INSTRUMENT FUNCTIONAL DESIGNATIONS

	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
C	CONDUCTIVITY			CONTROL	CLOSE
E	VOLTAGE		SENSOR, PRIMARY ELEMENT		
F	FLOW, FLOW RATE	RATIO			FAILURE/FAULT
H	HAND (MANUAL)				HIGH
I	CURRENT		INDICATE		
L	LEVEL		LIGHT		LOW
O	TORQUE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE		POINT (TEST CONNECTION)		
Q	QUANTITY	INTEGRATE, TOTALIZE	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD		RUN
S	SPEED, FREQUENCY	SAFETY		SWITCH	STOP
T	TEMPERATURE			TRANSMITTER	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	
V	UNCLASSIFIED			VALVE, DAMPER, LOUVER	
Y	EVENT, STATE, OR PRESENCE	Y AXIS		AUXILIARY DEVICE	
Z	POSITION, DIMENSION	Z AXIS, SAFETY INSTRUMENTED SYSTEM		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

COMMON INSTRUMENT FIELD DEVICE IDENTIFIERS

IDENTIFIER	DEFINITION	IDENTIFIER	DEFINITION
AE	ANALYSIS ELEMENT	PI	PRESSURE INDICATOR
AIT	ANALYSIS INDICATING TRANSMITTER (ANALYTIC INST.)	PSL	PRESSURE SWITCH LOW
FAL	FLOW ALARM LOW	SI	SPEED INDICATOR
FE	FLOW ELEMENT	TE	TEMPERATURE ELEMENT
FI	FLOW INDICATOR	TI	TEMPERATURE INDICATOR
FIT	FLOW INDICATING TRANSMITTER	TIC	TEMPERATURE INDICATING CONTROLLER
FQI	FLOW TOTALIZING INDICATOR	TS	TEMPERATURE SWITCH
FSL	FLOW SWITCH LOW	TSH	TEMPERATURE SWITCH HIGH
FV	FLOW VALVE	TSL	TEMPERATURE SWITCH LOW
GE	GAS ELEMENT	TT	TEMPERATURE TRANSMITTER
HS	HAND SWITCH	TY	TEMPERATURE RELAY (SOLENOID VALVE OR M/P)
HSR	HAND SWITCH – START/RUN	VE	VIBRATION ELEMENT
HSS	HAND SWITCH – STOP	VI	VIBRATION INDICATOR
HV	HAND VALVE	VIC	VIBRATION INDICATOR CONTROL
II	CURRENT INDICATOR	VT	VIBRATION TRANSMITTER
ISL	CURRENT SWITCH LOW	XV	ON/OFF VALVE (TYPICAL)
LI	LEVEL INDICATOR	YL	STATE INDICATOR
LIC	LEVEL INDICATING CONTROLLER	YLF	STATE INDICATOR FAILURE/FAULT
LIT	LEVEL INDICATING TRANSMITTER	YLR	STATE INDICATOR RUN
LSH	LEVEL SWITCH HIGH	ZT	POSITION TRANSMITTER
LSHH	LEVEL SWITCH HIGH HIGH		

EQUIPMENT FUNCTIONAL DESIGNATIONS MECHANICAL AND PROCESS EQUIPMENT

IDENTIFIER	DEFINITION	NOTES
AC	AIR CONDITIONER	
CV	CHECK VALVE	
EF	EXHAUST FAN	
FIL	FILTER	
GR	GRILLE – GENERAL	
GRD	GRILLE – DIFFUSER	
HCE	HEATING COIL, ELECTRIC	
HV	HAND/MANUAL VALVE	
P	PUMP	
SF	SUPPLY FAN	
UH	UNIT HEATER	

FLUID COMMODITY CODES

IDENTIFIER	DEFINITION
CS	COMBINED SEWER
DW	DOMESTIC WATER
NPW	NON POTABLE WATER
SAN	SANITARY
V	VENTILATION
WWS	WASTE WATER SEWER

NOTES FOR INSTRUMENT FIELD DEVICE IDENTIFIERS:

1. THE LAST IDENTIFIER LETTER IS IN SOME CASES OPTIONAL (EG. FSL)
2. THIS TABLE IS DERIVED FROM THE INSTRUMENT & DEVICE IDENTIFICATION TABLE, AND IS NOT EXHAUSTIVE.

