

4.16 Individual Lagoon

Revision: September 18, 2014

Installer registration permit: Complex

Licensed professional engineer required: Yes

4.16.1 Description

An individual lagoon is a pond sealed with a natural or synthetic liner into which sewage from a household or small business is discharged. Bacteria digest the solids in the presence of oxygen, and the liquid is evaporated into the atmosphere.

4.16.2 Approval Conditions

1. Lagoons are applicable only in areas of Idaho where the annual evaporation exceeds the annual precipitation.
2. The lagoon may not be placed within 200 feet of the owner's property line as measured from the toe of the exterior slope.
3. The bottom of the finished lagoon must not be constructed within the following:
 - a. 6 inches of the maximum seasonal high ground water
 - b. 2 feet of the normal high ground water level
 - c. 2 feet of bedrock
4. Site must be located in an area of maximum exposure to the sun and wind.
5. Lagoons shall not be installed in a floodway.
6. Slope must not be greater than 12%.
7. Lagoons are restricted from use in areas where such systems may have an ice cover for more than 3 months.
8. A source of makeup water with a backflow prevention system between the source and lagoon must be readily available.
9. Lot size should be at least 10 acres but in no case should be less than 5 acres. If the lot is less than 10 acres, a variance must be required.
10. This design is for individual residential dwellings or small commercial businesses that only discharge domestic wastewater. Facilities discharging nondomestic wastewater do not qualify for an individual lagoon under this guidance. Owners of facilities proposing to discharge nondomestic wastewater to a lagoon need to contact DEQ and follow the "Wastewater Rules" (IDAPA 58.01.16).
11. System designs that meet the definition of a central system (IDAPA 58.01.03.003.08) do not qualify for an individual lagoon under this guidance. Owners of central systems that are proposing to discharge into a lagoon need to contact DEQ and follow the "Wastewater Rules" (IDAPA 58.01.16).
12. The system shall be designed by a PE licensed in Idaho.

4.16.3 Design Requirements

1. Area of the lagoon at the 2-foot minimum depth is first determined by the net evaporation of the area. Equation 4-13 gives the calculation for horizontal area.