



Technical Guidance Committee Meeting

Agenda*

Friday March 20, 2015

8:30 a.m. – 4:30 p.m.

**Department of Environmental Quality
Conference Room C
1410 North Hilton
Boise, Idaho**

- 8:30 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
- 8:35 AM Open to Public Comment – ½ hour reserved for public to provide comments to the TGC on subjects not on the agenda, if no public comment is presented at start of comment period the agenda will move forward
- 9:05 AM December 10, 2014 Draft TGC Meeting Minutes: Review, Amend, or Approve (**Appendix A**)
- 9:10 AM 4.18 Pit Privy (**Appendix B**)**
- Review for final approval
- 9:20 AM 4.19 Portable Sanitation Units (**Appendix C**)
- Review for final approval
- 9:30 AM 4.29 Vault Privy (**Appendix D**)
- Review for final approval
- 9:40 AM 2.1.3 Soil Design Subgroup Corrections (**Appendix E**)
- Review for final approval
- 9:50 AM 4.1.3 Combination of Multiple Alternative Systems in One System Design (**Appendix F**)
- Review for final approval
- 10:00 AM Break – Ten Minutes
- 10:10 AM 4.3 Existing and Approved System Rights, Abandoned and Undocumented System, and Nonconforming Uses (**Appendix G**)
- Review for final approval



- 10:30 AM 4.10 Floating Vault Toilets and Boat or Vessel Sewage Disposal (**Appendix H**)
- Review for preliminary approval
- 11:00 AM Gravelless Chamber Product Discussion on Holding Capacity Based on Inlet Invert Height and Pressurization Design for Chambers with Support Posts
- Review for design and installation requirement recommendations (will be developed for review at subsequent meetings if recommendations are provided)
- 12:00 to 1:00 P.M. Lunch
- 1:00 PM Figure 2-2 Soil Texture Determination Flowchart (**Appendix I**)
- Discussion on amendment of #10 sieve (2 mm) to #50 sieve (0.297 mm) for removal of all unsuitable material prior to texturing. Review for preliminary approval.
- 1:20 PM Proposed Additions to Approved Products List
- Discuss for action items
 - Development of approved lists for distribution and drop boxes
- 1:30 PM 4.1 General Requirements (**Appendix J**)
- Review for preliminary approval
- 1:45 PM 3.2.8.1.4 Pit Run (**Appendix K**)
- Review for preliminary approval
- 2:00 PM Table 4-16 and Table 4-18 (**Appendix L**)
- Review for preliminary approval
- 2:15 PM 4.24.2 In-Trench Sand Filter Approval Conditions (**Appendix M**)
- Review for preliminary approval
- 2:45 PM Discussion on Extended Treatment Package System Program
- Discuss for action items
- 4:30 PM Adjourn
- Meeting may adjourn early dependent upon discussion, interest, and participation for each agenda item
 - If needed meeting will run until 4:45 PM to resolve any lingering discussions or issues on the agenda items



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

** Agenda appendices starting at Appendix B are color coded to track changes. **Blue text indicates changes that were made in previous Technical Guidance Committee (TGC) meetings.** **Red text indicates changes that are newly proposed for this TGC meeting.** **All green text indicates text that was moved from one area of a section to the new area.** ~~All text with strikeout markings regardless of color is either proposed to be deleted from the guidance or moved to another location within that section.~~

The call in number is (208) 373-0101 Bridge # 1

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As participants are added to a conference call, an audible chime is heard by participants already connected to the call. If the conference is in progress when the chime is sounded, it is advisable to acknowledge the new participant and ask who has joined the call. This will ensure that the new caller has gained access to the proper call.

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1) Visit the Website Below

- <https://www.myroom.hp.com/attend/MEPMIDIZ96T>
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Appendix A

Technical Guidance Committee Meeting

Draft Minutes

Wednesday, December 10, 2014

**Idaho Correctional Industries
1301 North Orchard, Suite 110
Boise, Idaho**

TGC ATTENDEES:

Tyler Fortunati, REHS, On-Site Wastewater Coordinator, DEQ
Joe Canning, PE, B&A Engineers
Bob Erickson, REHS, Senior Environmental Health Specialist, SCPHD
Dale Peck, PE, Environmental & Health Protection Division Administrator, PHD
Michael Reno, REHS, Environmental Health Supervisor, CDHD
Complex Installer Seat - Vacant

GUESTS:

Tammarra Golightly, Administrative Assistant, DEQ
Ryan Spiers, Alternative Wastewater Systems, LLC
PaRee Godsill, Everlasting Extended Treatment, LLC
AJ Maupin, PE, IPDES Permit Lead, DEQ
Matt Gibbs, Infiltrator Systems, Inc.
Dick Bachelder, Infiltrator Systems, Inc.
Jake Davis, Environmental Health Specialist, PH-INCD (via telephone)

CALL TO ORDER/ROLL CALL:

Meeting called to order at 8:30 a.m.
Committee members and guests introduced themselves. Tammarra Golightly was introduced as the new Administrative Assistant for DEQ's Wastewater Program. Tyler Fortunati informed the committee that Tammarra would be the point of contact for non-DEQ employee reimbursement for committee members. Mike Reno requested a status update on the complex installer seat for the committee. Tyler Fortunati informed the committee that Jason Holm of JT Holm Construction, LLC had been appointed to fill the complex installer seat on the committee. Mr. Holm is permitted as a complex installer through Southeastern Idaho Public Health and Mr. Holm's appointment will begin on January 1, 2015.

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.



MEETING MINUTES:

September 18, 2014 Draft TGC Meeting Minutes: Review, Amend, or Approve

The minutes were reviewed and no suggestions for amendments were made.

Motion: Dale Peck moved to approve the minutes.

Second: Mike Reno.

Voice Vote: Motion carried unanimously.

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

OLD BUSINESS/ FINAL REVIEW:

4.11 Extra Drainrock Drainfield

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

Motion: Dale Peck moved that the TGC recommend final approval to DEQ for Section 4.11 Extra Drainrock Drainfield.

Second: Bob Erickson.

Voice Vote: Motion carried unanimously.

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

4.16 Incinerator Toilets

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

Formatting edits were made regarding the requirements for full time use requirements of an incinerating toilet.

Motion: Mike Reno moved that the TGC recommend final approval to DEQ for Section 4.16 Incinerator Toilets as amended.

Second: Dale Peck.

Voice Vote: Motion carried unanimously.

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

4.27 Steep Slope System

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



The separation distance requirements from the bottom of the drainfield on the uphill side of a trench were clarified to be vertical separation distances only. Horizontal separation distances are to be determined from the closest location of a trench to the feature of interest.

Motion: Bob Erickson moved that the TGC recommend final approval to DEQ for Section 4.27 Steep Slope System as amended.

Second: Joe Canning.

Voice Vote: Motion carried unanimously.

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

4.10.3 Extended Treatment Package System Operation, Maintenance, and Monitoring

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

The committee had no recommended revisions to this section.

Motion: Dale Peck moved that the TGC recommend final approval to DEQ for Section 4.10.3 Extended Treatment Package System Operation, Maintenance, and Monitoring.

Second: Mike Reno.

Voice Vote: Motion carried unanimously.

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

1.4.2.1.1 Initial Septic Tank Approvals and 1.4.2.1.2 Transfer of Septic Tank Approvals Between Manufacturers

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

The committee had no recommended revisions to this section.

Motion: Bob Erickson moved that the TGC recommend final approval to DEQ for Section 1.4.2.1.1 Initial Septic Tank Approvals and 1.4.2.1.2 Transfer of Septic Tank Approvals Between Manufacturers.

Second: Mike Reno.

Voice Vote: Motion carried unanimously.



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

3.2.3 Septic Tanks and Dosing Chambers

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

The committee discussed one-piece and multi-piece tanks and how the separation distance to ground water from the top of the tank was interpreted in this section. AJ Maupin provided the committee background information on the changes to fluid weights in regards to hydrostatic water pressure requirements for septic tank and dosing chamber walls. The committee also discussed the requirement that structural changes to septic tanks (e.g., core drilling and roto-hammering) are not allowed unless they are approved by DEQ prior to the change being made. The committee placed the modification approval requirements at the beginning of this section.

