SHEET: COW-A1 (05/2005)

EQUIPMENT IDENTIFIERS

IDENTIFIER	DEFINITION
AB	AIR BLOWER
AC	AIR COMPRESSOR
ACU	AIR CONDITIONING UNIT
AD	AIR DRYER
AEF	AXIAL EXHAUST FAN
AF	AERATION FAN (EXISTING OR NEW)
AHU	AIR HANDLING UNIT
BD	BACK DRIVE
BF	BOILER FAN (EXISTING OR NEW)
BP	BOILER PUMP (EXISTING OR NEW)
CA	CAKE AGITATOR
CAP	CAKE PUMP
CC	COOLING COIL
CE	CENTRIFUGE
CM	CLARIFIER MECHANISM
CMP	COMPRESSOR
CON	CONVEYOR
CP	CIRCULATING PUMP
CU	CONDENSING UNIT
DC	DRAG CONVEYOR
DF	DIGESTER FAN (EXISTING OR NEW)
DP	DIGESTER PUMP (EXISTING OR NEW)
DR	DIGESTER COMPRESSOR (EXISTING OR NEW)
DU	DIGESTER UNIT HEATER (EXISTING OR NEW)
DWP	DEWATERING PUMP
EF	EXHAUST FAN
EW	EYE WASH
EXH	HEAT EXCHANGER
F OR FN	FAN
FG	FLAP GATE
FIL	FILTER STRAINER
GB	GRIT BLOWER
GP	GLYCOL PUMP
HC	HEAT COIL
HRC	HEAT RECOVERY COIL
HWP	HOT WATER PUMP
HWT	HOT WATER TANK
LCP	LOCAL CONTROL PANEL
LOP	LUBE OIL PUMP
MAU	MAKE-UP AIR UNIT
M	MOTOR
MXR	MIXER
P	PUMP
PB	PURGE BLOWER
PF	PRIMARY FAN (EXISTING OR NEW)
PM	PRIMARY MOTOR
POD	POLYMER BLOWER
POF	POLYMER FED PUMP
POM	POLYMER MIXER
PP	PRIMARY PUMP (EXISTING OR NEW)
PR	PRIMARY AIR COMPRESSOR
PSF	POLYMER SCREW FEEDER
PU	PRIMARY UNIT HEATER (EXISTING OR NEW)
R	COMPRESSOR (REFRIGERANT)
RAP	RAS PUMP
RH	RADIANT HEATER
S	SAMPLER
SAC	SODA ASH AIR CANNON
SF	SCREW FEEDER
SC	SLUDGE COLLECTOR (TRAVELING BRIDGE)
SCA	SLUDGE CAKE AUGER
SE	SAMPLER ELEMENT
SFP	SLUDGE FEED PUMP
SG	SLUICE GATE
SL	STOP LOG
SLP	PRIMARY SLUDGE PUMP
SMP	SUMP PUMP
SP	SCUM PUMP
SST	SLUDGE STORAGE TANK
STP	SLUDGE TRANSFER PUMP
SWP	SWASH PLATE
TD	TRUCK DOOR
TNK	TANK
UPS	UNINTERRUPTIBLE POWER SUPPLY
UH	UNIT HEATER
UV	ULTRAVIOLET LAMP ASSEMBLY
VFD	VARIABLE FREQUENCY DRIVE
WAP	WAS PUMP
WP	WELL PUMP
W	WEIR
WG	WEIR GATE

