



Board of County Commissioners - Staff Report

Meeting Date: October 5, 2021

Presenter: Amy Ramage, Ted VanHolland

Submitting Dept: Public Works - Engineering

Subject: Consideration of 45-day public notice period for Small Wastewater Facility permit regulation updates

Statement / Purpose: Consideration of 45-day public notice period for Small Wastewater Facility permit regulation updates.

Background / Description (Pros & Cons): The current Small Wastewater Facility (also known as septic system) regulations were approved in 2010. The Wyoming Department of Environmental Quality released an updated and restructured set of state-wide SWF rules (Chapter 25 of the Water Quality Rules and Regulations) in June 2016. The Delegation Agreement between Teton County and the Wyoming Department of Environmental Quality requires that delegated entities (Teton County, in this case) maintain permit regulations and design and construction standards that are at least as stringent as the equivalent State standards. The delegation agreement currently in effect was executed in 2018 and indicated that the County intended to revise the 2010 SWF regulations to more closely align with the 2016 WYDEQ Chapter 25.

Staff has compiled updated regulations that are in alignment with the relevant WYDEQ rules and also include an increase in water quality protections in several meaningful ways. To move forward to adoption of the new regulations, a 45-day public notice period is required, after which the final proposed SWF regulations will be brought in front of the County Commission for adoption.

A 45-day public notice period for an earlier draft of revised regulations was approved by the Board of County Commissioners on May 3, 2021. That public notice period was later suspended before concluding, to allow for additional revision. Notably, a variance process has been included in this updated draft, and the Watercourse Protection District has been retained as it exists in the current (2010) rules. These features are described in more detail below.

The new draft SWF regulations will place additional requirements on property owners that build a new small wastewater facility. These new regulations intend to achieve a higher level of environmental protection.

Highlights of the draft revisions are summarized as follows:

- **Design by Wyoming-licensed Professional Engineer Required**
This requirement had been enforced since 2015 through notes on the permit application form. It will now be required directly by the regulations. Professional Engineers are obliged to follow ethical guidelines of public protection and technical competence.
- **Retain the 4-foot minimum separation depth to high groundwater**
WYDEQ chapter 25 had *reduced* this protective measure to 3 foot minimum. The current Teton County regulation requires 4 feet of separation. Prevalence of shallow groundwater in many parts of Teton County warrants retaining the more protective minimum in the proposed revised regulations.
- **Setback distance from leach fields to Public Water Supply wells now 200-foot minimum**
This new default from the WYDEQ will provide more protection of these critical water supplies until more specific source water protections are put in place.



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- **Watercourse Protection District Retained**

This feature prohibits permitting of septic systems within 150' of the major rivers and had been removed from the revision approved for public notice in May. While the intent was to avoid blanket disallowance of septic systems within this setback for existing lots and existing systems that will eventually require replacement and would technically become unpermittable and uninhabitable lots, removal of this generated concern and is potentially confusing. As such, it now appears unchanged from the current (2010) SWF regulations. Exceptions for existing lots within the setback would now be considered via the new variance process which is discussed below.

- **Variance Process for relief from excessive hardship**

In a process that is analogous to the variance of other Teton County resolutions, such as the Land Development Regulations and the Floodplain Protection Resolution, a variance process is now described to allow relief from excessive hardship that is out of proportion to the protection afforded. The proposed process includes review and comment by the County Sanitarian and the Wyoming Department of Environmental Quality, and a public hearing before the Board of County Commissioners for the decision of approval or denial.

- **Leach field sizing formulas give less area reduction for chambered systems**

Previous 40% reduction is now only 30%, meaning more treatment area for a given effluent flow. This reduces loading rates for better treatment performance and system longevity.

- **Building sewer pipes now 2% minimum grade, standard**

Eliminates the previous reference to International Plumbing Code, which technically allowed 1.25% minimum grades. Steeper grades for raw wastewater are less likely to clog or freeze.

- **Lift Stations now specifically addressed for design criteria**

With the expansion of community sewer systems, many properties may require individual lift stations to allow service connections. Previous standards were based on pressure dosing for on-site, mounded leach fields.

- **Minimum percolation rate for standard systems now 5 minutes per inch**

This change restricts the use of standard designs in very coarse soils where rapid movement of effluent may limit effective treatment.

- **Sand Mound design now a standard for use in shallow groundwater sites**

Imported sand fill in place of native coarse materials enhances treatment, which is a benefit for protecting groundwater.

- **Expanded standards for greywater systems to facilitate their use**

This offers advantages for certain difficult sites and provides more flexibility for creative system designs.

- **Operation and Maintenance manual required on all new permits**



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Provides plain-language instruction on what a septic system is, and how to keep it functioning properly for homeowner use.

- **Monitoring Programs addressed**

Allows for follow up monitoring of proper treatment in special situations.

- **Review time on applications extended to 45 days vs. current 15 days**

This was done to allow staff enough time for adequate review. The new language also makes clear that applications for replacing existing failed systems will be expedited.

- **Expiration increased to a 3-year maximum**

Many projects run 18 to 36 months, causing administrative burden without benefit.

Stakeholder Analysis & Involvement: An informal 60-day request for review and comment of the staff-prepared draft SWF regulations was conducted in April 2020. The draft was emailed directly to a broad list of engineering consultants, septic system installers, and environmentally focused organizations, as well as made available on the Engineering Division's website with an announcement on Teton County's home page. Many comments were received and evaluated, and amendments to the draft were incorporated as applicable.

Fiscal Impact: No significant fiscal impact to Teton County government is anticipated by the 45-day public notice period, nor by the adoption of the new regulations.

Staff Impact: If adopted, the new regulations will require additional staff time to assist engineering consultants to understand and follow the new standards in their design work during permit application preparation. This transition period should be short-lived, as there is a small pool of engineers and contractors responsible for the bulk of the 130 +/- permitted systems each year. The development of these new regulations has taken significant staff time to date.

Legal Review: Gingery; Formatting meets the current Teton County guidelines, as Title 9.

Staff Input / Recommendation: Staff recommends approval of the proposed Small Wastewater Facility Regulations 45-day public notice period.

Attachments:

- Teton County Small Wastewater Facility Regulations 2010 (current) edition
- Teton County Small Wastewater Facility Regulations 2021 (proposed draft) edition
- Notice of Intent to Adopt Small Wastewater Facility Regulations

Suggested Motion: I move to approve the 2021 Small Wastewater Facility Regulations 45-day public notice period.

TETON COUNTY
SMALL WASTEWATER FACILITY REGULATIONS

Prepared by
Teton County Engineering Department

April 21, 2010

ADOPTED:

Teton County Board of County Commissioners

July 6, 2010

REGULATIONS FOR A PERMIT TO CONSTRUCT,
INSTALL OR MODIFY SMALL WASTEWATER
FACILITIES AND RELATED DESIGN STANDARDS

BOARD OF COUNTY COMMISSIONERS
TETON COUNTY, WYOMING

WHEREAS: the Administrator of the Water Quality Division, with the approval of the Director of the Wyoming Department of Environmental Quality, shall delegate the authority to enforce and administer the provisions of W.S. 35-11-301 (a)(iii) to local governmental agencies, and;

WHEREAS: the Board of County Commissioners of Teton County, Wyoming has entered into a Delegation Agreement with the Wyoming Department of Environmental Quality, and;

WHEREAS: under this Agreement, the enforcement and administration on permitting and inspection of small wastewater facilities is delegated to Teton County and Teton County has complied with the requirements of W.S. 35-11-304, applicable Wyoming Water Quality Rules and Regulations, and the terms of the Wyoming Administrative Procedure Act,

NOW THEREFORE BE IT RESOLVED:

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Appendix A - Percolation Test Procedure

SMALL WASTEWATER FACILITY RESOLUTION

TETON COUNTY REGULATIONS FOR A PERMIT TO CONSTRUCT, INSTALL OR MODIFY SMALL WASTEWATER FACILITIES AND RELATED DESIGN STANDARDS

SECTION 1. AUTHORITY

This regulation is promulgated pursuant to the Wyoming Environmental Quality Act, W.S. 35-11-101 through W.S. 35-11-1207. Specifically, W.S. 35-11-301 stipulates that no person, except when permit authorized, shall: construct, install, modify or operate any small wastewater facility. W.S. 35-11-304 stipulates that to the extent requested, authority to enforce and administer W.S. 35-11-301(a)(iii) shall be delegated to qualifying municipalities, water and sewer district or counties.

SECTION 2. PURPOSE

The purpose of these regulations is to prevent, reduce and eliminate pollution and enhance the waters of the State of Wyoming and to protect the health, safety and welfare of the environment and its inhabitants by ensuring that the design and construction of small wastewater systems meet the purpose of the Wyoming Environmental Quality Act.

SECTION 3. APPLICABILITY

These regulations shall apply to all small wastewater systems as defined in Section 5 of these regulations within Teton County.

SECTION 4. INTENT

The design and construction standards included in these regulations are directed toward conventional small wastewater systems. These standards impose limiting values of design for which a construction, installation or modification permit application and plans and specifications can be evaluated by the County Sanitarian.

The terms "shall" and "must" are used when practice is sufficiently standardized to permit specific delineation of requirements or when safeguarding public health or protection of water quality justifies such definite action. Other terms, such as "should", "recommend", and "preferred" indicate desirable procedures or methods which allow deviations provided the purpose of these regulations can be accomplished.

Wherever County Sanitarian is used it shall mean County Sanitarian or his designated representative.

SECTION 5. DEFINITIONS

The following definitions supplement those definitions contained in Section 35-11-103 of the Wyoming Environmental Quality Act.

Absorption System, conventional – a system constructed under the surface of the ground which receives and distributes effluent from a pretreatment device effectively filtering the effluent through soil or media.

Alternative Disposal System – a system for treatment and disposal of domestic wastewater which consists of a building sewer, a septic tank, or other sewage treatment or storage unit, and a disposal facility or method which is not a conventional system; but not including a surface discharge to waters of the state.

At-Grade System - an alternative type of onsite wastewater system where the bottom of the absorption system is placed at or below the elevation of the existing site grade, and the top of the distribution pipe is above the elevation of existing site grade, and the absorption system is contained within a fill body that extends above that grade.

Bedrock - the rock, usually solid, that underlies soil or other unconsolidated, superficial material.

Bedroom – any portion of a dwelling which is so designed as to furnish a minimum isolation necessary for use as a sleeping area. It may include, but is not limited to, a den, study, office, sewing room, sleeping loft, or enclosed porch. Unfinished basements shall be counted as a minimum of one additional bedroom.

Building Drain – that part of the lowest piping of a drainage system which receives the discharge from soil, waste and other drainage pipes inside the walls of the building and conveys it to the building sewer beginning 2 feet (.6 meters) outside the building wall.

Building Sewer – the building sewer is that part of the horizontal piping of a drainage system which extends from the end of the building drain and conveying it to the septic tank or other on-site sewage disposal facility.

Cesspool – a covered pit into which raw sewage is discharged for final disposal by leaching into the surrounding porous soil. Cesspools are not allowed under these regulations.

Distribution Box – a water-tight structure which receives liquid effluent from a septic tank and

distributes such effluent in equal portions into two or more pipes leading to the disposal area.

Domestic Sewage – the liquid and water-borne wastes derived from the ordinary living processes, free from industrial wastes, and of such character as to permit satisfactory disposal without special treatment.

Dosing System – the system of tanks, pumps or siphons, and piping located between the septic tank and soil absorption system which is intended to apply a large quantity of settled wastewater to the absorption system in a short period of time.

Effluent Filter – a removable filter that is located in the septic tank outlet tee (baffle) or on the inlet of an effluent pump.

Greywater – untreated wastewater which has not come into contact with toilet waste. Greywater includes wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, sinks (including kitchen sinks), and laundry tubs, and does not include garage floor drains or other hazardous chemicals.

Ground Water, Perched – unconfined ground water separated from an underlying body of ground water by an unsaturated zone and is underlain by a restrictive strata or impervious layer.

Ground Water Level, Seasonal – the highest elevation reached by the ground water (usually spring or early summer). Irrigation influences may affect the duration and depth of the seasonal high ground water.

Gravel-less Chamber – a type of absorption system where the media consists of an open bottom, chamber structure of an approved material and design, which may be used as a substitute for the gravel media with a perforated distribution pipe.

Hydrogeological Study – a study of the occurrence, distribution, quality and movement of the shallowest groundwater of the state and the potential impact of wastewaters on the groundwater.

Impermeable Soil – any soil which has a percolation rate greater than 60 minutes per inch.

Mound System - an alternative onsite wastewater system where the bottom of the absorption system is placed above the elevation of the existing site grade, and the absorption system is contained in a mounded fill body above the grade.

Percolation Rate - the time expressed in minutes per inch required for water to seep into saturated soil at a constant rate during a percolation test.

Percolation Test - the method used to measure the percolation rate of water into soil as described in Appendix A. Percolation tests shall not be conducted in test holes which extend into groundwater, bedrock, or frozen ground.

Permeability - the rate at which a soil transmits water when saturated.

Permit – written authorization issued by the County Sanitarian, duly executed which authorizes the permittee to construct, install, or modify the facilities as set forth in these regulations.

Privy – a covered pit into which only urine and fecal material are discharged for final disposal by leaching into the surrounding soil or by hauling to an approved disposal site. Greywater or toilet carriage water may not be discharged into a privy.

Pump Tank – a tank in which the dosing pumps or siphons are installed.

Septic Tank – a liquid-tight receptacle which receives for storage and digestion, raw sewage from a building sewer, and which has been designed and constructed so as to retain the solids and to allow the liquids to discharge through a secondary system of piping into a disposal area.

Small Wastewater System – any sewerage system, disposal system or treatment works having simple hydrologic and engineering needs which is intended for domestic wastes with 2000 gallons or less of sewage per day.

Soil Profile Hole - an 8-foot deep excavation to allow examination of the soil to evaluate its suitability for absorption systems including but not limited to soil type, depth to bedrock or impermeable layer, and depth to groundwater.

Watercourse Protection District shall include—

1. All private lands within 150 feet of the top of each bank of the Snake, Gros Ventre, Hoback, and Buffalo Fork Rivers.
2. All private lands within 50 feet of the top of each bank of all other streams, creeks or irrigation ditches including any channelized section created to prevent bank erosion or to stabilize the watercourse, but not including ditches or canals created to contain irrigation waters.

SECTION 6. PROHIBITIONS

No person shall, except when authorized by permit issued pursuant to these regulations:

- A. Construct, install, or modify any small wastewater system.

- B. Construct, install, or modify any small wastewater system in non-compliance with the terms and conditions of an issued permit.
- C. Construct, install, or modify a small wastewater system with a permit that has expired or has been suspended or revoked.
- D. Discharge wastes into any small wastewater system which is inconsistent with the type and or quantity of wastes for which the facility is designed.
- E. Discharge wastes to surface waters or ground surface. Effluent from any onsite wastewater system shall not be discharged to surface waters or upon the surface of the ground. Effluent processed by an enhanced treatment system and disinfection may be dispersed by drip irrigation. Sewage shall not be discharged into any abandoned or unused well, or into any crevice, sinkhole, or similar opening, either natural or artificial.

SECTION 7. PERMIT REQUIRED; CONTROL OF CONSTRUCTION, INSTALLATION AND MODIFICATION PERMITS; RESPONSIBILITY ON ISSUED PERMITS; EXEMPTIONS

- A. Construction, installation, or modification of small wastewater facilities shall be allowed only in accordance with the terms and conditions of permits issued pursuant to the provisions of these regulations.
- B. No construction, installation or modification of a small wastewater system shall be allowed unless a permit to construct, install or modify has been obtained from the County Sanitarian.
- C. The issuance of a permit to construct does not relieve the permittee of its responsibility to properly plan, design, construct, operate and maintain the facility described in the application and permit conditions.

SECTION 8. APPLICATION REQUIREMENTS

The following procedures will be followed in applying for a permit:

- A. Any person who proposes to construct, install or modify a facility required to be permitted under Section 6 shall submit a written application on forms provided by the County Sanitarian.
- B. The applications for a permit to construct, install or modify must be accompanied by plans, specifications, design data or other pertinent information covering the project, and any additional information required by the County Sanitarian.
- C. All plans and specifications must conform to common engineering practices and include

the following:

1. Plans for small wastewater systems shall contain the following:
 - a. A title showing the name of the owner and the location of the project; a north arrow and drawing scale; and the name and seal or signature of the designing engineer (except on the plans for a single residential unit designed by the owner).
 - b. Datum used shall be indicated.
 - c. A site plan showing topography of the site, boundaries of the project and property nearby wells and waterlines, waterways, buildings, septic tank and drainfield, existing and proposed water features, including all dimensions and isolation distances.
 - d. Detailed drawings both plan and cross-section of septic tank and disposal field.
 - e. Location of percolation test holes and soil test pit(s).
 - f. Percolation test data.
2. Specifications for small wastewater systems shall include the following:
 - a. The identification of the type, size and strength of construction materials.
 - b. The type, size, strength, operating characteristics, rating or requirements and installation procedures for all mechanical and electrical equipment.

