RULE MAKING OUTREACH DOCUMENT

Responses to Stakeholder Comments

For Comment Period Ending March 1, 2013

Wyoming Water Quality Rules and Regulations

Chapter 25

Small Wastewater Systems

April 26, 2013

REVISED MARCH 18, 2014

List of Commenters

Bernard Bisson, Albany County
Joy Hill, Big Horn County
Sidney Fox, Carbon County
Joseph Baron, Crook County
Sarah Anderson, Crook County
Timothy Lyons, Crook County
Steve Warner, Fremont County
Roy Kroeger, Laramie County
John Woodward, Lincoln County
Dwight Reppa, Macy's Services
Bob Norton, Nelson Engineering
Gene Smith, Park County
Ken Muller, Sheridan County
Gabe Klamer, Teton County
David Anderson, Washakie County
Hannes Stueckler, WDEQ
James Brough, WDEQ
Jason Vreeland, WDEQ
Karen Farley, WDEQ
Mark Baron, WDEQ
Ron Ewald, WDEQ
Seth Tourney, WDEQ

Comments and Responses

General Comments

Entity: Sidney Fox, Carbon County Planning & Development

Comment: "A couple comments concerning administration of the Small Wastewater Systems programs in non-delegated counties. Carbon County requires the WDEQ permit be submitted before we will issue a building permit. We have had some issues when a building permit is required but there is an existing non-permitted\pre-existing wastewater treatment system on the site. I don't think there are any provisions in the current rules to help us administer this type of circumstance. Consider adding provision similar to Expanded Use of Existing System: A permit shall be required for expanded use of an existing system. (or similar); Pre-existing non-conforming system: Upon failure or need of repair or alteration, pre-existing non-conforming system must be brought up to current standards of a 2 compartment septic tank and the required square footage of absorption area. (or similar)"

Response: Wyoming Statute §35-11-301 (a)(iii) states that for any modification to a wastewater system a permit to construct is required. The permit to construct issued by the DEQ/WQD would require compliance with current State rules and regulations.

Entity: Gene Smith, Park County

Comment: "I would like to see a statement or section in this chapter that deals with the Presby AES systems and a reference to the fact that the regulations established in the Wyoming Manual for the Design, and Installation must be adhered to."

Response: Within Chapter 25 there is Section 5 entitled "Systems not Specifically Covered by these Standards". Systems such as Presby AES can be proposed and covered by the conditions of this section.

Entity: Joy Hill, Big Horn County

Comment: "I have done a pretty thorough review of Chapter 25. You will find lots of comments and suggestions on the attached version. I realize that my "beginner" level of understanding may make some of my comments moot. I do not expect everything I wrote to be taken into consideration. From my perspective, the sections of the document should fall in an order that mimics the design and installation process itself. Thus, open with definitions, an overview of the process parts, and then dive into the parts. It does that to a degree already. Also, I approached this document from the perspective of someone who does not know all of the terminology, thus may need a few more things defined. I guess it ultimately depends on who your audience is."

Response: The chapter was not organized by how one might design and then install a small wastewater system but rather by the information necessary to understand the minimum design standards for typical small wastewater treatment processes. There were some terms used in the chapter that were added to the definitions section.

Entity: Joy Hill, Big Horn County

Comment: Table of Contents—"Page numbering needs to be fixed."

Response: The page numbering will be reviewed and corrected.

Entity: Joy Hill, Big Horn County

Comment: "Curious as to why these headings are indented so deeply."

Response: The Wyoming Secretary of State (SOS) has promulgated rules governing the format for state agencies to follow. (SOS, Rules on Rules, Chapter 1, Section 1 (a)(ii)). The Water Quality Division is required to follow the formatting requirements described in the Rules on Rules, Chapter 1, Section 6 (b).

Entity: Joy Hill, Big Horn County

Comment: Punctuation: Use hyphens more consistently.

Response: We will consult the "Chicago Manual of Style" for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.

Entity: Joy Hill, Big Horn County

Comment: "Use of the serial comma not consistent throughout the document."

Response: We will consult the "Chicago Book of Style" for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.

Entity: Joy Hill, Big Horn County

Comment: Not necessary to spell out numbers.

Response: We will consult the "Chicago Book of Style" for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.

Entity: Joy Hill, Big Horn County

Comment: "Be consistent with numbers and fractions throughout."

Response: We will consult the "Chicago Book of Style" for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.

Entity: Joy Hill, Big Horn County

Comment: Be consistent with line spacing.

Response: The DEQ/WQD will review the chapter and correct any line spacing errors.

Entity: Joseph Baron, Crook County

Comment: "Add a rule that applicants are to use the forms provided by WDEQ and that WDEQ will create forms to comply with these rules."

Response: The DEQ/WQD has developed online worksheets to help the public design small wastewater system(s) without the need for a professional engineer but they are not obligated to use them.

Entity: Joseph Baron, Crook County

Comment: "These rules have numerous references to a delegated or county health department, and counties that have entered into a delegation agreement. Comment: Crook County, its municipalities and many other counties have neither, and rely upon state agencies to enforce all of these state statutory requirements. The rules need to address non-delegated counties.

Response: The conditions of Chapter 25 apply to both delegated as well as non-delegated counties.

Entity: Timothy Lyons, Crook County

Comment: "WDEQ should also consider adding a Section to Chapter 25 for Enforcement. My suggestion is as follows: If a Wastewater System is found to have been constructed or modified without an approved permit or any other type of violation is found to exist the landowner shall be fined a minimum of $500.00. If the violation exists in a county that is not a delegated county such as Crook County the WDEQ shall immediately record a "Notice of Violation" upon the land records with the County Clerk. Then once the violation has been resolved a "Release" would be recorded upon the land records with the County Clerk. The intent of this is an attempt to prevent the sale of a property that has an existing violation, or at the least cause the violation to be disclosed to the buyer before the sale or transfer of the property."

Response: There are many reasons why someone may be out of compliance with the conditions of Chapter 25 and part of the job of the DEQ/WQD is to work with each individual to get them back in compliance. The DEQ/WQD considers imposing a fine for non-compliance to be the last resort when all other options have failed.

Entity: Sarah Anderson, Crook County Natural Resource District

Comment: "The Crook County Natural Resource District (CCNRD) conducts subdivision reviews and soils reports for Crook County, Wyoming; and therefore has concerns in regard to permit acquirement and installation accountability. In respect to percolation testing, the CCNRD suggests WDEQ conduct random percolation tests to instill answerability for applications or require photo documentation. The CCNRD also requests more follow-up visits by WDEQ."

Response: It is the responsibility of the applicant to conduct the percolation tests or have a professional engineer or geologist perform the tests for them. The entity that issues the construction permit for the small wastewater system shall evaluate all the information presented in the application and determine if the data used to size the system makes sense for the proposed area of construction.

Entity: John Woodward, Lincoln County Office of Planning and Engineering

Comment: "Overall, I favor the proposed changes. Updating regulations is a thankless task and a great deal of work and research has gone into this endeavor. I don't see too many changes that are overbearing and some could have gone further. When all of the commenters are equally frustrated then you will know the sausage making is done."

Response: The DEQ/WQD strives to make rules that protect the environment but are not overly burdensome to the regulated community.

Section 1

Entity: Joseph Baron, Crook County

Comment: "ADD to page 25-1
"Section 1 Authority (b) Enforcement: All Small Waste Water Systems plans shall be submitted and pre-approved by WDEQ prior to installation or the Landowner shall be fined a minimum of $500.00; (c) Notice: If plans are not preapproved, or any type of violation if found to exist a "Notice of Non-Compliance" shall be immediately recorded by WDEQ upon the land records; (d) Release: Once the fine is paid and the pe1mits are approved then a Release would
be recorded on the land records; (e) Violation of Rules: Any violation of these rules is punishable by W. S. 35- 11 -901 up to $25,000 per day of violation or imprisoned not more than one (1) year or both; COMMENT : You need to make it very clear up front, what the potential penalties are, and the best place to put them is on the front page, then the agency needs to take action to insure compliance. These simple measures will increase compliance."

Response: There are many reasons why someone may be out of compliance with the conditions of Chapter 25 and part of the job of the DEQ/WQD is to work with each individual to get them back in compliance. The DEQ/WQD considers imposing a fine for non-compliance to be the last resort when all other options have failed.

Section 2

Entity: Joy Hill, Big Horn County

Comment: "'Small wastewater systems'—interestingly, the definition does not appear anywhere in this document!'

Response: The Rules Handbook issued by the Wyoming Attorney General's Office states that agencies should "make all rules consistent with the statutes, but do not simply reiterate the statute." (Chapter 3, Section 3.1, version 2013) Small wastewater systems are defined in W.S. 35-11-103(c)(ix), which is referenced Section 2 of Chapter 25.

Entity: Joy Hill, Big Horn County

Comment: "'The two thousand (2,000) gallons defined in the statute shall be the average flow of domestic sewage per day.' Seems awkward to mention this when the rest of the definition has not been included."

Response: The sentence is there to clarify the 2,000 gallons since its definition in W.S. 35-11-103(c)(ix) does not stipulate whether the 2,000 gallons is average flow, peak flow or maximum flow per day.

Entity: Robert Norton, Nelson Engineering

Comment: "It should be noted that these regulations do not apply to systems larger than 2000 gpd. Some DEQ personnel have referred to Chapter 25 for larger systems"

Response: The applicability of Chapter 25 is stated in the objective.

Section 3

Entity: Joseph Baron, Crook County

Comment: "ADD to page 25-3, Section 3 Definitions: (gg) "100 year flood plain" is that area declared by a local government entity as such, or if no declaration has been made (like in Crook County) the high water mark as determined by an engineer or affidavit of an old timer with personal knowledge of the highest level of flooding in his lifetime. COMMENT Our problem in Crook County is that the county has never passed a Flood Plain Ordinance. The rule needs to deal with that issue so that septic systems are not built in flood plains."

Response: The Chapter 25 regulations require~~s~~ a minimum distance of vertical separation for high groundwater which is supposed to address the treatment problems and water contamination issues that can occur when water encroaches on a small wastewater system.

Entity: Bernard Bisson, Albany County Planning Office

Comment: "It might be appropriate to define "BOD" since this document might often be referred to by those who may not have scientific or engineering knowledge."

Response: The definition of "BOD" has been added.

Entity: Joy Hill, Big Horn County

Comment: "Maybe open this section with, "For the purposes of this rule, the following terms shall have the following meanings:"

Response: WDEQ/WQD reviewed your request. The suggested language does not clarify the section as it is already clearly written and organized to list the defined terms which are used throughout the chapter. The opening for the section will remain as written.

Entity: Joy Hill, Big Horn County

Comment: "Add aggregate definition."

Response: The term "aggregate" is common language and will not be added to the list of definitions.

Entity: Joy Hill, Big Horn County

Comment: "Add 'BOD' definition."

Response: The definition for BOD has been added.

Entity: Joy Hill, Big Horn County

Comment: "Does this (administrator) need to be defined?"

Response: The Rules Handbook issued by the Wyoming Attorney General's Office states that agencies should "make all rules consistent with the statutes, but do not simply reiterate the statute." (Chapter 3, Section 3.1, version 2013) The term "administrator" is defined in in Wyoming Statute 35-11-103(a)(v).

Entity: Joy Hill, Big Horn County

Comment: "Define 'lagoon'".

Response: The term "lagoon" is common language and will not be added to the list of definitions

Entity: Joy Hill, Big Horn County

Comment: "Wondering if 'pressure dosing' should be defined."

Response: The term "pressure dosing" is synonymous with "pressure distribution" which is already defined.

Entity: Joy Hill, Big Horn County

Comment: "Define 'privy'".

Response: A 'privy' is a toilet located in a small shed outside; commonly referred to as an outhouse.

Entity: Joy Hill, Big Horn County

Comment: "I suggest adding the definition of slope: an inclined surface, the inclination of which is expressed as a ratio of horizontal distance to vertical distance."

Response: The term "slope" is common language and will not be added to the list of definitions

3(b)

Entity: David Anderson, Washakie County Planning Office

Comment: "Is the 30 mg/L limit a summation of BOD and TSS or are they individually limited to 30 mg/L? I think you can just add the word 'each' at the end of the sentence."

Response: They are individually limited to 30 mg/L. The sentence will be reworded to reflect this.

Entity: Jason Vreeland, DEQ

Comment: "Chapter 23 addresses enhanced treatment based on Fecal Coliform and TKN. Shouldn't we be consistent with that or at least address nitrates?"

Response: In Chapter 25 we chose to define advanced or enhanced treatment by its effluent stream BOD_5 content rather than by its fecal coliform or TKN concentration.

Entity: Joy Hill, Big Horn County

Comment: "Change 5 day to 'a 5-day average."

Response: WDEQ/WQD consulted the "Chicago Manual of Style" for your suggestion. Both "5 day" and "5-day" are acceptable. WDEQ/WQD chose to leave the statement as written.

3(c)

Entity: Joy Hill, Big Horn County

Comment: Add 'where' after 'system,'.

Response: ~~We will add~~ WDEQ/WQD added 'where' to the definition for "Bed" as suggested.

3(e)

Entity: Joy Hill, Big Horn County

Comment: Add 'designed' before 'or may be'.

Response: WDEQ/WQD reviewed your comment. The suggestion does not further clarify the definition. The definition for "Bedroom" will remain as written.

3(l)

Entity: Joy Hill, Big Horn County

Comment: "'Tank' also referred to as chamber in the document."

Response: A 'dosing tank' and a 'dosing chamber' are synonymous.

3(z)

Entity: Joy Hill, Big Horn County

Comment: "I recommend a more thorough definition than this either here or in the appendix."

Response: ~~The definition of 'percolation test' is simple and a more thorough definition is not necessary.~~ WDEQ/WQD reviewed your request. Adding additional language would not clarify the meaning of the term. In addition to the definition in Section 3, the purpose of the test is explained Appendix A, Section 1. Since WDEQ/WQD has plainly defined the term and explained its purpose, we do not see justification for expanding further on the language.

3(dd)

Entity: Joy Hill, Big Horn County

Comment: Change 'tank' to 'receptacle'.

Response: WDEQ/WQD reviewed your request. The Division has been encouraged to use plain language descriptions where possible. We believe the public is more likely to instantly understand the intent of the definition with use of "tank" instead of "receptacle." The definition will remain as written.

3(ff)

Entity: Joy Hill, Big Horn County

Comment: "Should trench system be defined or possibly wrapped into the trench definition somehow?"

Response: A trench system does not need to be defined. The disposal part of a small wastewater system involves an absorption system in either a trench or bed configuration.

Section 4

Entity: Joy Hill, Big Horn County

Comment: Change the section title to 'Determining Use Type and Design Flow Rates.'

Response: WDEQ/WQD reviewed your request. Adding additional language to the section title does not seem to clarify the intent of the section more than the current title. The title will remain as written.

Entity: Joy Hill, Big Horn County

Comment: Change 'the quantity of wastewater' to 'the volume of domestic wastewater.'

Response: ~~This will remain as written~~ WDEQ/WQD reviewed your request. Merriam-Webster defines "quantity" as "a determinate or estimated amount" and further lists "volume" as a synonym. The Division has been encouraged to use plain language descriptions where possible so we will replace "quantity" with "volume." The Division will not add "domestic" to the sentence as it is not a necessary term to convey the intent of the section.

4(b)

Entity: David Anderson, Washakie County Planning Office

Comment: "Meter data will give you a good average, but the daily peak will be 3 or 4 times higher than average. I thought design flows were daily peak values."

Response: The flows given in Table(s) 1 and 2 are daily maximum values.

4(b) & (c)

Entity: James Brough, DEQ

Comment: "The design flows must be based upon a maximum day flow, rather than an average day flow. This is because maximum day flows were considered when the long term soil loading rates were determined. This needs to be considered in subsections (b) and (c) if metered water supply data is used. Perhaps a peaking factor (e.g., 1.5 to 3.0) should be applied when metered data is used. "A problem can arise when metered or averaged hydraulic loading rates are used to size the infiltration surface. These rates can be more than two times what the soil below the undersized system is actually able to accept." (EPA 2002 Manual, p 4-37) "State codified design flows for residential systems typically are 2 to 5 times greater than the average daily flow actually generated in the home." This occurs because the design flow is based on the number of bedrooms and as a result the actual daily flow is often a fraction of the design flow." (EPA 2002 Manual, p 4-37)

Response: The flows given in Table(s) 1 and 2 are daily maximum values.

4, Table 1

Entity: Dwight Reppa, Macy's Services

Comment: "The design flow rates per Bedroom are not an average, but are usually considered maximum flows per day. The term "Average" should be removed from the table. I was wondering where these design flows came from and the reason these flows were picked. Should 80 gpd be used for more than 6 bedrooms? Remove the 5 & 6 bedrooms from the table and add after 4 bedrooms , 'Each additional bedroom – Add 80 gpd per bedroom.'"

Response: The design flows given in Table(s) 1 and 2 are daily maximum values. The flows in Table 1 are the low end of the range from the 2003 edition of Metcalf and Eddy, Wastewater Engineering Treatment and Reuse. The flows in Table 2 are the 'typical' values for those types of operations from Metcalf and Eddy. The tables remain as written.

Entity: Karen Farley, DEQ

Comment: "Water softeners need to be taken into account."

Response: The flows from water softeners assumed to be taken into account in the data presented in the Wastewater Engineering Manual by Metcalf and Eddy

Entity: Robert Norton, Nelson Engineering

Comment: "Table 1 – Is for average design flow whereas Section 9 (a) (iii) (B) talks about 48 hour retention time a peak flow, how does the layman convert from average day to peak (day?) or (hour?)."

Response: The flows given in Table 1 are daily maximum values rather than daily average values. There should not be a need for the layman to convert these numbers to a 'peak day' or 'peak hour' for sizing a small wastewater system.

Entity: Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "The proposed change for unfinished basements is encouraged by this office as it often becomes a problem when the basement is finished in the future."

Response: ~~Thanks for your comment~~.WDEQ/WQD appreciates your support of this change.

Entity: John Woodward, Lincoln County Office of Planning and Engineering

Comment: "Decreasing flow for more than one bedroom along with adding a bedroom for an unfinished basement. This will result in a virtual non-change in my jurisdiction where 80% of applications involve three bedroom homes on unfinished basements. The current formula results in 450 gpd while the proposed formula will mean 470 gpd. I favor the change for what it will mean for 1, 2, 4, 5 & 6 bedroom situations."

Response: ~~Thanks for your comment~~ WDEQ/WQD appreciates your support of this change.

Entity: April Gindulis, Casper/Natrona County Health Department

Comment: "What is the rational for reducing incrementally on design flow rates per bedroom? Concerned this reduction and the reduction already in place for chambers will lead to undersized systems."

Response: Any justification for the flow rates can be found in the 2003 edition of the Wastewater Engineering Treatment and Reuse by Metcalf and Eddy.

Entity: Joy Hill, Big Horn County

Comment: "The width of each column in this table could be decreased to make the table easier to read."

Response: WDEQ/WQD reviewed your request. The Division did not see justification for changing the formatting of the table as it is already clearly readable. The table will remain presented.

Entity: James Brough, DEQ

Comment: "The word "Average" needs to be removed from Table 1 title. These design flows are closer to maximum day flows for residents on septic systems. Design values taken from reference books which include (I/I), etc. do not reflect average flows from single residential homes to septic systems."

Response: The word "Average" has been removed from the title of Table(s) 1 and 2.

Entity: Ken Muller, Sheridan County Public Works

Comment: "Reducing the Residential Average Design Flow is probably more realistic to actual flows however the current Design Flow allows for some extra capacity and a "factor of safety" somewhat. It is assumed a Delegated Program will be allowed to keep the higher average flow if elected."

Response: You are correct. Delegated counties can always be more stringent than the minimum standards of the chapter.

4, Table 1 & 2

Entity: Bernard Bisson, Albany County Planning Office

Comment: "I note that the design flows are no longer a linear progression with the number of bedrooms that are specified. This will result in proportionately smaller septic fields as the number of bedrooms increase. Was that the intention or should the size criteria be directly proportionate to number of bedrooms?"

Response: The non-linear progression of design flows was done with intent and we are aware that this will result in proportionately smaller septic fields.

Entity: Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "Laramie County (LC) is concerned with the large decrease in the flow rate that has been proposed. We believe the current system has been working well and has been instrumental in the low failure rate for small wastewater systems. The county is also concerned with the effects the reduction will have on our mortgage inspections that evaluate small wastewater systems for property transfers in the future."

Response: The reduction in design flows should not adversely affect Wyoming's low failure rate for small wastewater systems. The values are still conservative and are in line with the trend toward more efficient water usage.

4, Table 2

Entity: Dwight Reppa, Macy's Services

Comment: "The term "Average" should be removed from the table."

Response: The word "Average" has been removed from the title of Table 2.

Entity: Karen Farley, DEQ

Comment: "Should cite sources"

Response: The sources will be cited as a footnote to the Table.

Entity: Jason Vreeland, DEQ

Comment: "'Day School, Office building, Retail Store, Warehouse (no showers)'-- Why is this rate being cut in half?"

Response: These are the 'typical' values for non-residential wastewater flows according to the Wastewater Engineering Treatment and Reuse by Metcalf and Eddy, 2003 edition.

Entity: Jason Vreeland

Comment: "'Motel, Hotel, Resort'--Is this based on historical usage?"

Response: These are the 'typical' values for non-residential wastewater flows according to the Wastewater Engineering Treatment and Reuse by Metcalf and Eddy, 2003 edition.

Entity: Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "LC is concerned with the large flow rate decrease for commercial properties especially in relationship to childcare facilities in homes."

Response: These are the 'typical' values for non-residential wastewater flows according to the Wastewater Engineering Treatment and Reuse by Metcalf and Eddy, 2003 edition.

Entity: Joy Hill, Big Horn County

Comment: "What is the definition of an apartment? Would a duplex be considered two apartments?"

Response: The definition of an apartment is considered common knowledge and will not be added to the list of definitions presented in the chapter. A duplex may be considered two apartments depending on the number of bedrooms per residence.

Entity: Joy Hill, Big Horn County

Comment: "What is a meal? A platter per person or three meals served per day?"

Response: A meal is just a unit of measure to determine the wastewater flow for a restaurant or kitchen serving food. The unit of measure can be almost anything that makes sense for a particular operation.

Entity: Joy Hill, Big Horn County

Comment: "Inconsistent capitalization."

Response: We will consult the "Chicago Manual of Style" for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.

Entity: Ken Muller, Sheridan County Public Works

Comment: "Restaurant- Unit Per meal. Is this the same as per seat?"

Response: No, they are not the same. It is possible to have more than one meal per seat. This unit of measurement has not changed from the existing rule. We have not proposed any changes to this unit of measure.

Entity: James Brough, DEQ

Comment: "The word "Average" needs to be removed from Table 2 title."

Response: The word "Average" has been removed from the title for Table 2.

Entity: James Brough, DEQ

Comment: "Are we aware of any hospitals or theaters in Wyoming that are served by septic systems? Perhaps these two facility items could be removed from the table."

