SHEET: COW-A1 (05/2005)

INSTRUMENT IDENTIFICATION TABLE

	FIRST-LETTER	SUCCEEDING-LETTERS	
	MEASURED OR INITIATING VARIABLE	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION
A	ANALYSIS (1)	ALARM	
B	BURNER, COMBUSTION	CLOSED	CLOSE
C	CONDUCTIVITY		CONTROL
D	DENSITY	OPEN	OPEN
E	VOLTAGE	SENSOR (PRIMARY ELEMENT)	
F	FLOW RATE	FAILURE	
G	GAS	GLASS, VIEWING DEVICE	
H	HAND	HIGH	
I	CURRENT (ELECTRICAL)	INDICATE	
J	POWER		
K	TIME, TIME SCHEDULE		CONTROL STATION
L	LEVEL	LOW, LIGHT	
M	MOTOR	OPERATING OR ON/OFF	
N	MOISTURE		START
O		OVERLOAD	STOP
P	PRESSURE, VACUUM	POINT (TEST) CONNECTION	
Q	COMMON	QUANTITY	
R	RADIATION	RECORD	
S	SPEED, FREQUENCY		SWITCH
T	TEMPERATURE		TRANSMIT
U	MULTIVARIABLE	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS (1)		VALVE DAMPER, LOUVER
W	WEIGHT, FORCE	WELL	
X	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE (2)		RELAY, COMPUTE, CONVERT (3)
Z	POSITION, DIMENSION		DRIVER, ACTUATOR UNCLASSIFIED FINAL CONTROL ELEMENT

NOTES:

1. IT IS EXPECTED THAT THE TYPE OF ANALYSIS BE DEFINED OUTSIDE THE TAGGING BUBBLE.

2. FIRST LETTER Y IS INTENDED FOR USE WHEN CONTROL OR MONITORING RESPONCES ARE EVENT DRIVEN AS OPPOSED TO TIME OR TIME-SCHEDULE DRIVEN. THE LETTER Y, IN THIS POSITION, CAN ALSO SIGNIFY PRESENCE OR STATE.

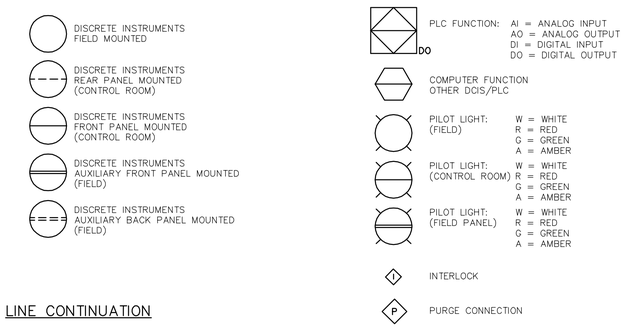
3. IT IS EXPECTED THAT THE FUNCTIONS ASSOCIATED WITH THE USE OF SUCCEEDING LETTER Y WILL BE DEFINED OUTSIDE THE TAGGING BUBBLE. THIS DEFINITION NEED NOT BE MADE WHEN THE FUNCTION IS SELF-EVIDENT, AS FOR A SOLINOID VALVE IN A FLUID SIGNAL LINE.

