

- Pressure distribution system
- Recirculating gravel filter
- Intermittent sand filter
- Sand mound
- Subsurface flow constructed wetland

4.1.1 Engineering Requirements

Engineered designs and design or responsible charge engineers shall meet the following minimum requirements described in this section.

4.1.1.1 Responsible Charge of Engineered Systems and Plans

All new and repair or replacement systems that require engineered design shall have a new set of plans that have been stamped (sealed) by the design engineer unless the original design plan is accounted for and included in the design of the replacement system. If the original design plan is included in the design of the replacement system and that system design is in conformance with IDAPA 58.01.03 and the current applicable TGM alternative system design requirements, the existing plans may be used as long as those plans are stamped (sealed) by a responsible charge engineer (does not need to be the original design engineer) as required by Idaho Code §54-1223(5). A responsible charge engineer stamping (sealing) an existing set of plans for a replacement system should review the original work to ensure the following:

- Correct field parameters were evaluated.
- Existing design meets the requirements of IDAPA 58.01.03 and the current applicable TGM alternative system design requirements.
- System as designed can be installed in the designated area without any design plan modification.

4.1.1.2 Operation and Maintenance of Engineered Systems

All subsurface sewage disposal systems require some level of system operation and maintenance. Engineered systems typically require system operation and maintenance that is far more extensive than operation and maintenance required for standard systems. Per IDAPA 58.01.03.005.04.k, the design engineer shall provide an O&M manual as part of the subsurface sewage disposal permit application upon submission of the engineered design plans prior to permit issuance. The O&M manual should include information on the following areas at a minimum:

- Manufacturer recommended operation and maintenance for any commercially manufactured component used in a system's design.
- Operation and maintenance of the system necessary based on the system design.
- Operation and maintenance of the system as specified within the alternative system's design guidance in the TGM.
- A description of any monitoring procedures related to system function, failure detection, or system sampling.
- Corrective actions for system component malfunctions, alarms, or failure.
- Any other operation and maintenance as recommended by the system's design engineer.