

Sewerage District No. 1 of Tangipahoa Parish

Standard Specifications Acceptance of Sewerage Improvements

[Effective 21 October 2025]

[Latest Revision – approved 20 October, 2023]

Sanitary Sewer Improvements – PRIOR TO CONSTRUCTION

1. Construction plans showing the following:

a. **Sanitary Sewer Collection System** layout on 24x36 drawing at 1"=20' scale (or larger) indicating:

- (1) SS Main layout with each SSMH identified by a number/letter designation.
- (2) Length (in LF) of each SS main segment – 400 LF max.
- (3) Slope of each SS main segment – 8"SS=0.4% (min.); 12"SS=0.25% (min.)
- (4) Service lines to each lot – service laterals serving each lot located ideally 10' downstream of the center of each lot; 1 EA 4" cleanout per lot (located 1' from street R/W).
- (5) SSMH – 3.7' (min.) depth; Rim elevation; invert elev. (in); invert elev. (out); 0.05' (min.) between Inv (in) and Inv (out); generally SSMH rim should be 0.1' above natural grade or flush with pavement grade as applicable.
- (6) If development exceeds 300 lots; design of SS mains verifying 8" diameter SS is adequate.
- (7) Grease trap(s) and hot water required at dumpster waste line(s), and at restaurant(s).
- (8) Final Plat.
- (9) Indication/dedication of Utility Servitude(s) on Final Plat if applicable to SS layout.

b. **Sanitary Sewerage Pumping Station(s):**

- (1) Dedicated Lift Station site including survey (typically 30'x30')
- (2) Site Plan on 24x36 drawing at 1"=10' (or larger) including:
 - (a) Wet well diameter.
 - (b) Valve Pit location/diameter.
 - (c) Fencing/access from dedicated street.
 - (d) Location of electric service pole.
 - (e) Influent SS Main.
 - (f) Force Main diameter, orientation, and discharge direction (PVC SDR 26 piping preferred if the force main is located entirely within the development; PE SDR-11 required on parish/state right-of-ways).
 - (g) Lift Station site access road with 6" thick limestone surfacing.
 - (h) 4'x8' *future* Emergency Electric Generator location.

b. Sanitary Sewerage Pumping Station(s) – continued

(3) Detail Sheet on 24x36 drawing indicating:

(a) Elevations of Wet well/valve pit – wet well top elevation; wet well invert elevation; influent SS main invert elevation; valve pit top elevation (and invert elevation); natl. grade elev. adjacent to wet well/valve pit.

(b) Details of Wet well/valve pit construction – cylindrical precast concrete wet well and valve pit including 24"x36" (min. or as required by pump manufacturer) lockable aluminum access hatch cast in a 6" thick PCC (removable) top on wet well and same on valve pit; fall protection shall be provided on wet wells greater than six feet (6') in depth, wet well base typically 12" thick PCC with 6" thick limestone subbase; 60 degree grouted wet well invert; recommended float switch elevations

(c) Pumping equipment details – duplex submersible chopper pump (SITHE model by Barnes® Pumps preferred manufacturer or approved equivalent); operating conditions using "gallons per minute" & "total dynamic head"; rated horsepower; impeller diameter; operating rpm; electrical service needed.

(i) A third (spare) submersible pump shall be provided, which cost shall be deducted from the "capacity fees".

* (ii) Pumping equipment with horsepower **greater than 5.0HP** shall be provided with 3-phase electric service

(d) All materials (including connectors) shall be stainless steel.

(e) All yard piping which generally includes on-site sewer force main piping between the pump discharges and immediately downstream of the valve pit or check valve/gate valve assemblies, pump bypass assemblies, lift station force main tie-ins and discharge piping shall be (in order of preference): 1) Ductile Iron (DI) Pipe (Pressure Class 250), Polyethene Pipe (PE) (SDR 9), Polyvinylchloride (PVC) C900 Pipe (DR 18), Polyvinylchloride (PVC) Pipe (Schedule 80).

(f) Lifting rails shall be 2" diameter (minimum).

(g) Lifting chains are not acceptable. Stainless steel cables with 5/16th inch diameter acceptable.

(h) The Control Panel shall conform with TPSD1 standard configuration (see attached exhibit).

(i) Each pump shall include an hour meter feature incorporated into the Control Panel.

(j) Each station shall include an amperage overload alarm feature incorporated into the Control Panel.

(k) Compatibility with TPSD1 remote monitoring shall be incorporated into the features of the lift station.

(l) Each station shall have either a chainlink or wooden fence as detailed in the attached exhibit to these specifications.

(4) Engineering Design shall include "Lift Station Design" details; 10 year projected flow rates; 2½:1 to 4:1 peak factor. If pumping to a downstream collection system or lift station, evaluate impact of "new" wastewater flow to downstream (existing) lift station. Cost of upgrading downstream lift station(s), if any, shall be the responsibility of the developer, and shall be credited towards any "capacity fees".

