



## Technical Guidance Committee Meeting

### Minutes

Friday, March 20, 2015

**Department of Environmental Quality  
1410 North Hilton  
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  
Jason Holm, J.T. Holm Construction, LLC (via telephone)

#### **GUESTS:**

Tammarra Golightly, Administrative Assistant, DEQ  
Ryan Spiers, Alternative Wastewater Systems, LLC  
PaRee Godsill, Everlasting Extended Treatment, LLC  
Dave Gibson  
Matthew Chandler  
Sheryl Ervin, Bio-Microbics, Inc.  
Steve Youngblood, ABC Septic Service  
Nathan Taylor, Eastern Idaho Public Health (via telephone)  
Allen Worst, R.C. Worst & Company, Inc.  
Kellye Eager, Eastern Idaho Public Health (via telephone)  
Kathleen Price, Eastern Idaho Public Health (via telephone)  
Mike Black, Black Water, LLC  
Kirsten Ruebush, Effluent Technologies, Inc.  
Matt Gibbs, Infiltrator Systems, Inc.  
Dick Bachelder, Infiltrator Systems, Inc. (via telephone)

#### **CALL TO ORDER/ROLL CALL:**

Meeting called to order at 8:30 a.m.  
Committee members and guests introduced themselves. Tyler Fortunati introduced Jason Holm of JT Holm Construction, LLC as the individual filling the complex installer seat in the committee.



### **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.

Steve Youngblood of ABC Septic Service requested to address the committee. Mr. Youngblood wanted to make the committee aware that he was having issues with customers when attempting to pump the Bio-Microbics extended treatment package systems (ETPS). Mr. Youngblood complained that the service provider contracted to oversee these systems had been telling the property owners that he and other permitted pumpers were not servicing the ETPS units correctly. Mr. Youngblood also complained that the service provider was telling the property owners he should be the only one allowed to pump their ETPS units. Mr. Youngblood inquired as to whether the service provider was even permitted as a pumper. Tyler Fortunati informed Mr. Youngblood the service provider had obtained a pumper permit through Southwest District Health within the last week or so.

Mr. Youngblood wanted to know how an ETPS unit is correctly pumped. Tyler Fortunati stated that there were some recommendations for pumping ETPS units including verification with the service provider or operation and maintenance entity prior to pumping to ensure the unit should be drawn down and to help ensure ETPS unit components are not damaged. Tyler Fortunati also stated that a property owner may choose whomever they wish to pump their septic tank and ETPS unit if necessary.

Mr. Youngblood provided his perspective that the property owners he deals with are upset that they only have the choice of one service provider. Mr. Youngblood expressed his concern that the service provider is telling customers he is pumping their ETPS units incorrectly and that the property owners want other options. Mr. Youngblood inquired about the ETPS testing, testing limits, and resampling protocols. Tyler Fortunati and Mike Reno explained the current testing protocols contained in the Technical Guidance Manual. Mr. Youngblood expressed his concerns that there is a conflict of interest when the service provider is also a permitted pumper. Tyler Fortunati stated that he would run this concern through the DEQ Water Quality Division Administrator, but cautioned that he was not aware of any regulatory authority that would prevent someone from being a service provider and a pumper at the same time.

### **MEETING MINUTES:**

#### **December, 10 2014 Draft TGC Meeting Minutes: Review, Amend, or Approve**

No public comment was received on the draft minutes. The minutes were reviewed by the committee and no suggestions for amendments were made.

**Motion:** Dale Peck moved to approve the minutes.

**Second:** Joe Canning.

**Voice Vote:** Motion carried unanimously.

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



## **OLD BUSINESS/ FINAL REVIEW:**

### **4.18 Pit Privy**

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

Dale Peck requested that approval condition number 4 be amended to allow pit privies on all sites as long as structures served by water under pressure install a subsurface sewage disposal system. The approval condition was amended accordingly.

Bob Erickson requested clarification on the vent stack and ensuring that the requirements are consistent with the vault privy amendments. Tyler Fortunati explained the vent stack is within the building so orientation to the south is not necessary to recommend in this circumstance.

**Motion:** Mike Reno moved that the TGC recommend final approval to DEQ for Section 4.18 Pit Privy as amended.

**Second:** Bob Erickson.

**Voice Vote:** Motion carried unanimously.

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

### **4.19 Portable Sanitation Units**

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

**Motion:** Bob Erickson moved that the TGC recommend final approval to DEQ for Section 4.19 Portable Sanitation Units.

**Second:** Mike Reno.

**Voice Vote:** Motion carried unanimously.

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

### **4.29 Vault Privy**

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

Dale Peck requested that approval condition number 4 be amended to allow vault privies on all sites as long as structures served by water under pressure install a subsurface sewage disposal system. The approval condition was amended accordingly.



Bob Erickson requested that the vent stack orientation recommendation have the term “where practical” added to the end of approval condition number 7. Bob Erickson requested that approval condition number 9 be amended to state that the vent stack must be installed on the outside of the building.

**Motion:** Mike Reno moved that the TGC recommend final approval to DEQ for Section 4.29 Vault Privy as amended.

**Second:** Dale Peck.

**Voice Vote:** Motion carried unanimously.

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

### **2.1.3 Soil Design Subgroup Corrections**

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

Dale Peck described issues the Panhandle Health District has over the Rathdrum Prairie Aquifer with rocks, drainfield sizing, and the fact that downgrading soils in a course native soil profile would not provide a public health or environmental benefit as the effluent would likely not utilize a standard sized trench from front to back for many years. Mr. Peck asserted that a larger drainfield in these conditions would not improve treatment.