COMMON INSTRUMENT / DEVICE IDENTIFIERS

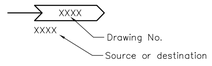
ISA IDENTIFIER	INITIATING VARIABLE AND FUNCTION	ISA IDENTIFIER	INITIATING VARIABLE AND FUNCTION
AS	ANALYSIS SWITCH	PI	PRESSURE INDICATOR
AE	ANALYSIS ELEMENT	PT	PRESSURE TRANSMITTER
AT	ANALYSIS TRANSMITTER	PIT	PRESSURE INDICATOR TRANSMITTER
CS	CONDUCTIVITY SWITCH	PS	PRESSURE SWITCH
CT	CONDUCTIVITY TRANSMITTER	SC	SPEED CONTROLLER
DS	DENSITY SWITCH	SI	SPEED INDICATOR
ET	VOLTAGE TRANSMITTER	ST	SPEED TRANSMITTER
FC	FLOW CONTROLLER	TC	TEMPERATURE CONTROLLER
FE	FLOW ELEMENT	TE	TEMPERATURE ELEMENT
FI	FLOW INDICATOR	TI	TEMPERATURE INDICATOR
FS	FLOW SWITCH	TS	TEMPERATURE SWITCH
FT	FLOW TRANSMITTER	TT	TEMPERATURE TRANSMITTER
FY	FLOW RELAY	TY	TEMPERATURE RELAY
FZ	FLOW DRIVE	UR	MULTIVARIABLE RECORDER
HS	HAND SWITCH	VT	VIBRATION TRANSMITTER
IT	CURRENT TRANSMITTER	WE	WEIGHT ELEMENT
JT	POWER TRANSMITTER	WT	WEIGHT TRANSMITTER
KC	TIME CONTROLLER	XX	UNCLASSIFIED
KI	ELAPSED TIME INDICATOR	YC	STATE CONTROL
LE	LEVEL ELEMENT	YN	STATE ON
LI	LEVEL INDICATOR	YY	EVENT RELAY
LS	LEVEL SWITCH	YS	EVENT SWITCH
LT	LEVEL TRANSMITTER	ZS	POSITION SWITCH
LY	LEVEL RELAY	ZT	POSITION TRANSMITTER
PC	PRESSURE CONTROLLER	ZZ	POSITION DRIVE

EQUIPMENT IDENTIFICATION AND TAGGING

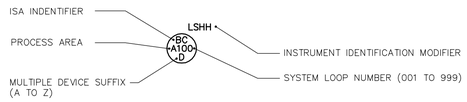
INSTRUMENT SYMBOLS



LINE CONTINUATION



INSTRUMENT DESIGNATION NUMBER



POSITION FORMATS

PROCESS AREA IDENTIFIER		PROCESS STREAM IDENTIFIER (LOOP NUMBER)
CHEMICAL FEED	C	001 – 999
DEACON BOOSTER PUMP STATION	D	001 – 999
ELECTRICAL DISTRIBUTION	E	001 – 999
FILTRATION	F	001 – 999
PLANT UTILITIES:	H	
AIR PRESSURE		
HVAC		000 – 100
SITE COMMUNICATION		
FLUSH WATER		
NATURAL GAS		
FIRE PUMPS		100 – 199
AUXILLIARY BUILDINGS HVAC		200 – 299
BUILDING SAFETY & SECURITY		300 – 399
PROCESS SUMPS		400 – 499
SANITARY SUMPS		500 – 599
POTABLE WATER		700 – 799
INLET WORKS & RAW WATER	I	001 – 999
FREEZE THAW POND	L	001 – 999
GENERAL SITE SERVICES/ MISCELLANEOUS:	M	001 – 999
YARD PIPING AND VALVE CHAMBERS		
SURGE TOWERS	Y	001 – 099
YARD PIPING	Y	100 – 199
YARD LIGHTING	Y	200 – 299
OZONE	O	001 – 999
FLOCULATION AND DAF	P	001 – 999
RESIDUALS HANDLING	R	001 – 999
BULK CHEMICAL STORAGE	S	001 – 999
TREATED WATER STORAGE & HANDLING (CLEARWELL)	T	001 – 999
ULTRAVIOLET LIGHT DISINFECTION	U	001 – 999
ON-SITE HYPOCHLORITE GENERATION	J	001 – 999

INSTRUMENT IDENTIFICATION MODIFIER

CAH	CONDUCTIVITY ALARM HIGH	LSH	LEVEL SWITCH HIGH
COH	COMPUTER/OFF/HAND	LSL	LEVEL SWITCH LOW
DO	DISSOLVED OXYGEN	MCC	MOTOR CONTROL CENTRE
D/P	DIFFERENTIAL PRESSURE	O/L	OVERLOAD
FAH	FLOW ALARM HIGH	PAH	PRESSURE ALARM HIGH
FAL	FLOW ALARM LOW	PAL	PRESSURE ALARM LOW
FSH	FLOW SWITCH HIGH	pH	pH
FSL	FLOW SWITCH LOW	PSH	PRESSURE SWITCH HIGH
H/A	HAND / AUTO	PSL	PRESSURE SWITCH LOW
HOA	HAND / OFF / AUTO	RTD	RESISTIVE TEMPERATURE DEVICE
I/I	CURRENT / CURRENT ISOLATOR	S/S	START / STOP
I/P	CURRENT / PRESSURE CONVERTER	SEL	SELECTOR
IAH	CURRENT ALARM HIGH	SOL	SOLENOID
LAH	LEVEL ALARM HIGH	T/C	THERMOCOUPLE
LAL	LEVEL ALARM LOW	TAH	TEMPERATURE ALARM HIGH
		TAL	TEMPERATURE ALARM LOW
		TSH	TEMPERATURE SWITCH HIGH
L/L	LEAD / LAG	TSL	TEMPERATURE SWITCH LOW
LOS	LOCK-OFF-STOP	WDG	WINDING
L/R	LOCAL / REMOTE		