Response: It was requested internally that these facilities be kept in the Table.

Entity: James Brough, DEQ

Comment: "The design flow per bedroom of 210 gpd for a motel, hotel or resort is high."

Response: This is the 'typical' value per bedroom for motel, hotel, or resort according to the Wastewater Engineering Treatment and Reuse by Metcalf and Eddy, 2003 edition.

Section 5

Entity: Joseph Baron, Crook County

Comment: "ADD to page 25-4 Section 5 (c): Preapproval All new technology shall be preapproved by WDEQ."

Response: Previously approved technology is evaluated independently based on each application submitted. The section will remain as written.

Entity: Joy Hill, Big Horn County

Comment: "...it seems awkward to put this section so early in the chapter. I would have expected this after discussion about the systems that ARE covered by this rule. After all, how do you know if you deviate from the rule until you have determined what complies with the rule?"

Response: A variance can be given when a particular situation deviates from the rule. Section 5 is for new or non-typical treatment processes.

5(a)(ii)

Entity: Joy Hill, Big Horn County

Comment: "Consider adding a definition for this (pilot plant)."

Response: A pilot plant is commonly associated with proving a new process or procedure. We will not add "pilot plant" to the list of definitions.

5(a)(iv)

Entity: Joy Hill, Big Horn County

Comment: Change 'in the event it does not function as planned' to 'in the event that it does not function as planned.'

Response: ~~We will consult the "Chicago Manual of Style" for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.~~ WDEQ/WQD reviewed your request. The restrictive relative clause 'that' has been left out as the sentence is understandable without it.

Section 6

Entity: Sarah Anderson, Crook County Natural Resource District

Comment: "The CCNRD respectfully requests that WDEQ more willingly utilize the USDA countywide soil surveys; and/or the soils reports conducted by Conservation Districts for subdivision reviews be taken into further consideration and carry more weight on the overall design and installation."

Response: Percolation tests will remain the primary tool for determining the soil loading rate and ultimately the size of the absorption system. There will be a policy developed to take into account the soil texture as determined by a qualified person when there are discrepancies or inconsistent percolation data.

Entity: Joy Hill, Big Horn County

Comment: Change the section title from 'Site Suitability' to 'Site Suitability Requirements' or 'Selecting a Suitable Site'.

Response: WDEQ/WQD reviewed your request. Adding additional language to the section title does not seem to clarify the intent of the section more than the current title. The section title will remain as written.

Entity: Joy Hill, Big Horn County

Comment: "Again, it seems like a section opener is needed here. Instead of just jumping right in to the conditions that make a site suitable, maybe open with a statement that says, "Small wastewater system design plans must meet site suitability requirements before construction and installation of the system will be permitted. Adequate space, setback distances, drainage, slope must be accounted for during the planning process.'"

Response: WDEQ/WQD reviewed your request. The Division has been encouraged to keep rules concise as possible and to eliminate use of unnecessary language. A section opener, as described, would not necessarily clarify the intent of the rule to the public. As we see no justification to add the suggested language, ~~thank you for your comments,~~ the section will remain as written.

6(a)

Entity: Hannes Stueckler, DEQ

Comment: " (a) "...shall not be located beneath buildings or irrigated landscaping. Small wastewater systems shall not be located underneath parking lots, roadways, driveways or similarly compacted areas unless specifically designed for this application and approved by the administrator." This will allow for systems such as the Presby Enviroseptic, which can be effectively used in these circumstances.

Response: Section 5 is where systems like Presby can be presented and evaluated on a case by case basis when proposed with an application.

Entity: Joseph Baron, Crook County

Comment: "ADD to page 25-4 Section 6. Site Suitability (a) at the end of the paragraph add the following sentence: "No part of the Small Waste Water System shall be located or nearer than 100 feet of any body of water, 100 year flood plain, in any drainage or any pere1mial stream, creek or river. "

Response: Table 4 addresses how close septic tanks and absorption systems can be to things such as wells, surface water, etc. Delegated counties can always be more stringent than the minimum standards of the chapter.

Entity: Karen Farley, DEQ

Comment: "'Good' as in 'positive'? No ponding?"

Response: Yes, 'good' as in positive, no ponding allowed.

Entity: Robert Norton, Nelson Engineering

Comment: "not allowing small wastewater systems under parking lots, roadway, driveways is a good recommendation, but I question not allowing systems under irrigated lawns."

Response: The reasoning is that the additional water load that would be put on the absorption system could not be accounted for in the design of the system.

Entity: Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "While we agree that no system should be located under irrigated grass/gardens we are concerned with future enforcement of this regulation. Keeping track of future irrigation systems, especially for our mortgage inspection program will be a huge problem."

Response: The condition is there to prevent someone from installing a small wastewater system where a known irrigation system exists. What someone does after the installation of the small wastewater system is impossible to regulate.

Entity: Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "While the county agrees that no system should be located within the path of roof runoff. How do you envision enforcement of this; engineered water flow on each property based on proposed final grading plan?"

Response: The permitting entity, District Engineer or delegated county, would ask questions during the application review process and do their best to prevent the installation in a location that would be troublesome.

6(b)

Entity: Dwight Reppa, Macy's Services

Comment: "The 9 foot separation between trenches is too large and should be reduced to 6 foot separation."

Response: The 9 foot separation is to allow for a replacement drainfield in the same footprint of the original drainfield. This is not mandatory.

Entity: Gabe Klamer, Teton County

Comment: " Requiring a 9' horizontal spacing would enlarge a leach field to a point where it would negate any incentive of doing this."

Response: The 9 foot separation between trenches is to allow for a replacement drainfield in the same footprint of the original drainfield. This is not mandatory.

Entity: Timothy Lyons, Crook County

Comment: "Rather than stating the site must be large enough to include area for a future replacement drain field, there should be a minimum acreage size established."

Response: It is much more practical to require a future replacement area and let the applicant request a variance if there are issues meeting this requirement.

Entity: James Brough, DEQ

Comment: "States the site must be large enough to include area for a future replacement drain field." I have heard and witnessed multiple replacement drainfields were this regulation has not been satisfied. Some failed drain fields have been over excavated and replaced with fill material. In some cases, both the reserve area and setback requirements have been mutually exclusive. A few times, DEQ has granted a variance to a setback distance for a replacement drainfield after a satisfactory field investigation."

Response: A request for a variance is what should be done if the condition of the regulation cannot be met.

Entity: James Brough, DEQ

Comment: "There is no incentive to use the undisturbed area between trenches as reserve area if the required wall-to-wall separation is nine feet. Recommend deleting the last sentence."

Response: That is an option not a requirement.

Entity: Ken Muller, Sheridan County Public Works

Comment: "Many previously platted lots in unincorporated areas are very small and designating a replacement field area is physically impossible. Has any regulations or ideas how best to address this issue been developed?

Response: A request for a variance is what should be done if the condition of the regulation cannot be met.

6(c)

Entity: Joy Hill, Big Horn County

Comment: "A graphic would be helpful for this item."

Response: ~~We have considered your request and a graphic in not necessary at this time.~~ WDEQ/WQD reviewed your request. The Division has been encouraged to keep rules concise as possible and to eliminate use of unnecessary language. We have plainly written the subsection to clearly describe the effective suitable soil depth and do not see justification for a graphic as suggested in your comment. The subsection will remain a statement.

Entity: Joy Hill, Big Horn County

Comment: Define "..effective suitable soil depth.."

Response: The sentence this was extracted from defines the depth to be 4 feet below the bottom of the proposed drainfield. Suitable soil is soil with a percolation between 5 and 60 minutes per inch.

Entity: James Brough, DEQ

Comment: "It would be useful to have an appendix to illustrate or give examples of a restrictive layer or highly permeable material."

Response: ~~We have considered your request and a graphic in not necessary at this time~~. The Division has been encouraged to keep rules concise as possible and to eliminate use of unnecessary language. We have plainly written the subsection to clearly describe the effective suitable soil depth and do not see justification for a graphic as suggested in your comment. The subsection will remain a statement.

6(d)

Entity: Dwight Reppa, Macy's Services

Comment: "Are the Estimated Rise in Water Tables really needed? If they are used, the definitions of Saturated Thickness and Estimated Rise in Water need to be added."

Response: ~~Yes, the tables are used in cases where the separation distance to high groundwater is close and the effect of additional water over time needs to be understood to avoid potential pollution of the groundwater. "Saturated Thickness" has been added to the list of definitions. The estimated rise in water table is what the y-axis of the charts tells you.~~ WDEQ/WQD reviewed this comment as well as other comments concerning the Estimated Rise in Water Tables. The Division decided the tables are more appropriately suited for use in a future guidance document, as the tables remain a valuable resource in determining site suitability.

Entity: David Anderson, Washakie County Planning Office

Comment: "What is the definition of 'saturated thickness' in Figures 1 to 6? I am assuming would be the distance between the first impermeable layer and the seasonal high groundwater. If so, the saturated thickness is not going to be known at most current facilities and will be difficult to determine at new sites. As such, I feel the regulations will introduce a significant cost burden to landowners as written since they now include single family homes in this requirement."

Response: ~~"Saturated Thickness" has been added to the list of definitions. Most of the residences and businesses that would install a small wastewater system would also have a private well for a water supply. When the water well was drilled, there was a well log developed. The information needed to determine the saturated thickness can be derived from the well log without any extra expense.~~ WDEQ/WQD initially added the definition for "saturated thickness" as commenters requested it in reference to the "Estimated Rise in Water" tables. However, additional public comment and discussion led the Division to remove the tables for future guidance document use. As the term "saturated thickness" was only used in reference to the tables, we have now also removed the term from the definitions in Section 2.

Entity: Bernard Bisson, Albany County Planning Office

Comment: "You might want to define "Saturated Thickness" somewhere ahead of the curves. Installers may not be aware of the term?"

Response: ~~"Saturated Thickness" has been added to the list of definitions~~.WDEQ/WQD initially added the definition for "saturated thickness" as commenters requested it in reference to the "Estimated Rise in Water" tables. However, additional public comment and discussion led the Division to remove the tables for future guidance document use. As the term "saturated thickness" was only used in reference to the tables, we have now also removed the term from the definitions in Section 2.

Entity: Hannes Stueckler, DEQ

Comment: "(d) Question: Is the mounding from figures 1 - 6 to be added to the 4 foot separation requirement under all circumstances? This would mean that our ground water separation distance requirement for a typical residential application would have increased from 4 feet to between 4.2 and 9.5 feet. This is contrary to practices found elsewhere and to evidence indicating that four feet may be too conservative.

Response: ~~The figures are not used under all circumstances.~~ WDEQ/WQD reviewed this comment as well as other comments concerning the Estimated Rise in Water Tables. The Division decided the tables are more appropriately suited for use in a future guidance document, as the tables remain a valuable resource in determining site suitability.

Entity: Jason Vreeland, DEQ

Comment: "'In areas of high groundwater, this vertical separation requirement is most commonly satisfied by a mound and pressure dosed drain field.'—Is this necessary?"

Response: The figures are used in some instances according to other District Engineers.

Entity: Karen Farley, DEQ

Comment: "'In areas of high groundwater, this vertical separation requirement is most commonly satisfied by a mound and pressure dosed drain field.' Seasonal high groundwater shall be determined during those times of the year when groundwater levels are highest."

Response: Your analysis is correct. Thank you for your comment.

Entity: Karen Farley, DEQ

Comment: "Need a definition somewhere for 'saturated thickness'."

Response: ~~"Saturated Thickness" has been added to the list of definitions.~~ WDEQ/WQD initially added the definition for "saturated thickness" as commenters requested it in reference to the "Estimated Rise in Water" tables. However, additional public comment and discussion led the Division to remove the tables for future guidance document use. As the term "saturated thickness" was only used in reference to the tables, we have now also removed the term from the definitions in Section 2.

Entity: Robert Norton, Nelson Engineering

Comment: "Since these regulations are intended for use by non-professionals, I think you should define 'saturated thickness'."

Response: ~~"Saturated Thickness" has been added to the list of definitions.~~ WDEQ/WQD initially added the definition for "saturated thickness" as commenters requested it in reference to the "Estimated Rise in Water" tables. However, additional public comment and discussion led the Division to remove the

tables for future guidance document use. As the term "saturated thickness" was only used in reference to the tables, we have now also removed the term from the definitions in Section 2.

Entity: Joy Hill, Big Horn County

Comment: Add 'seasonal' to the high groundwater.

Response: ~~It is already part of the definition for "high groundwater".~~WDEQ/WQD reviewed your suggestion. In Section 2, "high groundwater" is defined as "seasonally or periodically elevated levels of groundwater."

Entity: James Brough, DEQ

Comment: "I believe that a reduction to the four (4) vertical separation can be considered if either the distribution method is improved (i.e., pressure dosing rather than gravity) or if pretreatment is used to obtain a cleaner wastewater effluent. Investigation was done on the Presby system and a policy was written that allows a 2-foot vertical separation."

Response: Thank you for the comment. Systems like Presby can be proposed under Section 5, Systems Not Specifically Covered by This Rule.

Entity: James Brough, DEQ

Comment: "The existing regulations require a minimum of three feet of unsaturated soil maintained between the bottom of the drainfield and the estimated groundwater mound imposed on the seasonally high groundwater table. The proposed regulations don't distinguish between saturated and unsaturated conditions which can make a world of difference in terms of treatment that occurs in the subsurface. Pressure distribution promotes unsaturated conditions. I believe that credit should be given where credit is due (e.g., allow a three-foot vertical separation for pressure distribution systems)."

Response: Pressure distribution system is suggested in Section 6(d) as a way to deal with groundwater mound that encroaches on the three foot minimum separation distance.

Entity: James Brough, DEQ

Comment: "From whence did the existing table come for the "Estimated Rise in Water Table?" How were they derived? The mounding analysis only considers a flow rate (average or maximum?), a saturated thickness, and a soil percolation rate. How often is the saturated thickness really known? How accurate and repeatable is the percolation rate? Another mounding analysis considered several other important parameters such as layout (e.g., bed vs. trench, length to width ratio, etc.), average flow, horizontal permeability of soil, specific yield of receiving soil and the time since beginning of wastewater application. When mounding analysis have been required in other places, it appears to be for large bed systems where the hydraulic conductivity of the saturated zone is low, or the saturated zone is thin."

Response: The figures have been part of the small wastewater regulation since 1984 and were developed for the Division by an engineering consultant. The saturated thickness can be determined from well log data if there is a drinking water well is drilled for the property. The information needed to calculate the saturated thickness may also be obtained from county records. As for percolation rates, the repeatability of the test is dependent on the person performing the test. Percolation tests have been used to size small wastewater systems for more than 50 years and have proven over time to be more than accurate enough.

Entity: James Brough, DEQ

Comment: "We need to consider slope restrictions for bed systems. I have seen a bed depth vary between 3-feet to greater than 7-feet due to the slope of the natural grade which was less than 25%. Deep trenches promote anaerobic conditions which is not as effective. Also we are proposing maximum depth installations."

Response: Table 3 gives slope restrictions for a given percolation rate for all absorption systems

6(e)

Entity: Gabe Klamer, Teton County

Comment: "Steeper slopes than 25% should be considered if advanced treatment methods such as pressure dosing are used. Often in Teton County homes are located on hillsides which are steep. If 25' setbacks from leach fields to foundations are required, these steep lots will be unable to obtain swf permits."

Response: The setbacks have been revised to what was originally in Chapter 11, Part D. If the applicant cannot meet the requirements of this Chapter, a variance can be requested to the permitting authority.

Entity: Joy Hill, Big Horn County

Comment: "Wondering if slope should be addressed before effective soil depth and gw, OR perhaps, after soil evaluation since percolation rate determines max slope..."

Response: WDEQ/WQD reviewed the subsection and it will remain as written.

6(e)(i)

Entity: Joy Hill, Big Horn County

Comment: Change 'will' to 'shall'.

Response: WDEQ/WQD has made this editorial change.

Entity: Ron Ewald, WDEQ

Comment: Change to "The natural slope of the site ~~will~~ shall not exceed..."

Response: WDEQ/WQD has made this editorial change.

6(e)(ii)

Entity: Joy Hill, Big Horn County

Comment: "Serial distribution—add definition."

Response: WDEQ/WQD has determined this definition is unnecessary at this time.

6(e)(iii)

Entity: Jason Vreeland, WDEQ

Comment: "This seems unnecessary. The previous section allows serial distribution, but we have no way of knowing if it will lead to unstable slopes or seepage down below if it complies with the other regulations."

Response: There may be situations where you may not know if serial distribution on a slope will lead to instability or seepage. The condition is for areas where instability or seepage has occurred and someone is proposing doing something similar with similar soil conditions.

6(f), Table 4

Entity: Steve Warner, Fremont County

Comment: The setback distances for Public Water Wells, to both 'Septic Tank or Equivalent' and 'To Absorption System' are "too far."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Table 4 to reflect the setback distance values from the current adopted version of Chapter 25, Section 4 (i).

Entity: Dwight Reppa, Macy's Services

Comment: "Foundation Wall – Why was the distance for the septic tank increased? This addition could create additional problems on smaller lots."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Table 4 to reflect the setback distance values from the current adopted version of Chapter 25, Section 4 (i).

Entity: Gene Smith, Park County

Comment: "What is the reasoning for the increase from 5' to 15' from Foundation Walls to the Septic Tank? Is this for all foundation, or for full basement foundations?"

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Table 4 to reflect the setback distance values from the current adopted version of Chapter 25, Section 4 (i).

Entity: Gabe Klamer, Teton County

Comment: "Increased setbacks from foundation walls will create issues on small lots, lots that are oddly shaped and lots that are sloped."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Table 4 to reflect the setback distance values from the current adopted version of Chapter 25, Section 4 (i).

Entity: David Anderson, Washakie County Planning Office

Comment: "Increasing the septic tank setbacks to foundation walls and subsurface drains will make many existing sites non-compliant. How will this be handled for replacement drainfields? Will septic tanks have to be moved? I don't see why the septic tank setbacks needed to be changed."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Table 4 to reflect the setback distance values from the current adopted version of Chapter 25, Section 4 (i).

Entity: David Anderson, Washakie County Planning Office

Comment: "Having setbacks for septic tanks and the absorption field identical for potable water pipes and surface water does not make sense to me. Is not the potential for contamination greater from absorption systems?

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Table 4 to reflect the setback distance values from the current adopted version of Chapter 25, Section 4 (i). The revised table values are 10 feet for septic tanks to the absorption system, 25 feet for potable water, and 50 feet for surface water.

Entity: Joseph Baron, Crook County

Comment: "ADD to page 25-12 Table 4. Minimum Horizontal Setbacks: No setback should be less than 50 feet. Anything proposed as 50 feet should be 100 feet. The only exception would be the distance from the Septic Tank to the absorption field. Also, add a field in the graph for: "Roads and easements

[and all items listed in Section 6 (a)] 50 feet setback from the Septic tank and 50 feet from the Absorption field." Comment: This is the biggest area of concern. No one surveys a drain field or septic system. The biggest conflict comes when a drain field or septic system are built to close to the neighbors. What happens is that one neighbor puts in his water well or sewer system in first and that restricts the neighbor from developing his land. For example, the current rules indicate 50 feet set back from a water well, but only 10 feet from the property line. That just made 40 feet of the neighbor's land unusable for his water well or sewer system. In addition, most subdivisions have 10 to 20 feet w ide utility easements around them. This is another reason to keep sewer systems away from the lot lines and neighbors.

Response: Thank you for your comment. The setbacks have been revised to what they were previously in Chapter 11, Part D and in the current version of Chapter 25, section 4(i).

Entity: Timothy Lyons, Crook County

Comment: "Table 4. Minimum Horizontal Setbacks, should include the minimum setback for an Existing Absorption System to a new or additional Septic Tank Or Equivalent and Absorption System."

Response: The proposed setbacks would apply to new construction or modifications to existing systems.

Entity: Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "Public well setbacks may cause concerns with existing facilities and also leads to the question of the difference in regulations. Shouldn't setback be based on conditions rather than use of well."

Response: The proposed setbacks would apply to new construction or modifications to existing systems.

Entity: Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "Cistern setbacks should be included in list of setbacks, currently LC uses 20'"

Response: WDEQ/WQD has added a setback distance of 25 feet for cisterns.

Entity: Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "Larger setbacks to foundation walls may cause problems on existing small lots during repairs."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Table 4 to reflect the setback distance values from the current adopted version of Chapter 25, Section 4 (i).

Entity: Steve Warner, Fremont County

Comment: "'[2] The larger horizontal setback shall apply when the soil absorption system discharges to the same aquifer that the public water well draws from.' What about septic systems discharging to the same aquifer for private wells?"

Response: There is a setback for wells listed in Table 4.

Entity: Jason Vreeland, WDEQ

Comment: "This is confusing to me. If they have the appropriate separation from groundwater and the public water well isn't under the influence of surface water, how will it be determined that they are discharging to the same aquifer as the public water well?"

Response: The information would be obtained from the local municipality.

Entity: Robert Norton, Nelson Engineering

Comment: "Minimum horizontal setbacks from public water supply wells of 500 feet for septic tank and 1000 feet for absorption system could be impossible for some transient public water supply systems, seems excessive for a system under 2000 gpd, doesn't take into account the vertical unsaturated separation, nor the treatment level that could be provided by an advanced system."

Response: WDEQ/WQD has revised the setback distances for public water wells in situations where the absorption system discharges to the same aquifer from which the public water well draws. The new larger horizontal setbacks for septic tanks/equivalents and absorption systems are ~~300 feet and 600 feet~~ 100 and 200 feet, respectively. WDEQ/WQD did add a subscript to the table. Small wastewater systems that discharge to the same aquifer that supplies a public water supply and are located within Zone 2 of the public water supply well must provide additional treatment and the systems will require an individual permit signed by a PE.

Entity: John Woodward, Lincoln County Office of Planning and Engineering

Comment: "New setback distances for foundation wall to tank. Current distance of 5 ft. goes to 15ft. This will impact some small lots and cause more careful planning. However the change should alleviate the impacts of decks, patios and additions than can later cover the tank. Typically these additions are installed by subsequent owners. The distance for foundation wall to absorption system goes from 10 ft. to 25 ft. Again, this can affect small lots and cause more careful planning. However this will keep foundation drains and water lines that are often installed by subsequent owners, from being much too close to the absorption field. These changes may cause issue with the replacement of failed systems on tight lots, mainly the replacement of the field since old tanks are usually repairable. We may see failed fields that require removal combined with soil replacement. I would recommend that these setbacks be the same at 15ft. It just makes it easier for installers to remember."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Table 4 to reflect the setback distance values from the current adopted version of Chapter 25, Section 4 (i).

