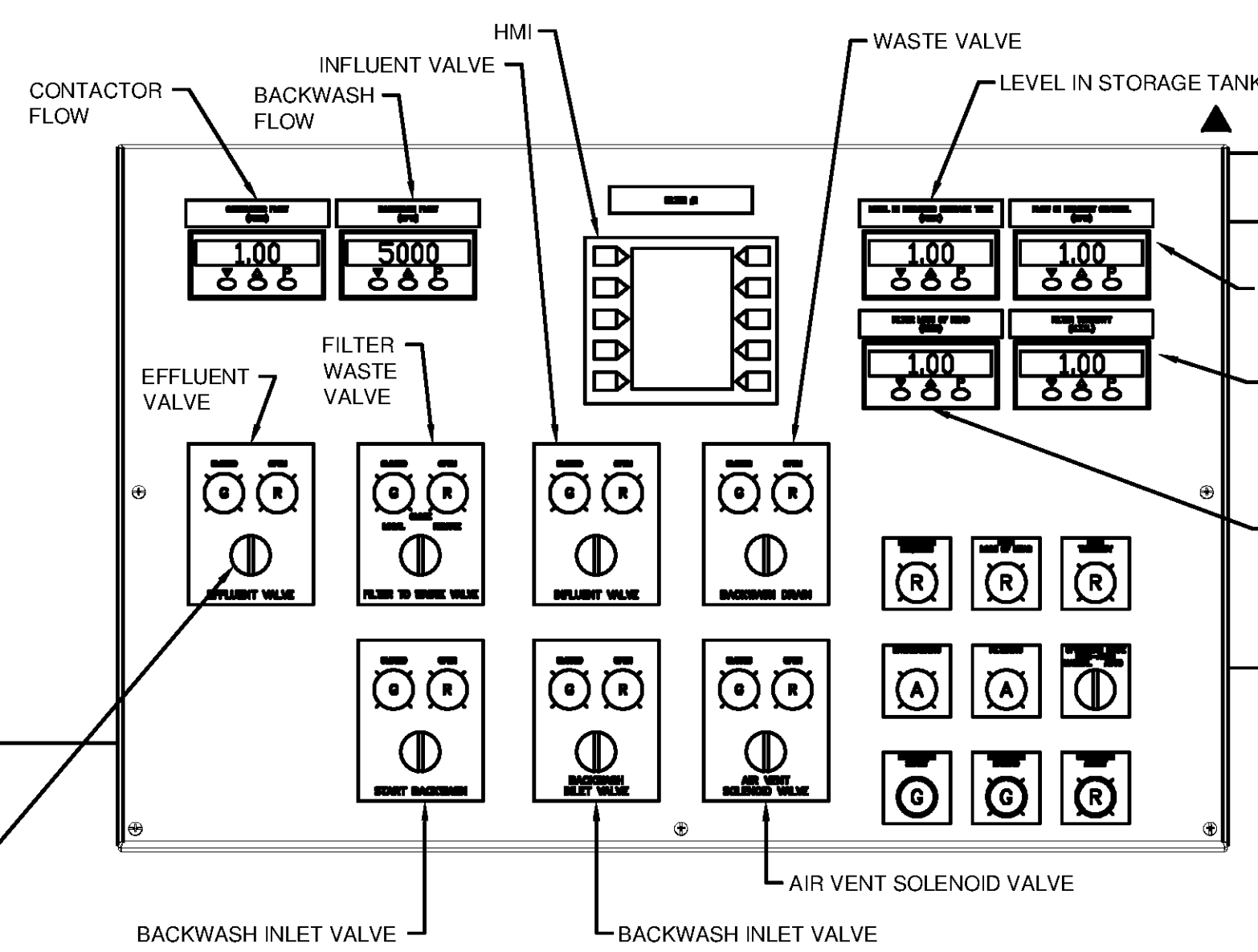
