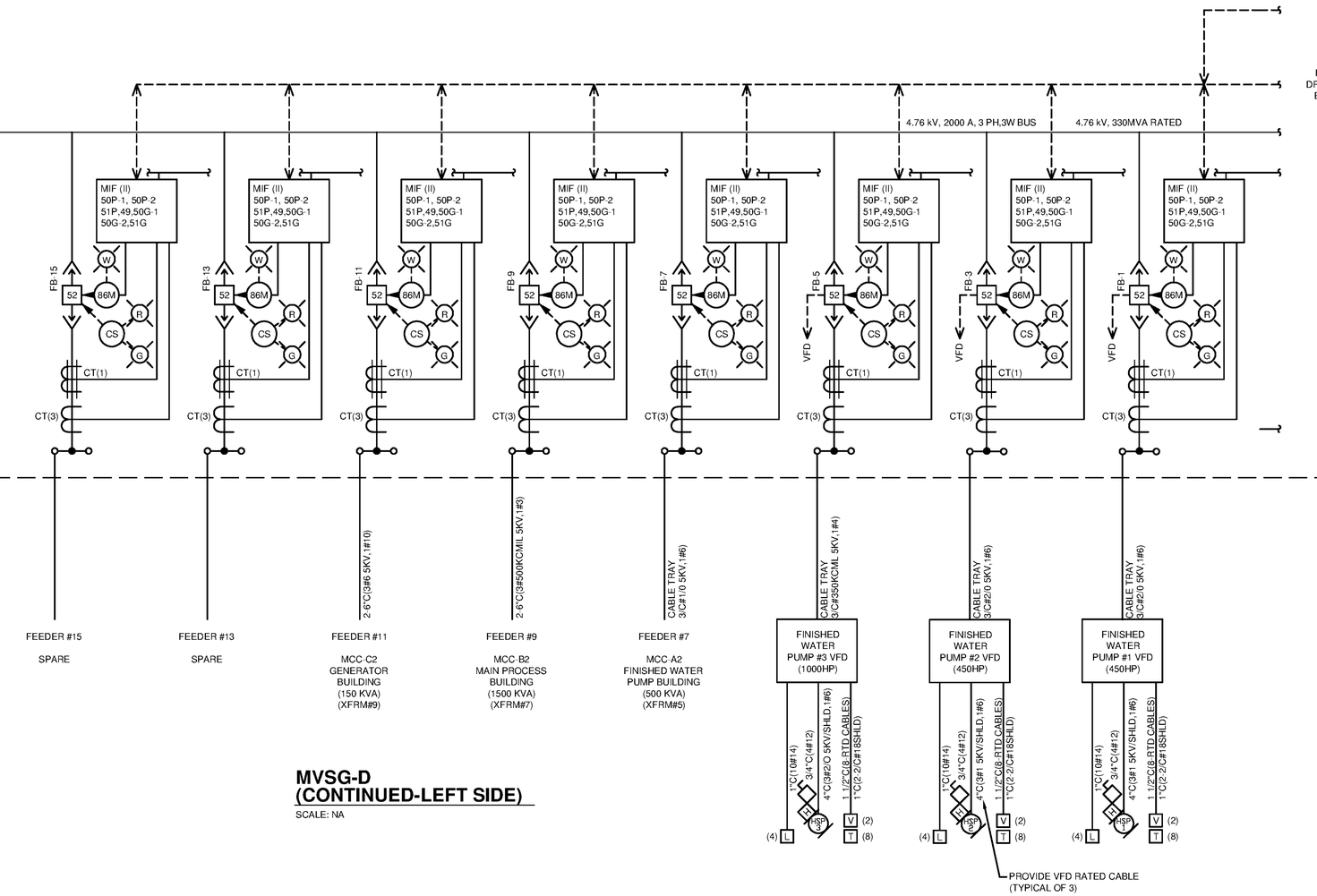

MVSG-D (CONTINUED-LEFT SIDE)

SCALE: NA

MEDIUM VOLTAGE SWITCHGEAR RATINGS	
DESCRIPTION ANSI C37.06 BASIS	RATING
OPERATING SYSTEM VOLTAGE	4.16 KV
NOMINAL RATED VOLTAGE	4.16 KV
MAXIMUM DESIGN VOLTAGE	4.76 KV
LOW FREQUENCY WITHSTAND VOLTAGE	19 KV
BASIC IMPULSE LEVEL	60 KV
CONTINUOUS CURRENT BUS RATING	2000A
CLOSE AND LATCH CURRENT RATING	104 KA
SHORT TIME 2-SECOND CURRENT RATING	40 KA
THREE PHASE MVA INTERRUPTING RATING	330 MVA
INTERRUPTING CURRENT AT RATING VOLTAGE	40 KA
MAXIMUM INTERRUPTING CURRENT	40 KA
INTERRUPTING TIME (60 HZ BASIS)	3 CYCLES
CONTROL OPERATING VOLTAGE	125 VAC
TRIP AND CLOSE CURRENT	15A MAX
CHARGING CURRENT	25A MAX
FEEDER CABLE ENTRY	TOP
PRIMARY CABLE ENTRY	TOP
BREAKER CONTINUOUS RATING	2000 A
POWER COMPANY METERING CUBICLE	NA

