State of Idaho
Department Of Environmental Quality
Technical Guidance Committee

Technical Guidance Committee Meeting

Agenda*

Thursday, April 18, 2013

9:15 a.m. – 4:30 p.m.

Department of Environmental Quality
Conference Room C
1410 N. Hilton
Boise, Idaho

9:15 AM Call to Order/Roll Call
- Sign in sheet for attendees who wish to comment or present to the committee members
- Introduction of committee members, guests and attendees

9:20 AM January 30, 2013 Draft TGC Meeting Minutes: Review, Amend or Approve (**Appendix A**)

9:30 PM Open to Public Comment – ½ hour reserved for public to provide comments to the TGC on subjects not on the agenda
- Presentation of public comments received by DEQ

10:00 AM ETPS Subcommittee Update

10:30 AM Old Business/Final Review
- 5.9 Pipe Materials for Specified Uses (**Appendix B**)
- 4.21 Recreational Vehicle Dump Station (**Appendix C**)
- 4.15 Holding Tank (**Appendix D**)
- 4.26 Seepage Pit (**Appendix E**)
- 4.20.3.6 Pump to Drop Box (**Appendix F**)
- 3.2.5-6 Equal Distribution and Serial Distribution (**Appendix G**)

10:50 AM Break – Ten Minutes

11:00 AM Old Business/ Final Review (continued)
- Finish final review of agenda items from 10:30

12:00 to 1:00 P.M. Lunch

1:00 PM New Business/ Draft Review
- Chapter 7 O&M Content (**Appendix H**)
    - Content for specific systems is moved to Chapter 4 under the specific system being addressed

    - Each affected section of Chapter 4 will be amended with the proposed subsection for operation and maintenance
- 4.6 Composting Toilet (**Appendix I**)
- Chapter 3 Content (**Appendix J**)
    - Edits to sections 3.1, 3.2.1, 3.2.2, and 3.2.4
- Chapter 2 Content (**Appendix K**)
    - Edits to sections 2.6.3 and 2.7.2
- Chapter 1 Content (**Appendix L**)
    - Edits to section 1.1, 1.2, and 1.3
    - Creation of section 1.4
- 4.1 General Requirements (**Appendix M**)
- 4.3 Vested Rights and Nonconforming Uses (**Appendix N**)

2:50 PM Break – Ten Minutes

3:00 PM New Business/ Draft Review
- Finish preliminary review of agenda items from 1:00

4:25 PM Schedule Next Meeting

4:30 PM Adjourn

TGC Parking Lot. This is a list of issues requested to be prepared by the TGC.

- Sand Mound slope correction factors
- 4.20 Pressure Distribution System
    - Low Pressure Wastewater Handling System Guidance update

*Begin and end time will be observed. Agenda items and their allotted times my vary dependent upon the amount of interest and participation for each item.

The call in number is 373-0101 Bridge # 1

To Join a Conference Call

1) Auto-Attendant Transfer Option

Conference Call Auto-Attendant Number:
- Extension 0101: Inside DEQ phone system
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Participants call auto-attendant number and are then prompted to enter their pre-arranged conference call bridge number and in this case press the number **1**. Once the bridge number has been entered, callers are automatically connected to their conference call.

Notification

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To Join GoToMeeting

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1) **Visit the Website Below**
   https://www3.gotomeeting.com/join/593618982

   Meeting ID: 593-618-982

State of Idaho
Department Of Environmental Quality
Technical Guidance Committee

Appendix A

Technical Guidance Committee Meeting

Draft Minutes

Wednesday, January 30, 2013

Department of Environmental Quality
Conference Room C
1410 N. Hilton
Boise, Idaho

TGC ATTENDEES:

Tyler Fortunati, R.E.H.S., On-Site Wastewater Coordinator, DEQ
Joe Canning, P.E., B&A Engineers
Bob Erickson, Senior Environmental Health Specialist, South Central Public Health District (via telephone and GoToMeeting)
David Loper, Environmental Health Director, Southwest District Health Department
George Miles, P.E., Advanced Wastewater Engineering, *Inc.* (via telephone and GoToMeeting)
Michael Reno, Environmental Health Supervisor, Central District Health Department

GUESTS:

Chas Ariss, P.E., Wastewater Engineering Manager, DEQ
Jay Holman, Infiltrator, Inc.
Matt Gibbs, Infiltrator, Inc.
Janette Young, Administrative Assistant, DEQ

CALL TO ORDER/ROLL CALL:

Meeting called to order at 9:15 a.m.
Committee members and guests introduced themselves.

MEETING MINUTES:

October 23, 2012 Draft TGC Meeting Minutes: Review, Amend, or Approve

The minutes were reviewed and no amendments were proposed.

Motion: Mike Reno moved to accept minutes as presented.

Second: Joe Canning.

Voice Vote: Motion carried unanimously.

Minutes will post as final. See DEQ website and **Appendix A**.

OPEN PUBLIC COMMENT PERIOD: This section of the meeting is open to the public to present information to the TGC that is not on the agenda. The TGC is not taking action on the information presented.

No public comments were submitted during the allotted agenda timeframe.

ETPS SUBCOMMITTEE UPDATE:

Tyler Fortunati presented an update to TGC on what the ETPS Subcommittee has discussed and produced to date and requested input from the TGC on further direction they would like to see in regards to the subcommittee. Tyler Fortunati stated that DEQ plans to present all the changes proposed by the ETPS subcommittee at one time for the TGC to review. Tyler Fortunati reminded the TGC members that the minutes are available on the website for their review. See **Appendix B** for a copy of the PowerPoint presented to the TGC.

George Miles mentioned that the EPA had put out a program for health districts to track data on ETPS units and offered to send the information to the committee.

Tyler Fortunati informed the committee that he plans to meet with Land Title Association on February 8th to discuss best ways to keep new homeowners informed of the member agreement that is recorded to their property at the time of sale or transfer. This information will be brought back to the ETPS subcommittee.

Discussion was held on possible methods to motivate voluntary compliance of homeowners to pay their fees to the O&M and ensure testing and service is performed. The committee feels that non-payment is considered a refusal of service and the health districts can send out a series of letters that the ETPS subcommittee will prepare.

David Loper stated that it appears how the O&M Entities structure their business is important to their success. David Loper wonders if there is a way that DEQ or the TGC could provide input on this, and how it could be done.

Tyler Fortunati discussed information from an EPA document entitled Voluntary National Guidelines for Management of Onsite and Clustered (Decentralized) Wastewater Treatment Systems. The information presented included regarded a government board that oversees the annual fees set by the Nonprofit O&M Entities. Tyler Fortunati stated that this is likely the only way to influence the structure of a O&M Entity in relation to costs and funds produced for the Entity. Tyler also stated that this is not an approach that DEQ would like to implement at this time and it was believed that the O&M Entities should self-regulate their fee structures through their membership and voting rights that are described in every Entity's Articles of Incorporation and Bylaws.

Joe Canning felt that the O&M Entities need to get their membership involved through the inclusion of information in the meeting notices that would catch their attention, such as fee structure discussions.
Discussion was held about what the proper fee structure for an O&M Entity included. The committee feels that the O&M Entities should be structuring their fees so that there is a reserve account to perform service and maintenance on property owners that refuse to pay their annual dues. After this is performed the Entity should attempt to recoup this money from the delinquent member.

George Miles stated that if the O&M Entities increase their fees the membership gets very upset. On the other hand, those members that don't pay still do not care because they will not pay the increased fees either.

Mike Reno stated that a homeowner refusing to pay their annual dues can be considered to be refusing service. This is something that the regulatory authorities should be able to step in on in relation to the refusal of service. This is similar to turning off treatment equipment and refusing the O&M Entity access to the property. Tyler Fortunati stated that the ETPS subcommittee can develop letters that come from the health districts to the out of compliance members in relation to all of these issues. This would need to be structured with a likely exemption of these members in relation to suspension of the O&M Entity and would also need to include documentation from the O&M Entity to the health district of the attempted contact and correspondence with the Entity member.

Joe Canning stated that section 4.2 of the TGM should include an outline for homeowners to get out of the Entity. This would include switching treatment technologies and O&M Entities, installing an engineered design that met their treatment needs, etc. Joe Canning also requested that this section of the TGM include requirements for the submission of a sampling plan from the O&M Entity prior to the Entity's approval by DEQ.

INTRODUCTION OF NEW TECHNICAL GUIDANCE MANUAL FORMAT:

Tyler Fortunati presented the new TGM format to the TGC. Changes were made to the TGM so that the document meets DEQ's style guide for guidance. There were several formatting issues with the old version and the new version will remove those issues. There have been no additional requirements or specifications added or modifications of meaning. The only changes that occurred is to the heading format with the inclusion of subsections, cleaning up of the language format in some areas, figure and table numbering corrections, and figure refinement in relation to graphics and removal of abbreviations. The content and meaning of the manual were not changed. Review of the new figures and equations to aid in clarification. The TGC stated that they did not feel they need to review this new format prior to it going public and being posted on the DEQ website based on the information presented to them.

Tyler Fortunati stated that several of the new business agenda items will appear in the format of the new TGM version as DEQ would like to post the new TGM version with the sections granted final approval by the TGC at this meeting.

Bob Erickson requested that DEQ print and mail the TGC members new manuals upon the documents posting to the internet. Tyler Fortunati stated that DEQ could do this, but they will not be providing new copies to every inspector working within the health districts in the subsurface program. It is the responsibility of the districts to provide their inspectors with the most current version of the TGM.

10:50 AM Break

11:00 AM Meeting Resumed

OLD BUSINESS/ FINAL REVIEW:

2.1 Medium Sand Definition

- Table 2-6

This TGM section was posted for public comment. There were no public comments received on this section.

Motion: Joe Canning moved that the TGC recommend final approval to DEQ of Section 2.1.4 as presented.

Second: Bob Erikson

Voice Vote: Motion carried unanimously.

Section will post to TGM as final. See DEQ website and **Appendix C**.

4.12 Gravelless Trench System

This TGM section was posted for public comment. There were no public comments received on this section. The TGC made a few minor adjustments to this section.

Motion: David Loper moved that the TGC recommend final approval to DEQ of Section 4.12 as rewritten.

Second: Mike Reno.

Voice Vote: Motion carried unanimously.

Section will post to TGM as final. See DEQ website and **Appendix D**.

4.20 Pressure Distribution
In-Tank Pumps

This TGM section was posted for public comment. There were no public comments received on this section.

Motion: Joe Canning moved that the TGC recommend final approval to DEQ of Section 4.20 as presented.

Second: Mike Reno

Voice Vote: Motion carried unanimously.

Section will post to TGM as final. See DEQ website and **Appendix E**.

NEW BUSINESS/ DRAFT REVIEW

4.20 Pressure Distribution System
Pump to Drop-Box

The committee reviewed the proposed changes to section 4.20 Pressure Distribution System- Pump to Drop-Box. This is a newly proposed subsection to section 4.20 Pressure Distribution System which describes the use of pressurized effluent transport to a drop box where the effluent breaks pressurization and distributes to and through the drainfield by gravity flow.