Mike Reno proposed to change the soil corrections from will to may. This allows a health district to choose when and where to apply the subgroup corrections instead of requiring it in all circumstances when rock is present in the soil profile.

**Motion:** Joe Canning moved that the TGC recommend final approval to DEQ for Section 2.1.3 Soil Design Subgroup Corrections as amended.

**Second:** Dale Peck.

**Voice Vote:** Motion carried unanimously.

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

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

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

Bob Erickson brought to the committee’s attention that the top half of table 4-1 must be added back in to ensure that all of the combinations allowed to be combined are reflected.



**Motion:** Mike Reno moved that this section be tabled until table 4-1 can be adjusted and reviewed by the committee.

**Second:** Joe Canning.

**Voice Vote:** Motion carried unanimously.

Section will be revised and brought back to the committee for final approval. See **Appendix F**.

9:38 a.m. Break

9:59 a.m. Meeting Resumed

### **4.3 Existing and Approved System Rights, Abandoned and Undocumented Systems, and Nonconforming Uses**

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

The committee had no comment or recommendations on this section. Tyler Fortunati reminded the committee that upon final approval this will move to section 1.7 of the TGM and sections 4.2 and 4.4 will move to sections 1.6 and 1.8 of the TGM respectively in their current format with no content changes.

**Motion:** Dale Peck moved that the TGC recommend final approval to DEQ for Section 4.3 Existing and Approved System Rights, Abandoned and Undocumented Systems, and Nonconforming Uses as presented.

**Second:** Mike Reno.

**Voice Vote:** Motion carried unanimously.

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

## **NEW BUSINESS/DRAFT REVIEW**

### **4.10 Floating Vault Toilets and Boat or Vessel Sewage Disposal**

Dale Peck requested that the floating vault toilet requirements include language that ensures the pumper capable of maintaining the unit is identified in the permit application and can demonstrate that they have adequate equipment to service the floating units. Mr. Peck also requested that amendments be made to the operation and maintenance of the floating vaults that ensures the frequency of servicing is identified.



**Motion:** Dale Peck moved that the TGC recommend preliminary approval to DEQ for Section 4.10 Floating Vault Toilets and Boat or Vessel Sewage Disposal as amended.

**Second:** Joe Canning.

**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](mailto:tyler.fortunati@deq.idaho.gov).

### **Figure 2-2 Soil Texture Determination Flowchart**

Tyler Fortunati explained to the committee that this flowchart was being presented to poll the committee as to whether they would like to amend the chart to require that all material that does not pass the #50 sieve, instead of the #10 sieve, must be removed prior to performing soil texturing. This table and process was being brought to the committee at the request of a health district.

Mike Reno opposed the change do to the fact that this flowchart is for use in the field and not necessarily in a lab setting. Under field conditions the soil will more often than not be too wet to sieve out effectively. Material that does not pass the #10 sieve can be seen by the naked eye and removed if necessary. This wouldn't be the case with the #50 sieve. Mr. Reno expressed that this chart has worked effectively for field analysis and there does not seem to be a need to change it.

Tyler Fortunati polled the committee on their interest in amending the flowchart. The committee came to the consensus that there was no need or interest in amending figure 2-2 soil texture determination flowchart. Tyler Fortunati stated that there was no need to vote on a motion since this was just being brought to the committee to gauge interest and desire to change the field textural analysis. The flowchart will remain as is.

### **4.1 General Requirements**

Tyler Fortunati explained to the committee that the proposed amendments to this section were to ensure that the designation of a public system and the requirement for a professional engineer's involvement was consistent with Idaho Code §54-1218. Tyler Fortunati edited the document to break the exemption language out into a bullet list so it was clear as to what all the requirements are for exemption.

Joe Canning stated that this particular section of Idaho Code was currently under review by the legislature. Mr. Canning stated the legislative proposal and review would likely result in changes to the code. The committee felt it would be best to wait on the final outcome of the current legislative review prior to moving forward on amendments to this section.



**Motion:** Dale Peck moved that the TGC table Section 4.1 General Requirements pending the final legislative bill language.

**Second:** Bob Erickson.

**Voice Vote:** Motion carried unanimously.

Section is tabled pending final legislative bill language. See **Appendix I**.

#### **3.2.8.1.4 Pit Run**

Tyler Fortunati explained to the committee the issue that some of the health districts have run into with the existing pit run specifications. Mr. Fortunati explained that the proposed specification amendments will bring the material specifications into line with existing road construction standards which will allow pits already producing this material to continue to do so and that with more than 5% passing the #50 sieve ensures the material is still considered suitable soils.

**Motion:** Mike Reno moved that the TGC recommend preliminary approval to DEQ for Section 3.2.8.1.4 Pit Run as proposed.

**Second:** Dale Peck.

**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](mailto:tyler.fortunati@deq.idaho.gov).

#### **Table 4-16 and 4-18 Secondary Biological Treatment System Hydraulic Application Rates**

Tyler Fortunati explained that the proposed revisions to these tables are to include application rates for all of the A-2 soil subgroups for consistency with other system sizing requirements.

**Motion:** Joe Canning moved that the TGC recommend preliminary approval to DEQ for Table 4-16 and 4-18 Secondary Biological Treatment System Hydraulic Application Rates as proposed.