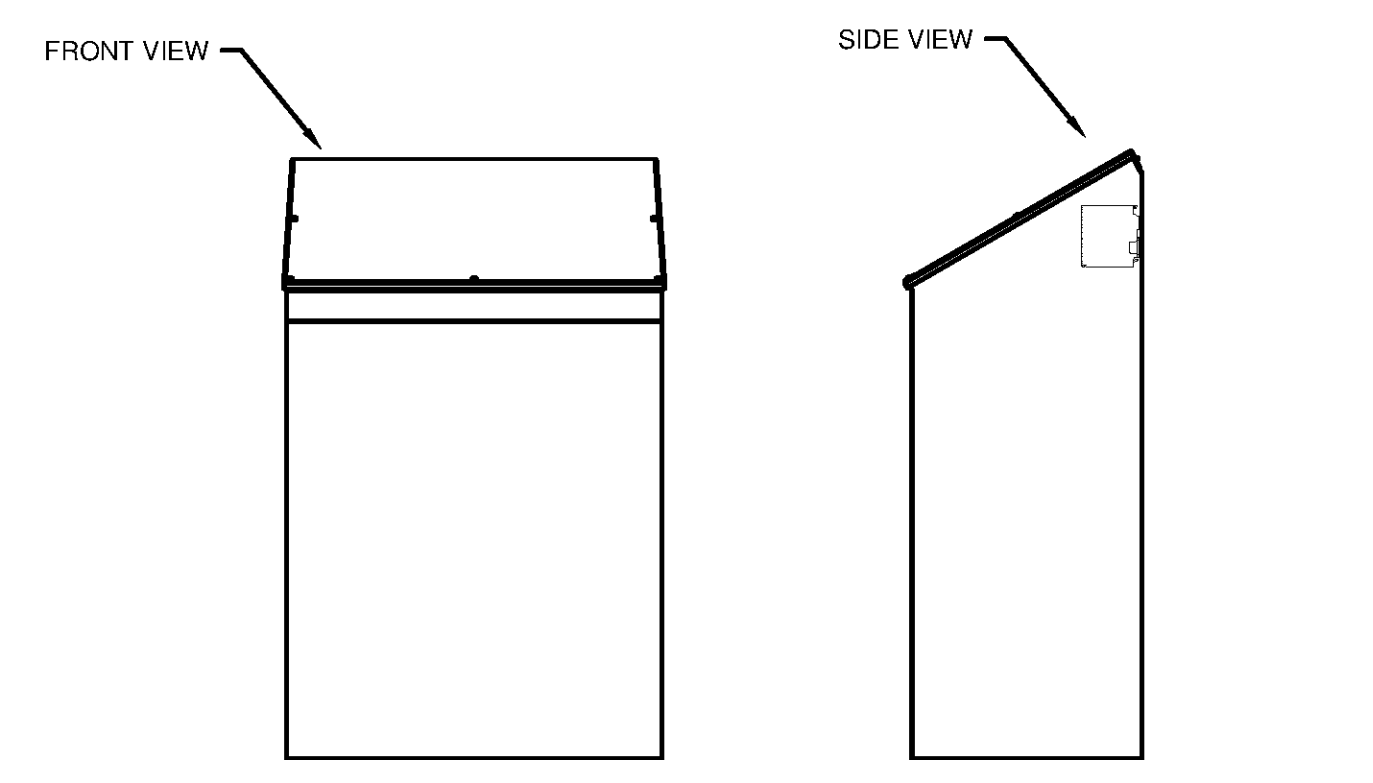