George Miles stated that item number 8 of this proposed section is an engineering function. George Miles stated that pump design is engineering and thus an engineer was needed to design this portion of the system. Without and engineer George Miles stated that the installer and homeowner were relying on computer programs that are not reliable. Discussion followed on how pumps need to be sized and selected for the best performance. The committee discussed the hundreds of pump to gravity systems that are in which were not designed by an engineer. Mike Reno voiced concern over requiring a homeowner to get an engineer to design a pump to potentially lift effluent over very short runs and with little vertical lift. The committee decided that engineering should be recommended under certain conditions which were added to the section. The committee also added the statement that the pump selection is recommended to be performed by an engineer licensed in the State of Idaho.

The committee did not like the proposal of the use of a check valve in the system design. This portion of the proposed section was removed.

Motion: George Miles moved that the TGC recommend preliminary approval of Section 4.20 Pressure Distribution System- Pump to Drop-Box pending public comment and that DEQ issue the revised Section 4.20 Pressure Distribution System- Pump to Drop-Box for public comment.

Second: David Loper.

Voice Vote: Motion carried unanimously. See **Appendix F** and provide public comment to Tyler Fortunati at 208-373-0140 or by email at tyler.fortunati@deq.idaho.gov.

The meeting was adjourned for Lunch.
Lunch 11:50 a.m. – 1:00 p.m.

4.26 Seepage Pit

The proposed amendments to this section of the TGM were tabled at the last meeting for further discussion and consideration. Amendments were made to the proposed changes based on the committee's comments and recommendations from the October 23, 2012 meeting. These amendments were brought back to the committee as new business in order to allow public comment on any new information added to this section of the TGM. Discussion was held regarding seepage pit sizing. The current sizing examples were modified to improve clarity and add sizing information for rectangular pits in addition to the traditional round pit. The committee also decided that in lieu of the effluent pipe being installed to the geographic center of the pit that the distribution laterals within the pit should meet the requirements for the standard absorption bed (IDAPA 58.01.03.008.10).

Motion: Bob Erickson moved that the TGC recommend preliminary approval of Section 4.26 Seepage Pit pending public comment and that DEQ issue the revised Section 4.26 Seepage Pit for public comment.

Second: George Miles.

Voice Vote: Motion carried unanimously. See **Appendix G** and provide public comment to Tyler Fortunati at 208-373-0140 or by email at tyler.fortunati@deq.idaho.gov.

4.15 Holding Tank and 4.21 RV Dump Station

These sections of the TGM were brought up as simultaneous sections due to the reference of the RV Dump Station as Holding Tank. The intent of the proposed changes is to separate the Holding Tank and RV Dump Station Guidance. Additional clarification of

Holding Tank acceptability was necessary due to the reoccurring issue being brought up to the health districts due to the reference of the RV Dump Station as a Holding Tank. Tyler Fortunati clarified that holding tanks are for emergency situations only and have a wastewater collection system (piping) that conveys wastewater to the holding tank. RV dump stations are only for waste that is not conveyed by a piping network or collection system. Wastewater is typically discharged to a RV dump station directly from the RV holding tanks. Structures with running water and permanent buildings require a complete subsurface sewage disposal system, and may only utilize holding tanks in an emergency situation. The proposed changes to these sections aim to convey this and provide better guidance to the health districts and general public on their acceptability.

4.15 Holding Tank

The committee reviewed the proposed changes to this section and had no further recommendations.

Motion: Joe Canning moved that the TGC recommend preliminary approval of Section 4.15 Emergency Holding Tank pending public comment and that DEQ issue the revised Section 4.15 Emergency Holding Tank for public comment.

Second: Mike Reno.

Voice Vote: Motion carried unanimously. See **Appendix H** and provide public comment to Tyler Fortunati at 208-373-0140 or by email at tyler.fortunati@deq.idaho.gov.

4.21 RV Dump Station

The committee reviewed the proposed changes to this section and had no further recommendations.

Motion: Mike Reno moved that the TGC recommend preliminary approval of Section 4.21 RV Dump Station pending public comment and that DEQ issue the revised Section 4.21 RV Dump Station for public comment.

Second: Joe Canning.

Voice Vote: Motion carried unanimously. See **Appendix I** and provide public comment to Tyler Fortunati at 208-373-0140 or by email at tyler.fortunati@deq.idaho.gov.

5.10 Pipe Materials for Specified Uses

It was noted that this is actually section 5.10 of the TGM, though in the new TGM version this will be section 5.9 due to the merging of section 5.1 and 5.2 in the new TGM format the section was adjusted accordingly. The committee made minor modifications to

the table notes to clarify what portion of the table applied to the State of Idaho Division of Building Safety, Plumbing Bureau.

Motion: David Loper moved that the TGC recommend preliminary approval of Section 5.10 Pipe Materials for Specified Uses pending public comment and that DEQ issue the revised Section 5.10 Pipe Materials for Specified Uses for public comment.

Second: Mike Reno.

Voice Vote: Motion carried unanimously. See **Appendix J** and provide public comment to Tyler Fortunati at 208-373-0140 or by email at tyler.fortunati@deq.idaho.gov.

3.2 Serial Distribution
Equal Distribution and Serial Distribution

The proposed additions of these sections were at the request of the committee. The material used to develop these sections was derived from the EPA Onsite Wastewater Treatment Systems Manual as requested by the committee. The committee made some recommendations to limit the use of serial distribution and asked that the figure under the piping header section be changed to two trenches instead of 3.

Motion: Mike Reno moved that the TGC recommend preliminary approval of Section ~~5.10 Pipe Materials for Specified Uses~~3.2 Serial Distribution pending public comment and that DEQ issue the revised Section ~~5.10 Pipe Materials for Specified Uses~~3.2 Serial Distribution for public comment.

Second: Joe Canning.

Voice Vote: Motion carried unanimously. See **Appendix K** and provide public comment to Tyler Fortunati at 208-373-0140 or by email at tyler.fortunati@deq.idaho.gov.

TGC Parking Lot.
This is a running list of issues requested to be prepared and presented by the TGC.

- O&M content in Chapter 7 and in Chapter 4
- Sand Mound slope correction factors
- 4.20 Pressure Distribution System
    - Low Pressure Wastewater Handling System Guidance update

NEXT MEETING:

The next committee meeting is scheduled to be on April 18, 2013, 9:15 a.m. – 4:30 p.m. at the DEQ State Office building.

Motion: George Miles moved to adjourn the meeting.

Second: Bob Erickson.

Voice Vote: Motion carried unanimously.

The meeting adjourned at 2:46 p.m.

Appendix B

5.9 Pipe Materials for Specified Uses

Revision: ~~October 23, 2012~~April 18, 2013

Table 5-9 shows pipe materials for specified uses.

Table 5-9. Pipe materials for specified uses.

Pipe Material and Specification[a,b]		Function				
		House to ~~Tank~~[b]	Tank to Dosing Chamber	Tanks to Drainfield[c,d]	Gravity Drainfield[c,d]	Pressure Distribution System
ABS Sch. 40[e]	ASTM D2661		X	X	X	X
	ASTM F628		X	X	X	X
PVC Sch. 40	ASTM F891-10		X	X	X	X
PVC	ASTM D3034[f]		X	X	X	
	ASTM D2729				X	
	ASTM D2241		X	X	X	X
	AWWA C900		X	X	X	X
	ASTM D2665		X	X	X	
	ASTM D1785		X	X	X	X
PE	AWWA C906		X	X	X	X
	ASTM F810[g]			X	X	
	ASTM F405[h]				X	

Notes: polyvinyl chloride (PVC); acrylonitrile-butadiene-styrene (ABS); polyethylene (PE); American Society for Testing and Materials (ASTM); American Water Works Association (AWWA)
a. Or equivalent materials as specified by ASTM or AWWA.
b. See State of Idaho Division of Building Safety, Plumbing Bureau for requirements regarding approved building sewer lines between the structure and septic tank.
c. Specified in section 3.2.2 of the *Technical Guidance Manual for Individual and Subsurface Sewage Disposal Systems* (TGM).
d. Must use ASTM D3034 or equivalent as specified in 3.2.3 of the TGM. ASTM D3033 piping was previously approved for use spanning the tank to dosing chamber, tank to drainfield, and in the drainfield.
e. ABS Schedule 40 or piping material of equal or greater strength. Required by IDAPA 58.01.03.007.21.a.
f. Excavation must be compacted with fill material to 90% standard proctor density, with a minimum of 12 inches of cover material. Required by IDAPA 58.01.03.007.02.b.
g. Smooth wall high-density polyethylene (HDPE), white suitable for effluent and drainfield piping.
h. Corrugated HDPE, black with stripe, flexible, suitable for drainfield piping.

Appendix C

Recreational Vehicle Dump Station

Revision: ~~October 13, 2004~~April 18, 2013

4.21.1 Description

Recreational vehicle (RV) dump stations are sealed septic tanks for the disposal of RV generated wastewater. RV dump tanks (station) pose a unique problem for subsurface sewage disposal systems because the recirculating fluid used in RV tanks contains formaldehyde and/or paraformaldehyde. The presence of these chemicals inhibits bacterial action inside of a septic tank, which leads to solids carry over and premature failure of the drainfield. Compounding the problem is that RV units recirculate the fluid several times before it is dumped. The fluid disposed in the dump station then is both strong and preserved. Because of these issues with RV generated wastewater RV dump stations should not be connected to subsurface sewage disposal systems.

~~4.21.2 Disposal Systems Options for Recreational Vehicle Dump Stations~~

~~1. Municipal treatment plant: This is the preferred option, if available. Research indicates that RV dump stations do not cause any problems for disposal in municipal treatment plants because of the dilution. Furthermore, formaldehyde is quite volatile and dissipates rapidly when exposed to an aerobic treatment process.~~

~~2. Community drainfield system: To date, there is no research available about the effects of RV dump station wastes on community drainfield systems. It is logical to assume that at some point the RV waste would be diluted sufficiently so that it should not pose a problem to a drainfield system, but what dilution would be acceptable is not now known. Until further research is completed, it is recommended that not more than 5% of the waste flow to a community septic system be generated by an RV dump station.~~

~~3. Holding tanks: If the tanks are pumped and disposed of at a municipal treatment plant, this should be an acceptable option. The holding tanks should have a high-alarm system. The alarm float should be set to allow for a 1-day flow after the high alarm is reached.~~

4.21.2 Conditions for Approval

1. A management entity or arrangement to provide maintenance and pumping of the tank by a permitted septic tank pumper should be provided prior to permit issuance.

~~1.~~2. An RV dump tank shall not have wastewater conveyed to it through a collection system.

~~2.~~3. RV wastewater shall be discharged into the dump station vault directly from the RV's wastewater storage tanks.

4. If the RV dump tank is a modified septic tank the inlet and outlet openings shall be sealed.
5. Sites may not be subject to flooding.
6. The RV dump tank lid shall be sloped to the dump point and have a wastewater spill containment rim.
7. A source for dump station wash-down water shall be provided to the RV dump location.

~~3.~~8. The water source shall meet the same separation distances from the RV dump tank as required by IDAPA 58.01.03.007.17.

4.21.3 Requirements

1. The RV dump tank must meet the distance limitations of a septic tank (IDAPA 58.01.03.007.17).
2. The RV dump tank must meet the septic tank design and construction standards as described in IDAPA 58.01.03.007. Requirements of IDAPA 58.01.03.007.07, 58.01.03.007.08, 58.01.03.007.09-10, 58.01.03.007.19, and 58.01.03.007.22 are exempt.
3. If the RV dump tank is a modified septic tank the inlet and outlet opening shall be sealed.
4. A manhole extension shall be brought to finished grade that allows pumping access to the RV dump tank.
5. An emergency warning system shall be required to be installed to indicate when the RV dump tank is two-thirds full.
6. The RV dump tank shall meet the volume requirements of a septic tank, except that no RV dump tank shall be less than 1,500 gallons.