(5) General Electrical

- (a) Final design of lift station, including wire and conduit sizes, disconnect sizes, etc. must be designed by a licensed electrical engineer meeting all Louisiana requirements.
- (b) Pumping equipment with horsepower (HP) greater than 5.0 HP shall require 3-phase electric service.
- (c) All items on drawings must be furnished and installed as a complete system. Refer to 8 1/2" x 11" diagram at the end of this section.
- (d) Contractor shall furnish all labor, materials, equipment and incidentals required to provide a UL listed control panel compatible with the pump(s) specified.
- (e) The control panel shall be assembled and tested by a supplier meeting UL Standard 508 for industrial controls. The panel shall be provided by the same manufacturer supplying the submersible pump so as to insure compatibility and assurance in matching the proper panel and features with the pump being supplied and to assure single source responsibility for the equipment supplied.
- (f) The contractor shall submit shop drawings prior to manufacturing of panel. Shop drawings shall include wiring diagram, cut sheets on all components, and drawings including dimensions and layout of all components within control panel.

(6) Panel Construction & Details

- (a) The control panel shall be housed in a NEMA 4X Stainless Steel. Panel shall include a high-water alarm light, motor contactor or soft starter, pump disconnect switch, control power disconnect switch, seal leak light, selector switches, and pilot lights. Provide a soft starter for all pumps over 10 HP.
- (b) Provide duplex "Primex PC-1000" controller for control of station. The duplex panel configuration shall incorporate a pump alternator function, which enables each pump to operate as the "lead" pump during the alternation sequence. The panel circuitry is to be mounted on a plate, which is bolted to the enclosure with 300 series SS fasteners. The enclosure will be 14-gauge type 304 stainless steel with seams continuously welded and ground smooth. A rolled lip around three sides of door and all sides of the enclosure opening excludes liquids and contaminants. A stainless-steel door clamp assembly will ensure a watertight seal. The enclosure must meet UL 508 file no. E61997 specifications. The control panel shall provide adjustable overload protection if the pump(s) being controlled does not have an integral thermal overload protection in its motor winding. The control panel shall include an internal seal leak monitoring circuit with indicator. A three-phase control panel shall include a thermal cutout circuit, interfaced with the motor contactor and pump's thermal sensor. Pump run pilot LED lights and selector switches shall be mounted in the enclosure. The visual high-water alarm shall be a top mounted red beacon with 360-degree visual check. A panel

mounted audible alarm with silence switch shall be provided. A three-phase panel shall get its 120-volt control power from an internal transformer. A wiring schematic shall be provided and stored in a plastic packet provided in the enclosure. The schematic is to be an exact representation of the panel circuitry identifying the terminal locations for the float switch, pump(s) and incoming power connections. All ground wires shall be terminated at the grounding lug furnished inside the enclosure. Contractor is responsible for installing the panel so as to maintain the NEMA 4X rating. All conduit, cord connections and enclosure openings are to be properly sealed in a manner, which prevents any liquids or vapors from entering the enclosure. A properly sized and rated main disconnect switch, separate from the panel, is to be installed by the contractor in front of the panel and pump(s), per NEC Code. Voltage and horsepower per drawings.

- (c) Circuit Breakers: Circuit breakers shall be provided for the pump motor and for the primary of the control transformer. Circuit breaker shall be of the thermal-magnetic type rated for volts indicated on the drawings. Breaker will be operable through cutouts in the inner-door. Circuit breakers will be Square D – HDL series or approved equivalent.
- (d) Motor Starters: Motor Starters shall be NEMA rated and be provided with overload relays. A normally open holding contact shall be provided. The starter shall be 3-pole polyphase type units as manufactured by Square D or approved equivalent. Provide a MotorSavor series 355 or equivalent to monitor the voltage and phasing. Pump shall automatically restart after all phases are restored without the need for the relay to be reset.
- (e) Selector Switches: “Hand-Off-Auto” selector switches shall be provided for the pump motor and mounted on the outer-door
- (f) Provide isolated output contacts for alarms to be monitored by a separate SCADA system. Monthly subscription for SCADA system will be provided by the owner. Alarm contacts shall be:
 - a. “WET WELL HIGH LEVEL”
 - b. “PUMP 1 POWER FAIL”
 - c. “PUMP 1 OVERLOAD”
 - d. “PUMP 1 SEAL FAIL”
 - e. “PUMP 2 POWER FAIL”
 - f. “PUMP 2 OVERLOAD”
 - g. “PUMP 2 SEAL FAIL”
- (g) Pilot Lights: All pilot lights shall be mounted on the outer-door and be supplied as follows:
 - Pump Run – Green
 - Seal Fail – Red

