A1 SIZE – 594mm x 841mm

PANEL ID:	AMPS:	VOLTS:	PHASE:	WIRE:	
CDP-E2	250A	600V	3ø	3	SURF. MOUNT [X] TOP FED [X] FLUSH MOUNT [ ] BOT. FED [ ]

DESCRIPTION: ESSENTIAL
LOCATION: SECONDARY CLARIFIER ELECTRICAL ROOM
MFG / MODEL: WESTINGHOUSE CDP
INTERRUPTING RATING: 14 kA (SEE NOTES)
MAIN BREAKER: N/A
INST. SETTINGS: N/A

CCT.	DESCRIPTION	NOTE	WIRE (AWG)	BRKR AMPS	LOAD (VA)	A	B	C	LOAD (VA)	BRKR AMPS	WIRE (AWG)	NOTE	DESCRIPTION	CCT.
1														
2	MULTIPLEX STARTERS			40										
3														
4														
5	XFMR-4S			60										
6														
7														
8	XFMR-2S			70										
9														
10					5000									
11	UPS-S1		8	40	5000									
12					5000									
13														
14	SPARE			15										
15														

TOTAL CONNECTED LOAD: kVA, A (AVG), A (MAX) — PHASE A: kVA A; PHASE B: kVA A; PHASE C: kVA A

NOTE LEGEND:
AFCI ARC FAULT CIRCUIT INTERRUPTOR
GFCI GROUND FAULT CIRCUIT INTERRUPTOR
LOCK LOCKED BREAKER

NOTES:
1. NEW BREAKERS ARE REQUIRED TO HAVE A 35kA INTERRUPTING RATING TO ADDRESS POTENTIAL FUTURE RECONFIGURATION OF THE ESSENTIAL POWER DISTRIBUTION SYSTEM.

PANEL ID:	AMPS:	VOLTS:	PHASE:	WIRE:	
PNL-2S	225A	120/208V	3ø	4	SURF. MOUNT [X] TOP FED [ ] FLUSH MOUNT [ ] BOT. FED [X]

DESCRIPTION: ESSENTIAL
LOCATION: SECONDARY CLARIFIER ELECTRICAL ROOM
MFG / MODEL: WESTINGHOUSE NQB
INTERRUPTING RATING: 10 kA
MAIN BREAKER: N/A
INST. SETTINGS: N/A

CCT.	DESCRIPTION	NOTE	WIRE (AWG)	BRKR AMPS	LOAD (VA)	A	B	C	LOAD (VA)	BRKR AMPS	WIRE (AWG)	NOTE	DESCRIPTION	CCT.
1	PSA 02 SENSOR				600W					15			SPACE	2
3	RECEPT. BELOW PNL-2S			15	250W					15			SPACE	4
5	TRANSFORMER YARD RECEPTACLE				250W									6
7	SPARE			15						60			SPARE (WAS PNL-6S)	8
9														10
11	SPARE			15					500	15	12		FACP-S1	12
13	SPARE			15					300	15			RECEPTACLES RM. R103	14
15	SPACE									15			RECEPTACLES SECONDARY LAB	16
17	SPARE			15						15			RECEPTACLES RAINFALL DATA	18
19	SPARE			15						15			SPACE	20
21	SPARE			15						15			SPACE	22
23	SPACE									15			SPACE	24
25	SPARE			15						15			SPACE	26
27	SPARE			15									SPACE	28
29	SPACE												SPACE	30
31	SPACE												SPACE	32
33	SPACE												SPACE	34
35	SPACE												SPACE	36
37	SPACE												SPACE	38
39	SPACE												SPACE	40
41	SPACE												SPACE	42

TOTAL CONNECTED LOAD: kVA, A (AVG), A (MAX) — PHASE A: kVA A; PHASE B: kVA A; PHASE C: kVA A

NOTE LEGEND:
AFCI ARC FAULT CIRCUIT INTERRUPTOR
GFCI GROUND FAULT CIRCUIT INTERRUPTOR
LOCK LOCKED BREAKER

NOTES:
1. WATT LOADS COPIED FROM EXISTING DRAWINGS.

