

600 VOLT MOTOR CONTROL CENTER – MCC-2S

CONNECTED KW: 500
DEMAND KW: 220

EQUIP. NUMBER	MOTOR								STARTER			FEEDER			CIRCUIT PROTECTION		REMARKS
	DESCRIPTION	LOCATION		HP	KW	FULL LOAD AMPS	SERV. FACT.	EEMAC SIZE	TYPE	KVAR CAP.	CAP (AMPS)	SIZE	TYPE	CONT. RATING (AMPS)	FRAME SIZE		
		MCC#	RM#														
S536-AC	INSTRUMENT AIR COMPRESSOR	F1-1	S106	60	45	55	1.15	—	—	—	120	#2	RW-90	150A-3P	HFD/CL	PACKAGED UNIT	
	SPACE	F1-2															
S402-STP	SLUDGE RECIRCULATING PUMP	F1-3	S102	25	18.7	23.2	1.15	2	CMFVNR	5	65	#6	RW-90	50A-3P	HMCP	UNDERVOLTAGE PROTECTED VIA DCS 2 1	
S690-AHU	CONTROL ROOM AIR HANDLING UNIT	F1-4	S107	5	3.7	5.8	1.15	1	CMFVNR	—	20	#12	RW-90	15A-3P	HMCP		
	SPARE BREAKER	F1-5															
S622-GP	GLYCOL PUMP	F2-1	S131	15	11	15.2	1.15	2	CMFVNR	—	45	#8	RW-90	50A-3P	HMCP	2 1	
S550-FWP	FLUSHING WATER PUMP	F2-2	S101	75	56	66.4	1.15	4	CMFVNR	10	105	#3	RW-90	150A-3P	HMCP	IQ 1000 PROTECTION, UNDERVOLTAGE PROTECTED VIA DCS	
S554-FWS	FLUSHING WATER STRAINER	F2-3	S101	1.0	0.8	1.4	1.15	1	CMFVNR	—	20	#12	RW-90	3A-3P	HMCP		
	SPACE	F2-4															
S606-EF	SECONDARY CLARIFIER 1 & 2 EXHAUST FAN	F3-1	S110	40/18	30/13	40/25.5	1.15	3	CMFVNR	5	65/30	#6/#10	RW-90	100A-3P	HMCP	2 SPEED STARTER 2 WINDINGS, PFC ON HIGH SPEED, UNDERVOLTAGE PROTECTED VIA DCS 2 1	
S608-EF	SECONDARY CLARIFIER 1 & 2 EXHAUST FAN	F3-2	S110	40/18	30/13	40/25.5	1.15	3	CMFVNR	5	65/30	#6/#10	RW-90	100A-3P	HMCP	2 SPEED STARTER 2 WINDINGS, PFC ON HIGH SPEED, UNDERVOLTAGE PROTECTED VIA DCS 2 1	
	SPACE	F3-3															
S618-EF	SECONDARY CLARIFIER #3 EXHAUST FAN	F4-1	S136	7.5	5.6	7.5	1.15	1	CMFVNR	—	20	#12	RW-90	15A-3P	HMCP		
	SPACE	F4-2															
S604-EF	GALLERY EXHAUST FAN	F4-3	S118	0.5	0.38	0.6	1.15	1	CMFVNR	—	20	#12	RW-90	3A-3P	HMCP		
S620-EF	SECONDARY CLARIFIER #3 EXHAUST FAN	F4-4	S136	60/27	45/20	53.7/26.5	1.15	4	CMFVNR	10	85/45	#4/#8	RW-90	150A-3P	HMCP	2 SPEED STARTER 2 WINDINGS, PFC ON HIGH SPEED, UNDERVOLTAGE PROTECTED VIA DCS 2 1	
	SPACE	F4-5															
S530-SP	CLARIFIER #2 SAMPLER PUMP	F5-1	S118	1.5	1.1	1.9	1.15	1	CMFVNR	—	20	#12	RW-90	3A-3P	HMCP		
S532-SP	CLARIFIER #3 SAMPLER PUMP	F5-2	S131	1.5	1.1	1.8	1.15	1	CMFVNR	—	20	#12	RW-90	3A-3P	HMCP		
S202-WAP	WAS PUMP	F5-3L	S103	15	11	15	1.15	—	—	—	30	#10	RW-90	30A-3P	HFD/CL	RELCON VFD	
	FIELD OFFICE BREAKER (SPARE)	F5-3R														RETAIN AS SPARE	
S516-TD	SCRUBBER ROOM DOOR	F5-4L	S112	0.75	0.6	1.1	1.15	—	—	—	20	#12	RW-90	15A-3P	HFD/CL		
S518-TD	TRUCK BAY DOOR	F5-4R	S113	1.5	1.1	1.4	1.15	—	—	—	20	#12	RW-90	15A-3P	HFD/CL		
R682-AHU	PSA ROOM AIR HANDLING UNIT	F5-5	S114	5.0	3.8	5.6	1.15	1	CMFVNR	—	20	#12	RW-90	15A-3P	HMCP		
S766-SC	CLARIFIER #2 BRIDGE DRIVE	F6-1	S117	1.0	0.8	1.0	1.15	1	CMFVNR	—	20	#12	RW-90	3A-3P	HMCP		
S614-AHU	SECONDARY CLARIFIER #3 AIR HANDLING UNIT	F6-2	S138	40	30	36.5	1.15	—	—	5	85	#4	RW-90	100A-3P	HFD/CL	PACKAGED UNIT	
	SPARE STARTER	F6-3						3	CMFVNR	—							
S686-EF	EXHAUST FAN - GALLERY	F6-4	S114	1.5	1.1	1.4	1.15	1	CMFVNR	—	20	#12	RW-90	7A-3P	HMCP		
S684-AHU	SLUDGE PUMPING AIR HANDLING UNIT	F6-5	S114	1.0	0.75	1.3	1.15	1	CMFVNR	—	20	#12	RW-90	3A-3P	HMCP		
S108-RAP	CLARIFIER #3 RAS PUMP	F7-1	S131	60	45	60	1.15	—	—	—	85	#4	RW-90	150A-3P	HFD/CL	RELCON VFD	
	SPARE STARTER	F7-2						1	CMFVNR	—							
	SPACE	F7-3															
S680-CWP	COOLING TOWER PUMP	F7-4	S101	5	3.5	5.2	1.15	1	CMFVNR	—	20	#12	RW-90	15A-3P	HMCP		
S678-CNP	CONDENSATE PUMP	F7-5	S118	0.75	0.5	1.4	1.15	1	CMFVNR	—	20	#12	RW-90	3A-3P	HMCP		
	SPACE	F7-6															
	PSA/MECHANICAL ROOM WELDING OUTLET	F8-1L						—	—	—	65	#6	RW-90	60A-3P	HFD/CL		
R602-CP	SCRUBBER CIRCULATION PUMP	F8-1R	S112	1.5	1.1	1.8	1.15	—	—	—	20	#12	RW-90	15A-3P	HFD/CL	PACKAGED UNIT	
S308-SP	CLARIFIER #1 & #2 SCUM PUMP	F8-2	S103	5	3.5	5.7	1.15	1	CMFVNR	—	20	#12	RW-90	15A-3P	HMCP		
S668-CWP	CHILLED WATER PUMP	F8-3	S101	1.5	1.1	1.4	1.15	1	CMFVNR	—	20	#12	RW-90	7A-3P	HMCP		
	SPARE STARTER	F8-4						2	CMFVNR	—							
	SPACE	F8-5															
S672-HWP	HOT WATER CIRCULATING PUMP	F8-6	S101	1.5	1.1	2.0	1.15	1	CMFVNR	—	20	#12	RW-90	7A-3P	HMCP	2 1	
S552-FWP	FLUSHING WATER PUMP	F9-1	S101	125	93.8	110	1.15	5	CMFVNR	20	185	#2/0	RW-90	250A-3P	HMCP	IQ 1000 PROTECTION, UNDERVOLTAGE PROTECTED VIA DCS	
S662-GP	GLYCOL HEAT RECOVERY PUMP	F9-2	S114	3.0	2.2	2.9	1.15	1	CMFVNR	—	20	#12	RW-90	7A-3P	HMCP		
S102-RAP	CLARIFIER # 1 & 2 RAS PUMP	F9-3	S101	40	30	38	1.15	3	CMFVNR	—	65	#6	RW-90	100A-3P	HMCP	RELANCE VFD	
S648-CH	CHILLER	F10-1	S101	50	37.5	50		—	—	10	85	#4	RW-90	125A-3P	HFD/CL	PACKAGED UNIT	
	SPARE STARTER	F10-2						3	CMFVNR	—							
S542-AB	CHANNEL AERATION BLOWER	F10-3	S105	75	56	68	1.15	4	CMFVNR	10	105	#3	RW-90	150A-3P	HMCP	IQ 1000 PROTECTION	
	10 KVAR CAPACITOR BREAKER	F11-1L						—	—	—	20	#12	RW-90	15A-3P	HFD/CL		
	10 KVAR CAPACITOR BREAKER	F11-1R						—	—	—	20	#12	RW-90	15A-3P	HFD/CL		
	10 KVAR CAPACITOR BREAKER	F11-2L						—	—	—	20	#12	RW-90	15A-3P	HFD/CL		
	SPARE BREAKER	F11-2R															
	3-10 KVAR CAPACITORS	F11-3														BREAKERS IN SECTION F11	