Entity: April Gindulis, Casper/Natrona County Health Department

Comment: "Minimum Horizontal Setbacks Section. Proposed 15 ft between the house and septic tank and 25 ft from drain field to foundation walls. Is there a possibility for a variance request on this? Several lots developed years ago may not have the space needed to meet these setbacks without compromising on distances from wells, property lines, etc. Setback to springs-50'. Our regulations call for 100' separation. Some residents use springs as a source for drinking water, from a public health perspective, greater distance is preferred."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Table 4 to reflect the setback distance values from the current adopted version of Chapter 25, Section 4 (i). Under W.S. 35-11-304, delegated authorities such as Laramie County are allowed the authority to "develop necessary rules, regulations, standards, and permit systems..." While Laramie County's standards "shall be at least as stringent as those promulgated by the state under W.S. 35-11-302(a)(iii)," these standards are not prohibited from requiring values more stringent than the State's.

Entity: Joy Hill, Big Horn County

Comment: Change the table title to 'Minimum Horizontal Setback Distances.

Response: WDEQ/WQD has made this editorial change.

Entity: Joy Hill, Big Horn County

Comment: Inconsistent capitalization, footnotes.

Response: WDEQ/WQD has made this editorial change.

Entity: Joy Hill, Big Horn County

Comment: "Why is non-domestic wastewater addressed? I thought this regulation was strictly about domestic wastewater."

Response: The regulation is to address small wastewater systems both domestic and non-domestic.

Entity: James Brough, WDEQ

Comment: "It appears that a new category of "Subsurface drain" was created from building foundations. Was this intended to be separated out? How will the inspector know the location of subsurface drains?"

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Table 4 to reflect the setback distance values from the current adopted version of Chapter 25, Section 4 (i). Subsurface drains will no longer be a separate category.

Entity: James Brough, WDEQ

Comment: "Why the increased horizontal setback distances for foundation walls? The increased horizontal setback distance from foundation walls to septic system will probably create compliance issues for septic systems on smaller lots and for replacement systems."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Table 4 to reflect the setback distance values from the current adopted version of Chapter 25, Section 4 (i).

Entity: Ron Ewald, WDEQ

Comment: "How will a home owner or an installer know if and when the soil absorption system discharges into the public water well aquifer ???"

Response: It would have to be verified with the local municipality. The quick check would be are there any water wells within sight of the proposed location of the absorption field and go from there.

6(f) Table 4 Footnote 1

Entity: James Brough, WDEQ

Comment: "I doubt that a hydrogeological study will ever be performed for disposal of nondomestic wastewater if one can default to the setback distances in Table 4. That being said, I believe this footnote is unnecessary!

Response: The footnote is there in the event that someone cannot meet the setback distance.

Entity: Mark Baron, WDEQ

Comment: "In item (f) Table 4 Minimum Horizontal Setbacks- footnote 1 makes reference to the wrong Chapter 3 section. Footnote 1 should read- in accordance with Section 17 (b,c,d,e and f) of the Chapter 3 Wyoming Water Quality Rules and Regulations."

Response: The footnote has been corrected to refer to the appropriate section.

6 (f) Table 4 Footnote 2

Entity: James Brough, WDEQ

Comment: "Soil absorption systems should not be discharging into the same aquifer that public water wells draw from! If a public water well draws from an unconfined aquifer, it should not be shallow (e.g., less than 50 feet deep). Basically, I have a hard time seeing this footnote being regulated in practice. A more practical approach is to ensure that public water wells have a proper grout seal and that public

water wells draw water from aquifer(s) that are not susceptible to contamination from a shallow soil absorption system."

Response: There are several municipalities that draw from unconfined aquifers that are more than 50 feet deep where the soil is extremely permeable.

Entity: Mark Baron, WDEQ

Comment: "In item (f) Table 4 Minimum Horizontal Setbacks -footnote 2 requires a 500 foot separation between a public water well and a septic tank when the soil absorption system discharges to the same aquifer that the public water well draws from. There appears to be some confusion as to what the groundwater protection requirements are within the State of Wyoming. Chapter 8, Section 3 (c) of the Wyoming Water Quality Rules and Regulations requires that protection shall be afforded all underground water bodies (including water in the vadose zone). Water being used for a purpose indentified in W.S. 35-11-102 and 103 (c)(i) shall be protected for its intended use and uses for which it is suitable. Water not being put to use shall be protected for all uses for which it is suitable. Groundwater that supplies private water wells must be afforded the same protection as the groundwater that supplies public water wells. I fit has been determined that a septic tank must be placed 500 feet from a public water well to protect groundwater this rule must also be applied to private water wells."

Response: Table 4 has setback distances for both public and private wells.

Entity: Mark Baron, WDEQ

Comment: "In item (f) Table 4 Minimum Horizontal Setbacks- footnote 2 requires a 200 foot separation between a public water well and a soil absorption system when the soil absorption system does not discharges to the same aquifer that the public water well draws from and footnote 2 requires a 1000 foot separation between a public water well and a soil absorption system when the soil absorption system discharges to the same aquifer that the public water well draws from. As stated in the above comment Chapter 8, Section 3 (c) of the Wyoming Water Quality Rules and Regulations does not make a distinction between public and private water wells therefore all water wells must be afforded the same protection. Chapter 12, Section 9 (b)(i)(B) of the Wyoming Water Quality Rules and Regulations lists the requirements for the separation distance between public water wells and disposal fields which are consistent with Chapter 11, Section 35 (a)(l,ii,iii) of the Wyoming Water Quality Rules and Regulations. The propose rule of a 1000 foot separation distance is a 900 percent increase over the current rules in Chapter 12 and Chapter 11 what is the basis for the 900 percent increase? The best way to approach or determine a safe separation distance between a water well and a septic soil absorption system is to apply the science of water well hydraulics. Two such sources on the science of water well hydraulics are the Flow of Homogeneous Fluids Through Porous Media, by M. Muska!, Ph.D., Copyright 1937 and Groundwater and Wells, 2nd edition, by Fletcher G. Driscoll, Ph.D., Copyright 1986. This same science of water well hydraulics is what is used for a Chapter 23 Subdivision review under Appendices A,B and C."

Response: WDEQ/WQD has revised the setback distances for public water wells in situations where the absorption system discharges to the same aquifer from which the public water well draws. The new

larger horizontal setbacks for septic tanks/equivalents and absorption systems are ~~300 feet and 600 feet~~ 100 and 200 feet, respectively.

6(g)

Entity: David Anderson, Washakie County Planning Office

Comment: "To what depth are the perc tests?"

Response: The perc tests are to be at the depth of the proposed absorption system. The procedure for percolation tests are contained in Appendix A.

6(g)(i)

Entity: Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "LC is in agreement with the requirement of a site hole on every lot along with the perc test."

Response: WDEQ/WQD appreciates Cheyenne-Laramie County Environmental Health's support of this change.

Entity: Joy Hill, Big Horn County

Comment: Change to "shall require a soil exploration pit as well as a percolation test."

Response: WDEQ/WQD evaluated the suggestion and consulted the Chicago Manual of Style. This change is unnecessary at this time.

6(g)(ii)

Entity: David Anderson, Washakie County Planning Office

Comment: "A four feet depth will not provide information on the saturated thickness specified in Section 6(d). Again, I recommend eliminating the requirement in 6(d) for residential systems.

Response: The four (4) foot below the bottom of the proposed absorption system is the minimum depth of the soil exploration pit. The depth to high groundwater may be well below this depth and thus may not impact the proposed absorption system.

Entity: Karen Farley, WDEQ

Comment: "Excavation in the area of the leach field should not be allowed. This will affect the compaction of the soil, which should be undisturbed. Excavation just outside of the leach field - yes."

Response: The impact of exploratory excavations in the area of the absorption system is minimal.

Entity: John Woodward, Lincoln County Office of Planning and Engineering

Comment: “soil exploration pit requirement. This will be a great way to verify groundwater levels and percolation data integrity. It will require more staff resources but it is needed.”

Response: WDEQ/WQD appreciates Lincoln County Office of Planning and Engineering’s support of this change.

6(g)(iii)

Entity: Karen Farley, WDEQ

Comment: “How will it be confirmed that the "person" is experienced?”

Response: If there is doubt as to their qualifications, simply ask what qualifies them as being ‘experienced’ in soils classification.

Entity: James Brough, WDEQ

Comment: “Include language that the percolation test be performed at the same depth as the proposed drain field.”

Response: WDEQ/WQD has evaluated this request and determined the language is unnecessary. The existing language has been crafted so that the suitability of the soil underneath the absorption system can be evaluated since this area will be performing the treatment.

Entity: Ken Muller, Sheridan County Public Works

Comment: Soil texture evaluation to "confirm" a percolation rate or "assign" a percolation rate? This reads as if a test was conducted then confirmed by texture classification. Is this the intent?

Response: We have rewritten the section so that it more clearly indicates that soil texturing is allowed to confirm the percolation rate.

Section 7

Entity: Jason Vreeland, WDEQ

Comment: “Our application asks for pictures of the excavation. Can we add this to the regulation or remove it from the application?”

Response: The application states “Was a color photograph taken of the excavation, showing a tape measure? If so, please submit photograph with application.”

Entity: John Woodward, Lincoln County Office of Planning and Engineering

Comment: “These new requirements will cause fields to be approximately 25% to 30% longer for trenches and 60% to 80% larger in areas for bed systems. About half of the systems in this jurisdiction use gravel and pipe with sidewall depths of3 to 5 ft. This change is a throwback to pre-1984 design standards with the 12" maxi mum sidewall for trenches and 6" maximum sidewall for beds. I have not seen any difference in the failure rates for those older systems versus newer ones. Occasionally the deeper systems get too close to unanticipated groundwater level. This issue should however be addressed with the proposed requirement for a soil exploration pit along with the proposed requirement for a maximum to the bottom of the absorption surface of 4ft. If it helps engineers feel better about hypothetically improved water distribution to have shallower sidewalls then so be it.”

Response: The section 7 (b)(i) and (ii) have been re-written. The intent was a maximum credit of twelve (12) inches of sidewall height even if the actual sidewall height exceeded that.

7(a)

Entity: Ron Ewald, WDEQ

Comment: Change to”... from Table 1 or Table 2, or from other viable calculations or approved sources, by the...”

Response: Thank you for the suggestion but the condition will remain as written.

7(b)

Entity: Gabe Klamer, Teton County

Comment: “Are we doing away with size reduction/equivalent areas for chambered system?”

Response: Not exactly, there is a maximum credit for sidewall height that shall not exceed twelve (12) inches even if the actual sidewall height exceeds twelve (12) inches. The WQD is doing away with equivalent areas.

Entity: James Brough, WDEQ

Comment: “Section 605 in the 2012 International Plumbing Code (IPC) specifies that the aborption area be computed by using only the bottom area. The required area for beds is increased by about 25% over that of trenches. The 2002 EPA manual in Section 4.4.5 discusses why including the sidewall area as an active infiltration surface in design should be avoided. Counting sidewall areas will produce less conservative designs. Little of the trench sidewall is engaged with gravity dosing. Flow peaks are

attenuated by house plumbing and the septic tank, so flow surges are not large enough to pond water to any significant depth in the trench. Significant sidewall absorption would only occur if the entire trench bottom was on the verge of hydraulic failure, forcing effluent to pond in the trench all of the time."

Response: The WQD has used bottom and sidewall area for the absorption surface for many decades with one of the lowest failure rates in the country for small wastewater systems. With this success rate there is no reason to change just because other parts of the country are doing something different.

Entity: James Brough, WDEQ

Comment: "Will we be granting a size reduction or assigning an equivalent area to chambers in either trench or bed configurations?"

Response: There is a size reduction for trenches. The maximum credit for sidewall height shall not exceed twelve (12) inches even if the actual sidewall height exceeds twelve (12) inches.

7(b)(i)

Entity: Dwight Reppa, Macy's Services

Comment: "The sidewall height in the infiltrative area calculation is not being used typically anymore. I believe this should be removed from the calculation."

Response: The WQD has used bottom and sidewall area for the absorption surface for many decades with one of the lowest failure rates in the country for small wastewater systems. With this success rate there is no reason to change just because other parts of the country are doing something different.

Entity: Gene Smith, Park County

Comment: "The Height of the sidewall shall not exceed twelve (12) inches. Need clarification on this, our county files are full of deep sidewall trench systems from past years that are still functioning."

Response: WDEQ/WQD has clarified Section 7 (b)(i) to explain "The maximum credit for sidewall height shall not exceed twelve (12) inches even if the actual sidewall height exceeds twelve (12) inches."

Entity: Timothy Lyons, Crook County

Comment: "Is the intent of this to establish a maximum of 12 inches of aggregate below the perforated pipe?

Response: WDEQ/WQD has clarified Section 7 (b)(i) to explain "The maximum credit for sidewall height shall not exceed twelve (12) inches even if the actual sidewall height exceeds twelve (12) inches."

Entity: Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "LC does not like the standard trench system max rock depth below pipe being 12", our standard has been 18" and it has worked very well. Past research has shown systems work better when narrow with more sidewall."

Response: WDEQ/WQD has clarified Section 7 (b)(i) to explain "The maximum credit for sidewall height shall not exceed twelve (12) inches even if the actual sidewall height exceeds twelve (12) inches."

Entity: Joy Hill, Big Horn County

Comment: "Suggest putting 'perforated pipe embedded in aggregate' in parentheses instead.

Response: WDEQ/WQD evaluated the suggestion and consulted the Chicago Manual of Style. This appositive phrase is nonrestrictive and is appropriately punctuated with commas.

Entity: Ron Ewald, WDEQ

Comment: Change to "...the sum of the bottom width and the effective height of each sidewall. The effective sidewall height is...The effective height of the sidewall..."

Response: WDEQ/WQD reviewed the subsection and has determined the requested change is unnecessary at this time.

7(b)(ii)

Entity: Timothy Lyons, Crook County

Comment: "Some chambers that are currently listed on the WDEQ Chamber Systems, Equivalent Areas List exceed the 12 inch sidewall height. Will these chambers no longer be acceptable and be removed from the list?"

Response: WDEQ/WQD has clarified Section 7 (b)(ii) to explain "The maximum credit for sidewall height shall not exceed twelve (12) inches even if the actual sidewall height exceeds twelve (12) inches."

Entity: "Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "Sizing for chamber type systems appears to eliminate all reduction in sizing for gravelless systems."

Response: The maximum credit for sidewall height shall not exceed twelve (12) inches even if the actual sidewall height exceeds twelve (12) inches.

Entity: April Gindulis, Casper/Natrona County Health Department

Comment: "Drain Field Sizing. As mentioned above, chambers allow for a reduction is size for drain fields already. We have seen numerous failures in our county where chambers have been used. It is not clear if failures are occurring due to reduction in drain field size or a problem with the design of the chamber."

Response: The WQD has revised the area reduction granted chambers from 50 % to 30% which will increase the size of the drainfield.

Entity: Ron Ewald, WDEQ

Comment: Change to "...the effective height of each sidewall. The sidewall height is the smaller of either the height of the slots on the sidewall or the bottom of the inlet pipe of the chamber. The effective height of the sidewall shall not"

Response: WDEQ/WQD reviewed the subsection and has determined the requested change is unnecessary at this time.

7(b)(ii) & (iii)

Entity: Steve Warner, Fremont County

Comment: "Will we no longer be using the calculated chamber equivalent areas?"

Response: Correct, the maximum credit for sidewall height shall not exceed twelve (12) inches even if the actual sidewall height exceeds twelve (12) inches.

Entity: Ken Muller, Sheridan County Public Works

Comment: "It appears the credit for not having soil masking by the rock will not be allowed with chamber units in these regulations. This will offset the reduce flows proposed some and increase the field size. Calculating some examples it appears that using chambers in a trench configuration the number of units will be similar. However, chambers used in a bed configuration will require significantly more chambers. Is it the intent to eliminate the model Pre-Approval and the Equivalent Areas table for chamber units?"

Response: We have revised the section to allow for up to a 30 percent reduction in bottom area when chambers are used.

7(c)(i)

Entity: Bernard Bisson, Albany County Planning Office

Comment: "I note that you are designating the percolation rates faster than 5 min/inch or slower than 60 min/inch as unsuitable for septic fields unless special action is taken. You provide for a layer of sand under the field which is what was usually required in the past for systems faster than 1 min/inch so this is a more conserve and appropriate approach. Also, it has been my experience that septic fields in areas with percolation rates greater than 60 minutes per inch will possibly be dealing with groundwater inundation at the wet times of the year and will probably need the incorporation of land drains and/or mounding. I would suggest that, given such complications, a P.E. should design the system rather than simply sizing it."

Response: WDEQ/WQD appreciates Albany County's support of the revised approach to percolation rates that are faster than 5 minutes per inch. WQD has added language to Section 2 requiring a P.E. for proposals of drainfields with percolation rates over 60 minutes per inch.

Entity: Dwight Reppa, Macy's Services

Comment: "This paragraph addresses fast percolating soils. There is no paragraph addressing slow percolating soils. I believe this was omitted by accident."

Response: WDEQ/WQD has revised Section 7(c). The heading of "Fast and slow percolating soils" has been removed. Section 2 has also been revised to add language requiring a P.E. for proposals of drainfields with percolation rates over 60 minutes per inch.

Entity: Gene Smith, Park County

Comment: "If fast percolation soils < 5mpi can be used with the addition of 1' fine or loamy sand with a perc rate 5 mpi or greater, then why is it required in the footnote 1 below table 5 found on 25-14 require a WY Registered PE to determine the loading rate?"

Response: WDEQ/WQD has removed the footnote and revised Section 2 to add language requiring a P.E. for proposals of drainfields with percolation rates over 60 minutes per inch.

Entity: David Anderson, Washakie County Planning Office

Comment: "This should specify that pipe and rock trenches should be used in this case as chambers will sink into the new fill material."

Response: We have considered your suggestion and the condition will remain as written. The WDEQ hasn't had that experience and doesn't feel the regulations should be restrictive in that regard.

Entity: Jason Vreeland, WDEQ

Comment: "Do we need to place a requirement on the minimum percolation rate of this soil? If not, who will determine it is fine sand or loamy sand?"

Response: It has already been determined that the original soil has a percolation of less than 1mpi. The fill soil is the fine or loamy sand.

Entity: Joy Hill, Big Horn County

Comment: Change to "...percolation rate <u>of</u> less than five (5) <u>minutes</u> per inch...These soils may be used if a layer of fine sand or loamy sand <u>one (1) foot deep</u> is placed below..."

Response: WDEQ/WQD reviewed the subsection and has determined the requested change is unnecessary at this time.

Entity: Joy Hill, Big Horn County

Comment: "Is the 'fill material' the fine sand or loamy sand you just mentioned?"

Response: Yes, the fine sand or loamy sand is the fill material.

Entity: Mark Baron, WDEQ

Comment: "Item (c)(i) states that if the percolation rate is less than 5 mpi a foot of imported soil can placed in the soil absorption system to slow the percolation rate down. At the same time footnote 1 under Table 5 requires a Wyoming P.E. if the percolation rate is outside of the range of 5 to 60 mpi. I can understand having a P.E. submit the application if the percolation is over 60 mpi but not if the percolation is under 5 mpi. Since the proposed regulations allow for the importation of soil when the percolation is less than 5 mpi the requirement for a Wyoming P.E. adds nothing to the process and is no guarantee the groundwater will be protected. A groundwater user would be better protected if the separation distance from the leach field to any water wells was increased. The Wyoming P.E. for soil less than 5 mpi needs to be removed."

Response: WDEQ/WQD has removed the footnote and revised Section 2 to add language requiring a P.E. for proposals of drainfields with percolation rates over 60 minutes per inch.

Entity: Ron Ewald, WDEQ

Comment: Change to "...a percolation rate less than ~~five(5)~~ 1 or 2 mpi are unsuitable for...or loamy sand is placed <u>and compacted to more than 5 mpi</u> below the constructed...based on the percolation rate of the <u>compacted</u> fill material."

Response: WDEQ/WQD reviewed the subsection and has determined the requested change is unnecessary at this time.

7(c)(i) Table 5

Entity: James Brough, WDEQ

Comment: "This table could be simplified to the tenth decimal, rather than the hundred decimal, since percolation tests are not accurate. Also Section 6 (g) (iii) allows a soil texture analysis as a cross check or verification of soil percolation rates. How do the two correlate?"

Response: The loading rate has two decimal places; the percolation rate is a whole number. The table was interpolated from the graph that is Figure 7 in the current version of Chapter 25. If the percolation rates from the tests are inconsistent, the soil is analyzed to determine which percolation rate makes more sense. There is no universal correlation between soil texture and percolation rate.

7 (c)(i) Table 5 Footnote 1

Entity: James Brough, WDEQ

Comment: "Delete "less than 5 or" since Section 7(c)(i) allows one to over excavate and place one foot of fine sand or loamy sand is placed below the soil absorption system. As a side note, a chamber placed on 1 foot of fine sand or loamy sand will likely sink into the sandy material."

Response: The footnote has been removed.

Entity: James Brough, WDEQ

Comment: "What design criteria or soil loading rates can a professional engineer use for soils that perc slower than 60 mpi if it isn't addressed in Chapter 25?"

Response: It is up to the PE to propose a loading rate for slow percolating soils that can be justified through research or other means. The WQD will not restrict what resources are available for the engineer to use.

Entity: Ron Ewald, WDEQ

Comment: Change to: "Perk Rate (mpi) 5^{1} 1 or 2 ^{1} if the perk rate is less than ~~5~~ 1 or 2 or greater than 60..."

Response: WDEQ/WQD reviewed the subsection and has determined the requested change is unnecessary at this time.

7(d)

Entity: Robert Norton, Nelson Engineering

Comment: "requires reduction of loading rate for high strength wastewater why not allow an increase for low strength wastewater, e.g. advance treatment, or grey water. Also requires pressure distribution, seems that requirement is just adding more mechanical equipment for the homeowner to maintain."

Response: WDEQ/WQD has removed subsection d, as high strength wastewater is now addressed in Section 2.

Entity: Mark Baron, WDEQ

Comment: "Item (d) drain fields for high strength wastewater in addition to the items (i) and (ii) add item (iii) A Wyoming Registered Professional Engineer must design and submit a permit application which provides additional wastewater treatment such that pressure dosing can be used."

Response: WDEQ/WQD has removed subsection d, as high strength wastewater is now addressed in Section 2.

7(d)(i)

Entity: Karen Farley, WDEQ

Comment: "Where did this come from?"

Response: WDEQ/WQD has removed subsection d, as high strength wastewater is now addressed in Section 2.

Entity: Joy Hill, Big Horn County

Comment: Change "five (5) day BOD" to "five-day biochemical oxygen demand (BOD_5)".

Response: WDEQ/WQD has removed subsection d, as high strength wastewater is now addressed in Section 2.

Entity: James Brough, WDEQ

Comment: "This regulation does not distinquish between raw wastewater strength and septic tank effluent strength. How will the applicant or regulator know the BOD strength for a new system? Should WDEQ provide a table? Are there any studies that suggest a linear relationship between effluent strength and appropriate drainfield size? Should the drainfield size be considered in conjunction with septic tank sizing or with pretreatment?"

Response: WDEQ/WQD has removed subsection d, as high strength wastewater is now addressed in Section 2.

7(d)(ii)

Entity: Gabe Klamer, Teton County

Comment: "Aeration units such as Advantex units may be more efficient than pressure dosing at times. These systems should also be allowed."

