State of Idaho
Department Of Environmental Quality
Technical Guidance Committee

Technical Guidance Committee Meeting

Minutes

Wednesday, January 30, 2013

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

TGC ATTENDEES:

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

GUESTS:

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

CALL TO ORDER/ROLL CALL:

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

MEETING MINUTES:

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

The minutes were reviewed and no amendments were proposed.

Motion: Mike Reno moved to accept minutes as presented.

Second: Joe Canning.

Voice Vote: Motion carried unanimously.

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

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

No public comments were submitted during the allotted agenda timeframe.

ETPS SUBCOMMITTEE UPDATE:

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

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

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

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

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

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

Joe Canning felt that the O&M Entities need to get their membership involved through the inclusion of information in the meeting notices that would catch their attention, such as fee structure discussions.

Discussion was held about what the proper fee structure for an O&M Entity included. The committee feels that the O&M Entities should be structuring their fees so that there is a reserve account to perform service and maintenance on property owners that refuse to pay their annual dues. After this is performed the Entity should attempt to recoup this money from the delinquent member.

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

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

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

INTRODUCTION OF NEW TECHNICAL GUIDANCE MANUAL FORMAT:

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

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

Bob Erickson requested that DEQ print and mail the TGC members new manuals upon the documents posting to the internet. Tyler Fortunati stated that DEQ could do this, but they will not be providing new copies to every inspector working within the health districts in the

subsurface program. It is the responsibility of the districts to provide their inspectors with the most current version of the TGM.

10:50 AM Break

11:00 AM Meeting Resumed

OLD BUSINESS/ FINAL REVIEW:

2.1 Medium Sand Definition

- Table 2-6

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

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

Second: Bob Erikson

Voice Vote: Motion carried unanimously.

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

4.12 Gravelless Trench System

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

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

Second: Mike Reno.

Voice Vote: Motion carried unanimously.

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

4.20 Pressure Distribution
In-Tank Pumps

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

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

Second: Mike Reno

Voice Vote: Motion carried unanimously.

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

NEW BUSINESS/ DRAFT REVIEW

4.20 Pressure Distribution System
Pump to Drop-Box

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

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

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

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

Second: David Loper.

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

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

4.26 Seepage Pit

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

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

Second: George Miles.

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

4.15 Holding Tank and 4.21 RV Dump Station

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

4.15 Holding Tank

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

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

Second: Mike Reno.

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

4.21 RV Dump Station

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

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

Second: Joe Canning.

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

5.10 Pipe Materials for Specified Uses

It was noted that this is actually section 5.10 of the TGM, though in the new TGM version this will be section 5.9 due to the merging of section 5.1 and 5.2 in the new TGM format the section was adjusted accordingly. The committee made minor modifications to the table notes to clarify what portion of the table applied to the State of Idaho Division of Building Safety, Plumbing Bureau.

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

Second: Mike Reno.

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

3.2 Serial Distribution
Equal Distribution and Serial Distribution

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

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

Second: Joe Canning.

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

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

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

NEXT MEETING:

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

Motion: George Miles moved to adjourn the meeting.

Second: Bob Erickson.

Voice Vote: Motion carried unanimously.

The meeting adjourned at 2:46 p.m.

List of Appendices:

Appendix A:
October 23, 2012 TGC Minutes (Final)

Appendix B:
ETPS Subcommittee Update PowerPoint Presentation
Status: Informational

Appendix C:
2.1.4 Medium Sand Definition
Status: Final

Appendix D:
4.12 Gravelless Trench System
Status: Final

Appendix E:
4.20 Pressure Distribution: 4.20.3.5 In-Tank Pumps
Status: Final

Appendix F:
4.20 Pressure Distribution System: 4.20.3.6 Pump to Drop Box
Status: Preliminary approval- posted for public comment

Appendix G:
4.26 Seepage Pit
Status: Preliminary approval- posted for public comment

Appendix H:
4.15 Holding Tank
Status: Preliminary approval- posted for public comment

Appendix I:
4.21 RV Dump Station
Status: Preliminary approval- posted for public comment

Appendix J:
5.10 Pipe Materials for Specified Uses
Status: Preliminary approval- posted for public comment

Appendix K:
3.2 Equal and Serial Distribution
Status: Preliminary approval- posted for public comment

Appendix A

Technical Guidance Committee

Minutes

October 23, 2012

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

TGC ATTENDEES:

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

GUESTS:

Barry Burnell, Water Quality Division Administrator, DEQ
Chas Ariss, P.E., Wastewater Program Manager, DEQ
Lindsey Stanton, Administrative Assistant, DEQ
Ryan Spiers, Alternative Wastewater Systems, LLC
Brent Gee, Northern Aerobic, LLC
Matt Gibbs, Infiltrator, Inc.
Kellye Eager, Environmental Health Director, Eastern Idaho Public Health Department (via telephone)
Nathan Taylor, Environmental Health Supervisor, Eastern Idaho Public Health Department (via telephone)
Raymond Keating, Environmental Health Specialist, Eastern Idaho Public Health Department (via telephone)
Paul Hook, Intermountain Aquatics, Inc. (via telephone)

CALL TO ORDER/ROLL CALL:

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

MEETING MINUTES:

June 19, 2012 Draft TGC Meeting Minutes: Review, Amend or Approve

Motion: David Loper moved to accept the minutes as presented.

Second: Mike Reno.

Voice Vote: Motion carried unanimously.

Minutes will post as final. See DEQ webpage and Appendix A.

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

No public comments were submitted during the allotted agenda timeframe.

