

**ARTICLE XIII**  
**GENERAL REQUIREMENTS FOR**  
**INDIVIDUAL GRINDER PUMPS AND PRESSURE SEWERS**

**Section 1301.** This article sets forth the requirements of all connections to the public sanitary sewer system via a pressure system wherein more than one home is connected to a common pressure force main. The Summit Township Sewer Authority shall have the exclusive right to allow or reject the use of pressure sewer systems. If the Authority determines that a pressure sewer system is not in the best maintenance, operational, or long-term development interests of the system as a whole, the Authority has the exclusive right to reject the use of pressure sewers for a given project or area. The use of small diameter pressure sewer systems with individual grinder pump service connections may be considered as an alternative to a conventional gravity collection system only under conditions such as the following:

- A. Where the topography makes it difficult for the potential users to be served by a gravity collection system.
- B. Where groundwater conditions make it difficult to construct and maintain a gravity collection system.
- C. Where excessive rock excavation makes the gravity collection system impractical.
- D. Adjacent properties are already served by the public sanitary sewer system and construction of a lift station would be required to serve an isolated subarea, unless said lift station could also serve a broader service area.

**Section 1302.** Small diameter pressure sewer systems must be designed to meet the requirements of the latest edition of the Pa. Department of Environmental Protection's "Domestic Wastewater Facilities Manual", and these rules and regulations.

**Section 1303.** The Developer shall be responsible for all costs associated with the design, administration, and permitting of the pressure sewer system and submit the design to the Summit Township Sewer Authority for review and approval. The Developer shall provide design calculations stamped by a professional engineer licensed in the Commonwealth of Pennsylvania detailing the initial and ultimate capacity of the proposed pressure sewer system. The Developer shall provide the Authority with submittals (manufacturer product data sheets) detailing the exact products to be used in the project. Submittals shall be submitted in accordance with the Summit Township Sewer Authority Standards of Construction and are subject to final review and approval of the Authority.

**Section 1304.** Design Criteria for Pressure Sewer Collection System:

- A. The pressure sewer system shall be constructed in accordance with the Summit Township Sewer Authority's standards of construction.
- B. No pressure sewer less than 1 ¼ inches (inside diameter) shall be permitted. The required size shall be determined based on a minimum scouring velocity of two feet per second at all points in the system while also minimizing frictional losses. Friction losses within the pipe shall be limited such that all grinder pumps in the system operate within the manufacturer's recommended performance range for flow and Total Dynamic Head.
- C. The determination of flow in the pressure sewer system shall be made on the basis of the maximum probable number of pump units that would be expected to run simultaneously or some other accepted method of computing the peak sewage flow rate in the system acceptable to the Authority.
- D. The pressure sewer system shall be laid out in a branched or tree configuration to avoid flow-spitting at branches which cannot be accurately predicted.
- E. The minimum depth of cover shall be four (4) feet from the top of the pipe to finished grade.
- F. HDPE pipe shall be joined to other HDPE pipe or HDPE fittings by butt fusion or electrofusion. Extrusion welding, threading, or solvent welding shall not be permitted.
- G. Clean-out connections shall be provided at distances not to exceed the capacity of available cleaning equipment of 350 feet from the cleanout. Cleanouts shall be

installed at the upstream end of every major branch. Valves for bypass pumping of the wastewater between cleanouts shall be provided.

- H. Pressure and/or vacuum release valves shall be installed at appropriate locations. Pressure sewers shall be installed on a gradually ascending/descending slope to minimize the number of pressure/vacuum release valves and air binding in the pipeline.
- I. A corporation stop shall be installed at the pressure sewer main for each lateral at its connection into the main.
- J. A curb stop and curb box shall be installed as close as possible to the right-of-way line at a location acceptable to the Authority.
- K. The pressure sewer main and laterals shall be installed following all PA Department of Environmental Protection requirements for protection of water supplies and water mains.
- L. For design purposes, pressure sewer system operating pressures in general shall not exceed 60 psi.
- M. Pipe shall be installed in accordance with pipe manufacturer's recommendations, ASTM D2774 "Standard Practice for Underground Installation of Thermoplastic Pressure Piping", and/or ASTM F1962, "Standard Guide for Use of Maxi-Horizontal Directional Drilling for Placement of Polyethylene Pipe or Conduit Under Obstacles, Including River Crossings".
- N. Connection of pressure sewers into the Authority's gravity mains shall be located within a manhole and shall be watertight. Connection into manholes shall be extended to the bottom of the manhole and directed towards the outlet pipe in a manner to provide a smooth flow transition and keep sewage confined to the invert channel of the manhole.
- O. Prior to being put into service, pressure sewer system mains and laterals shall be pressure tested using potable water or clean water free of sand, silt, debris, or other materials deleterious to the sewer collection, conveyance, and/or treatment systems. Pressure testing procedures shall follow the pipe manufacturer's recommendations.
- P. The developer is responsible for any and all restoration associated with the pressure sewer construction.