Response: WDEQ/WQD has removed subsection d, as high strength wastewater is now addressed in Section 2.

Entity: James Brough, WDEQ

Comment: "I don't think that pressure dosing should be mandated for high-strength wastewater. There may be other, more efficient options such as an additional tank with an aeration unit."

Response: WDEQ/WQD has removed subsection d, as high strength wastewater is now addressed in Section 2.

Entity: Ron Ewald, WDEQ

Comment: Change to "~~All drain fields shall be dosed and include a pressure distribution system.~~" "NOT NEEDED ON GRAVITY SYSTEMS!!!"

Response: WDEQ/WQD has removed subsection d, as high strength wastewater is now addressed in Section 2.

Section 8

Entity: Joy Hill, Big Horn County

Comment: Change first paragraph to "...in accordance with teh 2012 International Plumbing Code (IPC) and the locally-approved plumbing code. In the absence of a locally-approved plumbing code, the building sewer shall comply..."

Response: Thank you for your suggestion but the IPC is the standard by which most, if not all, sewer plumbing is constructed by. The paragraph will remain as written.

8(a)

Entity: Bernard Bisson, Albany County Planning Office

Comment: "While many installers are very skilled at backfilling over the main sewer pipe leading from the building to the septic tank, there is always the klutz who will drop a boulder on the pipe resulting

in partial blockage, usually discovered on Thanksgiving, Christmas, Easter and other such holidays when a lot of people get together, eat to their heart's content and use the bathroom an extraordinary amount. I suggest that the main sewer pipe be always schedule 40. Incidentally, this problem has occurred here in Albany County a number of times."

Response: The condition will remain as written but please remember that delegated counties can always be more stringent than the minimum standards of this chapter.

Entity: Joy Hill, Big Horn County

Comment: Change to "Standard dimension ratio (SDR) 35 plastic pipe, manufactured to the American Society for Testing Materials (ASTM) D-3034 Standard,"

Response: The condition has been re-written as follows, "American Society for Testing Materials (ASTM) D-3034 Standard dimension ratio (SDR) 35 plastic pipe may be used."

Entity: Mark Baron, WDEQ

Comment: "Item (a) add in high density polyethylene (HDPE) pipe."

Response: Thank you for the suggestion. The condition will remain as written.

8(c)

Entity: Bernard Bisson, Albany County Planning Office

Comment: "I've had quite a number of applications where the main sewer pipe has a branch in it to serve another function such as a toilet in a garage or simply another stack within the house. I suggest that branches have cleanouts at the point where the branch intersects the main trunk line."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised subsection e to require cleanouts at "branch connections, at every change in alignment, and at least every 100 feet in straight runs."

8(d)

Entity: Karen Farley, WDEQ

Comment: "Why not just state that pipes shall be laid at a minimum slope of 1/4 inch per foot?"

Response: The additional constraint is necessary.

Entity: Joy Hill, Big Horn County

Comment: Change ‘but’ to ‘and’.

Response: ~~The condition will remain as written.~~WDEQ/WQD has made this editorial change.

8(e)

Entity: Steve Warner, Fremont County

Comment: “Dual cleanouts should always be installed between the house and septic tank.”

Response: Thank you for your comment but an additional cleanout is unnecessary at this time.

Entity: Timothy Lyons, Crook County

Comment: “States that cleanouts shall be provided at every change in alignment and at least every 100 feet in straight runs. Does this mean a change in alignment both horizontally and vertically? Does this requirement apply to the sewer pipe between the building and the tank, and between the tank and the manifold for the drain field? This should also include the direction of the cleanout in the pipe; between the building and tank should the cleanout run back to the building, the tank or both directions; between the tank and the manifold should cleanout run back to the tank, the manifold or both directions?”

Response: WDEQ/WQD evaluated the stakeholder comments and has revised subsection e to require cleanouts at “branch connections, at every change in alignment, and at least every 100 feet in straight runs.” The cleanout requirement would not make sense for a change in direction vertically.

Entity: Robert Norton, Nelson Engineering

Comment: “The IPC requires cleanouts every 100 feet and change in direction greater than 45 degrees or, where more than one change of direction occurs in a run of piping, only one cleanout shall be required for each 40 feet of developed length. The old plumbing code required a cleanout for every 135 degrees of bends. It is not uncommon to have two or three 45 degree bends between the house and septic tank, particularly in rebuild systems, having a cleanout at every bend seems excessive.”

Response: The applicant can request a variance to this requirement. The intent is to ensure the ability to clear the line in case of blockage.

Entity: Ken Muller, Sheridan County Public Works

Comment: “Providing clean-outs at all alignment changes upstream of the tank is good practice. Providing clean-outs at every alignment change seems excessive on minor alignment changes downstream of the tank.”

Response: The applicant can request a variance to this requirement. The intent is to ensure the ability to clear the line in case of blockage.

Section 9

9(a)

Entity: Bernard Bisson, Albany County Planning Office

Comment: "High efficiency boilers/furnaces are becoming a severe problem where the very slow flowing condensate, flowing into the sewer pipe, freezes and forms a blockage in the pipe. This especially occurs when the sewer pipe is near the surface of the ground. We have difficulty preventing this problem because the boiler/furnace is usually installed long after we inspect the septic system. Should some reference be made to this problem? One plumber alone in Laramie has unplugged over twenty pipes this winter."

Response: There is no way for the regulations to address this problem of small irregular flows that are added to a wastewater system after inspection of the installation.

9(a)(i)

Entity: David Anderson, Washakie County Planning Office

Comment: "Is there no longer going to be an approved list?"

Response: There was never an 'approved list', it was a 'previously installed' list. Septic tanks that have been proposed in an application, approved, and installed are listed on our website. The WQD will not evaluate a septic tank for compliance with the regulations unless it is proposed as part of an application to construct a small wastewater system.

Entity: Joseph Baron, Crook County

Comment: "ADD to Page 25-15 Section 9 (a) (i) change 'approved' to 'preapproved'"

Response: The WQD does not preapprove septic tank material. The section will remain as written.

Entity: James Brough, DEQ

Comment: "The last sentence indicates that DEQ will no longer have an "Approved List" for prefabricated tanks. Is this the direction we want to pursue?"

Response: There was never an 'approved list', it was a 'previously installed' list. Septic tanks that have been proposed in an application, approved, and installed are listed on our website. The WQD will not evaluate a septic tank for compliance with the regulations unless it is proposed as part of an application to construct a small wastewater system.

9(a)(ii)

Entity: Joy Hill, Big Horn County

Comment: "'Over excavated'—what does this mean?"

Response: To dig a larger hole than necessary.

9(a)(ii)(A)

Entity: Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "LC encourages the requirement of a minimum of 12" cover on tank."

Response: The regulations are the minimum design standards. Delegated counties are allowed to be more stringent than the regulations.

Entity: James Brough, DEQ

Comment: "Manufacturers of concrete tanks don't provide a maximum design depth for their tanks according to Marcel Lopez (formerly with Wind River Concrete)"

Response: If there is no maximum depth that a tank can be buried, the tank should be placed at the minimum depth necessary to achieve gravity flow for the system.

9(a)(ii)(C)

Entity: Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "Engineering approval of tank and lids when installed in driveways and parking lots will add a large expense to the homeowners on small lots."

Response: If the location of the septic tank is such that it will have vehicles driving on it, the lid has to be designed to withstand the loads.

9(a)(iii)(A)

Entity: Jason Vreeland, DEQ

Comment: "Why are we changing the 36 hours of detention time? A specific detention time seems simpler to me than this section."

Response: This condition has been re-written.

Entity: Joy Hill, Big Horn County

Comment: Change to "...residences with up to four (4) bedrooms. For residences with more than four bedrooms, tank capacity must be increased by 250 gallons per each additional bedroom. For example, a six-bedroom home would require a minimum tank volume of 1500 gallons."

Response: The paragraph has been revised and the 1000 gallon septic tank would be for a residence of six (6) bedrooms and the additional capacity would be 150 gallons per bedroom for each bedroom over six (6).

9(a)(iii)(B)

Entity: Joy Hill, Big Horn County

Comment: "'Minimum effective liquid capacity'—how is this calculated?"

Response: It is a volume calculation of area multiplied by the height minus any volume taken up by internal baffles.

Entity: James Brough, DEQ

Comment: "The size and/or number of septic tanks should be increased for non-residential facilities where the wastewater strength is stronger than typical residential strength (e.g. BOD > 500 mg/L)"

Response: A professional engineer is required to design a system where high strength wastewater must be treated and disposed of.

9(a)(iv)(A)

Entity: Bernard Bisson, Albany County Planning Office

Comment: "My understanding is that the conventional tank proportions are 2/3- 1/3 in order to provide more space for solid/fecal matter. Incidentally, there is a manufacturer in Wheatland who manufactures septic tanks of only one compartment. Just thought I would make you aware of this in case you want to discuss this with him."

Response: The first compartment in a two (2) compartment tank shall be no less than half the total tank volume. Single compartment septic tanks are acceptable as long as they are designed with the proper length to width ratio.

Entity: Timothy Lyons, Crook County

Comment: "States that septic tanks shall have not less than two (2) compartments. Does this mean that single compartment tanks will no longer be acceptable or permitted? This is a good design practice

but will add additional cost to the construction of these systems, which will be passed on to the owner of the system and WDEQ will have to revise the approved tank list."

Response: The section has been rewritten to clarify that single compartment septic tanks are acceptable as long as they are designed with the proper length to width ratio.

Entity: Sarah Anderson, Crook County Natural Resource District

Comment: "What is the purpose behind the statement 'Septic tanks shall have not less than two (2) compartments.'…?"

Response: The section has been rewritten to clarify that single compartment septic tanks are acceptable as long as they are designed with the proper length to width ratio.

Entity: Jason Vreeland, DEQ

Comment: "This will not go well with many of the manufacturers. One compartment tanks may have a place in low flow applications."

Response: The section has been rewritten to clarify that single compartment septic tanks are acceptable as long as they are designed with the proper length to width ratio.

Entity: April Gindulis, Casper/Natrona County Health Department

Comment: "Configuration. "Septic tanks shall not have less than 2 compartments." Does this mean that single compartment tanks will no longer be permitted? Several of the concrete tank manufactures make single compartment tanks and utilize an effluent filter on the outlet. If the intent is to only allow for 2 compartment tanks, manufacturers of concrete tanks will have to redo their forms and they will incur additional costs putting a partition in the center. Concrete tanks are preferred in certain installations when the cover may exceed those of the manufactured poly tanks. (i.e. repair situations where the sewer line is already deep, it would not be reasonable to ask home owners to redo their plumbing)."

Response: The section has been rewritten to clarify that single compartment septic tanks are acceptable as long as they are designed with the proper length to width ratio.

Entity: Joy Hill, Big Horn County

Comment: Change 'not less than' to 'a minimum of'.

Response: We will consult the "Chicago Manual of Style" for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.

9(a)(iv)(A) & (B)

Entity: Gabe Klamer, Teton County

Comment: "These should be combined. It currently sounds like you have to have a 2 compartment tank and they have to be 2:1 ratio. It should be either/or."

Response: The condition has been re-written. Two compartment tanks are preferred but single compartment septic tanks are acceptable as long as they are designed with the proper length to width ratio.

Entity: James Brough, DEQ

Comment: "Combine the requirements of either having not less than two compartments of a length to width ratio of at least two to one. Perhaps the sentence in subsection (B) could replace the first sentence in subsection (A). Proposed Language for Section 9(a)(iv)(A) shown below: "The septic tank shall have at least two compartments or have a length to width ratio of no less than two (2) to one (1) to protect against short circuiting flowing. When septic tanks are divided into compartments, the volume of the first compartment must be equal to one-half to two-thirds the total tank volume."

Response: Parts (A) & (B) have been re-written to clarify that single compartment tanks of the proper length to width ratio and multiple compartment tanks are both acceptable.

Entity: Ken Muller, Sheridan County Public Works

Comment: "Appears the pre-approval tank list no longer be applicable? (iv) Configuration (A) & (B) (A) reads that a 2 compartment tank is required then (B) reads that if the dimensional requirements are meet then a single non-partitioned tank is allowed. Should (A) read if a two compartment tank is used the first compartment shall not if less than 1/2 the total capacity?

Response: Parts (A) & (B) have been re-written to clarify that single compartment tanks of the proper length to width ratio and multiple compartment tanks are both acceptable.

9(a)(iv)(B)

Entity: David Anderson, Washakie County Planning Office

Comment: This seems to allow non-partitioned (single compartment) tanks. I suggest eliminating the last part of the sentence.

Response: The section has been rewritten to clarify that single compartment septic tanks are acceptable as long as they are designed with the proper length to width ratio.

Entity: Timothy Lyons, Crook County

Comment: "I do not agree with allowing the tank risers to be terminated below the ground surface. I do agree that the riser covers should have a locking device."

Response: Delegated counties can always be more stringent than the minimum standards of the chapter.

Entity: Jason Vreeland, DEQ

Comment: "Why are we keeping this requirement if we aren't allowing one compartment tanks?"

Response: Single compartment septic tanks are acceptable as long as they are designed with the proper length to width ratio.

Entity: Joy Hill, Big Horn County

Comment: Change 'flowing' to flow.

Response: ~~We will consult the "Chicago Manual of Style" for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.~~WDEQ/WQD made this editorial change.

9(a)(iv)(C)

Entity: Joseph Baron, Crook County

Comment: "ADD to Page 25-16 Section 9 (a) (iv) (C) All septic tanks shall be vented and have a cleanout pipe."

Response: There are conditions contained within the section that address septic tank venting and providing a cleanout.

Entity: Jason Vreeland, DEQ

Comment: "Is this necessary if they are providing 20 percent for scum storage?"

Response: Yes, they address two (2) different things regarding the tank configuration.

Entity: Jason Vreeland, DEQ

Comment: "'Gases generated during liquefaction of the solids are normally vented through the building's stack vent.' This sentence doesn't appear to be necessary to the regulation."

Response: We will remove the sentence.

Entity: Joy Hill, Big Horn County

Comment: Change ‘not be less than’ to ‘be at least’.

Response: ~~We will consult the “Chicago Manual of Style” for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.~~ WDEQ/WQD clarified the sentence to “The liquid depth shall be between three (3) feet and six (6) feet.”

9(a)(iv)(D)

Entity: Joy Hill, Big Horn County

Comment: Change ‘be provided with’ to ‘be equipped with’ or ‘have’.

Response: ~~We will consult the “Chicago Manual of Style” for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.~~ WDEQ/WQD clarified the sentence to “The tank partition shall allow the venting of gases between compartments and out through the vent stack on the plumbing system of the house. “

9(a)(iv)(D)(I)

Entity: Joy Hill, Big Horn County

Comment: Add ‘of’ after (1/3).

Response: ~~We will consult the “Chicago Manual of Style” for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.~~ WDEQ/WQD edited the subparagraph and it no longer contains the fraction 1/3.

9(a)(iv)(D)(II)

Entity: James Brough, DEQ

Comment: “The IPC 2012 requires that the clear space over the top of baffles or tees be at least 2 inches, rather than 3 inches. Also subsection (C) requires that the total depth be at least 8 inches greater than the liquid depth. The tees or baffles must extend at least 6 inches above the liquid. In short, 8 inches minus 6 inches equals 2 inches. The clear space would need to be increased from 8 inches to 9 inches to allow a clear space of 3 inches above the top of the baffle or tee.”

Response: The three (3) inch requirement is slightly more conservative than the IPC requirement and will remain as written.

9(a)(iv)(D)(III)

Entity: Joy Hill, Big Horn County

Comment: Change 'percent' to %.

Response: ~~We will consult the "Chicago Manual of Style" for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.~~ WDEQ/WQD reviewed the comment and researched the suggestion within the Chicago Manual of Style. Neither spelling out percent nor '%' is considered more correct. We have chosen to consistently note percentages such as the one now referenced in Section 9(a)(iv)(E)(III) in the following manner: twenty percent (20%). All references to a percentage are now noted in this way.

Entity: James Brough, DEQ

Comment: "The second sentence can be deleted since it is repeating the requirement of having the total depth at least 8 inches greater than the liquid depth to allow for scum storage. The 8-inch difference comes from the 2012 IPC."

Response: The second sentence requires a minimum distance of nine (9) inches or twenty (20) percent and will remain as written.

9(a)(iv)(D)(I)

Entity: Dwight Reppa, Macy's Services

Comment: "There needs to be a designation between the inlet baffle and the outlet baffle, the outlet baffle needs to be extended to the middle third of the liquid level or 40% of the liquid level. The inlet baffle should be a minimum of 6 inches below the liquid level. The outlet baffle length standard is typically 40% of the liquid level. This is closer to the clear liquid area of the tank."

Response: The paragraph Section 9(a)(iv)(D)(I) through (III) has been re-written for clarity.

Entity: Jason Vreeland, DEQ

Comment: "This is confusing to me. Is this requiring it to extend in the upper 1/3 of the liquid?"

Response: The paragraph Section 9(a)(iv)(D)(I) through (III) has been re-written for clarity.

9(a)(vi)

Entity: John Woodward, Lincoln County Office of Planning and Engineering

Comment: "Riser requirement for each tank compartment. This is a good move. It will facilitate tank servicing. It will also remind current and future landowners about the location of their tanks."

Response: Thank you for your comment. The condition will remain as written.

9(a)(vi)(A) & (B)

Entity: April Gindulis, Casper/Natrona County Health Department

Comment: "Riser of 20" diameter is required over both inlet and outlet and it either must terminate 6" below grade or have a locking device if it extends above grade. 6" risers for accessing the tank too pump it out has been used for a long time. A smaller riser is preferred for pre-cast tanks with 6" knockouts already in place."

Response: The twenty (20) inch riser is used for accessing the tank for inspections in addition to pumping it out.

9(a)(vi)(B)

Entity: Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "LC does not want to see risers buried as it hides the tank from view, makes maintenance more difficult and is not needed if systems are not allowed in irrigated lawns."

Response: Delegated counties permitting small wastewater systems can be more stringent than the minimum design standards of Chapter 25.

Entity: Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "LC does not fell locks are needed if the internal tank lid is left in place below the riser manway lid."

Response: The lock provides an extra level of security so there is no accidental entrance into the septic tank.

9(a)(vii)

Entity: James Brough, DEQ

Comment: "Replace 'Delegated small wastewater programs' with 'Delegated health departments and counties'."

Response: The intent is to cover all the possible entities that have been granted the authority to issue small wastewater permits. The sentence will remain as written.

9(a)(viii)

Entity: Bernard Bisson, Albany County Planning Office

Comment: "The septic tank filter has become mandatory in many states. Might it not be less of an argumentative factor if we simply required it for all applications? We don't currently require it in Albany County but I have seen situations where strange foreign objects (such as a child's rubber ducky- no kidding) have made it through a two compartment tank and into the field. The tank had proper baffles. If that could happen, what else could get through? Beyond that, I also require that the filter be present whenever a pump is used to move fecal matter to the septic tank since the pump will change the form of the fecal matter from semi-solid to a slurry."

Response: Delegated counties permitting small wastewater systems can be more stringent than the minimum design standards of Chapter 25.

9(a)(vi)(B)

Entity: Steve Warner, Fremont County

Comment: "Screw down lids should be acceptable."

Response: The lock provides an extra level of security so there is no accidental entrance into the septic tank.

9(a)(vii)

Entity: Jason Vreeland, DEQ

Comment: "Why would we allow the disposal of septage by land application without a permit? A permit seems appropriate."

Response: This has historical precedent in Wyoming. Land application of septage has been allowed in extremely remote locations and very few if any report problems with the current procedure.

Entity: Joy Hill, Big Horn County

Comment: What is meant by 'permitted as a permit by rule'?

Response: A permit is not required as long as the conditions of the rule are met.

9(b)

Entity: Bernard Bisson, Albany County Planning Office

Comment: "Safety feature- important; we have instituted a code requirement in Albany County that all septic tanks and other "chambers" be "childproof". This came about after we became aware of several accidental deaths that occurred in Montana. I felt that it was appropriate to protect anybody from

drowning in a tank and to protect the state, county and installers from aggressive lawyers (as is currently happening in at least one case that I know of in Montana). Since we incorporated this requirement, I am familiar with another such death in Lander and something similar occurred at Devil's Tower. I have conducted an internet search to see just how prevalent such deaths are and I am shocked to find that they are prevalent all over the country in fairly large numbers. Here in Albany County we have two such "childproof' configurations; when the "Vaughn" tank is specified, we call for a "plug" inserted into the tank access as well as a cover over the "pipe access". If the tank is from "Colorado Precast", where the access pipes that they furnish don't permit one to insert and remove a "plug", we allow the use of two re-bars forming a cross half way up the access pipe and embedded in the concrete. With plastic/fiberglass tanks we ask that they be bolted and/or padlocked."

Response: The locking device(s) for the risers will be employed to limit accidental access rather than implement a design change for septic tank manufacturers.

9(b)(i)

Entity: Dwight Reppa, Macy's Services

Comment: "The access riser should be a minimum of 24-inch, it is too difficult to access the tank interior if needed to do repairs through a 20 inch access riser. This suggestion is from experience, it can be very difficult to get through an access riser of more than 2 feet tall if it is 20 inches in diameter. Typically most pump tank openings are 24 inches in diameter, reducing this diameter doesn't make sense."

Response: The riser diameter has always been twenty (20) inch at a minimum (see Chapter 25, Section 8(a)(iv)). We are maintaining that requirement. If you specify a tank with a twenty four (24) inch diameter riser, you would still be in compliance with the rule.

9(b)(ii)

Entity: Gabe Klamer, Teton County

Comment: "This section is confusing."

Response: The paragraph has been replaced by a table to eliminate the confusion.

Entity: James Brough, DEQ

Comment: "Replace this subsection with 'The minimum pump tank size is 750 gallons for residential dwellings and the total liquid depth in the tank must be at least three feet or greater.'"

Response: The paragraph has been replaced by a table.

9(b)(iii)

Entity: Steve Warner, Fremont County

Comment: "'The septic tank's size shall then be increased by a minimum of 500 gallons.' Is this really necessary for a 4 bedroom or less home?"

Response: The paragraph has been removed.

Entity: Timothy Lyons, Crook County

Comment: "I do not agree with allowing a second compartment of the 2 compartment tank to be utilized as the pump vault."

Response: The paragraph has been removed.

Entity: Jason Vreeland, DEQ

Comment: "This can have negative effects. The effective detention volume becomes the volume of the first compartment below the level of the opening in the partition. I have seen situations where this has created an effective septic tank area of 300 gallons or less. Additionally this essentially creates a one compartment tank which is not allowed under the earlier section."

Response: The paragraph has been removed.

9(b)(iv)

Entity: Timothy Lyons Crook County

Comment: "The alarm device shall include both an audible alarm and an indoor illuminated alarm, the option of one or the other should not be allowed."

Response: There may be situations where one or the other may not be practical or possible. The regulations need to have that flexibility.

9(b)(vi)

Entity: Jason Vreeland, DEQ

Comment: "Wouldn't a full dosing tank or the high water alarm signal the siphon isn't working?"

