

| FUNCTIONAL IDENTIFICATION | | | | | DESCRIPTION |
|----------------------------------|---------------------|--|--|--------------------------------------|--------------------------|
| FIRST LETTER (4) | | SUCCEEDING - LETTERS (3) | | | I/O TYPES |
| MEASURED OR INITIATING VARIABLE | MODIFIER | READOUT OR PASSIVE FUNCTION | OUTPUT FUNCTION | MODIFIER | TYPICAL ASSOCIATED CDACS |
| A ANALYSIS | | ALARM | | | DI |
| B BURNER, COMBUSTION | | | CLOSE-STOP DECREASE | | DO |
| C CONDUCTIVITY, pH (ACIDITY) | | CLOSE | CONTROL OR CONTROLLER | | DI/AO |
| D DENSITY | DIFFERENTIAL | | OPEN-START-INCREASE | | DO |
| E VOLTAGE | | SENSOR (PRIMARY ELEMENT) | | | |
| F FLOW RATE | RATIO (FRACTION) | | | FAIL | DI |
| G GAS | | GLASS VIEWING DEVICE | | | |
| H HAND | | | | H-HIGH-(ALARM) HH-HIGH-(SHUTDOWN) | DI |
| I CURRENT (ELECTRICAL) | | INDICATE | | | AI |
| J POWER | SCAN | | | | DO/AI |
| K TIME, TIME SCHEDULE | TIME RATE OF CHANGE | | CONTROL STATION | | DO/AO |
| L LEVEL | | LIGHT | | L-LOW-(ALARM) LL-LOW-(SHUTDOWN) | DI |
| M MOTOR | MOMENTARY | ON OR OPERATE | | MIDDLE, INTERMEDIATE | DI |
| N MOISTURE | | | | | DO |
| O UNCLASSIFIED | | OPEN ORIFICE, RESTRICTION POINT, TEST CONNECTION | | OVERLOAD | DO |
| P PRESSURE, VACUUM | | | PNEUMATIC | | |
| Q QUANTITY | INTEGRATE, TOTALIZE | | INTEGRATE OR TOTALIZE | | DI/AI |
| R RADIATION | | RECORD | | | AI |
| S SPEED, FREQUENCY, SOLENOID | SAFETY | | SWITCH OR SAFETY | | DI/DO |
| T TEMPERATURE | | | TRANSMIT | | AI |
| TQ TORQUE | | | | | |
| U MULTIVARIABLE | | MULTIFUNCTION | MULTIFUNCTION | MULTIFUNCTION | DI |
| V VIBRATION, MECHANICAL ANALYSIS | | | VALVE, DAMPER, LOUVRE | | |
| W WEIGHT, FORCE | | WELL | | | |
| X ON/OFF | X AXIS | UNCLASSIFIED | UNCLASSIFIED | UNCLASSIFIED | DI/DO |
| Y EVENT, STATE, PRESENCE | Y AXIS | | RELAY, COMPUTE, CONVERT | | |
| Z POSITION, DIMENSION | Z AXIS | | DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT | | |

NOTE: IN ADDITION TO THE REQUIREMENTS DETAILED BELOW, REFER TO SCADA POINT NAMING CONVENTIONS WHEN INSTRUMENT INTERFACES TO SCADA.

FIELD TAG IDENTIFICATION

POSITION 1 2 3 4 5 6 7 8

FUNCTIONAL IDENTIFICATION CODE

IF REQUIRED

PROCESS IDENTIFIER

a) FUNCTIONAL IDENTIFICATION CODE - (UP TO 4 CHARACTERS) *
- REFER TO DRAWING STD1 FOR LISTING
* NOTE THAT SCADA POINTS CAN ONLY HAVE 3 CHARACTERS

b) PROCESS IDENTIFIER - (3 NUMERALS AND 1 CHARACTER)
- REFER TO DRAWING STD1 FOR PROCESS IDENTIFIER NUMBERING CONVENTION.
- CHARACTER SUFFIX IN POSITION 8 DIFFERENTIATES SIMILAR DEVICES WITHIN A LOOP PROVIDED THAT THEY ARE NOT WIRED INTO SCADA - REFER TO SCADA POINT NAMING CONVENTION.