ETPS SUBCOMMITTEE UPDATE:

DEQ introduced the selected ETPS subcommittee members. They are as follows:

- Tyler Fortunati (DEQ representative and subcommittee chairman)
- David Loper (TGC member representative)
- Bob Erickson (TGC member representative)
- Jay Loveland (Panhandle Health District Representative)
- Raymond Keating (Eastern Idaho Public Health District Representative)
- James Bell (Executive Vice President of Bio-Microbics- Manufacturer Representative)
- Ryan Spiers (Alternative Wastewater Systems, LLC.- Service Provider Representative)
- Brent Gee (Effluent Technologies, Inc.- Operation and Maintenance Entity Representative)
- Kim Walker (Simple Septic Solutions, Inc.- Service Provider Representative)

Brent Gee was granted permission to address the committee after introduction of the subcommittee members. Brent Gee presented CDs containing a presentation that he would like the TGC and ETPS subcommittee members to review and consider. The presentation is to address the ETPS troubleshooting that Mr. Gee feels is not currently considered in the State of Idaho in relation to servicing and testing ETPS units. Specifically Mr. Gee discussed the use of pH testing to indicate the performance of the ETPS units. Mr. Gee identified pH testing as a screening tool and that the pH needed to be between 6.4 and 8.4 (standard units).

Mike Reno asked Mr. Gee if he had tried or utilized the methods and information presented in the CD. Mr. Reno also asked if Mr. Gee is looking to replace the TSS/$CBOD_5$ testing currently in place with the pH testing. Mr. Gee stated that he has utilized the information and that it appears to work, additionally he would like the pH testing to take the place of the TSS/$CBOD_5$. Mr. Reno asked if the pH was an indicator that the ETPS system will meet the current

TSS/$CBOD_5$ requirements as presented in the TGM. Mr. Gee states that it is not. Mr. Gee states that Wyoming has dropped the testing program and that Washington and Massachusetts may be good programs to look into.

David Loper suggests that he would like to see the subcommittee review the history of the ETPS program in the State of Idaho. Specifically, Mr. Loper would like to review where the program has been to get where it is currently. He would also like an overview of other state ETPS/ATU management systems. Another topic for discussion by the subcommittee is the variability of sample results from lab to lab on split samples.

The TGC agreed to review the CD from Mr. Gee.

The first meeting date for the Subcommittee is being planned for the week of November 12.

OLD BUSINESS:

2.4 Evaluating Fill Material

This TGM section was posted for public comment. There was one comment to which Tyler Fortunati and Barry Burnell responded. A discussion ensued on the certification requirements for the professional designing the fill project. DEQ prefers that a certified soil scientist uses or develops the plan, but alternatively the plan may be submitted by a professional engineer licensed in the State of Idaho. There was also a concern raised as to how the health districts would charge for a multiple year project following the proposed fill guidance. The TGC does not set health district fees, nor do they have a role in the fee structure, therefor the TGC decided this is not for their discussion or decision. The fee structure will need to be determined by each health district.

Joe Canning raised the issue that section 2.4.8 of the fill material guidance had an error under item 6 where it refers to section 0. Tyler Fortunati stated that this was an error in the switch from a Word document to a PDF where the 0 should actually be 2.4.7. This was removed due to the hyperlink that was built in to the Word document. When the section is included into the TGM it will state 2.4.7.

Motion: David Loper moved that the TGC recommend final approval to DEQ of the rewritten Evaluating Fill Material Section 2.4.

Second: Bob Erickson.

Voice Vote: Motion carried unanimously. See Appendix B.

3.2 Components of Standard Systems

Drainfield Greater than 1500 ft^2

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

Motion: David Loper moved that the TGC recommend final approval to DEQ of the newly added Drainfield Greater than 1500 ft^2 subsection of Section 3.2 Components of Standard Systems.

Second: Joe Canning.

Voice Vote: Motion carried unanimously. See Appendix C.

Pump to Drop Box

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

David Loper was under the impression that this would appear in its own subsection and not under section 3.2 of the TGM. Mike Reno disagreed that it should appear in its own section but does believe that it should be included under the pressure distribution section of the TGM. David Loper agrees and would like to see it added under the pressure distribution section after the in-tank pump subsection, he would also like to see a figure included with this subsection to provide a description of what it is. David Loper is not on board with the complex licensing requirements for installers on this installation type. George Miles stated that the pump must be sized, which is engineering by definition. Mike Reno would like to know why the health district inspection process is not adequate to prove the pump is working. David Loper would not like to see the hardship placed on the homeowner for trivial issues like pump sizing requiring them to hire an engineer, this is a basic system minus the lifting of the effluent. Barry Burnell addressed the committee and stated that the first page of the alternative system section of the TGM discusses when EHS and Engineers are allowed to design a system. Bob Erickson remembers that only a complex license was required not an engineer. Joe Canning states that pump selection is not designing and that he sees engineer involvement at the EHS's discretion. George would like an amendment to the section that states the system may require engineering. Joe Canning also stated that he would not like to see the effluent velocity exceed 4 feet per second and that there should be a statement added to the guidance that requires the flow rate to be 2-4 feet per second. Mike Reno would like the pump rate to be limited to 10 gallons per minute or less in the guidance language, and this should be included in the guidance after the first sentence.

Motion: George Miles moved that the TGC tables the issue to the next meeting, and for DEQ to revise the text to reflect the discussion, add a figure and place the revised material in TGM Section 4.20.

Second: David Loper.

Voice Vote: Motion carried unanimously.