PANEL ID:	AMPS:	VOLTS:	PHASE:	WIRE:	
PNL-4S	100A	347/600V	3ø	4	SURF. MOUNT [X] TOP FED [X] FLUSH MOUNT [ ] BOT. FED [ ]

DESCRIPTION: ESSENTIAL
LOCATION: SECONDARY CLARIFIER ELECTRICAL ROOM
MFG / MODEL: WESTINGHOUSE NHFD
INTERRUPTING RATING: 25 kA
MAIN BREAKER: 100A, HFD SERIES
INST. SETTINGS: N/A

CCT.	DESCRIPTION	NOTE	WIRE (AWG)	BRKR AMPS	LOAD (VA)	A	B	C	LOAD (VA)	BRKR AMPS	WIRE (AWG)	NOTE	DESCRIPTION	CCT.
1	SPARE			15					375	15			LIGHTS TRANSFORMER YARD	2
3	LIGHTS S108			15	600W				1210	15			LIGHTS RM. R101, R102, S113	4
5	LIGHTS EXTERIOR			15	375W				2500	15			LIGHTS RM. S120, S124, S126, S128	6
7	LIGHTS RM. S101, S102			15	1280W				435	15			EXIT LIGHTS	8
9	SEC. CLAR. RM. S118			15	335				405	15			LIGHTS RM. S119	10
11	LIGHTS RM. R108			15	600W					15			SPARE	12
13	LIGHTS RM. S131, S132			15	1450W					15			LIGHTS OUTSIDE R101	14
15	LIGHTS STAIRWELL S103			15	565				375	15			LIGHTS CONTROL RM. S107	16
17	LIGHTS RM. S109, S112, S114			15	985				700	15			SPARE	18
19	LIGHTS RM. S133, S134, S135			15	1527				700	15			EXIT LIGHTS	20
21	LIGHTS RM. S133, S136			15	1235W					15			SPARE	22
23	SPARE			15						30			SPARE	24
25	SPARE			15						30			SPARE	26
27	SPARE			15						30			SPARE	28
29	SPARE			15						30			SPARE	30
31	SPACE												SPACE	32
33	SPACE												SPACE	34
35	SPACE												SPACE	36
37	SPACE												SPACE	38
39	SPACE												SPACE	40
41	SPACE												SPACE	42

TOTAL CONNECTED LOAD: kVA, A (AVG), A (MAX) — PHASE A: kVA A; PHASE B: kVA A; PHASE C: kVA A

NOTE LEGEND:
AFCI ARC FAULT CIRCUIT INTERRUPTOR
GFCI GROUND FAULT CIRCUIT INTERRUPTOR
LOCK LOCKED BREAKER

NOTES:
1. WATT LOADS COPIED FROM EXISTING DRAWINGS.

PANEL ID:	AMPS:	VOLTS:	PHASE:	WIRE:	
PNL-3S	225A	120/208V	3ø	4	SURF. MOUNT [X] TOP FED [ ] FLUSH MOUNT [ ] BOT. FED [X]

DESCRIPTION: NON-ESSENTIAL
LOCATION: SECONDARY CLARIFIER ELECTRICAL ROOM
MFG / MODEL: WESTINGHOUSE NQB
INTERRUPTING RATING: 22 kA (NOTE 2)
MAIN BREAKER: N/A
INST. SETTINGS: N/A

CCT.	DESCRIPTION	NOTE	WIRE (AWG)	BRKR AMPS	LOAD (VA)	A	B	C	LOAD (VA)	BRKR AMPS	WIRE (AWG)	NOTE	DESCRIPTION	CCT.
1	SPARE			15					800W	15			RECEPTACLES CONT. RM. S107	2
3	RECEPTACLES RM. S105, S106			15	1200W				1200W	15			RECEPTACLES CONT. RM. S107	4
5	RECEPTACLES RM. S108			15	1200W				1200W	15			RECEPTACLES RM. S101	6
7	SPARE			15					2000W	30			S690 CONDENSOR UNIT	8
9	RECEPT. SAMPLERS RM. S118			15	800W				2000W					10
11	RECEPTACLES RM. S102			15	1200W				3000W					12
13	RECEPTACLES S134 & S135			15	300W				3000W	60	6		XFMR-7S	14
15	RECEPTACLES S133, S136			15	300W				3000W					16
17	RECEPTACLES S131 & GALLERY			15	1200W				800W	15			RECEPTACLES RM. S120, S126	18
19	RECEPT. S131			15	1200W				800W	15			LAB BENCH PLUGS	20
21	RECEPTACLES RM. S122			15	1200W				800W					22
23	RECEPTACLES RM. S122			15	1200W				600W	15			RECEPTACLES RM. S124, S128	24
25	RECEPT. OUTSIDE CLARIF. 1 & 2			15	1200W				1200W	15			PUMP EFFICIENT SAMPLER	26
27	SPARE			15					1200W	15			EFFLUENT FRIDGE PLUG	28
29	SAMPLER CLARIFIER #3 FRIDGE			15	1200W				800W	15			RECEPTACLES RM. S118	30
31	INSTRUMENT AIR DRYER			15	500W					15			SPARE	32
33	COMPRESSOR ALTERNATOR			15	100W					15			SPARE	34
35	EXHAUST FAN S611-EF			15	200W					15			SPARE	36
37					4000W								SPACE	38
39	CONDENSING UNIT S690			50	4000W					15			SPARE	40
41					4000W				600	15			BLEEDTROL	42