**Second:** Bob Erickson.

**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](mailto:tyler.fortunati@deq.idaho.gov).



#### 4.24.2 In-Trench Sand Filter Approval Conditions

Tyler Fortunati explained to the committee that the proposed changes to this section are to satisfy an agreement between DEQ and the Panhandle Health District related to subsurface sewage disposal system permitting over the Rathdrum Prairie Aquifer.

Dale Peck described the soil conditions they encounter over the aquifer and how the changes will allow them to address permitting challenges.

Mike Reno expressed concern that this would allow permitting in mine tailing areas. Tyler Fortunati clarified that the sizing of gravel would need to be consistent with the soil textural classifications included in the TGM. This would limit the gravel to a maximum of 3 inches in diameter.

Dale Peck requested that an older method of enveloped in-trench sand filters be allowed back into the system design criteria that did not require pre-treated effluent. Tyler Fortunati stated this could be done but would require much more sand than is currently included in the enveloped sand filter design to meet treatment requirements. The committee made the inclusion of the old design an action item.

**Action Item:** Add old enveloped sand filter design back into the in-trench sand filter guidance.

**Motion:** Dale Peck moved that the TGC table Section 4.24.2 In-Trench Sand Filter Approval Conditions until the action item is addressed.

**Second:** Joe Canning.

**Voice Vote:** Motion carried unanimously.

Section will be revised and brought back to the committee for preliminary approval. See **Appendix L**.

#### Proposed Additions to Approved Products List

Tyler Fortunati explained that there was a request from a health district to develop a list of approved distribution and drop boxes. Several committee members expressed concern regarding what the criteria would be for these products and where it would come from. Mike Reno also expressed the concern that if the committee started approving these types of components then they would also need to approve alternating valves and several other components that are not already included on the approved products list.

Tyler Fortunati polled the committee's interest in developing an approved products list for distribution and drop boxes. All members of the committee were opposed to the creation of an approved products list for these types of products. Tyler Fortunati stated there was no need for the committee to make a motion as this was just an inquiry into the interest in providing approval of these types of products.



## **Gravelless Chamber Product Discussion on Holding Capacity Based on Inlet Invert Height and Pressurization Design for Chambers with Support Posts**

Tyler Fortunati provided the committee an overview of what was to be discussed during this agenda item. The discussion was divided into two parts, holding capacity and pressurization design.

### Holding Capacity

Tyler Fortunati provided the committee information available on the internet for each approved gravelless product that includes some minimum chamber dimensions and total holding capacity. Tyler Fortunati also described the holding capacity of a gravel drainfield with a dimension of 3 feet wide by 1 foot long with 6 inches of drainrock under the distribution pipe. Based on a standard gravel porosity of 0.25-0.4 a gravel trench of that dimension would hold anywhere from 2.8-4.48 gallons of wastewater per lineal foot before the trench had ponded above the distribution pipe invert. Tyler Fortunati also provided information that was provided to DEQ by Dick Bachelder with Infiltrator Systems, Inc.

The information provided by Mr. Bachelder shows that their chamber products hold anywhere from 4.6-10 gallons per lineal foot before the trench had ponded above the uppermost end cap inlet invert location. Mr. Bachelder provided a description of Infiltrator's design and their issue with requiring the inlet to be located at the periscope location on top of the chambers. Infiltrator Systems, Inc. is concerned that requiring the effluent pipe to enter at the periscope location on top of the chamber for low profile chambers will eliminate the application of their low profile products in Idaho. Mr. Bachelder explained that the low profile chambers are designed for use where there are limiting layers in the soil profile and the drainfield needs to be installed at a higher elevation. Requiring the inlet to enter at the periscope location will lower the bottom installation depth of the chamber to achieve fall from the septic tank and eliminate the use of this product or require the use of pressure transportation with this product. Mr. Bachelder emphasized that their low profile products provide comparable storage capacity to a standard gravel system.

Mike Reno expressed concerns that while the storage capacity may be similar the low profile chambers eliminate effective sidewall absorption area due to the invert of the inlet pipe only being 3.3-3.77 inches off the bottom of the trench. Standard gravel systems have at least 6 inches of trench sidewall below the distribution pipe invert. Mr. Bachelder stated that the sizing of drainfields in Idaho is not based upon sidewall area and is strictly related to the soil application rate, gallons per day discharged to the system, and the required disposal area only relates to the bottom of the trench. The committee had questions as to whether the lower inlet invert should warrant the same sizing reductions as standard chambers. Tyler Fortunati informed the committee that changes to an existing product approval would have to come from DEQ and go through the DEQ Water Quality Division Administrator. Mr. Fortunati stated that there would have to be good data and reason for a product approval sizing change with low profile chambers.

The committee had several questions they would like Tyler Fortunati to take to DEQ's Water Quality Division Administrator and bring the answers back to the committee at the next meeting. The questions include:



- Does the reduced side wall height (3.3-3.77 inches compared to the standard 6 inches) and reduced storage capacity (in comparison to standard chambers) warrant a sizing reduction change from the standard 25% reduction afforded to these products?
- What is DEQ's lowest limit on the inlet invert height in gravelless chamber products?
- Does DEQ only consider the bottom area of a trench and discount the sidewall area?

