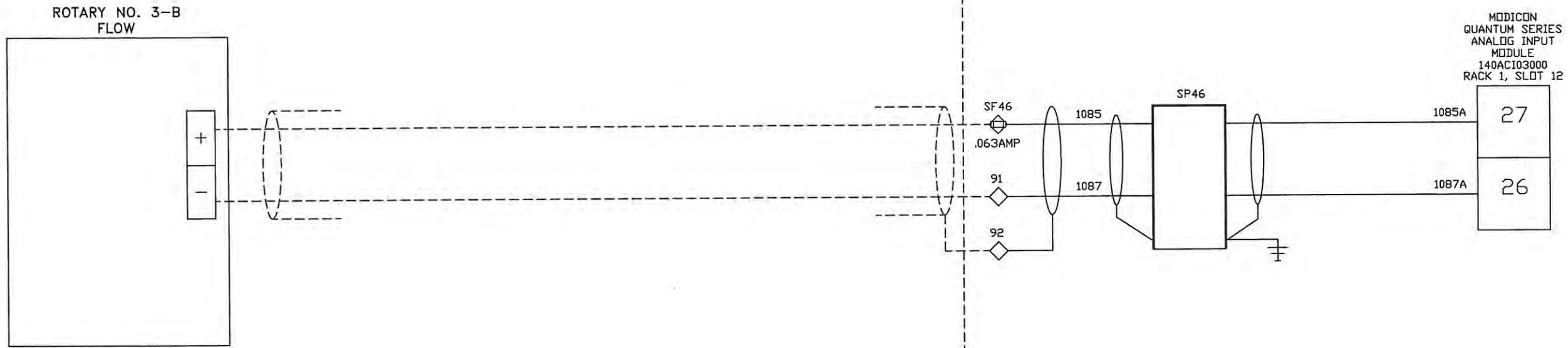
REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM ROTARY NO. 3-A FLOW	DWG. NO. L45
		REV. 3

FIELD

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 6. ALL SHIELDED WIRE #18 AWG
 7. ○ T81 TERMINAL BLOCK
 8. ◇ T82 TERMINAL BLOCK
 9. ⊕ T81 FUSED TERMINAL
 10. ⊕ T82 FUSED TERMINAL

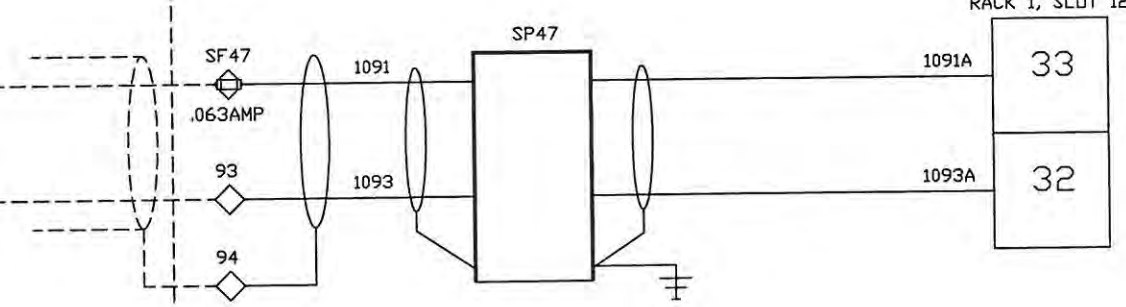
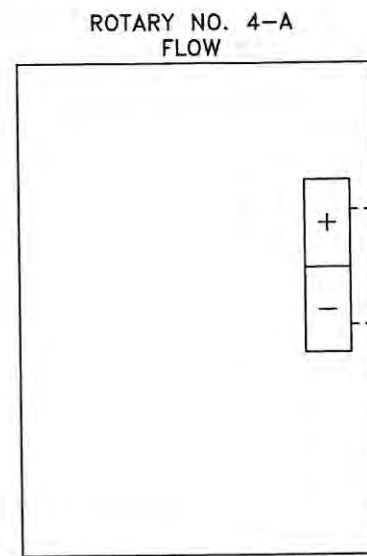
REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP	D. PENATZER	
3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO.	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM ROTARY NO. 3-B FLOW	DWG. NO.	L46
		REV.	3