PROCESS LINE CODES

COMMODITY

AA	AQUA AMMONIA	GOX	GASEOUS OXYGEN
AGA	ATOMIZING AIR	HCO	HYDRAULIC OIL
AS	AIR SCOUR (FILTERS)	HFS	HYDROFLUOSILICIC ACID
AHP	AIR HIGH PRESSURE (OZONE)	HP	HYDROGEN PEROXIDE
ALP	AIR LOW PRESSURE (OZONE)	HST	12% HYPOCHLORITE SOLUTION
BS	BRINE SOLUTION	HYP	0.8% HYPOCHLORITE SOLUTION
BWS	BACKWASH SUPPLY WATER	ITA	INSTRUMENT AIR
BWW	BACKWASH WASTE WATER	LGO	LUBRICATING OIL
CA	COMPRESSED AIR (DAF)	LOX	LIQUID OXYGEN
CCW	CIRCULATING COOLING WATER	NG	GAS
CL2	CHLORINE	OF	OVERFLOW
CLG	CHLORINE GAS	OZG	OZONE OFF GAS
CLS	CHLORINE SOLUTION	OZO	OZONATED OXYGEN
CO2	CARBON DIOXIDE	OZW	OZONATED WATER
CRW	CLARIFIER DISCHARGE WATER	PEF	PHOSPHATE FEED
CS	CAUSTIC SODA	PLD	DRY POLYMER
CWR	COOLING WATER RETURN	PLS	POLYMER SOLUTION
CWS	COOLING WATER SUPPLY	PSW	PLANT SERVICE WATER
DD	DEACON EFFLUENT (POST UV)	PW	POTABLE WATER
DDW	DEMINERALIZED WATER	RD	ROOF DRAIN
DEA	DILUTE ACID	RW	RAW WATER
DEC	DILUTE CAUSTIC	SAM	SAMPLE
DF	DAF FLOAT	SAN	SANITARY DRAINAGE
DFR	DIESEL FUEL RETURN	SBS	SODIUM BISULPHITE
DFS	DIESEL FUEL SUPPLY	SCA	SULPHURIC ACID
DHW	DOMESTIC HOT WATER	SHC	SODIUM HYPOCHLORITE
DO	DISOLVED OXYGEN	STD	DRY SALT
DRA	DRAINAGE (FLOORS)	SDR	DAF RECYCLE
DRN	DRAINS, CLEAN DRAINS	SLO	SEAL OIL
DRS	SUBDRAIN	SLU	SLUDGE
DS	DEACON SUCTION	SUP	SUPERNATANT
DSW	DISTILLED WATER	SWD	STORMWATER DRAINAGE
DU	DEACON UV (PRE UV)	SW	SEAL WATER
EE	ENGINE EXHAUST	TRW	TREATED WATER
ELC	ELECTRIC CONDUIT	TDW	TREATED WATER
FC	FERRIC CHLORIDE	TP	TRAP PRIMER
FED	FILTER MEDIA EDUCTION	VA	VACUUM LABORATORY
FIN	FILTER INFLUENT	VTA	VENT TO ATMOSPHERE
FPW	FIRE PROTECTION WATER	WS	SOFTENED WATER
FTR	FILTER-TO-RECYCLE		
FW	FILTERED WATER		

PIPE EXPOSURE

BUR	BURIED	SUB	SUBMERGED
EXP	EXPOSED	ENC	CONCRETE ENCASED

PIPE MATERIAL

CISP	CAST IRON SOIL PIPE	PCCP	PRESTRESSED CONCRETE CYLINDER
CLDI	CEMENT LINED DUCTILE IRON	PSTL	PVDF LINED STEEL
CMP	CORRUGATED METAL PIPE	PVC	POLYVINYL CHLORIDE
COP	COPPER	PVDF	POLYVINYLIDENE FLOURIDE
CPVC	CHLORINATED PVC	RCP	REINFORCED CONCRETE PIPE
DI	DUCTILE IRON	RSTL	RUBBER LINED STEEL
FRPX	FIBERGLASS REINFORCED PLASTIC	SST	STAINLESS STEEL
GLDI	GLASS LINED DUCTILE IRON	STL	STEEL
GSP	GALVANISED STEEL PIPE	VC	VITRIFIED CLAY PIPE
HDPE	HIGH DENSITY POLYETHYLENE		