#### Pressurization Design for Chambers with Posts

Tyler Fortunati read a letter provided by Dick Bachelder of Infiltrator Systems, Inc. that was written by Dr. Dick Otis. Mr. Fortunati reminded the committee that Dr. Otis' research is cited as a source for the pressure distribution system requirements contained in the Technical Guidance Manual. Dr. Otis' letter stated that the uniform application of pressure distributed effluent in a drainfield that contains chambers with posts is not likely to be a problem. Dr. Otis recognized that the entire surface area of the trench bottom may not appear wet due to the post locations but directly below the surface would be due to the movement of wastewater through the underlying soils both vertically and horizontally. Dr. Otis asserted that he found it doubtful that the posts would create significant barriers to the wetting of infiltrative surfaces.

Mr. Bachelder also stated to the committee that Infiltrator's recommendations for pressurized piping in their chambers is to strap the piping to the roof of the chambers with the orifices oriented upwards. In Mr. Bachelder's discussions with Dr. Otis, Dr. Otis asked how there is any assurance that an orifice would not be located directly against a corrugated valley thus limiting the effluent distributed from the orifice and its wetting pattern. Mr. Bachelder explained this could be a possibility in any pressurized design but there hasn't proven to be an issue with a drainfield due to this design issue.

The committee determined based on the information presented that they were not concerned with the wetting pattern or effluent movement in a chambered trench that contains support posts.

The discussion on chamber products ended with the action item questions the committee has for DEQ on chamber holding capacity and inlet invert height. See **Appendix M** for the documents reviewed by the committee on this discussion.

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The meeting was adjourned for Lunch.  
Lunch 11:45 a.m. – 1:00 p.m.

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#### **Discussion on Extended Treatment Package System Program**

During this portion of the meeting the committee heard public comment from several participants. The comments provided by each participant and the subsequent discussion are grouped by the comment provider.



Allen Worst, R.C. Worst & Company, Inc.

Allen Worst submitted a document to the committee that outlined the requirements for intermittent sand filters, recirculating gravel filters, and Orenco Systems, Inc. AdvanTex packaged treatment systems. The document provided a description of each technology, design requirements, construction requirements, operation and maintenance requirements, long term performance, and upfront and long term cost. Mr. Worst's document argues that the Orenco systems function nearly identically to the intermittent sand filter and recirculating gravel filter systems but have a higher level of accountability for design, construction, installation, and operation. Mr. Worst would like the long term maintenance program for these three systems to be similar due to their functional design similarities. The document proposed three solutions for the committee's consideration:

1. On the grounds that the Orenco AdvanTex is functionally identical to the RGF and similar in function to the ISF, move it out of the ETPS program and classify this technology with the ISF and RGF filters in the TGM where the same maintenance requirements, or lack thereof, would apply.
2. Move the ISF and RGF into the ETPS program whereby establishing the ongoing operation and maintenance program needed for these complex technologies.
3. Classify AX, RGF and ISF treatment technologies as packed bed filters in the TGM. Because of the filtration barrier present in these systems, and proven reliability, alter the maintenance requirement for these technologies under the ETPS program to include yearly inspections and sampling for the first two years, and then once every 2-3 years thereafter as long as a track record of reliability has been demonstrated.

Bob Erickson inquired as to why Mr. Worst did not include sand mounds in his proposal as well. Allen Worst stated that he would also like those systems included in this proposal as well.

Joe Canning questioned why there was no other extended treatment package systems included in this proposal as well. Allen Worst stated it was due to the design differences of the other units. The Orenco units will not discharge effluent unless the unit is functioning correctly. The other advanced mechanical treatment units will. Joe Canning stated that he is interested in the failure process of the systems. The Orenco, intermittent sand filter, recirculating gravel filter, and sand mound fail with backup or effluent surfacing. The other mechanical treatment units will continue to discharge to the drainfield regardless of whether they are functioning properly or not. Mr. Canning stated that he was opposed to including non-discharging failures under the existing operation and maintenance entity requirements.

Mike Reno stated that he also believed it wasn't a level playing field when you look at the different system types. Mr. Reno stated that he would support required operation, maintenance, and testing of intermittent sand filters and recirculating gravel filters. Mr. Reno stated that he would be supportive of not testing for total suspended solids and biological oxygen demand but would need to see required operation and maintenance along with testing for total nitrogen where required.



Dale Peck stated he would be willing to consider an alternate operation, maintenance, and testing protocol with good data but not under the existing operation and maintenance entity system. Mr. Peck asked that the committee hear other proposals prior to making any recommendations on the existing operation and maintenance entity system.

#### Matthew Chandler, Property Owner with ETPS Unit

Matthew Chandler introduced himself to the committee as a homeowner that has a Bio-Microbics system installed on his property. Mr. Chandler built his current home over 10 years ago. He informed the committee that the member agreement for his property was signed by the builder without his knowledge and that the agreement does not contain his signature as the property owner. Mr. Chandler described a recent event in which he arrived at his home to find the employee of the service provider contracted with his operation and maintenance entity inside his home attempting to steal personal property. This resulted in the individual's arrest. Mr. Chandler emphasized that he does not like that he has no choice or ability to sever ties with his operation and maintenance entity or service provider after this event.

Mr. Chandler described the situation where his operation and maintenance entity has a board of directors that is made up of manufacturer representatives who are located in Kansas. The registered Idaho agent for the entity is his service provider. Mr. Chandler believes this setup makes it hard for him or any other property owner to make a change in their entity related to directors or service providers. Mr. Chandler stressed that the existing operation and maintenance entity system is not easy for property owners to navigate. He believes this system limits the property owner's function and gives them little room for individual change. Mr. Chandler believes the existing operation and maintenance entity system protects the assets of the manufacturers and service providers. Mr. Chandler described that as a non-profit made up of members if he wishes to pursue legal action against those who wronged him he would ultimately be impacting himself and his neighbors, not the manufacturer or service provider.