D. All the plans and specifications must conform to the minimum design standards identified in Sections 17 through 31.

SECTION 9. APPLICATION PROCESSING PROCEDURES

All permit applications received will be processed in the following manner:

- A. The County Sanitarian shall review each application and take final action within 15 days from the date the application is received.
- B. Incomplete applications will not be processed. The County Sanitarian shall promptly notify the applicant of the deficiencies in the submitted permit application package.

- C. All plans and specifications must meet or exceed minimum design standards and these regulations.
- D. Applications for a modification of an existing permitted facility to increase the capability to treat, hold, or dispose of wastes may be approved requiring only the modification needed to meet the minimum design standards. Facilities not in compliance with these regulations will require additional modifications to other portions of the facility to bring the facility into compliance with these regulations.
- E. Each application must be submitted with all supporting data necessary for review. Processing of the application with respect to recommendations or required changes will be done in accordance with the provisions or required changes will be done in accordance with the provisions of applicable statutes, rules and regulations.
- F. The County Sanitarian shall promptly notify the applicant of the final action taken on the application. If the conditions of the permit are different from the proposed application submitted by the applicant for review, the notification shall include reasons for the changes made.
- G. If, upon review of an application, the County Sanitarian determines that a permit is not required, the County Sanitarian shall notify the applicant of this determination. Such notification shall constitute final action on the application.
- H. If, upon review of an application, the County Sanitarian determines that a permit should not be granted, the County Sanitarian shall notify the applicant the permit denial and state the reasons for denial.
- I. If the applicant is dissatisfied with the permit conditions or denial of any permit issued by the County Sanitarian, he may request a hearing in accordance with Section 13.c.
- J. Alternative systems shall be designed by a Wyoming Professional Engineer knowledgeable in the design of waste water treatment systems. Three copies of the stamped drawings and specifications are required by Teton County to process the application. If required, the applicant shall send a fourth copy directly to the WDEQ for joint review.

SECTION 10. CONSTRUCTION AND OPERATION IN COMPLIANCE WITH ISSUED PERMIT

The permittee shall:

- A. Conduct all construction, installation, or modification of any facility permitted consistent with the terms and conditions of the permit. Unauthorized changes, deviations or modifications will be a violation of the permit. A new application or amended

application must be filed with the County Sanitarian to obtain modification of a permit. No modification shall be implemented until a new or modified permit has been issued or a waiver given pursuant to Subsection b.

- B. Request authorization to utilize materials and/or procedures different from those specified in the terms of the issued permit. Such requests shall be directed to the County Sanitarian. A waiver may be granted if materials and/or procedures specified in the permit cannot be obtained or accomplished and alternative materials and procedures meet minimum standards. In order to prevent undue delay during construction, the County Sanitarian may grant a waiver orally, upon oral request, provided that this oral request is followed by a written request within five days. Any changes shall be noted on the permit.
- C. Conduct the operation in accordance with statements, representations, and procedures presented in the complete application and supporting documents, as accepted and authorized by the County Sanitarian.
- D. Notify the County Sanitarian at least 24 hours prior to backfilling of system. The County Sanitarian will perform a final inspection of the installation to ensure compliance with these regulations. The compliance section of the permit will then be signed. If the applicant does not notify the County Sanitarian the following actions may be taken or required by the County Sanitarian:
 - 1. digging up the system to show compliance with these regulations;
 - 2. revocation of the permit;
 - 3. legal action; or
 - 4. all of the above.
- E. Small Wastewater Facility Permit applications prepared by a Wyoming Professional Engineer shall require inspection and certification of completion as per the approved plans and specifications. The certification shall be provided to the County Sanitarian within two weeks of the final inspection.

SECTION 11. DURATION AND TERMINATION OF PERMITS, TRANSFER OF PERMITS

- A. The duration of construction, installation or modification permits will be variable, but shall not exceed one year from the date of issuance. The expiration date will be recorded on each permit issued. Those permits issued without a specified expiration date will be in force no more than one year from date of issuance.
- B. Permits will be issued only to the official applicant of record, who must be the owner of

the permitted facility or his designated agent. A statement authorizing the applicant to act as agent for owner must accompany the application. The permit will be issued to the owner for only the type of construction of record and shall be automatically terminated:

1. Within 60 days after sale or exchange of the facility unless application for transfer is received pursuant to Subsection (c) of this section.
 2. When construction is completed. Except that conditions included in the permit will remain in effect throughout the life of the facility.
 3. Upon issuance of a new, renewed or modified permit.
 4. Upon written request of the permittee.
- C. Permits shall be transferred to new owners by the submittal as a written request from the new owner to the County Sanitarian. The County Sanitarian shall act within 15 days after receipt of the request.
- D. Any conditions established in a construction, installation or modification permit will be automatically transferred to the new owner whenever a transfer of ownership of the facility occurs.

SECTION 12. RENEWAL OF A PERMIT

A permit may be renewed where construction has not been completed by contacting the County Sanitarian stating that there will not be any changes in the plans for construction, installation, or modification of a permitted facility no less than 30 days prior to the expiration date of the permit. A renewal fee is required.

SECTION 13. DENIAL OF A PERMIT

- A. The County Sanitarian may deny a permit for any of the following reasons:
1. The application is incomplete or does not meet applicable minimum design and construction standards as specified in these regulations.
 2. The project, if constructed, will cause violation of applicable state surface or groundwater standards.
 3. The project does not comply with applicable state and local water quality management plans as specified in Section 16 of these regulations.
 4. No new small wastewater system shall be approved for a building to

which connection to a sanitary sewer is required by the Teton County Land Development Regulations.

5. Other justifiable reasons.
- B. If the County Sanitarian proposes to deny issuance of a permit, the applicant shall be notified of the intent to deny and the reason for denial.
 - C. In the case of the denial or conditioning of a permit by the County Sanitarian, the applicant, if he so desires, may request a hearing before the Board of County Commissioners. A request for hearing shall be made in writing within 20 days of notification of the denial to the County Sanitarian and shall state the grounds for the request. Any hearing shall be conducted pursuant to the regulations of Teton County. The Board of County Commissioners may not issue a waiver from the design standards of these regulations.

SECTION 14. MODIFICATION OF A PERMIT

Either before construction is completed upon a permitted small wastewater system, or during the review of a proposed facility application, the County Sanitarian may, for good cause, modify a construction permit.

- A. When reviewing an application or before construction on a facility is completed, the County Sanitarian may modify a permit due to the following reasons:
 1. existing, unknown or changing site conditions which would prevent construction and resultant operation from complying with these regulations; or
 2. receipt of additional information; or
 3. incomplete application on review items where the applicant agrees with the modification; or
 4. review items not in compliance with minimum standards where the applicant agrees with the modification; or
 5. any other reason necessary to effectuate applicable statutes, standards or regulations.
- B. The County Sanitarian shall notify the permittee of the intent to modify the permit.
- C. Such notification shall include the proposed modification and the reasons for modification and time frame to have modifications constructed, installed or operational.

Modification requirements shall be implemented before construction, installation, or modification of a facility is completed.

- D. The modification shall become final within 20 days from the date of such notice unless within that time the permittee requests a hearing before the Board of County Commissioners. Such request for hearing shall be made in writing to the County Sanitarian and shall state the grounds for the request. Any hearing held shall be conducted pursuant to the regulations of Teton County.
- E. A copy of the modified permit shall be forwarded to the permittee as soon as the modification becomes effective.

SECTION 15. SUSPENSION OR REVOCATION OF A PERMIT

The County Sanitarian may suspend or revoke a permit before construction, installation or modification of a facility is completed for the reasons set forth below, in item B.

- A. Before a permit may be suspended or revoked, the permittee shall be given an opportunity to show compliance with all lawful requirements for the retention of the permit.
- B. The County Sanitarian shall notify the permittee of its intent to suspend or revoke the permit in the event that it becomes necessary due to:
 - 1. non-compliance with the terms of the permit; or
 - 2. unapproved modifications in design or construction; or
 - 3. false information submitted in the application; or
 - 4. changing site conditions which would result in violations of applicable regulations; or
 - 5. non-compliance with any requirements of these regulations; or
 - 6. any other reason necessary to effectuate applicable statutes, standards or regulations.
- C. The notification shall include the reasons for suspension or revocation.
- D. The suspension or revocation shall become final 20 days from the date of such notice unless within that time the permittee requests a hearing before the Board of County Commissioners. Such a request for hearing shall be made in writing to the County Sanitarian and shall state the grounds for the request. Any hearing held shall be

conducted pursuant to the applicable regulations.

SECTION 16. COMPLIANCE WITH STATE AND LOCAL WATER QUALITY MANAGEMENT PLANS

No permit may be issued for any facility which is in conflict with an approved water quality management plan prepared under Sections 303, 208 and/or 201 of the Federal Clean Water Act, as amended or the Teton County Land Development Regulations.

SECTION 17. FACILITIES AND SYSTEMS NOT SPECIFICALLY COVERED BY THESE STANDARDS

This section is provided to encourage new technology and equipment and provide a process for evaluation and permitting of designs which deviate from these regulations. The construction of innovative facilities and processes not in compliance with these regulations will be permitted provided that the facility, when constructed, can operate meeting the purpose of these regulations. A design provided by an engineer licensed within the State of Wyoming, knowledgeable in the design of wastewater systems, shall be required by the County Sanitarian for any facility which deviates from these regulations.

- A. Each application for a permit to construct a facility not in compliance with these regulations shall be evaluated jointly by the County Sanitarian and the Department of Environmental Quality, Water Quality Division on a case-by-case basis using the best available technology. The following information should be included with the application:
 - 1. Data obtained from a full scale, comparable installation which demonstrates the acceptability of the design and/or,
 - 2. data obtained from a pilot plant operated under the design condition for a sufficient length of time to demonstrate the acceptability of the design and/or,
 - 3. data obtained from a theoretical evaluation of the design which demonstrates a reasonable probability of the facility meeting the design objectives; and
 - 4. an evaluation of the flexibility of making corrective changes to the constructed facility in the event it does not function as planned.

- B. If an applicant wishes to construct a pilot plant to provide the data necessary to show the design will meet the purpose of the act, a permit to construct must be obtained.

SECTION 18. DESIGN FLOWS

The sewerage system, treatment works and disposal system shall have a minimum absorption area based on the minimum peak design flows listed in Table 1.

TABLE 1

Quantities of Domestic Sewage Flows

<u>Type of Establishment</u>	<u>Flow (gallons per day per _____)</u>
Residential Facilities	
Single Family Dwellings	150/bedroom
Multiple Family Dwelling (with laundry)	150/bedroom
Multiple Family Dwelling (no laundry)	120/bedroom
Cottages	50/persons
Mobile Home Parks	350/home*
Commercial Facilities	
Airports (without restaurants)	4/passenger
Bar	3/patron
Bathhouses and swimming pools	10/persons
Campgrounds (indiv sewer hookups avail)	100/sites
Campgrounds (service building only)	75/sites
Church (no food service or dishwashing)	7/seat
Country club	100/member
Factories (domestic waste only)	30/employee
Hospital (domestic waste only)	200/bed
Motels	80/double bed 40/single bed
Office building	30/employee
Rest home	100/resident
Schools:	
Boarding	100/res. student
Day (no gyms, cafeterias or showers)	15/student
Service stations (domestic waste only)	10/vehicle served
Shopping center	2/parking space
Store, retail	30/employee
Theaters:	
Movie	5/seat
Drive-in	15/vehicle space
Warehouses	30/employee

*Must consider flow into the soil absorption system from facilities where taps are allowed to run

to prevent freezing.

SECTION 19. ISOLATION

- A. The isolation distances listed below apply when domestic wastewater is the only wastewater present and the flow is less than 2000 gallons per day (gpd). The minimum isolation distance (in feet) shown in Table 2 shall be maintained.

TABLE 2

<u>From</u>	<u>To Septic Tank Or Equivalent</u>	<u>To Absorption System</u>
Wells (includes neighboring wells)	50	100
Property lines	10	10
Bldg Foundation (w/o foundation drains)	5	10
Bldg Foundation(w/foundation drains)	5	25
Potable Water Pipes	25	25
Septic Tank		10
Stream or Surface		
Body of Water (including seasonal and intermittent)	50	50
Wetlands	50	50
Irrigation Ditches	50	50

- B. Location. Absorption systems shall not be located beneath buildings, parking lots, roadways, corrals or other similarly compacted areas.
- C. Watercourse protection district. No sewage treatment lagoon or subsurface disposal system shall be permitted.
- D. Lining or enclosing watercourses with acceptable impervious material MAY permit a reduction in the isolation distance requirement. In situations where the bottom of the canal or watercourse is at a higher elevation than the ground in which the absorption system is to be installed, a reduction in the isolation distance requirement may be justified, but must be approved by the County Sanitarian.

SECTION 20. SITE SUITABILITY

- A. Soil exploration. Soil exploration (profile hole) to a minimum depth of 4 feet below the bottom of the proposed absorption system (8-foot minimum) shall be made to provide information on subsoil conditions.
- B. Soil Evaluation.

1. No less than three percolation tests shall be run in the proposed absorption system location. The percolation tests shall be performed in accordance with Appendix A. The type of soil encountered at the percolation test location shall be specified.
2. An evaluation of the soil texture, by a person experienced in soils classification, may be used to estimate the percolation rate, but at least one percolation test shall be performed.
3. Percolation tests shall not be conducted in test holes which extend into groundwater, bedrock, or frozen soil.
4. Effort shall be made to protect the natural absorptive properties of the soil during construction. Soil absorption systems shall not be installed during adverse weather or soil conditions. Rain, severely cold temperatures, or excessively moist soils are considered adverse weather conditions. All smeared or compacted surfaces shall be restored to their original infiltrative conditions prior to replacement backfilling of the absorption system.
5. The installation of new wastewater systems is prohibited from November 15 through April 15 of each year unless approved by the County Sanitarian due to special circumstances. Repair of existing wastewater systems is not subject to the seasonal prohibition.
6. The requirements for percolation tests and/or soil texture evaluation MAY be waived by the County Sanitarian when adequate historical soil information is available and soil classification is verified by the County Sanitarian's examination of the required profile hole.

C. Bedrock or impermeable soil separation.

1. For single family homes, the depth to bedrock or impermeable soil must be at least 4 feet from the bottom of the absorption system and the natural ground surface in areas where absorption systems are to be constructed.
2. For all systems other than single family homes up to 2000 gallons per day, the depth to bedrock or impermeable soil must be at least 4 feet from the natural ground surface in areas where absorption systems are to be constructed.
3. Excessively permeable soils. Soils having a percolation rate of 1 minute per inch or less are unsuitable for subsurface sewage disposal. These soils may be used if a 6-inch layer of soil having a percolation rate of 5 minutes per inch or greater is placed between the bottom of the absorption field and the existing soil. The soil absorption system shall be sized based on the percolation rate of the fill material.

D. Ground water Requirements.

1. In areas where absorption systems are to be constructed, the depth to seasonally high groundwater must be at least four (4) feet from the bottom of the absorption system and at least two (2) feet from the natural ground surface. Also, a minimum of four (4) feet of unsaturated soil shall be maintained between the bottom of the absorption system and the estimated groundwater mound imposed on the seasonally high groundwater table, including perched groundwater and/or irrigation induced groundwater. The use of conventional onsite wastewater systems will be prohibited if the highest estimated elevation of the groundwater is expected to reach or exceed these requirements for any reason over the full operating life of the onsite wastewater system.
 - a. The height of the groundwater mound may be estimated from Figures 1 through 6. The average daily flow should be used and may be estimated as 0.6 times the flow determined from Table 1.
2. The maximum groundwater table shall be determined by one or more of the following methods:
 - a. Direct visual observation of the maximum groundwater table in a soil exploration pit.
 - b. Observation of soil in a soil exploration pit for evidence of crystals of salt left by the maximum ground water table; or chemically reduced iron in the soil reflected by a mottled coloring.
 - c. Previous groundwater records and climatological or other information may be consulted in cases where the anticipated maximum groundwater table is expected to rise to closer than forty-eight (48) inches from the original ground surface and an alternative or experimental onsite wastewater system would be considered.
 - d. A curtain drain or other effective groundwater interceptor may be required to be installed for an absorption system as a condition for its approval. The County Sanitarian may require that the effectiveness of such devices in lowering the groundwater table be demonstrated during the season of maximum groundwater table.

FIGURE 1

"Saturated thickness": Distance between the seasonally high groundwater table and the underlying impervious layer such as: clay, bedrock, or soils with significantly lower permeability.

"Estimated Rise in Water Table": The estimated distance the water table will rise at the center of the absorption system above the initial water table when the indicated flow is applied daily.

