

Section 3 – Specific Wastewater Lift Station Details Summary of Revisions

July 2019

Based on Palm Beach County Water Utilities Department (WUD) evaluation of the Wastewater Design Standards and Details issued in January of 2017 the design standards and standard details have been revised and/or added to the Palm Beach County Water Utilities Department Minimum Design and Construction Standards

LIFT STATION STANDARD DETAILS:

All lift station individual standard details listed as follows are now dated “6/2019” and revised for the July 2019 issuance of the Minimum Design and Construction Standards with an asterisk (*).

1. Detail 56S: Revise “1-inch conduit to RPZ”; Add “1-inch conduit for future skid mounted generator”; Add “#6 ground wire to water service”; Add “(2) 1-inch conduits with gas sealing hubs between control panel and junction box”; Revise “1-inch conduit to valve pit”; Add “Note 8 – Increase conduit size between J-Box and wet well to 3-inch for motor larger than 30 hp”; Add “Antenna connectors in heat shrink tubing”; Revise “Note 4 – Underground conduits shall be Schedule 80 PVC”; Delete “120V outlet from the side of control panel”
2. Detail 57S: Revise “1-inch conduit to RPZ”; Add “1-inch conduit for future skid mounted generator”; Add “#6 ground wire to water service”; Add “(2) 1-inch conduits with gas sealing hubs between control panel and junction box”; Revise “1-inch conduit to valve pit”; Add “Note 8 – Increase conduit size between J-Box and wet well to 3-inch for motor larger than 30 hp”; Add “Antenna connectors in heat shrink tubing”; Revise “Note 4 – Underground conduits shall be Schedule 80 PVC”; Delete “120V outlet from the side of control panel”
3. Detail 58S: Revise “Note 8 – Provide PVC schedule 80 conduits”; Add “Note 18 – Phase sequence in control panel shall be setup for clockwise rotation to match the rotation of PBCWUD portable standby generators”
4. Detail 59S: Delete “12VDC power supply PS12”; Delete “12VDC to 24VDC Converter”; Add “24VDC power supply PS24”; Add “PLC analog card AI2”; Add “RTU fuse terminals”; Add “one additional 12V battery”; Add “1”x3” Phenolic nameplate for generator receptacle voltage on the side of control panel above the generator receptacle”; Revise “(75) Angled control terminals”
5. Detail 60S: Delete “12VDC power supply PS12”; Delete “12VDC to 24VDC Converter”; Add “24VDC power supply PS24”; Add “PLC analog card AI2”; Add “RTU fuse terminals”; Add “one additional 12V battery”; Add “1”x3” Phenolic nameplate for generator receptacle voltage on the side of control panel above the generator receptacle”; Revise “(75) Angled control terminals”
6. Detail 61S: Add “Pump and motor information labels”
7. Detail 62S: Add “Pump and motor information labels”
8. Detail 64S: Add “Note F, 5 – Pump ID tags shall be provided by the PBCWUD and installed by the Contractor. Request via PBCWUD pump shop prior to pump installation.”
9. Detail 65S: Revise “Note G, 2 – Provide four (4) extra control wires and (2) extra twisted shielded pair cables for future.”; Revise “Note J, 1 – Soft starters shall be solid state reduced voltage starter with integral bypass, display and optional fan.”

10. Detail 66S: Revise “Item 1 – 3p-100 Amp, 240 volt w/ Auxiliary contact, 25k AIC”; Revise “Item 4 – ASCO, model 430240HP10ACSJ1”; Revise “Item 5 – Radar level sensor, two-wire, Endress & Hauser, FMR20 (or) Vega, Vegapuls WL 61”; Revise “Item 12 – Par 38,