Mr. Chandler believes that the current system lacks true oversight from the property owners and the state regulators. Specifically he believes there is little oversight of any system maintenance or effluent testing. Mr. Chandler believes the current operation and maintenance entity model is primed for corruption. He raised issues including:

- What stops the service provider from obtaining multiple samples from one property and submitting the results for several residences/
- What oversight does the state have on the sampling techniques that are being used in the field?
- Outside of a paper report received by the regulators from the service provider there is no actual monitoring of whether or not a system is truly functioning.

Mr. Chandler recommended that the committee and DEQ transition the existing program to a service provider model to provide the homeowners/property owners more power in how their systems are managed. Mr. Chandler believes that this would help to hold the service provider and manufacturer accountable. He also believes that this will make the



homeowners/property owners more accountable as well. Mr. Chandler also proposed that annual testing requirements be removed. Instead Mr. Chandler proposed that annual maintenance be required instead. He also asked that if testing was to remain in place that DEQ perform a study to determine how many non-compliant samples are related to mechanical issues and how many are related to homeowner abuse.

Dale Peck questioned if the service provider would report the maintenance or testing results to the health district under Matt's proposal. Mr. Chandler stated that the service provider would be the one reporting. To make them accountable Mr. Chandler stated this should be done through a contract that does not contain an easement.

Dale Peck stated that he could see DEQ or the health districts producing a list of service providers that the property owners could select from. Mr. Peck also asked if Mr. Chandler was recommending that there be mandatory background checks for service providers. Mr. Chandler believes this would be a good idea.

Mike Reno asked Mr. Chandler if he believes that manufacturers should be required to certify more than one service provider for their products. Mr. Chandler stated this should be required.

Allen Worst stated to the committee that if there are several service providers then a property owner is going to choose the cheapest option. Mr. Worst believes this could reflect poorly on the manufacturer and their products. Mr. Chandler concurred with this point but emphasized that homeowners/property owners need a choice.

Sheryl Ervin from Bio-Microbics, Inc. addressed the committee to inform them and Mr. Chandler that Bio-Microbics is interviewing additional people to serve as service providers for their operation and maintenance entity. Joe Canning asked Mrs. Ervin why costs for operation, maintenance, and monitoring continue to increase. Mrs. Ervin stated that the member fees are related to paying the service provider for their time and travels, compiling annual reports, effluent testing, and administrative costs of running the entity. Mrs. Ervin believes the cost increases are related to increases in costs for these activities.

#### Dave Gibson, Property Owner with ETPS Unit

Dave Gibson informed the committee that he is not happy with his current operation and maintenance entity and their contracted service provider. Mr. Gibson is suspicious as to whether the service provider is actually coming to his property every year and testing the effluent from his system. Mr. Chandler provided a report from Central District Health Department on the dates that his system was tested and the associated results. There were a couple conflicting dates and results. Mike Reno explained that was a clerical error on the report he was provided and was due to the year when annual report submittals changed from January 1<sup>st</sup> to July 31<sup>st</sup>. Mr. Gibson explained that he works from home as does his son's family that lives across the street. Very seldom is there a case when someone is not home at one of the two houses. He does not believe the service provider has been to his house every year based on this situation and the fact that the service



provider could not show him where the hidden access ports to his system were when he asked.

Mr. Gibson provided the committee with several suggestions including:

- Allowing the property owners to test their own system and perform their own maintenance. The emphasis should be placed on the property owners and they will figure out how to handle their requirements.
- An accountability system needs to be in place for the service provider and any testing that is performed by a service provider.
- If a service provider is required then provide the property owners with multiple choices. Mr. Gibson recommended a sealed sample process using tamper stickers and that the laboratories performing sampling should be submitting the samples directly back to the health district and not through the service providers.

PaRee Godsill, Everlasting Extended Treatment, Inc. and Northern Services, Inc.

PaRee Godsill is both a service provider and an operation and maintenance entity director. Mrs. Godsill stated that the recent extended treatment package system guidance changes had produced good results from the property owners within her operation and maintenance entity. Mrs. Godsill outlined that her system requires two annual maintenance visits in comparison to the state mandated annual maintenance.

Mrs. Godsill described how her and her husband moved to eastern Idaho to takeover and begin working with a second operation and maintenance entity that also oversees the Norweco systems. Mrs. Godsill described how the members of the eastern Idaho entity took over the board of directors and severed ties with her service provider business. The entity is now contracted with a non-certified service provider and has stated that they do not plan on testing until this upcoming fall. Mrs. Godsill described that for her to be able to sell the Norweco products again she needs to obtain 90% compliance with operation, maintenance, and testing requirements statewide. Mrs. Godsill emphasized this is hard to do when there is no control over the other entity and the timelines in which they want to bring their entity into compliance. Mrs. Godsill believes that the other entity's contract with a service provider that is not certified by the manufacturer is hurting their compliance efforts and is concerned that this individual does not have the proper equipment to service a Norweco system.

Mrs. Godsill provided the committee with several recommendations including:

- She would like to see the manufacturer certification of service providers followed by DEQ.
- She believes that the homeowners/property owners are unaware of the issues they face but that they ultimately need a choice of who they would like to use as a service provider and not be dictated who their provider will be by the operation and maintenance entity.
- She supports the idea of DEQ or the health districts maintaining an approved vendors list for the service providers a property owner could choose from.