Motion: Bob Erickson moved that the TGC recommend final approval to DEQ for Section 3.2.3 Septic Tanks and Dosing Chambers as amended.

Second: Mike Reno.

Voice Vote: Motion carried unanimously.

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

6 Septic Tank Pumpers' Guidance Manual

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

The committee again expressed desire that this section of the manual be removed from the TGM and placed into its own separate manual. Tyler Fortunati stated that DEQ would consider this once everything related to septage was worked out in the IPDES program and there was a better understanding of how the pumper rules and domestic septage land application requirements were going to be impacted. Tyler Fortunati stated this will take some time based on the necessary rule making that must occur for the IPDES program.

The committee made minor changes to the septic tank inspection and pumping time frames.

Motion: Mike Reno moved that the TGC recommend final approval to DEQ for Section 6 Septic Tank Pumpers' Guidance Manual as amended.

Second: Bob Erickson.

Voice Vote: Motion carried unanimously.



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

9:38 a.m. Break

9:55 a.m. Meeting Resumed

4.22 Recirculating Gravel Filter

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

The committee requested that Figure 4-25 have the drainrock depth description clarified. It was also requested that the figures included in this section of the agenda be larger and legible upon their addition to the TGM. Tyler Fortunati stated he would ensure the figures were large enough in the actual manual and that their size in the agenda was simply made to reduce the number of agenda pages. Joe Canning asked that the callout for Figure 4-27 be changed to describe the figure as a bottom view.

The committee held discussion on the proposed design. The committee made some adjustments to the pressurized drainfield requirements and engineer inspection requirements.

Motion: Joe Canning moved that the TGC recommend final approval to DEQ for Section 4.22 Recirculating Gravel Filter as amended.

Second: Mike Reno.

Voice Vote: Motion carried unanimously.

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

4.23 Intermittent Sand Filter

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

The committee held discussion on the proposed design. The committee made some adjustments to the engineer inspection requirements.

Motion: Joe Canning moved that the TGC recommend final approval to DEQ for Section 4.23 Intermittent Sand Filter as amended.

Second: Bob Erickson.

Voice Vote: Motion carried unanimously.

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



NEW BUSINESS/DRAFT REVIEW

4.1.3 Combination of Multiple Alternative Systems in One System Design

Dale Peck requested that all of the table cells above the diagonal designation of “S” across the table be removed as this is just a mirror version of what is located below the “S”. A few minor changes were made in the footnotes of Table 4-1 to clarify the asterisk designations.

Motion: Dale Peck moved that the TGC recommend preliminary approval to DEQ for Section 4.1.3 Combination of Multiple Alternative Systems in One System Design as amended.

Second: Mike Reno.

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.

4.3 Existing and Approved System Rights, Abandoned and Undocumented System, and Nonconforming Uses

Tyler Fortunati provided a reminder that upon final approval of this section the committee would also be approving the movement of existing sections 4.2, 4.3, and 4.4 to section 1 of the manual. The only section with content changes upon this move would be section 4.3.

The committee made some changes to section 4.3.1 in regards to non-conforming permits and that all existing systems will be repaired or replaced to meet the current requirements of IDAPA 58.01.03 when at all possible.

The committee also made a revision for the timeframe of abandonment shall be two years instead of one year. There was also clarification made that only one form of approval is necessary to use an abandoned system.

The committee also provided clarification that a test hole is only needed for an undocumented system if there is no existing soil documentation for the property.

The committee discussed the necessity of section 4.3.5 to be included in this guidance. Tyler Fortunati stated that DEQ has seen cases where nonconforming subsurface sewage disposal permits are being issued that allow the system blanket nonconformance when several system parameters could be brought into compliance with IDAPA 58.01.03 upon replacement. The committee moved a description regarding the requirement that any nonconforming system be brought into compliance with as much of IDAPA 58.01.03 as the property will allow to the front of this section. The committee also added reference



that the DEQ issued memorandums may be found in the document maintained by the health districts titled Idaho Subsurface Sewage Disposal Standard Operating Procedures.

Motion: Joe Canning moved that the TGC recommend preliminary approval to DEQ for Section 4.3 Existing and Approved System Rights, Abandoned and Undocumented System, and Nonconforming Uses as amended.

Second: Mike Reno.

Voice Vote: Motion carried unanimously.

See **Appendix L** and provide public comment to Tyler Fortunati at 208-373-0140 or by email at tyler.fortunati@deq.idaho.gov.

4.18 Pit Privy

Tyler Fortunati stated that the revisions to section 4.18, 4.19 and 4.29 are all based off of the current version of ANSI standard Z4.3. The committee discussed the new design and construction requirements for this system. The committee added that the floor and toilet riser be constructed of sealed material to ensure it is nonabsorbent.

Motion: Bob Erickson moved that the TGC recommend preliminary approval to DEQ for Section 4.18 Pit Privy as amended.

Second: Dale Peck.

Voice Vote: Motion carried unanimously.

See **Appendix M** and provide public comment to Tyler Fortunati at 208-373-0140 or by email at tyler.fortunati@deq.idaho.gov.

4.19 Portable Sanitation Units

The committee reviewed the proposed revisions and had no recommended changes.

Motion: Mike Reno moved that the TGC recommend preliminary approval to DEQ for Section 4.19 Portable Sanitation Units as proposed.

Second: Joe Canning.

Voice Vote: Motion carried unanimously.

See **Appendix N** 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 11:55 a.m. – 12:55 p.m.

Product Review for Arc 36 LP Gravelless Chamber – Infiltrator Systems, Inc.

Dick Bachelder and Matt Gibbs from Infiltrator Systems, Inc. presented their Arc 36 LP gravelless chamber product to the committee. Dick Bachelder provided a presentation to the committee to answer questions the committee had related to this product.

Dick provided information that the chamber has a very similar open bottom area to the currently approved Quick 4 Plus Standard LP chamber produced by Infiltrator Systems, Inc. He described that the side supports of the chamber were reduced due to the presence of the middle support posts.

Dick also provided information regarding wetting patterns in chambers with center supports for pressurized drainfields. Dick asserted that the wetting pattern in chambers with posts is not much different than in pressurized gravel systems. The committee voiced concerns regarding the progressive failure nature of effluent distribution across a pressurized dome with a center support post. The committee feels the posts prevent effluent from distributing across the dome under unsaturated conditions.

Mike Reno expressed concerns regarding the reduction allowance that this chamber would receive and the fact that the holding capacity of the dome is reduced since the product is only 8 inches tall and the inlet invert is at 3.77 inches, where full sized domes and gravel systems have inverts at least 6 inches above the trench bottom. Dick and Matt described that the product could be installed using their “periscope” connection or the pipe could enter the top of the chamber product which would allow the entire chamber to be utilized for storage. Dick did express concern that this requirement would limit the chamber’s use in shallow installations due to the effluent pipe height and a lack of cover over this pipe in gravity flow installations. Dick indicated that this installation condition was not warranted and did not want that condition placed on the product.

Dick also provided empirical data from Montana and Washington that outlined the number of gravelless systems manufactured by Infiltrator Systems, Inc. installed within both states over the last five years. This was correlated to a very low warranty claim rate from both states. Dale Peck expressed his concern that Idaho’s sizing requirements are much less than any other state in the country and the failure rates may not be similar in Idaho. Dick expressed that this is not something that Infiltrator Systems, Inc. can control and the sizing aspects should not impact the approval of this product.

The committee discussed possible approval with certain installation requirements to address wetting and storage capacity concerns. Tyler Fortunati stated that DEQ would not be comfortable approving a single product within a product category with conditions that the other products would not have to meet. Tyler stated that if the committee wanted specific installation requirements for low profile chambers or pressurized chambers with



support posts that this would best be addressed through the installation, operation, and maintenance requirements included in the Gravelless Trench System section of the TGM as authorized by IDAPA 58.01.03.004.08 and .10.

Action Item: The committee would like to review low profile chambers at the next meeting in relation to storage capacity based on inlet installation height in comparison to gravel systems based on data provided by Infiltrator Systems, Inc. and through available literature on this topic, and they would also like to look at wetting and pressurization requirements when support posts and columns are located in the chamber.