~~1.~~7. Any permit issued for a subsurface sewage disposal system serving RV spaces should include a requirement to install an RV dump tank that allows RVs to discharge their preserved waste prior to discharging of waste to the subsurface sewage disposal system.

4.21.4 Recreational Vehicle Dump Station Waste Disposal

1. RV dump tank waste shall be pumped and removed by a permitted septic tank pumper.
2. Wastewater from an RV dump may be disposed of at the following locations:
    a. Municipal treatment plant
    b. Approved septage land application site
    c. Approved discharge to public sewer

Appendix D

4.15 Emergency Holding Tank

Revision: ~~April 21, 2000~~April 18, 2013

4.15.1 Description

An emergency holding tank is a sealed ~~vault~~ septic tank for the temporary storage of water-carried sewage. The ~~vault~~ septic tank is pumped periodically, and the sewage is disposed of at a secondary treatment site.

4.15.2 Approval Conditions

~~4.~~1. An emergency situation exists and installation of a holding tank is necessary to prevent a potential public health hazard.

2. A management entity or arrangement to provide maintenance and pumping of the tank by a ~~licensed~~ permitted septic tank pumper must be approved by the Director. Such an entity or arrangement must be in operation ~~at the time~~prior to the emergency holding tank permit being~~is~~ issued.

~~5.~~3. The arrangement and permitted septic tank pumper shall be provided in writing prior to the issuance of the emergency holding tank permit being issued.

~~6.~~4. May not be approved for new ~~dwellings~~wastewater generating structures.

~~7.~~5. May not be approved for permanent, year-round ~~residences~~ structures except temporarily to satisfy approval condition 1.

~~8.~~6. Sites may not be subject to flooding.

~~9.~~7. The emergency holding tank permit shall specify a specific date or specific predetermined circumstance for the abandonment of the emergency holding tank (IDAPA 58.01.03.005.13). The specific date or predetermined circumstance shall be provided in writing and be signed by the permit applicant prior to permit issuance (IDAPA 58.01.03.005.13).

4.15.3 Requirements

1. Must meet the distance limitations of a septic tank (IDAPA 58.01.03.007.17).

2. Must ~~be watertight, constructed of sound, durable materials, and not subject to excessive corrosion, decay, frost damage, or cracking (IDAPA 58.01.03.007.02)~~meet

the septic tank design and construction standards as described in IDAPA 58.01.03.007. Requirements of IDAPA 58.01.03.007.07, 58.01.03.007.08, 58.01.03.007.19, and 58.01.03.007.22 shall be exempt from the design and construction standards of an emergency holding tank.

3. ~~May be~~If the emergency holding tank is a modified septic tank ~~with inlet and~~the outlet opening shall be sealed.

4. A manhole extension shall be brought to finished grade at the inlet end of the emergency holding tank.

5. An emergency warning system shall be required to be installed to indicate when the emergency holding tank is two-thirds full.

~~3.~~6. The tank shall meet the volume requirements of a septic tank, except that no tank shall be less than 1,500 gallons.

~~4.15.4 Sizing~~

~~The tank shall meet the volume requirements of a septic tank, except that no tank shall be less than 1,500 gallons.~~

~~4.15.5 Other Requirements~~

~~4. Toilet structures over holding tanks must meet the requirements of structures over pit privies.~~

~~5. Access and pumping port must be located outside of any structure and should have a diameter of at least 8 inches.~~

~~A warning system may be required to indicate when the tank is two-thirds full.~~

Appendix E

Seepage Pit/Bed

4.26.1 Definition

An absorption pit filled with standard drain field aggregate.

4.26.2 Conditions for Approval

1. Seepage pit disposal facilities may be used on a case by case basis within the boundaries of Eastern Idaho Public Health District (District Health Department Seven) when an applicant can demonstrate to the district director's satisfaction that the soils and depth to ground water are sufficient to prevent ground water contamination. The district director shall document all such cases. (IDAPA 58.01.03.008.11).

    a. ~~2.~~ For all other districts, replacement seepage pits may be allowable as a last resort if no other alternatives are feasible, and the site meets conditions of approval ~~2~~1.a through ~~6~~ as stated herein. ~~(IDAPA 58.01.03.008.12).~~ The district director shall document all such cases (IDAPA 58.01.03.008.11) and issue the installation permit as a non-conforming permit.

2. For all other districts, the site must meet the requirements of a standard system except that it is not large enough (IDAPA 58.01.03.008.11.b).

~~1~~3. The area must not have any shallow domestic, public wells or sink holes connected by underground channels.

~~35~~34. The pit bottom must be no deeper than eighteen (18) feet below the natural ground surface. The bottom of the pit must conform to the effective soil depth chart (IDAPA 58.01.03.008.02.c). *The top of the pit may be more than four (4) feet below the surface.*

~~46~~45. Seepage pits may not be installed in Group C soils.

6. A test hole must be performed to a depth of 6 feet below the proposed termination of the bottom of the seepage pit prior to permit issuance.

4.26.3 Sizing

The effective area of the pit may be determined from Table 4-23 (for round pits)~~:~~ and by the square footage of the pit sidewalls below the effluent pipe (rectangular beds).

Seepage Bed Example:

Pit dimensions are 10 feet wide by 15 feet long and the pit is 8 feet deep below the effluent pipe:

(10 feet wide) x (8 feet deep) = 80 square feet → (80 square feet) x (2 sidewalls of same dimension) = 160 square feet.

(15 feet long) x (8 feet deep) = 120 square feet → (120 square feet) x (2 sidewalls of same dimension) = 240 square feet.

(240 square feet) + (160 square feet) = 400 square feet.

Round Seepage Pit Example:

(πd) x h = effective disposal area.

d = diameter, h = height, π = 3.14.

1. **Table 4-23. Effective Area of Round Seepage Pits**

Diameter of Seepage Pit, in Feet	Effective Depth Below ~~Flow~~ Effluent Line, in Feet									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
3	9	19	28	38	47	57	66	75	85	94
4	13	25	38	50	63	75	88	101	113	126
5	16	31	47	63	79	94	110	126	141	157
6	19	38	57	75	94	113	132	151	170	188
7	22	44	66	88	110	132	154	176	198	220
8	25	50	75	101	126	151	176	201	226	251
9	28	57	85	113	141	170	198	226	254	283
10	31	63	94	126	157	188	220	251	283	314
11	35	69	104	138	173	207	242	276	311	346
12	38	75	113	151	188	226	264	302	339	377

4.26.4 Construction

1. Standard drainfield aggregate shall be used to fill the entire pit/bed excavation.
    a. If seepage pit rings are utilized in pit/bed construction the aggregate shall only be required to fill the excavation void around the seepage rings and above the seepage ring lid to a point 2 inches above the effluent pipe.
    b. In pit/bed installations utilizing seepage pit rings a minimum depth of 12 inches of standard drainfield aggregate shall be placed below the seepage rings.

~~1.~~2. Effluent pipe shall be covered with a minimum of two (2) inches of aggregate.

~~2.~~3. Seepage pit/bed excavation shall be covered with geotextile, straw or untreated building paper.

4. ~~Effluent Pipe shall be installed to the geographic center of the pit.~~The distribution laterals within the pit/bed should meet the requirements for the standard absorption bed (IDAPA 58.01.03.008.10).

~~3.~~5. If seepage pit rings are utilized in pit/bed construction the effluent pipe may discharge into the central dump point in the ring structure lid.

~~4.~~6. Effluent and distribution piping utilized in seepage pit/beds with installation depths greater than 3 feet from grade to the top of the pit/bed installation shall utilize ASTM D3034 or stronger piping to prevent piping collapse.

Appendix F

4.20.3.6 Pump to Drop Box

A pump to drop box system may be utilized when an area for drainfield placement is not able to be reached by standard gravity flow from the wastewater generating structure. Standard drainfields located at higher elevations than the septic tank are not required to be designed as a pressure distribution system unless the square footage of disposal area exceeds 1500 square feet. When the drainfield is not pressurized wastewater is conveyed by a pump through a transport (pressure) line to a drop box where effluent pressurization breaks to gravity distribution into the drainfield.

1. Pump selection, transport (pressure) line design, dosage, and dosing chamber or in-tank pump design shall follow the procedures within section 4.20 Pressure Distribution System of the Technical Guidance Manual.
2. Pumps should be sized to effectively deliver a maximum dose of 120 gallons with a maximum pump rate of 10 GPM.
3. Effluent velocity in the transport (pressure) line should be between 2 to 4 feet per second.
4. A drop box ~~should~~ shall be installed that allows ~~equal~~ gravity distribution to all drainfield trenches.
5. Upon entry into the drop box the effluent line should be angled to the bottom of the box with the effluent line terminating above the high water level of the drop box.
    a. A ¼ inch hole may be necessary to be drilled in the top of the angle connection to prevent a potential siphon.
6. A complex installer's permit shall be required for installation.
7. ~~The pump to drop box system design~~Pump and transport pipe design/selection may require engineering (Idaho Code 54-1202.10 defines pump selection as an engineering practice) based upon the regulatory authority's judgment. Pump design/selection ~~should~~ shall be performed by an engineer licensed in the State of Idaho when elevation gains of greater than 20 feet or lengths of 100 feet are exceeded in effluent transport.

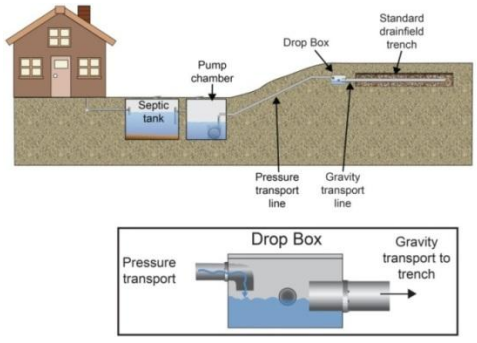

Figure 4-20. Pump to drop box detail.

Appendix G

3.2.5 Equal Distribution

In equal distribution wastewater effluent is distributed to all trenches within the subsurface sewage disposal system thus providing the opportunity for utilization of the entire infiltrative surface of the disposal system. Equal distribution is the preferred method of wastewater discharge to any subsurface sewage disposal system. The best way to accomplish this is through pressurization of the drainfield (see section 4.20). When gravity flow is utilized for wastewater discharge to the subsurface system equal distribution to each subsurface disposal trench can be accomplished through the use of a piping header or distribution box.

3.2.5.1 Piping Header

With a piping header system wastewater is conveyed to each disposal trench through the use of a network of solid piping. The discharge line from the septic tank should be split through the use of a T pipe fitting. The T should be offset equally from the distribution trenches. One-directional sweeping cleanouts should not be used in place of a bi-directional T. The T pipe fitting should be installed on a solid surface in a level position. It is recommended that the piping header only be utilized in installations involving two trenches. See figure 3-3 for an overhead view of this distribution setup.

3.2.5.2 Distribution Box

Distribution boxes (d-box) are used to divide wastewater effluent evenly among multiple subsurface distribution lines. D-boxes are typically made of concrete or wastewater grade plastics and are watertight with a single inlet set at a higher elevation in the box than the outlets. Outlets should be constructed at equal elevations to one another. The d-box should be constructed with an access lid. Access lids are recommended to be made accessible from grade. Distribution boxes should be installed level on a sound, frost-proof footing (e.g., pea gravel bedding extending below the frost line).