### Kimir Mu, Property Owner with ETPS Unit

Kimir Mu submitted written public comment to Tyler Fortunati with the request that the comments be read to the committee during the meeting. Tyler Fortunati read the comments to the committee during the meeting. The public comment submitted covered the following:

Kimir Mu expressed frustration with the failing extended treatment package systems in eastern Idaho. Kimir does not believe that the mandated operation, maintenance, and testing paired with a lack of septic permit enforcement from DEQ is working. Kimir expressed that this has created an uproar in their eastern Idaho county. Kimir also takes exception to DEQ making exceptions to their guidance and allowing an operation and maintenance entity to contract with a service provider that is not certified by the manufacturer of the technology they oversee. Kimir believes this has created a situation where service providers are fighting against one another and leaves property owners in a situation where they do not know who to trust. Kimir believes the lack of extended treatment package system compliance is impacting the ground water within their county. Kimir provided solutions to fix these problems including:

- Allowing the property owner to contract directly with a service provider of their choice.
- Allowing the property owner to report directly to the health department.

Tyler Fortunati provided clarification to the committee regarding the operation and maintenance entity that was allowed to contract with a service provider that is not certified by the technology's manufacturer. Tyler Fortunati stated that DEQ was informed by Norweco that they would not train any other service providers other than the one provider that had already been trained in Idaho. This forced DEQ to allow the operation and maintenance entity to contract with a service provider of their choice as an agreement between the certified service provider and the entity could not be reached. This was an exception forced by the manufacturer and not one that was arbitrarily allowed by DEQ.

### Sheryl Ervin, Bio-Microbics, Inc.

Sheryl Ervin represents Bio-Microbics, Inc. Sheryl addressed the committee and described that customer notification of the required extended treatment package system program was difficult. Mrs. Ervin believes this is an issue with the member agreements that are recorded on the deed that are not disclosed to the property owners when they purchase their property.

Tyler Fortunati discussed that time of sale inspections are not required in Idaho. This leaves the notification up to the title company at the time of sale. Mr. Fortunati stated that he had met with the Government Affairs Committee of the title companies and that they had recommended some changes to the member agreement titles to include the words access easement so the documents are flagged for closer disclosure upon sale of a property. Mr. Fortunati also stated these changes would only impact new



member agreements from a new entity as they could not go back and require all of the old agreements to be changed.

Joe Canning asked why the operation and maintenance entity doesn't send out letters from the service provider to the property owners informing them of the required operation, maintenance, and testing annually. Mr. Canning felt like this would help with property owner notification. Sheryl Ervin stated that letters should be going out annually.

Dave Gibson asked why the property owner could not replace parts themselves. Mrs. Irvin described that in order for the manufacturer to keep their NSF certification that all replacement parts must be OEM parts from the manufacturer. If replacement parts are not OEM then the manufacturer could lose their certification if the system is audited by NSF. Tyler Fortunati explained that in DEQ's view it does not matter what parts are used for replacement components as long as the treatment unit is still capable of meeting the annual effluent limits for the unit. Additionally, Mr. Fortunati explained that regardless of what parts are used for replacement the treatment unit is still considered to be from the manufacturer that the system was installed under.

#### Mike Black, Black Water, LLC

Mike Black addressed the committee and stated that he was concerned that the enforcement actions are the same for a property owner whether they are out of compliance with effluent limits for total nitrogen, biological oxygen demand, or total suspended solids. He believes that there should be a difference for those limits that are not as stringent as the others. Mr. Black believes that a system that is not capable of meeting biological oxygen demand or total suspended solids shouldn't be allowed to be installed in Idaho. Mr. Black also does not believe it is reasonable to enforce against permit holder if their effluent results come back at 17 mg/L total nitrogen when the permit requires them to meet 16 mg/L. Mr. Black would like to see a tiered enforcement program based on how out of compliance the unit is. He provided an example for one response to 16-20 mg/L and another for 20-25 mg/L and so on. Mr. Black asserted that larger systems are allowed a number of out of compliance events before enforcement occurs. Mr. Black believes there should be a more relaxed timeline for compliance since the extended treatment package systems do not react that quickly to maintenance so a property owner has a reasonable chance to get into compliance.

Mike Reno asked if Mr. Black would have an issue with not sampling at 45 days if he feels the system wasn't ready to be tested but the lack of a sample counts as a failed test result. Mr. Black said he would be ok with this because it saves the property owner money on unnecessary testing.



## TGC Discussion

The committee discussed the public comments they heard and provided DEQ a recommendation for how to proceed with the extended treatment package system program.

Mike Reno began the discussion by stating that he would like to look at the feasibility of pursuing a service provider model.

Dale Peck stated that he did not believe it was advisable to continue down the current operation and maintenance entity program path. Mr. Peck stated that he would like to see an operation permit in the subsurface sewage disposal program but understood that this is not likely a feasible option. Mr. Peck stated that if a service provider model is pursued he would like to see some form of training and education required for an individual to become permitted as a service provider. This training would be in addition to whatever is provided by a manufacturer for their specific certifications. Mr. Peck also feels that background checks are a must in the program. Mr. Peck would also not be opposed to having relaxed requirements for proven installations with a successful testing history. Mr. Peck would also be open to requiring operation and maintenance for other system types to ensure that the requirements for systems with similar allowances are equitable. Mr. Peck believes that homeowners/property owners do need a choice in who services their system but is not supportive of having homeowners/property owners perform the operation, maintenance, and monitoring on their own.