FIELD

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 7. ○ TBI TERMINAL BLOCK
 8. ◇ TBI TERMINAL BLOCK
 9. ⊕ TBI FUSED TERMINAL
 10. ⊕ TBI FUSED TERMINAL

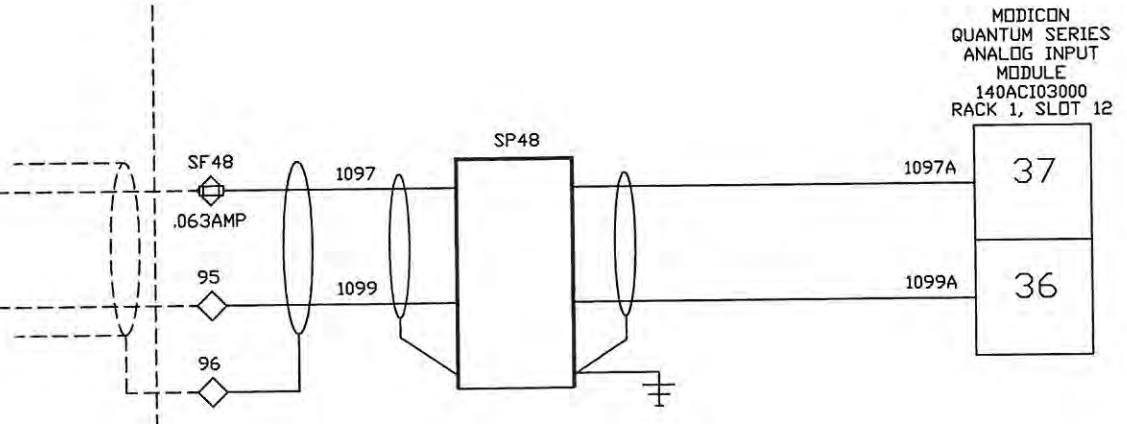
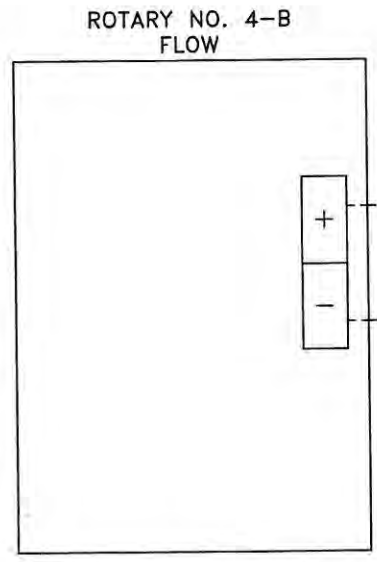
REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM ROTARY NO. 4-A FLOW	DWG. NO.	L47
		REV.	3

FIELD

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2	08/23/05	AS-BUILT	DRP		
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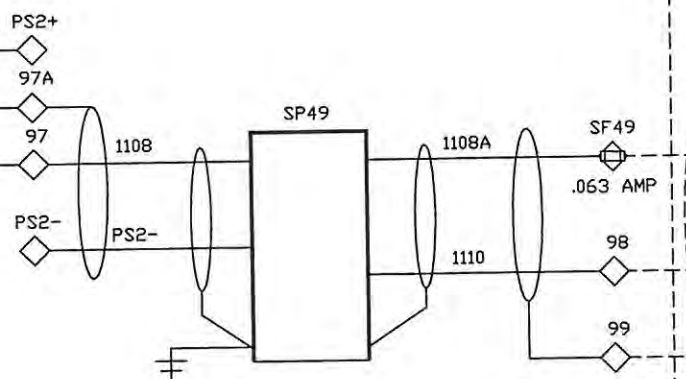
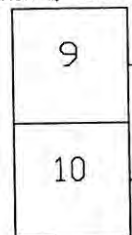
ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM ROTARY NO. 4-B FLOW	DWG. NO.	L48
		REV.	3