PRESSURE TESTING

H	HYDROSTATIC	P	PNEUMATIC
I	IN SERVICE	NA	NOT APPLICABLE

ABBREVIATIONS

ACK	ACKNOWLEDGE	NO	NORMALLY OPEN
ALM	ALARM	O/A	OUTSIDE AIR
A/M	AUTO/MANUAL	O/C	OPEN/CLOSED
A/S	AIR SUPPLY	ODE	OPPOSITE DRIVE END
BRG	BEARING	PF	POWER FACTOR
CURR	CURRENT	PO	PUMP OUT
DEC	DECREASE	PSD	PLANT SHUTDOWN
DE	DRIVE END	PV	PROCESS VARIABLE
E/A	EXHAUST AIR	PWR	POWER
E/S	ELECTRICAL SUPPLY	RSP	REMOTE SET POINT
ESD	EMERGENCY SHUTDOWN	RST	RESET
FCL	FAIL CLOSE	SP	SAMPLE POINT or SET POINT (Depending on Application)
FOP	FAIL OPEN		
F/R	FORWARD or REVERSE	STN	STATION
HI	HIGH	SPD	SPEED
HP	HORSE POWER (kW)	STDBY	STANDBY
kW	KILOWATT	STP	STOP
HVAC	HEATING/VENTILATION/AIR CONDITIONING	STR	START
INC	INCREASE	STS	STATUS
INJ	INJECTOR	TST	TEST
LO	LOW	TYP	TYPICAL
LOS	LOCAL/OFF/STOP	UV	ULTRA-VIOLET LIGHT
L/R	LOCAL/REMOTE	U/S	UNDER SIDE
MLD	MEGALITERS PER DAY	VAC	VACUUM
NC	NORMALLY CLOSED	VIB	VIBRATION
NLL	NORMALLY LIQUID LEVEL	W/S	WATER SUPPLY
NNF	NORMALLY NO FLOW	WDG	WINDING