There are several devices available for installation on the distribution lines leaving the d-box to ensure that each line is receiving equal amounts of effluent if the piping or d-box becomes un-level. It is recommended that leveling devices be installed on the effluent lines leaving the distribution box at time of initial installation. Distribution boxes are highly recommended for situations where there are more than two trenches installed and gravity flow is desired. See figure 3-3 for an overhead view of this distribution setup.

Upon installation it is important that the distribution box is checked for level installation on all sides. It is also highly recommended that outlet lines from the d-box be checked for level installation within the d-box to one another. This is especially important when trenches are installed at different elevations from each other and the distribution box. Flow should be induced within the d-box, from a point prior to the d-box, after installation and prior to final cover to verify that each outlet line will

receive effluent at similar flow rates. If flow rates differ it is recommended that effluent outlet lines and/or flow equalization devices be adjusted and the flow rates retested after adjustment.

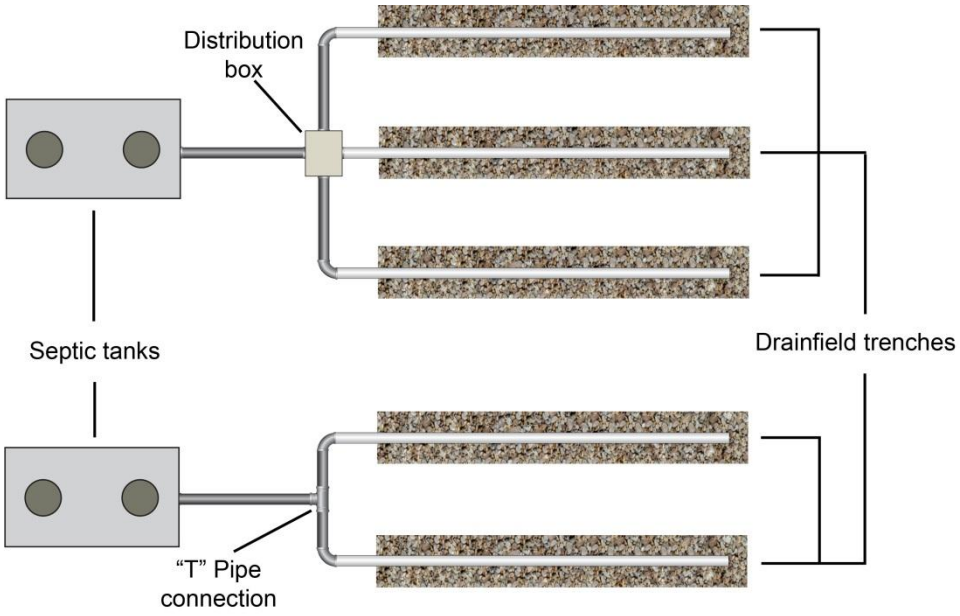

Figure 3-3. Overhead view of equal distribution methods.

3.2.6 Serial Distribution

~~Due to continuous ponding over the infiltrative surface serial distribution trenches suffer hydraulic failure more rapidly and progressively because the infiltrative surface cannot regenerate its infiltrative capacity. With this in mind serial distribution should only be used where equal distribution is not achievable. On sloped ground, it is preferable to use serial~~ Serial distribution~~, that is, distribution~~ functions so that each trench ~~in order~~ is ~~completely filled~~ loaded and completely flooded with effluent before effluent flows to the next ~~lower~~ trench in series. In this distribution method it is not necessary to construct trenches at the same length but each trench must maintain a level installation by following a slope contour. ~~To maintain trenches between 2 to 4 feet below ground, it may be essential to use this kind of distribution.~~Serial distribution is accomplished either by installing relief lines or drop boxes between successive trenches. It is strongly recommended that serial distribution be accomplished through the use of drop boxes due to control and access aspects to the system.

3.2.6.1 Relief Lines

Relief lines are overflow lines that connect one trench to the adjacent lower trench in series. Relief lines are constructed of solid-wall piping and may be placed at opposite ends of successive trenches or anywhere within the trench line. If relief lines are installed in the middle of trenches successive relief lines should be offset by a minimum of 5 feet to avoid short circuiting the distribution system. Care must be exercised in excavating the ~~connecting~~relief line

between trenches. Bleeding of effluent down this excavation is a common cause of surfacing effluent in serial distribution systems. The excavation of the connecting trench to the next downslope trench should be just deep enough to accept the solid connector pipe. See figure 3-4 for an overhead view of a relief line installation system network. See figure 3-5 for a cutaway view of relief line connection between trenches.

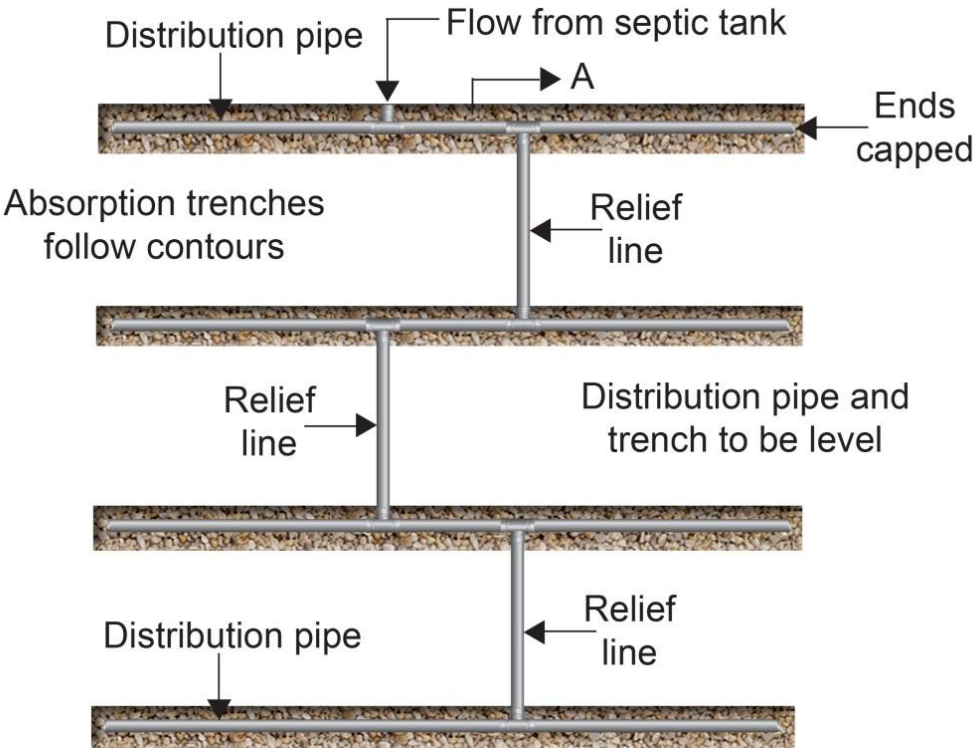

Figure 3-4. Overhead view of a relief line system network.

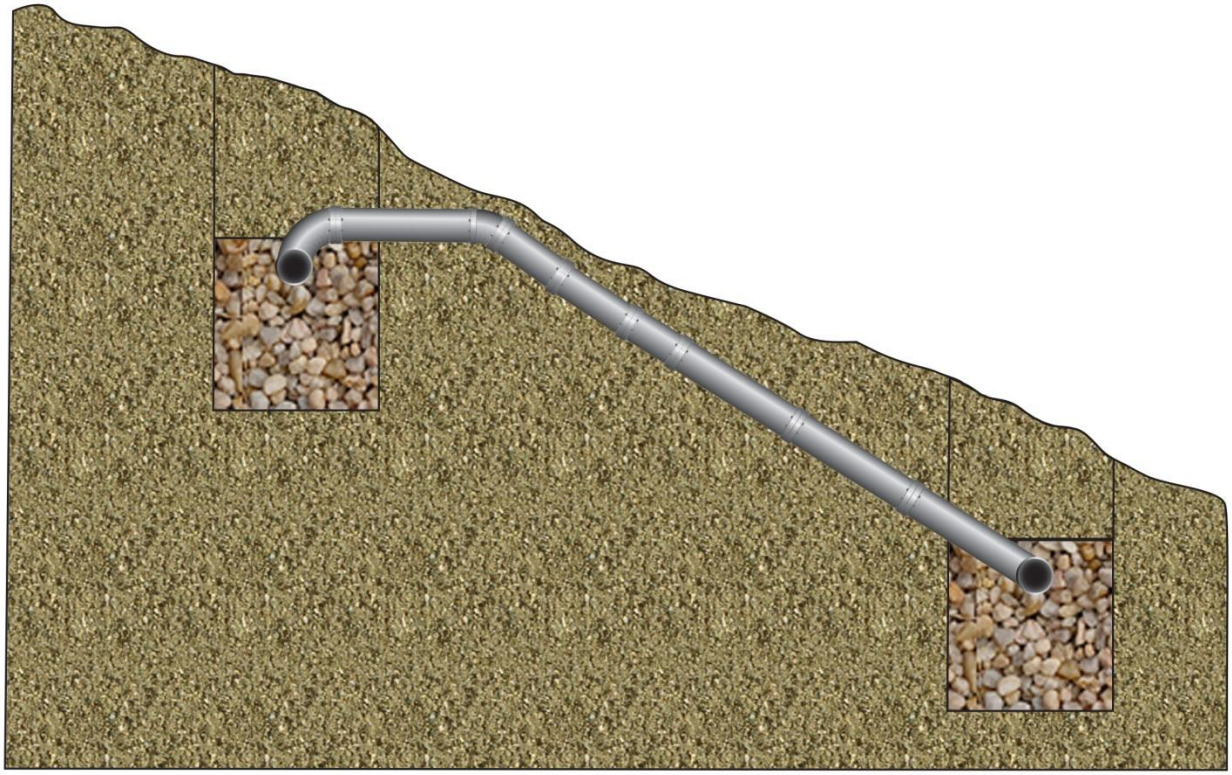

Figure 3-5. Side view of relief line installation between trenches.

3.2.6.2 Drop Boxes

Serial distribution may also be accomplished through the use of drop boxes. This method is commonly referred to as sequential distribution. Distribution boxes should not be substituted for drop boxes in this system design. The drop boxes are constructed so that each trench is completely flooded before the effluent flow runs to the next downslope trench in series. ~~Care must be exercised in excavating the connecting line between trenches. Bleeding of effluent down this excavation is a common cause of surfacing effluent in serial distribution systems. The excavation of the connecting trench to the next downslope trench should be just deep enough to accept the solid connector pipe.~~ The drop box consists of an inlet and outlet set at the same height that should be a minimum of 2 inches from the bottom of these ports to the top of the outlet ports for the trench at this location. There are typically two outlet ports to the disposal trench on opposite sides of the drop box to allow the trench to be extended on either side of the drop box. The trench outlets from the drop box should be set level with the distribution pipes in the disposal trench connected to the drop box. Solid-wall pipe should be used between drop boxes. ~~Figure 3-3~~ **Figure 3-**6 shows the detail of a drop box and the associated distribution system.

Figure 3-~~36~~. Drop box and sequential distribution details (TO BE DEVELOPED BY MEETING).