Joe Canning stated that he too agreed that the property owners need a choice in service providers. Mr. Canning does have concerns on the number of systems that are actually available to be divided up amongst service providers and how much of a market there is for service providers. Joe Canning did caution the committee that he does feel there is a problem that has been created by the current operation and maintenance entity model but is not fully convinced that a service provider model is the way to fix the problems.

Bob Erickson stated that he supports providing the homeowners/property owners a choice in who services their system. Mr. Erickson could see a program that is analogous to the current installer permitting program working to address this issue. Mr. Erickson believes there could be a hurdle with manufacturers and obtaining certifications of service providers from them. Mr. Erickson also stated that he would support required operation and maintenance on any system that has a pump component to it. He also believes that flow-through extended treatment package systems should be required to be maintained twice per year. Mr. Erickson is also supportive of removing the effluent sampling requirements.

Jason Holm stated that he supported the thoughts of everyone else on the committee. Mr. Holm could see complex installers being a possible solution to the maintenance issues and service provider permitting. Mr. Holm would like to see some form of



third party quality control on testing such as an engineering firm or something similar to ensure that testing is being done properly and results can be verified.

Dale Peck stated that he could see an alternative to testing every extended treatment package system every year would be to randomize the testing to cover the different products that are out there. In this scenario several random properties would be tested on an annual basis but not all of the properties with extended treatment package system program.

Tyler Fortunati stated to the committee that the details could be worked out on how a program shift would occur and what it would require at a later time. Mr. Fortunati then asked that the committee supply DEQ with a recommendation on how to proceed in the extended treatment package system program. Based on the testimony from the public, program stakeholders, and the committee discussion Mr. Fortunati stated that it sounded as if the committee was recommending that DEQ pursue a service provider based model for the required operation, maintenance, and monitoring of extended treatment package systems. Mr. Fortunati then asked the committee to vote on their desired direction.

**Recommendation from the TGC to DEQ for the direction of extended treatment package system program:** Pursue a service provider based model to carry out the required operation, maintenance, and monitoring of extended treatment package systems.

**Voice Vote:** Recommendation carried unanimously.

Tyler Fortunati stated that DEQ would consider the committee's recommendation and provide an overview of how they intend to proceed in the ETPS program at the next meeting. Mr. Fortunati also cautioned that pursuing a service provider model may require a rulemaking effort which would take time and that the earliest a service provider program could potentially be initiated would likely be over a year from this meeting date. See **Appendix N** for Allen Worst's written proposal to the committee.

### **NEXT MEETING:**

The next committee meeting is scheduled to be on May 21, 2015 at the Idaho Correctional Industries building.

**Motion:** Mike Reno moved to adjourn the meeting.

**Second:** Bob Erickson.

**Voice Vote:** Motion carried unanimously.

The meeting adjourned at 3:28 p.m.

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**TGC Parking Lot.**

This is a running list of issues requested to be prepared and presented at a future TGC meeting.

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**List of Appendices from the March 20, 2015 Meeting****Appendix A:**

December 10, 2014 TGC Minutes

Status: Final

**Appendix B:**

4.18 Pit Privy

Status: Final

**Appendix C:**

4.19 Portable Sanitation Units

Status: Final

**Appendix D:**

4.29 Vault Privy

Status: Final

**Appendix E:**

2.1.3 Soil Design Subgroup Corrections

Status: Final

**Appendix F:**

4.1.3 Combination of Multiple Alternative Systems in One System Design

Status: Tabled

**Appendix G:**

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

Status: Final

**Appendix H:**

4.10 Floating Vault Toilets and Boat or Vessel Sewage Disposal

Status: Preliminary Approval – Posted for Public Comment

**Appendix I:**

4.1 General Requirements

Status: Tabled



**Appendix J:**

3.2.8.1.4 Pit Run

Status: Preliminary Approval – Posted for Public Comment

**Appendix K:**

Table 4-16 and Table 4-18 Secondary Biological Treatment System Hydraulic Application Rates

Status: Preliminary Approval – Posted for Public Comment

**Appendix L:**

4.24.2 In-Trench Sand Filter Approval Conditions

Status: Tabled

**Appendix M:**

Gravelless Chamber Discussion Documents

Status: N/A

**Appendix N:**

Extended Treatment Package System Program Discussion Documents

Status: N/A



## Appendix A

# Technical Guidance Committee Meeting

## 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](mailto: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](mailto: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](mailto: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](mailto:tyler.fortunati@deq.idaho.gov).



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The meeting was adjourned for Lunch.  
Lunch 11:55 a.m. – 12:55 p.m.

