A1 SIZE – 594mm x 841mm

SINGLE LINE SYMBOLS:

52	AC CIRCUIT BREAKER
	AIR CIRCUIT BREAKER (DRAW OUT)
AS	AMMETER SELECTOR SWITCH
PPE 5.0	INCIDENT ENERGY IN CA/CM²
	CAPACITOR
CTD	CAPACITIVE TRIP DEVICE
	CONTACTOR
CS	CONTROL SWITCH
	CIRCUIT BREAKER
	CURRENT TRANSFORMER
	DISCONNECTING DEVICE / STAB
	DISCONNECT SWITCH
	ELECTRIC HEATING COIL
	FUSE
(3)	FUSE / (3) = QUANTITY
G	GENERATOR
	GROUND CONNECTION
	GROUND FAULT CURRENT TRANSFORMER
	GROUNDING RESISTOR
	HIGH VOLTAGE VACUUM CIRCUIT BREAKER (DRAW-OUT)
	UNIT HEATER
I	INTERLOCK
K1	KEY INTERLOCK (SEE TABLE BELOW FOR DESIGNATION)
K1 K2 K2	INTERLOCK KEY TRANSFER BAR
KW	KILOWATT METER
M	MOTOR
	MOTOR (ON EXISTING SEP DRAWINGS)
	MOTOR OVERLOAD
MF	MULTIFUNCTION METER
M	PKG MOTOR
	MULTI-RATIO CURRENT TRANSFORMER

PLC	PLC I/O POINT
	POTENTIAL TRANSFORMER
PF	POWER FACTOR METER
PM	POWER METER
	REACTOR
~/=	RECTIFIER
=/~	INVERTER
~/~	AC/AC CONVERTER
=/=	DC/DC CONVERTER
	SPECIAL PURPOSE RECEPTACLE
RM	REVENUE METER
Σ	SUMMATION DEVICE
	SURGE ARRESTER
TD	TIME DELAY
	TRANSFORMER
	TRANSFER SWITCH
TVSS 240kA	TRANSIENT VOLTAGE SURGE SUPRESSOR
V	VOLTMETER
VFD	VARIABLE FREQUENCY DRIVE
VS	VOLTMETER SELECTOR SWITCH
VT	VOLTAGE TRANSMITTER
C4	SINGLE LINE CONTINUATION TAG (MATCH TAGS TO FOLLOW)
CB	CIRCUIT BREAKER
DP	DISTRIBUTION PANEL
GEN	GENERATOR
LCP	LOCAL CONTROL PANEL
LDB	LOAD BANK
MCC	MOTOR CONTROL CENTRE
MCP	MOTOR CIRCUIT PROTECTOR
MCS	MOLDED CASE SWITCH
MMC	MOTOR MANAGEMENT CONTROLLER
MSP	MOTOR STARTER PANEL
NGR	NEUTRAL GROUNDING RESISTOR
PDC	POWER DISTRIBUTION CENTRE
PNL	PANELBOARD
RCTR	REACTOR
RCTR	REACTOR
SGR	SWITCHGEAR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR