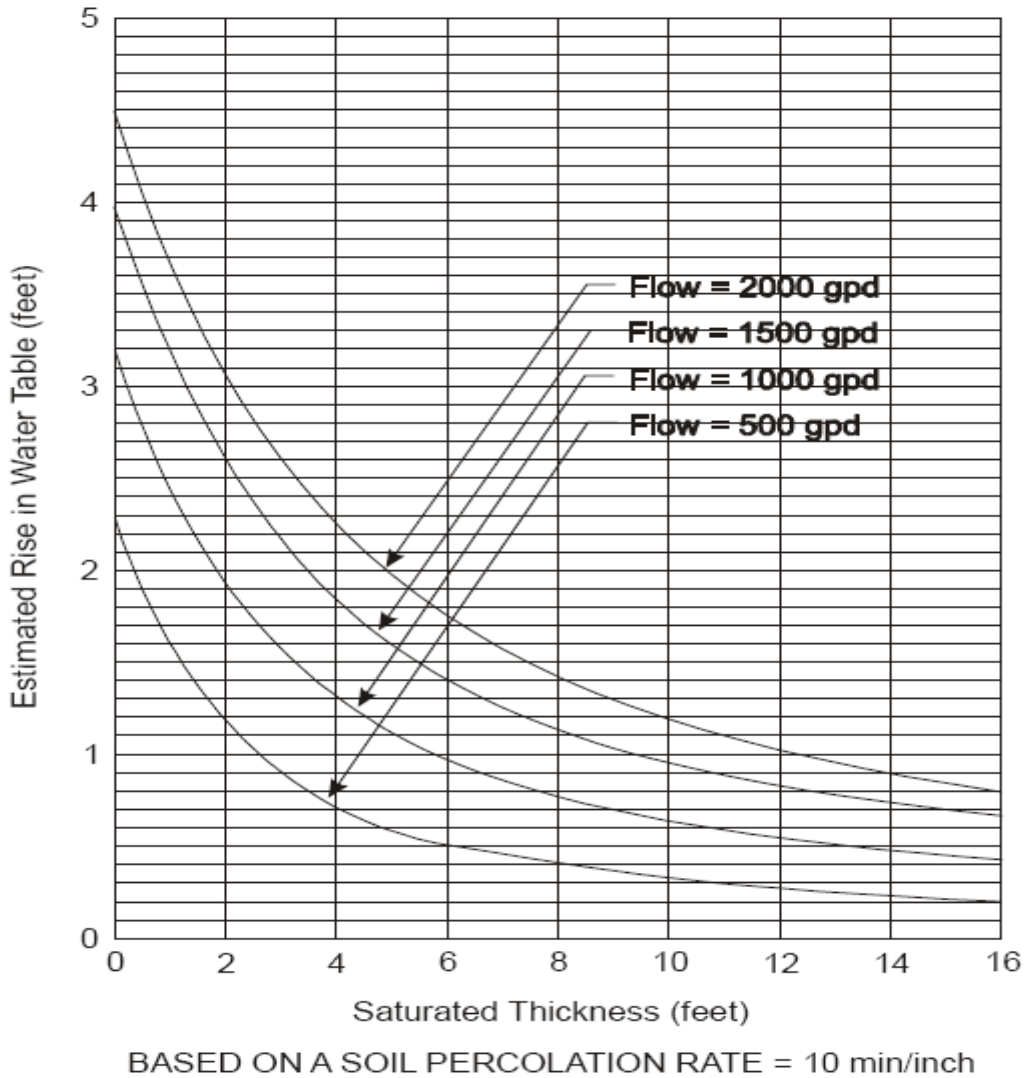


FIGURE 2

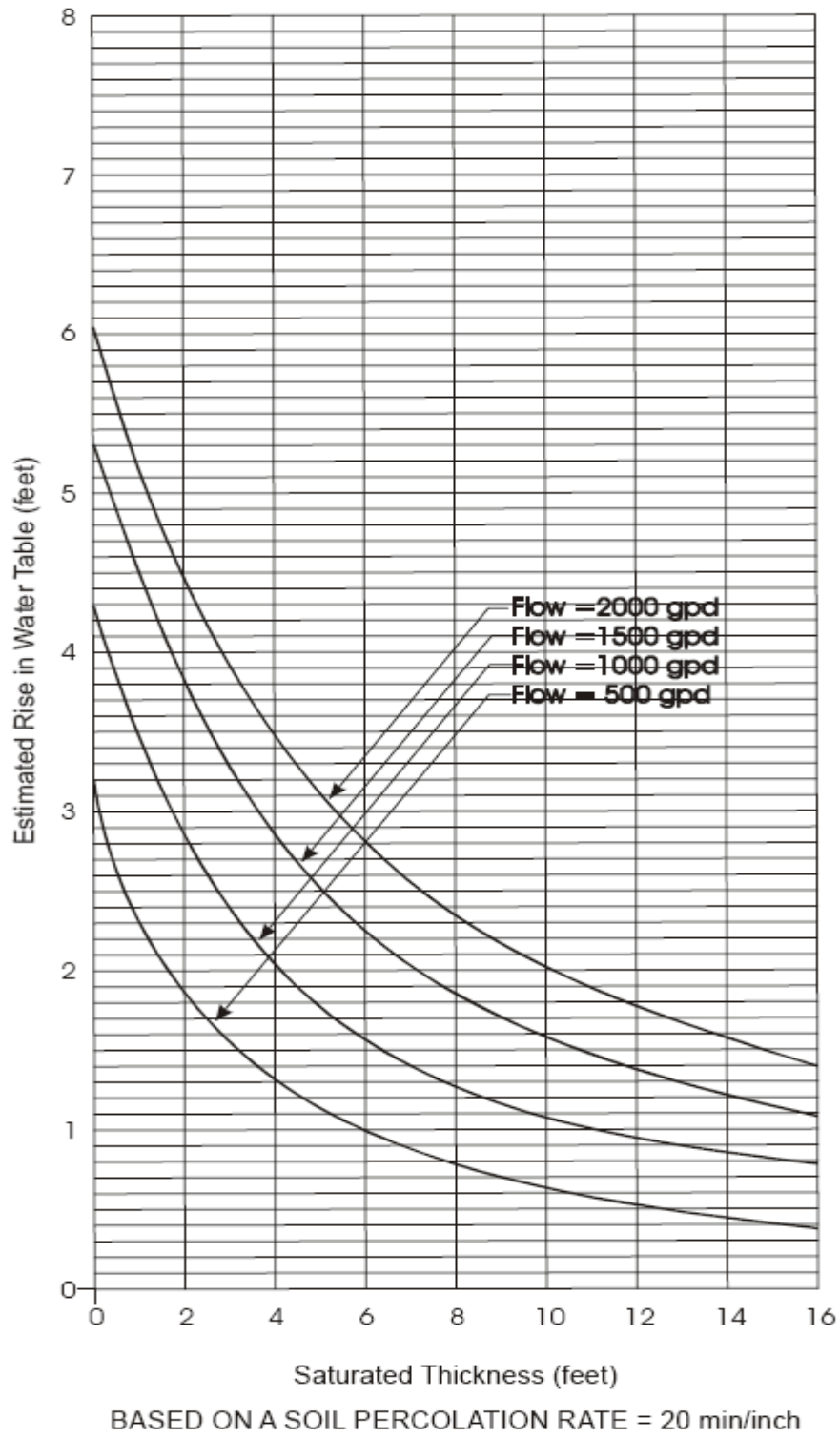


FIGURE 3

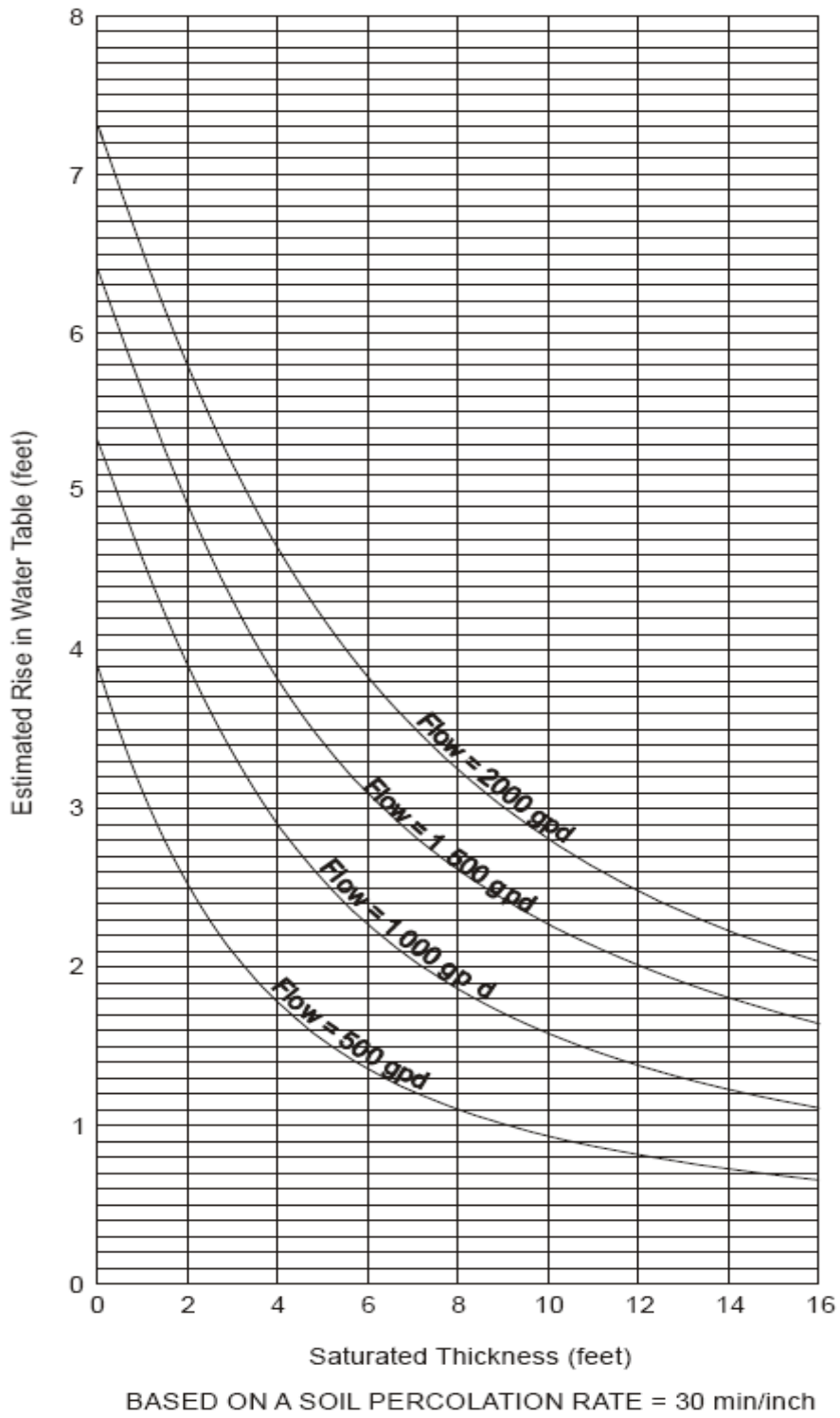


Figure 4

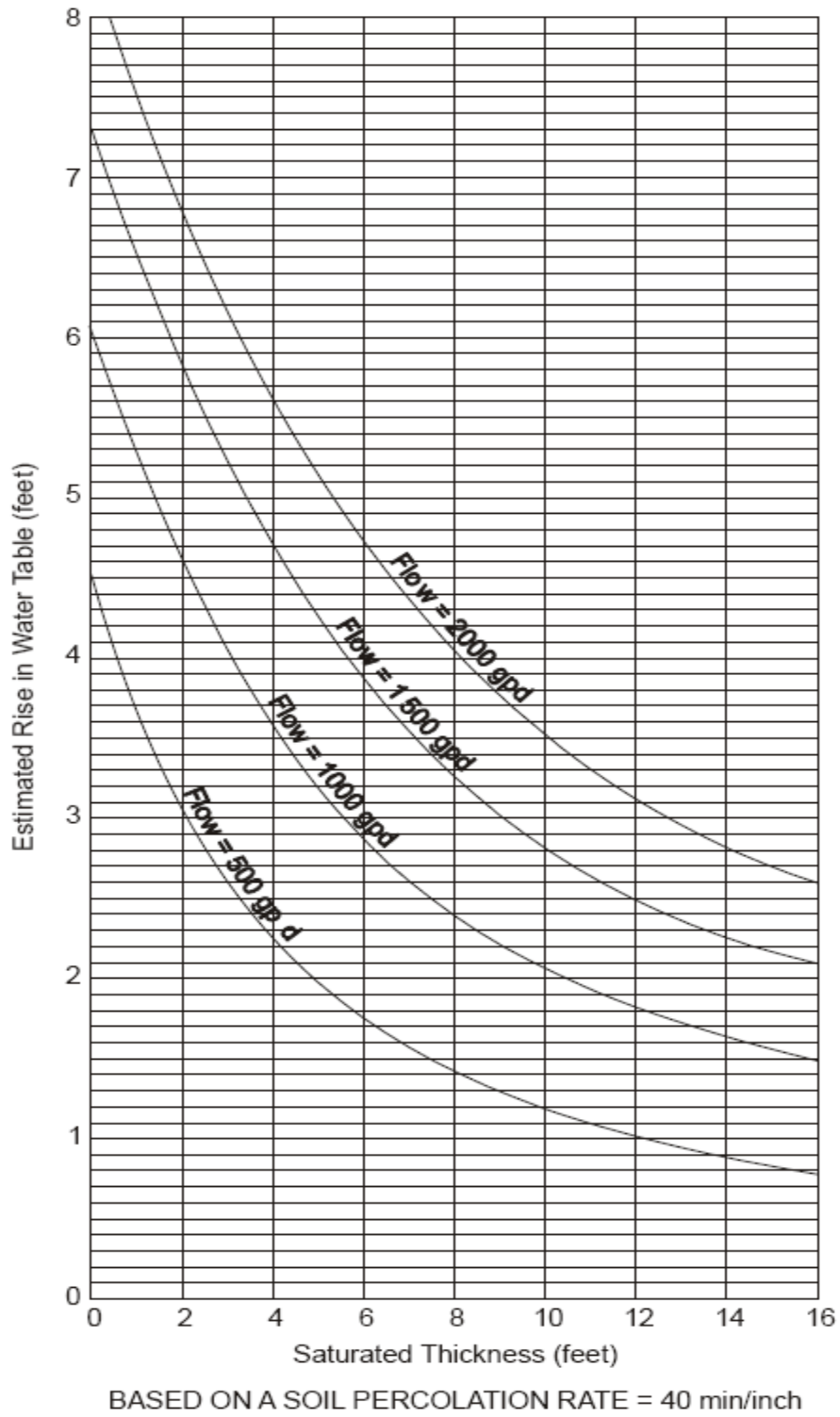


FIGURE 5

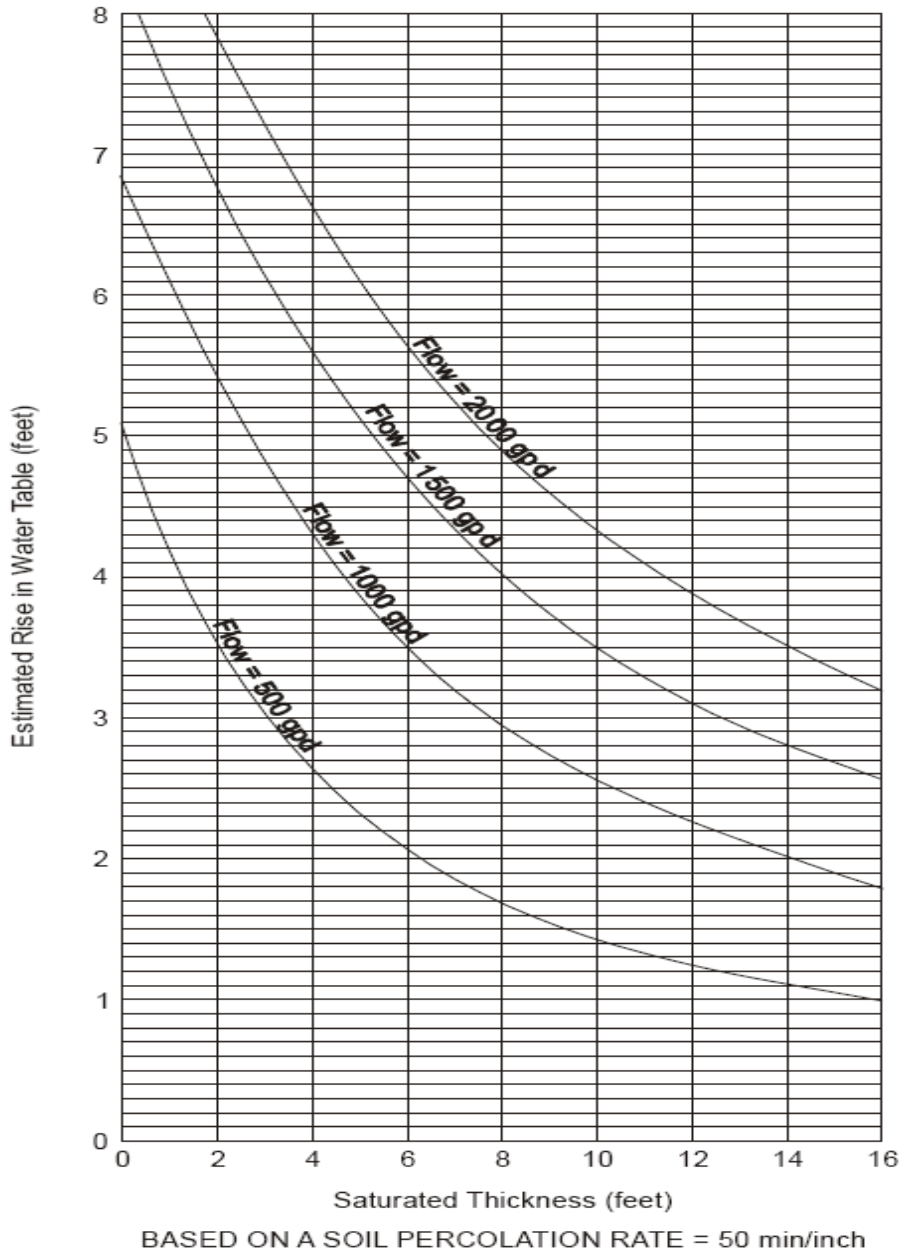
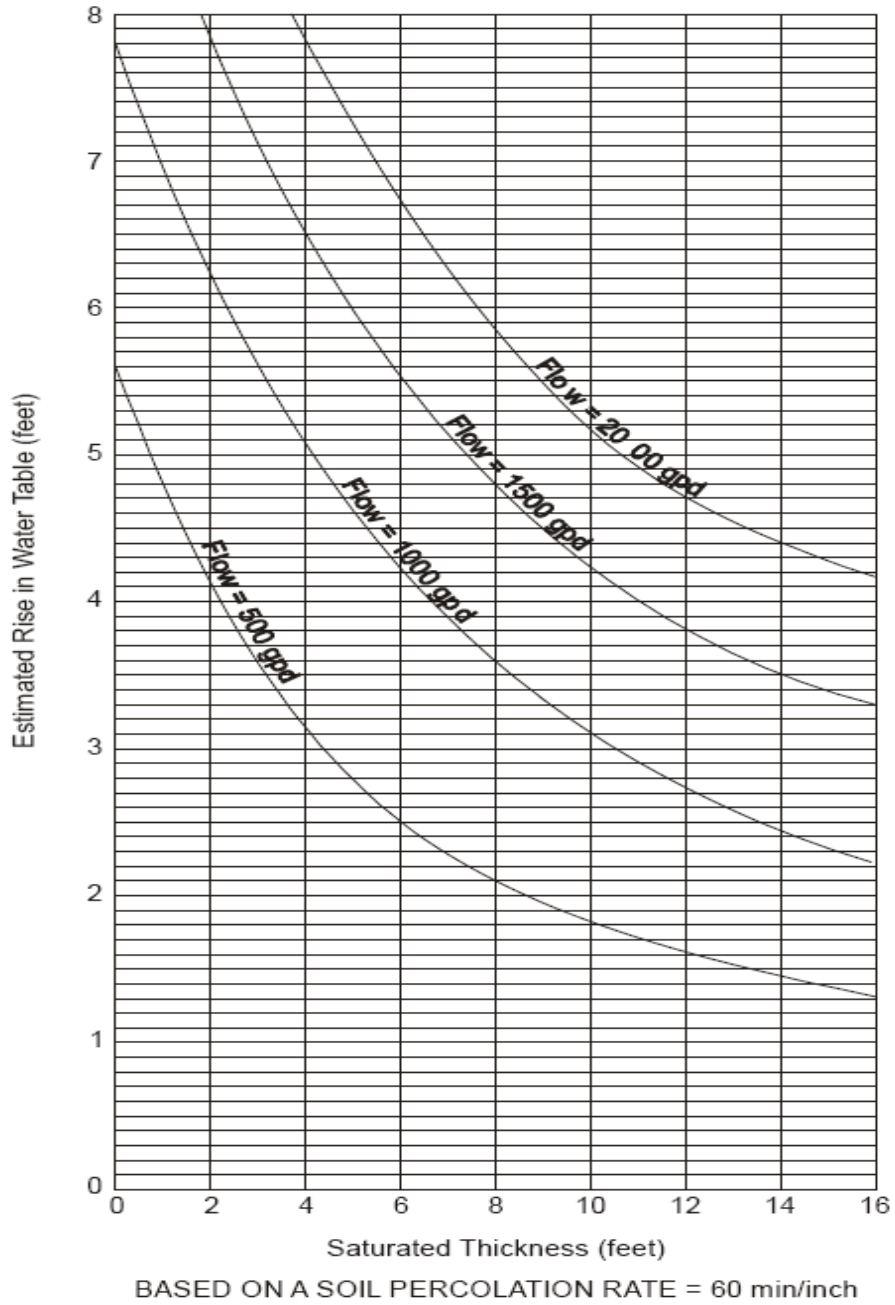


FIGURE 6



D. Sloping ground installations.

1. Absorption systems shall not be located in an area where the natural slope is steeper than stated below. The following are the maximum permissible slopes on which an absorption system may be constructed.

Percolation Rate (min/inch)	Maximum Slope*
Faster than 5	25%
6-45	20%
46-60	15%

*Flatter slopes may be required where the effluent may surface down slope.

2. All absorption systems must be located at least 15 feet from the top of any break in slope which exceeds the maximum allowed in Subsection 1 above.

SECTION 21. BUILDING SEWER PIPES

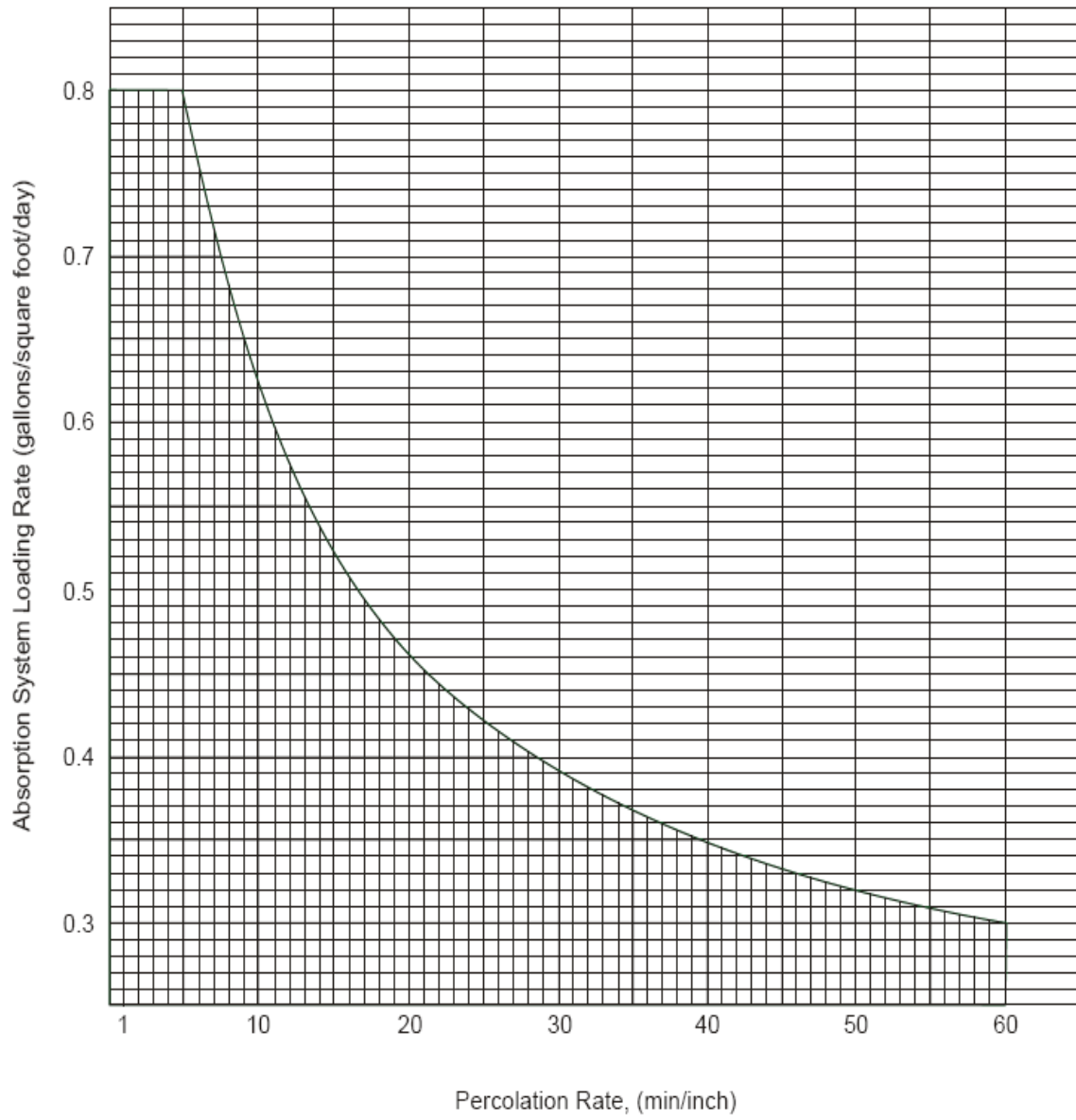
- A. Building drain pipe. All building drain pipe shall comply with the standards published in the locally approved, nationally recognized plumbing code.
- B. Building sewer pipe. All building sewers shall be installed in accordance with the locally approved nationally recognized plumbing code. In the absence of an approved plumbing code, the building sewer shall comply with the following:
 1. Material. Polyvinyl Chloride (PVC), Acrylonitrile - Butadiene - Styrene (ABS), Schedule 40 pipe shall be used for sewer pipes.
 2. Size. Building sewer pipes shall not be smaller than 4 inches in diameter. They shall be sized to handle the peak hourly flow from the building.
 3. Slope. Building sewer pipes should be laid at a minimum slope of 1/4 inch per foot.
 4. Alignment. Building sewer pipes should be laid in a straight line. Any single change or cumulative change of alignment of 22-1/2 degrees or greater shall be served by a cleanout.

5. Cleanouts. Cleanouts shall be provided every 100 feet maximum. A 4-inch capped cleanout within five feet of the building foundation is required.
6. Backfilling. All sewer piping shall be laid on a firm bed throughout its entire length. It shall be protected from damage due to rocks, hard lumps of soil, debris and the like. Special care shall be utilized to prevent lateral movement or ovalation during backfilling. The backfill material shall be compacted to a density at least equivalent to the trench walls. Backfill or other insulating material over the pipe shall be of sufficient depth to protect the pipe from expected traffic loads and the wastewater from freezing.

SECTION 22. SOIL ABSORPTION SYSTEM SIZING

- A. Trench and bed systems. The total infiltrative surface of a soil absorption system shall be calculated based on the flow rate as determined by the criteria stated in Section 18 and with the allowable loading rate as determined by using Figure 7. The total infiltrative surface is the sum of the sidewall and bottom areas of the absorption system below the invert of the distribution pipe, or the standard equivalent infiltrative surface area as determined by the WDEQ for the use of gravel-less chambers.
- B. Soils with a percolation rate of 60 minutes per inch or greater are unacceptable for standard absorption systems.

FIGURE 7



SECTION 23. PRETREATMENT

A. Septic tanks.

1. **Material.** The septic tank shall be constructed of durable material not subject to excessive corrosion or decay and structurally capable of supporting the loads to which it will be subjected. The tank shall be water-tight and accessible for inspection and cleaning. Steel tanks are not approved. Only concrete precast and manufactured fiberglass or polyethylene septic tanks are approved. Fiberglass and polyethylene tanks are allowed only when difficult access conditions exist and when specifically approved by the County Sanitarian. No poured-in-place or cement block tanks will be approved.

2. **Size.**
 - a. Residential units serving no more than 4 families. Minimum liquid volume of septic tanks shall be 1000 gallons for residences through 4 bedroom capacity. Additional capacity of 250 gallons per bedroom shall be provided for each bedroom over 4.

 - b. Commercial/industrial units. Septic tanks shall have a minimum effective liquid capacity sufficient to provide at least 36-hour retention at peak flow or 1000 gallons, whichever is greater.

3. **Configuration.**
 - a. The septic tank shall have a length to width ratio of no less than 2 to 1, or be so partitioned as to provide protection against short circuiting of flow. The water depth shall be no less than 4 feet nor greater than 6 feet. The septic tank inlet shall be provided with a tee or baffle. The outlet shall be provided with a tee or baffle and an effluent filter that extends into the middle third of the water depth to prevent floating or settled solids from carrying over into the disposal field or bed. The inlet pipe shall be at least 3 inches higher than the outlet pipe.

 - b. Two-compartment septic tanks are required. The volume of the first compartment must be at least 50 percent of the total required volume. The partition shall allow venting of the tank.

 - c. The outlet elevation shall be designed to provide a distance of 20 percent of the liquid depth between the top of the liquid and the bottom of the septic tank cover for scum storage.