Section 4.25 Sand Mound

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

David Loper has an issue with the twelve inches of cover being struck out from design section item 2(f). Tyler Fortunati replied that this was struck out to conform to the cover requirements presented in figure 2-24. Mike Reno motions that the cover requirements be changed to 12 inches over the mound with the cover crowned to 18 inches at the mound center.

George Miles states that there needs to be a basal area check and slope correction factor included into the Sand Mound Design Checklist. He will provide more information to DEQ for the inclusion of these factors into the design checklist for review and approval at a later meeting.

Motion: Joe Canning moved that the TGC recommend final approval to DEQ of Section 4.25 Sand Mound with the proposed cover changes in design section 2(f) and figure 2-24, and that the slope correction factors and basal area check be added to the TGC parking lot for later consideration.

Second: Bob Erickson.

Voice Vote: Motion carried unanimously. See Appendix D.

Section 4.26 Seepage Pit

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

Bob Erickson is concerned that the TGC is opening up the permitting of seepage pits statewide, and that there is potential for these systems to become injection wells. It was brought to the committee's attention that the proposed number 4 under the conditions of approval needs to be moved back to number 2 so that the language in IDAPA 58.01.03.008.12 is not affected. This will require that the current conditions of approval number 1 and 2 need to be changed to items 1a and 1b respectively.

Discussion ensued as to how seepage pits are sized. David Loper proposed that the effective soil depth chart (IDAPA 58.01.03.008.02.c) be added to the conditions of approval for seepage pits. David would also like to see table 4-23 deleted and replaced with new language on calculating the size of the seepage pit based solely on sidewall area below the effluent pipe.

George Miles would like to see the addition of language that recommends the use of effluent filters.

Motion: Joe Canning moved that the TGC table Section 4.26 Seepage Pits until the next meeting for review of the section to include the proposed changes from this meetings discussion.

Second: George Miles.

Voice Vote: Motion carried unanimously.

Section 5.10 Piping Materials for Specified Uses and Section 3.2 Components of Standard Systems

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

Tyler Fortunati states that section 3.2 Components of Standard Systems page 3-5 is included in this section for piping changes that are reflected in Section 5.10 Piping Materials for Specified Uses to be consistent across the TGM.

Motion: Joe Canning moved that the TGC recommend final approval to DEQ of Section 5.10 Piping Materials for Specified Uses and Section 3.2 Components of Standard Systems page 3-5 as rewritten.

Second: Mike Reno.

Voice Vote: Motion carried unanimously. See Appendix E.

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

NEW BUSINESS/DRAFT REVIEW:

2.1 Medium Sand

The committee reviewed the proposed editing of section 2.1 Medium Sand of the TGM. The committee had no comment on the proposed changes.

Motion: Mike Reno moved that the TGC recommend preliminary approval of section 2.1 Medium Sand pending public comment and that DEQ issue the revised section 2.1 Medium Sand for public comment.

Second: Joe Canning.

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

4.20 Pressure Distribution

The committee reviewed the proposed changes to section 4.20 Pressure Distribution- In-Tank Pumps.

Bob Erickson brought up the potential use for shop applications and other small flows. Discussion ensued about tank sizes. The TGC recommended that a condition be added to allow the use of in-tank pumps if flows are less than 100 gallons per day.

David Loper would like the proposed condition number 2 to be struck from the revision based upon the restriction to flows less than 100 gallons per day.

Motion: Mike Reno moved to recommend that the TGC recommend preliminary approval of section 4.20 Pressure Distribution- In-Tank Pumps pending public comment and that DEQ issue the revised section 4.20 Pressure Distribution- In-Tank Pumps for public comment.

Second: Bob Erickson.

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

4.12 Gravelless Trench System

The committee reviewed the proposed changes to section 4.12 Gravelless Trench System of the TGM. The committee had no comment on the proposed changes.

Motion: Bob Erickson moved that the TGC recommend preliminary approval of section 4.12 Gravelless Trench System pending public comment and that DEQ issue the revised section 4.12 Gravelless Trench System for public comment.

Second: Mike Reno.

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

Installer Tests

This portion of the TGC meeting was closed to the public. The TGC reviewed and approved test questions for both the basic and complex installer exams to be utilized by the public health districts to meet the requirements of IDAPA 58.01.03.006.02. Copies of the approved test questions and the associated answer key will be provided to the Environmental Health Directors for each health district. These new test questions are to replace all current test questions in use statewide beginning January 1, 2013.

TGC Parking Lot

This is a running list of issues requested to be prepared and presented to the TGC:

- O&M content in Chapter 7 and in Chapter 4
- Serial Distribution vs. Parallel Distribution

- Sand Mound slope correction factors and basal area checking (George Miles will send information on this).

NEXT MEETING:

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

Motion: Mike Reno moved to adjourn the meeting.

Second: David Loper.

Voice Vote: Motion carried unanimously.

The meeting adjourned at 4:20 p.m.

Appendix A
March 13, 2012 Final TGC Minutes

Appendix B
Section 2.4 Evaluating Fill Material
Status: Final

Appendix C
Section 3.2 Components of Standard Systems- Drainfield Greater than 1500 ft^2
Status: Final

Appendix D
Section 4.25 Sand Mound
Status: Final

Appendix E
Section 5.10 Piping Materials for Specified Uses and Section 3.2 Components of Standard Systems- page 3-5
Status: Final

Appendix F
Section 2.1 Medium Sand (DRAFT)
Status: Preliminary approval- posted for public comment.

