



ABBREVIATIONS AND NOTE(S) FOR LIFT STATION P&ID

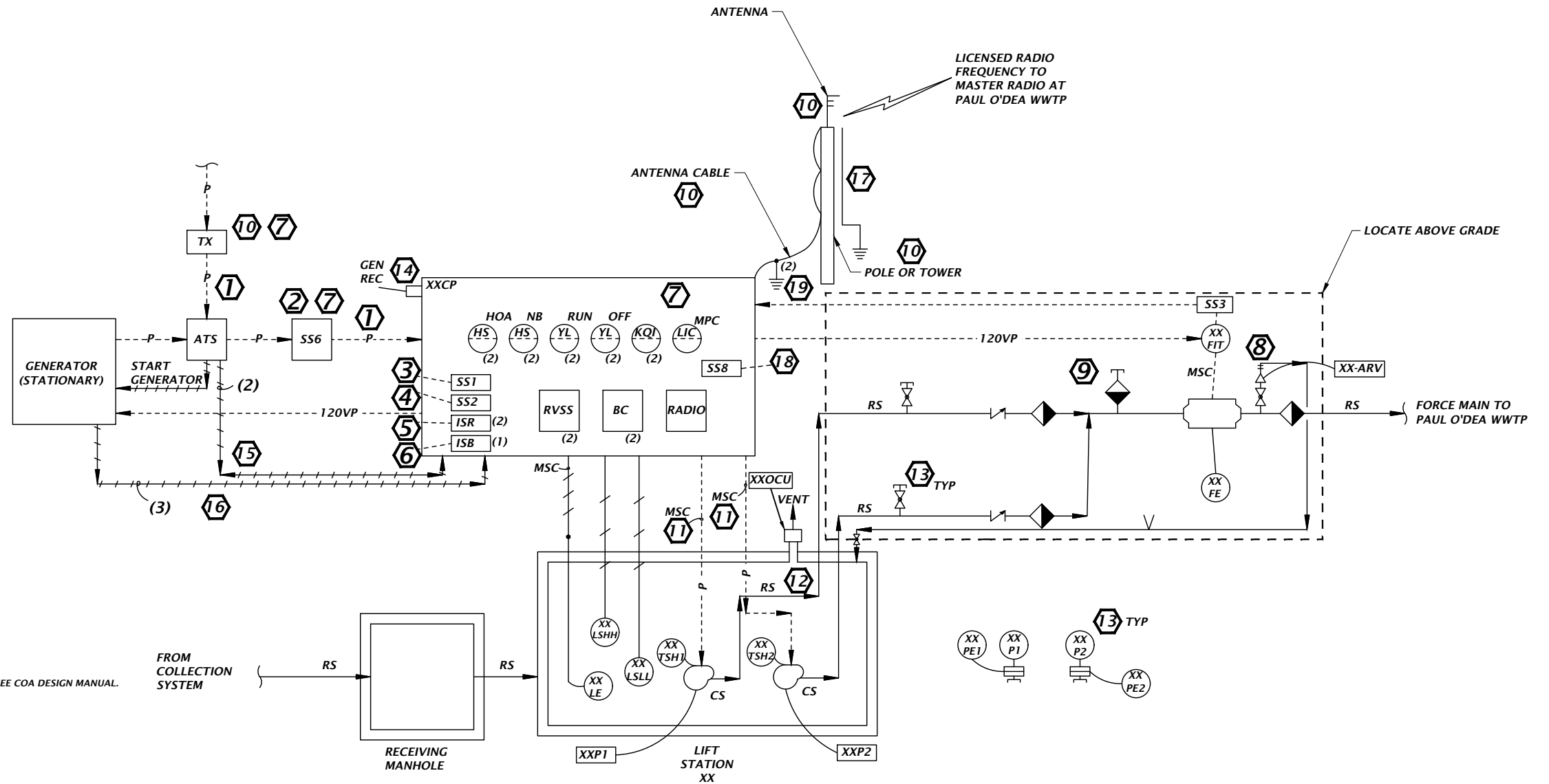
| ABBREVIATION | DESCRIPTION                        |
|--------------|------------------------------------|
| 120V P       | POWER, 120 V                       |
| ARV          | AIR RELEASE VALVE                  |
| ATS          | AUTOMATIC TRANSFER SWITCH          |
| BC           | BYPASS CONTACTOR                   |
| COA          | CITY OF ALACHUA                    |
| CP           | CONTROL PANEL                      |
| CS           | CONSTANT SPEED                     |
| FE           | FLOW ELEMENT                       |
| FIT          | FLOW INDICATING TRANSMITTER        |
| FVNR         | FULL VOLTAGE NON-REVERSING STARTER |
| HOA          | HAND-OFF-AUTOMATIC                 |
| HS           | HANDSWITCH                         |
| ISB          | INTRINSICALLY SAFE BARRIER         |
| ISR          | INTRINSICALLY SAFE RELAY           |
| KQI          | ELAPSED TIME INDICATOR             |
| LE           | LEVEL ELEMENT                      |
| LIC          | LEVEL INDICATING CONTROLLER        |
| LSHH         | LEVEL SWITCH HIGH HIGH             |
| LSSL         | LEVEL SWITCH LOW LOW               |
| MPC          | MULTITRODE PUMP CONTROLLER         |
| MSC          | MANUFACTURER SUPPLIED CABLE        |
| NB           | NORMAL-BYPASS                      |
| NEC          | NATIONAL ELECTRIC CODE             |
| OCU          | ODOR CONTROL UNIT                  |
| P            | POWER                              |
| PE           | PRESSURE ELEMENT                   |
| PI           | PRESSURE INDICATOR                 |
| RS           | RAW SEWAGE                         |
| RVSS         | REDUCED VOLTAGE SOFT STARTER       |
| SS1          | SURGE SUPPRESSOR, TYPE 1           |
| SS2          | SURGE SUPPRESSOR, TYPE 2           |
| SS3          | SURGE SUPPRESSOR, TYPE 3           |
| SS6          | SURGE SUPPRESSOR, TYPE 6           |
| TSH          | TEMPERATURE SWITCH HIGH            |
| TX           | TRANSFORMER                        |
| V            | VENT                               |
| YL           | INDICATING LIGHT                   |

