

	<b>WATER RESOURCES DIVISION POLICY AND PROCEDURE</b>		DEPARTMENT OF ENVIRONMENTAL QUALITY
Original Effective Date: February 28, 2014  Revised Date: (5-year Review Frequency)  Reformatted Date:	Subject: Part 41 – Construction of Low Pressure Sewer Within 50 Feet of Private Wells		Category:  <input type="checkbox"/> Internal/Administrative <input checked="" type="checkbox"/> External/Non-Interpretive <input type="checkbox"/> External/Interpretive
Programs: Groundwater Discharge Permits Program Surface Water Quality Program	Number: WRD-030	Page: 1 of 5	

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### **INTRODUCTION, PURPOSE, OR ISSUE:**

A need exists in certain cases to allow the construction of low pressure sewers that pass within 50 feet of existing private water wells. Part 41, Sewerage Systems, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), requires the WRD to issue sewerage system construction permits provided the systems protect public health and prevent unlawful pollution. Part 41 does not prescribe isolation distances for placement of sewerage systems from existing private water wells. [Part 127 of PA 368 of 1978](#) [Part 127, Water Supply and Sewer Systems, of the Public Health Code, 1978 PA 368, as amended (Act 368)] allows private water well isolation of 10 feet from gravity-flow sewer lines and 50 feet from pressurized sewer lines where the sewers are constructed of approved materials. Part 127 also defines the conditions where deviations from minimum isolation standards may be issued by the WRD or a local health department (LHD). This policy is to establish a process that provides a high degree of protection to existing private water wells while allowing construction of low pressure sewers within 50 feet of existing private water wells, where necessary.

### **AUTHORITY:**

Review and Construction Permitting of Wastewater Facilities (Part 41 of Act 451)

Groundwater Quality Control (Part 127 of Act 368)

Michigan Safe Drinking Water Act, 1976 PA 399, as amended

### **DEFINITIONS:**

**Approve:** Issuance of a Part 41 Construction Permit that includes construction of a low pressure sewer within 50 feet of existing private water wells.

**Plans and specifications:** Design documents for a project that include construction details for a low pressure sewer, the associated service connection appurtenances, and the locations of water wells serving the structures proposed to be connected to the low pressure sewer.

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**Low pressure sewer:** A system of sanitary wastewater conveying pipes that transmit wastewater to a treatment or disposal area or facility, operating within a pressure range of approximately 20 to 80 pounds per square inch.

**POLICY:**

Staff may approve projects if all of the following are met:

1. Upon receipt of project plans and specifications, the WRD will inform the LHD environmental health director of the project and offer the LHD an opportunity to provide comments, including public health concerns with the proposed design, for the WRD to consider prior to making a permitting decision.
2. Sufficient information is provided in the project plans and specifications that demonstrate there is no other feasible acceptable low pressure sewer routing that can meet the 50 feet separation distance and still provide the necessary sanitary service.
3. All private drinking water wells serving the structures that the sewer project is proposed to serve, including those that are less than 50 feet from proposed sanitary sewers, are located on the plans in accordance with item 13 of the Part 41 permit application.
4. The "Alternative Sewers" checklist has been completed.
5. Technical items a. through f. below are met:
  - a) All sewer piping and fittings shall meet water main standards for materials and construction as detailed in [Part 127, R 325.1613 Rule 113 \(2\) \(b\) \(iii\) \(B\)](#), "ASTM specification D1785-91 or D2241-89" or (C) "has a wall thickness that is equivalent to, or thicker than, schedule 40 or SDR 21" or they may be HDPE SDR11 pipe, or acceptable equivalent, conforming to the appropriate ASTM standard. If HDPE SDR 11, or an acceptable equivalent will be used, all joints outside structures shall be watertight and connected in accordance with the manufacturer's requirements, and all taps shall be completed using branch saddles fused to the mainline pipe, or acceptable equivalent. Alternative designs such as watertight carrier pipe may also be considered. Sewer shall be clearly marked as sanitary, per applicable standards.
  - b) All devices (intermediate flushing connections, terminal flushing connections, branch flushing connections, air/vacuum release valves, etc.) except for valves on leads, shall be placed in watertight vaults or structures, and shall be located no less than 50 feet from any existing private water well.
  - c) Where the horizontal distance between any portion of the public sewer or individual service leads (see 5d below) and any existing private water well is less than 50 feet, the separation distance shall be maximized; but in no case shall the distance be less than