SCADA POINT NAMING CONVENTION

NOTE: ALL DEVICES INTERFACED WITH SCADA MUST FOLLOW THE SCADA POINT NAMING CONVENTION

I/O POINT NAMING CONVENTION

POSITION W 2 3 4 5 6 7 8 9 10

W - WATER

RTU LOCATION
REMOTE SITE OR
PLANT MNEMONIC
(3 CHARACTERS)

3 CHARACTER
PROCESS IDENTIFIER
(AS DETAILED RIGHT)

3 CHARACTER
FUNCTIONAL IDENTIFIER

SCHEMATIC IDENTIFICATION

SCADA

FUNCTIONAL IDENTIFICATION

TSH 100

PROCESS IDENTIFICATION

INSTRUMENT OPERATING FUNCTIONS

ANALYTICAL FUNCTIONS

RES Cl₂ RESIDUAL CHLORINE
SO₂ SULFUR DIOXIDE
COMB COMBUSTIBLE GAS
H₂S HYDROGEN SULFIDE
pH pH
DO DISSOLVED OXYGEN
O₂ OXYGEN

SWITCHING FUNCTIONS

HA HAND-AUTO SELECTION
HOA HAND-OFF-AUTO SELECTION
JOA JOG-OFF-AUTO SELECTION
S/S START-STOP
L/L LEAD-LAG SELECTION
F/S FAST-SLOW SELECTION
OCA OPEN-CLOSE-AUTO SELECTION
OSC OPEN-STOP-AUTO SELECTION
SEL SELECTOR SWITCH
O/O ON-OFF SWITCH
M/A MANUAL-AUTO SELECTION
L/R LOCAL-REMOTE SELECTION
ESD EMERGENCY SHUTDOWN
ACK ACKNOWLEDGE (ALARM)
FOR FORWARD-OFF-REVERSE
LOR LOWER-OFF-REVERSE

OTHER FUNCTIONS

D/P DIFFERENTIAL PRESSURE
IXP CURRENT TO PRESSURE
IBD INBOARD BEARING
OBD OUTBOARD BEARING
VB VIBRATION

INSTRUMENT AND FUNCTION SYMBOLS

XXXX
XXXX

FIELD MOUNTED INSTRUMENT

XXXX XXXX
XXXX XXXX

INSTRUMENT WITH TWO SERVICE OR FUNCTION

XXXX
XXXX

LOCAL PANEL-MOUNTED INSTRUMENT ACCESSIBLE

XXXX
XXXX

INSTRUMENT MOUNTED BEHIND LOCAL CONTROL PANEL. NOT READILY ACCESSIBLE

XXXX
XXXX

INSTRUMENT MOUNTED ON MAIN PANEL ACCESSIBLE

XXXX
XXXX

INSTRUMENT MOUNTED BEHIND MAIN PANEL NOT READILY ACCESSIBLE

XXXX
XXXX

FIELD MOUNT ANNUNCIATOR POINT (OPTIONAL ARROW TO INDICATE ROTATING BEACON)

XXXX
XXXX

MAIN PANEL MOUNT ANNUNCIATOR POINT

XXXX
XXXX

LOCAL PANEL MOUNT ANNUNCIATOR POINT

SCADA
XXXX
XXXX

SCADA (SUPERVISORY CONTROL AND DATA ACQUISITION SYSTEM) INPUT, OUTPUT OR FUNCTION

SCADA
XXXX
XXXX

SCADA INPUT, OUTPUT OR FUNCTION. ACCESSIBLE

XXXX
XXXX

SPECIAL PURPOSE DIGITAL DEVICE FOR PROCESSING MAINLY ANALOG INFORMATION. EG. SLDC (SINGLE LOOP DIGITAL CONTROLLER)

XXXX
XXXX

SPECIAL PURPOSE DIGITAL DEVICE FOR PROCESSING MAINLY DIGITAL INFORMATION. EG. PLC (PROGRAMMABLE LOGIC CONTROLLER)

XXXX
XXXX

SPECIAL PURPOSE DIGITAL DEVICE FOR PROCESSING MAINLY DIGITAL INFORMATION. ACCESSIBLE

XXXX
XXXX

COMPUTER - INTERNAL SYSTEM FUNCTION (COMPUTATION/SIGNAL CONDITIONING)