Motion: Mike Reno moved that the TGC recommend approval to DEQ for the Arc 36 LP gravelless chamber product presented by Infiltrator Systems, Inc. with an allowed sizing reduction of 25%.

Second: Dale Peck.

Voice Vote: Motion carried unanimously.

Product approval recommendation will be passed to DEQ for final approval.

2:35 p.m. Break

2:45 p.m. Meeting Resumed

4.29 Vault Privy

The committee requested that Jake Davis with Public Health – Idaho North Central District provide his input regarding vault privies in north Idaho. Jake voiced concern about limiting vault privies to areas outside of floodways and the requirement to place them more than 50 feet from a surface water body. Jake stated that north Idaho has several river corridors and lake areas where these restrictions would prevent the installation of a vault privy. Jake expressed concern that this would lead to improper disposal of human waste in these locations. Jake felt it would be better for overall protection of public health and the environment to allow the vault privies to be placed in these locations. Jake also expressed concern regarding how these requirements would impact floating vault toilets located on some northern Idaho lakes. Joe Canning expressed concern that if we allowed these structures in floodways we may be creating issues with cities and counties related to flood insurance and assessments. Tyler Fortunati also stated that since vaults are underground tanks, and in some cases, converted septic tanks that it would not be consistent with the remainder of the subsurface program to allow these features closer than 50 feet to surface water. There was also clarification that the floodway is much different than a floodplain. The committee felt the restrictions on vault privies to keep them out of floodways and more than 50 feet from surface water was reasonable. Based on Jake's concerns regarding floating vaults and input from Dale Peck that these are prevalent in north Idaho, Tyler Fortunati stated that DEQ will draft separate guidance for inclusion in the TGM for these types of facilities and that the requirements for vault privies will not impact the future guidance for floating vaults.



Action Item: Draft new guidance to address floating vault toilets in Idaho.

Motion: Dale Peck moved that the TGC recommend preliminary approval to DEQ for Section 4.29 Vault Privy as proposed.

Second: Joe Canning.

Voice Vote: Motion carried unanimously.

See **Appendix O** and provide public comment to Tyler Fortunati at 208-373-0140 or by email at tyler.fortunati@deq.idaho.gov.

2.1.3 Soil Design Subgroup Corrections

Tyler Fortunati explained that this revision came out of a request for how soil design subgroup corrections are made in regards to lowering subgroups and whether it was acceptable to lower from one soil design group (A, B, or C) to another soil design subgroup. Tyler also explained that the removal of raising a subgroup was made due to Idaho's already limited drainfield sizing.

Motion: Mike Reno moved that the TGC recommend preliminary approval to DEQ for Section 2.1.3 Soil Design Subgroup Corrections as proposed.

Second: Joe Canning.

Voice Vote: Motion carried unanimously.

See **Appendix P** and provide public comment to Tyler Fortunati at 208-373-0140 or by email at tyler.fortunati@deq.idaho.gov.

Bob Erickson Requested to Discuss Table 2-7 from Section 2.2.4.1 of the TGM

Bob Erickson requested the committee's input regarding a situation where an applicant has to meet separation distances to surface water and a spring. The site can meet the requirements to the surface water but the spring is closer than the required 200 feet. Bob stated that the spring boils to the surface and the water then seeps back into the ground and does not stay surfaced. Bob also expressed that based on elevations and topography it was unlikely that the drainfield could have an impact on the spring.

The committee stated it would be acceptable to require the applicant have a professional with experience in hydrology verify and document that the drainfield and spring would not be hydraulically connected. Alternatively, the applicant can have a professional in hydrology verify and document that the spring discharges to ground water upon surfacing. If either could be verified and documented then the separation distance could be reduced to 100 feet.



NEXT MEETING:

The next committee meeting is scheduled to be on March 20, 2015 at the DEQ state office building.

Motion: Mike Reno moved to adjourn the meeting.

Second: Bob Erickson.

Voice Vote: Motion carried unanimously.

The meeting adjourned at 3:20 p.m.



Appendix B

4.18 Pit Privy

Revision: ~~June 5, 2000~~March 20, 2014

4.18.1 Description

A pit privy is a building that contains a ~~stool, urinal, or seat~~toilet facility located over an excavation in natural soil for the disposal of blackwastes.

4.18.2 Approval Conditions

1. Surface water will be excluded.
2. Pit privies ~~shall~~should not be located in floodways.
3. ~~Distance limitations~~Effective soil depths (IDAPA 58.01.03.008.02.c) and separation distances (IDAPA 58.01.03.008.02.d) ~~of a standard trench can~~shall be met from the pit excavation with the following exceptions:
 - a. Clay soils of all types are acceptable.
 - b. Impermeable layer restrictions are waived.
4. ~~Dwelling Structures on the property is~~shall not be served by water under pressure, ~~or a standard system could otherwise be constructed.~~
5. ~~The Pit~~ should~~shall~~ be abandoned when the sewage/blackwaste comes within 16 inches of the ground surface.
6. The pit privy installation permit shall contain a statement that requires the pit privy to~~and structure be abandoned upon the installation of a subsurface sewage disposal system.~~

4.18.3 Pit Construction Requirements

1. Area where the privy is placed must be:
 - a. Firm and level for at least 12 inches from the sides of the building. ~~and~~
 - b. ~~s~~Shall be at least ~~6~~12 inches above the highest ground elevation as measured 18 inches from the sides of the building.
 - c. Shall be graded at a maximum slope of 3:1 starting 18 inches from the sides of the building.
2. ~~Bottom of the pit should be between 3 and 6 feet below the original ground level.~~
23. ~~Volume of the pit~~Pit dimensions should be at least 3 feet wide on all sides and 4 feet deep, but no deeper than 6 feet below original ground level ~~50 gallons per seat.~~
3. Pit cribbing, when required, shall:
 - a. Fit firmly.
 - b. Be in uniform contact with the earth walls on all sides.



- c. Rise at least 6 inches above the original ground line and descend to the full depth of the pit.

4.18.4 Building Construction Requirements

~~Pit privy buildings must be constructed to meet the same requirements as portable sanitation unit buildings except for the following:~~

1. The privy building shall be firmly anchored and rigidly constructed.
2. All openings, spaces, and cracks that would permit flies to access the pit must be no wider than one-sixteenth of an inch. This would include doors and seats when closed.
3. Doors shall be self-closing.
4. The privy building shall be ventilated with two screened openings that each have a cross-sectional area of 1 ft² per seat located at the top of opposite walls.
5. All gaps larger than one-sixteenth of an inch shall be screened with a maximum screen size of 16-mesh.
6. The pit must be vented through the building with a screened ~~flue or~~ vent stack having a ~~cross-sectional area of at least 7 square~~ minimum diameter of 3 inches per seat and extending at least 12 inches above the roof of the building.
7. The seat opening shall be at least 12 inches from the side walls in all privies and spaced so that there is at least 24 inches between seats in multiple-seat installations.
8. The seat shall have an inside clearance of at least 21 inches from the front wall and 24 inches from the rear wall of the privy.
9. The seat top shall not be less than 12 inches nor more than 20 inches above the floor.
10. The floor and toilet riser shall be built of nonabsorbent and sealed material or tongue and groove lumber and in a manner to deny access to insects.
11. The seat shall be constructed of nonabsorbent material.

4.18.5 Abandoning a Pit Privy

1. The privy building should be ~~either dismantled and the portions of the building that may have come into contact with human sewage should be disposed of in a landfill.~~
 - a. ~~Dismantled~~
 - b. ~~Moved to cover a freshly dug pit, or~~
 - c. ~~Stored for future use as a privy building~~
2. The pit shall be filled with soil; that is free of rock; and graded to allowing for about 12 inches of settling.
3. The site should be marked and protected from traffic or excavation activities.



Appendix C

4.19 Portable Sanitation Units

Revision: ~~June 5, 2000~~March 20, 2014

4.19.1 Description

Portable sanitation units are prefabricated, portable, self-contained toilets that may be housed in trailers or as stand-alone units used for special or temporary events, construction sites, parks, and other events or locations with restroom needs such as fairs, races, or construction projects.