Revise LED 100 W equivalent Daylight Bulb, RAB Lighting, HB101W with HG1W guard”; Revise “Item 36 – Rail Mount with angled bracket”; Revise “Item 41 – With integral bypass and optional fan”; Add “Item 45 – RTU Fuse Terminal block with LED brown fuse indicator, Phoenix 3046090 (or) Sprecher Schuh V7-H5”; Add “Item 46 – Pressure transmitter, Range: 0-100 psi with display, ABB, 261GSDKTNS1EAL1M5”
11. Detail 67S: Revise “Item 3 for 480V panel – ASCO, model 430277YP10ACSJ1”
12. Detail 68S: Add “(3)x Twisted shielded pairs between junction box and control panel”
13. Detail 70S: Add “Main breaker off signal”; Add “Generator breaker On signal”, Revise “Series M1 contact with M1 Breaker contact for Pump No. 1 Run signal”, Revise “Series M2 contact with M2 Breaker contact for Pump No. 2 Run signal”
14. Detail 71S: Add “(3)x Twisted shielded pairs between junction box and control panel”
15. Detail 73S: Add “Main breaker off signal”; Add “Generator breaker On signal”
16. Detail 74S: Add “1”C, 3-TSP, 1-#14G between control panel and motor junction box”; Revise “1”C, 12-#14, 1-#14G between control panel and motor junction box”; Add “1”C, 1-TSP, 2-#14, 1-#14G and PVC junction box for future generator”; Revise “1”C, 1-TSP, 1-#14G for Potable Water Pressure Transmitter/RPZ”; Revise “1”C, 1-TSP, 1-#14G and Nema 7 junction Box for future force main pressure transmitter in the valve pit”; Add “Note 3 – Coordinate with County for the location of future skid mounted generator inside the lift station fence.”; Add “Note 4 – Provide and install explosion proof box inside the valve pit.”; Add “Note 5 – Install generator junction box 24” above floor with 316 S.S. unistrut support and 316 S.S. mounting hardware.”; Revise “Wire terminal TB-1”
17. Detail 75S: Revise “Note H – Programmable controllers and accessory equipment shall be Allen Bradley MicroLogix 1400, with memory module and two analog extension modules.” Revise “Note I – The Primary power supply for radio, PLC and battery backup shall be 100 watt, 24VDC Allen Bradley 1606-XLP100E. Two 12 volt batteries shall connected in series to get 24VDC battery backup. Solar panel shall be 55 watt, 24 volt panel Solartech SPM055P-WP-F with pole mounting kit Sunwize 007954. The solar controller shall be Morningstar Sunsaver SS-10L-24V.” Revise “Note K, 2 – All analog and digital inputs shall be wired to terminal strip.”
18. Detail 76S: Revise “5 watt Ethernet/Serial radio to communicate with towers NTEL 1, NTEL 2, CTEL 1, STEL, WTEL”; Add “10 watt Ethernet/Serial radio to communicate with tower CTEL 2 – Microwave Data System ORBIT MXNXL2XNNNNNNS1F5DUNN”; Add “120VAC to 24VDC Power supply – Allen Bradley 1606-XLP100E”; Delete “120VAC to 12VDC Power supply”; Add “Antenna 216 MHz to 235MHz, type to be determined after new tower CTEL 2 is established.”; Add “Digital Input I/9 for Main Breaker Off signal”; Add “Digital Input I/10 for Generator Breaker On signal”; Revise “Note 3, A – The radio to communicate with any towers except CTEL 2 shall consist of a Microwave Data System model SD4-CES-NNSNN, 5-watt (continuous) digital FSK modulation type radio. The radio to communicate with CTEL 2 shall be as shown in above equipment lists.”
19. Detail 77S: Revise “Note B – Remote terminal unit antenna to communicate with any towers except CTEL 2 shall be a heavy-duty, pole-mounted, grounded, 450 Mhz – 470 Mhz Yagi. Yagi

antenna shall have a pig tail with N-male connector. Coaxial antenna cable shall have an N-female connector Andrew L4TNF-PSA on one end and an N-male connector Andrew L4TNM-PSA connector on other end. The antenna connectors on the antenna mast shall be wrapped with rubber tape and heat shrink tubing. Heat shrink tubing shall be Alpha FIT-321-1inch. The antenna orientation toward the receiving communication tower shall be set using appropriate instruments. The antenna to communicate with CTEL 2 to be determined after the tower is established.”; Add “North Tower 2 (NTEL 2)””; Add “Central Tower 2 (CTEL 2)””

20. Detail 80S: Add “additional 12V Battery””; Replace “12VDC power supply with 24VDC power supply””; Add “1 Amp fuse to 24VDC Float control circuit””; Add “0.5 Amp fuses to analog field instrument circuits after surge arresters”, Add “additional Allen Bradley 1762-IF4 Analog Input Module for spare””