INSTRUMENT SIGNAL IDENTIFIERS

IDENTIFIER	DEFINITION	SIGNAL TYPE
AA	ANALYSIS ALARM (1ST STAGE)	DIGITAL INPUT
AF	ANALYSIS (SAMPLER) FAIL	DIGITAL INPUT
AH	ANALYSIS HIGH ALARM (1ST OR 2ND STAGE)	DIGITAL INPUT
AM	ANALYSIS (SAMPLER) ON/OFF STATUS	DIGITAL INPUT
AN	ANALYSIS (SAMPLER) START	DIGITAL OUTPUT
AT	ANALYSIS TRANSMIT (APPLIED TO ALL TYPES OF ANALYTICAL MEASUREMENTS)	ANALOG INPUT
AU	ANALYSIS MULTIFUNCTION (USED FOR COMMON ANALYTICAL POINT)	DIGITAL INPUT
BF	BURNER FLAME FAILURE	DIGITAL INPUT
BL	BOILER LOW FIRE	DIGITAL INPUT
BH	BOILER HIGH FIRE	DIGITAL INPUT
BM	BURNER FLAME STATUS ON	DIGITAL INPUT
BS	BOILER SAFETY (BOILER FIRE ENABLED)	DIGITAL INPUT
DT	DENSITY TRANSMIT	ANALOG INPUT
ET	VOLTAGE TRANSMIT	ANALOG INPUT
FL	FLOW RATE LOW	DIGITAL INPUT
FT	FLOW TRANSMIT	ANALOG INPUT
GA	GAS ALARM	DIGITAL INPUT
HM	MANUAL STATUS ON	DIGITAL INPUT
LH	LEVEL HIGH	DIGITAL INPUT
LL	LEVEL LOW	DIGITAL INPUT
LT	LEVEL TRANSMIT	ANALOG INPUT
MF	MOTOR FAILURE	DIGITAL READOUT
MM	MOTOR ON/OFF STATUS	DIGITAL INPUT
MN	MOTOR START	DIGITAL OUTPUT
MO	MOTOR STOP	DIGITAL OUTPUT
MX	MOTOR UNCLASSIFIED (X = RESET)	DIGITAL OUTPUT
NA	HUMIDITY ALARM	DIGITAL INPUT
PA	PRESSURE ALARM (1ST STAGE)	DIGITAL INPUT
PH	PRESSURE HIGH ALARM (1ST OR 2ND STAGE)	DIGITAL INPUT
PL	PRESSURE LOW	DIGITAL INPUT
PT	PRESSURE TRANSMIT	ANALOG INPUT
QA	COMMON ALARM (OR TROUBLE)	DIGITAL INPUT
QF	COMMON FAIL ALARM	DIGITAL INPUT
SB	SPEED DECREASE	MODULATING OUTPUT
SD	SPEED INCREASE	MODULATING OUTPUT
SM	SPEED CONTROLLER STATUS	DIGITAL INPUT
ST	SPEED TRANSMIT	ANALOG INPUT
TH	TEMPERATURE HIGH	DIGITAL INPUT
TT	TEMPERATURE TRANSMIT	ANALOG INPUT
UA	MULTIFUNCTION ALARM (MULTIPLE SYSTEM ALARM-ALTERNATE SYMBOL = QA)	DIGITAL INPUT
VB	VALVE CLOSE (OR DECREASE)	DIGITAL OR MODULATING OUTPUT
VD	VALVE OPEN (OR INCREASE)	DIGITAL OR MODULATING OUTPUT
XA	UNCLASSIFIED ALARM (X = FIRE)	DIGITAL INPUT
XT	UNCLASSIFIED TRANSMIT (X = POWER FACTOR)	ANALOG INPUT
YK	COMPUTER/LOCAL STATION	DIGITAL INPUT
YM	COMPUTER OPERATIONAL	DIGITAL INPUT
YS	COMPUTER SWITCH STATUS	DIGITAL INPUT
YX	COMPUTER UNCLASSIFIED (STATUS ON)	DIGITAL INPUT
ZB	POSITION CLOSED (LIMIT SWITCH)	ANALOG INPUT
ZD	POSITION OPEN (LIMIT SWITCH)	DIGITAL INPUT
ZL	POSITION LOW (BELT TENSION)	DIGITAL INPUT
ZT	POSITION TRANSMIT	ANALOG INPUT

IMPERIAL PIPE SIZE CHART (METRIC EQUIVALENT)

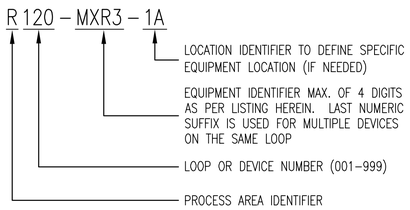
IN	MM	IN	MM
1/8	3	14	350
1/4	6	16	400
3/8	10	18	450
1/2	12	20	500
3/4	20	22	550
1	25	24	600
1 1/4	32	26	650
1 1/2	38	28	700
2	50	30	750
2 1/2	65	32	800
3	75	34	850
3 1/2	90	36	900
4	100	38	950
4 1/2	112	40	1000
5	125	42	1050
6	150	44	1100
7	175	46	1150
8	200	48	1200
9	225	50	1250
10	250	52	1300
11	275	54	1350
12	300		

PROCESS AREA IDENTIFIERS

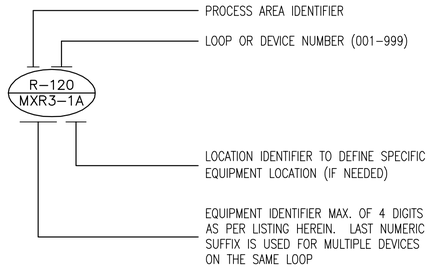
IDENTIFIER	DEFINITION
B	BOILERS
C	CENTRATE NITROGEN REMOVAL
D	DIGESTERS
G	PRE-AERATION AND GRIT REMOVAL
H	SLUDGE GAS
M	MAIN BUILDING
P	PRIMARY CLARIFIERS
R	OXYGEN REACTORS
S	SECONDARY CLARIFIERS
T	WAS SLUDGE THICKENING
U	UV DISINFECTION
W	SLUDGE DEWATERING

EQUIPMENT IDENTIFICATION

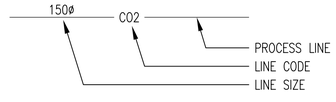
THE EQUIPMENT IDENTIFICATION MAY BE IN EITHER TEXT OR EQUIPMENT TAG FORMAT.