**Section 1305.** Design Criteria for Individual Grinder Pump Units:

- A. Individual grinder pump units shall be constructed in accordance with the Summit Township Sewer Authority's standards of construction.

- B. The gravity sewer lateral between the building being served and the grinder pump unit shall be constructed in accordance with the applicable standards of these Rules and Regulations for laterals connecting to gravity mains.
- C. Individual grinder pump units shall consist of a watertight wet well, sewage grinder pump, level controls, alarms, control panel, discharge piping, check valve, shutoff valve, and appurtenances.
- D. The wet well shall be installed outside of the building being served in an accessible location acceptable to the Authority. Wet wells shall be protected from unauthorized access, vandalism, and flooding. Wet well volume, depth, and structure shall be determined by the property owner based on individual site requirements. The minimum wet well net storage volume for any installation shall be 100 gallons and shall be able to accommodate normal peak flows and emergency storage during a short power failure.
- E. Control panels shall be installed within sight of the grinder pump unit in a weatherproof NEMA 4X enclosure in accordance with all applicable building and electrical codes. Appropriate high water and overflow detection devices such as visual and/or audio alarms shall be provided. Alarms shall be detectable from the living or working area of the building served. The pump control panel shall contain a separate electrical circuit and breaker for the alarms.
- F. Redundant check and shut-off valves shall be provided on the lateral pipe to isolate the pump unit from the pressure sewer system.
- G. Provisions shall be made to ensure that the grinder pump operates under power load fluctuations and contains integral protection against back siphonage and over pressure.
- H. The grinder pump shall be capable of being removed without dewatering or entering the wet well.
- I. Grinder pump units shall be serviceable and replaceable under wet conditions without electric hazard to the repair personnel.

**Section 1306.** Ownership, Operation, and Maintenance

- A. Each individual lot shall be served by its own individual privately owned and operated grinder pump unit.
- B. The gravity sewer lateral between the building and the grinder pump unit, the individual grinder pump unit and all appurtenances, the discharge piping from the grinder pump unit, redundant check valve, and service line up to (but not including) the curb stop shut off valve shall be owned, operated, and maintained by the property owner.

- C. Prior to release from the Developer's Bond, the pressure sewer system mains, and service connections including the corporation stop and service line from the main up to and including the curb stop shut off valve and valve box shall be owned, operated, and maintained by the Developer. Upon final inspection, and release from the Developer's Bond, ownership of these items shall transfer to the Authority.
- D. Prior to being buried or covered, all portions of the system, whether to be owned and maintained by the Authority or privately owned and maintained, shall be inspected by a representative of the Authority. The Authority shall be provided a minimum of 48 hours notice prior to the need for an inspection.
- E. Property owners shall be responsible for all operation and maintenance costs associated with the grinder pump units including electric costs, periodic maintenance, repairs, removal, replacements, etc.
- F. Prior to release of the Developer's Bond and final acceptance by the Authority, Developer shall be responsible and liable for any and all fines or penalties levied by regulatory agencies for the release of untreated sewage to the environment. After the release of the Developer's Bond and final acceptance by the Authority, the Authority shall be responsible and liable for any and all fines or penalties for the release of untreated sewage from the pressure sewer main and service connections including the corporation stop, service line from the main up to and including the curb stop shut off valve and valve box. The property owner shall be responsible and liable for any and all fines or penalties for the release of untreated sewage from gravity sewer lateral between the building and the grinder pump unit, the individual grinder pump unit and all appurtenances, the discharge piping from the grinder pump unit, redundant check valve, and service line up to (but not including) the curb stop shut off valve.