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### **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](mailto: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](mailto: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 ~~should~~shall 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 shall install a subsurface sewage disposal system, ~~or a standard system could otherwise be constructed.~~
5. ~~The P~~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 ft<sup>2</sup> 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~~December 10, 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.~~
4. ~~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).



d.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>	<u>1</u>
<u>116-2030</u>	<u>2</u>
<u>321-3054</u>	<u>3</u>
<u>3152-4072</u>	<u>4</u>
<u>73-93</u>	<u>5</u>
<u>Over 9340</u>	<u>1 additional unit for each 10 additional 20 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>
<del>5,001–6,000</del>	<del>42</del>	<del>42</del>	<del>46</del>	<del>46</del>	<del>20</del>	<del>30</del>	<del>30</del>	<del>36</del>	<del>36</del>	<del>40</del>
<del>6,001–7,000</del>	<del>42</del>	<del>42</del>	<del>46</del>	<del>20</del>	<del>30</del>	<del>32</del>	<del>40</del>	<del>40</del>	<del>48</del>	<del>52</del>
<del>7,001–8,000</del>	<del>42</del>	<del>42</del>	<del>20</del>	<del>24</del>	<del>32</del>	<del>32</del>	<del>40</del>	<del>44</del>	<del>52</del>	<del>54</del>
<del>8,001–9,000</del>	<del>46</del>	<del>46</del>	<del>24</del>	<del>28</del>	<del>40</del>	<del>40</del>	<del>52</del>	<del>52</del>	<del>60</del>	<del>64</del>
<del>9,001–10,000</del>	<del>4615</del>	<del>4625</del>	<del>2838</del>	<del>4050</del>	<del>4063</del>	<del>5275</del>	<del>5288</del>	<del>60100</del>	<del>60113</del>	<del>72125</del>
<del>10,000–15,000</del>	<del>20</del>	<del>38</del>	<del>56</del>	<del>75</del>	<del>94</del>	<del>113</del>	<del>131</del>	<del>150</del>	<del>169</del>	<del>188</del>
<del>15,000–20,000</del>	<del>25</del>	<del>50</del>	<del>75</del>	<del>100</del>	<del>125</del>	<del>150</del>	<del>175</del>	<del>200</del>	<del>225</del>	<del>250</del>
<del>20,000–25,000</del>	<del>38</del>	<del>69</del>	<del>99</del>	<del>130</del>	<del>160</del>	<del>191</del>	<del>221</del>	<del>252</del>	<del>282</del>	<del>313</del>
<del>25,000–30,000</del>	<del>46</del>	<del>82</del>	<del>119</del>	<del>156</del>	<del>192</del>	<del>229</del>	<del>266</del>	<del>302</del>	<del>339</del>	<del>376</del>
<del>30,000–35,000</del>	<del>53</del>	<del>96</del>	<del>139</del>	<del>181</del>	<del>224</del>	<del>267</del>	<del>310</del>	<del>352</del>	<del>395</del>	<del>438</del>
<del>35,000–40,000</del>	<del>61</del>	<del>109</del>	<del>158</del>	<del>207</del>	<del>256</del>	<del>305</del>	<del>354</del>	<del>403</del>	<del>452</del>	<del>501</del>
<del>40,000–45,000</del>	<del>68</del>	<del>123</del>	<del>178</del>	<del>233</del>	<del>288</del>	<del>343</del>	<del>398</del>	<del>453</del>	<del>508</del>	<del>563</del>
<del>45,000–50,000</del>	<del>76</del>	<del>137</del>	<del>198</del>	<del>259</del>	<del>320</del>	<del>381</del>	<del>442</del>	<del>503</del>	<del>564</del>	<del>626</del>

**4.19.4 General Requirements**

~~6. 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.~~



~~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.~~

- ~~2. Interior floors, walls, ceilings, partitions, and doors of all sanitation unit buildings should have a finish that can be easily cleaned.~~

~~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.~~

~~Waste containers must be fabricated from nonabsorbent, watertight materials.~~

~~The waste container must be vented to the outside of the building with a minimum nominal vent area of 7 square inches.~~

~~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 ft<sup>2</sup> 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 thea site as soon as possible, ~~but no longer than 7 days~~, after the completion of thean 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**

- ~~7. The final disposal site must be approved by the Director.~~
- ~~8. 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 where practical.
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) except the vent stack shall be on the outside of the vault structure.

#### 4.29.3 Vault Requirements

~~Privy must meet the distance limitations of a septic tank.~~

1. Privy vault must be watertight, constructed of durable materials, and not subject to excessive corrosion, decay, frost damage, or cracking.
2. Vault may be a modified septic tank with inlet and outlet openings sealed or a preapproved vault unit.
3. The volume of the vault tank must be 375 gallons for each toilet, except that no tank may be less than 500 gallons.
4. 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.



5. 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.
6. 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**

- ~~7. Toilet structures over holding tanks must meet the requirements of structures over pit privies.~~
- ~~8. Access and pumping port should be located outside of any structure and should have a diameter of at least 8 inches.~~
- ~~9. 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~~may 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/ft<sup>2</sup>, 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.~~



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

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

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



## 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 recreation 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. The pumper must be identified in the permit application and demonstrate they have the equipment necessary to access and pump the vault.
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 including pumping frequency.
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

### 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 (Idaho Code §54-1218):

- The construction, reconstruction, maintenance and repair work is insignificant (less than \$10,000 in total cost), and
- 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
- A PE determines that such public construction, reconstruction, maintenance and repair work does not represent a material risk to public health or safety.

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 J

### 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).

**Table3-6. Pit run allowable particle size percent composition.**

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



### Appendix K

**\*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.**

<b>Soil Design Subgroup</b>	<b>Application Rate (gallons/square foot/day)</b>
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.**

<b>Soil Design Subgroup</b>	<b>Application Rate (gallons/square foot/day)</b>
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 L

### 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 **Error! Reference source not found.**
  - 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/ft<sup>2</sup> 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.



**Appendix M**

See the subsequent pages for the documents presented during the gravelless chamber discussion.



State of Idaho  
Department Of Environmental Quality  
Technical Guidance Committee

### **Appendix N**

See subsequent pages for the documents presented during the extended treatment package system program discussion.