OR



PROCESS LINE DESIGNATION



PROCESS LINE CODES

IDENTIFIER	DEFINITION
AC	ALTERNATING CURRENT (ELECTRICAL)
CCW	CIRCULATING COOLING WATER
CE	CENTRATE
CL	CHLORINE
CLR	COMPRESSED LIQUEFIED REFRIGERANT
CO2	CARBON DIOXIDE
CON	CONDENSATE
CS	SLUDGE CAKE
CWR	COLD WATER RETURN
CWS	COLD WATER SUPPLY
DA	DRY AIR
DG	DIGESTER GAS
DGH	HIGH PRESSURE DIGESTER GAS
DL	DECANT LIQUOR
DS	DIGESTED SLUDGE
DP	DRY POLYMER
EDR	EVAPORATED REFRIGERANT
ES	ELECTROLYTE SOLUTION
FC	FERRIC CHLORIDE
FE	FINAL EFFLUENT
FW	FLUSHING WATER
GE	GRIT EFFLUENT
GR	GLYCOL RETURN
GS	GLYCOL SUPPLY
HA	HUMID AIR
HCO	HYDRAULIC OIL
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HYD	HYDROGEN
IAS	INSTRUMENT AIR SUPPLY
LCP	LIQUID CONCENTRATED POLYMER
LGO	LUBRICATING OIL
LM	LIME CLEAR
MET	METHANOL
ML	MIXED LIQUOR
MP	MIXED POLYMER
NLG	NATURAL GAS
N2	NITROGEN
OA	OUTSIDE AIR
O2	OXYGEN
PD	PROCESS DRAIN
PE	PRIMARY EFFLUENT
PO	PROCESS OVERFLOW
PS	PRIMARY SLUDGE
PV	PROCESS VENT
PW	POTABLE WATER
RAS	RETURN ACTIVATED SLUDGE
RW	RECIRCULATED WATER
RS	RAW SEWAGE
SA	SODA ASH
SE	SECONDARY EFFLUENT
SEA	SERVICE AIR
SC	SCUM
SW	SEAL WATER
TCE	TREATED CENTRATE
TS	THIN SLUDGE
VMA	VACUUM AIR
VTA	VENT TO ATMOSPHERE
W	WATER
WAS	WASTE ACTIVATED SLUDGE

REVISION 05 CHANGES
THE ENGINEER'S DESIGN RESPONSIBILITIES ARE LIMITED TO THE CHANGES INDICATED IN THE CLOUDED WORK

DESIGNED BY: NK	CHECKED BY: KJS
DRAWN BY: ES	APPROVED BY: KJS
DATE: 18/04/12	RELEASED FOR CONSTR. DATE: 18/04/12

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APEGM Certificate of Authorization
AECOM Canada Ltd.
No. 4671 Date: 2018-04-12

B.M.
ELEV.

NO.	REVISIONS	DATE	BY
05	ISSUED FOR TENDER: BID OP 281-2018	18/04/12	ES
04	ISSUED FOR CONSTRUCTION:	16/10/06	SE
03	ISSUED FOR TENDER: BID OP 547-2016	16/06/23	SRG
02	AS-CONSTRUCTED DRAWING	09/02/19	DEP
01	ISSUED FOR CONSTRUCTION	06/08/30	GLG
00	ISSUED FOR TENDER	06/05/15	GLG

AECOM

DESIGNED BY	LAE	CHECKED BY	SB
DRAWN BY	LAE	APPROVED BY	
SCALE:	NONE	RELEASED FOR CONSTRUCTION BY:	
DATE	2006/01/16	DATE	

ENGINEER'S SEAL
PROVINCE OF MANITOBA
N. J. KEHLER
Member 24498
REGISTERED PROFESSIONAL ENGINEER
2018-04-12

CONSULTANT DRAWING NO.
P4.03

Winnipeg
THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

NEWPCC CENTRATE NUTRIENT TREATMENT NITROGEN REMOVAL FACILITY

PROCESS
PROCESS AND INSTRUMENTATION DIAGRAMS
LEGEND AND DETAILS

CITY FILE NUMBER
SHEET 3 OF 5
CITY DRAWING NUMBER
1-0101C-P0016-003-05

Last Save: 2018-04-12 11:03 AM

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