Appendix G
Section 4.20 Pressure Distribution- In-Tank Pumps (DRAFT)
Status: Preliminary approval- posted for public comment.

Appendix H
Section 4.12 Gravelless Trench System (DRAFT)
Status: Preliminary approval- posted for public comment.

Appendix B

ETPS Subcommittee Update

ETPS Subcommittee Discussion

- Reviewed current O&M Entity statuses
  - Suspended or unsuspended
    - 8 of 12 Entities suspended
  - Membership numbers (as provided by districts)
    - Total of 2037 units in the ground requiring testing and reporting
    - 902 units are under suspended Entities
  - Two entities were listed on SOS site as administratively dissolved
    - Only one entity remains dissolved
    - Does not affect operational status of entity and can be reinstated within 10 years by filing proper paperwork

ETPS Subcommittee Discussion

- All minutes are available on the DEQ TGC Webpage
- Reviewed the history of the ETPS program
- DEQ provided the limited results of a survey directed to every State within the US showing the variability of the ETPS programs across the state
- Conveyed the priorities and direction of the TGC to the ETPS subcommittee

ETPS Subcommittee Discussion

- Reviewed current O&M Entity Board makeups
  - Only 1 board currently has members of the ETPS manufacturer involved
    - Most other boards are made up of family members and individuals that are also designated as the service provider
- Reviewed service provider model currently in use
  - ETPS subcommittee discussed moving to a service provider contract model and to remove the O&M Entity

ETPS Subcommittee Discussion

- Provided two draft letters:
  - Service reminder letter (from DEQ to homeowners)
    - Amended and approved by ETPS subcommittee
  - Draft service/testing results letter (O&M Entity to homeowners)
    - Tabled by ETPS subcommittee until further review and amendment to the program occurs
- Based on subcommittee's desire to review the program DEQ decided to start from the beginning of the program and work forward
  - i.e., creation of the O&M Entity through to testing and reporting

ETPS Subcommittee Discussion

- Reviewed service provider model currently in use (continued)
  - ETPS subcommittee discussed moving to a service provider contract model and to remove the O&M Entity
    - Due to middle man aspect and lack of choice
  - It was conveyed by the manufacturer on the subcommittee that the current O&M model allows them to track what is occurring with their systems and have more control over the service being provided to the members

ETPS Subcommittee Discussion

- Reviewed service provider model currently in use (continued)
  - The health districts did not support a service provider only model due to costs associated with tracking the member-service provider contracts and several independent reports on these systems
- Reviewed membership agreements from all O&M Entities (provided by districts)
- ETPS Subcommittee decided it was in the best interest to work on shoring-up the existing O&M Model instead of creating a new model

ETPS Subcommittee Discussion

- Developed and reviewed a brochure regarding real estate transactions and septic systems
  - Addresses the ETPS impacts on real estate transactions and title companies
  - Discusses other issues surrounding septic systems
- Reviewed a draft revision of section 4.10 of the TGM
  - Included further clarification on annual maintenance, testing, and reporting requirements
  - Added expanded outline of suspension process
  - Was simply a restructure and expansion of current system to provide a template to move forward with in revision

ETPS Subcommittee Discussion

- Reviewed and revised section 4.2 of the TGM regarding the requirements surrounding Nonprofits
  - Resulted in several changes and an expansion of the section to allow better tracking by DEQ of the Entities and any changes that occur within their Articles of Incorporation, Bylaws, and service providers
  - Placed several requirements relating to the makeup of the Board including a permanent position appointed by the manufacturer of the technology

ETPS Subcommittee Discussion

- Input from TGC members

ETPS Subcommittee Discussion

- Reviewed and revised section 4.2 of the TGM regarding the requirements surrounding Nonprofits (continued)
  - Requires manufacturer certification of service providers be provided to DEQ in writing
  - Includes provision of maintenance and testing requirements to all new members by the O&M Entity
  - Includes requirements for the membership agreements

Appendix C

2.1.4 Medium Sand

The following definitions may be used to determine if a soil texture is a medium sand:

1. Conforms to the gradation requirements of American Society for Testing and Materials (ASTM) C-33 and less than 2% passes a #200 sieve (**Table 2-5**).

2. A sand with a mean particle size (D_{50}) of no more than 0.5 millimeter (mm) and a coefficient of uniformity (C_u) of 8 or greater has been shown to sustain a biological mat and will be acceptable in systems under continual use.

Table 2-5. Modified ASTM C-33 medium sand allowable particle size percent composition.

Sieve Size	Passing (%)
4	95–100
8	80–100
16	50–85
30	25–60
50	10–30
100	2–10
200	< 2

Appendix D

4.12 Gravelless Trench System

Revision: January 17, 2013

4.12.1 Description

A gravelless trench system meets all the requirements of a standard trench system except that the drainrock is replaced by an approved gravelless trench component (section 5.7). Typical components include gravelless chambers, large diameter nylon fabric wrapped piping of varying dimensions, and drainrock substitution systems. Approved gravelless products are granted a reduction in disposal area square footage, reduction is only allowed in trench designs up to 36 inches in width. No reduction is allowed for installation widths greater than 36 inches, or for installation in sand mound designs.

4.12.2 Approval Conditions

1. Unless otherwise noted, the system must be installed according to the gravelless trench component manufacturer's recommendations.
2. Reduction in square footage cannot be in addition to other allowable disposal area reductions (i.e., drainfield reductions due to increased application rates for treatment).
3. The measured width of the installed product should be at least 90% of the excavated trench width (section 5.7, table 5-6).