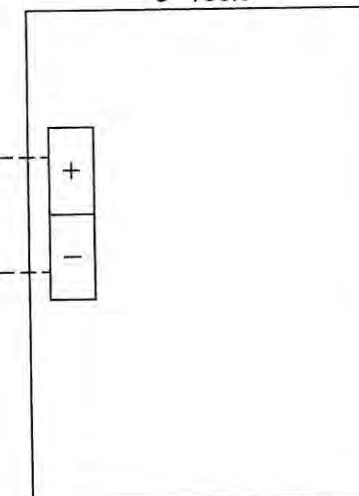
PLC CONTROL PANEL

FIELD

MODICON
QUANTUM SERIES
ANALOG OUTPUT
MODULE
140ACD02000
RACK 1, SLOT 13



SC-75-MP-1
NaOCL INJECTION TRANSFER STATION
METERING PUMP 75-MP-1 STROKE
SPEED CONTROL
0-100%



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2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

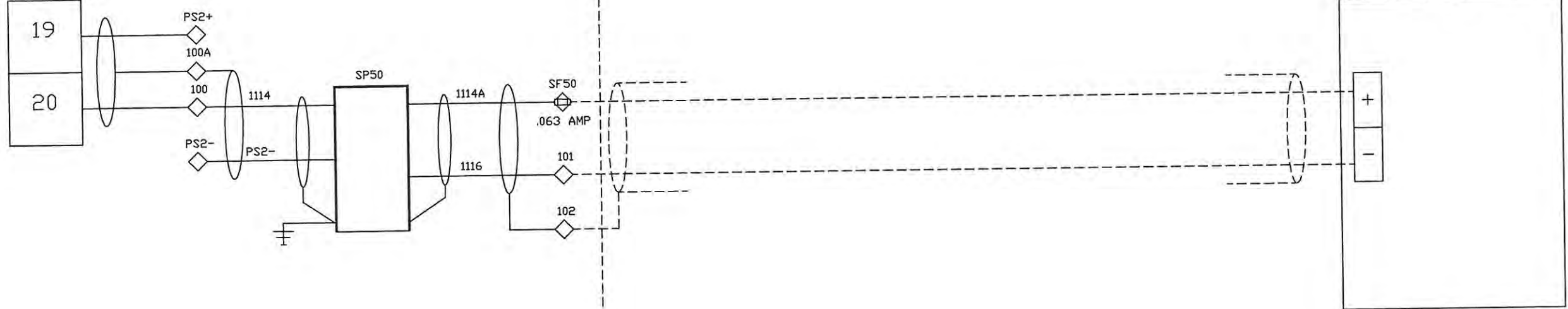
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM TRANSFER METERING PUMP SPEED CONTROL 75-MP-1	DWG. NO.	L49
		REV.	3

PLC CONTROL PANEL

FIELD

MODICON
QUANTUM SERIES
ANALOG OUTPUT
MODULE
140ACD02000
RACK 1, SLOT 13



SC-75-MP-2
NaOCl INJECTION TRANSFER STATION
METERING PUMP 75-MP-2 STROKE
SPEED CONTROL
0-100%

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3	09/19/06	AS-INSTALLED	MD	CHECKED	

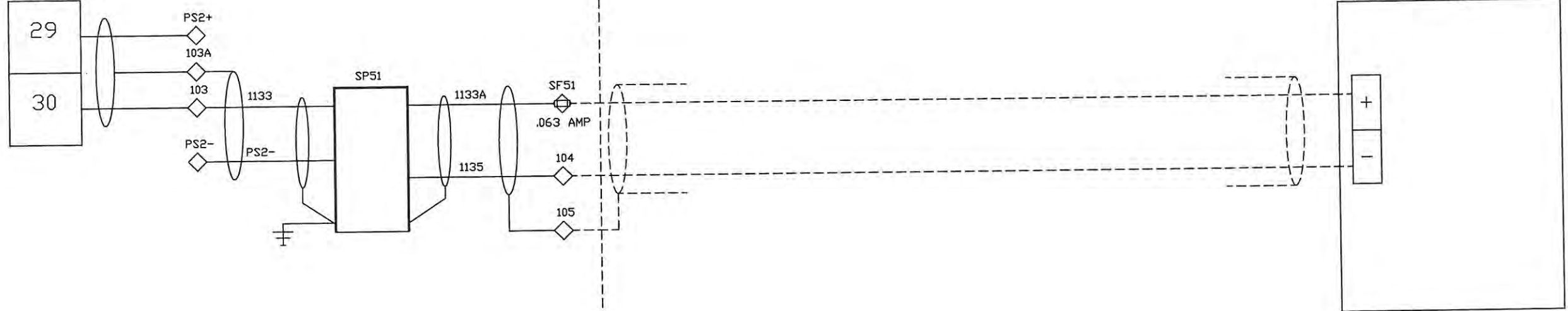
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM TRANSFER METERING PUMP SPEED CONTROL 75-MP-1	DWG. NO.	L50
		REV.	3