4. A manway access shall be provided to each compartment of the septic tank for inspection and cleaning. The manway access shall have a minimum opening of 24 inches in the least dimension. Both inlet and outlet devices shall be accessible. Minimum 24-inch diameter covered risers extending to within 6 inches of the ground surface are required over both tank openings.
5. Installation. The septic tank shall be placed on a level grade and a firm bedding to prevent settling. Where rock or other undesirable protruding obstructions are encountered, the bottom of the hole should be excavated an additional 6 inches and backfilled with sand, crushed stone, or gravel to the proper grade. Backfill around and over the septic tank shall be placed in such a manner as to prevent undue strain or damage to the tank or connected pipes.
6. Locations shall meet the requirements of Section 19 a. and c.
7. Tanks in Series. Additional septic tank capacity over 1,000 gallons may be obtained by joining tanks in series provided the following requirements are met:
 - a. No tank in the series shall be smaller than 1,000 gallons;
 - b. The outlet of each successive tank shall be at least 2 inches lower than the outlet of the preceding tank and shall be unrestricted except for the inlet to the first tank and the outlet for the last tank.
 - c. The number of tanks in series shall not exceed 3.

SECTION 24. DOSING SYSTEMS FOLLOWING THE SEPTIC TANK

A. Pumping systems for flow up to 2000 gallons per day.

1. Pump tank. Where only one pump is provided, the single compartment pump tank shall have the minimum volume as required in Table 3 below. The tank shall comply with the material requirements for septic tanks. The pump tank shall be vented. The vent shall have a downward turn that terminates at least 12 inches above ground and shall be provided with a screen. The pump tank shall have an access manhole provided with a minimum 24-inch diameter opening.

TABLE 3

Pump Tank

Volume (gallons) Required Between

<u>AVERAGE FLOWS (gallons per day)</u>	<u>"OFF" & "ON" SWITCH</u>	<u>"ON" & "ALARM" SWITCH</u>	<u>"ALARM" SWITCH & TANK INLET</u>	<u>PUMP CAPACITY (gpm)</u>
0-499	50	50	200	10
500-999	100	100	400	20
1000-1499	150	100	600	30
1500-2000	200	100	800	40

2. Pumps.

- a. Sizing. The pump shall have a flow rate of at least 10 gallons per minute when installed. The pressure loss (feet of head) of the system can be calculated by adding: the elevation difference between the discharge outlet at the soil absorption system and the low water level in the pump tank; and the friction losses incurred in the pressure transfer pipe and distribution piping. Table 4 may be used to estimate the head loss of the pipe when pumping 10 gallons per minute and using plastic pipe.

TABLE 4

Head Loss
(for 10 gallons per minute)

<u>Diameter (inches)</u>	<u>Head Loss per 100 feet of pipe (in feet)</u>
1	12
1 1/4	4
1 1/2	2

- b. Installation/removal. The pump shall be installed in the tank so that it can be removed without entering the tank. This can be accomplished by (1) looping the pipe up near the access manhole with a pipe union provided at the top of the loop, (2) using a quick disconnect sliding coupler, or (3) using a pitless adapter. Chains, cable, or piping can be used to lift the pump out of the tank if designed for this loading. Setting the pump on an 8-inch block minimizes the transfer of any solids that may enter the pump tank. An effluent filter is required at the outlet of the septic tank prior to the pump tank to further minimize the transfer of solids that may enter the pump tank.

- c. Electrical controls. The electrical control system for the wastewater pump shall consist of a "pump off" switch, a "pump on" switch, and a "high water alarm" switch which shall be located to provide the necessary volumes as stated in Table 3. All electrical controls (pump electrical cord, switches, etc.) shall comply with the National Electrical Code, Class 1, Group D, Division 1 locations. In addition, equipment located in the pump tank shall be suitable for use under corrosive conditions. All openings around the cables or cords entering the tank shall be sealed.
- 3. Pressure transfer pipe. The pressure transfer piping between the tank and the leach system shall be designed to drain after each pump cycle or be adequately insulated to prevent freezing. This can be accomplished by either eliminating the check valve at the pump or by providing a weep hole in the pipe in the tank. If the pipe is long, the tank shall be enlarged by the volume of the pipe to accommodate the volume of liquid drained from the pipe.
- B. Siphons. Recommended when site conditions offer adequate elevation differential. Where automatic siphons are used, they shall be designed to empty the siphon tank in less than 20 minutes. The siphon tank shall be sized in accordance with Subsection 24.a.1., above.
- C. Squirt Test. All pressure distribution systems shall be installed and tested under normal operating conditions, prior to backfill, to demonstrate to the satisfaction of the design Engineer and/or County Sanitarian, a minimum discharge head of 24 inches and equal flow distribution throughout the system.