4.19.2 Approval Conditions

1. Permanent sewage disposal facilities are not available, ~~and their installation is impractical.~~
2. All units must be serviced by a pumper with equipment that is permitted through a health district under IDAPA 58.01.15.
3. Units must be manufactured to meet the most current version of ANSI standard Z4.3.
4. Chemicals and biologicals, if used in the waste container, must be compatible with the final disposal site. Chemicals considered hazardous wastes must not be used.
5. Toilets shall contain an adequate supply of toilet paper and hand sanitizer (potable water hand washing stations may be supplied instead of hand sanitizer).
6. ~~The event served is temporary (i.e., 1 year or less).~~
7. ~~The event is one in which the Occupational Safety and Health Administration requires portable sanitation units.~~
8. ~~Units can be made freely available to users.~~

4.19.3 Units Required

1. Table 4-11 and Table 4-12 provides work site requirements.
2. Campouts and overnight event requirements are at least 1 unit for every 50 participants.
3. Table 4-~~132~~ provides special event requirements.
4. ~~Urinals may be substituted for one-third of the total units specified if facilities will not serve women.~~
5. The following should be taken into consideration when selecting the number of units for an event:
 - a. If the units are serving an event with food and beverage service 10-20% more units should be added to the recommended totals in Table 4-12.
 - b. Traffic flow.
 - c. Outside temperature (i.e., warmer days attendees will take in more liquids).
 - d. Special needs (e.g., changing tables, children use, handicapped accessibility).



- e. Urinals may be substituted for one-third of the total units specified if facilities will not serve women.

Table 4-11. Portable units required per number of workers if the units are serviced once per week.

<u>Total Number of Workers</u> <u>Employees</u>	<u>Minimum Number of Units</u> <u>(8-hour days/40-hour week)</u>
<u>1-105</u>	1
<u>116-2030</u>	2
<u>321-3054</u>	3
<u>3152-4072</u>	4
<u>73-93</u>	5
Over <u>9340</u>	1 additional unit for each <u>10</u> additional <u>20</u> <u>workersemployees.</u>

Table 4-12. Portable units required per number of workers if the units are serviced more than once per week.

<u>Total Number of Employees</u>	<u>Minimum Number of Units</u> <u>(8-hour days/40-hour week)</u>
<u>1-15</u>	<u>1</u>
<u>16-35</u>	<u>2</u>
<u>36-55</u>	<u>3</u>
<u>56-75</u>	<u>4</u>
<u>76-95</u>	<u>5</u>
<u>Over 95</u>	<u>1 additional unit for each 20 additional employees.</u>



Table 4-13. Portable unit requirements for number of people per event hours based on a 50/50 mix of men and women.

Number of People	Number of Hours for the Event									
	1	2	3	4	5	6	7	8	9	10
0–500	<u>42</u>	4	4	<u>65</u>	6	<u>67</u>	<u>89</u>	<u>89</u>	<u>810</u>	<u>812</u>
501–1,000	4	6	<u>68</u>	<u>68</u>	<u>69</u>	<u>89</u>	<u>811</u>	<u>812</u>	<u>813</u>	<u>4213</u>
1,001–2,000	<u>85</u>	<u>86</u>	<u>89</u>	<u>812</u>	<u>814</u>	<u>4216</u>	<u>4218</u>	<u>4220</u>	<u>4223</u>	<u>4625</u>
2,001–3,000	<u>86</u>	<u>89</u>	<u>4012</u>	<u>4016</u>	<u>4020</u>	<u>4224</u>	<u>4626</u>	<u>4630</u>	<u>2034</u>	<u>2038</u>
3,001–4,000	8	<u>813</u>	<u>4216</u>	<u>4222</u>	<u>4625</u>	<u>4630</u>	<u>2035</u>	<u>2440</u>	<u>2445</u>	<u>2850</u>
4,001–5,000	12	<u>4215</u>	<u>4220</u>	<u>4625</u>	<u>2031</u>	<u>3038</u>	<u>3044</u>	<u>3050</u>	<u>3056</u>	<u>3463</u>
5,001–6,000	12	12	16	16	20	30	30	36	36	40
6,001–7,000	12	12	16	20	30	32	40	40	48	52
7,001–8,000	12	12	20	24	32	32	40	44	52	54
8,001–9,000	16	16	24	28	40	40	52	52	60	64
<u>9,0015,000–10,000</u>	<u>4615</u>	<u>4625</u>	<u>2838</u>	<u>4050</u>	<u>4063</u>	<u>5275</u>	<u>5288</u>	<u>60100</u>	<u>60113</u>	<u>72125</u>
<u>10,000–15,000</u>	<u>20</u>	<u>38</u>	<u>56</u>	<u>75</u>	<u>94</u>	<u>113</u>	<u>131</u>	<u>150</u>	<u>169</u>	<u>188</u>
<u>15,000–20,000</u>	<u>25</u>	<u>50</u>	<u>75</u>	<u>100</u>	<u>125</u>	<u>150</u>	<u>175</u>	<u>200</u>	<u>225</u>	<u>250</u>
<u>20,000–25,000</u>	<u>38</u>	<u>69</u>	<u>99</u>	<u>130</u>	<u>160</u>	<u>191</u>	<u>221</u>	<u>252</u>	<u>282</u>	<u>313</u>
<u>25,000–30,000</u>	<u>46</u>	<u>82</u>	<u>119</u>	<u>156</u>	<u>192</u>	<u>229</u>	<u>266</u>	<u>302</u>	<u>339</u>	<u>376</u>
<u>30,000–35,000</u>	<u>53</u>	<u>96</u>	<u>139</u>	<u>181</u>	<u>224</u>	<u>267</u>	<u>310</u>	<u>352</u>	<u>395</u>	<u>438</u>
<u>35,000–40,000</u>	<u>61</u>	<u>109</u>	<u>158</u>	<u>207</u>	<u>256</u>	<u>305</u>	<u>354</u>	<u>403</u>	<u>452</u>	<u>501</u>
<u>40,000–45,000</u>	<u>68</u>	<u>123</u>	<u>178</u>	<u>233</u>	<u>288</u>	<u>343</u>	<u>398</u>	<u>453</u>	<u>508</u>	<u>563</u>
<u>45,000–50,000</u>	<u>76</u>	<u>137</u>	<u>198</u>	<u>259</u>	<u>320</u>	<u>381</u>	<u>442</u>	<u>503</u>	<u>564</u>	<u>626</u>

4.19.4 General Requirements

- ~~1. Portable sanitation unit buildings may be mobile trailers or prefabricated skid-mounted, or otherwise portable structures. If a unit they contains more than one stool, each stool should occupy a separate compartment with a door and walls or partitions between stools sufficient to ensure privacy. Urinals need not occupy separate compartments.~~
- ~~2. Where it is impractical to locate a portable sanitation unit building, such as in mines or high-rise structures, units may be located without buildings so long as privacy while using the facilities is ensured.~~



3. ~~Interior floors, walls, ceilings, partitions, and doors of all sanitation unit buildings should have a finish that can be easily cleaned.~~
4. ~~Every portable sanitation unit room must provide adequate space for the user with minimum inside dimensions of 3 feet front to back and side to side, inside clear height of 6 feet 6 inches, and a stool riser height of 14-20 inches.~~
3. ~~The door of a building or partitioned area in a building housing a stool should be provided with an inside latch. Any door leading to the outside shall be self-closing.~~
6. ~~Waste containers must be fabricated from nonabsorbent, watertight materials.~~
7. ~~The waste container must be vented to the outside of the building with a minimum nominal vent area of 7 square inches.~~
8. ~~Buildings that are not provided with mechanical ventilation must be provided with a screened ventilation area having a cross-sectional area of at least 1 ft² per stool.~~
5. ~~Portable chemical and biological toilets and urinals that are free-standing and not installed in a building do not require a ventilation system.~~
6. ~~Chemicals and biologicals, if used in the waste container, must be compatible with the final disposal site. Chemicals considered hazardous wastes must not be used.~~

4.19.45 Service Requirements

1. Work site units should be serviced weekly.
2. Special events with more than 500 people in attendance should have a service attendant on site during the event.
3. The employer, event promoter, or manager must be responsible for the hygiene and use of each portable sanitation unit.
4. Units should be serviced and removed from the site as soon as possible, but no longer than 7 days, after the completion of the event.
5. All equipment used to pump or transport sewage from a portable sanitation unit must be permitted by an Idaho health district under the requirements IDAPA 58.01.15.
6. All sewage removed from a portable sanitation unit must be disposed of at a location approved by the health district or DEQ through the pumper's permit application.