10/17/2014 10:33:26 AM - P:\IER\1740\200-11740-10003\CAD\SHEETFILES\TREATMENT PLANT\WTP-13601-GAC CONTACTOR CP.DWG - CALZARETTA, TIMOTHY

- DIGITAL SIGNALS**
- INPUT: INFLUENT VALVE OPENED
 - INPUT: INFLUENT VALVE CLOSED
 - INPUT: WASH WATER SUPPLY VALVE OPENED
 - INPUT: WASH WATER SUPPLY VALVE CLOSED
 - INPUT: AIR VENT VALVE OPENED
 - INPUT: AIR VENT VALVE CLOSED
 - INPUT: WASHWATER DRAIN VALVE OPENED
 - INPUT: WASHWATER DRAIN VALVE CLOSED
 - INPUT: BACKWASH EXTENDED
 - INPUT: BACKWASH ABORT
 - INPUT: BACKWASH START
 - INPUT: BACKWASH MODE
 - OUTPUT: INFLUENT VALVE OPEN
 - OUTPUT: INFLUENT VALVE CLOSE
 - OUTPUT: WASH WATER SUPPLY VALVE OPEN
 - OUTPUT: WASH WATER SUPPLY VALVE CLOSE
 - OUTPUT: AIR VENT VALVE OPEN
 - OUTPUT: AIR VENT VALVE CLOSE
 - OUTPUT: WASH WATER DRAIN VALVE OPEN
 - OUTPUT: WASH WATER DRAIN VALVE CLOSE
 - OUTPUT: BACKWASH REQUIRED
 - OUTPUT: HIGH TURBIDITY
 - OUTPUT: HIGH LOSS OF HEAD
 - OUTPUT: FILTERING
 - OUTPUT: BACKWASHING
- ANALOG SIGNALS**
- INPUT: EFFLUENT FLOW RATE
 - INPUT: EFFLUENT VALVE POSITION
 - INPUT: FILTER TO WASTE VALVE POSITION
 - INPUT: FILTER LOSS OF HEAD
 - INPUT: FILTER TURBIDITY
 - OUTPUT: EFFLUENT CONTROL VALVE SETPOINT
 - OUTPUT: FILTER TO WASTE VALVE SETPOINT
 - OUTPUT: INFLUENT CHANNEL FLOW
 - OUTPUT: LEVEL IN STORAGE TANK
- PROVIDE REGISTER MAPPING FOR PROFINET NETWORK.
- PLANT CONTROL SYSTEM



GAC CONTACTOR CONTROL CONSOLE ENCLOSURE FRONT LAYOUT
NEMA 4X TYPE 316 STAINLESS STEEL (NOT TO SCALE) SEE NOTES 1-7



GAC CONTACTOR CONTROL CONSOLE ENCLOSURE TOP VIEW
NEMA 4X (NOT TO SCALE)

- ACCESSORIES:**
- SURGE SUPPRESSOR ON INCOMING POWER.
 - TWO DEEP HINGED WINDOW KIT COVERING CONTROL DISPLAY ELEMENTS.
 - TYPE 316 STAINLESS STEEL, WITH ACID WASH