4.12.3 Design

1. Length of gravelless trench product needed should be calculated on the following basis:

   a. Disposal trench length is determined by the application rating for each product (section 5.7, table 5-5, rating column)

   Example (large diameter pipe):

   i. Product selected has a rating (square feet of application area per linear foot) of 1.33 ft^2/ft
   ii. 3 bedroom home (250 GPD) in soil design subgroup B-1 soils (application rate of 0.6 gallons per day/square foot)
   iii. ([250 GPD]/[0.6 GPD/ft^2])/(1.33 ft^2/ft) = 314 linear feet of gravelless trench product

   Example (gravelless chamber):

   i. Product selected has a rating (square feet of application area per linear foot) of 4.0 ft^2/ft
   ii. 3 bedroom home (250 GPD) in soil design subgroup B-1 soils (application rate of 0.6 gallons per day/square foot)

iii. ([250 GPD]/[0.6 GPD/ft^2])/(4.0 ft^2/ft) = 105 linear feet of gravelless trench product

b. Disposal trench length is calculated the same way for both gravelless pipe and gravelless chamber products (attention must be paid to specific product application ratings).
c. Width of trench is dependent upon the manufacturer's installation requirements for each approved product.

2. Individual lines in soil design group C soils should be as long as possible, not exceeding the 100-foot maximum.

4.12.4 Construction

1. The trench should follow the contour of the land.

2. Trench excavations should not be less than 8 inches wide and no more than 36 inches wide. Width dimensions will be dependent upon the manufacturer's installation instructions.

3. Pipe must be installed level. A transit, engineer's level, or surveying station is required.

4. Effluent piping entering gravelless chambers should be installed into the highest inlet hole available on the chamber end cap.

5. An inspection port/sludge sump should be installed at the end of each line.

6. Large diameter gravelless pipe products should be covered with geotextile fabric, untreated building paper, or a 3 inch layer of straw unless the product has a built in filter fabric in the design.

    a. Gravelless chambers are not required to be covered with geotextile fabric, untreated building paper, or straw unless specifically required by the manufacturer.

7. Care must be taken not to over-excavate trench width wider than the product width

    a. If over-excavation is unavoidable hand backfilling of trench should be performed up to the product height and fill should be walked in to ensure sidewall support of the product.

Appendix E

4.20.3.5 In-tank Pumps

Placement of sewage effluent pumps in a septic tank is an acceptable practice under the following conditions:

1. The site is too small for the installation of a dosing chamber or a septic tank with a segregated dosing chamber compartment, or the flows are less than 100 gallons per day.
2. Sewage effluent pumps must be placed in an approved pump vault.
3. Effluent drawdown from the septic tank is limited to a maximum 120 gallons per dose with a maximum pump rate of 30 GPM.
4. Septic tanks must be sized to allow for 1-day flow above the high-water alarm, unless a duplex pump is used.
5. Pump vault inlets must be set at 50% of the liquid volume.
6. Pump vault placement inside the septic tank shall be in accordance with the manufacturer's recommendations.
7. Pump vault screens shall be one-eighth inch holes or slits (or smaller); be constructed of noncorrosive material; and have a minimum area of 12 ft^2.
8. Pump vault and pump placement must not interfere with the floats or alarm, and the pump vault should be easy to remove for cleaning (Figure 4-19).

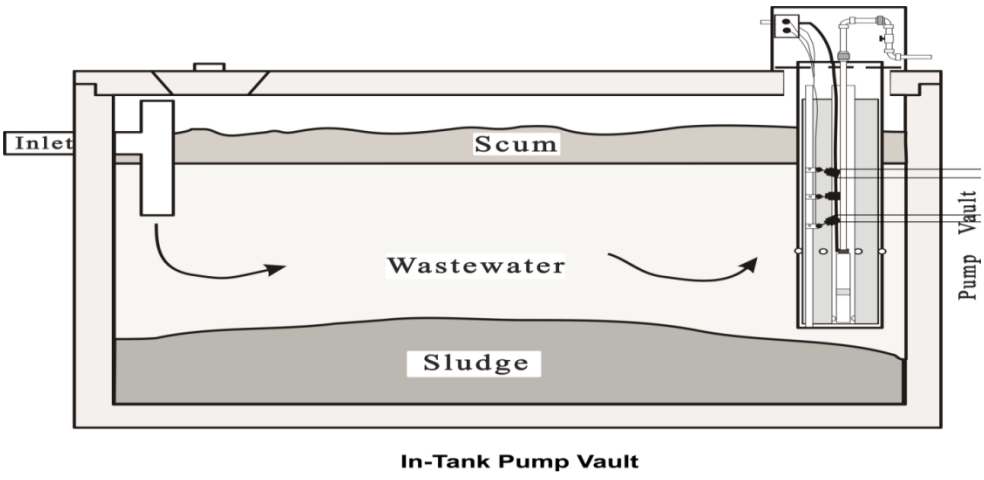

Figure 4-19. Example of effluent pump installed into single-compartment septic tank.

Appendix F

4.20.3.6 Pump to Drop Box

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

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

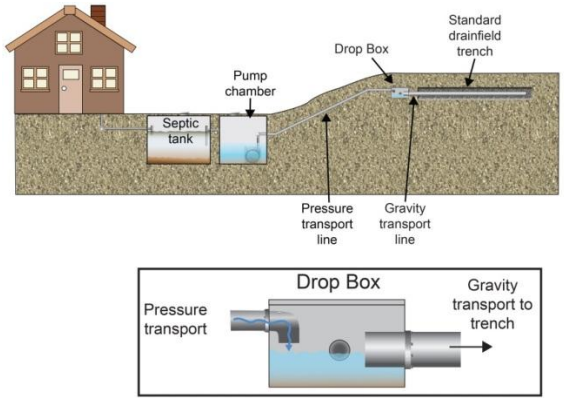

Figure 4-20. Pump to drop box detail.