SECTION 25. DISTRIBUTION BOXES

- A. General. When a distribution box is used it shall be provided with a means of access and shall be installed between the tank and disposal area. Distribution boxes shall be watertight and constructed of concrete or other durable material. They shall be designed to accommodate the necessary distribution piping leading to the disposal area to provide equal distribution of sewage liquids.
- B. Distributing piping. The inlet piping to the distribution box shall be at least 1 inch above the outlet pipes.
- C. The distribution box shall be of a construction approved by the County Sanitarian.
- D. Approved flow divider tees may be used in place of distribution boxes when approved by the County Sanitarian. Straight sanitary tees are not permitted.

SECTION 26. CONVENTIONAL SUBSURFACE TREATMENT AND DISPOSAL SYSTEM

A. General requirements.

1. **Replacement area.** An area shall be designated and shown on the plans for future installation of a replacement absorption system. If a trench system is used, the replacement area may include the area between the trenches if sufficient spacing has been provided. At least 3 feet of undisturbed soil shall remain between the existing and replacement trench side walls.
2. **Protection.** Effort shall be made to protect the natural absorptive properties of the soil. Soil absorption systems shall not be installed during adverse weather or soil conditions. Rain, severely cold temperatures, or excessively moist soils are considered adverse weather or soil conditions. All smeared or compacted surfaces shall be restored to their original infiltrative conditions prior to backfilling the absorption system.
3. **Runoff.** Surface runoff shall be diverted around or away from all soil absorption systems.
4. **Stone.** Soil absorption system stone shall be sized between 1/2 inch to 2-1/2 inches. At least 2 inches of stone shall be placed over the distribution pipe, and at least 12 inches of stone shall be placed under and beside the distribution piping. The stone shall be free from sand, silt and clay.
5. **Gravity pipe.** All plastic gravity absorption system pipes shall have a minimum diameter of 4 inches and shall conform to ASTM standard D2729. Piping in all horizontally constructed absorption systems shall be laid with the holes centered around the vertical axis at the bottom of the pipe. Piping in horizontally constructed absorption systems shall have a maximum slope of 3 inches per 100 feet. The ends of drain field pipe shall be connected together to form a complete circuit.
6. **Pressure pipe.** All pressure distribution piping shall be designed to withstand the anticipated pressures with a safety factor of two, provide uniform application of the wastewater, and have non-clogging orifices.
7. **Distribution box.** If a distribution box is used, it shall be installed to provide uniform distribution of the wastewater and shall be placed so that it will not be subject to frost heave and in accordance with Section 25.
8. **Stone cover.** A suitable filter cloth shall be placed over the stone prior to

backfilling the system.

9. Gravel-less Chambers. Gravel-less chambers may be used in lieu of the gravel media and perforated effluent pipe providing the installation is in accordance with manufacturers recommendations, as modified by the following:
 - a. No cracked, weakened, modified or otherwise damaged chamber units shall be used in any installation.
 - b. All chamber endplates shall be designed and constructed so that the bottom of the effluent pipe is at an equal or higher elevation than the highest elevation of the chamber sidewall louvers.
 - c. All chambers shall have a splash plate under the inlet pipe or other design feature to avoid unnecessary scouring or channeling into the trench bottom.
 - d. All chambers shall meet International Association of Plumbing and Mechanical Officials (IAMPO) standards.
10. Earth cover. A minimum of 12 inches of earth shall be placed over the absorption system. The earth shall be permeable soil that will allow aeration of the system and will support the growth of grass. The earth cover shall be graded to ensure that water will not pond on the surface.
11. Levelness. The bottom of soil absorption systems and each segment of a sidehill system shall be level.
12. Location. It shall meet the requirements of Section 19 a. and c.
13. Special requirements for trench systems. An undisturbed soil column shall be maintained between trench sidewalls. The minimum horizontal separation distance shall be 3 feet or 1.25 times the vertical depth of the trenches, whichever is greatest.
14. Special requirements for serial sidewall trench or bed systems.
 - a. Separation. A minimum of 3 feet of undisturbed soil shall be maintained between adjacent trench or bed sidewalls.
 - b. Levelness. The bottom of each serial trench or bed system shall be level.
 - c. Overflow. The overflow pipe between each serial leach system shall be set no higher than the mid-point of the upstream distribution pipe. The

overflow pipe shall not be perforate.

15. Special requirements for bed systems. The distribution system piping shall be spaced no more than 10 feet apart.

SECTION 27 ALTERNATIVE TREATMENT AND DISPOSAL SYSTEMS

A. Mound Systems.

1. Design requirements. Mound systems shall be allowed over naturally existing soils with a percolation rate between one to 60 minutes per inch provided:
 - a. The minimum separation distance between the maximum groundwater level and the natural ground surface shall be a least 24 inches.
 - b. A minimum of 4 feet of soil, either imported or natural, with a percolation rate between 5 and 60 minutes per inch shall be required from the infiltrative surface to the maximum groundwater level or impervious strata.
 - c. The native ground surface shall not exceed 25 percent for the installation of a mound system.
2. Sizing.
 - a. The infiltrative surface between the stone or gravel-less chambers and the fill material shall be sized based on the flow rate as determined by Section 18 and the allowable loading rate as determined by Figure 7 of Section 22 for the percolation rate of the fill. The total infiltrative surface is the sum of the sidewall and bottom areas of the stone-soil interface below the distribution pipe or the total equivalent area of the gravel-less chambers.
 - b. The interface area between the fill soil and the native soil shall be sized based on the infiltration rate of the native soil as determined by Figure 7.
3. Grade. The finished grade shall extend at least 3 feet horizontally beyond the stone or gravel-less chambers and then be sloped to the parent soil at a grade no steeper than four horizontal to one vertical.
4. Fill soil. The fill soil that is placed between the native soil and the stone or gravel-less chambers shall have a minimum percolation rate of 5 minutes per inch. Topsoil shall be placed over the mound to promote vegetative cover.

5. Preparation. All trees, roots, and other organic matter shall be removed from the area to be occupied by the mound. Effort shall be made to protect the natural absorptive properties of the soil. Soil absorption systems shall not be installed during adverse weather or soil conditions. Rain, severely cold temperatures, or excessively moist soils are considered adverse weather conditions. All smeared or compacted surfaces shall be restored to their original infiltrative conditions prior to placement of fill materials and backfilling.

B. At-Grade Systems.

1. Design requirements. Absorption trenches and beds may be placed in the at-grade position provided:
 - a. The top of the effluent distribution pipe or the bottom of the absorption trench is placed at the native ground surface. The maximum slope for above ground fill shall be four horizontal to one vertical.
 - b. A minimum of 4 feet of soil, either imported or natural, with a percolation rate between 5 and 30 minutes per inch shall be required from the infiltrative surface to the maximum groundwater level or impervious strata.
 - c. The site shall be graded such that surface water drains away from the wastewater system.
 - d. The native ground surface must be cleared of vegetation and the surface soil scarified to a minimum depth of 6 inches. Tilling shall not be permitted and any furrows resulting from the scarification shall be perpendicular to the slope.

SECTION 28. HOLDING TANKS

- A. Uses. Holding tanks shall not be used for residential systems when conventional or alternative systems are available, except when used to correct a failed subsurface disposal system when other alternatives are unavailable. Use of holding tanks for new construction is prohibited. Holding tanks require a Teton County Small Wastewater Facility Permit and are subject to approval of the County Sanitarian. Where holding tanks are allowed, they shall be sized on the basis of 7 days storage at the flow rate determined from Table 1.
- B. Acceptance. A letter of verification from the receiving agency, denoting acceptance of the wastewater generated shall be submitted with the plans.

- C. Location. The location and construction of holding tanks shall meet the requirements in Sections 19 a. and c. and Section 23 a.1 respectively. Sewage holding tanks must be located in an area readily accessible to the pump truck and where the tank itself will not “float” due to high groundwater levels or saturated soil conditions. In areas where groundwater may be high enough to “float” the tank when empty or partially full, adequate ground anchoring procedures shall be required as per the tank manufactures recommendations.
- D. Vent. Each holding tank shall be provided with a 2-inch minimum diameter vent ending in a return elbow above final grade. The vent shall terminate at least 30 feet from any door, window, or fresh air inlet. The vent should be screened.
- E. Alarm. All holding tanks shall be equipped with a high water level alarm. The device shall be an audible alarm or an indoor illuminated alarm. The alarm level shall be placed at 3/4 the depth of the tank.
- F. Pump out. A minimum 20-inch access riser which extends to the surface shall be provided. It shall be capped at all times.

SECTION 29. PRIVIES

- A. General requirements.
 - 1. All privies shall be designed and constructed to prevent access by flies and rodents.
 - 2. If indoor plumbing is installed, the greywater disposal method shall meet the requirements of Sections 18 through 28. The minimum design flow for greywater shall be obtained from Table 1 with a reduction of 33 percent allowed for the elimination of black wastes.
 - 3. The privy shall consist of a watertight vault and an outhouse building.
 - 4. The minimum size of a vaulted privy is to be not less than 500 gallons. Steel privies are not permitted.
- B. Isolation. The isolation requirements for privies shall comply with Section 19 a. and c. for absorption systems.
- C. Soil exploration. Soil exploration to a minimum depth of 4 feet below the bottom of the proposed vault shall be made to provide information on subsoil condition.
- D. Groundwater and bedrock separation. The depth to seasonally high groundwater shall be sufficient to prevent floatation of an empty watertight vault.

- E. Sizing. Vaults shall have a minimum capacity of 500 gallons per riser and shall be a minimum of 4.5 feet deep.
- F. Construction.
 - 1. The vault shall be constructed and installed to resist breakage and damage imposed by frost heave, uplift pressures from a fluctuating water table, loads imposed by the outhouse building and soils, and damage that may be caused by vandalism or rough cleaning procedures. The vault shall be constructed to prevent access by flies.
 - 2. Materials used for vault construction shall be resistant to alkali attack, hydrogen sulfide gas, and other corrosive elements associated with decomposing waste.
 - 3. A clean-out manhole shall be installed and shall have a minimum opening of 20 inches in the least dimension. The manhole shall be located outside of the outhouse building and be equipped with a tight-fitting secure cover.
 - 4. The vault shall be ventilated to a point outside and above the outhouse building. The outhouse building shall have a set of vents installed near the floor on two opposite sides of the building and a roof vent that has a rain cap. All vents shall be screened.
- G. Vault additives. No chemical or biological additive shall be placed in the vault that may adversely affect the operation of a sewage treatment facility where the vault waste will ultimately be disposed or that may adversely impact the quality of the groundwater as specified in Chapter VIII, "Quality Standards for Groundwater of Wyoming."

SECTION 30. CHEMICAL TOILETS

- A. General requirements. Chemical toilets shall only be used only during periods of construction and shall only be used in the containment of body wastes. Chemical or port-a-potty toilets are not approved for use once the residence is completed, even if only used seasonally.
- B. Greywater. If indoor plumbing is installed, a separate greywater disposal is required and shall meet the requirements of Sections 18 through 28. The minimum design flows for greywater shall be obtained from Table 1 with a reduction of 33 percent allowed for the elimination of black-water wastes.
- C. Disposal. All chemical toilet wastes shall be disposed of at an approved wastewater facility. A letter of verification from the receiving agency, denoting acceptance of the wastewater generated shall be submitted with the plans. These wastes shall not be

discharged into a soil absorption system.

- D. Construction. Chemical toilets shall be constructed and installed to resist breakage or damage from routine usage. Outdoor chemical toilets shall be adequately stabilized and secured to prevent overturning. Materials used shall be resistant to the sewage wastes and the chemicals encountered. The holding compartment of the toilet shall be constructed to prevent accessibility by the public and by flies and rodents.
- E. Additives. No chemical or biological additive shall be placed in the toilet that may adversely affect the operation of a sewage treatment facility where the toilet waste will ultimately be disposed or that may adversely impact the quality of the groundwater as specified in Chapter VIII, "Quality Standards for Groundwater of Wyoming."

SECTION 31 ABANDONMENT PROCEDURE

In the event a small wastewater system must be abandoned, the following requirements must be met:

- A. The tank must be pumped and waste shall be disposed of at an approved wastewater facility.
- B. The tank may be removed and the excavation where the tank was located filled with compacted gravel or topsoil. If the tank is to be left in place the bottom of the tank must be perforated to facilitate drainage then filled with gravel or topsoil.

SECTION 32. VALIDITY CLAUSE

If any section, subsection, sentence, clause, or phrase of these rules and regulations is for any reason held to be unconstitutional or invalid, such decision shall not affect the validity of the remaining portions of these rules and regulations.

SECTION 33. ENFORCEMENT

The Board of County Commissioners, through the County and prosecuting attorney or any other duly authorized enforcement official, shall enforce the provisions of this resolution.

- A. All officials, departments, and employees of the County vested with the authority or duty to issue permits, certificates, or licenses shall comply with the provisions of this resolution, and shall issue no permit, certificate or license which conflicts with the provisions of this resolution. Any permit, certificate, or license issued in conflict with the provisions of this resolution shall be null and void. Any person, owner, or agent, who is in violation of this resolution, shall not be allowed to apply for a permit related to the

alleged violation until the violation enforcement proceedings have been finally determined by the proper authority.

- B. The County shall have the authority to inspect any site and review the construction or maintenance of improvements to ensure conformance with the requirements of this resolution, provided that such inspections are conducted during weekday working hours.
- C. Whomever, being the owner or the agent of the owner of any land located within the unincorporated area of Teton County, develops or uses such land in violation of any of the provisions of this resolution, or any amendment thereto, shall be fined not more than \$100 for each offense. Each day's continuance of any violation is a separate offense.
- D. This resolution shall be enforceable by the County by injunctive action, in addition to all other remedies at law or in equity.

SECTION 35 ADOPTION

This resolution setting forth various rules, regulations and standards for a Permit to Construct, Install or Modify Small Wastewater Facilities in Teton County, Wyoming shall be in force and effect after its adoption by the Board of County Commissioners and its proper filing with the Teton County Clerk and Recorder in accordance with the requirements of the Wyoming Administrative Procedures Act.

APPROVED AND ADOPTED THIS ___DAY OF _____, A.D. 2010

Board of County Commissioners
Teton County, Wyoming

Hank Phibbs, Chairman

Ben Ellis, Vice-Chair

Andrew Schwartz

Paul Vogelheim

Leland Christensen

APPENDIX A
PERCOLATION TEST PROCEDURE

SECTION 1. LOCATION

The percolation test holes shall be spaced uniformly over the proposed absorption field site. A minimum of 3 test holes are required.

SECTION 2. PREPARATION

A 12-inch hole shall be dug or bored to the proposed depth of the absorption field. The walls shall be vertical. To expose a natural soil surface, the sides and bottom shall be scraped with a sharp pointed instrument and the loose material shall be removed from the hole. Coarse sand or gravel shall be placed in the bottom of the hole to prevent it from scouring and sealing.

SECTION 3. PRESOAKING

The purpose of presoaking is to have the water conditions in the soil reach a stable condition similar to that which exists during continual wastewater application. The minimum time of presoaking varies with soil conditions but must be sufficiently long so that the water seeps away at a constant rate. The following presoaking instructions are usually sufficient to obtain a constant rate.

- A. In sandy soils, place 12 inches of water in the hole and allow it to seep away. Fill the hole again with 12 inches of water and if the water seeps away in 10 minutes or less, it indicates that the soil is excessively permeable and requirements in Section 20.d. of these regulations shall be followed. If the water remains after 10 minutes, additional saturation is necessary. Refer to Section 3.b. below.
- B. In other soils, maintain 12 inches of water in the hole for at least 4 hours. After the 4 hours of water contact, allow the soil to swell for 12 hours before starting the percolation rate measurement as stated in Section 4 below.

SECTION 4. PERCOLATION RATE MEASUREMENT

The water level should be adjusted to 6 inches above the gravel initially and after each time interval measurement when necessary.

A. In other soils, establish a fixed reference point and measure the drop in water level at constant intervals. The water level drop should be measured to the nearest 1/8 of an inch. The test may be terminated when the water drop is consistent for 3 consecutive measurements.

B. The percolation rate for each hole is calculated as follows:

Time Interval (minutes)

Final Water Level Drop (inches)

If only 3 to 5 percolation tests are performed, the design percolation rate for the absorption system is the slowest rate from all the holes tested. If 6 or more percolation tests are performed, the design percolation rate for the absorption system is the average of all holes tested as determined by the above formula.