PLC CONTROL PANEL

FIELD

MODICON
QUANTUM SERIES
ANALOG OUTPUT
MODULE
140ACD02000
RACK 1, SLOT 13



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- NOTES: 1. --- DENOTES FIELD WIRING
2. UNLESS OTHERWISE NOTED, ALL CONTROL WIRING SHALL BE #14 AVG RED.
3. Y DENOTES #14 AVG YELLOW WIRE
4. B DENOTES #14 AVG BLUE WIRE
5. B/W DENOTES #14 AVG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AVG
7. ○ TB1 TERMINAL BLOCK
8. ◇ TB2 TERMINAL BLOCK
9. ⊕ TB1 FUSED TERMINAL
10. ⊕ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	DRAWN	1/27/05
2	08/23/05	AS-BUILT	DRP	D. PENATZER	
3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
Municipal & Industrial Control Systems
4847 North Florida Ave. Tampa, Florida 33603 813,234,3388 813,234,3545 fax

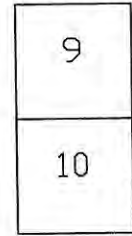
CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM TRANSFER METERING PUMP SPEED CONTROL 75-MP-3	DWG. NO.	L51
		REV.	3

UNLESS NOTED OTHERWISE

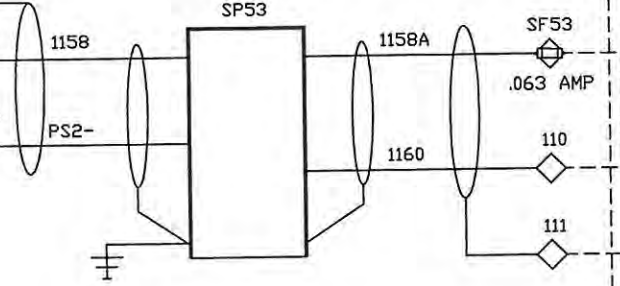
PLC CONTROL PANEL

FIELD

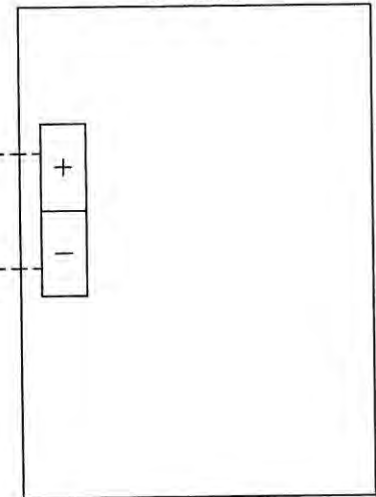
MODICON
QUANTUM SERIES
ANALOG OUTPUT
MODULE
140ACD02000
RACK 1, SLOT 14



PS2+
109A
109
PS2-



SC-75-MP-5
NaOCL INJECTION HSP SUCTION
METERING PUMP 75-MP-5 STROKE
SPEED CONTROL
0-100%



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5. B/W DENOTES #14 AWG BLUE/WHITE TRACER
6. ALL SHIELDED WIRE #18 AWG
7. ○ T81 TERMINAL BLOCK
8. ◇ T82 TERMINAL BLOCK
9. ⊕ T81 FUSED TERMINAL
10. ⊕ T82 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP	D. PENATZER	
3	09/19/06	AS-INSTALLED	MD	CHECKED	



Municipal & Industrial Control Systems

8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT ORANGE COUNTY UTILITIES
EASTERN REGIONAL WATER TREATMENT
FACILITY PHASE 2B EXPANSION