Appendix G

4.26 Seepage Pit/Bed

4.26.1 Definition

An absorption pit filled with standard drain field aggregate.

4.26.2 Conditions for Approval

1. Seepage pit disposal facilities may be used on a case by case basis within the boundaries of District Health Department Seven when an applicant can demonstrate to the district director's satisfaction that the soils and depth to ground water are sufficient to prevent ground water contamination. The district director shall document all such cases. (IDAPA 58.01.03.008.11).
    a. ~~2.~~ For all other districts, replacement seepage pits may be allowable as a last resort if no other alternatives are feasible, and the site meets conditions of approval ~~2~~1.a through ~~6~~ as stated herein. ~~(IDAPA 58.01.03.008.12).~~ The district director shall document all such cases (IDAPA 58.01.03.008.11) and issue the installation permit as a non-conforming permit.

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

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

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

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

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

4.26.3 Sizing

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

Seepage Bed Example: Pit dimensions are 10 feet wide by 15 feet long and the pit is 8 feet deep below the effluent pipe: (10 feet wide) x (8 feet deep) = 80 square feet → (80 square feet) x (2 sidewalls of same dimension) = 160 square feet. (15 feet long) x (8 feet deep) = 120 square feet → (120 square feet) x (2 sidewalls of same dimension) = 240 square feet. (240 square feet) + (160 square feet) = 400 square feet.

Round Seepage Pit Example: (πd) x h = effective disposal area. d = diameter, h = height, π = 3.14.

Table 4-23. Effective Area of Round Seepage Pits

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

4.26.4 Construction

1. Standard drainfield aggregate shall be used to fill the entire pit excavation.

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

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

~~3.~~4. ~~Effluent Pipe shall be installed to the geographic center of the pit.~~The distribution laterals within the pit should meet the requirements for the standard absorption bed (IDAPA 58.01.03.008.10).

Appendix H

4.15 Emergency Holding Tank

Revision: ~~April 21, 2000~~January 17, 2013

4.15.1 Description

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

4.15.2 Approval Conditions

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

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

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

~~2.~~3. May not be approved for new ~~dwellings~~wastewater generating structures.

~~3.~~4. May not be approved for permanent, year-round ~~residences~~ structures except temporarily to satisfy approval condition 1.

5. Sites may not be subject to flooding.

6. The emergency holding tank permit shall specify a specific date or specific predetermined circumstance for the abandonment of the emergency holding tank (IDAPA 58.01.03.005.13).

    a. The specific date or predetermined circumstance shall be provided in writing and be signed by the permit applicant prior to permit issuance (IDAPA 58.01.03.005.13).

4.15.3 Requirements

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

2. Must ~~be watertight, constructed of sound, durable materials, and not subject to excessive corrosion, decay, frost damage, or cracking (IDAPA 58.01.03.007.02)~~meet the septic tank design and construction standards as described in IDAPA 58.01.03.007.

a. Requirements of IDAPA 58.01.03.007.07, 58.01.03.007.08, 58.01.03.007.19, and 58.01.03.007.22 shall be exempt from the design and construction standards of an emergency holding tank.

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

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

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

~~2.~~6. The tank shall meet the volume requirements of a septic tank, except that no tank shall be less than 1,500 gallons.

~~4.15.4 Sizing~~

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

~~4.15.5 Other Requirements~~

~~3. Toilet structures over holding tanks must meet the requirements of structures over pit privies.~~

~~4. Access and pumping port must be located outside of any structure and should have a diameter of at least 8 inches.~~

~~5.~~7. ~~A warning system may be required to indicate when the tank is two-thirds full.~~

Appendix I

4.21 Recreational Vehicle Dump Station

Revision: ~~October 13, 2004~~January 17, 2013

4.21.1 Description

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

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

~~6. Municipal treatment plant: This is the preferred option, if available. Research indicates that RV dump stations do not cause any problems for disposal in municipal treatment plants because of the dilution. Furthermore, formaldehyde is quite volatile and dissipates rapidly when exposed to an aerobic treatment process.~~

~~7. Community drainfield system: To date, there is no research available about the effects of RV dump station wastes on community drainfield systems. It is logical to assume that at some point the RV waste would be diluted sufficiently so that it should not pose a problem to a drainfield system, but what dilution would be acceptable is not now known. Until further research is completed, it is recommended that not more than 5% of the waste flow to a community septic system be generated by an RV dump station.~~

~~8. Holding tanks: If the tanks are pumped and disposed of at a municipal treatment plant, this should be an acceptable option. The holding tanks should have a high alarm system. The alarm float should be set to allow for a 1-day flow after the high alarm is reached.~~

4.21.2 Conditions for Approval

1. A management entity or arrangement to provide maintenance and pumping of the tank by a permitted septic tank pumper should be provided prior to permit issuance.
2. An RV dump tank shall not have wastewater conveyed to it through a collection system.
    a. RV wastewater shall be discharged into the dump station vault directly from the RV's wastewater holding tanks.
3. If the RV dump tank is a modified septic tank the inlet and outlet openings shall be sealed.
4. Sites may not be subject to flooding.