Appendix H

Chapter 7. ~~Operation and Maintenance Guidance for Alternative Systems~~Complaint Investigation and Enforcement

~~7.1 Extended Treatment Package System Operation and Maintenance~~

~~Revision: April 24, 2000~~

~~Operation and maintenance tasks must follow those recommended by the manufacturer.~~

~~7.2 Lagoon Operation and Maintenance~~

~~The lagoon must be kept filled with at least 2 feet of liquid. A supply of makeup water shall be available. If the water comes from a well or domestic water supply, an approved backflow prevention device must be installed between the water source and the discharge to the lagoon.~~

~~Embankments must be stable and maintained to avoid breach, overflow, aesthetic nuisance, or disturbance to the lagoon operation. Permanent vegetation shall be maintained on the top and outer slopes of the embankment except where a foot or vehicle path is in use. Grasses should be mowed.~~

~~Weeds and other vegetation must not be allowed to grow in the lagoon.~~

~~Duckweed or other floating aquatic weeds must be physically removed when the vegetation obscures the surface of the liquid.~~

~~The fence and all gates must be maintained to exclude animals, children, and other unwanted intrusion.~~

~~7.3 Sand Filter Operation and Maintenance~~

~~Operations and maintenance tasks for sand filters should be specified on the permit.~~

~~Conventional sand filters, or sand filters of comparable operation and maintenance are the responsibility of the system owner.~~

~~Permits may not be issued for a sand filter that, in the judgment of the Director, would require operation and maintenance significantly greater than conventional sand filters, unless operation and maintenance arrangements for system O&M meeting the Director's approval are secured. Filters with special approvals should be inspected every 12 months and checked for necessary corrective maintenance.~~

~~The owner of any sand filter system must provide the Department written verification that the system's septic tank has been pumped annually from the date of installation by an approved septic tank pumping business.~~

~~The service start date shall be assumed as the installation date.~~

~~The owner must provide the Director with certification of tank pumping within 2 months of the date required for pumping.~~

~~7.4 Sand Mound Operation and Maintenance~~

~~The Director may require that a management entity be responsible for sand mound operation and maintenance. Such independent management is particularly important for large systems, i.e., systems with more than nine connections or more than 2,500 gallons of sewage per day. Refer to section 4.2 for guidelines on Nonprofit Corporations for Managing Small or Subsurface Wastewater Flow Systems.~~

~~The Director may require that operation and maintenance records, including results of ground water and system test results, are submitted annually.~~

~~Alarm systems should be inspected monthly for proper operation.~~

~~Sludge depth in the septic tank should be checked annually and the tank shall be pumped when the sludge exceeds 40% of the liquid depth.~~

~~The mound must be maintained free of vehicular traffic, livestock, and other compaction or disruptive activity. The toe area of the mound is extremely sensitive to compaction and must particularly be protected. Maintenance of grasses and shallow-rooted perennials on the mound is recommended.~~

~~7.5~~7.1 Open Sewage Complaint Investigation Protocol

Revision: ~~September 12, 2008~~April 18, 2013

~~Record p~~Pertinent information must be recorded from the complainant ~~to conduct~~so an initial investigation can be conducted (i.e., name, address, and phone number of property owner and complainant and the nature of the complaint). Health district staff will investigate open sewage complaints stemming from subsurface sewage disposal systems. DEQ will investigate open sewage complaints regarding public wastewater treatment systems (i.e., collection, pumping, treatment, etc.).

Gather the following equipment and prepare for investigation:

- Camera
- Dye (tablets or liquid)
- Notify laboratory of possibility for coliform density tests

- Sample bottles, whirl packs, sterilized equipment, and laboratory sample forms.
- Ice chest and ice
- Disposable gloves

Go to the property, notify owners of the complaint, and conduct a complaint investigation. If the complaint is unfounded, notify the complainant of findings. If the open sewage complaint is valid:

1. Take pictures of any open sewage or evidence of wastewater.

2. Dye trace household plumbing if necessary to identify wastewater discharge location.

3. Collect samples of sewage.

4. Collect samples of surface water if directly discharged to water.

5. Place samples in ice chest and transport to laboratory.

6. Post primary and secondary contact recreational waters with open sewage notice until water sample results can be obtained.

7. Issue Notice of Violation (NOV) directly to property owner or send notice via certified mail. Establish time frames for obtaining a replacement system permit (~~7~~ 15 days), for system installation (30 days) and any corrective actions necessary to mitigate the public health hazard of the open sewage (items 8 and 9, immediate action).

~~7.~~8. Carbon copy the county prosecutor with the NOV letter.

~~8.~~9. Require the septic tank(s) to be pumped on a daily basis, if necessary, with documentation sent to the health district office.

~~9.~~10. Require open sewage to be covered with soil. If property owner is unable to cover sewage with soil require the property owner to spread lime on top of open sewage.

~~10.~~11. Track property owner activity regarding compliance with NOV and any issued permit.

~~11.~~12. If the property owner fails to comply with the NOV file a complaint with the county prosecutor and ask the prosecutor to issue a citation against the property owner. Prepare case for court hearing.

~~12.~~13. Follow court's judgment, or hearing findings.

4.10.2 Operation, Maintenance, and Monitoring Conditions for Approval

Procedures relating to operation, maintenance, and monitoring are required by IDAPA 58.01.03 (section 8.1) or may be required as a condition of issuing a permit, per IDAPA 58.01.03.005.14 (section 8.1) to ensure protection of public health and the environment. Operation and maintenance tasks must follow those recommended by the manufacturer.

4.17.6 Operation and Maintenance

1. The lagoon must be kept filled with at least 2 feet of liquid.
2. A supply of makeup water shall be available.
3. If the water comes from a well or domestic water supply, an approved backflow prevention device must be installed between the water source and the discharge to the lagoon.
4. Embankments must be stable and maintained to avoid breach, overflow, aesthetic nuisance, or disturbance to the lagoon operation.
5. Permanent vegetation shall be maintained on the top and outer slopes of the embankment except where a foot or vehicle path is in use. Grasses should be mowed.
6. Weeds and other vegetation must not be allowed to grow in the lagoon.
7. Duckweed or other floating aquatic weeds must be physically removed when the vegetation obscures the surface of the liquid.
8. The fence and all gates must be maintained to exclude animals, children, and other unwanted intrusion.

4.23.6 Operation and Maintenance

1. Operations and maintenance tasks for sand filters should be specified in an operation and maintenance manual referred to on the permit.
2. Conventional sand filters, or sand filters of comparable operation and maintenance are the responsibility of the system owner.
3. Permits may not be issued for a sand filter that, in the judgment of the Director, would require operation and maintenance significantly greater than conventional sand filters, unless operation and maintenance arrangements for system O&M meeting the Director's approval are secured.
4. Filters with special approvals should be inspected every 12 months and checked for necessary corrective maintenance.

~~1.~~5. Sludge depth in the septic tank should be checked annually and the tank shall be pumped when the sludge exceeds 40% of the liquid depth.

~~6. The owner of any sand filter system must provide the Department written verification that the system's septic tank has been pumped annually from the date of installation by an approved septic tank pumping business.~~
~~7. The service start date shall be assumed as the installation date.~~
~~8. The owner must provide the Director with certification of tank pumping within 2 months of the date required for pumping.~~

4.25.6 Operation and Maintenance

1. The Director may require that a management entity be responsible for sand mound operation and maintenance. Such independent management is particularly important for large systems (i.e., systems with more than nine connections or more than 2,500 gallons of sewage per day). Refer to section 4.2 for guidelines on Nonprofit Corporations for Managing Small or Subsurface Wastewater Flow Systems.
2. The Director may require that operation and maintenance records, including results of ground water and system test results, are submitted annually.
3. Alarm systems should be inspected monthly for proper operation.
4. Sludge depth in the septic tank should be checked annually and the tank shall be pumped when the sludge exceeds 40% of the liquid depth.
5. The mound must be maintained free of vehicular traffic, livestock, and other compaction or disruptive activity.
6. The toe area of the mound is extremely sensitive to compaction and must particularly be protected.
7. Maintenance of grasses and shallow-rooted perennials on the mound is recommended.

Appendix I

4.6 Composting Toilet

Revision: April ~~21~~18, ~~2000~~2013

4.6.1 Description

Composting toilets are those within ~~the a~~ dwelling that store and treat non-water-carried human urine and feces and small amounts of household garbage by bacterial decomposition. The resultant product is compost.

4.6.2 Approval Conditions

1. Water under pressure shall not serve the dwelling unless a public sewer or another acceptable method of on-site disposal is available.
2. Composting toilets may be applicable wherever ~~pit~~ vault privies are ~~applicable~~acceptable.
3. Units are restricted to the disposal of human feces, urine, and small quantities of household garbage. Household garbage should be limited to the manufacturer's recommendations.

4.6.3 Design

1. All materials used in toilet construction must be durable and easily cleanable. Styrene rubber, polyvinyl chloride (PVC), and fiberglass are examples of acceptable materials.
2. Design must demonstrate adequate resistance to internal and external stresses.
3. All mechanical and electrical components should be designed to operate safely and be capable of providing continuous service under reasonably foreseen conditions such as extreme temperatures and humidity.
4. Toilet unit must be capable of accommodating full- or part-time use.
5. Continuous positive ventilation of the storage or treatment chamber must be provided to the outside.
    a. Ventilation components should be independent of other household ventilation systems.
    ~~a.~~b. Venting connections must not be made to room vents or to chimneys.

~~b.~~c. All vents must be designed to prevent flies and other insects from entering the treatment chamber.

4.6.4 Compost Disposal

1. Compost material produced by a composting toilet may be utilized as a soil amendment additive.

2. Sewage products should be allowed to compost to the point that they are not identifiable as human waste prior to use as a soil additive.

3. It is recommended that non-degraded waste products either be transferred to a second compost container prior to use as a soil additive for further breakdown or disposed of in an approved landfill.

~~5.~~4. Composting toilet waste should not be used as a soil additive for edible fruit or vegetable plants.

Note: Toilets, as plumbing fixtures, are regulated by the Idaho Division of Building Safety, State Plumbing Bureau. Current plumbing code prohibits the use of composting toilets without the permission of the health district. Proof of permission will be provided through a permit issued by the health district.

Appendix J

Chapter 3. Standard Subsurface Disposal System Components

3.1 Dimensional Requirements

Revision: April 18, 2013~~06~~

Figure shows the major ~~dimensional~~ horizontal separation distance requirements for a standard drainfield. **Figure 3-1** shows the major ~~dimensional~~ horizontal separation distance requirements for a septic tank.