CLIENT
PROJ. NO.
ROCHA CONTROLS INC.
PROJ. NO. 2-3-128

TITLE 75-LCP-8
LOOP DIAGRAM
INJECTION METERING PUMP
SPEED CONTROL 75-MP-5

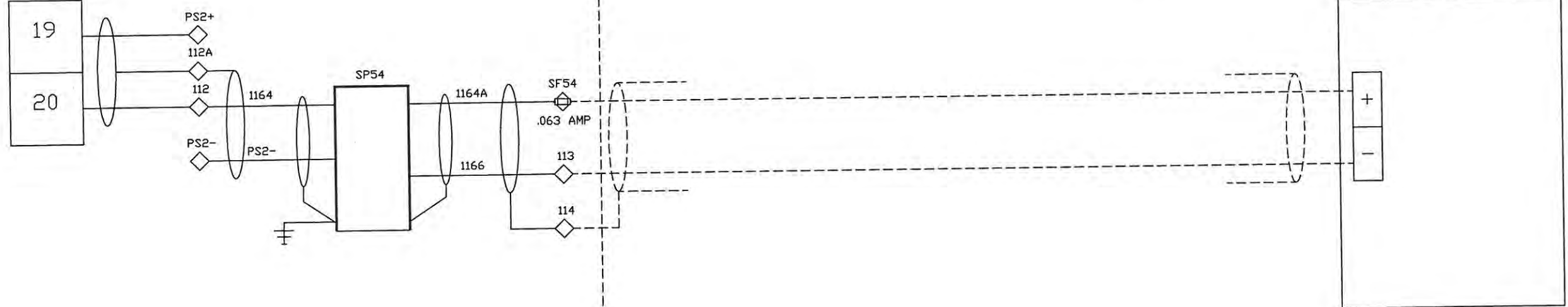
DWG. NO.
L53

REV.
3

PLC CONTROL PANEL

FIELD

MODICON
QUANTUM SERIES
ANALOG OUTPUT
MODULE
140ACD02000
RACK 1, SLOT 14



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7. ○ TBI TERMINAL BLOCK
8. ◇ TBI TERMINAL BLOCK
9. □ TBI FUSED TERMINAL
10. ⊕ TBI FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	DRAWN D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

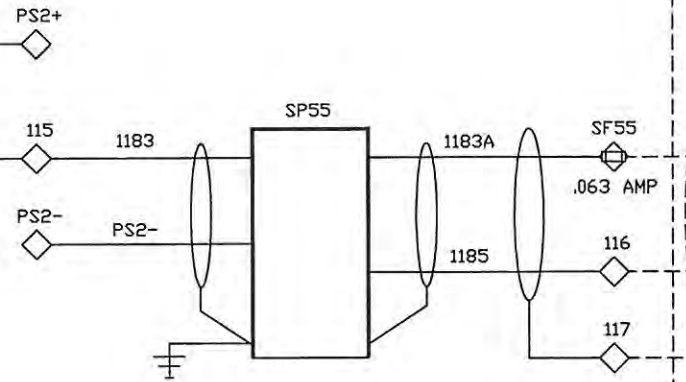
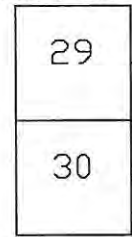
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-12B
TITLE	75-LCP-8 LOOP DIAGRAM INJECTION METERING PUMP SPEED CONTROL 75-MP-6	DWG. NO. L54 REV. 3

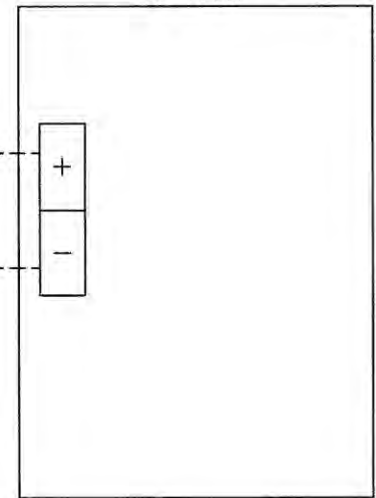
PLC CONTROL PANEL

FIELD

MODICON
QUANTUM SERIES
ANALOG OUTPUT
MODULE
140ACD02000
RACK 1, SLOT 14



SC-75-MP-7
NaOCl INJECTION HSP SUCTION
METERING PUMP 75-MP-7 STROKE
SPEED CONTROL
0-100%



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 8. ◇ TBI TERMINAL BLOCK
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 10. ⊕ TBI FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