TOTAL CONNECTED LOAD: kVA, A (AVG), A (MAX) — PHASE A: kVA A; PHASE B: kVA A; PHASE C: kVA A

NOTE LEGEND:
AFCI ARC FAULT CIRCUIT INTERRUPTOR
GFCI GROUND FAULT CIRCUIT INTERRUPTOR
LOCK LOCKED BREAKER

NOTES:
1. WATT LOADS COPIED FROM EXISTING DRAWINGS.
2. ALL NEW BREAKERS TO BE RATED 22kA OR HIGHER.

PANEL ID:	AMPS:	VOLTS:	PHASE:	WIRE:	
PNL-7S	100A	120/208V	3ø	4	SURF. MOUNT [ ] TOP FED [X] FLUSH MOUNT [X] BOT. FED [ ]

DESCRIPTION: NON-ESSENTIAL
LOCATION: SECONDARY CLARIFIER ELECTRICAL ROOM
MFG / MODEL: WESTINGHOUSE PRL1
INTERRUPTING RATING: 10 kA
MAIN BREAKER: N/A
INST. SETTINGS: N/A

CCT.	DESCRIPTION	NOTE	WIRE (AWG)	BRKR AMPS	LOAD (VA)	A	B	C	LOAD (VA)	BRKR AMPS	WIRE (AWG)	NOTE	DESCRIPTION	CCT.
1	REACTOR PCU SD FEED 2		10	30	900W				800W	30	10		SECONDARY PCU SG FEED 2	2
3	SPARE			15						15			SPARE	4
5	SPARE			15					1200W	30	10		SECONDARY PCU SF FEED 2	6
7	SPARE			15						15			SPARE	8
9	SPARE (WAS PSA WORKSTATION)			15					1200W	30	10		REACTOR PCU SE FEED 2	10
11	SPACE			15									SPACE	12
13	SPACE												SPACE	14
15	SPARE (WAS NODE 5 SEC CTRL ROOM)			15									SPACE	16
17	SPACE												SPACE	18
19	SPACE												SPACE	20
21	SPACE												SPACE	22
23	SPACE												SPACE	24

TOTAL CONNECTED LOAD: kVA, A (AVG), A (MAX) — PHASE A: kVA A; PHASE B: kVA A; PHASE C: kVA A

NOTE LEGEND:
AFCI ARC FAULT CIRCUIT INTERRUPTOR
GFCI GROUND FAULT CIRCUIT INTERRUPTOR
LOCK LOCKED BREAKER

NOTES:

PANEL ID:	AMPS:	VOLTS:	PHASE:	WIRE:	
PNL-6S	225A	120/208V	3ø	4	SURF. MOUNT [ ] TOP FED [X] FLUSH MOUNT [X] BOT. FED [ ]

DESCRIPTION: FED FROM UPS-S1
LOCATION: SECONDARY CLARIFIER ELECTRICAL ROOM
MFG / MODEL: WESTINGHOUSE NQBH
INTERRUPTING RATING: 10 kA
MAIN BREAKER: 60A, HFD SERIES
INST. SETTINGS: N/A