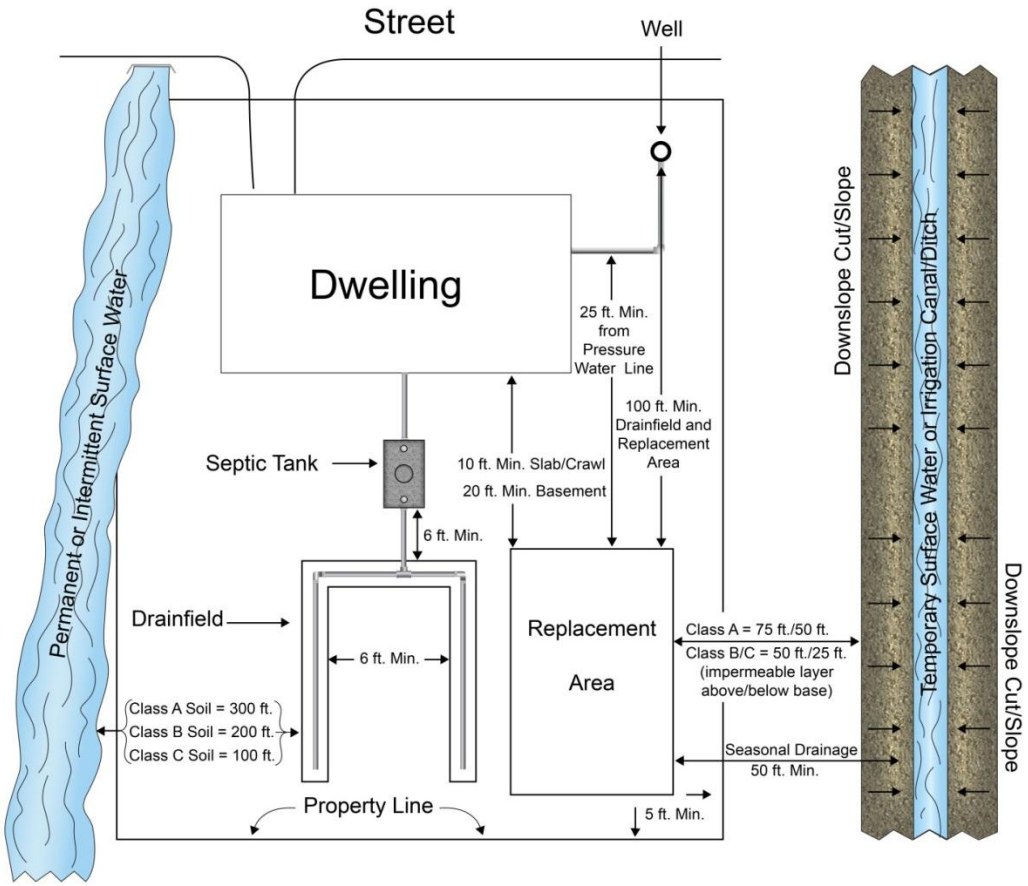

Figure 3-1. ~~Dimensional~~ Horizontal separation distance requirements for a standard drainfield (IDAPA 58.01.03.008.02.d and 58.01.03.008.04).

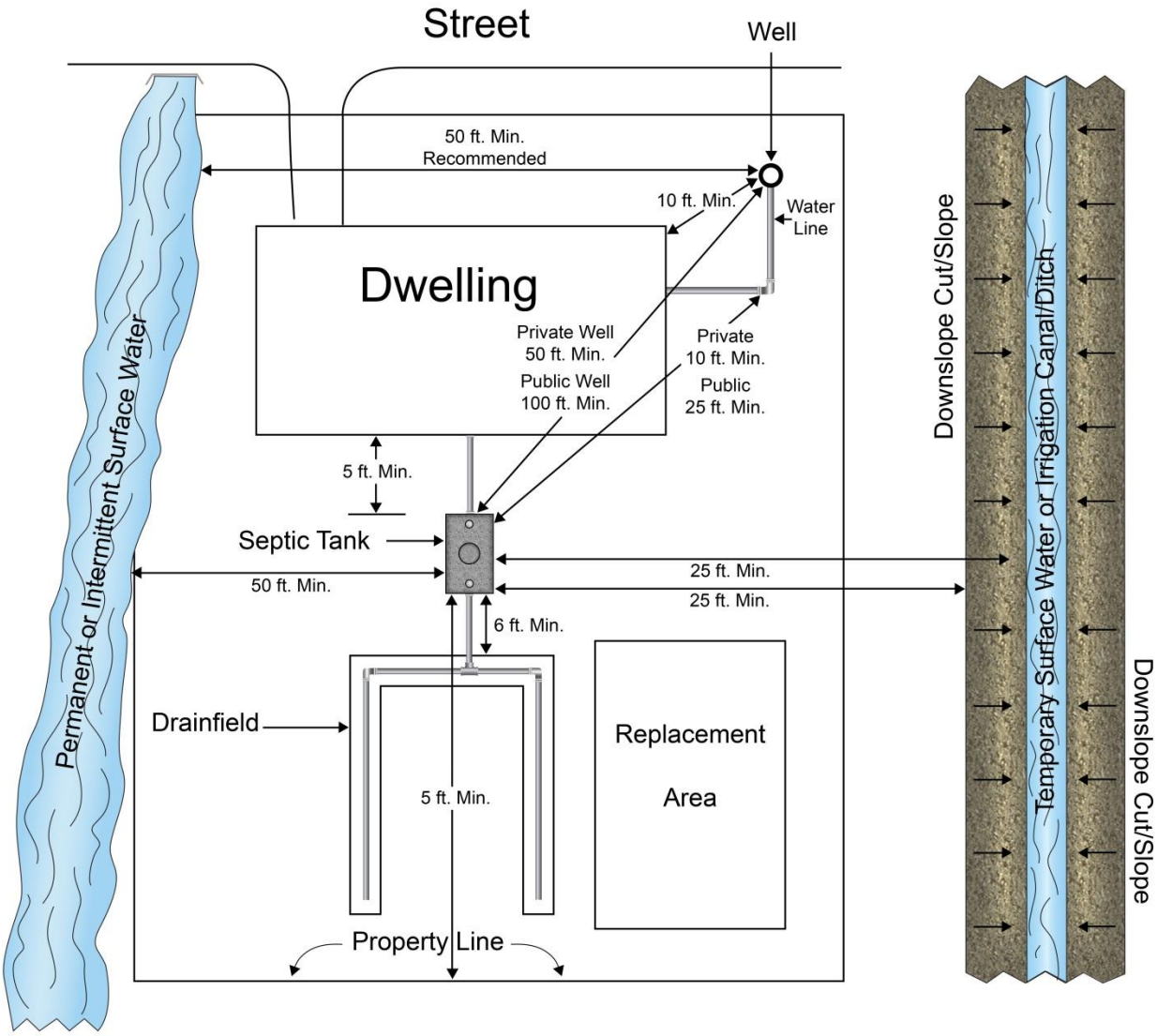

Figure 3-1. ~~Dimensional~~ Horizontal separation distance requirements for a septic tank (IDAPA 58.01.03.007.17).

1. ~~Distance~~ Minimum separation distance of 20 feet is required between~~from~~ a drainfield ~~to~~and a dwelling with a basement ~~is 20 feet~~ (IDAPA 58.01.03.008.02.d). If the basement is a daylight style basement and the drainfield installation depth is below the daylight portion of the basement the minimum separation distance can be reduced to 10 feet.

2. Minimum separation distance of 6 feet is required between absorption trenches and from installed trenches or beds to the replacement area ~~(IDAPA 58.01.03.008.04)~~. Separation distance must be through undisturbed soils (IDAPA 58.01.03.008.04).

3. D~~istance~~ Minimum separation distance of 6 feet is required ~~from~~between the septic tank ~~to~~and the drainfield ~~is 6 feet (IDAPA 58.01.03.008.04)~~. Separation distance must be through undisturbed soils (IDAPA 58.01.03.008.04).

4. Minimum separation distance of 50 feet is required between a building sewer line, effluent pipe, and a septic tank to~~and~~ a domestic well ~~is 50 feet~~ (IDAPA 58.01.03.007.17 and 58.01.03.007.22).

Figure 3-2 shows a cross-sectional view of a standard drainfield, along with trench dimensional installation requirements.

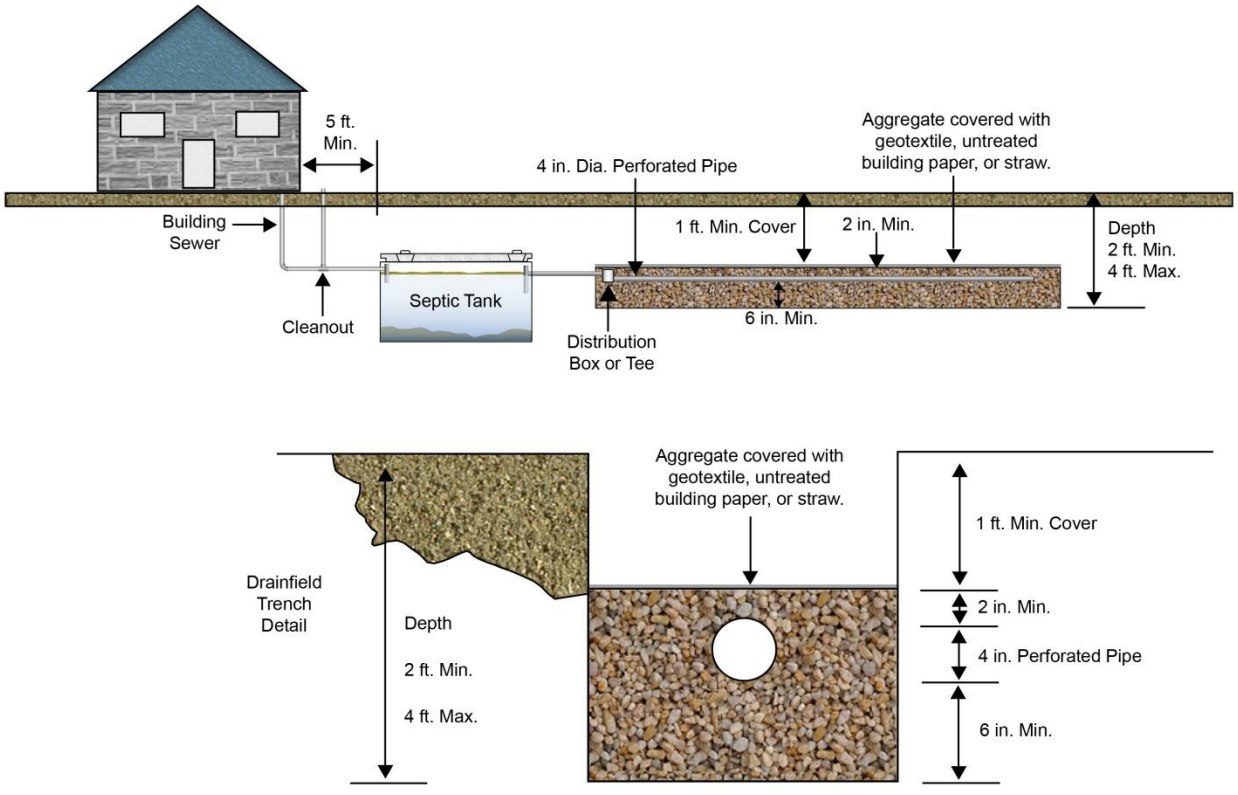

Figure 3-2. Cross-sectional view of a standard drainfield and trench dimensional installation requirements.

3.2 Components of Standard Systems

Revision: ~~July 3~~April 18, 2013~~2~~

3.2.1 Interceptors (Clarifiers) and Grease Traps

Interceptors (clarifiers) and grease traps are specifically designed devices installed to separate and retain materials, such as greases and oils, from sewage. They are usually installed between the discharging fixture, such as a sink or slaughter pad, and the ~~wastewater treatment device~~septic tank. ~~Interceptors (clarifiers) and grease traps may also be referred to as pretreatment devices.~~ Interceptor (clarifier) and grease trap volumes are not substitutes for minimum septic tank capacities.