NOTES FOR INSTRUMENT AND DEVICE IDENTIFICATION TABLE:

1. THE LETTER X IS TO BE DEFINED AT THE TIME OF USE, AND MAY BE USED FOR MULTIPLE DEFINITIONS WHERE NO OTHER LETTER IS APPLICABLE.

INSTRUMENT IDENTIFICATION

EQUIPMENT IDENTIFICATION

PROCESS LINE DESIGNATION

IMPERIAL PIPE SIZE CHART (METRIC EQUIVALENT)

IN		MM
1/2	=	12
5/8	=	15
3/4	=	20
1	=	25
2	=	50
6	=	150
8	=	200
10	=	250
20	=	500
21	=	525
76	=	1930
99	=	2515

INSTRUMENT LINE SYMBOLS

- INSTRUMENT SUPPLY OR CONNECTION TO PROCESS
- BUILDING OUTLINE
- ELECTRIC SIGNAL
- DATA / SERIAL LINK (OPTIONAL)

GATE SYMBOLS

- SLUICE GATE
- FLAP GATE

VALVE SYMBOLS

- GENERIC/GATE VALVE
- BALL
- CHECK
- PARALLEL BLADE DAMPER/LOUVRE
- AIR RELEASE VALVE

INSTRUMENT SYMBOLS

- DISCRETE INSTRUMENTS FIELD MOUNTED
- DISCRETE INSTRUMENTS PRIMARY LOCATION (CONTROL ROOM) FRONT PANEL MOUNTED
- PRIMARY CONTROL SYSTEM FUNCTION
- R — PILOT LIGHT (FIELD)
- R — PILOT LIGHT (CONTROL ROOM)
  - W = WHITE
  - R = RED
  - G = GREEN
  - A = AMBER
  - B = BLUE
  - Y = YELLOW
- FC — HH, H, L, LL — PROCESS VARIABLE ALARMS
- FLOAT SWITCH
- I — INTERLOCK
- DI — PLC I/O

ACTUATOR SYMBOLS

- PRESSURE REGULATOR, SELF CONTAINED
- M — MOTOR OPERATED

ACCESSORY DEVICE SYMBOLS

- FLANGE
- PIPE REDUCER
- PUMP
- BLOWER / FAN
- AIR CONDITIONER
- DRAIN
- UNION
- INSULATION
- DIAPHRAGM SEAL
- HOSE CONNECTION
- BLIND FLANGE
- D/X — DIRECT EXPANSION (EVAPORATOR)
- E/C — ELECTRIC HEATING COIL
- CONDENSOR
- S — S–TRAP PRESSURE RELIEF
- STRAINER
- AIR FILTER
- M — MAGNETIC FLOW METER
- FIRE EXTINGUISHER
- COMPRESSION COUPLING

CONNECTING ARROWS

- 1–0102M–A0001 — PROCESS/SIGNAL CONTINUATION ON INDICATED DRAWING
- A — SIGNAL CONTINUATION ON SAME DRAWING

NO.	DRAWING NUMBER	REFERENCE DRAWING TITLE
10		
9		
8		
7		
6		
5		
4		
3		
2		
1		

REFERENCE DRAWINGS

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
MPE, a division of Englobe Corp.
No. 4968 Date: MAR 22, 2024

B.M.
ELEV.

NO.	REVISIONS	DATE	BY
0	ISSUED FOR CONSTRUCTION	2024–03–22	

MPE a division of Englobe

DESIGNED BY	B. BAKER	CHECKED BY	M. STUSICK
DRAWN BY	D. MCMILLAN	APPROVED BY	M. STUSICK
SCALE: HORIZONTAL / VERTICAL	NOT TO SCALE	RELEASED FOR CONSTRUCTION	
DATE	2024–03–19	DATE	

PLOT DATE: 2024 03 22

PROVINCE OF MANITOBA — B.R. BAKER Member 46231 — REGISTERED PROFESSIONAL ENGINEER
MARCH 22, 2024
CONSULTANT DRAWING NUMBER

BID OPPORTUNITY: --

Winnipeg

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

CONWAY LIFT PUMPING STATION
2024 UPGRADES
PROCESS AND INSTRUMENTATION LEGEND

CITY DRAWING NUMBER 1–0131L–P0001–001–00 SHEET 26 OF 102

FILE PATH: M:\N–Data\84\00 City of Winnipeg\005 – Conway Lift Station\Autodesk\ACAD\
FILE NAME: P0.1–P0.3 Process Legends.dwg