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- 10 feet. This is referred to as “suitable isolation distance” in the remainder of this procedure.
- d) While Part 41 covers the public portion of the low pressure sewer, often, the property owners own the grinder or effluent pumps and the service leads that connect to the public pressure sewer. Property owners, with the assistance of the administrator of the public sewer system, or the LHD, shall be responsible for ensuring that suitable isolation distance (as defined in paragraph c above) is provided between existing private water wells and the new grinder or effluent pump stations and service leads. The public sewer authority shall provide educational materials to property owners explaining the isolation requirements. The public sewer authority shall request voluntary assistance of the LHD to assist with this educational effort.
  - e) The sewer must pass a pressure test, equivalent to that required for water main, as described in Part 127, R 325.1613 [Rule 113(2)(B)(iii)(A)] “the sewer pipe and joints must be pressure tested, after installation, to not less than 100 pounds per square inch and determined to be watertight” or shall be tested using AWWA water main pressure testing procedures and standards.
  - f) For nonmetallic low pressure pipe (e.g., HDPE or PVC), a continuous tracer wire shall be provided and attached directly to all piping owned, operated, or maintained by the public system.
6. The following permit conditions shall be included in the Part 41 Permit:
- a) For all low pressure sewers that at any point pass within 50 feet of a private water well, the owner/operator of the system shall inspect the ground surface above the sewer main as necessary for any indication of damage to the piping. If there is any indication of potential pipe damage, the tracer wire shall be immediately checked for electrical continuity. Lack of continuity or any other obvious signs of pipe failure shall be addressed and the tracer wire and piping repaired immediately.
  - b) Property owners, with the assistance of the administrator of the public sewer system, or the LHD, shall be responsible for ensuring that suitable isolation distance is provided between existing private water wells and the new grinder or effluent pump stations and service leads. The public sewer authority shall provide educational materials to property owners explaining the isolation requirements. The public sewer authority shall request voluntary assistance of the LHD to assist with this educational effort.
  - c) The public sewer authority shall verify that upon connection of the sewer lead from a structure to the sewer main, that the property owner submits verification and the septic tank that formerly served the structure has been properly abandoned.

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**PROCEDURES:**

Who	Does What
District Engineer	Upon receipt of a project that includes a low pressure sewer within 50 feet of a private water well, notifies the LHD so the LHD may provide comments, including public health concerns with the proposed design, for the WRD to consider prior to making a permitting decision (item 1 above). The permit applicant, in conjunction with the engineering or consulting firm who prepares the project plans, shall be responsible for certifying that all drinking water well locations and their associated isolation measurements to sewer lines or other appurtenances are shown on the project plans (item 3 above).
	Determines that there is no other technically acceptable low pressure sewer routing that can meet the 50 feet separation distance and still provide the necessary sanitary service (item 2 above).
	Completes "Alternative Sewers" checklist (item 4 above).
	Confirms plans and specifications for piping and fittings meet water main standards for materials and construction (item 5a above).
	Confirms all devices except for service valves on leads are placed in watertight structures or vaults and that these are no less than 50 feet from any existing private water well (item 5b above).
	Confirms that where the separation between the low pressure sewer and any existing private water well is less than 50 feet, the horizontal distance between these is maximized and in no case shall the separation be less than 10 feet (item 5c above).
	Confirms the plans and specifications require the low pressure sewer to pass a pressure test as required for water main in Part 127 standards (item 5e above).
	Confirms that for nonmetallic low pressure pipe, the plans or specifications require attachment of a continuous tracer wire for the public-owned portion of the low pressure sewer (item 5f above).
	Completes normal review of the remaining portions of the project in consideration of review standards and checklists.
	Causes the permit conditions requiring sewer monitoring and immediate repair of tracer wire and sewer; suitable isolation of leads and grinder effluent pump stations by property and sewer system owners, along with providing pertinent educational materials to property owners; and proper abandonment of any septic tanks, to be included in the project Part 41 Permit (items 5d, 6a, 6b, and 6c above).
District Supervisor, Licensed District Engineer, and/or other staff as appropriate	Once all comments, conditions, and requirements are met, approve project. A copy of the issued permit shall be sent to the LHD environmental health director.

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**DIVISION CHIEF APPROVAL:**



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William Creal, Chief  
Water Resources Division

Last Reviewed By: \_\_\_\_\_  
Name