4.19.6 Waste Container Sewage Disposal

1. ~~The final disposal site must be approved by the Director.~~
2. ~~To remove sewage, suppliers of portable sanitation units must employ septic tank pumpers licensed in Idaho, unless the supplier is so licensed.~~



Appendix D

4.29 Vault Privy

Revision: ~~April 21, 2000~~March 20, 2014

4.29.1 Description

A vault privy is a sealed underground vault for the temporary storage of nonwater-carried sewage. The vault is pumped periodically by a permitted pumper and the sewage disposed of at an approved disposal site ~~a secondary treatment site~~.

4.29.2 Approval Conditions

1. Surface water will be excluded.
2. Vault Privies ~~shall~~should not be located in floodways.
3. The privy vault must meet the separation distance requirements of a septic tank (IDAPA 58.01.03.007.17).
4. ~~Dwelling Structures on the property shall~~is not be served by water under pressure ~~or a standard system could otherwise be constructed~~.
5. Vault privy must be accessible for maintenance.
6. The vault must be an approved septic tank (section 5.2) or vault toilet (section 5.11).
7. The vault vent stack ~~should~~is recommended to be oriented to the south side of the roof.
8. The vault must be pumped by an Idaho-permitted septic tank pumper.
9. The building and toilet structures over the privy vault shall meet the same requirements of structures and toilets over pit privies (section 4.18).

4.29.3 Vault Requirements

1. ~~Privy must meet the distance limitations of a septic tank.~~
2. Privy vault must be watertight, constructed of durable materials, and not subject to excessive corrosion, decay, frost damage, or cracking.
3. Vault may be a modified septic tank with inlet and outlet openings sealed or a preapproved vault unit.
4. The volume of the vault tank must be 375 gallons for each toilet, except that no tank may be less than 500 gallons.
5. The vault shall be vented to the outside of the building with a black, screened (maximum screen size of 16-mesh) vent stack that has a minimum diameter or 3 inches per seat and extending at least 12 inches above the roof of the building.
6. An access pumping port (manhole) shall be located outside of any vault structure, have a minimum diameter equivalent to the diameter of the toilet opening, and have a secured cover that prevents the escape of gases, odors, and prevents unauthorized access.



7. The area where the vault is placed must be:
 - a. Firm and level for at least 12 inches from the sides of the top of the vault.
 - b. Shall be at least 12 inches above the highest ground elevation as measured 18 inches from the sides of the building.
 - c. Shall be graded at a maximum slope of 3:1 starting 18 inches from the sides of the top of the vault.

4.29.4 Sizing

~~The volume of the tank must be 375 gallons for each toilet, except that no tank may be less than 500 gallons.~~

4.29.5 Other Requirements

- ~~1. Toilet structures over holding tanks must meet the requirements of structures over pit privies.~~
- ~~2. Access and pumping port should be located outside of any structure and should have a diameter of at least 8 inches.~~
- ~~3. Tank shall be pumped by a Idaho licensed septic tank pumper.~~



Appendix E

2.1.3 Soil Design Subgroup Corrections

A soil design subgroup will be ~~raised or~~ lowered ~~in a design subgroup~~ as indicated in this section. **(Subgroup correction is used to determine the application rate only; it will not change surface water or ground water separation requirements.)**

~~1. Porous silt loams and soils with strong vertical structure should be raised one soil subgroup for design purposes.~~

1. Soil with moderate or strong platy structure should be lowered one subgroup for design purposes.
2. Soil should be lowered one subgroup if 35%–60% of its volume is rock fragments (very gravelly, very stony).
3. Soil should be lowered by two subgroups if 60%–95% of its volume is rock fragments (extremely gravelly, extremely stony).
4. Soil with 95% or greater rock fragments is unsuitable as an effective soil for subsurface sewage disposal.
5. Uniform fine and very fine sand (e.g., blow sands) should be lowered two subgroups for design purposes. Soils that qualify for this modification have a coefficient of uniformity less than three ($C_u < 3.0$).

Example:

A soil evaluation results in the designation of loamy sand with rock fragments volumes estimated at 70% of the total soil volume below the effective soil depth of the drainfield installation. The loamy sand would be assigned a soil design subgroup of A-2b consistent with Table 2-4. Due to the estimated volume of rock fragments the soil design subgroup would then be lowered by two subgroups resulting in an assigned soil design subgroup of B-2. Based on these determinations the drainfield would be sized consistent with the B-2 soil application rate (0.45 GPD/ft², Table 2-9) to increase the available soil surface available for effluent treatment due to the soil surface being reduced by large fraction rock. However, both the required vertical (effective soil depth, IDAPA 58.01.03.008.02.c) and the horizontal separation distances (IDAPA 58.01.03.008.02.d) shall meet the requirements for soil design group A soils.



Appendix F

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. Any modifications of a standard system other system designs as described in IDAPA 58.01.03.008 are 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.~~



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

[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.



Appendix G

*Upon final approval of this section the following sections will move to section 1 of the TGM:

- 4.2 Nonprofit Corporations in its current form → moves to section 1.6
- 4.3 Existing and Approved Systems, Abandoned and Undocumented Systems, and Nonconforming Systems in its newly approved form → moves to section 1.7
- 4.4 Easement in its current form → moves to section 1.8

4.3 Vested Existing and Approved Systems Rights, Abandoned and Undocumented Systems, and Nonconforming Uses Systems

Revision: ~~October 31, 2013~~ March 20, 2014

4.3.1 Existing Systems

An existing subsurface sewage disposal system is a system installed prior to January 1, 1973, which was not permitted or approved by a health district (IDAPA 58.01.03.003.11). Existing subsurface sewage disposal system rights allow a property owner to use, repair, or replace the system for its original use and daily wastewater flow. Subsurface sewage disposal permits for the repair or replacement of an existing system must meet the current requirements of IDAPA 58.01.03 and the Technical Guidance Manual. If it is not possible to repair or replace the existing system in full compliance with IDAPA 58.01.03 then the replacement system must meet as many requirements of IDAPA 58.01.03 as possible and meet the intent of the rules (IDAPA 58.01.03.004.01) for any requirements that will not be in full compliance with IDAPA 58.01.03.

Existing systems will be repaired or replaced to meet the current requirements of IDAPA 58.01.03. Some situations may not allow for the replacement to meet all of the requirements of IDAPA 58.01.03. ~~There~~ In those non-conforming cases there is no right to repair or replace an existing system with a system that does not meet the intent of the rules. Meeting the intent of IDAPA 58.01.03 may require that a property owner replace an existing system, upon the system's failure, with an alternative system. Some alternative systems may require engineering or electrical components depending on the site conditions and alternative system requirements necessary to meet the intent of IDAPA 58.01.03. Any repair or replacement of an existing system that will only meet the intent of the rules must be issued as a non-conforming permit as described in the DEQ memorandum "Failing Subsurface Sewage Disposal System," dated July 26, 1993 **contained within the Idaho Subsurface Sewage Disposal Standard Operating Procedures**. If the repair or replacement of an existing system is for a different use than originally permitted or for increased wastewater flows (system expansion) the permit must be in full compliance with IDAPA 58.01.03 and follow the DEQ issued program directive "Permit Requirements for Increased Flows at Single Family Dwellings," dated April 15, 2010 **contained within the Idaho Subsurface Sewage Disposal Standard Operating Procedures**.



4.3.2 Approved Systems

An approved subsurface sewage disposal system is a system installed after January 1, 1973, which has been permitted, inspected, and approved by a health district (IDAPA 58.01.03.003.03). Approval is documented by the health district in the form of a signed final inspection document or a signed approval letter. Approved subsurface sewage disposal system rights are the same for use, repair, and replacement of a system as described in section 4.3.1 for existing systems.