Design and installation of these devices is under the jurisdiction of the Idaho Division of Building Safety, Plumbing Bureau, or a local administrative authority. These devices or additional pretreatment devices may be required for commercial or industrial establishments, such as food service businesses, car washes, slaughter houses, or others who discharge substances in the wastewater that would be detrimental to the sewage disposal system. Pretreatment device effectiveness is substantiated by monitoring the effluent and reporting the operation and maintenance performed.

Any person applying to discharge nondomestic wastewater to a subsurface sewage disposal system shall be required to provide wastewater strength characterization and sufficient information to the Director, documenting that the wastewater will not adversely affect the waters of Idaho. Commercial establishments with wastewater strengths exceeding normal domestic wastewater strength, as depicted in **Table** 3-1, are required to pretreat the wastewater down to normal domestic wastewater strengths.

Information on these devices is found in the Uniform Plumbing Code, 2000 Edition, Chapter 10 and Appendix H. Plans and specifications for these devices must be approved by the Idaho Division of Building Safety- Plumbing Bureau, or local administrative plumbing authority.

Table 3-1. Constituent mass loadings and concentrations in typical residential wastewater.[a]
(Revision: January 30, 2009)

Constituent	Parameter	
	Mass Loading (grams/person/day)	Concentration (mg/L)[b]
Total solids (TS)	115–200	500–880
Volatile solids	65–85	280–375
Total suspended solids (TSS)	35–75	155–330
Volatile suspended solids	25–60	110–265
Five-day biological oxygen demand (BOD_5)	35–65	155–286
Chemical oxygen demand (COD)	115–150	500–660
Total nitrogen (TN)	6–17	26–75
Ammonia (NH_4+)	1–3	4–13
Nitrite (NO_2-N) and nitrate (NO_3)	< 1	< 1
Total phosphorus (TP)	1–2	6–12
Fats, oil, and grease	12–18	70–105
Volatile organic compounds (VOC)	0.02–0.07	0.1–0.3
Surfactants	2–4	9–18
Total coliforms (TC)[c]	—	10^8–10^{10}
Fecal coliforms (FC)[c]	—	10^6–10^8

Source: United States Environmental Protection Agency, *Onsite Wastewater Treatment and Disposal Systems Manual*, 2002, (EPA/625R-00-008), Table 3-7, page 3-11.
a. For typical residential dwellings equipped with standard water-using fixtures and appliances.
b. Milligrams per liter (mg/L); assumed water use of 60 gallons/person/day (227 liters/person/day).
c. Concentrations presented in Most Probable Number (MPN) of organisms per 100 milliliters.

3.2.2 Building Sewer

The design and installation of a building sewer is under the jurisdiction of the Idaho Division of Building Safety- Plumbing Bureau, or a local administrative authority. The state or local authority must approve any plans involving the construction or installation of a building sewer. Please contact your local Plumbing Bureau for all guidance, permitting, and inspection requirements related to the building sewer portion of your project. Plumbing Bureau jurisdiction relates to all building sewer components from household fixtures up to the inlet of the septic tank.

Information provided here is advisory only and intended for planning purposes.

1. Building sewers must run at a uniform slope of not less than one-fourth inch per foot toward the point of discharge.

2. Building sewer piping should be laid on a firm, stable bed throughout its entire length.

3. Building sewers must be installed a minimum of 12 inches below the surface of the finished grade.
4. Cleanouts shall be placed:

    a. Inside the building near the connection between the building drain and building sewer, or
    b. Outside the building at the lower end of a building drain and extended to grade, and
    c. At intervals of up to 100 feet in straight runs, and
    d. At every change in alignment or grade in excess of 22.5 degrees, except that no cleanout will be required for one 45 degree change of direction or one 45 degree offset.

3.2.3 Drainfields

Whether it is a trench or a bed, the drainfield should not be constructed when the soil is near or wetter than its optimum moisture (IDAPA 58.01.03.008.06). At optimum moisture, a soil will compact to its maximum ability and thus reduce its capability to transmit water. This ability to compact and restrict flow is particularly true of finer soils, such as silt loams and clay loams. It is not as critical in sands or sandy loams.

If it is entirely unavoidable to excavate the drainfield when the soil is wetter than its optimum moisture level, then the ~~sides~~trench sidewalls and trench bottom in the excavated drainfield should be raked to relieve any compaction. Backhoe buckets and teeth can effectively smear both trench sidewalls and trench bottoms. Therefore, raking should be done manually with a strong iron garden rake after all excavation with a backhoe is complete and before the drainrock is put in place.

Drainrock should be checked for cleanliness before it is placed in the trenches. Long transportation time may generate additional fines. If drainrock is found to be unsuitably dirty when it arrives at the site, it can often be cleaned in the truck by tipping the truck bed slightly and washing the rock with a strong stream of water.

Trenches do not have to be constructed straight. It is always preferable to follow the contour of the land. The drainfield must not be installed in floodways, at slope bases, in concave slopes, or depressions. Drainfield areas shall be constructed to allow for surface drainage and to prevent ponding of water over the drainfield.

Table 3-2 gives the lengths of trenches in the seven soil subgroups (A-2 has two application rates; see section 2.3, Table 2-10).

Drainfields larger than 1,500 ft^2 trench area bottom are prohibited from being constructed as a standard (gravity) drainfield (IDAPA 58.01.03.008.04). Drainfields exceeding 1,500 ft^2 in total trench bottom area must be pressure-dosed (section 4.20).

Table 3-2. Area requirements and total trench lengths for standard subsurface sewage disposal systems.

Number of Bedrooms	1	2	3	4	5	6
Gallons per day	**150**	**200**	**250**	**300**	**350**	**400**
			Total Trench Lengths (feet)			
Soil Group A-1 total feet	125	167	208	250	292	333
3-ft wide trench	42	56	69	83	97	111
2.5-ft wide trench	50	67	83	100	117	133
2-ft wide trench	63	83	104	125	146	167
Soil Group A-2a total feet	150	200	250	300	350	400
3-ft wide trench	50	67	83	100	117	133
2.5-ft wide trench	60	80	100	120	140	160
2-ft wide trench	75	100	125	150	175	200
Soil Group A-2b total feet	200	267	333	400	467	533
3-ft wide trench	67	89	111	133	156	178
2.5-ft wide trench	80	107	133	160	187	213
2-ft wide trench	100	133	167	200	233	267
Soil Group B-1 total feet	250	333	417	500	583	667
3-ft wide trench	83	111	139	167	194	222
2.5-ft wide trench	100	133	167	200	233	267
2-ft wide trench	125	167	208	250	292	333
Soil Group B-2 total feet	333	444	556	667	778	889
3-ft wide trench	111	148	185	222	259	296
2.5-ft wide trench	133	178	222	267	311	356
2-ft wide trench	167	222	278	333	389	444
Soil Group C-1 total feet	500	667	833	1,000	1,167	1,333
3-ft wide trench	167	222	278	333	389	444
2.5-ft wide trench	200	267	333	400	467	~~a~~534
2-ft wide trench	250	333	417	500	~~a~~548	~~a~~667
Soil Group C-2 total feet	750	1,000	1,250	1,500	1,750	2,000
3-ft wide trench	250	333	417	500	a	a
2.5-ft wide trench	300	400	500	~~a~~600	a	a
2-ft wide trench	375	500	~~a~~625	~~a~~750	a	a

a. Exceeds ~~500 feet of trench length or~~ 1,500 square feet of total trench area. Use an alternative system ~~or request a variance~~to reduce the installed square footage of trench area below 1,500 square feet or install a pressure-dosed system.

Appendix K

2.6.3 Approval Conditions

Table shows drainfield setbacks from cutoff trenches based on percent slope. In Table , each split cell shows the drainfield depth requirement in the upper left and the minimum setback distance in the lower right. Effective soil depths for drainfields must meet requirements in Table 2-6 and 2-7.

Table 2-11. Setbacks of drainfield from cutoff trench based on percent slope.

Slope (%)	Depth of Cutoff Trench (feet)							
	3	**4**	**5**	**6**	**7**	**8**	**9**	**10**
5	0.5 - 3 / 50	1.5 - 4 / 50	2.5 - 4 / 50	3.5 - 4 / 50	4 / 61	4 / 81.5	4 / 100	4 / 120
10	0 - 3 / 30.5	0 - 4 / 40.5	0 - 4 / 50	1 - 4 / 50	2 - 4 / 50	3 - 4 / 50	4 / 50	4 / 61
15	0 - 3 / 18	0 - 4 / 25	0 - 4 / 32	0 - 4 / 39	0 - 4 / 45	0.5 - 4 / 50	1.5 - 4 / 50	2.5 - 4 / 50
20	0 - 3 / 14	0 - 4 / 19.5	0 - 4 / 24.5	0 - 4 / 29.5	0 - 4 / 34.5	0 - 4 / 39.5	0 - 4 / 44.5	0 - 4 / 50
25	0 - 3 / 11.5	0 - 4 / 16	0 - 4 / 19.5	0 - 4 / 23.5	0 - 4 / 27.5	0 - 4 / 31.5	0 - 4 / 35	0 - 4 / 39.5
30-45	0 - 3 / 9.5	0 - 4 / 13	0 - 4 / 16.5	0 - 4 / 19.5	0 - 4 / 23	0 - 4 / 26.5	0 - 4 / 30	0 - 4 / 33

Note: Split cells show drainfield installation depth requirements in the upper left and minimum setback distance in the lower right.

Each split cell in Table 2-11 shows the installation depth required to maintain the drainfield below the level of the cutoff trench. Drainfield setback distances are a function of slope. As the slope increases, the separation distance is reduced. The risk of septic tank effluent being intercepted by the cutoff trench decreases as the slope increases, which enables reduced setbacks at higher slopes.

2.7.2 Additional Application Information Requirement

Applicants proposing systems above a suspected unstable landform are required to provide supplemental information on the subsurface sewage disposal application as required in the "Individual/Subsurface Sewage Disposal Rules" (IDAPA 58.01.03.005.04.o), see section 8.1. The septic tank and drainfield shall not be installed on an unstable landform, where operation of the subsurface sewage disposal system may be adversely affected or effluent discharged to the subsurface will contribute to the unstable nature of the downslope landform.

~~Application for a~~A permit shall be denied for a subsurface sewage disposal system application ~~with~~ where any portion of the system must be installed on an unstable landform and no other alternative sites for system placement are available~~shall have the permit denied~~. Locating subsurface sewage disposal systems on unstable landforms will result in adverse system operation, performance, and effluent treatment.

Appendix L

1.1 Technical Guidance Committee

Revision: ~~September 12~~April 18, 201~~308~~

To provide the latest information for this manual, the Technical Guidance Committee was established by the Board of Environmental Quality (IDAPA 58.01.03.004.07). The committee includes three environmental health specialists from Idaho health districts, a member of the Idaho Department of Environmental Quality (DEQ), a professional engineer licensed in the State of Idaho, and a permitted septic system installer. All appointments are for three year terms, except for the DEQ appointment which shall be permanently held by DEQ's On-Site Wastewater Coordinator or equivalent. All sections of the TGM have been reviewed and approved by the TGC prior to inclusion herein (IDAPA 58.01.03.004.08).