TITLE 9

**SMALL WASTEWATER FACILITY
REGULATIONS**

PREPARED BY
TETON COUNTY ENGINEERING DIVISION

DRAFT

ADOPTED AND APPROVED ON DECEMBER 7, 2021
BY THE TETON COUNTY BOARD OF COUNTY COMMISSIONERS
EFFECTIVE AS OF JANUARY 1, 2022

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CHAPTER 1 – INTRODUCTION AND ORGANIZATION

9-1-1 INTRODUCTION AND ORGANIZATION

These regulations govern the permitting of Small Wastewater Systems in Teton County, Wyoming. They are based primarily upon two chapters of the Wyoming Department of Environmental Quality’s Water Quality Rules:

CHAPTER 3 REGULATIONS FOR PERMIT TO CONSTRUCT, INSTALL OR MODIFY PUBLIC WATER SUPPLIES, WASTEWATER FACILITIES, DISPOSAL SYSTEMS, BIOSOLIDS MANAGEMENT FACILITIES, TREATED WASTEWATER REUSE SYSTEMS AND OTHER FACILITIES CAPABLE OF CAUSING OR CONTRIBUTING TO POLLUTION

and

CHAPTER 25 SEPTIC TANKS, SOIL ABSORPTION SYSTEMS, AND OTHER SMALL WASTEWATER SYSTEMS

The structure of this Teton County SWF regulation has been arranged so that CHAPTER 2: PERMIT ADMINISTRATION is an adaptation of WYDEQ Chapter 3, tailored for use in Teton County, and covering the administrative elements of the permit system. CHAPTER 3: TECHNICAL STANDARDS is an adaptation of WYDEQ Chapter 25, suited toward conditions in Teton County, and predominantly covering the technical design and construction aspects of small wastewater systems.

In basing these regulations on the corresponding Wyoming State standards of the WYDEQ, it is intended that familiarity with WYDEQ regulations will expedite understanding and facilitate compliance.

9-1-2 ACRONYMS AND ABBREVIATIONS

- a. WYDEQ—Wyoming Department of Environmental Quality
- b. WQD—Water Quality Division of the WYDEQ
- c. WQRR—Water Quality Rules and Regulations of the WYDEQ
- d. BCC—Teton County Board of County Commissioners
- e. SWF—Small Wastewater Facility
- f. GPM—Gallons per minute
- g. W.S.—Wyoming State Statute
- h. PE—Professional Engineer licensed in Wyoming
- i. UIC—Underground Injection Control
- j. PWS—Public Water System

CHAPTER 2 – PERMIT ADMINISTRATION

9-2-1 AUTHORITY

- a. Pursuant to the Wyoming Environmental Quality Act, specifically W.S. 35-11-301, which stipulates that no person, except when permit authorized, shall construct, install, modify or operate any public water supply, sewerage system, treatment works, disposal system or other facility, excluding uranium mill tailing facilities, capable of causing or contributing to pollution, except that no permit to operate shall be required for any publicly owned or controlled sewerage system, treatment works, disposal system or public water supply. W.S. 35-11-304 stipulates that to the extent requested, authority to enforce and administer W.S. 35-11-301(a)(iii) and (v) shall be delegated to qualifying municipalities, water and sewer districts or counties. Delegation of authority is limited to small wastewater facilities, publicly owned or controlled non-discharging treatment works, sewerage systems and public water supply distribution systems.
- b. These regulations are an integral component of the delegation agreement in effect between the Teton County Board of County Commissioners, and the Director of the Wyoming Department of Environmental Quality. According to statute, these regulations may not be less stringent in effect than the corresponding WYDEQ regulations.

9-2-2 APPLICABILITY

- a. These regulations shall apply to all Small Wastewater Facilities capable of causing or contributing to pollution, that are constructed, modified, or operated within the boundaries of Teton County, Wyoming.
- b. Initial emergency response activities to stop and contain a release that enters or threatens to enter waters of the state or presents an immediate threat to human health, safety, or the environment, will not require a permit under this chapter if prompt notification to the Teton County Engineering Department is given following the start of the response activities. A permit may still be required promptly after emergency response actions have achieved initial stabilization or containment.

9-2-3 TIMING OF COMPLIANCE WITH THESE REGULATIONS

- a. Small Wastewater Facility Permit applications submitted after the effective date of these regulations shall be processed and evaluated according to these regulations. Small Wastewater Facility permits issued according to these regulations shall remain subject to them. Small Wastewater Facility permit applications that were submitted and permits issued prior to the effective date of these regulations shall continue to be subject to the previous regulations in

force at that time. The effective date of these regulations shall be determined by the Teton County Board of County Commissioners at the time of adoption.

9-2-4 INTENT

- a. The fundamental objective of these regulations is to safely handle, treat, and dispose of human wastes and domestic wastewater in a manner that protects the life, health, and safety of persons from the risks that are known to arise from direct or indirect exposure to such wastes and wastewaters. As a complementary objective, it is recognized that the preservation and restoration of the natural environment is integral to long-term human welfare, and therefore the prevention of environmental pollution from the handling and disposal of human wastes and wastewater is essential.
- b. The construction of these regulations shall be neutral with respect to gender. The singular and plural may be inferred from one another as the case dictates. Where conflicts exist within these regulations or between these regulations and other Teton County rules and regulations, those most closely meeting the intent shall prevail.

9-2-5 PROHIBITIONS

- a. No person, except when authorized by permit issued pursuant to these regulations, shall:
 - i. Construct, install, or modify any small wastewater facility capable of causing or contributing to pollution;
 - ii. Construct, install, or modify any facility in non-compliance with the terms and conditions of an issued permit;
 - iii. Construct, install, or modify a facility with a permit that has expired or has been suspended or revoked; or
 - iv. Discharge wastes into an exempted or permitted treatment works, or sewerage disposal system which are inconsistent with the type or quantity of wastes for which the facility is designed.

9-2-6 PERMIT COMPLIANCE

- a. Permittees authorized by a permit shall remain subject to compliance for all actions or inaction in connection with the permit, regardless of other contractual arrangements, agency, or obligations they may enter or accept.
- b. Construction, installation, or modification of facilities shall be allowed only in accordance with the terms and conditions of permits issued pursuant to the provisions of these regulations.
- c. No construction, installation, or modification of a small wastewater facility shall be allowed unless a permit to construct, install or modify has been obtained.
- d. The issuance of a permit does not relieve the permittee of its responsibility to properly plan, design, construct, operate and maintain the facility described in the application and permit conditions.

9-2-7 PERMIT APPLICATION REQUIREMENTS

- a. The following procedures shall be followed in applying for a permit:
 - i. Any person who proposes to construct, install or modify a facility requiring a permit according to these regulations shall submit an application on forms provided by the Teton County Engineering Department. The information indicated on the form must be furnished by the applicant completely to qualify for processing by the Sanitarian.
 - ii. The corresponding permit application fee indicated by the most recent Teton County Engineering Department Fee Schedule must be paid upon submittal.
 - iii. Applications for permits shall contain the following information in addition to the completed forms:
 - A. Identification of the sources of wastewater, such as a residential building, which may be existing or under concurrent review by the Teton County Building Official.
 - B. Plans, specifications, design data, performance testing, operation and maintenance (O & M) manual, site investigation and supporting material, and other pertinent information covering the project, and any additional information required by the Sanitarian.
 - C. In instances where an environmental monitoring program is required as determined by the Sanitarian, the application shall also include a proposed monitoring program to satisfy the requirements of 9-2-15;
 - D. All plans, specifications and reports submitted with an application shall be sealed, signed, and dated by a licensed professional engineer under W.S. Title 33, Chapter 29;
 - E. All plans and specifications must conform to common and accepted engineering practices as determined by the sanitarian. Plans and specifications must be presented so that they clearly and thoroughly inform the installation, and indicate when the design engineer must be contacted, whether prior to, during, or following installation.
- b. Applications for replacing or correcting failed systems shall indicate the cause of failure as determined by the design engineer and provide details of the investigation that led to this determination.

9-2-8 APPLICATION PROCESSING PROCEDURES

- a. All permit applications will be processed in the following manner:
 - i. The sanitarian shall review each application or resubmittal within 45 days from the date the application or resubmittal is received.
 - ii. Applications will be handled according to the order in which they are received.
 - iii. Applications to replace failed or failing systems shall be expedited by the Sanitarian ahead of other applications.
 - iv. Incomplete applications will be processed in the following manner:

- A. Additional information shall be requested to allow the review to determine compliance with regulations, or the application may be returned to the applicant entirely, depending on the degree of insufficiency. Incomplete permit applications that are not made complete after notification will result in permit denial;
 - B. The applicant shall have a maximum of 90 days to comply with the request. If the applicant fails to provide the requested information within that period, the entire incomplete application will be withdrawn from the county permitting process; no refund of applications fees will be given
 - C. Resubmittal of information by an applicant on an incomplete application will be processed as described in (a) of this section.
- v. Plans and specifications must meet or exceed minimum design standards of these regulations. Applications for modification of existing facilities permitted by the Sanitarian to increase capacity to treat, hold, or dispose of wastes may be approved requiring only the modification to meet minimum design standards if the existing facility is not in violation of applicable regulations. Facilities not in compliance will require modifications to other portions of the facility to bring the facility into compliance with applicable regulations.
 - vi. Each application must be submitted with all supporting data necessary for review.
 - vii. The sanitarian shall promptly notify the applicant of all formal actions taken on the application. Notification shall be made to the applicant listed on the application form, who shall be the owner of the property or an authorized agent acting on the owner's behalf. Notifications may be attempted using email, phone, or similar convenience, and according to the contact given on the application form. The Sanitarian shall provide notification by registered or certified USPS mail in the absence of acknowledgement following other attempts.
 - viii. The Sanitarian may contact the design engineer directly to discuss or clarify technical matters or indicate insufficiencies in the design submittal. Contact with the design engineer will not be made in lieu of formal notification to the applicant.
 - ix. If the conditions of the permit are different from the proposed application submitted by the applicant for review, the notification shall include reasons for the changes made.
 - x. If, upon review of an application, the Sanitarian determines that a permit is not required under the Teton County Small Wastewater Facility Regulations, the sanitarian will notify the applicant of this determination. Whether a permit is determined to be required or not, any installation or alteration of a wastewater facility shall be in conformance to applicable standards of these regulations.
 - xi. If upon review of an application, the sanitarian determines that a permit should be denied, the sanitarian shall notify the applicant of the permit denial and state the reasons for denial.
 - xii. If the applicant is dissatisfied with the conditions imposed upon or denial of any permit decided by the Sanitarian, the applicant may request a hearing in accordance with 9-2-12(d).

9-2-9 CONSTRUCTION AND OPERATION IN COMPLIANCE WITH ISSUED PERMIT

- a. The permittee shall:
 - i. Conduct all construction, installation, or modification of any facility permitted consistent with the terms and conditions of the permit. Unauthorized changes, deviations or modifications will be a violation of the permit. A new application or amended application must be filed with the sanitarian to obtain modification of a permit, based upon the scope of the resultant changes to the original, as determined by the Sanitarian. No modification shall be implemented until a new or modified permit has been issued or a waiver given pursuant to 9-2-9(b);
 - ii. Request in writing authorization to utilize materials and/or construction different from those specified in the terms of the issued permit or make other adjustments to accommodate unanticipated conditions discovered after permit issuance. Such requests shall be directed to the Sanitarian. A waiver may be granted if materials and/or construction specified in the permit cannot feasibly be obtained or accomplished and alternative materials and procedures meet minimum standards. Requests for waiver must demonstrate that the deviation is necessary for installation and does not interfere or compromise the function of the system. In order to prevent undue delay during construction, the Sanitarian may grant a waiver verbally, upon request, provided that this request is followed by a written request within five (5) days.
- b. Conduct the operation in accordance with statements, representations, and procedures presented in the complete application and supporting documents, and permit conditions issued on the permit.
- c. Retain the service of the design engineer during installation
 - i. The design engineer shall remain engaged during the installation and associated site construction in order to determine the installation is proceeding according to the permitted design and specifications and accommodate the engineer's certification of construction according to the design. The level and manner of engagement shall be according to the judgement of the design engineer.
 - ii. Prior to, or coinciding with the final inspection of the installation by the Sanitarian, the design engineer shall certify that the installation of the small wastewater system conforms to the approved design. The certification shall document that the engineer has sufficiently verified installation of the system to reasonably conclude it will operate as intended by the design.
 - iii. The permittee may retain a substitute engineer to replace the design engineer. The substitute engineer must understand and accept the permitted design to serve in this role. If a substitute engineer is retained who does not understand or accept the permitted design, then an application for modification of the facility may be submitted reflecting judgement of the substitute engineer.

9-2-10 DURATION AND TERMINATION OF PERMITS; TRANSFER OF PERMITS

- a. The duration of construction, installation, or modification may vary, but shall not exceed three (3) years from the date of issuance. The expiration date for construction, installation or modification will be recorded on each permit issued. Those permits issued without a specified expiration date will be in force no more than three (3) years from date of issuance.
- b. Permits will be issued only to the owner of record, as recorded by the Teton County Clerk.
- c. A transfer of ownership of the permitted property shall require notice to the Sanitarian requesting permit transfer. Once contact information for the new owner s received, and the permit conditions are acknowledged by the new owner, the permit shall transfer to the new owner.
- d. Any conditions imposed on construction, installation, modification, or operation with an issued permit will be automatically transferred to the new owner whenever a transfer of ownership of the facility occurs.

9-2-11 RENEWAL OF A PERMIT

- a. A permit may be renewed where construction has not been completed prior to the expiration date set at permit issuance by filing a notice with the Sanitarian stating that there will not be any changes in the plans for construction, installation, or modification of a permitted facility, and showing good cause for the failure to complete the permitted installation. If the renewal is not granted, a new application must be submitted to permit the facility or the permittee will be held in violation of the permit and enforcement will commence, as determined by the Sanitarian.

9-2-12 DENIAL OF A PERMIT

- a. The sanitarian may deny a permit for any of the following reasons:
 - i. The application is incomplete or does not meet applicable minimum design, construction standards as specified by these regulations;
 - ii. The project, if constructed, is reasonably expected to cause a violation of applicable state surface or groundwater standards;
 - iii. The project does not comply with applicable state or local water quality management plans as specified in Section 16;
 - iv. The project, if constructed, would result in hydraulic and/or organic overloading of existing or proposed wastewater facilities,
 - v. The proposed facility will serve a structure that is within five hundred lineal feet of an existing sewer collection system that will accept to serve that structure and necessary easements for the connection is legally obtainable, or;
 - vi. Other justifiable reasons necessary to carry out the provisions of these regulations.
- b. Except for denial based upon incompleteness of an application, if the sanitarian proposes to deny issuance of a permit, the applicant may be notified by registered or certified mail

of the intent to deny and the reason for denial.

- c. After an applicant has been informed of the intent to deny a permit and reasons for that denial, the applicant shall have the opportunity to amend the application to bring the proposed facility into compliance with these regulations or address the outstanding deficiency. In the case of denial of a permit by the sanitarian, the applicant may request a hearing before the Teton County Board of County Commissioners. Any appeal hearing held shall be conducted pursuant to the contested case rules of Teton County. Appeal beyond that may go to the WYDEQ/ Environmental Quality Council.

9-2-13 MODIFICATION OF A PERMIT

- a. Either before the permitted activity is completed or during the review of the permit application, the sanitarian may, for good cause, modify a permit.
 - i. When reviewing a permit application or before the permitted activity is completed, the sanitarian may modify a permit due to the following reasons:
 - A. Existing but unknown, or changing site conditions that would prevent compliance with applicable regulations; or
 - B. Receipt of additional information; or
 - C. Any other reason necessary to effectuate applicable standards or regulations.
 - ii. The sanitarian may notify the permittee by registered or certified mail, as necessary in the absence of acknowledgement, of intent to modify the permit.
 - iii. Such notification shall include the proposed modification and the reasons for modification and time frame to have modifications constructed, installed or operational. Modification requirements shall be implemented before construction, installation, or modification of a facility is completed.
 - iv. A copy of the modified permit shall be forwarded to the permittee as soon as the modification becomes effective.

9-2-14 SUSPENSION OR REVOCATION OF A PERMIT

- a. The sanitarian may suspend or revoke a permit before construction, installation or modification of a facility is completed for the reasons set forth below, in item (b).
 - i. Before a permit may be suspended or revoked, the permittee shall be given an opportunity to show compliance with all lawful requirements for the retention of the permit.
 - ii. The sanitarian may notify the permittee by registered or certified mail when acknowledgment is not received, of the intent to suspend or revoke the permit in the event that it becomes necessary due to:
 - A. Noncompliance with the terms of the permit; or
 - B. Unapproved modifications in design or construction; or
 - C. False information submitted in the application; or
 - D. Changing site conditions which would result in violations of applicable regulations;

- or
 - E. Noncompliance with requirements of state and local water quality management plans;
or
 - F. Any other reason necessary to effectuate applicable statutes, standards or regulations.
- b. The notification shall include the reasons for suspension or revocation.
- c. The suspension or revocation shall become final 20 days from the date of receipt of such notice unless within that time the permittee requests an appeal according to the Contested Case Rules of Teton County.