PRE-ENGINEERED CONTROL PANEL

INSTRUMENTATION TAG TABLE

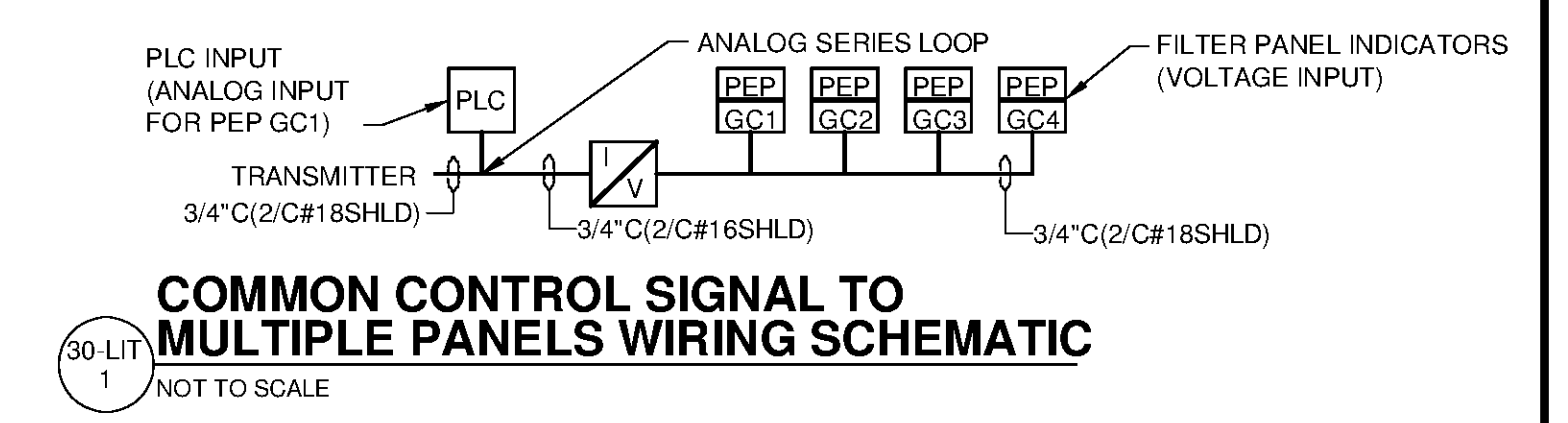
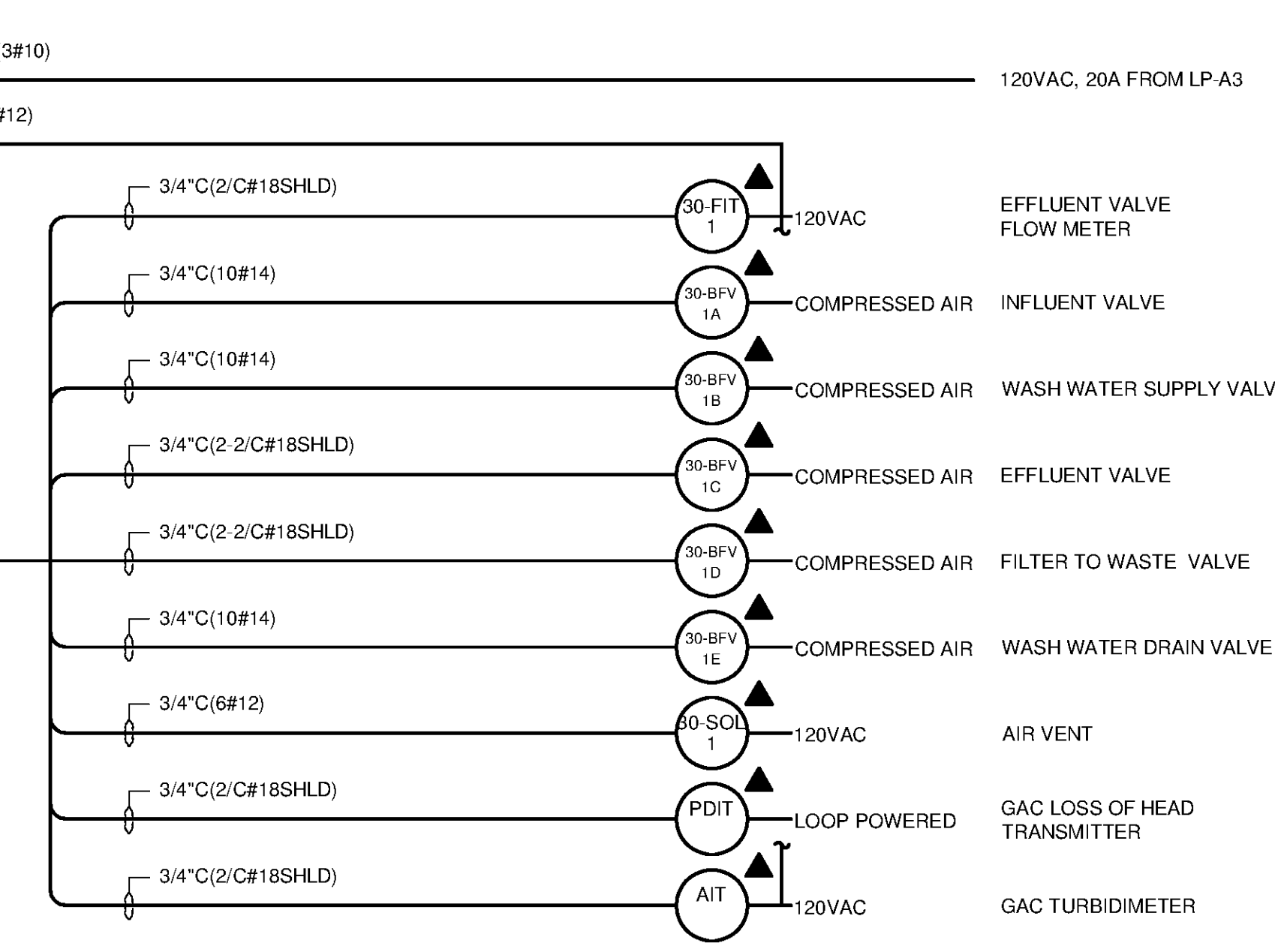
DEVICE	PEP GC1	PEP GC2	PEP GC3	PEP GC4
FIT	30-FIT-1	30-FIT-2	30-FIT-3	30-FIT-4
PDIT	30-PDIT-1	30-PDIT-2	30-PDIT-3	30-PDIT-4
AIT	30-AIT-1	30-AIT-2	30-AIT-3	30-AIT-4
LIT	30-LIT-1			