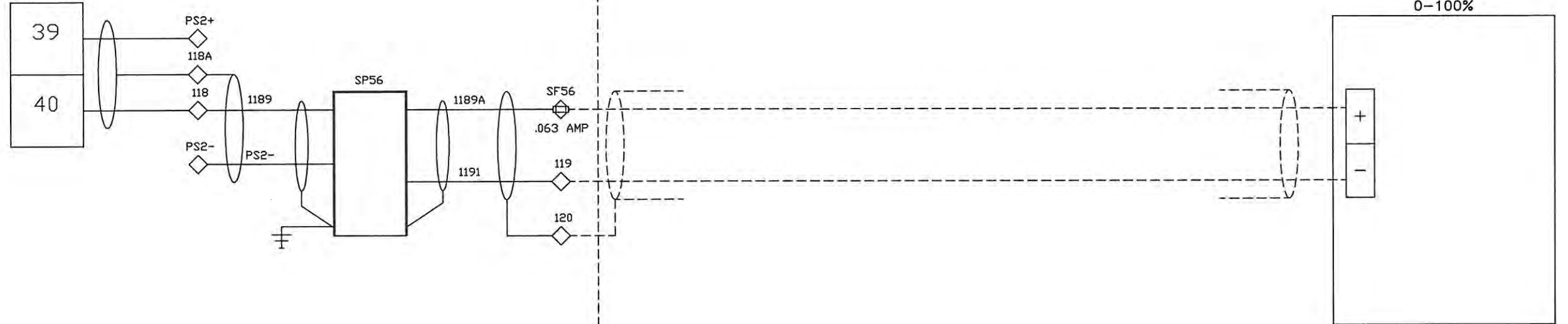
ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM INJECTION METERING PUMP SPEED CONTROL 75-MP-7	DWG. NO. L55
		REV. 3

PLC CONTROL PANEL

FIELD

MODICON
QUANTUM SERIES
ANALOG OUTPUT
MODULE
140AC002000
RACK 1, SLOT 14



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10. ⊕ T82 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

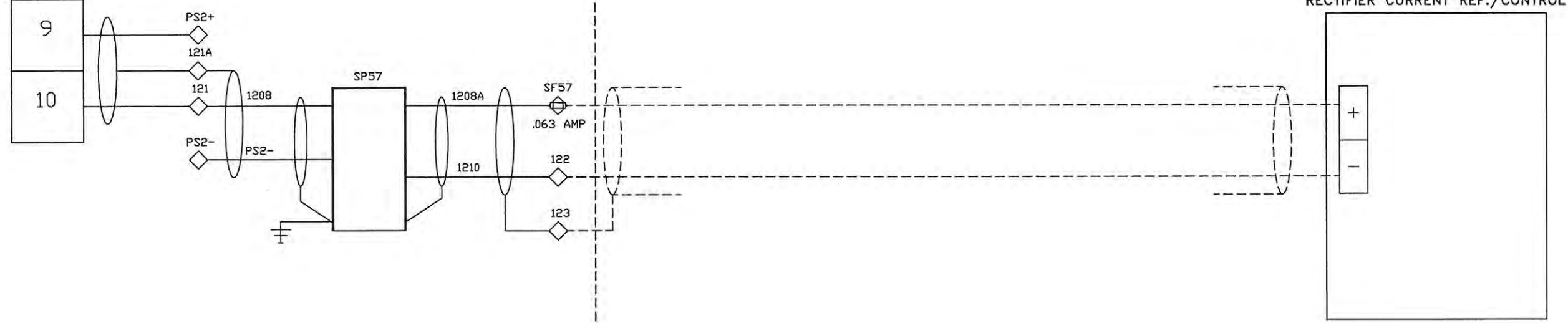
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE 75-LCP-8 LOOP DIAGRAM INJECTION METERING PUMP SPEED CONTROL 75-MP-8	DWG. NO. L56 REV. 3