CCT.	DESCRIPTION	NOTE	WIRE (AWG)	BRKR AMPS	LOAD (VA)	A	B	C	LOAD (VA)	BRKR AMPS	WIRE (AWG)	NOTE	DESCRIPTION	CCT.
1	REACTOR PCU SD FEED 1		10	30	1200				1200	30	10		SECONDARY PCU SG FEED 1	2
3	FDP-S			15	400				400	15			FDP-S	4
5	FDP-S			15	1200				1200	30			SECONDARY PCU SF FEED 1	6
7	FDP-S			15	1200					30			SPARE	8
9	PSA WORKSTATION		12	15	500				1200	30			REACTOR PCU SE FEED 1	10
11	SECONDARY LAB OIS WORKSTATION		12	15	500				500	15	12		SECONDARY LAB ADMIN WORKSTATION	12
13	SPARE			15						15			SPARE	14
15	NODE 5 SEC CONTROL ROOM		12	15	500				500	15	12		GDC-S1	16
17	SPARE			15						15			SPARE	18
19	SPACE												SPACE	20
21	SPACE												SPACE	22
23	SPACE												SPACE	24
25	SPACE												SPACE	26
27	SPACE												SPACE	28
29	SPACE												SPACE	30

TOTAL CONNECTED LOAD: 10.5 kVA; 28.1 A (AVG); 29.2 A (MAX) — PHASE A: 3.2 kVA 26.7 A; PHASE B: 3.5 kVA 29.2 A; PHASE C: 3.4 kVA 28.3 A

NOTE LEGEND:
AFCI ARC FAULT CIRCUIT INTERRUPTOR
GFCI GROUND FAULT CIRCUIT INTERRUPTOR
LOCK LOCKED BREAKER

NOTES:

NO.	CONSTRUCTION NOTES
1	ADD LOADS TO PNL-6S.
2	MOVE EXISTING LOADS FROM PNL-7S TO PNL-6S AND ADD PCU LOADS TO PNL-7S.
3	REPLACE EXISTING 15A BREAKER WITH 40A CUTLER-HAMMER FDC (35kA) BREAKER.
4	REMOVE FEEDER TO PNL-6S FROM PNL-2S.
5	REMOVE BREAKER FOR UPS-7S FROM PNL-3S AND INSTALL NEW CUTLER-HAMMER BREAKER QBHW3060 TO FEED XFMR-7S.
6	INSTALL RED BREAKER FOR FIRE ALARM PANEL, LOCKABLE IN THE ON POSITION. AFFIX LABEL STATING "THE FIRE ALARM SYSTEM POWER IS SUPPLIED FROM MORE THAN ONE PRIMARY POWER SOURCE."
7	MARK BREAKER FOR H_2S ANALYZERS AS SPARE.

APEGM Certificate of Authorization
SNC-Lavalin Inc.
No. 4489

NOTES:
1. SUPERCEDES PART OF SEP-464.

NO.	REVISIONS	DATE	DESIGN	CHECK
00	ISSUED FOR TENDER, BID OPP. 209-2011	2011/03/11	TMC	CJR

SNC·LAVALIN
SNC-LAVALIN INC.
148 Nature Park Way
Winnipeg, MB, Canada R3P 0X7
204-786-8080

DESIGNED BY: T. CHURCH
CHECKED BY: C. REIMER
DRAWN BY: A. L. SARLO
APPROVED BY: C. REIMER
SCALE: N.T.S.
RELEASED FOR CONSTRUCTION BY: N. HARRINGTON
DATE: 2009/08/31
DATE: 2011/03/11
CONSULTANT NO.: 112577-0106-47DD-0604

ENGINEER'S SEAL
ORIGINAL DRAWING SEALED BY:
T. M. CHURCH
SNC-LAVALIN
MEMBER #32682
2011/03/28
REV. 00

Winnipeg THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

SOUTH END WATER POLLUTION CONTROL CENTRE
ESSENTIAL SYSTEM UPGRADES
PANEL SCHEDULES
SECONDARY CLARIFIER ELECTRICAL ROOM

CITY DRAWING NUMBER	SHEET	REV.	SIZE
1-0102S-E0022	001	00	A1

1-0102S-E0022-001-00.dwg

LAST SAVE: 2011/03/29 – 11:13am
PATH: M:\112577\0106\4ENG\47ELE\DD – General DWG\1-0102S-E0022-001-00.dwg