5. The RV dump tank lid shall be sloped to the dump point and have a wastewater spill containment rim.
6. A source for dump station wash-down water shall be provided to the RV dump location.
    a. The water source shall meet the same separation distances from the RV dump as required by IDAPA 58.01.03.007.17.

4.21.3 Requirements

1. The RV dump tank must meet the distance limitations of a septic tank (IDAPA 58.01.03.007.17).
2. The RV dump tank must meet the septic tank design and construction standards as described in IDAPA 58.01.03.007.
    a. Requirements of IDAPA 58.01.03.007.07, 58.01.03.007.08, 58.01.03.007.09-10, 58.01.03.007.19, and 58.01.03.007.22 are exempt.
3. If the RV dump tank is a modified septic tank the inlet and outlet opening shall be sealed.
4. A manhole extension shall be brought to finished grade that allows pumping access to the RV dump tank.
5. An emergency warning system shall be required to be installed to indicate when the RV dump tank is two-thirds full.
6. The RV dump tank shall meet the volume requirements of a septic tank, except that no RV dump tank shall be less than 1,500 gallons.
7. Any permit issued for a subsurface sewage disposal system serving RV spaces should include a requirement to install an RV dump tank that allows RVs to discharge their preserved waste prior to discharging of waste to the subsurface sewage disposal system.

4.21.4 Recreational Vehicle Dump Station Waste Disposal

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

Appendix J

5.9 Pipe Materials for Specified Uses

Revision: ~~October 23, 2012~~January 17, 2013

Table Error! No text of specified style in document.**-1** shows pipe materials for specified uses.

Table Error! No text of specified style in document.**-1. Pipe materials for specified uses.**

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

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

Appendix K

3.2.5 Equal Distribution

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

3.2.5.1 Piping Header

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

3.2.5.2 Distribution Box

Distribution boxes (d-box) are used to divide wastewater effluent evenly among multiple subsurface distribution lines. D-boxes are typically made of concrete or wastewater grade plastics and are watertight with a single inlet set at a higher elevation in the box than the several outlets. Outlets should be constructed at equal elevations to one another. The d-box should be constructed with an access lid. Access lids are recommended to be made accessible from grade. Distribution boxes should be installed level on a sound, frost-proof footing. There are several devices available for installation on the distribution lines leaving the d-box to ensure that each line is receiving equal amounts of effluent if the piping or d-box becomes un-level. It is recommended that leveling devices be installed on the effluent lines leaving the distribution box at time of initial installation. Distribution boxes are highly recommended for situations where there are more than two trenches installed. See figure 3-3 for an overhead view of this distribution setup.

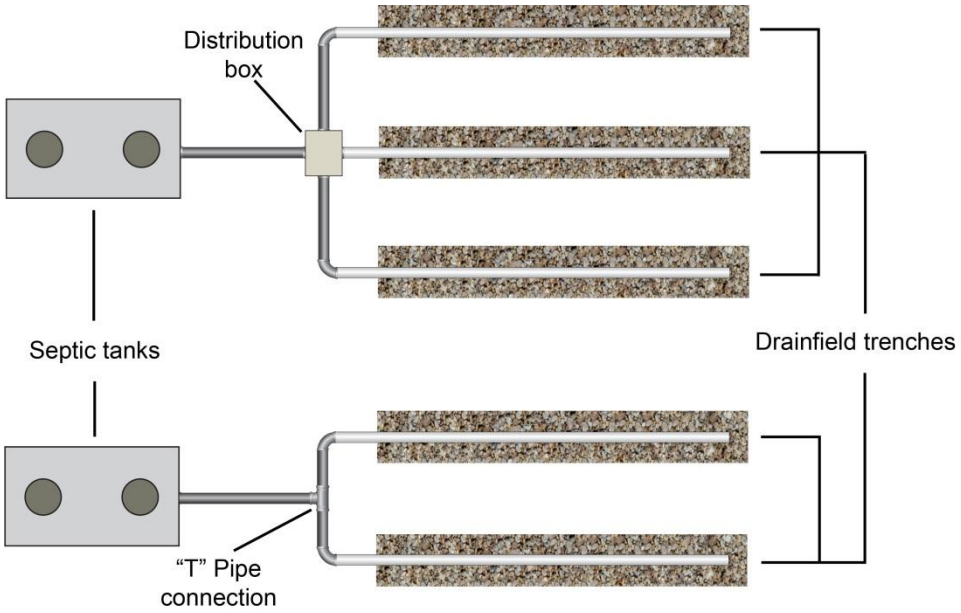

Figure 3-3. Overhead view of equal distribution methods.

3.2.6 Serial Distribution

Due to continuous ponding over the infiltrative surface serial distribution trenches suffer hydraulic failure more rapidly and progressively because the infiltrative surface cannot regenerate its infiltrative capacity. With this in mind serial distribution should only be used where equal distribution is not achievable. ~~On sloped ground, it is preferable to use serial~~ Serial distribution~~, that is, distribution~~ functions so that each trench ~~in order~~ is ~~completely filled~~ loaded and completely flooded before effluent flows to the next lower trench. ~~To maintain trenches between 2 to 4 feet below ground, it may be essential to use this kind of distribution.~~Loading and flooding is accomplished by installing relief lines or drop boxes between successive trenches.