Response: A full dosing tank is definitely a sign that there's something wrong but a dose counter may give you an indication of problems early enough to avoid a total failure.

9(c)(ii)

Entity: Bernard Bisson, Albany County

Comment: “Every once in a while we get the issue of "holding" tanks coming up in Albany County; generally we are able to determine quite easily if "alternatives" are available. However, we have come up against infrequent situations where city sewers are "nearby" but not necessarily "available". A particular irritant occurred in Centennial which does have a sewer system. A resident, immediately outside of the sewer district who refused to pay the district fees, wanted to put in a holding tank. Because he was only a few feet away from the sewer line we refused a permit for the tank. Possibly a more precise definition of "availability" might be helpful.

Response: That is a loophole that cannot be eliminated with regulation. If a resident is willing to pay for a holding tank to be pumped every seven (7) to ten (10) days rather than pay utility fees, there is little we can do to stop them.

Entity: April Gindulis, Casper/Natrona County Health Department

Comment: “Holding tanks. Will holding tanks be approved for seasonal dwelling with interior plumbing?”

Response: Yes, Section 9 (c)(ii) states that holding tanks are acceptable for a residence on a seasonal basis.

9(c)(v)

Entity: Timothy Lyons, Crook County

Comment: “The alarm device shall include both an audible alarm and an indoor illuminated alarm, the option of one or the other should not be allowed.”

Response: There may be situations where one or the other may not be practical or possible. The regulations need to have that flexibility.

9(d)

Entity: Robert Norton, Nelson Engineering

Comment: “Grease Interceptors: The IPC has requirements for grease interceptors and automatic grease removal devices that conform to PDI G101, which last time I checked were tested to remove grease down to 100 mg/l, requiring treatment down to 25 mg/l may preclude most commercially available grease interceptors and cause the owner to install a unit as specified by this section that would not meet the 25 mg/l requirement. Testing that has been done on several grease interceptors at Teton Village indicates to me that 100 mg/l is only possible if the grease interceptors are cleaned on a very regular basis, and that 25 mg/l would be very difficult to meet even right after cleaning of the interceptor.”

Response: Section 9 (d)(i) states that if the untreated wastewater stream has a fat, oil, and grease (FOG) content in excess of 25 mg/L then an interceptor is required. The regulations do not require a grease interceptor effluent level of FOG less than 25 mg/L nor does it require a minimum FOG removal efficiency for the interceptor.

9(d)(i)

Entity: Timothy Lyons, Crook County

Comment: "Crook County is not a delegated county nor does Crook County have a delegated health department."

Response: If Crook County is not a delegated county, then the District Engineer responsible for that county will permit the small wastewater system and approve the grease interceptor if it is required.

Entity: Jason Vreeland, DEQ

Comment: "'Facilities that typically have waste streams high in FOG are, but not limited to, restaurants, cafeterias, slaughterhouses, or institutional kitchens.' Is this necessary? Seems informational not regulatory."

Response: Yes, we were trying to give the public an idea of what types of facilities that typically have waste streams high in FOG.

9(d)(iii)

Entity: Joy Hill, Big Horn County

Comment: Change '4-6' to 'four to six'.

Response: ~~We will consult the "Chicago Manual of Style" for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.~~ WDEQ/WQD reviewed your request. We updated the language to "four to six (4-6) feet…" to maintain consistency with numerical notation throughout the rest of the chapter.

9(d)(vi)

Entity: Dwight Reppa, Macy's Services

Comment: "The word "minimum" needs to be added before a "20-inch diameter clean out.

Most grease interceptor access openings are already 24 inches in diameter and decreasing the opening size doesn't make sense. The cleaning of grease interceptors can be difficult and a large opening helps facilitate cleaning them. It allows for better pumping and scraping the walls and baffles, if needed."

Response: We will add the word "minimum" to be consistent with riser diameter required for other tanks mentioned in Section 9. This is a minimum diameter; a larger diameter riser is compliant with the regulations.

Entity: Joy Hill, Big Horn County

Comment: Change 'clean out' to 'cleanout' or 'clean-out'.

Response: ~~We will consult the "Chicago Manual of Style" for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.~~ WDEQ/WQD consulted Merriam Webster and edited 'clean out' to "cleanout."

9(d)(viii)

Entity: Dwight Reppa, Macy's Services

Comment: "Is the venting being confused with an interior grease interceptor? Venting of the inlet and outlet is not typical, since the inlet line can serve as the vent for the grease interceptor. Venting of the grease interceptor can cause a serious odor problem. Please explain."

Response: The venting is for the inlet and outlet of an exterior grease interceptor.

9(d)(x)

Entity: Dwight Reppa, Macy's Services

Comment: "The dividing wall between the compartments should have a vent hole in it at the top of the wall."

Response: The wall dividing the compartments can have the hole either at the top or at the bottom.

9(d)(xi)

Entity: Bernard Bisson, Albany County

Comment: "Might the distance of the pipe from the floor of the grease trap be more appropriate? Not sure about this but thought I would mention it."

Response: We have added the definition for "pipe invert" to make the measurement easier to understand.

Entity: Dwight Reppa, Macy's Services

Comment: "I don't understand what you are describing. There is typically an inlet baffle and outlet baffle of different lengths depending on the manufacturer, but usually at least 18 inches long. There is typically a crossover in the dividing wall approximately in the middle of the liquid depth depending on the manufacturer."

Response: We are describing the distance between the bottom of the outlet baffle or riser and the invert of the inlet pipe to that compartment.

9(e)

Entity: Jason Vreeland, DEQ

Comment: "Wouldn't most systems involving oil, grease, sand, and other harmful or hazardous substances be permitted as a UIC not a small wastewater system?"

Response: You can have these same contaminants in a small wastewater system as well.

Entity: James Brough, DEQ

Comment: "Chapter 10 of the 2012 IPC addresses traps, interceptors, and separators for various facilities."

Response: The pertinent sizing equations for businesses common to Wyoming are contained in the chapter.

9(e)(i)(A)

Entity: James Brough, DEQ

Comment: "Section 1003.6 of the 2012 IPC discusses having an interceptor equipped with a wire basket or similar device, removable for cleaning, that prevents passage into the drainage system of solids ½-inch or larger. Basically a septic tank with an effluent filter would be satisfactory."

Response: Only septic tanks that are part of a Pressure Distribution system are required to have an effluent filter.

9(e)(i)(A)(I)

Entity: Jason Vreeland, DEQ

Comment: "UIC?"

Response: The cut off as to whether a wastewater stream or facility should be regulated under the UIC program or the small wastewater program is a flow of more than 2,000 gpd not the strength of the wastewater.

9(e)(i)(A)(III)

Entity: Joy Hill, Big Horn County

Comment: After 'larger in size,' add 'such as'.

Response: ~~We will consult the "Chicago Manual of Style" for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.~~ WDEQ/WQD has edited the subparagraph.

9(e)(i)(A)(IV)

Entity: James Brough, DEQ

Comment: "The sizing of interceptors for laundry can be related back to Table 2 for the design flow rates of non-residential facilities and the septic tank sizing requirements."

Response: Thank you for your comment.

9(e)(i)(B)

Entity: Jason Vreeland, DEQ

Comment: "Not domestic waste, UIC?"

Response: Car washes were part of the small wastewater systems Chapter 11, Part D and we have just carried them forward with Chapter 25.

Entity: James Brough, DEQ

Comment: "Section 1003.4.2 of the 2012 IPC states "Where automobiles are serviced, greased, repaired or washed or where gasoline is dispensed, oil separators shall have a capacity of at least 6 cubic feet (45 gal) for the first 100 square feet, plus 1 cubic foot for each additional 100 square feet of area to be drained into the separator."

Response: The WQD requires a minimum size separator and adds additional capacity based on the number of additional bays which is simpler to use and provides more than adequate capacity for treatment.

9(e)(i)(B)(I)

Entity: Joy Hill, Big Horn County

Comment: Change ‘hand-wash’ to ‘hand-washing’.

Response: ~~We will consult the “Chicago Manual of Style” for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.~~ WDEQ/WQD reviewed your request. After careful review of the Chicago Manual of Style, as well as other grammar guides, we are choosing to leave the sentence as is. Initially, the change seemed appropriate so we consulted several verb usage rules, particularly those governing gerunds. However careful reading of the sentence with ‘hand-wash’ and ‘handwashing” pointed out an unexpected issue: ‘Hand-wash’ implies the car will be washed by hand. However ‘handwashing’ implies the hygienic practice of washing ones hands, which we do not wish to regulate in this rule.

9(e)(i)(B)(III)

Entity: Joy Hill, Big Horn County

Comment: “Any detail needed regarding where this should be or what form it should be in?”

Response: ~~No~~ There is nothing special about the location of the effluent sampling point. ~~Your question regarding the form of a sampling point I’m not sure how to answer.~~ A sampling point is mechanical which may have a required size and type of connection associated with it for a certain application.

9(g)

Entity: Jason Vreeland, DEQ

Comment: “Typically not domestic, UIC?”

Response: Section 9(g) has been eliminated.

9(g)(ii)

Entity: Gabe Klamer, Teton County

Comment: “Is it 200mg/L or 140mg/L?”

Response: Section 9(g), Treatment for High Strength Wastewater, has been eliminated.

Entity: James Brough, DEQ

Comment: "The definition defines high strength wastewater having a BOD higher than 200 mg/L. This subsection requires that the pretreatment and septic tank reduce the BOD to less than 140 mg/L. The two different numbers will probably promote confusion."

Response: The definition of "high strength wastewater" has been re-written. The Section 9(g), Treatment for High Strength Wastewater, has been eliminated.

9(g)(iii)

Entity: James Brough, DEQ

Comment: "It may be better to sample the terminal portion of the tank via an access riser rather than a sampling port."

Response: Section 9(g), Treatment for High Strength Wastewater, has been eliminated.

9(h)

Entity: Karen Farley, DEQ

Comment: "Will this now be required?"

Response: Yes, when tanks are abandoned.

9(h)(i)

Entity: Bernard Bisson, Albany County Planning Office

Comment: "I suggest that this should read as follows: The abandoned tank shall be pumped and the septage shall be hauled ..."

Response: The sentence has been re-written as suggested.

Entity: David Anderson, Washakie County Planning Office

Comment: "This should read"...and the septage hauled to...the waste or pumped into the newly..."

Response: The sentence has been re-written for clarity.

Entity: Joy Hill, Big Horn County

Comment: "the tank should be hauled or the contents of the tank should be hauled? Seems like the latter."

Response: The sentence has been re-written for clarity.

9(h)(ii)

Entity: Jason Vreeland, DEQ

Comment: "Puncture holes in the bottom of tank for drainage?"

Response: This should not be necessary after the septage has been removed.

Section 10

Entity: Steve Warner, Fremont County

Comment: "' Distribution boxes, flow divider tees and straight tees...' Straight tees should not be allowed."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Section 10 by eliminating the allowance of straight tees.

Entity: Dwight Reppa, Macy's Services

Comment: "Straight tees should be removed from the first sentence."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Section 10 by eliminating the allowance of straight tees.

Entity: Gabe Klamer, Teton County

Comment: "Straight tees should be eliminated. D-boxes and flow dividers are readily available and work more effectively."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Section 10 by eliminating the allowance of straight tees.

Entity: Timothy Lyons, Crook County

Comment: "Straight tees should not be allowed in any circumstances."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Section 10 by eliminating the allowance of straight tees.

Entity: Jason Vreeland, WDEQ

Comment: "I don't believe straight tees are acceptable. Settlement and poor compaction, or poor soils will cause flow to be directed to one side. Straight tees would create a greater problem after settlement that flow-dividing tees or distribution boxes."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Section 10 by eliminating the allowance of straight tees.

Entity: Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "LC feels that flow equalizers are not practical and may cause more problems than they fix."

Response: ~~Thank you for your comment. The condition will remain as written.~~ Without specific details of the problems that Cheyenne-Laramie County has encountered with flow equalizers, it is difficult to address the issue. However WDEQ/WQD received several stakeholder comments in favor of flow equalizers. Our research indicates flow equalizers are effective at preventing uneven loading and preventing failure of the soil absorption system.

Entity: Joy Hill, Big Horn County

Comment: "Define distribution boxes and drop boxes?"

Response: WDEQ/WQD evaluated this request and has determined these definitions are unnecessary at this time.

Entity: James Brough, WDEQ

Comment: "Field experiences indicate that straight tees don't work to evenly distribute flows. Furthermore, there is very little vertical control for installing drainfield laterals level even though the contractor may have the proper equipment. In short, we will be going backwards in several counties by allowing straight tees to evenly split flows."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Section 10 by eliminating the allowance of straight tees.

10(a)(i)

Entity: Joy Hill, Big Horn County

Comment: Change 'ensure against' to 'prevent'.

Response: ~~The condition will remain as written.~~ WDEQ/WQD made the editorial change.

10(a)(iv)

Entity: Steve Warner, Fremont County

Comment: "Not practicable. May encourage freeze problems."

Response: The installation of distribution devices is optional.

Entity: Dwight Reppa, Macy's Services

Comment: "If freezing is a potential problem, the access riser could be insulated or buried below ground surface and a marker placed above it.

Response: There are many ways to protect against freezing. Thank you for your suggestion.

Entity: David Anderson, Washakie County Planning Office

Comment: "What constitutes accessible for observation and maintenance? Is a vertical standpipe sufficient for inspection?"

Response: Yes as long as it has sufficient diameter to allow visual inspection of the operation.

Entity: James Brough, WDEQ

Comment: "This subsection discusses having distribution boxes that are protected against freezing and made accessible for observation and maintenance. These two requirements may be somewhat mutually exclusive. If the box is accessible for inspection, it is probably more susceptible to freezing."

Response: There are many options that will accomplish both requirements such as insulation and/or burying the device and putting a marker at grade to note its location.

Entity: Ken Muller, Sheridan County Public Works

Comment: "Many models of distribution boxes on the market do not lend well for accessibility."

Response: ~~We~~ WDEQ/WQD received feedback from other stakeholders stating that distribution boxes are readily available and that they are ~~more~~ effective. Our research also validated this support. The regulation will remain as written.

10(a)(v)

Entity: Steve Warner, Fremont County

Comment: "How will equal flow be determined? Not able to use on all types of d-boxes."

Response: There is no requirement to verify that the flow is equal. A visual check is the only practical way to ensure equal flow in the field.

Entity: James Brough, WDEQ

Comment: "Requiring flow equalizers in distribution boxes and then allowing straight tees to evenly distribute flows is inconsistent with each other. Field inspectors have asked how equal flows will be determined in the field with flow equalizers."

Response: A visual check is the only practical way to ensure equal flow in the field.

Entity: James Brough, WDEQ

Comment: "Field experiences indicate that straight tees don't work to evenly distribute flows. Furthermore, there is very little vertical control for installing drainfield laterals level even though the contractor may have the proper equipment. In short, we will be going backwards in several counties by allowing straight tees to evenly split flows."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Section 10 by eliminating the allowance of straight tees.

10(b) & (c)

Entity: Dwight Reppa, Macy's Services

Comment: "Straight tees should never be used, you will never be able to achieve equal flows. There is technology available that will achieve equal flows if installed correctly. I believe straight tees were used many years ago because that was the technology that was available at the time. The price might also have been a reason to use them."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Section 10 by eliminating the allowance of straight tees.

10(c)
Entity: Steve Warner, Fremont County

Comment: "Straight tees DO NOT WORK! Too much of a chance for installation error."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Section 10 by eliminating the allowance of straight tees.

Entity: Hannes Stueckler, WDEQ

Comment: "Section 10 (c) " as level as possible. Inflow to the tee fitting shall be perpendicular to both of the outflow ports."

Response: Thanks for your suggestion but the use of straight tees has been eliminated.

Entity: Jason Vreeland, WDEQ

Comment: "We have counties that are not delegated and construction is not inspected. We cannot assume straight tees will be installed level on a solid base."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Section 10 by eliminating the allowance of straight tees.

10(d)

Entity: Joy Hill, Big Horn County

Comment: Typo in numbering. "The last item was (c)."

Response: WDEQ/WQD has edited the subsections of Section 10, eliminating the incorrectly lettered subsection.

Entity: Steve Warner, Fremont County

Comment: "Drop boxes work, but in reality the flow is so minimal between trenches. Optional in my opinion."

Response: Thank you for your comment. The condition will remain as written.

Section 11

11(a)(i)

Entity: Karen Farley, WDEQ

Comment: "Unnecessary."

Response: Thank you for your comment. The condition will remain as written.

Entity: Joy Hill, Big Horn County

Comment: After 'retained below' add 'the'.

Response: ~~We will consult the 'Chicago Manual of Style' for grammar, punctuation, and style.~~ WDEQ/WQD edited the sentence to include "the" after "retained below."

11(a)(ii)

Entity: Steve Warner, Fremont County

Comment: "'All smeared'-- Should not be necessary if the soil is dry."

Response: The condition is there in case the soil happens to be moist.

11(a)(iv)

Entity: Bernard Bisson, Albany County Planning Office

Comment: "I absolutely concur with the need to keep septic fields shallow. However, we occasionally come across a situation where greater depth might be necessary, usually because of some inconsistencies in the land contours. We allow (but discourage) depths as great as six feet providing the trenches are vented."

Response: Variances are allowed when compliance with the regulation cannot be met.

Entity: Gene Smith, Park County

Comment: "I like the idea, and reasoning for the maximum drain field being 4', but how are we going to deal with existing system when they need replaced? Will lift stations be required? Wording to that effect would help!"

Response: The maximum depth has been increased to five (5) foot but variances are allowed when compliance with the regulation cannot be met.

Entity: Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "LC feels that a 4' maximum depth to BOTTOM of trench is too restrictive. Recommend maximum of five foot of cover over the system. System will work better than current deep systems and allow inspectors to meet OSHA requirements when inspecting the system."

Response: WDEQ/WQD has edited the subsection. The maximum depth to the bottom absorption surface of a drain field is now five (5) feet.

Entity: Joy Hill, Big Horn County

Comment: One (1) foot—" could this be TOO shallow for some locations with freeze concerns?"

Response: One foot is the minimum soil cover. If freezing is a concern the soil cover can be deeper.

Entity: Joy Hill, Big Horn County

Comment: Bottom absorption surface-- Is there more than one absorption surface?

Response: Yes there is more than one absorption surface if you have a trench instead of a bed configuration. A trench's absorption surface is both the bottom and sidewall.

Entity: Joy Hill, Big Horn County

Comment: Four (4) feet—" What?? THIS is maximum depth?"

Response: WDEQ/WQD has edited the subsection. The maximum depth to the bottom absorption surface of a drain field is now five (5) feet.

Entity: John Woodward, Lincoln County Office of Planning and Engineering

Comment: "Maximum depth to the bottom absorption surface is 4ft. I think that a maximum depth of 6ft would be more practical given the non- flat earth we must deal with."

Response: WDEQ/WQD has edited the subsection. The maximum depth to the bottom absorption surface of a drain field is now five (5) feet.

Entity: Mark Baron, WDEQ

Comment: "The maximum depth to the bottom absorption surface of a drain field is four (4) feet. This requirement is not consistent with Chapter 8, Section 3 (c) of the Wyoming Water Quality Rules and Regulations as stated above. For example if a drain field is being constructed to serve a home with a basement is an area where the groundwater is deep there is no reason to limit the depth of a drain field."

Response: The maximum depth of the absorption system is five (5) feet. If the absorption system is too deep the system turns anaerobic which inhibits proper treatment.

Entity: Ron Ewald, WDEQ

Comment: Add "or trench" after "drain field." Change four(4) to five (5). "**Comment:** a maximum depth of 4 feet is to shallow to be practical to work with in the field. Recommend it be changed to 5 feet maximum. We have never had a maximum depth requirement before so this is new."

Response: WDEQ/WQD has edited the subsection. The maximum depth to the bottom absorption surface of a drain field is now five (5) feet.

11(a)(v)

Entity: Steve Warner, Fremont County

Comment: "Over excavation to be avoided."

Response: Thank you for the suggestion but the condition will remain as written.

Entity: James Brough, WDEQ

Comment: "Suggest adding "Over excavation shall be avoided." Chambers are known to settle in non-compacted fill."

Response: Thank you for the suggestion but the condition will remain as written.

11(a)(vi)(A)

Entity: Karen Farley, WDEQ

Comment: "Recommend we not include the 'current' version of the standards as they will be periodically re-issued and these standards will technically be obsolete. I would suggest wording such as 'current version of ASTM D-2729'."

Response: The word 'current' has been removed from the condition.

11(a)(vi)(B)

Entity: Karen Farley, WDEQ

Comment: "Crushed concrete is not allowed."

Response: The condition specifies crushed rock.

Entity: Ron Ewald, WDEQ

Comment: Add "washed" before "crushed rock."

Response: Your suggestion has been considered but the condition will remain as written.

11(a)(vi)(C)

Entity: David Anderson, Washakie County Planning Office

Comment: "What constitutes an acceptable geotextile material?"

Response: WDEQ/WQD has changed “geotextile materials” to “woven/non-woven geotextile material.”

Entity: Timothy Lyons, Crook County

Comment: “’geotextile materials’, perhaps this should be further defined.”

Response: WDEQ/WQD has changed “geotextile materials” to “woven/non-woven geotextile material.”

11(a)(vi)(D)

Entity: Jason Vreeland, WDEQ

Comment: “This is very confusing. So is the minimum depth of rock 12 inches or six inches below the pipe? Also, wasn't the maximum depth below pipe 12 inches in section 7(b)? Wouldn't that essentially require the depth at 12 inches? “

Response: The total minimum depth of rock is 12 inches. Of those 12 inches, a minimum of 6inches is below the pipe and minimum of 2 inches above the pipe. In Section 7(b) the 12 inches of sidewall is the most credit that would be given for a trench configuration even if the trench depth exceeded 12 inches. There is no mention of aggregate or rock in 7(b).

Entity: April Gindulis, Casper/Natrona County Health Department

Comment: “Reducing the side wall sq footage by only requiring 6” of gravel beneath the perforated pipe. Is this a minimum, assuming 12” would be permitted?”

Response: The minimum depth of rock below the pipe is 6 inches. Therefore you can have 12inches of rock below the pipe to maximize the credit for using a trench configuration.

11(a)(vi)(F)

Entity: April Gindulis, Casper/Natrona County Health Department

Comment: “This rule is a contradiction. In one sentence it states ‘spacing shall be increased to nine (9) feet when the area between each trench is considered as reserve area or for clay loam soils that have percolation rates slower than 60 mpi. For clay loam soils, the nine (9) food spacing SHALL NOT be considered as reserve area’. This contradiction is also on Pg. 25-34 (vii) (F).”

Response: The intention was that for loamy clay soils, the nine (9) foot spacing between trenches is also required but it is not considered reserve area. We will re-write this condition for clarity.

Entity: Joy Hill, Big Horn County

Comment: "What is reserve area and is it required? If so, what becomes reserve area for those trenches in clay soils?"