	SYMBOL LEGEND
RES	RESISTOR
PT	POTENTIAL TRANSFORMER
CT	CURRENT TRANSFORMER
A	AMMETER
V	VOLTMETER
AS	AMMETER SWITCH
VS	VOLTMETER SWITCH
PF	POWER FACTOR METER
W	WATTMETER
CS	CONTROL SWITCH
TI	TEMPERATURE INDICATOR
LI	LEVEL INDICATOR
AP	ALARM POINT
L.S.	LONG TIME-SHORT TIME
L.S.I.	LONG TIME-SHORT TIME INSTANT.
K	KEY INTERLOCK
	LOW VOLTAGE FUSE
	HIGH VOLTAGE FUSE
CPT	CONTROL POWER TRANSFORMER
(2) (3)	NUMBER OF DEVICES REQUIRED
G.F.I.	GROUND FAULT INTERRUPTER
BPS	BREAKER POSITION STATUS (CONTACT CLOSED WHEN BREAKER CLOSED)
WH	WATTHOUR METER
VFD	VARIABLE FREQUENCY DRIVE (CONTACTS SHALL TRIP MIN. 2 CYCLES BEFORE BREAKER)

ELECTRICAL INTERLOCK

POWER CIRCUIT BREAKER SCHEDULE

DEVICE	FRAME SIZE	CONT. CURRENT RATING	INTER. RATING RMS AMP SYMM.	RMS SOLID STATE TRIP DEVICES	REMARKS
FB-1	600A	150A	200 KA	L.S.I.	
FB-3	600A	150A	200 KA	L.S.I.	
FB-5	600A	300A	200 KA	L.S.I.	
FB-7	600A	150A	200 KA	L.S.I.	
FB-9	600A	400A	200 KA	L.S.I.	
FB-11	600A	50A	200 KA	L.S.I.	
FB-13	600A	150A	200 KA	L.S.I.	
FB-15	600A	300A	200 KA	L.S.I.	

NOTES

1. PROVIDE 5 kV EPR (MV-105) SHIELDED CONDUCTORS WITH XHHW GROUND. INSTALL STRESS RELIEF CABLE TERMINATION KITS ON BOTH ENDS OF EACH 15 kV CABLE INSTALLED FOR DISSIPATION OF CHARGE ON CABLE SHIELDING.
2. PROVIDE MONITORING NETWORK TO ALLOW FOR INTELLIGENT MONITORING OF THE SWITCHGEAR. SEE DRAWINGS FOR NETWORK LAYOUT. SEE DRAWING FOR MONITORING POINTS, SEE SWITCHGEAR SPECIFICATIONS.
3. THE NETWORK SHOULD ALLOW FOR ADVANCED COMMUNICATION CAPABILITY VIA ETHERNET BASED IEC 61850 COMMUNICATION AND NETWORK ARCHITECTURE TECHNOLOGY, AND WILL ALLOW USERS TO COMBINE POWER MONITORING AND CIRCUIT PROTECTION WITH INTERNAL LOGIC AND SECURE COMMUNICATIONS.
4. MEDIUM VOLTAGE WIRE INSULATION SHOWN IN THE ONE-LINE SHALL BE 133% RATED.
5. MEDIUM VOLTAGE CABLES (IN VAULTS) SHALL BE WRAPPED WITH FIREPROOF TAPE/WRAPPING.
6. MAIN AND FEEDER BREAKERS SHALL BE COORDINATED TO PROVIDE PROPER GROUND FAULT PROTECTION.
7. PROVIDE INTERMEDIATE CLASS ARRESTORS.
8. PROVIDE COOLING FANS IN PLC CABINET.
9. PLC SHALL BE CONTROLLOGIX WITH ALL PROGRAMMING COMPLETED BEFORE SHIPPING.
10. PROVIDE THERMOSTATICALLY CONTROLLED HEATER IN EACH CUBICAL.

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BID SET

ALABAMA LICENSED No. 21939 PROFESSIONAL ENGINEER ANDREW KLIMEK

MARK	DATE	DESCRIPTION	BY

HUNTSVILLE UTILITIES
SOUTHEAST WATER TREATMENT PLANT

MEDIUM VOLTAGE ONE-LINE

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

E-4602

Copyright: Tetra Tech

Bar Measures 1 inch

10/17/2014 11:00:26 AM - P:\ER\11740\200-11740-10003\CAD\SHEETFILES\TREATMENT PLANT\WTP E-4602 MEDIUM VOLTAGE ONE-LINE.DWG - CALZARETTA, TIMOTHY