XXXX
XXXX

COMPUTER - INTERNAL SYSTEM FUNCTION NORMALLY ACCESSIBLE TO OPERATOR

PRIMARY ELEMENT SYMBOLS

OFFICE PLATE

VENTURI OR FLOW TUBE

FLUME

WEIR

VARIABLE AREA FLOW INDICATOR (ROTAMETER)

FLOW ELEMENT INTEGRAL WITH TRANSMITTER (MASS FLOW, ETC)

DIAPHRAGM SEAL

IN-LINE PRESSURE SENSOR

VORTEX FLOW SENSOR

IN-LINE CAPACITANCE FLOW ELEMENT

MAGNETIC FLOWMETER

SONIC FLOWMETER (DOPPLER OR OR TRANSIT TIME)

POSITIVE DISPLACEMENT METER

THERMAL MASS FLOW ELEMENT

AVERAGING PITOT TUBE

PITOT TUBE

PROPELLER OR TURBINE METER

CORIOUS MASS FLOWMETER

FLOAT LEVEL ELEMENT

DISPLACEMENT LEVEL ELEMENT

BUBBLER LEVEL TUBE

ULTRASONIC/MICROWAVE LEVEL ELEMENT

RADIO FREQUENCY LEVEL ELEMENT

VIBRATING TUNING FORK LEVEL SWITCH

TERMAL SENSING RTD STRIP

INSTRUMENT SIGNAL SYMBOLS

INSTRUMENT SUPPLY PROCESS TAPS

PNEUMATIC SIGNAL

ELECTRIC SIGNAL

CAPILARY TUBE OR FILLED SYSTEM

ELECTROMAGNETIC OR SONIC SIGNAL (GUIDED)

ELECTROMAGNETIC OR SONIC SIGNAL (UNGUIDED)

SOFTWARE OR DATA LINK

MECHANICAL LINK

HYDRAULIC

LINE DESIGNATIONS

ES ELECTRICAL POWER SUPPLY 120VAC 60HZ (UNLESS OTHERWISE NOTED)

SA SERVICE AIR SUPPLY

IA INSTRUMENT QUALITY AIR SUPPLY

C2 IWATER SUPPLY C1,C2,C3, ETC.

MISCELLANEOUS SYMBOLS

INTERLOCK - SEE CONTROL STRATEGY DESCRIPTION

RESET FOR LATCH-TYPE OPERATOR

RESET FOR LATCH-TYPE OPERATOR

GROUND

INSTRUMENT LOOP SHIELD GROUND

BOND

GENERAL NOTES

1. REFER TO DRAWING EIC01-01 FOR EQUIPMENT AND PIPE COMMODITY DESIGNATIONS.

1 INSTRUMENT LOCATION PLAN
N.T.S.

NOTES:

1 FLOW TRANSMITTERS AND LEVEL TRANSMITTERS TO BE MOUNTED IN PLC CABINET.

2 LEVEL SENSOR TO BE MOUNTED IN THE WET WELL. EXACT POSITION TO BE CO-ORDINATED WITH ON SITE TO SUIT PIPING, BENCHING, ETC.

3 LEVEL SWITCH TO BE MOUNTED IN THE WET WELL. EXACT POSITION TO BE CO-ORDINATED WITH ON SITE TO SUIT PIPING, BENCHING, ETC.

4 GAS DETECTION SENSORS AE-203 & AE-204 TO BE MOUNTED 600mm ABOVE FINISHED FLOOR.

5 GAS DETECTION SENSORS AE-205 & AE-206 TO BE MOUNTED 2000mm ABOVE FINISHED FLOOR.

6 MOUNT STROBE LIGHT OVER DOOR.

7 WALL MOUNT GAS DETECTION TRANSMITTERS.

THE STAMP COLOUR IS RED FOR

REGISTERED PROFESSIONAL ENGINEER

C. L. WOOD

1997/07/20/20

NWT/NJ

THE ORIGINAL SIGNED DRAWING

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CLIENT

CITY OF IQALUIT

PROJECT

LIFT STATION No. 2
MODIFICATIONS

TITLE

ELECTRICAL
INSTRUMENT LOCATIONS, P & ID
SYMBOLS AND LEGEND

design by C.M.

drawn by F.S.

checked by C.M.

date 06/11/2009

scale AS SHOWN

project no. OTCD00019365A

drawing no. E2

06/04/2010

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