ELECTRICAL PLAN LAYOUT SYMBOLS

M	MOTOR
M	MAGNETIC DOOR HOLD OPEN DEVICE
	DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE SPLIT CIRCUIT
	208V RECEPTACLE (AMPERE RATING AS SHOWN)
	SINGLE RECEPTACLE
H1	HAZARDOUS RATED, CLASS 1 ZONE 1
H2	HAZARDOUS RATED, CLASS 1 ZONE 2
W.P.	WEATHERPROOF
GFCI	GROUND FAULT CIRCUIT INTERUPPTER
	DIRECT CONNECTION
	LOCAL DISCONNECT SWITCH
	DOOR OPEN SWITCH
	UNIT HEATER
M	MOTORIZED DAMPER
	MAGNETIC MOTOR STARTER (FIELD INSTALLED)
	MANUAL MOTOR STARTER (FIELD INSTALLED)
	SPECIAL PURPOSE RECEPTACLE
	PA SPEAKER, CEILING MOUNTED
	PA HORN SPEAKER
1V/1D	COMMUNICATION OUTLET (1 VOICE, 1 DATA, ETC)
3D	COMMUNICATION OUTLET (3D = 3 DATA, 1D = 1 DATA, ETC)
	TELEPHONE RECEPTACLE
	HDMI OUTLET
	ELECTRICAL HEATER
TS	TEMPERATURE SWITCH
KS	TIMER
CCTV	CCTV CAMERA
	PANELBOARD
	PUSH BUTTON
JB	JUNCTION BOX
	HAND DRYER
	DEVICE AS NOTED BY TAG

MOTOR SCHEMATIC SYMBOLS:

	E-STOP
ON OFF	SELECTOR SWITCH
LOS	LOCK-OFF-STOP SWITCH
	TIME DELAY CONTACT
	TEMPERATURE SWITCH
	FLOW SWITCH
	LEVEL SWITCH
	LIMIT SWITCH
	PRESSURE SWITCH
	TRANSIENT VOLTAGE SURGE SUPPRESSOR
M	MOTOR CONTACTOR COIL
R	RELAY
TD	TIME DELAY RELAY
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
RUNNING G	PILOT LIGHT, G = GREEN, R = RED, A = AMBER

THREE LINE SYMBOLS:

	CURRENT TRANSFORMER (SINGLE PHASE)
	GROUND FAULT CURRENT TRANSFORMER
	MAGNETIC RELAY
	TEST SWITCH (POTENTIAL)
	TEST SWITCH (CURRENT)

KIRK KEY INTERLOCK NOMENCLATURE:

2oo3 = 2 KEYS ASSOCIATED WITH 3 KEY SLOTS. ONLY TWO KEY SLOTS CAN BE TURNED ACTIVE AT ONE TIME.

KIRK KEY NUMBER	AREA DESIGNATION
1–99	ELECTRICAL BUILDING (MEDIUM VOLTAGE/SUBSTATION)
100–149	CHEMICAL BUILDING
150–199	GRIT AND SCREENINGS BUILDING
200–249	HIGH RATE CLARIFICATION BUILDING
250–299	BIOREACTOR/BLOWER BUILDING
300–399	SECONDARY CLARIFIERS 4 AND 5
400–449	UV DISINFECTION BUILDING

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

NO.	REVISIONS	DATE	DESIGN	CHECK
00	ISSUED FOR CONSTRUCTION – 976–2016	2017/04/05	WE	DEB

CH2MHILL. SNC·LAVALIN KGS GROUP CONSULTING ENGINEERS

DESIGNED BY: K. OOI	CHECKED BY: E. RYCZKOWSKI
DRAWN BY: MJ. PERSSON	APPROVED BY: D. BECKER
SCALE: NTS	ISSUED FOR CONSTRUCTION BY: J. SHUMKA
DATE: 2014/06/06	DATE: 2017/04/05
CONSULTANT NO.: 474248	

ENGINEER'S SEAL
PROVINCE OF MANITOBA — D. E. BECKER — Member 23646 — REGISTERED PROFESSIONAL ENGINEER
April 5/2017

Winnipeg
THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

SOUTH END WATER POLLUTION CONTROL CENTRE
SEWPCC UPGRADING/EXPANSION PROJECT
ELECTRICAL
LEGEND AND DETAILS

CITY DRAWING NUMBER	SHEET	REV.	SIZE
1–0102–EAAA–A001	001	00	A1

PLOT DATE: Mar 24, 2017 – 1:35pm
FILE NAME: 1–0102–EAAA–A001.dwg

LAST SAVE: 2017/03/24 – 1:35pm
PATH: C:\Users\persm2\DWG\1–0102–EAAA–A001.dwg