4.3.3 Abandoned Systems

An abandoned system is defined by IDAPA 58.01.03.003.01. The termination of wastewater discharge to a subsurface sewage disposal system for ~~no~~ more than ~~one~~ two years is the ~~typical~~ timeframe used to determine system abandonment. A health district's determination that a system is abandoned ~~revokes any existing or approved system rights for the system and property.~~ Abandoned systems may be used for subsurface sewage disposal if the property owner can demonstrate that:

- The system meets the current requirements of IDAPA 58.01.03 and the Technical Guidance Manual, and
- The system is not failing as defined by IDAPA 58.01.03.003.13.

If there is not a previous subsurface sewage disposal permit, ~~and~~ system authorization, ~~and~~ or approval issued for the abandoned system, the health district ~~must~~ may permit the system ~~and~~, provide authorization, or approval for the system prior to its use.

4.3.4 Undocumented Systems

An undocumented subsurface sewage disposal system is a system that was installed after January 1, 1973 without a valid installation permit and record of a signed final inspection document or signed approval letter. **Undocumented systems not acted upon within two years of identification are considered existing systems.** An undocumented system may be replaced with a new system that meets the requirements of IDAPA 58.01.03 and the Technical Guidance Manual at any time, but the undocumented system must be abandoned once construction of the replacement system is completed unless the undocumented system is turned into an approved system. Undocumented and abandoned system may not be repaired, expanded, or placed into use unless it is first approved. To turn an undocumented system into an approved system the property owner must:

- Submit a complete subsurface sewage disposal permit application and fee to the health district of jurisdiction, and
- Have the system uncovered by a permitted installer or the property owner exposing the septic tank, effluent piping, and both ends of each drainfield trench, and
- Excavate at least one test hole within 10 feet of the existing drainfield at the time the system is uncovered unless there is existing soil documentation for the property, and



- Have the septic tank pumped by a permitted septic tank pumper so the health district can evaluate the tank for structural integrity and determination of the necessity of a leak test, and
- Allow the health district to inspect the exposed subsurface sewage disposal system and test hole to verify the installation meets all requirements of IDAPA 58.01.03 and the Technical Guidance Manual.

If the subsurface sewage disposal system is found to be in compliance with all the requirements of IDAPA 58.01.03 and the Technical Guidance Manual the health district will issue a subsurface sewage disposal permit for the system and provide the permit holder with written approval of the system in the form of a completed and signed final inspection document. If additional construction is required to bring the system into compliance with IDAPA 58.01.03 and the Technical Guidance Manual the health district will issue a subsurface sewage disposal permit for the necessary requirements. Written approval of the system will be provided once the permit requirements have been installed, inspected by the health district, and verified to meet the permit requirements.

4.3.5 Nonconforming Systems

If it is necessary to issue a nonconforming subsurface sewage disposal permit, the permit shall require that the system meet as much of IDAPA 58.01.03 as possible and the nonconforming permit requirement must meet the current intent of the rules (IDAPA 58.01.03.004.01). This may require the installation of an alternative system to meet separation distances or effective soil depths to features of interest or concern as described in IDAPA 58.01.03.007.17 and 58.01.03.008.02.c-d.

A nonconforming system is a system that does not fully comply with all of the requirements of IDAPA 58.01.03. Nonconforming systems are typically existing systems or older approved systems that were installed after changes to IDAPA 58.01.03. For property owners to retain their existing or approved system rights in a nonconforming system, the system cannot be considered abandoned as described in section 4.3.3. All nonconforming systems must be brought into compliance with the intent of IDAPA 58.01.03 upon the repair, replacement, or enlargement of the system (IDAPA 58.01.03.004). The intent of the rules is best met by fully complying with the current requirements of IDAPA 58.01.03 at the time of permit issuance (IDAPA 58.01.03.004.02).

Some existing or approved systems may be located on properties that are no longer capable of meeting the requirements of IDAPA 58.01.03 due to changes in the rule requirements over time. If the property owner has maintained their existing or approved system right for the use, repair, or replacement of the system then they have the right to obtain a nonconforming repair or replacement permit for their property. All nonconforming permits shall be issued as described in the DEQ memorandum "Failing Subsurface Sewage Disposal System," dated July 26, 1993 contained within ~~Section 8.7 of~~ the Idaho Subsurface Sewage Disposal Standard Operating Procedures. Issuance of a nonconforming permit shall only be for the original use and wastewater flow for the structure located on the property and neighboring features of interest (e.g., wells and water lines) shall take priority in separation distance requirements.



~~If it is necessary to issue a nonconforming subsurface sewage disposal permit, the permit shall require that the system meet as much of IDAPA 58.01.03 as possible and the nonconforming permit requirement must meet the current intent of the rules (IDAPA 58.01.03.004.01). This may require the installation of an alternative system to meet separation distances or effective soil depths to features of interest or concern as described in IDAPA 58.01.03.007.17 and 58.01.03.008.02.e-d.~~

When issuing a nonconforming repair or replacement permit an emphasis shall be placed on meeting the intent of IDAPA 58.01.03.004.01.d, preserving the existing or potential beneficial uses of the waters of the State. This emphasis arises out of the direction of Idaho's legislative bodies as stated in Idaho's water quality policy (Idaho Code §39-3601) and policy on environmental protection (Idaho Code §39-102).

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

~~Additions or alterations: Changes to an existing structure or dwelling.~~

- ~~1. Addition or alteration will not cause the existing system to become unsafe or overloaded (IDAPA 58.01.03.004.04).~~
- ~~2. Enough reserve area for both the original and additional system shall be preserved (IDAPA 58.01.03.004.06).~~
- ~~3. 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.~~
- ~~4. Area reserved for replacement cannot be used for the addition (IDAPA 58.01.03.004.06).~~
- ~~5. 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.~~
 - ~~b. Permit issuance shall be required to conform with the subsurface program directive, "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 due to the removal of a wastewater generating structure from the system.~~

- ~~1. An abandoned system may be used if the system was originally permitted and approved, and~~
- ~~2. 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 not an approved system (i.e., no issuance of a previous subsurface sewage disposal permit regardless of the installation date), it must be
 - ~~a. Uncovered by a permitted installer or the property owner (IDAPA 58.01.03.011.02).
— Uncovered means exposure of the septic tank, effluent piping, and the front and back ends of each subsurface sewage disposal trench.~~
 - ~~b. Pumped by a permitted septic tank pumper, and~~
 - ~~c. Inspected by the health district while uncovered (IDAPA 58.01.03.011.02).~~
 - ~~d. The system must meet all current requirements, including permit issuance (IDAPA 58.01.03.005.01).
 - ~~1) 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.~~
 - ~~2) If the system, or any portion thereof, cannot be brought into compliance with the current requirements, 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.~~~~~~



Appendix H

*This is new guidance that will be located in section 4 of the TGM and will be inserted in alphabetical order with the other existing guidance, resulting in section number changes throughout section 4 of the TGM.

4.10 Floating Vault Toilets and Boat or Vessel Sewage Disposal

Revision: March 20, 2014

4.10.1 Description

4.10.1.1 Floating Vault Toilet Description

Vault toilets and boat/vessel dump stations are necessary wastewater disposal facilities at recreational sites around water bodies. Many boats and vessels do not contain onboard toilet facilities making it necessary that independent toilet facilities be provided at recreations sites around water bodies such as boat ramps, docks, and campgrounds. These independent toilet facilities are most often provided in the form of a vault toilet. Due to the remoteness of some recreation sites the installation of a standard vault privy (section 4.29) may not be possible. Additionally, some recreational water bodies may be large enough that convenient use of a standard vault privy on shore is not feasible. To preserve the quality and beneficial uses of the Waters of the State of Idaho it is preferable to have toilet facilities available at recreational areas that attract a large number of users. To accomplish this at recreational water sites it may be necessary to employ the use of floating toilet facilities that are used for the temporary storage of sewage.