CONSTRUCTION NOTES
1 PROGRAM IQ DATA PLUS II UNIT ON MCC-2S AND CONNECT ITS DISCRETE ALARM CONTACT TO DCS.



DESIGNED: N. BRADDO		APPROVED: C. REIMER	
CHECKED: C. REIMER		DATE: 2009/12/07	
PROJECT No:	SUBDIV:	SUBJECT:	SERIAL:
112577	0105	47 DD	0510
			REV. 2

B.M. ELEV.			
2	UNDERVOLTAGE PROTECTION ADDED TO MCC-2S	12/09	NB
1	AS CONSTRUCTED	06/93	B.T.
0	ISSUED FOR TENDER	07/90	RDJ
NO.	REVISIONS	DATE	BY

MACLAREN ENGINEERS INC. WARDROP ENGINEERING INC. ENGINEERING CONSULTANTS	
DESIGNED BY: D.B.T.	CHECKED BY:
DRAWN BY: C.N./V.R.	APPROVED BY:
HOR. SCALE: N.T.S.	RELEASED FOR CONSTRUCTION:
VERTICAL:	DATE:

ENGINEER'S SEAL
ORIGINAL DRAWING SEALED BY:
N. BRADDO
SNC-Lavalin
MEMBER 32727
2009/12/07
REV. 02

THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
WATERWORKS, WASTE & DISPOSAL DEPARTMENT

SOUTH END WATER POLLUTION CONTROL CENTRE
SECONDARY CLARIFIER EXPANSION - ELECT.

MOTOR CONTROL CENTER 2S

CITY DRAWING NUMBER
SHEET OF
SEP-467

CONSULTANT DRAWING NO. 43525-24-S-E117