KEYED NOTE(S):

- ① INCOMING POWER IS EITHER 208-V, 3-PHASE OR 460V, 3-PHASE, DEPENDING ON MOTOR SIZE. SEE COA DESIGN MANUAL.
- ② PROVIDE EXTERNAL SURGE SUPPRESSOR ON INCOMING POWER.
- ③ PROVIDE TYPE 1 SURGE SUPPRESSOR ON 120-VOLT POWER WITHIN PANEL.
- ④ PROVIDE TYPE 2 SURGE SUPPRESSOR WITHIN PANEL ON ANALOG SIGNAL TO FIT.
- ⑤ PROVIDE ISR ON LSHH AND LSSL CIRCUITS ENTERING WET WELL.
- ⑥ PROVIDE ISB ON EACH MULTITRODE LEVEL CIRCUIT.
- ⑦ INSTALL TX, SS6 AND CP SO THEY ARE NOT IN A CLASSIFIED AREA AS PER NEC. AS A MINIMUM, LOCATE THESE DEVICES AT LEAST 10-FEET AWAY FROM VENT.
- ⑧ VENTS AIR TO KEEP MAGMETER LINE FULL.
- ⑨ PURPOSE OF VALVE IS TO RECEIVE RS FROM PORTABLE PUMPS IF LIFT STATION PUMPS DO NOT FUNCTION.
- ⑩ COA MAY ELECT TO FURNISH AND INSTALL TRANSFORMER AS WELL AS ANTENNA, ANTENNA CABLE AND ANTENNA POLE. CONTRACTOR SHALL PAY COA FOR THE WORK. CONTRACTOR SHALL COORDINATE SUCH WORK WITH COA. DURING DESIGN, DESIGNER SHALL COORDINATE WITH COA TO DETERMINE COA WORK EFFORT.
- ⑪ THIS CABLE INCLUDES BOTH POWER CONDUCTORS AND CONDUCTORS FOR HIGH TEMPERATURE SWITCH.
- ⑫ PROVIDE EITHER 4 OR 6-INCH CAST-IN-PLACE FLANGE FOR VENT. CONNECT ODOR CONTROL UNIT TO VENT. SEE DESIGN MANUAL FOR SIZING.
- ⑬ FOR EACH PUMP, FURNISH PRESSURE GAUGE, DIAPHRAGM SEAL AND FEMALE QUICK DISCONNECT TO ALLOW TEMPORARY INSTALLATION ON PUMP DISCHARGE.
- ⑭ RECEPTACLE FOR PORTABLE GENERATOR.
- ⑮ ATS OUTPUTS(2): NORMAL AND EMERGENCY POSITION STATUS. PROVIDE AT LEAST SIX SPARE CONDUCTORS.
- ⑯ GENERATOR ON STATUS, GENERATOR COMMON FAIL. GENERATOR NOT IN AUTO. PROVIDE AT LEAST SIX SPARE CONDUCTORS.
- ⑰ PROVIDE GROUND WIRE ALONG POLE/TOWER
- ⑱ PROVIDE TYPE 8 SURGE SUPPRESSOR WITHIN PANEL ON RADIO COAX CABLE. UNIT SHALL BE POLYPHASE IS-50-NX-C2.
- ⑲ PROVIDE TWO GROUND KITS ON ANTENNA CABLE.

GENERAL NOTE(S):

1. LIFT STATION SHALL CONFORM TO THE CITY OF ALACHUA, DEPARTMENT OF PUBLIC SERVICE, REQUIREMENTS FOR DESIGN AND CONSTRUCTION, POTABLE WATER, WASTEWATER AND RECLAIMED WATER AND WASTEWATER, LATEST EDITION, AKA "COA DESIGN MANUAL"
2. PROVIDE PROPER GROUNDING FOR CONTROL PANEL, SURGE SUPPRESSORS, FLOW ELEMENT, AND ANTENNA.
3. CONTRACTOR SHALL PROVIDE ALL ELECTRICAL WORK. COA MAY PERFORM SOME ELECTRICAL WORK, BUT WILL BACKCHARGE THE CONTRACTOR. SEE KEYED NOTE 10.
4. PANEL SHOW ONE RVSS AND ONE BC PER PUMP. SMALLER PUMPS REQUIRE JUST A FVNR. SEE COA DESIGN MANUAL.



**290** PROCESS AND INSTRUMENTATION DIAGRAM, TYPICAL LIFT STATION  
NTS

LEGENDS AND SYMBOLS

|  |  |
|--|--|
|  | PRESSURE INDICATOR WITH DIAPHRAGM PRESSURE SEAL AND FEMALE QUICK DISCONNECT  |
|  | BALL VALVE WITH MALE QUICK DISCONNECT  |
|  | BALL VALVE   |
|  | PLUG VALVE WITH MALE QUICK DISCONNECT  |
|  | MAGMETER   |
|  | CHECK VALVE  |
|  | SUBMERSIBLE PUMP AND MOTOR   |
|  | TAG NUMBER CONVENTION (BY EXAMPLE)<br>XX = LIFT STATION<br>Y = UNIT NUMBER<br>EXAMPLE - TAG PRESSURE INDICATOR ON DISCHARGE OF PUMP 2 AT LIFT STATION 17 AS 17PI2. |
|  | --- P --- PUMP POWER   |
|  | --- 120V --- 120V MOTOR  |
|  | +++++ DISCRETE SIGNAL  |
|  | ----- ANALOG SIGNAL  |