4.10.1.2 Boat or Vessel Sewage Disposal Description

Some boats and vessels do contain onboard toilet facilities that are classified as Type I, II, and III marine sanitation devices (MSD) or portable toilets. Type I and II MSD may have the ability to treat and discharge wastewater from the boat or vessel into the surrounding waters while a Type III MSD is certified to a no-discharge standard. Portable toilets are sewage collection devices that are self-contained and removable from a boat or vessel. Regardless of a boat or vessel's MSD type or use of portable toilets, discharge of wastewater or sewage (treated or untreated) from a boat or vessel into Waters of the State of Idaho (IDAPA 58.01.03.003.37) is illegal. This necessitates that any wastewater or sewage generated and stored on a boat or vessel be disposed of at an approved facility (e.g., RV dump station, septic system, public system).

4.10.2 Approval Conditions

1. Wastewater generated on a boat or vessel and held in an MSD may be removed while the boat remains in the water by:
 - a. Dockside sewage connection to an approved municipal treatment system or an approved subsurface sewage disposal system sized for this use. Dockside sewage collection systems shall be reviewed and approved by DEQ.



- b. Mobile boat pumpout service. Pumpout services constructed on a boat, vessel, or vehicle that is used to transport sewage or wastewater for disposal must be permitted by a health district (IDAPA 58.01.15.003). Small mobile pump stations that are non-motorized and only used to pump boat holding tanks at a dock or marina and used to transport the contents to an approved disposal facility located near the dock or marina do not need to be permitted by a health district.
- c. Pumpout station that transfers wastewater from a boat or vessel to an approved municipal treatment system or an approved subsurface sewage disposal system sized for this use. Permanent pumpout stations constructed with a transport line from the pumpout location to the approved disposal site shall be reviewed and approved by DEQ as part of a sewage collection system.
2. Wastewater generated on a boat or vessel and held in an MSD that is not removed while the boat is in the water shall be disposed of in one of the following locations:
 - a. An approved municipal treatment system or an approved subsurface sewage disposal system.
 - b. An approved RV dump station.
3. Wastewater generated on a boat or vessel and held in a portable toilet may not be discharged overboard, on the ground or into surface waters, and shall be disposed of in one of the following locations:
 - a. An approved municipal treatment system or an approved subsurface sewage disposal system.
 - b. An approved RV dump station.
4. Floating vault toilet facilities located over Waters of the State of Idaho shall be permitted by a health district and must meet the requirements of section 4.10.3.

4.10.3 Floating Vault Toilet Requirements

1. The floating vault toilet is limited to use on lakes, reservoirs, and ponds, where municipal services and subsurface sewage services are not available.
2. The floating vault toilet shall not be located within 300 feet of a surface water intake used for a drinking water supply.
3. The floating vault toilet must be pumped by an Idaho-permitted septic tank pumper.
4. Floating vault toilets shall not be used as dump stations or holding tanks for wastewater generated in a boat or vessel's MSD or portable toilet.
5. The floating vault tank, deck, and house shall meet the design requirements of section 4.10.4.
6. The floating vault toilet shall be designed by a professional engineer to ensure the structure is capable of withstanding adverse weather and wave action without tipping over, sinking, or sustaining severe damage, or may be obtained from a manufacturer with a design/model that has been preapproved by DEQ.



4.10.4 Floating Vault Toilet Design

Floating vault toilets shall meet the design criteria described in the following subsections.

4.10.4.1 Hull or Dock

1. A floating vault toilet may be placed on an individual hull or dock that is either connected to shore or in the middle of the water body.
2. Hulls and docks shall be independently constructed from the vault tank and:
 - a. Capable of supporting the vault toilet when full.
 - b. Capable of withstanding adverse weather and wave action without tipping over, sinking, or sustaining severe damage.
 - c. Be securely anchored at their proposed location.
3. Hulls or floating docks must be able to withstand towing or pushing to and from shore for storage and maintenance needs.

4.10.4.2 Tank

1. The vault tank shall be constructed to be watertight, constructed of durable materials that are not subject to excessive corrosion, decay, or cracking.
2. The vault tank shall be contained within an external shell (double-hulled) that is designed to protect the tank from impact and grounding, and provides secondary containment in the event that the vault tank develops a leak.
3. The vault tank shall be fitted with at least one cleanout hatch meeting the following minimum design requirements:
 - a. Closes to be watertight.
 - b. Locks so that the vault tank is not accessible to users.
4. The vault tank shall have a minimum capacity of 375 gallons for each toilet, except that no tank may be less than 500 gallons.
5. The vault tank shall be adequately vented and the vent shall be screened with a maximum screen size of 16-mesh.

4.10.4.3 Floating Vault Building

1. The building shall be firmly anchored to the hull or dock and rigidly constructed of materials that are capable of withstanding constant exposure to water.
2. All openings, spaces, and cracks that would permit flies to access the vault tank must be no wider than one-sixteenth of an inch.
 - a. This includes doors and seats when closed.
 - b. All gaps larger than one-sixteenth of an inch shall be screened with a maximum screen size of 16-mesh.



3. Doors shall be self-closing.
4. The building shall be adequately ventilated.
5. The seat opening shall be at least 12 inches from the side walls in all privies and spaced so that there is at least 24 inches between seats in multiple-seat installations.
6. The seat top shall not be less than 12 inches nor more than 20 inches above the floor.
7. The seat shall be constructed of nonabsorbent material.
8. The building shall contain an adequate number of grab bars inside and outside of the building.

4.10.5 Floating Vault Toilet Operation and Maintenance

The floating vault toilet permit application shall be accompanied with an operation and maintenance manual provided by the design engineer or manufacturer that includes the following information:

1. Operation, maintenance, and replacement instructions for any mechanical or electrical components.
2. Pumping and servicing/cleaning instructions.
3. Seasonal maintenance needs.
4. Annual or bi-annual maintenance needs.
5. Launching, trailering, and anchoring instructions.
6. On-water transportation instructions.
7. Winterization needs.