PLC CONTROL PANEL

FIELD

MODICON
QUANTUM SERIES
ANALOG OUTPUT
MODULE
140ACD02000
RACK 1, SLOT 15



75-EC-01
RECTIFIER CURRENT REF./CONTROL

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REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
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1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP		
3	09/19/06	AS-INSTALLED	MD	CHECKED	

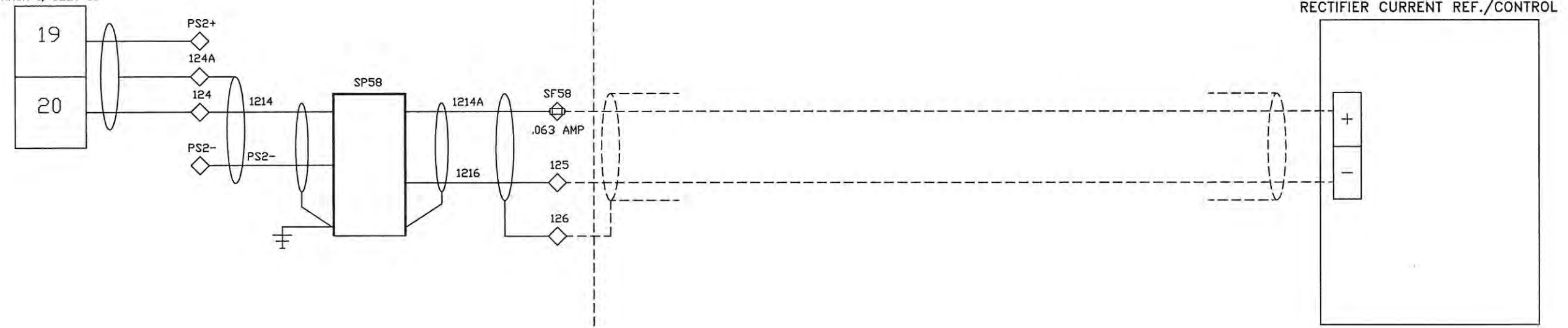
ROCHA CONTROLS
Municipal & Industrial Control Systems
8918 Sabal Industrial Blvd. Tampa, Florida 33619 813.628.5584 813.664.6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-12B
TITLE	75-LCP-8 LOOP DIAGRAM RECTIFIER CONTROL 75-EC-01	DWG. NO. L57
		REV. 3

PLC CONTROL PANEL

FIELD

MODICON
QUANTUM SERIES
ANALOG OUTPUT
MODULE
140AC002000
RACK 1, SLOT 15



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 10. ⊖ TB2 FUSED TERMINAL

REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
-	1/27/05	SUBMITTAL	DRP	D. PENATZER	1/27/05
1	04/11/05	RE-SUBMITTAL	DRP	DRAWN	
2	08/23/05	AS-BUILT	DRP	D. PENATZER	1/27/05
3	09/19/06	AS-INSTALLED	MD	CHECKED	

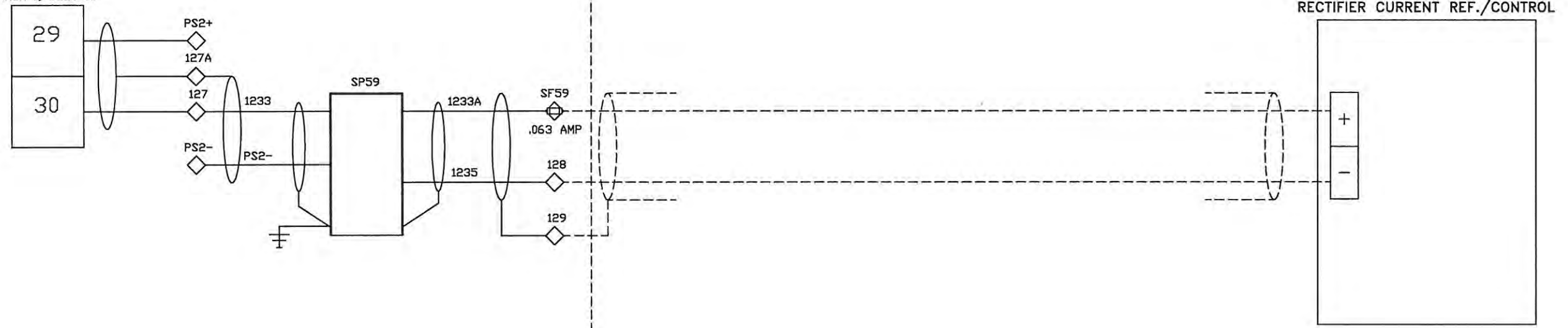
ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT PROJ. NO.	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM RECTIFIER CONTROL 75-EC-02	DWG. NO.	L58
		REV.	3