EQUIPMENT DESIGNATIONS

ARV	AIR RELEASE VALVE	LJB	LOCAL JUNCTION BOX
ACU	AIR CONDITIONING UNIT	LOP	LUBE OIL PUMP
ACR	ACCESS CARD READER	LV	LEVEL CONTROL VALVE (OPEN/CLOSE)
AD	AIR DRYER	M	MOTOR
AHU	AIR HANDLING UNIT	MAU	MAKE-UP AIR UNIT
ATS	AUTOMATIC TRANSFER SWITCH	MCC	MOTOR CONTROL CENTRE
BAT	BATTERY	MD	MOTION DETECTOR
BB	BASEBOARD HEATER	MDV	MUD VALVE
BFP	BACK FLOW PREVENTER	MP	METERING PUMP
BPV	BACK-PRESSURE VALVE	MXR	MIXER
BKR	BREAKER	OP	ORIFICE PLATE
BLR	BOILER	P	PUMP
BLW	BLOWER	PCT	PARTICLE COUNTER
CAL	CALIBRATION COLUMN	PCU	POLYMER BULK BAG UNLOADER
CC	COOLING COIL	PCV	PRESSURE CONTROL VALVE
CCTV	CLOSED CIRCUIT TELEVISION	PFC	POWER FACTOR CORRECTION
CDR	CONDENSER	PFLT	POWER FILTER (LINE REACTOR, ETC)
CDU	CATALYTIC DESTRUCT UNIT	PNL	PANEL BOARD
CE	CENTRIFUGE	PLC	PROGRAMMABLE LOGIC CONTROLLER
CFR	CHEMICAL FEEDER (POLYMER, CHLORINATOR, ETC.)	PPU	POLYMER PREPARATION UNIT
CHLR	CHILLER	PRV	PRESSURE REGULATING / REDUCING VALVE
CHR	BATTERY CHARGER	PSU	POWER SUPPLY UNIT
CMP	COMPRESSOR	PSV	PRESSURE / VACUUM RELIEF VALVE
CON	CONVEYOR	PV	PRESSURE VESSEL
CP	PLC CONTROL PANEL	RV	RELIEF VALVE / RUPTURE DISC
CPU	COMPUTER	SOL	SOLENOID ACTUATOR
CRN	CRANE OR HOIST	SCRB	SCRUBBER
CTS	CATHODIC TEST STATION	SE	SAMPLER ELEMENT
CV	CHECK VALVE	SF	SUPPLY FAN
DC	DOOR CONTACT	SP	SAMPLE PUMP
DEM	DEMISTER	SLG	SLUICE GATE
DES	DESICCANT DRYER	SLR	SILENCER
DF	DAF SKIMMER	SMP	SUMP PUMP
DIF	DIFFUSER	SPS	SUPERNATANT PUMP STATION
DS	DISCONNECT SWITCH	STA	STATIC MIXER
E	ENGINE	STR	STRAINER
EF	EXHAUST FAN	SUB	SUBSTATION
EL	ELECTROLYTIC CELL	SWGR	SWITCHGEAR
EPR	EVAPORATOR	SWP	SWASH PLATE
ETM	ELAPSED TIME METER	T	TRAP
ETNK	EXPANSION TANK	TCV	TEMPERATURE CONTROL VALVE
F	FAN	TNK	TANK
FAP	FIRE ALARM ANNUNICATOR PANEL	TOTE	TOTE TANK
FC	FLOCCULATION CHAMBER	TV	TEMPERATURE / VIBRATION MONITOR
FCV	FLOW CONTROL VALVE	UH	UNIT HEATER ELECTRIC AND NON-ELECTRIC
FF	FORCE FLOW HEATER	UPS	UNINTERRUPTIBLE POWER SUPPLY
FG	FLAP GATE	UVR	ULTRA-VIOLET LIGHT REACTOR
FLC	FLOCCULATOR	VFD	VARIABLE FREQUENCY DRIVE
FLT	FILTER	VSD	VARIABLE SPEED DRIVE
FV	FLOW CONTROL VALVE (OPEN/CLOSE)	V	VALVE
GF	GAS FILTER	VP	VAPOURIZER
GEN	GENERATOR	WP	WELL PUMP
GV	GATE VALVE	W	WEIR
GP	GLYCOL PUMP	WRT	WASHWATER RECOVERY TANK
GT	GRAVITY THICKENER	WSF	WATER SOFTENER
HC	HEAT COIL	XFMR	TRANSFORMER
HEX	HEAT EXCHANGER	86	EQUIPMENT LOCKOUT RELAY
HWH	HOT WATER HEATER		
HRC	HEAT RECOVERY COIL		
HTR	ELECTRIC HEATER		
HV	HAND VALVE		
HWP	HOT WATER PUMP		
IMP	INSTRUMENT MARSHALLING PANEL		
KP	KEY PAD		
LCP	LOCAL CONTROL PANEL		
LCV	LEVEL CONTROL VALVE		

APEGM
Certificate of Authorization
Earth Tech Canada Inc.
No. 730 Expiry: April 30, 2006

B.M.
ELEV.

NO.	REVISIONS	DATE	BY
01	ISSUED FOR CONSTRUCTION	06/07/28	JBC
00	ISSUED FOR TENDER	06/03/29	LAE

CH2MHILL
Fredericksen Cooper ARCHITECTS
EarthTech A Tyco International Ltd. Company

DESIGNED BY	NT	CHECKED BY	SRB
DRAWN BY	LAE	APPROVED BY	AHL
SCALE:	NONE	RELEASED FOR CONSTRUCTION BY:	R. SOROKOWSKI
DATE	2005/12/21	DATE	2006/03/29

ENGINEER'S SEAL
ORIGINAL SIGNED BY
S.R. BILEVICIUS
2006/03/29

CONSULTANT DRAWING NO.
WM-P0001

Winnipeg
THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

WATER TREATMENT PLANT
GENERAL PLANT SERVICES
MECHANICAL AND ELECTRICAL

CONSTRUCTION STANDARDS
PROCESS AND INSTRUMENTATION
IDENTIFICATION

CITY FILE NUMBER
SHEET OF
CITY DRAWING NUMBER
1-0601M-D-P0001-001-01D

Last Save: 2006-07-24 9:51 AM

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