1.2 Individual and Subsurface Sewage Disposal Coordinator

Revision: ~~September 12~~April 18, 201~~308~~

DEQ provides an individual subsurface sewage disposal coordinator (On-Site Wastewater Coordinator) to assist in updating and maintaining the TGM in a timely manner, advise the TGC on the latest state-of-the-art on-site subsurface disposal methodologies and products, track changes in laws, and provide approvals for new subsurface sewage disposal products/components, Operation and Maintenance Entities, and any other subsurface sewage disposal related issue. The coordinator also ~~assists in~~provides continued education and technical support ~~of~~to those involved in subsurface sewage disposal system design, approval, installation, ~~and~~ operation and maintenance, as well as the general public. In addition, the coordinator will provide periodic subsurface program audits of Idaho's health districts for assistance in developing and ensuring statewide consistency in the individual subsurface sewage disposal program delivery.

1.3 Disclaimer

Revision: ~~September 12~~April 18, 201~~308~~

The inclusion of a new alternative system technology in this manual does not imply that such technology will be approved for use. The TGM is provided solely for guidance if a particular alternative's implementation is desired.

Product listings do not constitute endorsement. Products not listed may be approved by the Director (IDAPA 58.01.03.009) if, after review, the product(s) are found to meet the regulatory intent of IDAPA 58.01.03. Product approval shall follow the process outlined in section 1.4 and 1.5 of this manual.

1.4 Product Approval

Revision: April 18, 2013

All commercially manufactured wastewater components must be approved by the Director prior to installation in a subsurface sewage disposal system (IDAPA 58.01.03.009.01). Plans, specifications, and any associated third party data (e.g., NSF standards, EPA ETV testing, etc.) for commercially manufactured wastewater components must be submitted to DEQ's On-Site Wastewater Coordinator for approval. Plans and specifications required to be submitted for product approval includes (IDAPA 58.01.03.009.02):

- Detailed construction drawings
- Capacities (volume)
- Structural calculations
- List of product materials
- Evidence of stability and durability
- Manufacturer's installation requirements
- Operation and Maintenance instructions
- Any other information deemed necessary by the Director

Product submissions should be made by the product's manufacturer or an associated distributor. Products may be disapproved if the product is not in compliance or may not consistently function in compliance with the IDAPA 58.01.03 rules (IDAPA 58.01.03.009.04). Manufacturers or distributors will be notified in writing of product approval or disapproval. If a product is approved the Director reserves the right to specify circumstances under which the component must be installed, used, operated, or maintained (IDAPA 58.01.03.009.03). Products approved for installation in subsurface sewage disposal systems can be found in Chapter 5 of this document.

1.4.1 Director Policy on Product Approvals

The Director's policy on product approvals dictates that all approvals for subsurface sewage disposal products must be recommended to DEQ by the Technical Guidance Committee (TGC) in accordance with their given duties (IDAPA 58.01.03.004.08) and in compliance with the rules (IDAPA 58.01.03). The TGC may develop product approval policies that shall be included within Chapter 1 of the Technical Guidance Manual (TGM). The TGC may delegate product review and approval to DEQ for specific products.

1.4.2 Technical Guidance Committee Product Approval Policies

Unless otherwise listed within this subsection of Chapter 1 of the TGM all submissions for product approvals shall follow the process outlined in subsection 1.4.

1.4.2.1 Septic Tank Approvals

All submissions for septic tank approvals shall be submitted to the DEQ On-Site Wastewater Coordinator and reviewed by DEQ's Wastewater Program Lead Engineer. Approvals shall be issued by DEQ and do not need to undergo TGC review.

1.4.2.2 Extended Treatment Package System Approvals

Approvals for Extended Treatment Package Systems (ETPS) shall be submitted to the DEQ On-Site Wastewater Coordinator and reviewed by DEQ. ETPS units seeking approval for reduction of Total Suspended Solids (TSS) and Carbonaceous Biological Oxygen Demand ($CBOD_5$) will need to submit National Sanitation Foundation (NSF) Standard 40 approvals, reports, and associated data. ETPS units seeking approval for reduction of Total Nitrogen (TN) will need to submit NSF Standard 245 approvals, reports, and associated data. Any additional third party standards evaluated for the ETPS unit will also need to be submitted including approvals, disapprovals, reports, and associated data.

DEQ will issue ETPS product approval in conjunction with associated reduction levels for TSS, $CBOD_5$, and TN. Reduction levels will be determined through statistical analysis of the data included in the third party standards. Third party reports average reduction values will not be accepted to establish system performance approvals. The third party data will be statistically evaluated to determine a resulting value that corresponds to the 90% confidence limit. The resulting value that corresponds to the 90% confidence limit will be used as the system's performance limit.

ETPS units that have not undergone third party testing and wish to be approved for reduction in TSS and $CBOD_5$ must submit testing data on installations from States with similar climates to Idaho. The testing results submitted must be for ETPS units of the exact same make and model as is requested for approval in Idaho. Data must be submitted on a minimum of 30 units and the units must have been installed and operational for a period of 3 years prior to data submission. All maintenance and effluent testing records obtained over this period must be submitted for review. Effluent testing results submitted must be for TSS and $CBOD_5$ and come from a testing program that requires annual maintenance and annual effluent testing for each constituent at a minimum. Non-third party data for TN will not be accepted.

To obtain approval for TN reduction without third party data, or to lower reduction levels from initial approval for any constituent, the manufacturer of the ETPS unit or their representative must submit data from their ETPS units installed in Idaho. Any data submitted must be specific to a particular ETPS make and model. Data submission must include information on 20

installations with a minimum of 2 full years of operational data on each system. All maintenance and effluent testing records obtained over this period must be submitted for review. For adjustment in reduction levels of effluent constituents to be approved the data must show that 90% of the installed units have successfully maintained effluent reduction levels at or below the desired reduction approval level.

ETPS approval for manufacturer technology that has undergone NSF or EPA third party testing shall be submitted to, reviewed, and approved by DEQ following the process within this section. ETPS approval for manufacturer technology that has undergone third party testing evaluation that is not NSF or EPA, have not undergone third party evaluation, or are submitting testing data from other states, shall submit the necessary information to DEQ for distribution to the TGC for recommendation on approval.

ETPS units must have an Operation and Maintenance Entity setup for the particular manufacturer's products as described in section 4.2 of the TGM prior to any permits being issued for system installation. The Operation and Maintenance Entity must be capable of fulfilling the requirements of section 4.2 and 4.10 of the TGM prior to approval.

1.4.2.3 All Other Product Approvals

All other wastewater products intended for installation in a subsurface sewage disposal system shall follow the process outlined in section 1.4 of this manual. If a product has been evaluated meets a standard developed by NSF the product may be reviewed and approved for use by DEQ without TGC recommendation. For products that have not undergone NSF testing and certification the necessary materials as described in section 1.4 of this manual must be submitted to DEQ for review by the TGC for approval recommendation.

Appendix M

4.1 General Requirements

Revision: ~~May 15, 2000~~April 18, 2013

All rules pertaining to standard subsurface sewage disposal systems shall be applicable, except as modified in this section for each alternative.

All alternative systems shall be approved for specific site use by the health districts in a manner consistent with the ~~individual district's policy for use of~~guidance provided within this manual for each alternative system~~s~~.

Requirements for each site-specific alternative shall be contained in the permit.

The designer of alternative *public* systems must be a professional engineer (PE) licensed in the State of Idaho and experienced in the alternative system's design. The designer of alternative *private* systems, other than those listed below, may be required to be either a PE or an environmental health specialist (REHS/RS).~~;~~ ~~both~~ The PE must be licensed in the State of Idaho and the REHS/RS must be registered with the National Environmental Health Association, and both should be experienced in the alternative system's design. The designer of the following complex alternative *private* systems must be a PE licensed in the State of Idaho unless otherwise allowed within the specific system's guidance:

- Drip Distribution System
- Evapotranspiration and Evapotranspiration/Infiltrative System
- Experimental System
- Grey Water System
- Individual Lagoon
- Pressure Distribution System
- Recirculating Gravel Filter
- Intermittent Sand Filter
- Sand Mound
- Two-Cell Infiltrative System

Appendix N

4.3 Vested Rights and Nonconforming Uses

Revision: ~~May 15~~April 18, 201300

Failed system: Repair or replacement of an existing system.

1. Dwelling or structure unit served by the system must not be altered, remodeled, or otherwise changed, so as to result in increased wastewater flows (IDAPA 58.01.03.004.04).

2. Reason for failure should be determined if possible.

3. If failure is due to age, the system may be repaired or replaced with a similar system that shall be constructed as close as possible to current dimensional and setback requirements for standard systems (IDAPA 58.01.03.008.12).

4. If failure has occurred in less than 10 years and is due to increased wastewater flows or poor site characteristics, an alternative or larger system must be constructed as close as possible to current dimensional and setback requirements for alternative systems (IDAPA 58.01.03.008.12).

~~3.~~5. System replacement must follow the requirements of the subsurface program directive memorandum entitled "Failing Subsurface Sewage Disposal System" issued by DEQ on July 26, 1993.

Additions or alterations: Changes to an existing structure or dwelling, such as remodeling.

1. Addition or alteration will not cause the existing system to become unsafe or overloaded (IDAPA 58.01.03.004.04).

~~4.~~2. Enough reserve area for both the original and additional system shall be preserved (IDAPA 58.01.03.004.06).

~~5.~~3. Addition or alteration will not be additional or new dwelling units.

~~6.~~4. Wastewater flow will not be significantly increased (IDAPA 58.01.03.004.04). Significant increases shall be considered to be any increase in wastewater flow that exceeds the design flow of the system.

5. Area reserved for replacement cannot be used for the addition (IDAPA 58.01.03.004.06).

~~7.~~6. A subsurface sewage disposal permit may be required for system enlargement or adjustments based upon the addition or alteration plan.

a. A permit may be required due to possible impacts on separation distances from the addition or alteration to the existing subsurface sewage disposal system or due to additional wastewater flows from the addition or alteration that exceeds the original design flow of the system.

~~a.~~b. Permit issuance shall be required in conformance with the subsurface program directive entitled "Permit Requirements for Increased Flows at Single Family Dwellings" issued by DEQ on April 15, 2010.

Abandoned system: An abandoned system is considered to be a system that has not received wastewater flows or blackwaste for 1 year or more (IDAPA 58.01.03.003.01)

1. An abandoned system may be used if the system was originally permitted and approved and, ~~wastewater or blackwaste characteristics are similar to former waste strengths and flow rate received by the system and,~~

2. ~~The system was originally permitted and approved and,~~Wastewater flows and blackwaste characteristics are similar to the system's original permit requirements for waste strength and flow rate received by the system and,

3. The site is inspected and approved.

4. If the system is an unapproved system, it must be (IDAPA 58.01.03.011.02):

   a. U~~u~~ncovered by a permitted installer or the property owner.~~,~~

      i. Uncovering includes exposure of the septic tank, effluent piping, and the front and back ends of each subsurface disposal trench.

   b. P~~p~~umped by a permitted septic tank pumper.~~, and~~

   c. I~~i~~nspected by the health district while uncovered~~(IDAPA 58.01.03.011.02)~~.

   d. The system must meet all current requirements, including the issuing of a permit (IDAPA 58.01.03.005.01).

      i. If the system does not meet all current requirements it must be brought into compliance with the current requirements prior to use according to the issued permit requirements.

      ~~i.~~ii. If the system, or any portion thereof, cannot be brought into compliance with the current requirement the system or portion of the system not in compliance must be abandoned and replaced in compliance with the current requirements and in accordance with the issued permit.