PLC CONTROL PANEL

FIELD

MODICON
QUANTUM SERIES
ANALOG OUTPUT
MODULE
140AC002000
RACK 1, SLOT 15



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REV.	DATE	DESCRIPTION	BY	DESIGNED	DATE
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1	04/11/05	RE-SUBMITTAL	DRP	D. PENATZER	1/27/05
2	08/23/05	AS-BUILT	DRP	D. PENATZER	1/27/05
3	09/19/06	AS-INSTALLED	MD	CHECKED	

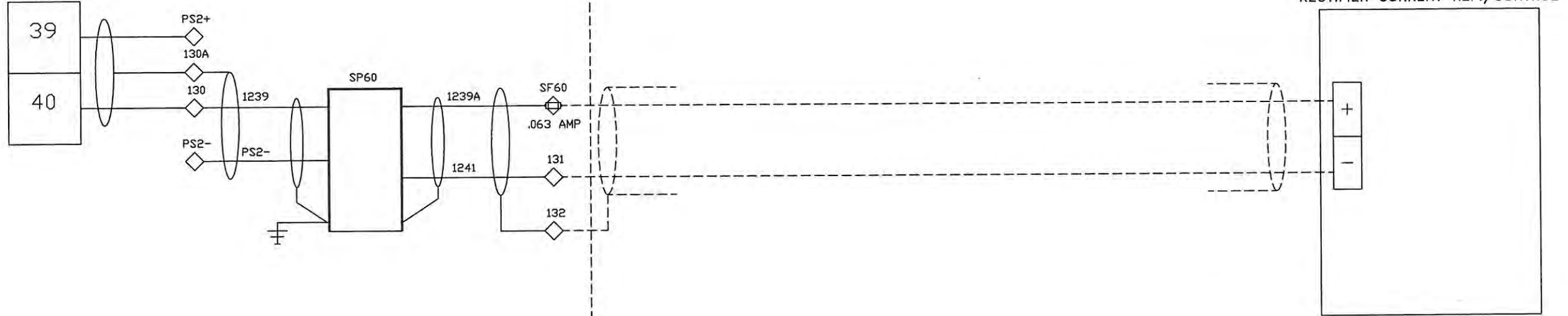
ROCHA CONTROLS
 Municipal & Industrial Control Systems

CLIENT ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION		CLIENT PROJ. NO. ROCHA CONTROLS INC. PROJ. NO. 2-3-12B	
TITLE 75-LCP-8 LOOP DIAGRAM RECTIFIER CONTROL 75-EC-03	DWG. NO. L59	REV. 3	

PLC CONTROL PANEL

FIELD

MODICON
QUANTUM SERIES
ANALOG OUTPUT
MODULE
140AC002000
RACK 1, SLOT 15



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3	09/19/06	AS-INSTALLED	MD	CHECKED	

ROCHA CONTROLS
 Municipal & Industrial Control Systems
 8918 Sabal Industrial Blvd. Tampa, Florida 33619 813,628,5584 813,664,6713 fax

CLIENT	ORANGE COUNTY UTILITIES EASTERN REGIONAL WATER TREATMENT FACILITY PHASE 2B EXPANSION	CLIENT	ROCHA CONTROLS INC. PROJ. NO. 2-3-128
TITLE	75-LCP-8 LOOP DIAGRAM RECTIFIER CONTROL 75-EC-04	DWG. NO.	L60
		REV.	3