Response: The 'reserve area' is a space to be used at a later time. The requirement for reserve area is that somewhere on the property there should be a reserve area in case of failure of the proposed absorption system. The reserve area can be between the trenches or a completely different area.

Entity: James Brough, WDEQ

Comment: "Delete everything after the first sentence. Section 605.1 in the 2012 IPC requires a minimum 6-foot sidewall-to-sidewall spacing. The EPA 2002 Manual on page 4-17 under Configuration states: "The sidewall-to-sidewall spacing must be sufficient to enable construction without damage to the adjacent trenches. Only in very tight soils will the normally used spacings be inadequate because of high soil wetness and capillary fringe effects, which can limit oxygen transfer." "The finer (tighter) the soil, the greater the trench spacing should be to provide oxygen transfer."

Response: The design standards in the chapter are the minimum requirements. Delegated counties may be more stringent than these minimum standards. The condition will remain as written.

Entity: Mark Baron, WDEQ

Comment: "Item (a)(vi)(F) requires 9 foot spacing between trenches when the percolation rate is slower than 60 mpi (should this read greater than 60 mpi). I don't increasing the space from 3 to 9 foot will change anything. If a leach field is being constructed in clay soils oversize the leach field from the start."

Response: For soils with percolation rates greater than 60 mpi and proposing a standard absorption system, a professional engineer is required to design the system.

11(a)(vii)

Entity: Bernard Bisson, Albany County Planning Office

Comment: "We require that a screw be driven through the neck of the chamber and into the pipe to assure that it (the pipe) cannot disengage from the chamber. Some installers have placed rocks against the pipes to hold them in and we have found this approach to be less than satisfactory."

Response: The regulations are worded to afford some flexibility in the actual construction of the system. Delegated counties can be more stringent than the minimum standards of the chapter.

Entity: Timothy Lyons, Crook County

Comment: "Standard beds shall conform to the same pipe and aggregate requirements for (insert:

"standard") trenches as found in subparagraphs ...”

Response: The sentence was already written as requested. The WQD is not sure of the comment.

11(a)(vii)(A)

Entity: Jason Vreeland, WDEQ

Comment: “One foot isn't a slope. Why don't we specify a specific maximum slope in ft/ft or %?”

Response: One foot is the vertical difference or slope from the highest point to the lowest point of the absorption system. Without knowing the horizontal distance between the high point and the low point, it is hard to say exactly what the slope should be.

Entity: Robert Norton, Nelson Engineering

Comment: “Is very restrictive. Having the bed level does not necessarily mean that the surface is ‘relatively flat’, it is advantageous to have surface drainage across the surface of the bed.”

Response: The intent is to have the absorption system as ‘flat’ and ‘level’ as possible so that the wastewater is evenly distributed as to not overload or starve any part of the system. What happens on the surface is another matter.

11(a)(vii)(B)

Entity: James Brough, WDEQ

Comment: “Section 605.2 in the 2012 IPC indicates that distribution laterals within a bed must be uniformly spaced a maximum of 5 feet and a minimum of 3 feet apart, and a maximum of 3 feet and a minimum of 1 foot from the sidewall or headwall.”

Response: The WQD acknowledges that our requirements are slightly different than the 2012 IPC regulations. The operation and performance of the system will not be adversely affected; therefore the condition will remain as written.

Entity: Ron Ewald, WDEQ

Comment: Change to “Sidewalls shall be no more than three (3) feet from a distribution lateral.”

Response: The condition has been changed as requested.

11(a)(vii)(C)

Entity: Steve Warner, Fremont County

Comment: "'Beds must not be wider than twenty-five (25) feet if gravity distribution is used.' Reason?"

Response: If the bed is wider the chances of uneven distribution of the wastewater increases.

Entity: Mark Baron, WDEQ

Comment: "Item (a)(vii)(C) limits bed with to 25 feet and requires a spacing of one-half the bed width between beds. Since the treatment of septic tank effluent is a function of soil type and depth limiting bed width will not improve the treatment of septic tank effluent. By using flow splitters the septic effluent can be uniformly distributed across a bed."

Response: The use of flow splitters is no guarantee of even distribution since they are susceptible to settling and improper installation which directly affects their performance.

Entity: Ken Muller, Sheridan County Public Works

Comment: "25 feet limit width for gravity distribution may be challenging in certain situations. Where did the 25 feet limit come from?"

Response: The maximum width of 25 feet for a bed system promotes aeration within the treatment bed.

11(a)(vii)(D)

Entity: Jason Vreeland , WDEQ

Comment: "They can't drive a rubber tired vehicle but a track vehicle is ok?"

Response: Anything that will compact the soil should be avoided.

11(a)(viii)

Entity: Ron Ewald, WDEQ

Comment: Change to "...shall be installed <u>with a level bottom on undisturbed soil (no fill)</u> in conformance with the manufacturers recommendations..."

Response: Your suggestion has been considered but the WDEQ doesn't think the additional description is necessary or enforceable; therefore the condition will remain as written.

11(a)(viii)(B)

Entity: Timothy Lyons, Crook County

Comment: “All chamber endplates shall be designed ... (add: "and installed") so that the bottom ...”

Response: The endplate would have to be modified by the contractor/installer to be installed differently than the design. Thank you for the suggestion but the condition will remain as written.

Entity: Ron Ewald, WDEQ

Comment: Change “from” to “above.”

Response: Thank you for the suggestion but the condition will remain as written.

11(a)(viii)(C)

Entity: Steve Warner, Fremont County

Comment: “’Vents shall be installed at all inlet and outlet effluent sewer pipes.’ Reason? Not necessary in my opinion.”

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Subsection (a)(viii)(C) by changing the requirement to inspection ports.

Entity: Bernard Bisson, Albany County

Comment: “Most homeowners will be very unhappy with vents at each end of each chamber trench, particularly if the trenches are only three feet deep as is usually the case and especially if the trenches are near driveways or roads. We constantly hear of cars, garden tractors, whatever, running into the vents, breaking them off and resulting in a major repair to the chambers since the "pushing over" of the vent pipe disturbs the chambers. This is particularly true in the winter when the vents could be covered with snow. I ran up against this argument when we first required venting. We limit the venting requirement to depths of four feet or greater; this to limit venting to situations that really required it.”

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Subsection (a)(viii)(C) by changing the requirement to inspection ports.

Entity: Dwight Reppa, Macy’s Services

Comment: “Seems like a lot of vents being installed and probably not needed.”

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Subsection (a)(viii)(C) by changing the requirement to inspection ports.

Entity: Jason Vreeland, WDEQ

Comment: "Vents are required at the inlet?"

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Subsection (a)(viii)(C) by changing the requirement to inspection ports.

Entity: James Brough, WDEQ

Comment: "Vents are specified for chambered systems, but not for pipe and aggregrate systems. Also having vents at all inlet and outlet effluent sewer pipes is probably overkill. Suggestion to add: "It is recommended, but not required to have either inspection ports or vents at the terminal end of all laterals."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Subsection (a)(viii)(C) by changing the requirement to inspection ports.

Entity: Gene Smith, Park County

Comment: "'Vents shall be installed at all inlet and outlet effluent sewer pipes.' Please explain: example size of vent, height, design etc."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Subsection (a)(viii)(C) by changing the requirement to inspection ports.

Entity: Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "Are vents really needed on all distribution lines into the gravelless chambers? If you want to allow tank lids to be buried out of site why would you want to extend pipes out of the ground in numerous locations to be broken off, removed or hidden in the future."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Subsection (a)(viii)(C) by changing the requirement to inspection ports.

Entity: April Gindulis, Casper/Natrona County Health Department

Comment: ""Vents shall be installed at all inlet and outlet effluent sewer pipes". Are your referring to inspection ports? Currently chambers do not have effluent sewer pipes as the pipe ends at the inlet of the first chamber."

Response: WDEQ/WQD evaluated the stakeholder comments and has revised Subsection (a)(viii)(C) by changing the requirement to inspection ports.

Entity: Joy Hill, Big Horn County

Comment: What is meant by “inlet and outlet effluent sewer pipes shall enter and exit the chamber endplates”?

Response: The inlet and outlet pipe does not enter or exit the chamber anywhere except through the endplates.

11(a)(viii)(E)

Entity: Steve Warner, Fremont County

Comment: “’Maximum width of trench excavation is three (3) feet.’ Too narrow as most chambers are 34 inches wide and need to be "walked in" after installation.”

Response: ~~The condition remains as written. Pipe or chambers can be installed in a trench and the regulation was written without preference to either one. A variance can be requested for chambers that cannot comply with the regulation.~~ The condition has been re-written to allow for a wider excavation to install chamber systems.

Entity: James Brough, WDEQ

Comment: “Remove this subsection which requires a maximum width of trench excavation for chambers. The contractor needs enough space to install a 34-inch wide chamber and to walk-in or compact the fill material on both sides of the chambers.”

Response: ~~The condition remains as written. Pipe or chambers can be installed in a trench and the regulation was written without preference to either one. A variance can be requested for chambers that cannot comply with the regulation.~~ The condition has been re-written to allow for a wider excavation to install chamber systems.

11(a)(viii)(F)

Entity: James Brough, WDEQ

Comment: “See previous comment for Section 11(a)(vi)(F)”

Response: The design standards in the chapter are the minimum requirements. Delegated counties may be more stringent than these minimum standards. The condition will remain as written.

11(a)(x)

Entity: Joy Hill, Big Horn County

Comment: Define ‘serial sidehill trench’.

Response: Serial sidehill trench is more than one sidehill trench in series connected through piping.

11(b)

Entity: Jason Vreeland, WDEQ

Comment: "This doesn't appear appropriate for a regulation. This is informative but isn't applicable to design standards. This section is dependent on the website."

Response: The condition tells the public where to find a package design by a licensed WQD engineer that complies with the requirements of the chapter.

Section 12
12(a)(i)

Entity: Steve Warner, Fremont County

Comment: "'Pressure distribution is required for mound systems or for bed systems with a width greater than twenty-five (25) feet.' Reason?"

Response: To ensure even distribution of the wastewater so that no one part of the absorption system is overloaded while other parts receive no loading at all.

Entity: David Anderson, Washakie County Planning Office

Comment: "Will pressure dosing still be required for mound systems where the mound system is required due to high groundwater but there is plenty of fall from the septic tank for gravity flow?"

Response: If it can be demonstrated that there would be enough pressure from the elevation there would still need to be a dosing system which could be done with a siphon valve instead of a mechanical pump.

12(a)(ii)

Entity: Jason Vreeland, DEQ

Comment: "How will this be determined for a small wastewater system?"

Response: The pressure losses from the absorption system would have to be calculated at the design flow rate(s) to develop the system curve from which a pump could be selected.

Entity: James Brough, DEQ

Comment: "Replace the word "sewage" with "effluent." The pumps should not been pumping solids to the drain field. Sewage pumps are not required."

Response: The pump is not supposed to pump solids but the pump should be designed with the possibility of this occurring if there are operational and maintenance issues with the septic tank.

12(a)(iii)

Entity: James Brough, DEQ

Comment: "Insert "and" prior to "high liquid alarm."

Response: The sentence grammar will be corrected as suggested.

12(a)(iii)(A)

Entity: Bernard Bisson, Albany County Planning Office

Comment: "We do allow the electrical connections in a NEMA-4 box to be attached to the 22" access pipe just below the concrete lid. Is this OK? Otherwise, I would expect that the connection box would have to be placed: 1. At the building which might be quite far from the tank with potentially poor voltage drop; 2. On a pillar near the pump which could get knocked over by vehicles."

Response: No, it is not ok to attach a NEMA-4 box to the interior of the septic tank if it is not explosion proof.

Entity: Dwight Reppa, Macy's Services

Comment: "All explosion-proof junction boxes can be used in the interior of a chamber, because they water and gas proof. There are also UL listed junction boxes that are rated for interior chamber use."

Response: The UL listing for the junction box must include verification that it is explosion proof. The statement that it is rated for interior chamber use may or may not mean it is explosion proof.

12(a)(iii)(B)

Entity: Dwight Reppa, Macy's Services

Comment: "Should the 'scaling fitting' have been 'sealing fitting'?"

Response: Yes, the correction will be made.

12(a)(iv)

Entity: Dwight Reppa, Macy's Services

Comment: "The pressure transport piping should be designed to prevent freezing. This could be accomplished by draining the pipe or putting the pipe deep enough to prevent it from freezing. Some designs are long runs and the engineers don't want to put all that water back in the pump chamber. I would suggest changing the paragraph to say it should be designed to prevent the transport line from freezing."

Response: We have considered your comment and we will change the sentence as you have suggested.

12(a)(iv)(A)

Entity: April Gindulis, Casper/Natrona County Health Department

Comment: "Pressure Distribution Systems. Bringing the pipe to finish grade and placing a cap etc on it to access and flushing the lateral. Concerned that caps or plugs will get damaged by lawn mowers or other object and the system will lose pressure. We have not seen any problems that would require this stipulation."

Response: The condition was made so that if there are problems with these types of systems there is a means to access and troubleshoot.

12(c)

Entity: Jason Vreeland, DEQ

Comment: "Doesn't seem necessary."

Response: This is to inform the public that there is a package design online that doesn't require a professional engineer's stamp in order to be submitted to the Division for a permit to construct.

Section 13

Entity: Bernard Bisson, Albany County Planning Office

Comment: "The prevalent requirement that I am familiar with (from my days on the east coast) is for sand mounds to be constructed of material with a maximum of 5% passing the #200 sieve. While 2% sand may be readily available here in Wyoming, I wonder if this requirement is too stringent. Also, we have allowed mounds to be built up of native (on-site) soil with no sign of a problem. Without doubt mounds are necessary in many places but I fear that the 2% criteria may place mounding outside of budget limits for many with limited resources. On the east coast it got to the point where only certain sand pits were acceptable for leach fields (in some cases only parts of certain sand pits) and the materials had to be trucked for many miles (28 miles when I had to mound my own system) to comply with the code. I have also found that lateral break-out can occur with only two to three feet of material around the sides of the field. I have always called for five to ten feet."

Response: The specification that 2% passing the #200 sieve requirement for the sand is common to most of Wyoming.

Entity: Joy Hill, Big Horn County

Comment: Change 'the sand mound' to "a sand mound system'.

Response: ~~The sentence will remain as written.~~ WDEQ/WQD reviewed your comment. The sentence is correct as it is written.

13(a)

Entity: Jason Vreeland, DEQ

Comment: "This would imply that a standard area with decent soils and adequate depth to groundwater cannot install this. Is that the intent?"

Response: No, the intent is if you have these conditions stated in Section 13 (a), this treatment process is an option.

Entity: Joy Hill, Big Horn County

Comment: Change 'criteria' to 'criterion'.

Response: ~~We will consult the "Chicago Manual of Style" for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.~~ WDEQ/WQD reviewed the paragraph. The regulation requires consideration of three pieces before selecting a sand mound system as the appropriate wastewater system for a given property. Since three pieces must be considered, 'criteria' is correct, as it is the plural of criterion.

Entity: James Brough, DEQ

Comment: "See previous comments for Section 6(d). Figure A-3 in the Appendix of the 2012 IPC shows a 3-foot minimum vertical separation between the bottom of trench (bed) and the high groundwater or limiting layer."

Response: We are slightly more stringent in requiring a four (4) foot separation between the bottom of the bed and high groundwater.

13(b)(i)

Entity: Jason Vreeland, DEQ

Comment: "They will be allowed to have essentially a conventional septic system with a groundwater depth of one foot?"

Response: No, there is a minimum of one (1) foot of native soil below the sand cap. The sand cap shall be at least four (4) vertical feet deep and combination of sand and native soil. Therefore the minimum vertical depth to high groundwater is four (4) feet.

Entity: April Gindulis, Casper/Natrona County Health Department

Comment: "'A minimum of 1 foot of vertical separation of the native soil is required between the bottom of the sand fill and the top of the high groundwater level, any restrictive layer, or any highly permeable material.' Does this still take into account the needed 4' separation and estimated rise in the water table? This does not leave room for wicking or fluctuating groundwater elevations."

Response: Yes it does take into account the four (4) foot separation and estimated rise. The high groundwater level should be the highest the groundwater can get so fluctuations in level are below that point.

13(b)(ii)

Entity: Steve Warner, Fremont County

Comment: "'The percolation rate of the native soil at the interface of the sand fill shall be greater than five (5) and less than sixty (60) minutes per inch. The percolation shall be measured in the top twelve (12) inches of native soil.' Does this also apply to pressure dose systems?"

Response: Yes it does apply to pressure dosed systems.

Entity: James Brough, DEQ

Comment: "Suggest redefining the acceptable soil percolation range or deleting the first sentence. Sand mounds with pressure distribution have been used on soils with a greater percolation range than 5 to 60 minutes per inch (mpi)."

Response: Your suggestion was considered and the percolation range shall remain as written. There may be instances where someone has used sand mounds with pressure distribution where the percolation rates were outside of range we suggest but the percolation range given is what we would like to see for the pre-engineered online package system.

13(c)(i)(A)

Entity: Joy Hill, Big Horn County

Comment: Add 'through' after 'passing'.

Response: ~~The specification shall remain as written.~~ WDEQ/WQD made this editorial change.

13(c)(i)(C)

Entity: James Brough, DEQ

Comment: "Replace four feet with three feet. See previous comments for Section 6(d) and Section 13(a). Also, the existing regulations allow 3-feet vertical separation for unsaturated conditions which are achieved by pressure distribution."

Response: We have considered your suggestion but the condition will remain as written. The four (4) foot separation gives a little more of a safety factor to ensure treatment of the wastewater before reaching groundwater.

13(c)(i)(G)

Entity: Jason Vreeland, DEQ

Comment: "Need to specify the loading rate of the sand fill or of the native soil."

Response: The loading rates for either the soil or the sand will depend on the known or tested percolation rate.

13(c)(ii)(B)

Entity: Timothy Lyons, Crook County

Comment: "'geotextile materials', perhaps this should be further defined."

Response: The sentence has been re-written to clarify what is meant by 'geotextile material'.

Entity: April Gindulis, Casper/Natrona County Health Department

Comment: "'The aggregate bed depth shall not be less than nine (9) inches with a minimum of six (6) inches of clean aggregate placed below the distribution pipe.' Traditionally the depth below the distribution pipe is 12" to meet proper sizing requirements. Less aggregate below the distribution lines will decrease the size of the drain field."

Response: The depth of the aggregate should have no bearing on the infiltrative area calculated. As for the minimum of six (6) inches of rock below the distribution pipe, delegated counties can be more stringent than the minimum standards of the chapter.

13(c)(ii)(C)

Entity: James Brough, DEQ

Comment: "Recommend deleting this subsection."

Response: We have considered your recommendation but the condition will remain as written.

Entity: Ken Muller, Sheridan County Public Works

Comment: "Why the change from 25 feet to 15 feet limiting width for a sand mound system? If possible, consistency of dimensional regulations items is always good."

Response: We have corrected this section back to 25 feet.

13(c)(ii)(D)

Entity: Jason Vreeland, DEQ

Comment: "Why 0.8?"

Response: That is the soil loading rate for sand.

13(c)(iii)(A)

Entity: Joy Hill, Big Horn County

Comment: Instead of 'three (3) horizontal to one (1) vertical' could just say '3:1'.

Response: ~~It is written that way so that there is no mistake what is meant.~~ WDEQ/WQD specifically stated the ratio as 'three (3) horizontal to one (1) vertical so that there would be no confusion as to which part of the ratio would be horizontal and which part would be vertical.

13(c)(iii)(d)

Entity: "Seems unnecessary."

Response: This is to inform the public that there is a package design online that doesn't require a professional engineer's stamp in order to be submitted to the Division for a permit to construct.

Section 14

Entity: Seth Tourney, WDEQ

Comment: "It should be clarified that these small wastewater lagoons shall be non-discharging"

Response: The WQD has considered your suggestion and has decided that this change is not necessary at this time.

14(a)(ii)

Entity: Steve Warner, Fremont County

Comment: "'Lagoons shall only be allowed when the percolation rate exceeds 120 minutes." If pressure dose or sand mounds are to be used on soils at <60 mpi, what type of system is recommended between 60-120 mpi?"

Response: Instead of "exceeds 120 minutes per inch", it should be "exceeds 60 minutes per inch". The condition has been re-written to reflect this change.

Entity: Jason Vreeland , DEQ

Comment: "Why not 4 feet?"

Response: With a soil percolation rate of 60 mpi or more, the vertical separation of 2 feet from the high groundwater is the minimum distance that would be acceptable.

Entity: Joy Hill, Big Horn County

Comment: Change last half of sentence from 'the soil extends...' to 'there is vertical separation of at least two feet of soil between the bottom of the lagoon and the seasonal high groundwater table or bedrock formations'.

Response: ~~We will consider your comment.~~ WDEQ/WQD considered your comment. The suggestion does not further clarify the intent of the regulation nor does it seem to more efficiently state the intent. The sentence will remain as written.

Entity: James Brough, DEQ

Comment: "Proposed language instead of specifying a threshold based upon a percolation rate. "Lagoons may be considered in soils with a high clay content and poor drainage.""

Response: Soils are hard for the average person to classify and can be inconsistent within the same parcel of land. A percolation rate is easier for the average person to understand and decide what treatment options are compatible.

Entity: Mark Baron, WDEQ

Comment: "Item (a) (ii) states that lagoons shall only be allowed when the percolation rate exceeds 120 minutes per inch and the soil extends vertically down at least two (2) feet from the bottom of the lagoon to the seasonal high groundwater table or bedrock formations. Groundwater protection for a lagoon should be equivalent to that of a leach field. The requirement to not allow sewage lagoons until the percolation rate reaches 120 minutes per inch is not consistent with the groundwater protection requirements within the State of Wyoming. Chapter 8, Section 3 (c) of the Wyoming Water Quality Rules and Regulations requires that protection shall be afforded all underground water bodies (including water in the vadose zone). Water being used for a purpose indentified in W.S. 35-11-102 and 103 (c)(i) shall be protected for its intended use and uses for which it is suitable. Water not being put to use shall be protected for all uses for which it is suitable. Groundwater located from the ground surface to say 10 feet below the groundwater is not going to be a Class 1 groundwater and is not requiring to be protected as such. It is an acceptable practice to construct sewage lagoon which allow for some seepage into the groundwater. Since the percolation test is not a scientific measurement a lagoon design based on onsite observations of soil types and soil saturation levels by an experienced small waste person is going to be more protective of groundwater. The requirement to not allow sewage lagoons unless there is two feet of soil above the groundwater is not consistent with groundwater flow theory. Darcy's Law demonstrates that the movement of water through a porous medium is proportional to the pressure drop over a given distance. If the bottom of a lagoon is below the groundwater the movement of water through the lagoon liner will be impeded according to Darcy's Law which is turn protects the groundwater from contamination. It is the low permeability of the liner that creates protection for the groundwater. For example at a loading rate of 0.8 gallon per day per square foot it will take an average of about 37 days for sewage effluent to move through four foot of unsaturated soil. Which is 9.25 days per foot of soil. At a loading rate of 0.3 gallon per day per square foot it will take an average of about 100 days for sewage effluent to move through four foot of unsaturated soil. Which is 25 days per foot of soil. Based on a percolation rate of 60 mpi if a one foot thick clay lagoon liner is saturated it is going to take more than 25 days for the sewage effluent to move through the liner soil. Therefore a one foot clay lagoon liner at 60 mpi is more protective of the groundwater then 4 foot of 5 mpi soil."