Appendix I TGM-Soil Texture Flowchart

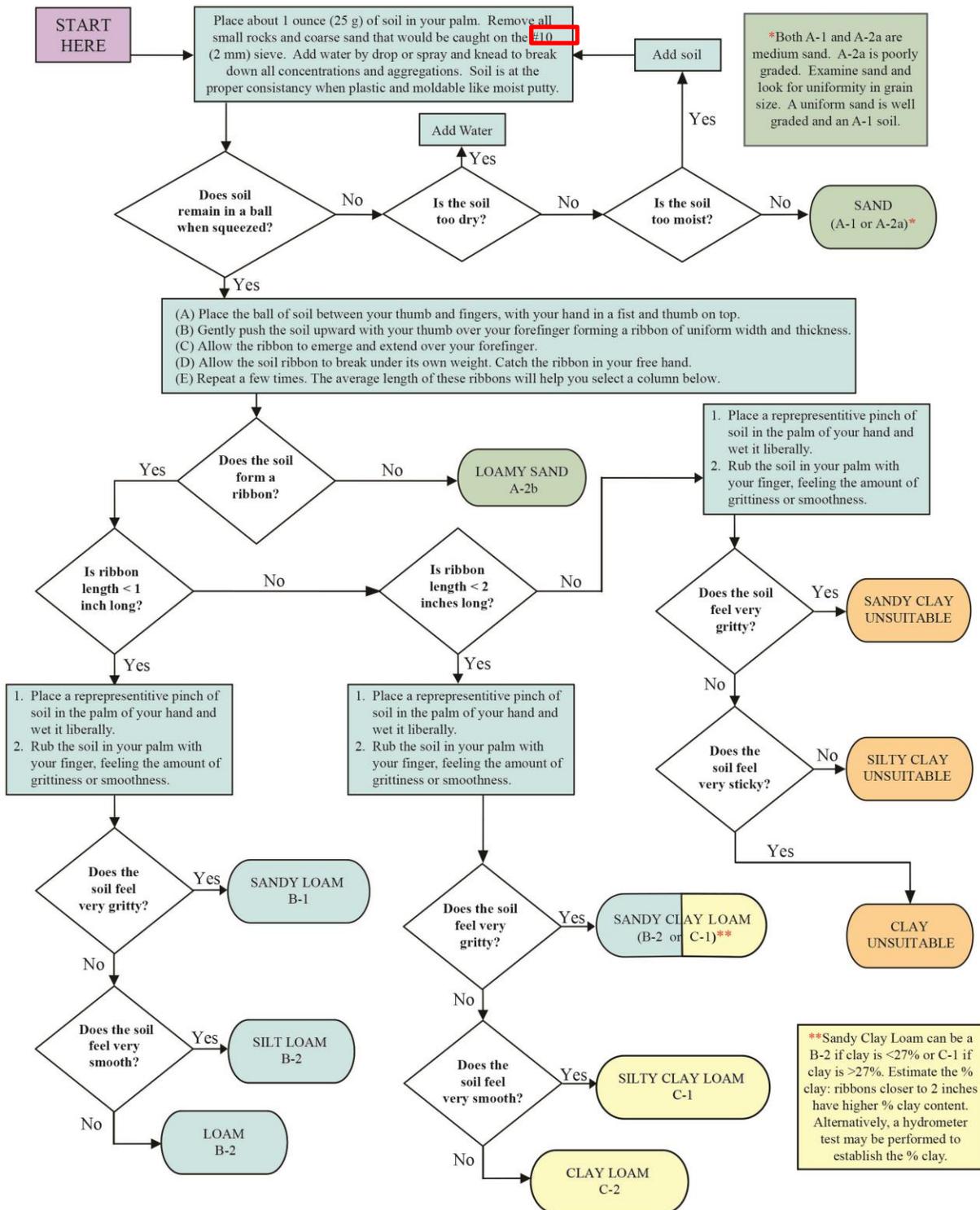


Figure 2-2. Soil texture determination flowchart.



Appendix J

4.1 General Requirements

Revision: ~~September 18, 2014~~ March 20, 2015

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 guidance provided within this manual for each alternative system.

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

The designer of ~~all alternative-public~~ systems, both standard and complex, must be a PE licensed in Idaho (Idaho Code §54-1218). Additionally, the public system's construction must also be reviewed by a PE licensed in Idaho (Idaho Code §54-1218). The PE designing and overseeing the construction of any public system should be and experienced in the ~~alternative~~-system's design. Public systems include any system owned by the state, a county, city, school district, irrigation district, drainage district, highway district, or other subdivision of the state having power to levy taxes or assessments against property situated therein (Idaho Code §54-1218). The requirement for a PE to design and oversee construction of a public system shall not apply to public systems if the construction, reconstruction, maintenance and repair work is insignificant (less than \$10,000 in total cost), performed by employees of the public agency in accordance with standards for such work (including, but not limited to, the Idaho standards for public works construction and any supplements thereto) that have been certified by a PE and duly adopted by the public agency's governing body, and only if a PE determines that such public construction, reconstruction, maintenance and repair work does not represent a material risk to public health or safety (Idaho Code §54-1218).

The designer of alternative *private* systems, other than those listed below, may be required to be either a PE or an environmental health specialist. The PE must be licensed in Idaho and the environmental health specialist 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 Idaho unless otherwise allowed within the specific system's guidance:

- Drip Distribution System
- Evapotranspiration and Evapotranspiration/Infiltrative System
- Experimental System
- Grey Water System (if pressurized)
- Individual Lagoon
- Pressure Distribution System
- Recirculating Gravel Filter
- Intermittent Sand Filter
- Sand Mound



Appendix K

3.2.8.1.4 Pit Run

Pit run construction media is composed of clean cobble, gravel, and sand. To determine if a construction media is suitable pit run, it shall be passed through a sieve to ensure that it conforms to the gradation requirements: 100% passes through a ~~106~~-inch sieve; ~~6615~~%-~~10060~~% passes through a #~~504~~ sieve; > 5% passes through a #50 sieve; and ~~20~~%-~~1012~~% passes through a #~~100200~~ sieve for size. ~~Additionally, <2% shall pass a #200 sieve for cleanliness~~ (Table 3-6).

Table 3-6. Pit run allowable particle size percent composition.

Sieve Size	Passing (%)
106 inch	100
504	6615-10060
10050	2-10 <u>≥5</u>
200	<u><0-12</u>



Appendix L

***Updates to these two tables will occur in sections 4.22 and 4.23 respectively.**

Table 4-16. Secondary biological treatment system hydraulic application rates.

Soil Design Subgroup	Application Rate (gallons/square foot/day)
A-1	1.7
A-2 <u>a</u>	1.2
<u>A-2b</u>	<u>1.0</u>
B-1	0.8
B-2	0.6
C-1	0.4
C-2	0.3

Table 4-18. Secondary biological treatment system hydraulic application rates.

Soil Design Subgroup	Application Rate (gallons/square foot/day)
A-1	1.7
A-2 <u>a</u>	1.2
<u>A-2b</u>	<u>1.0</u>
B-1	0.8
B-2	0.6
C-1	0.4
C-2	0.3



Appendix M

4.24.2 Approval Conditions

1. Except as specified herein, the system must meet the dimensional and construction requirements of a standard trench, bed, or pressure distribution system.
2. The in-trench sand filter or any of its modifications may be used over very porous strata, coarse sand and gravel, or ground water.
3. The standard in-trench sand filter system shall be sized based on the native receiving soils at the medium sand, or pit run, and native soil interface.
4. Standard in-trench sand filters must maintain a 12 inch minimum depth of suitable native soil below the filter above a porous or nonporous limiting layer (Figure 4-31).
5. Standard in-trench sand filters must maintain a minimum separation distance of 12 inches from the bottom of the drainfield to the seasonal high ground water level.
6. Standard in-trench sand filters must maintain a separation distance from the bottom of the drainfield and the normal high ground water level that is capable of meeting the method of 72 as described in section 2.2.5.2.
 - a. Approval condition 6 may be waived if the standard in-trench sand filter is preceded by an alternative pretreatment system (e.g., ETPS, intermittent sand filter, or recirculating gravel filter) as long as the bottom of the drainfield still meets the minimum separation distances of the applicable alternative pretreatment system (Figure 4-32).
7. If the enveloped in-trench sand filter modification is used the following conditions must be met:
 - a. Enveloped in-trench sand filters may be installed in unsuitable native soils consisting of coarse sand, ~~or~~ very coarse sand, gravel, or in suitable soils over limiting layers.
 - 1) Unsuitable native site soils shall be evaluated as certified to not be any larger than the diameter of ~~very coarse sand~~gravel as described in Table 2-1.
 - 2) Unsuitable soils that have application rates greater than clay loam as described in Table 2-9 are not suitable for installation of an enveloped in-trench sand filter.
 - b. Enveloped in-trench sand filters installed in unsuitable soils (e.g., coarse sand, ~~and~~ very coarse sand, and gravel) as described in Table 2-1 and Table 2-9 must be preceded by an alternative pretreatment system (e.g., ETPS, intermittent sand filter, or recirculating gravel filter) (Figure 4-32).
 - 1) Enveloped in-trench sand filters installed in unsuitable soils must maintain a minimum of 12 inches above the seasonal high water level from the bottom of the enveloped sand filter.
 - c. Enveloped in-trench sand filters installed in suitable soils over ground water or a porous limiting layer to obtain a reduced separation distance to ground water or a porous limiting layer shall use pressure distribution throughout the drainfield (Figure 4-33).
 - 1) Enveloped in-trench sand filters installed in suitable soils to obtain a reduced separation distance to ground water or a porous limiting layer must maintain a



minimum of 12 inches above the seasonal and normal high ground water levels from the bottom of the enveloped sand filter.

- 2) Reduced separation distances to nonporous limiting layers may not be approved through use of this design.
 - 3) Pressure distribution design shall meet the requirements of section 4.20.
- d. The system shall be sized at 1.7 GPD/ft² if pretreatment is used. If pretreatment is not used, the system shall be sized based on the native soils at the medium sand and native soil interface.
 - e. Enveloped in-trench sand filters may not be used in large soil absorption system designs.
 - f. Effective disposal area for the installation of an enveloped in-trench sand filter shall only be credited for the width of the drainfield installed. Medium sand width enveloping the drainfield is not credited as disposal area.