▲ = PROVIDED BY MANUFACTURER

FIELD MOUNTED 480/120VAC POWERED DEVICE TABLE

DEVICE	POWER FROM	VOLTAGE	NOTES:
30-FIT-1	PEP/GC1	120VAC	
30-FIT-2	PEP/GC2	120VAC	
30-FIT-3	PEP/GC3	120VAC	
30-FIT-4	PEP/GC4	120VAC	
30-AIT-1	PEP/GC1	120VAC	
30-AIT-2	PEP/GC2	120VAC	
30-AIT-3	PEP/GC3	120VAC	
30-AIT-4	PEP/GC4	120VAC	

FIELD DEVICES



- GENERAL NOTES:**
1. TYPICAL OF 4 PRE-ENGINEERED PANELS. PEP-GC1 AND ASSOCIATED EQUIPMENT IS SHOWN.
 2. SEE SECTION 40 99 90 "PACKAGE CONTROL SYSTEMS" FOR PANEL REQUIREMENTS. OUTDOOR PANELS SHALL BE NEMA 4X TYPE 316 STAINLESS STEEL
 3. SEE ELECTRICAL SPECIFICATIONS FOR CONDUIT AND WIRE REQUIREMENTS.
 4. EQUIPMENT PLACEMENT SHOWN ON E-3401.
 5. PANEL MANUFACTURER MUST DEMONSTRATE INTEGRATION TO SIEMENS S7-1500 PROCESS PRIOR TO COMMISSIONING.
 6. ELEVATED STORAGE TANK LEVEL AND FLOW METER READINGS TO BE DISPLAYED ON EACH GAC AND FILTER PANEL.
 7. SEE SHEET I-2603 FOR COMMON CONTROL SIGNAL TO MULTIPLE PANELS WIRING SCHEMATIC FOR 70-FIT-1 AND 70-LIT-1.

- PROCESSOR NOTES:**
1. UTILIZE THE FOLLOWING SIEMENS EQUIPMENT:
 - 1.1. IM 155-5 PN (6ES7155-5AA00-0AB0), INTERFACE MODULE
 - 1.2. ET 200MP I/O CARDS
 - 1.3. PS 25W 24VDC, POWER SUPPLY
 2. SIEMENS PROFINET COPPER TO FIBER CONVERTER.

- HMI NOTES:**
1. MANUAL REMOTE START/STOP LOGIC TO BE PROGRAMMED IN WTP-LCP-1.
 2. PEP SHALL INCLUDE MANUAL CONTROL OF EQUIPMENT, ALLOWING COMPLETE CONTROL OF BACKWASH AND NORMAL OPERATION FROM THE PEP WHILE WTP-LCP-1 IS OFFLINE. ANY ADDITIONAL CONTROLS OR INDICATION SHALL BE INCLUDED IN THE BASE SCOPE OF WORK.

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ALABAMA PROFESSIONAL ENGINEERING SEAL
No. 21928
PROFESSIONAL ENGINEER
TIMOTHY CALZARETTA
STATE OF ALABAMA

BY	DATE	DESCRIPTION

HUNTSVILLE UTILITIES
SOUTHEAST WATER TREATMENT PLANT
GAC CONTACTOR CONTROL CONSOLE

Project No.: 200-11740-10003
Designed By: CSW
Drawn By: TAC
Checked By: DAB

I-3601