Response: Instead of "exceeds 120 minutes per inch", it should be "exceeds 60 minutes per inch". The condition has been re-written to reflect this change.

Entity: Mark Baron, WDEQ

Comment: "Item (a) (ii) states that lagoons shall only be allowed on three acres of property. This requirement should be left up to each county. If a homeowner uses an enhanced treatment system before the lagoon there is no reason to have a minimum lot size."

Response: The three (3) acre minimum property size is to give reasonable assurance that there is enough area for the lagoon and that the property owner maintains adequate setback distances.

14(a)(iii)

Entity: Steve Warner, Fremont County

Comment: "'A lagoon shall not be installed on a property less than three (3) acres in size.' Reason? Odors?"

Response: The three (3) acre minimum property size is to give reasonable assurance that there is enough area for the lagoon and that the property owner maintains adequate setback distances.

Entity: Joseph Baron, Crook County

Comment: "ADD to page 25-27 Section 14 (a) (iii) change from 3 to 5 acres."

Response: WDEQ/WQD considered your request. Requiring two additional acres seems unnecessary. The condition will remain as written.

Entity: James Brough, DEQ

Comment: "Propose deleting this subsection since subsection b(i) calls for a 100 feet horizontal setback distance from the property line."

Response: The subsection will remain as written.

14(a)(iv)

Entity: Joseph Baron, Crook County

Comment: "Add 'within 100 feet of a drainage or a 100 year flood plain, or perennial stream, creek, or river'"

Response: The condition will remain as written. The additional restrictions are not necessary to ensure protection of waters of the State

Entity: Joy Hill, Big Horn County

Comment: "What about the other systems?"

Response: Section 5 covers other systems not specifically covered by these standards.

14(a)(vii)

Entity: James Brough, DEQ

Comment: "Allow the lagoon to be sized based upon the formula or a mass balance approach (spreadsheet has been developed)."

Response: The sizing of a lagoon has a formula in Section 14 (b).

Entity: James Brough, DEQ

Comment: "Remove the 1.3 factor of safety in the equation. Residential lagoons have been sized larger than needed. A comparison was made with Nebraska's sizing formula. Comparing "apples" to "apples", Wyoming is sizing lagoon slightly more than 30% larger than Nebraska's formula."

Response: The 1.3 factor has been removed from the sizing equation.

Entity: James Brough, DEQ

Comment: "A = Area of the lagoon at the maximum operating level. Lagoons shallower than 5-feet function satisfactory, especially when preceded by a septic tank and a minimum liquid depth is not required for odor control."

Response: The five (5) foot depth is where the WDEQ would like for lagoons to be operated at and sized accordingly. There are lagoons that operate with water levels less than five feet that have no odor issues but that is the exception not the rule. The condition will remain as written.

Entity: James Brough, DEQ

Comment: "Q – Lagoon sizing is based upon annual average flow, not maximum day flow. The daily flows determined from Table 1 or Table 2 do not reflect average day flows."

Response: To calculate the average daily flows, multiply the daily maximum flows from Table 1 or 2 by 0.6.

Entity: James Brough, DEQ

Comment: "The maximum seepage rate is not specified which is currently ¼" or 0.25 inches per day. Also, how will the seepage rate be estimated in the field?"

Response: The seepage rate is determined by the type of liner proposed for the lagoon in the application.

14(b)(i)

Entity: Steve Warner, Fremont County

Comment: "'Beyond the horizontal setback distances requirements specified in Section 6(d) of this rule, the lagoon shall not be placed within one hundred (100) feet of the owner's property line.' Reason?"

Response: So that a property owner doesn't 'pigeon hole' their neighbor by placing a lagoon in the corner of a parcel of land that is joined by three other different land owners.

Entity: Joseph Baron

Comment: "Change from 100 feet to 200 feet."

Response: The 100 foot distance is more than sufficient. Two hundred foot would be more than burdensome.

14(b)(ii)

Entity: Joy Hill, Big Horn County

Comment: "How about between the source and the lagoon?"

Response: A septic tank that is placed before the lagoon is always between the source and the lagoon.

14(b)(vii)

Entity: Steve Warner, Fremont County

Comment: "Totally disagree with the formula. Results in a much too large lagoon. Will have a hard time keeping enough water in a lagoon of this size."

Response: The formula for sizing lagoons has been revised to remove the 30% additional size safety factor.

14(b)(viii)

Entity: Joy Hill, Big Horn County

Comment: Add definition of 'dikes'.

Response: The term 'dikes' is considered common knowledge and will not be added to the list of definitions.

14(b)(x)

Entity: Jason Vreeland , DEQ

Comment: "Why minimum of one foot? Doesn't provide much room for emergency situations."

Response: The minimum freeboard has been changed to two (2) foot.

Entity: Joy Hill, Big Horn County

Comment: Define ‘freeboard’.

Response: The term ‘freeboard’ is considered common knowledge and will not be added to the list of definitions.

14(b)(xii)

Entity: Steve Warner, Fremont County

Comment: “Why the center? Is a lagoon with two cells and a overflow acceptable?”

Response: The discharge is near the center to limit overspray and drift. In a two cell lagoon, the influent still needs to discharge near the center of the first cell.

14(b)(xiv)

Entity: Steve Warner, Fremont County

Comment: “Six foot fence adequate in height?”

Response: Yes, six foot is adequate.

Entity: Jason Vreeland, DEQ

Comment: “Why must the fence it if it's on private property? This should be at the property owner’s discretion.”

Response: The fence is to keep people, pets, and wild animals from accidently entering the lagoon.

Entity: Joseph Baron, Crook County

Comment: “Define the height and type of fencing.”

Response: The fencing needs to high enough and have the structural integrity to keep people, pets, and wild animals from accidently entering the lagoon.

Section 15

Entity: Jason Vreeland, DEQ

Comment: "This doesn't seem to be a good idea to me. I can see privies popping up all over after this. It will be difficult to distinguish the sealed water-tight privies from the unlined and we have no authority to inspect."

Response: Privies will be required to have a permit to construct before they can be installed.

Entity: Mark Baron, WDEQ

Comment: "Privies should not be permitted by rule. The WDEQ/WDQ should create a State Wide Permit for the Forest Service, BLM, State Parks and others. We need to see what is being proposed to be built and where it is going to be built."

Response: Privies will be required to have a permit to construct before they can be installed.

Entity: Ron Ewald, WDEQ

Comment: "Privies Should NOT be "Permit by Rule". They should require an individual permit because my experience is that privies will hardly ever be constructed anywhere close to properly if an individual permit is required. Second, there are not that many privy applications. And third, requiring permits may discourage their use even more – which would be a good thing."

Response: Privies will be required to have a permit to construct before they can be installed.

Entity: Seth Tourney, WDEQ

Comment: "Do we want to allow privies to be permitted by rule? (See first paragraph)"

Response: Privies will be required to have a permit to construct before they can be installed.

Entity: Seth Tourney, WDEQ

Comment: "Will only sealed privies will be permitted by rule, or will unsealed privies by permitted by rule as well?

Response: Unsealed privies will no longer be allowed.

Entity: Seth Tourney, WDEQ

Comment: "The construction requirements of the privy were removed from the Chapter."

Response: The construction requirements of privies have been simplified.

Entity: Seth Tourney, WDEQ

Comment: "The vault additives regulations were removed from the regulation."

Response: Because it cannot be known where the contents of a privy may be transported to for disposal, the restriction on vault additives was removed.

15(a)

Entity: Karen Farley, WDEQ

Comment: "When would privies be allowed? Only for seasonal use or temporary? With houses that have plumbing?"

Response: There are no restrictions as to when a privy may be installed.

Entity: Seth Tourney, WDEQ

Comment: Suggestion- Add the requirement for privies shall not be located within any floodplain or subject to stormwater events. Adequate drainage shall be provided to direct stormwater away from the privy site."

Response: This condition has been added to the section.

15(a)(iii)

Entity: Jason Vreeland, WDEQ

Comment: "We should be more specific on what is sufficient capacity. Shouldn't we specify 7 days?"

Response: The "sufficient capacity" can only be determined based on estimated usage. We specify a minimum capacity.

Entity: Seth Tourney, WDEQ

Comment: "The previous capacity requirements was 500 gallons per riser and shall be a (a)(iii) minimum of 4.5 feet deep. The new requirements reduce minimum requirement to 200 gallons and no minimum depth requirement. Why the change here?"

Response: The 500 gallons was deemed excessive and was reduced to 200 gallons. The minimum depth was removed to allow for installation in areas where limited layers are less than 4.5 feet deep.

15(a)(v)

Entity: Bernard Bisson, Albany County Planning Office

Comment: "Privies, venting -Should a vent stack be required? I can imagine an open door or a "half-moon" be specified as sufficient."

Response: The condition states that the privy must be adequately vented. The condition is purposely vague leaving the installer/owner options as to how to accomplish this.

15 (a) & (b)

Entity: Timothy Lyons, Crook County

Comment: "Under the current rules and regulations privies are required to be permitted and vaulted. I feel that this is a good practice and should continue."

Response: Thank you for your comment. The condition will remain as written.

15(b)

Entity: Jason Vreeland, DEQ

Comment: "Why are we even allowing unsealed pit privies?"

Response: The WQD is no longer allowing unsealed privies.

Entity: April Gindulis, Casper/Natrona County Health Department

Comment: "'For unsealed privies pit privies the following conditions must be met.' It would seem that this is taking a step backwards. There is no realistic application for pit privies. Containment is always preferred for groundwater protection and servicing (i.e. removal of wastes)."

Response: The WQD is no longer allowing unsealed privies.

Section 16

Entity: Bernard Bisson, Albany County Planning Office

Comment: "I was happy to see the "Greywater Systems" section. We get asked about this quite often."

Response: ~~Thank you for your comment. The section will remain as written.~~ WDEQ/WQD appreciates your support of this section.

Entity: Gabe Klamer, Teton County

Comment: "I feel these new requirements are more stringent than black water requirements and will deter people from actually installing gray water systems. If gray water cannot be used as surface irrigation unless it is disinfected then why not disallow surface irrigation with gray water all together?"

Response: We have revised the section to mirror the water re-use requirements of Chapter 21. WDEQ/WQD will be working with delegated entities to educate the public on the ease and low cost of disinfection for surface irrigation. Eliminating surface irrigation altogether would have been overly restrictive and would have brought up consistency issues with the wastewater reuse regulations of Chapter 21.

Entity: Hannes Stueckler, WDEQ

Comment: "Should have separate requirements for single use residential and multi-family/commercial. The language has already been written and is available."

Response: The requirements will remain combined as written.

Entity: Jason Vreeland, WDEQ

Comment: "I would assume this means they are required a permit? It isn't specified."

Response: ~~Yes a permit is required to install a greywater system.~~ WDEQ/WQD added subsection (h) which directs applicants to the Division's website for the permit application. We also added a paragraph in Section 2 which specifies that all components of a small wastewater system require a permit to construct, though sometimes the permit is a general permit, an individual permit, or a permit by rule.

Entity: Roy Kroeger, Cheyenne-Laramie County Environmental Health

Comment: "LC is encouraged with the grey water system regulations. The previous use by right policy was a concern to public health and could not be used where the majority of the population resides in our county due to water management areas. The proposed rules allow for permitting and oversight of these systems."

Response: ~~Thank for your comments. The section will remain as written~~. WDEQ/WQD appreciates your support of this section.

Entity: James Brough, WDEQ

Comment: "It is noted that a large portion of the proposed regulations came from Chapter 21, "Standards for the Reuse of Treated Wastewater." This appears to contradict Chapter 21, Section 2(g) which states "These regulations are not applicable to the disposal of gray water."

Response: The WQD copied portions of Chapter 21 that were applicable to the re-use of greywater.

Entity: Mark Baron, WDEQ

Comment: "Grey water reuse needs to follow the requirements of Chapter 21 of the Wyoming Water Quality Rules and Regulations. Grey water should treated as a Class B wastewater per Chapter 21 where the fecal count can range from 2.2 fecal colonies/1 00 ml to 200 fecal colonies/1 00 mi. Grey water should be regulated by the source (clothes washing, shower and bath, and hand sink) . If grey water is required to be disinfected to reduce the fecal count below 200 fecal colonies/1 00 ml the wastewater source is not a grey water source. Grey water must be limited to simple residential systems where the homeowner has complete control over the grey water discharge and its location of discharge. The grey water section as written is containing many non-regulatory requirements on irrigation, plumbing, disinfection, mulching ect. Section 16 needs to be rewritten such that only three items should be considered for grey water reuse which are: 1) Protection of public health. 2) Protection of surface water. 3) Protection of ground water.

Response: We have revised the section to mirror the water re-use requirements of Chapter 21.

Entity: Ron Ewald, WDEQ

Comment: "Comment – it should be made clear that all greywater systems require a Permit to Construct from the designated Small Wastewater Program Authority for each County."

Response: ~~If it is not stated otherwise a permit to construct is required.~~ WDEQ/WQD added subsection (h) which directs applicants to the Division's website for the application. The webpage for the design packages states that "If your septic system will be located in any other county, please contact the permitting authority for that county, as they may require different forms or additional information." The website outlines which counties will require WQD permitting review.

Entity: Seth Tourney, WDEQ

Comment: "Do we want to require an on-site operation and Owner's manual for the system?"

Response: The WQD doesn't think an O&M manual for greywater systems is necessary at this time.

16(a)(ii)
Entity: Jason Vreeland, WDEQ

Comment: "Typos"

Response: ~~Typos and other grammatical mistakes will be addressed.~~ WDEQ/WQD edited the typos.

Entity: Robert Norton, Nelson Engineering

Comment: I question the wording of this sentence; this section is not applicable if the intent is to provide treatment wastewater'.

Response: The sentence has been re-written.

16(a)(iii)

Entity: Seth Tourney, WDEQ

Comment: "Suggested wording: A city, county, or other local government may, after a public hearing and enactment of an ordinance or resolution, further restrict or prohibit the use of greywater systems."

Response: ~~Thanks for the suggestion but the condition will remain as written.~~ The sentence has been re-written.

16(a)(iii)(D)

Entity: Joy Hill, Big Horn County

Comment: Delete 'drip irrigation systems' and 'buffer zone' and replace with 'setback distance'.

Response: "Drip irrigation systems." has been deleted. The remainder of the condition will remain as written.

16(b)

Entity: Seth Tourney, WDEQ

Comment: "Suggestion for new (b) 'Permit Requirements (i) A clothes washer system, in compliance with all of the restrictions and new (b) requirements in these regulations, is exempt from obtaining a permit to construct. (ii) All other greywater systems not classified as a clothes washer system are required to obtain a permit to construct in accordance with these regulations.'"

Response: Thank you for the suggestion but the section will remain as written.

16(b)(i)

Entity: Seth Tourney, WDEQ

Comment: "Suggestion '(i) General (A) Greywater shall be contained on the site where it is generated. (B) Greywater shall be directed to and contained within an irrigation or disposal field. (C) Ponding or runoff is prohibited and shall be considered a nuisance. (D) Greywater systems shall be designed to minimize contact with humans and domestic pets. (E) Water used to wash diapers or similarly soiled or infectious garments shall not be used and shall be diverted to the building sewer. (F) Greywater shall not contain hazardous chemicals derived from activities such as cleaning car parts, washing greasy

or oily rags, or disposing of wastewater solutions from home photo labs or similar hobbyist or home occupational activities.'"

Response: The WQD has considered your suggestions and has incorporated some of these as conditions for compliance of a greywater system.

16(b)(i)(A)

Entity: Jason Vreeland

Comment: "Typo"

Response: ~~Typos and other grammatical mistakes will be addressed~~. WDEQ/WQD has rewritten this subparagraph.

16(b)(i)(B)

Entity: James Brough, DEQ

Comment: "The requirement the subsurface irrigation of gray water shall not be used to irrigate any food crops for human consumption contradicts Chapter 21, Section 12."

Response: We have revised the section to mirror the water re-use requirements of Chapter 21.

Entity: Seth Tourney, WDEQ

Comment: "Suggestion to delete this restriction of irrigating edible crops."

Response: We have revised the section to mirror the water re-use requirements of Chapter 21.

16(b)(ii)(B) & (C)

Entity: Hannes Stueckler, WDEQ

Comment: "Directly contradicts Chapter 21. The treatment and exposure requirements are more stringent for treated residential greywater than they are for municipal sewage treated to the same level. The treated greywater rules should not be any more restrictive than a Class A treated municipal wastewater if we are going to require the same level of treatment for both (2.2 fc/ 100ml or less)."

Response: We have revised the section to mirror the water re-use requirements of Chapter 21.

16(b)(i)(C)

Entity: Seth Tourney, WDEQ

Comment: "Suggestion to delete this restriction of irrigating edible crops."

Response: We have revised the section to mirror the water re-use requirements of Chapter 21.

16(b)(ii)(C)(I) & (II)

Entity: Joy Hill, Big Horn County

Comment: "Why are these subsets of 'C'?

Response: That is where we felt the information belonged.

16(b)(ii)(D)

Entity: Joy Hill, Big Horn County

Comment: Delete 'all greywater collection tanks'.

Response: The condition has been re-written.

16(b)(ii)(E)(I)

Entity: Joy Hill, Big Horn County

Comment: "You could make this E." Delete 'all' and 'from the greywater collection tank'.

Response: The section has been reorganized but the sentence will remain as written.

16(b)(iii)

Entity: Jason Vreeland, DEQ

Comment: "I am confused on this whole section since spray irrigation is not allowed later on."

Response: ~~We are not sure what is confusing you therefore we cannot respond.~~ The comment does not indicate specifically what is confusing, so it is difficult to respond. However, while spray irrigation is not allowed in Chapter 25, we do still allow surface irrigation treated to Class B standards, which is consistent with Chapter 21. Chapter 21 also requires 30 feet setbacks/isolation distances for flood irrigation of Class B wastewater.

Entity: James Brough, DEQ

Comment: "The setback distances were established for municipal treated wastewater and are not necessarily applicable to private gray water systems."

Response: The distances may be more stringent than necessary but the public safety is ensured.

16(b)(iii)(A)

Entity: Joy Hill, Big Horn County

Comment: Change 'lines and' to 'lines, as well as'.

Response: WDEQ/WQD reviewed the comment. The additional phrase does not further clarify the intent of the sentence or seem to make it more correct. The sentence will remain as written.

16(b)(iii)(D)

Entity: Robert Norton, Nelson Engineering

Comment: "I question the intent and how to apply this sentence; "The buffer zone requirements above may be met by the use of drip irrigation systems".

Response: The condition stated in section 16(c)(iv)(A) will be re-written because it applies to flood irrigation and the use of drip irrigation may remove the buffer zone requirement.

16(b)(iv)(B)(I)(3)

Entity: Joy Hill, Big Horn County

Comment: What is meant by 'shall not pond exceed ¼ inch in depth'?

Response: The standing water, pond, shall not be deeper than ¼ inch.

16(c)

Entity: Seth Tourney, WDEQ

Comment: "Suggestion for new (c)' Procedure for Estimating Greywater Discharge (i) The greywater discharge for single family and multi-family dwellings shall be calculated by estimates of greywater use based on water use records, or the following procedure: (A) The number of occupants of each dwelling unit shall be calculated as follows: First Bedroom- 2 occupants; Second Bedroom - 1 occupant; (B) The estimated greywater flows of each occupant shall be calculated as follows: Showers, bathtubs and wash basins- 25 GPD {95LPD)/occupant; Laundry 15 GPD (57 LPD)/occupant; (C) The total number of occupants shall be multiplied by the applicable estimated greywater discharge as provided above and the type of fixtures connected to the greywater system."

Response: The section has been re-written with your suggestions.

Entity: Seth Tourney, WDEQ

Comment: "Suggested additional wording '(ii) Greywater Collection Tank; (A) When system design includes a tank, specifications for the tank shall be submitted to the Enforcing Agency for approval. Such plans shall show all dimensions and other pertinent data; (B) Tanks shall be constructed of solid, durable materials not subject to excessive corrosion or decay and shall be water-tight. (C) Each tank shall be structurally designed to withstand all anticipated earth or other loads. Tank covers shall be capable of supporting an earth load of not less than three hundred (300) pounds per square foot when the tank is used for underground installation; (D) Overflow Requirements. (I) Each tank shall have an overflow drain. The overflow drain shall have a permanent connection to the building drain or building sewer, upstream of septic tanks, if any. The overflow drain shall not be equipped with a shutoff valve. (II) The overflow drain shall not be less in size than the inlet pipe; (III) The overflow system must be designed so that the tank overflow will gravity drain to the existing sewer line or septic tank. The tank shall be protected against sewer line backflow by a backwater valve. (IV) An overflow drain and backwater valve is not required on a clothes washer system. (E) Each tank shall have its rated capacity permanently marked on the unit. In addition, a sign stating "GREYWATER IRRIGATION SYSTEM, CAUTION- UNSAFE WATER" shall be permanently marked on the holding tank."

Response: The section has been re-written with your suggestions.

16(c)(ii)(B)

Entity: Hannes Stueckler, DEQ

Comment: "We do not need to overflow treated, Class A water to the blackwater system. Suggest 'Shall have an overflow to an approved greywater system or blackwater system.'"

Response: The condition will remain as written.

16(c)(ii)(C)

Entity: James Brough, DEQ

Comment: "There is a contradiction here. Subsection C states that greywater shall not be held for more than 24 hours. However, subsection (I) states that an outside collection tanks shall meet the requirements of a septic tank. One of those requirements is a minimum of 36 hours retention time. In short, a grey water collection tank should not necessarily be required to abide by all the requirements for a septic tank."

Response: The conditions are not contradictory. The 24 hour maximum retention time of greywater is independent of the volume necessary to hold 36 hours of wastewater flow.

16(c)(ii)(C)(I)

Entity: Hannes Stueckler, WDEQ

Comment: "Should be "(c) (ii) (D)"; Contradicts (c) (ii) (C), as septic tank design requires 36 hour detention; Strongly Disagree. Not all outdoor greywater holding tanks need to be 1000+ Gallons due to maximum 24 hour detention time.; Tank does not need to be buried. Most greywater systems are gravity flow designs, and head pressure is the driving factor in almost all layout. Requiring a below grade tank would not only make a pump mandatory, it would also make it completely unfeasible for a single residence system. I suggest the following language: (C) Shall be constructed and installed in compliance with Chapter 25, Section 9 with the following exceptions. (I) Seasonal use or freeze protected settling tanks do not need to be installed below grade. (II) The settling tank can be smaller than 1000 gallons. (III) Settling tanks can be directly vented if not connected by gravity drain to building plumbing.

Response: The condition has been re-written and greywater tanks are not required to meet the same requirements as septic tanks.