9-2-15 MONITORING PROGRAM; PERMIT APPLICATION
REQUIREMENTS

- a. When determined necessary by the Sanitarian to comply with a State or Locally Approved Water Quality Management Plan (Section 16), or for Systems Not Specifically Covered by These Standards (Section 19) applications for a permit shall contain the following:
- i. Identification of the applicable Water Quality Management Plan, where applicable,
 - ii. A monitoring program shall consist of any or all of the following:
 - A. Operational monitoring;
 - B. Post-discharge or post-operational monitoring;
 - C. Record keeping and reporting.
 - D. The execution of an agreement or affidavit and recording of same with the Teton County Clerk that secures that the owner and subsequent owners comply with a monitoring program.

9-2-16 VARIANCE

- a. Purpose
- i. The purpose of a variance is to allow a specific deviation from these regulations that is not contrary to the desired protections for the facility when, due to special circumstances of the site, strict application of these regulations would result in undue and unique hardship or reduced protections of the public health and the environmental quality.
- b. Applicability
- i. A variance may be sought for any standard or technical requirement of these regulations. No variance can be sought to alter the prescribed handling of applications.
- c. Findings for Approval
- i. A variance shall be approved upon finding:
 - A. There are special circumstances or conditions which are peculiar to the site that create an excessive hardship on the applicant if strict application of the standards were enforced, and;
 - B. The special circumstances and conditions have not resulted from any willful modification

- of the site; and
 - C. The special circumstances and conditions are such that the strict application of the regulation sought to be varied would create a hardship on the applicant far greater than the protection afforded to the community; and
 - D. The variance sought is the minimum variance necessary to provide balance between the purpose of the regulation sought to be varied and its impact on the applicant; and
 - E. The granting of the variance will not be injurious to the neighborhood surrounding the land where the variance is proposed, and is otherwise not detrimental to the public welfare; and
 - F. The granting of the variance is consistent with the general purpose and intent of these regulations.
- d. Effect
- i. Issuance of a variance shall allow permitting of a facility that does not meet a standard or technical requirement of the regulations. Conditions may apply, as described on the permit at the time of issuance, or as a consequence of modification of the permit by the Sanitarian per 9-2-13. A variance is unique to the special circumstances identified in the findings and does not create precedent. A variance approved for a specific facility shall only apply to that facility. Changes made to the subject development subsequent to the variance approval may void the variance if such changes would have reasonably affected the Findings for Approval.
- e. Expiration
- i. A variance shall run with the permitted facility for which it was granted so long as the facility in all other respects remains in full compliance with these regulations. Later alteration or modification of the facility shall require that a new variance be obtained unless the facility can demonstrate that all standards and technical requirements are met at that time.
- f. Petition and Decision Process
- i. Petition for a Variance. If a petition of a variance is desired, a request for a variance must be filed with the Sanitarian. The petition shall contain the following:
 - A. A concise statement of the facts upon which the variance is requested including a description of the intended use of the property, the estimates of the quantity and characteristics of the wastewater to be discharged, and a description of the existing conditions.
 - B. A concise statement of why the petitioner believes that compliance with the provision from which variance is sought would impose an arbitrary or unreasonable hardship, and the injury that the grant of the variance would impose on the public; and
 - C. A clear statement of the precise extent of relief sought.
 - ii. Processing and Decision
 - A. The petition shall be reviewed by the Sanitarian. Copies of the petition shall be forwarded to the Wyoming Department of Environmental Quality, Water Quality Administrator, or designee thereof for technical review and comment. The Sanitarian

the Water Quality Administrator shall review the petition and supporting materials within 30 days of receipt of the petition.

- B. A staff report shall be prepared by the Sanitarian within 15 days of the conclusion of technical reviews, noting all comments received by the Water Quality Administrator. The report shall address the technical content of the petition, the applicable regulations for which the variance is sought, an evaluation of the petition to meet the Findings for Approval, and other relevant factors.
- C. A public hearing before the Teton County Board of County Commissioners shall be conducted as described in the Teton County Land Development Regulations, Division 8.2.14, with the exceptions:
 - 1. Applicability shall be that described in this regulation
 - 2. The Sanitarian shall be responsible for the public notification

9-2-17 VALIDITY AND ENFORCEMENT

- a. If any section, subsection, sentence, clause, or phrase of these rules and regulations is for any reason held to be unconstitutional or invalid, such decision shall not affect the validity of the remaining portions of these rules and regulations.
- b. All officials, departments, and employees of the County vested with the authority or duty to issue permits, certificates, or licenses shall comply with the provisions of this resolution, and shall issue no permit, certificate or license which conflicts with the provisions of this resolution. Any permit, certificate, or license issued in conflict with the provisions of this resolution shall be null and void. Any person, owner, or agent, who is in violation of this resolution, shall not be allowed to apply for a permit related to the alleged violation until the violation enforcement proceedings have been finally determined by the proper authority.
- c. The County shall have the authority to inspect any site and review the construction or maintenance of improvements to ensure conformance with the requirements of this resolution, provided that such inspections are conducted during weekday working hours with 24 hours notice.
- d. Whomever, being the owner or the agent of the owner of any land located within the unincorporated area of Teton County, develops or uses such land in violation of any of the provisions of this resolution, or any amendment thereto, shall be fined not more than \$100 for each offense. Each day's continuance of any violation is a separate offense.
- e. This resolution shall be enforceable by the County by injunctive action, in addition to all other remedies at law or in equity.

CHAPTER 3 – TECHNICAL STANDARDS

9-3-1 DEFINITIONS

- a. **“100 year floodplain”** means a tract of land throughout a watershed that has a one- in-one hundred chance or occurrence of flooding in any given year or a return period of once every 100 years, as determined by the Federal Emergency Management Agency (FEMA).
- b. **“Absorption surface”** means the interface where treated effluent infiltrates into native or fill soil.
- c. **“Bed”** means a soil treatment and dispersal system where the width is greater than three (3) feet.
- d. **“Bedrock”** means geological layers, of which greater than fifty percent (50%) by volume consist of unweathered in-place consolidated rock or rock fragments. Bedrock also means weathered in-place rock that cannot be hand augered or penetrated with a knife blade.
- e. **“Bedroom”** any portion of a dwelling which is so designed as to provide reasonable isolation necessary for use as a regular sleeping area. It may include, but is not limited to, a den, study, office, sewing room, sleeping loft, or enclosed porch. Unfinished basements shall be counted as a minimum of two additional bedrooms. This definition need not coincide with that from the Building Department, nor real estate custom.
- f. **“Blackwater”** means water containing fecal matter and/or urine.
- g. **“Board”** means the Teton County Board of County Commissioners; (acronym- BCC).
- h. **“Building sewer”** means the pipe that carries raw wastewater from the building. A building sewer by itself is not considered a small wastewater facility. A building sewer which serves a single building, does not have an exterior lift station, and connects to a permitted sewage collection facility is exempt from these regulations if in compliance with the rules of the corresponding sewage collection facility operator.
- i. **“Chamber”** means a domed open bottom structure that is used in lieu of perforated distribution pipe and gravel media.
- j. **“Direct human consumption food crops”** are crops consumed directly by humans. These include but are not limited to fruits, vegetables, and grains grown for human consumption.
- k. **“Distribution Box”** means a water-tight structure which receives liquid effluent from a septic tank and distributes such effluent in equal portions into two or more pipes leading to the disposal area.
- l. **“Domestic wastewater”** means a combination of the liquid or water-carried wastes from residences, business buildings, institutions, and other establishments arising from normal living activities.
- m. **“Domestic septage”** means liquid or solid material removed from a waste treatment vessel that has received only wastes from residences, business buildings, institutions, and other establishments arising from normal living activities.
- n. **“Dosing tank”** means a tank equipped with an automatic siphon or pump designed to discharge effluent on an intermittent basis to a subsurface absorption system.
- o. **“Effluent”** means liquid flowing out of a septic tank, other treatment vessel, or system.

- p. **“Effluent filter”** means a removable, cleanable device inserted into the outlet piping of a septic tank or other treatment vessel designed to trap solids that would otherwise be transported to the soil absorption system or other downstream treatment components.
- q. **“Evapotranspiration”** means the combined loss of water from soil by evaporation from the soil or water surface and by transpiration from plants.
- r. **“Five day biochemical oxygen demand (BOD5)”** means a measurement of the dissolved oxygen used by microorganisms in the biochemical oxidation of organic matter during a five (5) day period.
- s. **“Grease interceptor”** means a device designed to separate fats, oils, and grease from wastewater.
- t. **“Greywater”** means untreated wastewater that has not been contaminated by any toilet discharge; that is unaffected by infectious, contaminated, or unhealthy bodily wastes; and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. “Greywater” includes but is not limited to wastewater from bathtubs, showers, washbasins, clothes washing machines (unless soiled diapers are serviced), laundry tubs, and kitchen sinks (where disposal grinders are not used).
- u. **“Groundwater”** means subsurface water that fills available openings in rock or soil materials such that it may be considered water saturated under hydrostatic pressure.
- v. **“High groundwater”** means seasonally or periodically elevated levels of groundwater, particularly when such groundwater may significantly interfere with the effective treatment or operation of a soil adsorption system
- w. **“High strength wastewater”** means a wastewater stream with a BOD5 higher than 200 mg/L.
- x. **“Holding tank”** means a watertight receptacle designed to receive and store wastewater.
- y. **“Manifold”** means a non-perforated pipe that distributes effluent to individual distribution pipes.
- z. **“Mound system”** means an onsite wastewater system where any part of the absorption surface is above the elevation of the existing site grade and the absorption surface is contained in a mounded fill body above the grade.
- aa. **“Mulch basin”** means an excavated area that has been refilled with a highly permeable media, organic and inorganic materials intended to distribute greywater to irrigate vegetation.
- bb. **“Pathogens”** are disease-causing organisms. These include, but are not limited to certain bacteria, protozoa, viruses, and viable helminth ova.
- cc. **“Percolation rate”** means the time expressed in minutes per inch required for water to seep into saturated soil at a constant rate.
- dd. **“Percolation test”** means the method used to measure the percolation rate of water into soil as described in Appendix A
- ee. **“Permit”** means written authorization issued by the Sanitarian which authorizes the permittee to construct, install, or modify the facilities as set forth in these regulations.
- ff. **“Pipe invert”** means the bottom of the internal surface of the pipe.
- gg. **“Pressure distribution”** means a network of pipes in which effluent is forced through orifices under pressure, thereby delivered to the receiving soils of the absorption system.
- hh. **“Public water supply”** means a system for the provision to the public of water for human consumption through pipes or constructed conveyances, if such system has at least fifteen

- (15) service connections or regularly serves at least twenty-five (25) individuals. A public water supply includes the source, treatment system, waste disposal system, distribution system, service connections, finished water storage and pumping stations.
- ii. **“Restrictive layer”** means a nearly continuous layer that has one or more physical or chemical properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide unfavorable root conditions. Examples are bedrock, cemented layers, and dense layers.
 - jj. **“Sanitarian”** means the official designated by the BCC to oversee and administer Teton County’s small wastewater facility program, or his appointed designee, or the acting Sanitarian as appointed by the Teton County Engineer until such time as the Board appoints a new Sanitarian.
 - kk. **“Septage”** means liquid or solid material removed from a waste treatment vessel that has received wastes from residences, business buildings, institutions, and other establishments.
 - ll. **“Septic tank”** means a watertight tank designed and constructed to receive and treat raw wastewater
 - mm. **“Serial distribution”** means a group of trenches arranged so that the total effective absorption area of one trench is used before liquid flows into the next trench.
 - nn. **“Service provider”** means a person authorized and trained by a system manufacturer or their vendor to operate and maintain any proprietary system.
 - oo. **“Sewage collection facility”** means a sewerage system under the ownership and operational control of an entity, and authorized according to applicable WYDEQ rules and regulations, including pipelines, conduits, storm sewers, pumping stations, force mains, and all other construction, devices, appurtenances and facilities used for collection or conducting wastes to an ultimate point for treatment or disposal
 - pp. **“Small wastewater facility”** means any sewerage system, disposal system or treatment works having simple hydrologic and engineering needs which is intended for wastes originating from a single residential unit serving no more than four families or which distributes 2,000 gallons or less of domestic sewage per day. This shall include wastewater lift stations and appurtenances, or other wastewater systems that consist of more than simply a building sewer as defined in this section.
 - qq. **“Soil absorption system”** means a shallow, covered, excavation surface, or mound made in unsaturated soil into which wastewater effluent from the septic tank is discharged through distribution piping for application onto absorption surfaces through porous media or manufactured components.
 - rr. **“Trench”** means an absorption surface with a width of three (3) feet or less.
 - ss. **“UIC system”** means underground injection control facility that disposes wastes to the subsurface and requires a permit from the WYDEQ according to Chapter 27 of the WQRR. More particularly in this context, a UIC system shall mean any Domestic Subsurface Fluid Distribution Systems designed to Receive more than 2,000 gallons per day of domestic sewage with only primary treatment such as effluent from a septic tank. In addition, any facility injecting domestic sewage within any five (5) acres of land is a class 5E3 facility whenever multiple 5E facilities under one owner, operator, or common use, inject a cumulative maximum peak design flow of more than 2,000 gallons per day of domestic sewage.
 - tt. **“Watercourse Protection District”** means All lands within 150 feet of the top of each bank of the Snake, Gros Ventre, Hoback, and Buffalo Fork Rivers, and also all lands within 50 feet

of the top of each bank of all other streams, creeks, or irrigation ditches including any channelized section created to prevent bank erosion or to stabilize the watercourse, but not including ditches or canals created to contain irrigation waters.

9-3-2 DESIGN FLOWS

- a. The volume of wastewater shall be determined by one of the following:
- i. Tables 1 and 2 provided in this section.
 - ii. Metered water supply or measured wastewater data from the facility.
 - iii. Metered water supply or measured wastewater data from another facility where similar water demands have been demonstrated.
 - iv. A credible published estimate, such as an engineering textbook or regulation from other jurisdiction, for sources that are not well addressed herein and do not have adequate and representative existing records for the facility

Table 1. Single Structure Residential Design Flow Rates per Bedroom (gallons per day, gpd)¹

1 bedroom	150
2 bedrooms	280
3 bedrooms	390
4 bedrooms	470
5 bedrooms	550
6 bedrooms	630

¹An unfinished basement is considered two (2) additional bedrooms.

²The design flow shall be increased by eighty (80) gpd for each additional bedroom over six (6).

Table 2. Non-Residential Wastewater Design Flow Rates¹

Facilit	Unit	Flow (gallons/unit/d
Airports	person	4
Apartment	bedroom	120
Automobile Service Station	vehicle served	10
Bars	seat	20
Bathhouses and swimming pools	person	10
Campgrounds (w/ toilets only)	person	25
Campgrounds (w/shower facility)	person	45
Church	person	4
Country Club	member	25
Day School, Office Building, Retail Store, Warehouse (no showers)	person	15
Hospital	bed	250
Industrial Building (sanitary waste only)	employee	20
Laundry (self-service)	machine	450
Mobile Home	bedroom	see table 1
Motel, Hotel, Resort	bedroom	140
Recreational Vehicle	each	100
Rest Home, Care Facility, Boarding School	bed	100
Restaurant	meal	10
Restaurant (kitchen waste only)	meal	6
Theater	seat	3

¹Values shown in the above table are the typical flow rates from *Wastewater Engineering Treatment and Reuse*, Metcalf and Eddy, 2003.

9-3-2 SYSTEMS NOT SPECIFICALLY COVERED BY THESE STANDARDS

- a. This section is provided to encourage new technology and equipment, allow for design which addresses site-specific constraints, and provides a process for evaluating and permitting designs that deviate from the standards. The proposed construction of facilities and processes not in compliance with the standards may be permitted provided that the facility, when constructed and operated, meets the intent of these regulations.
- b. Each application for a permit shall include:
 - i. an engineering design report which explains why the proposed facility is favored over those covered by the standards
 - ii. detailed construction plans that provide sufficient details to both evaluate the proposed facility and to accommodate a successful installation,
 - iii. technical specifications for all piping, tanks, and equipment,
 - iv. All of these documents shall have a suitable title showing the owner's name and the Wyoming registration number, seal, and signature of the design engineer.
- c. Each application for a permit to construct will be evaluated on a case-by-case basis. The application shall include at least one of the following:
 - i. Data obtained from a full scale, comparable installation that demonstrates the acceptability of the design.
 - ii. Data obtained from a pilot plant operated under the design condition for a sufficient length of time to demonstrate the acceptability of the design.
 - iii. Standards or design and operation guidance published by other credible jurisdictions, including National, State, Province, or County health departments and environmental agencies. Applicability of these other standards and guidance must be considered and adjusted for appreciable differences in their respective site conditions and those in Teton County.
 - iv. Data obtained from the theoretical evaluation of the design that demonstrates a reasonable probability the facility will meet the design objectives.
 - v. An evaluation of the flexibility of making corrective changes to the constructed facility in the event it does not function as planned.
- d. If an applicant wishes to construct a pilot plant to provide data necessary to show the design will meet the purpose of the act, a permit to construct must be obtained.
- e. The application shall justify, to the extent determined sufficient by the Sanitarian, that the proposed facility under this section is at least as protective of the public health and the environment as a facility designed and constructed in conformance to the minimum requirements for standard systems.
- f. A permit issued under this section may be subject to ongoing operation, maintenance, or monitoring requirements that remain in effect for a period of years or indefinitely to assure that the intent of these regulations is met. An agreement or other relevant legal document may be required of the permittee to be filed by the Teton County Clerk as public record in evidence of acceptance by the owner and all subsequent owners of these ongoing requirements.

