

### **4.1.3 Combination of Multiple Alternative Systems in One System Design**

An alternative system is any system that DEQ has issued design guidelines for (IDAPA 58.01.03.003.02), which are contained within Section 4 of this manual. Alternatively, a standard system is any system that DEQ's Board of Environmental Quality has recognized through the adoption of design and construction regulations in IDAPA 58.01.03. Standard systems include a septic tank and aggregate filled drainfield or absorption bed. ~~All~~Any modifications of a standard system ~~other system~~ designs as described in IDAPA 58.01.03.008 ~~are~~is considered an alternative systems. Alternative systems may either be classified as a basic alternative system or a complex alternative system. All complex alternative systems are listed in Section 1.5. Any system not considered a standard system or listed as a complex alternative system in Section 1.5 is considered a basic alternative system.

Alternative systems are allowed to be used to address difficult sites that are not capable of supporting a standard system. Alternative systems have helped to provide property owners more options to meet their subsurface sewage disposal needs. Even though alternative systems have helped to create subsurface sewage disposal solutions for difficult sites they do not always provide a solution for all sites. Some sites are not suitable for subsurface sewage disposal due to limiting site conditions (e.g., shallow soils, high ground water, surface water, steep slopes) or size. To help reduce the number of sites that are not considered suitable for subsurface sewage disposal the Technical Guidance Committee and DEQ encourage the use of multiple alternative system designs in a single system's design. The following restrictions are in place for the combination of multiple alternative systems ~~into one system~~ designs:

1. The bottom of a drainfield may not be installed deeper than 48 inches below native grade.
2. Systems requiring the use of pressurization for any component may not substitute gravity flow for the pressurization of that component.
3. The most restrictive site slope requirements for any one alternative used in a system's design shall be adhered to.
4. The design guidance for all alternative systems used in a system's design shall be followed.
5. Only one allowance for the reduction of trench length, total disposal area, or an alternative hydraulic application rate shall be used in a system's design regardless of the number of alternative designs combined ~~into one system~~ that provide these types of reduction allowances.
6. Only one allowance for the reduction of separation distance to limiting layers or features of interest shall be used in a system's design regardless of the number of alternative designs combined ~~into one system~~ that provide these types of reduction allowances.

~~Systems that are considered united alternative systems may always be permitted in conjunction with a standard or basic/complex alternative system. A united alternative system is an alternative that must be permitted in conjunction with some other form of standard or basic/complex alternative system. The only united alternative system is the grey water sump.~~

Systems that are considered a stand-alone alternative system may be permitted independently of any other system. Some stand-alone alternative systems may also be permitted in conjunction with another standard or basic/complex alternative system. Stand-alone systems that may be permitted in conjunction with another alternative system are identified with an astrix (\*). Stand-alone alternative systems include:

- Composting Toilet\*
- Evapotranspiration and Evapotranspiration/Infiltrative System
- Grey Water System\*
- Emergency Holding Tank
- Incinerator Toilet\*
- Individual Lagoon
- Pit Privy\*
- Recreational Vehicle Dump Station\*
- Two Cell Infiltrative System
- Vault Privy\*

Table 4-1 provides a matrix of compatible alternative systems that may be used in combination for a single system's design but does not include united or stand-alone alternative systems. Any number of alternative system designs may be used in a single system's design as long as all of the alternatives are compatible with one another.

<u>Alternative System</u>	<u>4.5</u>	<u>4.7</u>	<u>4.9</u>	<u>4.10</u>	<u>4.11</u>	<u>4.12</u>	<u>4.20</u>	<u>4.22</u>	<u>4.23</u>	<u>4.24</u>	<u>4.25</u>	<u>4.26</u>	<u>4.27</u>	<u>4.30</u>
<u>Capping Fill System (4.5)</u>	<u>S</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>A</u>
<u>Drip Distribution System (4.7)</u>	<u>A</u>	<u>S</u>	<u>A</u>	<u>A</u>	<u>A*</u>	<u>N</u>	<u>A</u>	<u>A**</u>	<u>A**</u>	<u>A*</u>	<u>A*</u>	<u>N</u>	<u>A*</u>	<u>A</u>
<u>Experimental System (4.9)</u>	<u>A</u>	<u>A</u>	<u>S</u>	<u>A</u>	<u>N</u>	<u>A</u>	<u>A</u>							
<u>Extended Treatment Package System (4.10)</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>S</u>	<u>A</u>									
<u>Extra Drainrock Trench (4.11)</u>	<u>A</u>	<u>A*</u>	<u>A</u>	<u>A</u>	<u>S</u>	<u>N</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>N</u>	<u>N</u>	<u>A</u>	<u>A</u>
<u>Gravelless Trench System (4.12)</u>	<u>A</u>	<u>N</u>	<u>A</u>	<u>A</u>	<u>N</u>	<u>S</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>N</u>	<u>A</u>	<u>A</u>
<u>Pressure Distribution System (4.20)</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>S</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>N</u>	<u>A</u>	<u>A</u>
<u>Recirculating Gravel Filter (4.22)</u>	<u>A</u>	<u>A**</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>S</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>
<u>Intermittent Sand Filter (4.23)</u>	<u>A</u>	<u>A**</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>S</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>
<u>In-Trench Sand Filter (4.24)</u>	<u>A</u>	<u>A*</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>S</u>	<u>N</u>	<u>N</u>	<u>A</u>	<u>A</u>
<u>Sand Mound (4.25)</u>	<u>N</u>	<u>A*</u>	<u>A</u>	<u>A</u>	<u>N</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>N</u>	<u>S</u>	<u>N</u>	<u>N</u>	<u>A</u>
<u>Seepage Pit/Bed (4.26)</u>	<u>N</u>	<u>N</u>	<u>A</u>	<u>A</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>A</u>	<u>A</u>	<u>N</u>	<u>N</u>	<u>S</u>	<u>N</u>	<u>A</u>
<u>Steep Slope System (4.27)</u>	<u>N</u>	<u>A*</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>N</u>	<u>N</u>	<u>S</u>	<u>A</u>
<u>Drainfield Remediation Component(4.30)</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>A</u>	<u>S</u>

~~XA- Allowed to be used in conjunction with this~~ Compatible alternative system types; N- Not compatible alternative system types S- Same alternative system type; (\*)- May be used as the distribution method within drainfield aggregate; (\*\*)- May be used as distribution method within the filter as well as the drainfield.

**Table 4-1. Matrix of compatible alternative systems that may be used in combination for a single system's design.**