Entity: Seth Tourney, WDEQ

Comment: "Suggestion to revise this description to require septic tanks to meet required (c)(ii)(C)(I) structural and access requirements of the septic tank only."

Response: The condition has been re-written and greywater tanks are not required to meet the same requirements as septic tanks.

16(c)(ii)(D)

Entity: Gabe Klamer, Teton County

Comment: "Why would the contact time be less than 36 hours like septic tank requirements?"

Response: The treatment of greywater for reuse is less than that of a blackwater system and therefore does not require the same contact time.

Entity: James Brough, WDEQ

Comment: "Why would vents be required for gray water tanks when they are not required for septic tanks?

Response: Septic tanks are vented through the building venting system.

Entity: Seth Tourney, WDEQ

Comment: "All greywater collection tanks shall be vented with a suitable screen to keep animals and insects out of the system."

Response: Your comment has been added to the revised section.

16(c)(ii)(E)

Entity: Hannes Stueckler, WDEQ

Comment: "Filters should be moved to (c) (iii)."

Response: The section has been re-written and reorganized.

Entity: James Brough, WDEQ

Comment: "Why would filters be required for gray water tanks when they are not required for septic tanks?"

Response: The section has been re-written and reorganized.

Entity: Seth Tourney, WDEQ

Comment: "Suggestion- Should be make this requirement applicable to the irrigation system section? Additional wording: The filter backwash and flush discharge shall be contained and disposed of into the building sewer system, septic tank or, with approval of the Enforcing Agency, a separate mini-leachfield sized to accept all the backwash and flush discharge water. Filter backwash water and flush water shall not be used for any purpose. Sanitary procedures shall be followed when handling filter backwash and flush discharge or greywater."

Response: The intent of this requirement is to retain the solids on the greywater tank to prevent filtering requirements for the irrigation system. The additional wording is for the operation of the greywater system and should not be part of the design requirements.

16(c)(ii)(E)(I)

Entity: Hannes Stueckler, DEQ

Comment: "should be moved to (c) (ii) (E); Will lead to putrification of solids collected in the tank. Suggest 'Filtration, if called for in the design, shall occur prior to the greywater collection tank.'"

Response: The condition will remain as written.

16(c)(iii)(C)

Entity: Hannes Stueckler, DEQ

Comment: "Can lead to checkvalve destruction if located too close to the pump discharge. Suggest 'Shall be protected against backflow with a checkvalve.'"

Response: It is common engineering practice to locate check valves on pump discharges with no destructive consequences. The condition will remain as written.

16(c)(iii)

Entity: James Brough, WDEQ

Comment: "I doubt this section on pumps is necessary for small gray water systems. How many residential gray water systems are there with a pumping system? I understand that one of the purposes of rewriting the regulations is to simplify were possible, not add requirements that will never or very seldom be used."

Response: Thank you for your comment. The subsection will remain as written

16(c)(iii)(D)

Entity: Hannes Stueckler DEQ

Comment: "Suggest 'Pressurized irrigation systems fed by potable water systems shall be isolated by air gap backflow prevention. Air gap shall be at a higher elevation than all holding tank overflow, and shall be at least two pipe diameters in length.'"

Response: If the applicant would prefer to use an air gap for backflow prevention, this can be requested in a variance.

Entity: Jason Vreeland, DEQ

Comment: "Why are we allowing a greywater line to be connected to the domestic water system anyway? I don't think they should be allowed to be connected to both."

Response: The applicant may already have an irrigation system fed by the domestic water system prior to the installation of a greywater system.

16(c)(iv)(A)(II)(4)

Entity: Bernard Bisson, Albany County Planning Office

Comment: "Probably should specify that the holes drip downward -seems obvious but just to be sure."

Response: If this is an issue it can be resolved during the application review process.

16(c)(iv)(B)(I)(3)

Entity: Bernard Bisson, Albany County Planning Office

Comment: "Change exceed to exceeding."

Response: The condition has been re-written.

16(c)(v)

Entity: Seth Tourney, WDEQ

Comment: "Suggestion for a new (A) General (i) Irrigation or disposal fields may have one or more valved zones. Each zone must be of adequate size to receive the greywater anticipated in that zone. No irrigation or disposal field shall extend within three (3) vertical feet of the highest known seasonal groundwater, or to a depth where greywater contaminates the groundwater or surface water. The applicant shall supply evidence of groundwater depth to the satisfaction of the Enforcing Agency. (ii) The total irrigation and/or mulch basin area required, which is the sum of all valved zones, must be equal to the maximum absorption capacity divided by the estimated greywater discharge."

Response: The condition has been re-written and incorporates some of your suggestions.

16(c)(v)(A)(I)

Entity: Seth Tourney, WDEQ

Comment: "Suggest delete the wording 'S~~hall be sized to contain 3 times the peak hourly flow.~~'"

Response: This has been deleted.

Entity: Seth Tourney, WDEQ

Comment: "Suggest delete the wording '~~Mulch does not need to be covered or may be covered with no more than 3 inches of topsoil~~.'"

Response: This has been deleted.

Entity: Seth Tourney, WDEQ

Comment: "Suggested wording: 'Mulch basins shall be sized in accordance with proposed Section d above and of sufficient depth, length and width to prevent ponding or runoff during the greywater surge

of a clothes washer, bathtub or shower. Mulch must be replenished as required due to decomposition of organic matter. Mulch basins will require periodic maintenance, reshaping or removal of dirt to maintain surge capacity and to accommodate plant growth and prevent ponding or runoff.'"

Response: The WQD will consider your suggestion.

16(c)(v)(A)(I)(2)

Entity: James Brough, WDEQ

Comment: "This is easier said than done."

Response: This condition has been deleted.

16(c)(v)(A)(I)(4)

Entity: James Brough, WDEQ

Comment: "We are being inconsistent here in that we are being more stringent with gray water than with black water."

Response: We have revised the section to mirror the water re-use requirements of Chapter 21.

16(c)(v)(A)(I)(5)

Entity: Seth Tourney, WDEQ

Comment: "This section is really not a subsurface irrigation system anymore. Or is it?"

Response: No not by the strict definition of subsurface irrigation.

16(c)(v)(A)(I)(7)

Entity: Hannes Stueckler, WDEQ

Comment: Suggest 'Compost piles are shall be designed according to (c) (v) (A) (I) (5)& (6).'"

Response: The condition will remain as written.

16(c)(v)(A)(II)

Entity: Hannes Stueckler, WDEQ

Comment: "Contradicts Chapter 21, as mentioned previously."

Response: We have revised the section to mirror the water re-use requirements of Chapter 21.

16(c)(v)(A)(III)(2)

Entity: Joy Hill, Big Horn County

Comment: Change ‘manufacturer’s’ to ‘manufacturer’

Response: ~~We will consult the “Chicago Manual of Style” for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.~~ WDEQ/WQD edited the sentence.

16(c)(v)(A)(IV)(1)

Entity: Joy Hill, Big Horn County

Comment: “Insert an ‘r’ in ‘manufacture’.

Response: ~~We will consult the “Chicago Manual of Style” for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.~~ WDEQ/WQD edited this subparagraph and fixed the typo.

16(c)(v)(A)(IV)(2)

Entity: Bernard Bisson, Albany County Planning Office

Comment: “Change until to unit.”

Response: We will correct the typo.

Entity: Joy Hill, Big Horn County

Comment: “Flowing into the UV disinfection unit?”

Response: ~~We will consult the “Chicago Manual of Style” for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.~~ WDEQ/WQD edited this subparagraph and clarified the UV requirements.

16(c)(v)(A) &(B)

Entity: James Brough, WDEQ

Comment: "These regulations are too prescriptive and impractical to regulate at the residential level."

Response: Thank you for your comment. The regulations will remain as written

16(c)(v)(B)(I)(3)

Entity: Hannes Stueckler, DEQ

Comment: "Replace 'exceed' with 'in excess of'"

Response: The condition has been re-written.

16(c)(v)

Entity: Hannes Stueckler, DEQ

Comment: "(c) (v) Disinfection should be (c) (vi) Disinfection."

Response: The section has been reorganized.

Entity: James Brough, WDEQ

Comment: "If it is the consensus that all gray water to be used for surface irrigated must be disinfected, then we should simply not allow surface irrigation!"

Response: We have revised the section to mirror the water re-use requirements of Chapter 21.

16(c)(vi)(A)(I) & (II)

Entity: Hannes Stueckler, WDEQ

Comment: "Second use of 'shall be' should say 'of'."

Response: The section has been reorganized and those conditions have been removed.

16(d)

Entity: Seth Tourney, WDEQ

Comment: "Suggestion for new (d): Determination of Maximum Absorption Capacity (i) Where practicable, irrigation or disposal field size shall be computed
from the following table:

Type of Soil	Square Feet	Gallons

	Minimum square feet of irrigation/leaching area per 100 gallons of estimated greywater discharge per day	Maximum absorption capacity in gallons per square foot of irrigation/leaching area for a 24-hour period
Coarse sand or gravel	20	5.0
Fine Sand	25	4.0
Sandy loam	40	2.5
Sandy clay	60	1.7
Clay with considerable sand or gravel	90	1.1
Clay with small amounts of sand or gravel	120	0.8

(ii) In order to determine the absorption quantities of questionable soils other than those listed in the table above, the proposed site may be subjected to percolation tests; (iii) When a percolation test is required, no greywater system shall be permitted if the test shows the absorption capacity of the soil is unable to accommodate the intended discharge of the proposed greywater system."

Response: We have reviewed your comments and soil texturing will be used to supplement the basic percolation test if the results are inconsistent. Direction on the use of soil texturing will likely be in a policy.

16(d)(i)(A)

Entity: James Brough, WDEQ

Comment: "I disagree with this requirement. There are several summer time facilities were gray water systems will reduce the hydraulic load. The designer should be allowed to design accordingly."

Response: If there are problems with the greywater system, the blackwater system needs to be sized accordingly.

16(d)(i)(B)

Entity: Hannes Stueckler, WDEQ

Comment: "Contradicts Ch 21, as previously stated."

Response: We have revised the section to mirror the water re-use requirements of Chapter 21.

16(d)(i)(C)

Entity: Hannes Stueckler, WDEQ

Comment: "What is the justification for the language change from requiring written permission to cross property boundaries?"

Response: Permission to trespass does not transfer with the sale of property.

16(d)(i)(E)

Entity: Bernard Bisson, Albany County Planning Office

Comment: "Insert 'as' between such & paint."

Response: The correction has been made as suggested.

Entity: Joy Hill, Big Horn County

Comment: Insert "as" after 'such'.

Response: The correction has been made as suggested.

16(d)(iii)(B)

Entity: Joy Hill, Big Horn County

Comment: Correct 'off' to 'of'.

Response: ~~We will consult the "Chicago Manual of Style" for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.~~ WDEQ/WQD edited the sentence to "the greywater system shall prevent storm runoff from carrying the greywater off of the application site."

Section 17

Entity: Karen Farley, DEQ

Comment: "This section implies an operating permit has been issued. How are we going to keep track of this? This is something the counties should take care of."

Response: There is no mention of an operating permit anywhere in this section nor is it implied that there should be one. The section is meant to provide owners of small wastewater systems minimum operation and maintenance requirements.

17(a)

Entity: Karen Farley, DEQ

Comment: "Delegation agreements will need to be reviewed to make sure that this type of permitting is allowed. Advanced treatment systems are not considered "conventional".

Response: This condition has been deleted.

Entity: John Woodward, Lincoln County Office of Planning and Engineering

Comment: "My jurisdiction has over 80 of these systems installed. Ongoing maintenance is a challenge especially with subsequent homeowners. The service providers sometimes want to use the county as a bill collector. The issue really is about resource protection through proper maintenance and performance. I fully support the language in this paragraph and subparagraphs (i), (ii) and (iii)."

Response: Your comments are appreciated but there was a lot of pushback on our authority to require maintenance contracts as well as an easement for maintenance. The condition has been deleted.

17(a)(i)

Entity: Jason Vreeland, WDEQ

Comment: "Not all counties are delegated. WDEQ would have to maintain a copy of the contract."

Response: WDEQ/WQD has removed this subsection.

Entity: Mark Baron, WDEQ

Comment: "Item (a)(i) owners of advance treatment systems should be able to maintain their own advance treatment systems. Maintaining an advance treatment system is less complex than car maintenance."

Response: WDEQ/WQD has removed this subsection.

17(a)(ii)

Entity: David Anderson, Washakie County Planning Office

Comment: "To what party is the easement granted?"

Response: WDEQ/WQD has removed this subsection.

Entity: Karen Farley, WDEQ

Comment: "This is very general and will cost the owner $$$. An easement requires a surveyor and recording with the county."

Response: WDEQ/WQD has removed this subsection.

Entity: James Brough, WDEQ

Comment: "Requiring small wastewater owners to provide an easement (legal document filed and platted with the county) for maintenance of an advanced small wastewater system would be burdensome and challenging to implement."

Response: WDEQ/WQD has removed this subsection.

Entity: Mark Baron, WDEQ

Comment: "Item (a)(ii) states that owner of an advance treatment system shall provide an easement for maintenance of the system. Every requirement for the easement must be listed in this section. For example who is to have access to the easement, how wide should the easement be, should the easement include the leach, where is the easement to be recorded, what happens when the property is sold, can the owner use Legal Zoom or does an attorney have to draw up the easement?"

Response: WDEQ/WQD has removed this subsection.

17(a)(iii)

Entity: Karen Farley, WDEQ

Comment: "Will we need to prove that there has been a violation of the clean water act? What would the violation be under since we don't issue operating permits?

Response: WDEQ/WQD has removed this subsection.

17(e)

Entity: Sarah Anderson, Crook County Natural Resource District

Comment: "What if the county does not have a wastewater treatment facility to take the septage to? Are there exceptions?"

Response: It is the service provider's responsibility to dispose of the septage/wastewater at a permitted facility. The land application of septage as described in Appendix B is the only exception.

17(g)

Entity: Joy Hill, Big Horn County

Comment: Add comma after ‘toilets’ and ‘permitted.

Response: ~~We will consult the “Chicago Manual of Style” for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.~~ WDEQ/WQD edited the subsection as requested.

Appendix A

Entity: Bernard Bisson, Albany County Planning Office

Comment: “I have found the use of augers or backhoes for the digging of percolation test holes to present some problems depending on the nature of the soil. It is my speculation that the sideways pressure exerted by these hydraulically powered machines can compact the soil to the point where the usual "scraping" of the sides of the hole will not be sufficient to eliminate the compaction of the soil, particularly if the soil has a lot of silt or clay content. Especially with hardpan soil, the perceived percolation rate could indicate that the soil is unusable when it may still be acceptable. I generally recommend to all of my clients that they dig the hole by hand regardless of how onerous that task may be.”

Response: The regulations are not prescriptive to the point of telling the applicant how to excavate the hole(s) for the percolations tests, but your comments are appreciated.

Entity: David Anderson, Washakie County Planning Office

Comment: “Currently we use the slowest perc rate with three to five tests and the average for 6 or more tests. The draft regulations don’t give any directions in this regard.”

Response: The language mentioned in your comment has been added back to Appendix A, Section 2(d)(vi).

Entity: Timothy Lyons, Crook County

Comment: “Crook County is not a delegated county nor does Crook County have a delegated health department.”

Response: If you live in a non-delegated county, the District Engineer assigned to that county would assume the permitting duties.

Entity: Jason Vreeland, WDEQ

Comment: “Again, not all counties are delegated. We don't have the resources to inspect trench cuts on all septic systems.”

Response: We understand the limited resources, therefore the focus would be on non-delegated counties and you would need to prioritize which septic systems to inspect.

Entity: Ron Ewald, WDEQ

Comment: "Comment – the proposed Appendix A should be thrown out and start over! WHY – Because it represents the purely technically correct scientific way to do a perk test. This is totally impractical in the field, especially when it is snowing sideways, and it is cold. Besides, trying to follow this method will actually introduce more errors into the perk test data than doing it "our by our old WDEQ method". Refilling a ½ inch or ¼ inch of water every 10 or 15 minutes accurately in the field is a joke. Therefore, the official WDEQ method should be what we have been promoting for the last 10-12 years. After the test hole is properly presoaked, fill the hole to about 18 to 21 inches above the bottom and take continuous measurements until you get close to only 6 inches left. Then refill back to the 18 to 21 inch level and continue. Overall, this will produce more accurate and repeatable measurements, and is practical to perform in the field."

Response: Appendix A has been re-written to make the percolation test easier to perform in the field.

Entity: Seth Tourney, WDEQ

Comment: "Suggestion to delete- '~~The percolation test should be conducted only after the soil exploration pit has been dug and examined by the delegated health department or county for suitable soils and groundwater table information~~.'"

Response: WDEQ/WQD has deleted that section.

Appendix A (a)

Entity: Jason Vreeland, WDEQ

Comment: "We need to specify our minimum number of test holes. Not all counties are delegated."

Response: WDEQ/WQD has added language requiring a minimum of three test holes.

Entity: Seth Tourney, WDEQ

Comment: "Suggestion to delete '~~The delegated health department of the county shall establish the required number of test holes~~.' Add 'A minimum of three test holes are required.'"

Response: WDEQ/WQD has made this editorial change.

Appendix A (c)(ii)

Entity: Jason Vreeland, WDEQ

Comment: "Maybe I'm misunderstanding, but if the first and second fillings seep away in 60 minutes or less, why would they start the percolation test; the rate is faster than 5 minutes per inch."

Response: WDEQ/WQD has changed the wait time to 90 minutes. Language has been added to the subparagraph to instruct test conductor to follow the requirements of Section 7 (c) if the percolation rate shows the soil is excessively permeable.

Appendix A (c)(iii)

Entity: Steve Warner, Fremont County

Comment: "Fremont County has had good success with overnight presoaking."

Response: WDEQ/WQD has reworded the paragraph to include "after the four hours of water contact time, wait 12 hours before starting the percolation rate measurement."

Entity: Joy Hill, Big Horn County

Comment: 'Minutes or other soils'—what is meant by this?

Response: WDEQ/WQD has edited this sentence.

Appendix A (d)(i)

Entity: Steve Warner, Fremont County

Comment: "Example: If the depth of the leachfield is four feet and the water level is at six inches, it will be very difficult to get a good consistent measurement(s)."

Response: Appendix A has been re-written to make the percolation test easier to perform in the field.

Entity: Joy Hill, Big Horn County

Comment: Add 'the' before 'gravel'.

Response: WDEQ/WQD has edited this sentence.

Appendix A (d)(iii)

Entity: Steve Warner, Fremont County

Comment: "' Refill the water level to 6-inches after each measurement.' Not necessary or practical."

Response: Appendix A has been re-written to make the percolation test easier to perform in the field.

Appendix A (d)(v)

Entity: Seth Tourney, WDEQ

Comment: "Original language lost- Suggest adding it back in: 'If only three to five percolation tests are performed, the design percolation rate for the absorption system is the slowest rate from all the holes tested. If six or more percolation tests are performed, the design percolation rate for the absorption system is the average of all the holes tested as determined by the above formula.'"

Response: WDEQ/WQD has added this paragraph back to Appendix A.

Appendix A (d)(iv)

Entity: Joy Hill, Big Horn County

Comment: Change 'water drop level' to 'drop in water level'.

Response: WDEQ/WQD has reworded the paragraph.

Appendix A (e)(vii)

Entity: Timothy Lyons, Crook County

Comment: "' Certify' by whom?"

Response: Through their signature the person doing the test certifies that the test was done in accordance with Appendix A.

Entity: Joy Hill, Big Horn County

Comment: Change 'certify' to 'certification'.

Response: WDEQ/WQD has made this editorial change.

Appendix B

Entity: April Gindulis, Casper/Natrona County Health Department

Comment: "This section appears to be in violation of W.S. 35-10-101. This statute prohibits the dumping/surfacing of sewage within ½ mile (2640ft) of any inhabited dwelling and public roadway."

Response: W.S. § 35-10-101 is an old statute to handle nuisance activities as you mentioned. According to our attorney general (AG) this is a permitted activity and would be defendable in court by our authority to permit the disposal of wastewater. Nevertheless a neighbor could make things difficult if they were so inclined.

Appendix B (a)

Entity: Joy Hill, Big Horn County

Comment: "Does it make sense to say "restrictions adhere?" Isn't it more that a person or development must adhere to restrictions? So, in this case, it would read, "Land application shall adhere to the following location restrictions." The same goes for items b and c."

Response: We will consult the "Chicago Manual of Style" for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.

Appendix B (a)(i)

Entity: April Gindulis, Casper/Natrona County Health Department

Comment: "This section appears to be in violation of W.S. 35-10-101. This statute prohibits the dumping/surfacing of sewage within ½ mile (2640ft) of any inhabited dwelling and public roadway."

Response: We will consult our attorney general to determine if Appendix B, paragraph (a)(iii) is in violation of W.S. §35-30-101.

Appendix B (a)

Entity: Joy Hill, Big Horn County

Comment: "Does it make sense to say "restrictions adhere?" Isn't it more that a person or development must adhere to restrictions? So, in this case, it would read, "Land application shall adhere to the following location restrictions." The same goes for items b and c."

Response: ~~We will consult the "Chicago Manual of Style" for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.~~ WDEQ/WQD simplified the subsection headings for (a), (b), and (c).

Appendix B (a)(i)

Entity: Sarah Anderson, Crook County Natural Resource District

Comment: "Domestic septage generated on a specific property may be land applied on said property, and shall not be transported to another location for land application without written permission from receiving landowner, for WDEQ variance consideration."

Response: Permission from a landowner does not transfer if the property is sold and thus creates a problem. The condition will remain as written.

Appendix B (d)(i)

Entity: Sarah Anderson, Crook County Natural Resource District

Comment: "What about emergency situations? If an "emergency" happens on the weekend, WDEQ would not be in the office to give advance notification to…are there exceptions?"

Response: We're not sure how this could evolve into an emergency. The activity needs to be planned with the knowledge that most state agencies are closed and not available on the weekend.

Entity: Joy Hill, Big Horn County

Comment: Change from '...and to arrange a possible DEQ/WQD inspection' to '...and arrange a potentially DEQ/WQD inspection...'

Response: WDEQ/WQD researched your suggestion. Our research indicates 'possible' and 'potential' are synonymous words. As the suggestion is neither more correct than the current wording nor does it clarify the intent of the regulation, the condition will remain as written.

Appendix B (d)(ii)

Entity: Joy Hill, Big Horn County

Comment: Change 'concerned with' to 'related to'.

Response: ~~We will consult the "Chicago Manual of Style" for questions regarding grammar, punctuation, and/or style. We will edit the chapter where it is appropriate.~~ WDEQ/WQD made this editorial change.

Appendix B (d)(iii)

Entity: Joy Hill, Big Horn County

Comment: Add commas on either side of 'or the appropriate delegated local permitting authority'.

Response: ~~We will consult the "Chicago Manual of Style" for questions regarding grammar,~~

~~punctuation, and/or style. We will edit the chapter where it is appropriate.~~ WDEQ/WQD edited the paragraph as requested.