- (h) PROVIDE THE FOLLOWING ITEMS:
- i. Audible high-water alarm with silence switch.
 - ii. Flashing high water alarm light.
 - iii. Alternator selector switch. Enables the operator to either select the lead pump or allows the control system to automatically alternate the pumps with each duty cycle.
 - iv. Elapsed time meter. Tracks the number of hours that each pump has operated.
 - v. Cycle counter. Tracks the number of cycles that each pump has operated.
 - vi. Seal leak relay with external indication.
 - vii. Inner door with dead front enclosure. The inner door is the mounting location for the pilot lights, selector switches and other optional monitoring features. Outer door is blank. Intrinsically safe relays. Enable the voltage passing through the float switches to decrease to less than 12 volts, which will prevent any arcing in case of float damage. Feature is required when a “hazardous environment” designation is applied.
 - viii. Redundant off switch. Provides an additional off switch, which will shut down the pump(s) in case the primary “off” float switch malfunctions.
 - ix. Lightning arrestor. Protect the panel components and pump motor from lightning strikes.
 - x. Condensation heater. A thermostat, which protects the internal, panel components from moisture by keeping the air temperature above dew point.
 - xi. Three 20/1 circuit breakers for 120-volt service to the following items:
 - (a.) Spare
 - (b.) Spare
 - (c.) Weather proof GFCI outlet and exterior light.
 - a. (Provide 3/4” conduit with 3#12 to each device)

c. Wastewater Treatment:

- (1) TPSD1 prefers that the development tie-in to an existing TPSD1 WWTP facility.
- (2) Contact TPSD1 General Manager and Operations Manager to determine (a) which TPSD1 WWTP will receive the “new” wastewater, and (b) if existing WWTP will need upgrading to accommodate the proposed wastewater flows.
- (3) Cost of upgrading the TPSD1 existing WWTP, if any, shall be the responsibility of the developer, and shall be credited towards any “capacity fees”.

ACCEPTANCE by TPSD1 OF SEWERAGE IMPROVEMENTS

1. Written certification from design engineer to TPSD1 that the Sanitary Sewer System is complete in accordance with approved construction plans and with TPSD1 specifications.

2. “As-built” drawings including **actual** SSMH invert elevations and rim elevations, as well as **actual** Lift Station elevations, and the exact location of the wet well, etc. on the dedicated Lift Station site by a survey certified by a licensed surveyor in the State of Louisiana.

3. “Wye Record” drawing indicating the location of every SS wye relative to the upstream (or downstream manhole). A SS wye should typically be placed 10’ downstream from the center of each lot, and terminated with a cleanout 1’ inside of the property line (i.e., 1’ from the edge of the R/W).

4. At a time mutually convenient to the TPSD1 Operations Manager (Gene Myers), the installing contractor, and the design engineer, the following field tests should be undertaken (all sludge and mud should be removed from the system prior to inspections commencing):

(a) Exfiltration tests for each manhole – each manhole should be plugged, filled with potable water, and re-inspected after a min. of 4 hours. At no point in the new portion of the gravity sewer shall the leakage of ground water into the system exceed the infiltration maximum of 100 gallons/inch/mile/day for heads to ten feet (10’).

For example, a test for 8” SS main, 1,000 LF, shall be placed under a static head of 10’, with maximum allowable exfiltration leakage calculated as follows:

$$8" \times 100 \text{ gal./inch/mile/day} \times \frac{1000 \text{ LF}}{5280 \text{ LF per mile}} = 151.5 \text{ gallons per day max. allow. leakage}$$

(b) Pulling a mandrel from manhole to manhole without resistance.

(c) “Lamping” of the sewer mains. This entails physically sighting the mains between every manhole. The sewer main should be clearly visible between manholes without noting any “belly” in the line, or any “egg-shaping” of the laid pipe.

5. Provide three (3) sets of shop drawings on all LIFT STATION pumping equipment.

6. Provide electrical AS-BUILTS on the Lift Station.

7. Provide LDH permit.

8. **WARRANTY**

(a) The Developer shall provide a WRITTEN EXTENDED guarantee that (i) the Lift Station, and (ii) the Sewerage Collection Systems and all associated equipment is warranted to be free from defects in design, material and workmanship for a period of **TWO (2) years from the date of acceptance by TPSD1.**

(b) Warranties and guarantees by the suppliers of various components in lieu of a single source responsibility by the Manufacturer will not be accepted.

(c) The Lift Station pump Manufacturer shall assume prime responsibility for the guarantee of the pumping equipment.

(d) In the event a component fails to perform as specified or is proven defective in service during the two-year warranty period, the Manufacturer shall provide a replacement part, including expedited shipping, without cost to TPSD1. TPSD1 shall provide labor as may be required to replace, repair or modify major components such as the station structure, pumps, pump motors, main piping manifold, etc.

(e) The replacement or repair (including cost of parts and labor) of those items normally consumed in service, such as pump seals, fluorescent tubes, oil, grease, etc., may be considered as part of routine maintenance and station upkeep.

(f) It is not intended that the Manufacturer assume responsibility for contingent liabilities or consequential damages of any nature resulting from defects in design, material, workmanship or delays in delivery, replacement or otherwise.