3.2.6.1 Relief Lines

Relief lines are overflow lines that connect one trench to the adjacent lower trench. Relief lines are constructed of solid-wall piping and may be placed at opposite ends of successive trenches or anywhere within the trench line. If relief lines are installed in the middle of trenches successive relief lines should be offset by a minimum of 5 feet to avoid short circuiting the distribution system. Care must be exercised in excavating the connecting line between trenches. Bleeding of effluent down this excavation is a common cause of surfacing effluent in serial distribution systems. The excavation of the connecting trench to the next downslope trench should be just deep enough to accept the solid connector pipe. See figure 3-4 for an overhead view of a relief line installation system network. See figure 3-5 for a cutaway view of relief line connection between trenches.

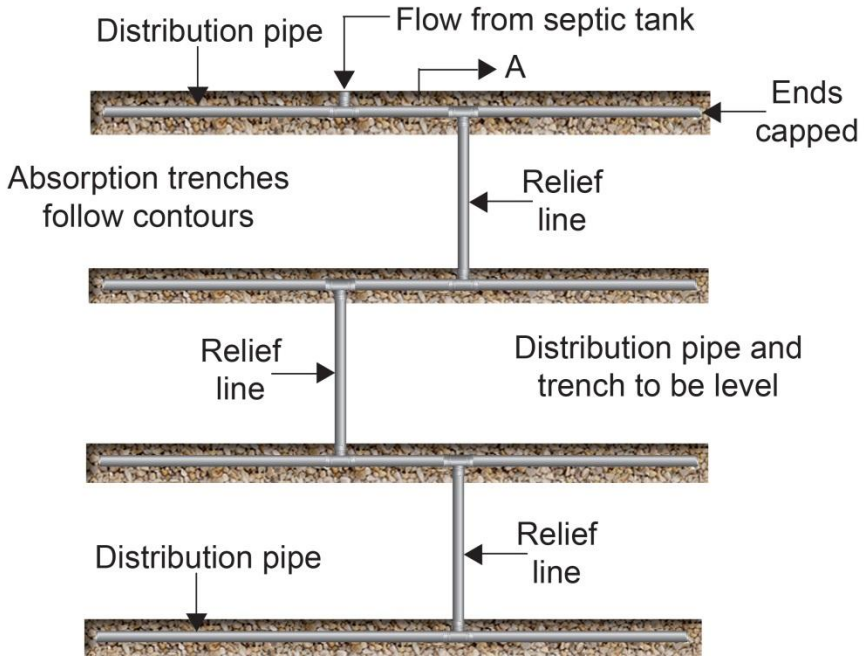

Figure 3-4. Overhead view of a relief line system network.

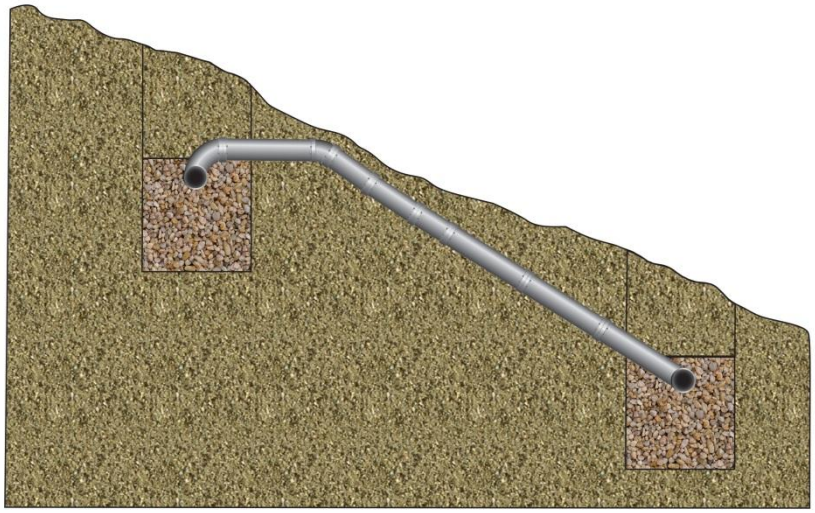

Figure 3-5. Side view of relief line installation between trenches.

3.2.6.2 Drop Boxes

~~Serial distribution may also be accomplished through the use of drop boxes.~~ The drop boxes are constructed so that each trench is completely flooded before the effluent flow runs to the next downslope trench. ~~Care must be exercised in excavating the connecting line between trenches. Bleeding of effluent down this excavation is a common cause of surfacing effluent in serial distribution systems. The excavation of the connecting trench to the next downslope trench should be just deep enough to accept the solid connector pipe.~~ The outlet invert of the drop box should be placed near the top of each trench to force the trench to fill completely prior to

discharging to the next downslope trench. Solid-wall pipe should be used between drop boxes. ~~Figure 3-3~~ **Figure 3-** shows the detail of a drop box.

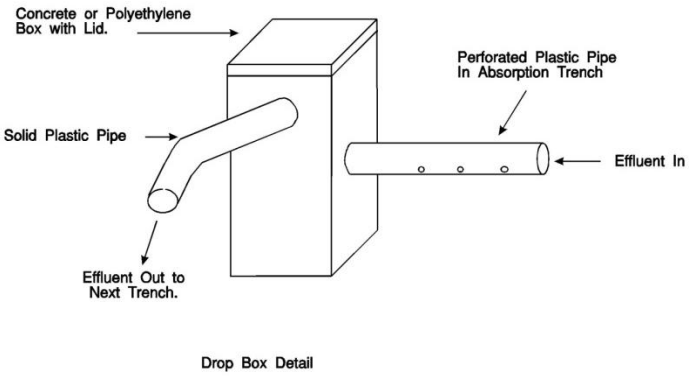

Figure 3-~~36~~. Drop box details.