9-3-3 SITE SUITABILITY

- a. Small wastewater systems must be located where the surface drainage is sufficient to allow proper operation of the small wastewater system. The design shall avoid depressions and bases of slopes and areas in the path of runoff from roofs, patios, driveways, or other paved areas unless surface drainage is provided. Small wastewater systems shall not be located beneath buildings, parking lots, roadways, driveways, irrigated landscaping, or compacted areas.
- b. Small wastewater systems shall not be located in areas that are subject to increased organic or nutrient loading, such as corrals, or heavily fertilized landscape or agriculture.
- c. Small wastewater systems shall not be located in areas subject to compaction after they are constructed, such as vehicle or equipment storage or operation. Soil absorption systems may require suitable permanent markings or physical barriers to serve to identify their location to prevent accidental damage or compaction, as use of surrounding lands warrants.
- d. On-site absorption systems should be located on parcels that have a minimum horizontal area of 2 acres in area. Areas of waterbodies and delineated wetlands are not considered to qualify for a portion of the minimum parcel size.
- e. The site must include area for both the proposed soil absorption system and a future replacement soil absorption system. Both the proposed and replacement soil absorption systems shall be sized to receive one-hundred (100%) percent of the wastewater flow. If a trench system is used, the replacement soil absorption system may be located between the trenches of the proposed soil absorption system if there is at least nine (9) feet of spacing between trench sidewalls.
 - i. If the replacement area is used to construct a replacement absorption system consistent with the previously permitted design and current regulatory requirements, then a new permit is not necessary.
 - ii. If a replacement absorption system installed at the same time as the primary absorption system, then a field valve shall be installed in the effluent distribution piping that allows flow to be directed completely to either absorption system.
- f. For standard soil absorption systems, effective suitable soil depth shall extend at least four (4) feet below the bottom of the soil absorption system prior to encountering any restrictive layer, fractured rock, or highly permeable material.
- g. The depth to high groundwater shall be at least four (4) feet below the bottom of the absorption surface for all treatment
- h. Slope
 - i. Table 3 shows the maximum permissible slopes of the site on which an absorption system may be constructed

Table 3. Slope and Percolation Rates for Absorption Systems

Percolation Rate (minutes/inch)	Maximum Slope¹
5	25%
6-45	20%
46-60	15%

¹ Flatter slopes may be required where the effluent surfaces downslope.

- ii. The placement of multiple trenches, with each subsequent trench down slope of the previous trench shall be avoided when the addition of effluent to the soil absorption system trenches may lead to either an unstable slope or seepage down slope.
 - iii. All absorption surfaces must be located at least 15 horizontal feet from the top of any break in slope that exceeds the maximum slope allowed.
 - iv. Deviations from these slope standards shall be evaluated according to 9-3-5, and may require additional site investigation, characterization, analysis, and design, or specific permit conditions.
- i. Soil Exploration Pit and Percolation Tests
- i. Small Wastewater Facility permit applications shall require percolation testing of site soils, in addition to a soil exploration pit.
 - ii. A minimum of one soil exploration pit within the proposed soil absorption system location shall be excavated to a minimum depth of four (4) feet below the bottom of the proposed soil absorption system to evaluate the subsurface conditions.
 - iii. The percolation testing shall be performed in accordance with Appendix A of these regulations. An evaluation of the soil texture, in the proposed soil absorption system location, by a person experienced in soils classification, may be used as an additional tool to confirm the percolation rate.
 - iv. Records of subsurface conditions at nearby locations may be used to support proposed design if they provide pertinent, consistent, and credible documentation. Copies of records must be submitted with the permit application or be publicly available and sufficiently cited in the permit application.
- j. Minimum horizontal setback distances (in feet) are as follows

Table 4. Minimum Horizontal Setbacks for Domestic Wastewater in Feet¹

From	To Septic Tank Or Equivalent	To Absorption System
Wells (includes neighboring wells)	50	100
Public Water Supply Well	100	200 ¹
Property Lines	10	10
Foundation Wall (w/o drains)	5	10
Foundation Wall (with drains)	5	25
Potable Water Pipes	25	25
Septic Tank	N/A	10
Surface Water, Spring (including seasonal and intermittent)	50	50
Cisterns	25	25

¹ Small wastewater systems that discharge to the same aquifer that supplies a public water supply well and are located within Zone 1 or 2 (Attenuation) of the public water supply well, as determined by *Wyoming Department of Environmental Quality Source Water Assessment Project (2004)* or as established in Section 2 of the [Wyoming Wellhead Protection Guidance Document \(1997\)](#), shall provide additional treatment. The treatment system shall be designed to reduce the nitrates to less than 10 mg/L of NO₃⁻ as N and provide 4-log removal of pathogens before the discharge leaves the property boundary of each small wastewater system.

- k. The setbacks listed above shall be maintained regardless of whether the feature of interest exists prior to or subsequent to the construction of the small wastewater facility. It shall be a violation of these rules to construct any such feature of interest that encroaches into the applicable setback.
- l. Watercourse protection district. No sewage treatment lagoon or subsurface disposal system shall be permitted.

9-3-4 SOIL ABSORPTION SYSTEM SIZING

- a. The total infiltration surface area of a soil absorption system shall be calculated by dividing the design flow rates (gpd) from Table 1 or Table 2 by the loading rate (gpd/ft²) found in Table 5.

Table 5. Rates of Wastewater Application for Soil Absorption System Areas

Percolation Rate	Loading Rate	Percolation Rate (mpi)	Loading Rate
5	0.80	21	0.45
6	0.75	22	0.44
7	0.71	23-24	0.43
8	0.68	25	0.42
9	0.65	26-27	0.41
10	0.62	28-29	0.40
11	0.60	30-31	0.39
12	0.58	32-33	0.38
13	0.56	34-35	0.37
14	0.54	36-37	0.36
15	0.52	38-40	0.35
16	0.50	41-43	0.34
17	0.49	44-46	0.33
18	0.48	47-50	0.32
19	0.47	51-55	0.31
20	0.46	56-60	0.30

- b. The total infiltration area shall be defined as follows:
- i. For standard trenches the total infiltration area shall be calculated based on the following formula:

$$A = L(W + 2S)$$

A = Total infiltration area

L = Total length of trench

W = Bottom width

S = Sidewall height of 12 inches or less

- A. The sidewall height is the depth below the flowline of the pipe to the bottom of the trench.
- B. The maximum credit for sidewall height shall not exceed twelve (12) inches even if the actual sidewall height exceeds twelve inches.

- ii. For chamber trenches, the total infiltration area shall be calculated based on the following formula:

$$A = L(E + 2S)$$

A = Total infiltration area

L = Total length of trench

E = Effective bottom width (Multiply width of the chamber by factor of 1.43 to get effective bottom width)

S = Sidewall height of 12 inches or less

- A. The factor of 1.43 incorporates a thirty percent (30%) reduction of the bottom area.
 - B. The maximum credit for sidewall height shall not exceed twelve (12) inches even if the actual sidewall height exceeds twelve (12) inches.
 - C. The sidewall height is the height of the slotted sidewall of the chamber or depth below the flow line of the inlet pipe, whichever is less.
 - D. The total length of the trench is the number of chambers in a row multiplied by the length of one piece of chamber.
- iii. For standard bed systems, the total infiltration area shall be calculated based on the following formula:

$$A = LW$$

A = Total infiltration area

L = Total length of bed

W = Width of the bed

- A. The sidewall credit shall not be used in calculating the total infiltration area for a bed system.
- iv. For chamber bed systems, the total infiltration area shall be calculated based on the following formula:

$$A = L(E \times R)$$

A = Total infiltration area

L = Total length of bed

E = Effective bottom width of the chamber (Multiply width of the chamber by factor of 1.43 to get effective bottom width)

R = Number of chamber rows (Multiply effective bottom width of chamber by number of chamber rows to get effective bottom width of bed.)

- A. The factor of 1.43 incorporates a thirty percent (30%) reduction of the bottom area.
 - B. The total length is the number of chambers in a row multiplied by the length of one piece of chamber.
- c. Coarse sand or soils having a percolation rate less than five (5) minutes per inch (mpi) are unsuitable for subsurface effluent treatment. These soils may be used if a one (1) foot layer of fine sand or loamy sand is placed below the constructed soil absorption system. The soil absorption system shall be sized based on the percolation rate of the fill material.

9-3-6 BUILDING SEWER PIPES

- a. Piping that conveys raw wastewater from buildings shall meet the following standards:
- i. Suitable building sewer pipe materials are polyvinyl chloride (PVC) or acrylonitrile–butadiene-styrene (ABS). The septic tank inlet and outlet pipes shall be schedule 40 PVC or ABS pipe.
 - ii. Building sewer pipes shall be sized to handle the peak hourly flow from the building and shall not be smaller than four (4) inches in diameter. When two different sizes or types of sewer pipes are to be connected, a fitting or conversion adapter intended for such use by the manufacturer shall be used.
 - iii. Plain “Tee” fittings may not be used. Wye fittings or sweeping “clean-out” Tees shall be used to combine flows in the downstream direction.
 - iv. Sewer pipe shall not decrease in size flowing downstream.
 - v. Sewer piping shall be aligned straight, with bends placed only when unavoidable.
 - vi. Sewer piping shall be installed in the shortest feasible alignment to accomplish the connections required.
 - vii. Building sewer pipes shall be laid at a consistent slope of 2% minimum.
 - viii. Cleanouts shall be provided between the structure and the tank, at branch connections, every cumulative change in alignment greater than 22.5 degrees, and at least every 100 feet in straight runs.
 - ix. All sewer piping shall be laid on a firm bed throughout its entire length. It shall be protected from damage due to rocks, hard lumps of soil, debris, and the like.
 - x. Special care shall be used to prevent lateral movement or deformation during backfill. The backfill material shall be compacted to a density at least equivalent to the undisturbed trench walls. Backfill over the pipe shall be of sufficient depth to protect the pipe from expected traffic loads and the wastewater from freezing.
 - xi. Insulation may be placed above sewer pipes when adequate depth to prevent freezing cannot be achieved. Piping that carries wastewater free of appreciable solids, such as that filtered by an effluent filter, may be installed at a consistent slope of 1% minimum, and shall otherwise meet the requirements of 9-3-6(a).

9-3-7 SEPTIC TANKS AND OTHER TREATMENT TANKS

- a. Applicability
 - i. A permit is required to construct, modify, or replace the components described in this section unless the ownership or operation is by a WYDEQ-permitted wastewater collection or treatment system.
- b. Septic Tanks
 - i. The function of a septic tank is to provide for gravity separation of wastewater constituents and for anaerobic biological treatment. No processes or additives are allowed in design, installation, or operation that interfere with the primary treatment of the influent.
 - ii. Septic tanks shall be constructed of precast concrete. Tanks shall be watertight and fabricated to constitute an individual structure and shall be designed and constructed to withstand anticipated loads.
 - A. Tanks that have joints or penetrations that are below the designed liquid level and where the tank is shall require a leakage test.
 - B. The leakage test shall be conducted under the greatest anticipated hydraulic potential for the installation, and last for no less than 8 hours. A successful test must confirm leakage is no more than 5% of design flow.
 - iii. The septic tank shall be placed on a level grade and a firm bedding to prevent settling. Where rock or other undesirable protruding obstructions are encountered, the opening for the septic tank shall be over excavated, as needed, and backfilled with compacted sand, crushed stone, or gravel to the proper grade.
 - A. Septic tanks shall not be buried deeper than the tank manufacturer's maximum rated cover for the tank. The minimum depth of soil cover over the top of the tank is six (6) inches.
 - B. Lightweight materials may be used during backfill to accommodate the maximum fill depth, so long as they are intended for such buried use and will not settle appreciably after placement.
 - C. Backfill around and over the septic tank shall be placed in such a manner as to prevent undue strain or damage to the tank or connected pipes.
 - D. Septic tanks shall not be placed in areas subject to vehicular traffic unless rated by the manufacturer for the anticipated load.
 - iv. Size
 - A. The minimum liquid volume of a septic tank shall be 1000 gallons for residences up to a four (4) bedroom capacity. Additional capacity of 250 gallons per bedroom shall be provided for each bedroom over four (4).
 - B. Septic tanks for high strength wastewater or non-residential units shall have a minimum effective liquid capacity sufficient to provide at least 48-hour retention at design flow or 1,000 gallons, whichever is greater.
 - v. Configuration
 - A. Single compartment septic tanks shall have a length to width ratio of no less than two (2) to one (1), or be partitioned to protect against short circuiting flow.

1. Tanks not meeting the above criteria shall be sized at two-times (2x) the standard sizing requirement.
- B. For septic tanks with two (2) compartments or more, the inlet compartment shall not be less than one-half (1/2) of the total capacity of the tank.
- C. The liquid depth shall be between three (3) feet and six (6) feet.
- D. The tank partition shall allow the venting of gases between compartments and out through the vent stack on the plumbing system of the house.
- E. The inlet and outlet on all tanks or tank compartments shall be provided with open-ended sanitary tees or baffles made of approved materials constructed to distribute flow and retain scum in the tank or compartments.
 1. The tees or baffles shall extend above the liquid level a minimum distance of five (5) inches. The inlet tees or baffles shall extend below the liquid level at least eight (8) inches but no more than 40% of the liquid level. The outlet tees or baffles shall extend below the liquid level at least ten (10) inches but no more than 45% of the liquid level.
 2. A minimum of one (1) inch of clear space shall be provided over the top of the baffles or tees for venting.
 3. The inlet pipe shall be at least two (2) inches higher than the outlet pipe. The outlet elevation shall be designed to provide a minimum distance of nine (9) inches or twenty (20) percent of the liquid depth between the top of the liquid and the bottom of the septic tank cover for scum storage and the venting of gases.
- vi. If additional septic tank capacity over 1,000 gallons is needed, it may be obtained by joining tanks in series provided the following requirements are met:
 - A. The inlet of each successive tank shall be at least two (2) inches lower than the outlet of the preceding tank.
 - B. The first tank or the first compartment of the first tank shall be equal to fifty percent (50%) or larger of the total septic tank system volume.
- vii. An access opening shall be provided to each compartment and for each baffle of the septic tank for inspection and cleaning.
 - A. The access opening(s) in the top of the tank shall have a minimum diameter of twenty (20) inches, with a diameter or twenty four (24) inches recommended. Both inlet and outlet devices shall be accessible.
 - B. Each access opening shall feature a riser that shall terminate no lower than the ground surface.
 - C. Each access riser shall terminate with a cover that is designed to withstand loading from vehicle traffic, livestock or wildlife, as applicable.
 - D. Access riser covers shall have a tamper-resistant fastening device, such as screws that are not flat-blade or phillips/ Posidrive compatible.
 - E. Finished grade around riser covers shall be sloped to drain away, and prevent ponding or flooding, or inflow to the riser.
 - F. Joints and connections between the tank lid, riser, and cover shall be water-tight.

c. Dosing Tanks

- i. Dosing tanks shall meet the same material and installation requirements as septic tanks. Dosing tanks shall have a minimum 24-inch diameter access opening and a riser from the access opening to the ground surface. The following table shall be used to calculate the minimum size of the dosing tank:

Table 6. Dosing Tank Volume (gallons)

Average Design Flows (gpd)	0-	500-999	1000-	1500-
Between Pump “off” and Tank Inlet	350	700	1000	1300
Between Tank Inlet and Alarm	200	400	600	800
Between Alarm switch and Pump	50	100	100	100
Between Pump “on” and Pump “off”	100	200	300	400
Recommended Pump Capacity (gpm)	10	20	30	40

- ii. High water alarms shall be provided for all tanks that use pumps or siphons. The alarm device shall be an audible alarm or an indoor illuminated alarm or both. The alarm’s signal shall be conspicuous to persons in their routine activities about the associated structures.
- iii. The minimum effluent level shall achieve complete submergence of the pump.
- iv. Dosed systems using a siphon shall have a dose counter installed to check for continued function of the siphon.

d. Holding Tanks

- i. Holding tanks shall meet the same material requirements as septic tanks. Holding tanks shall have a twenty (20)-inch minimum diameter access opening. A riser shall be brought to ground surface from the access opening.
- ii. Holding tanks shall not be used for residential systems when other alternative systems are available, except on a temporary, seasonal or intermittent basis, or when used to correct a failed soil absorption system when other alternatives are unavailable.
- iii. Holding tanks may be used to receive and store liquid waste discharged from Recreational Vehicles, motor homes, boats, and similar vehicles that include sanitary facilities and contain chemical disinfectants or stabilizers to control odors.
 - A. The stored liquid waste must be removed by septic pumper service and disposed in an approved facility.
 - B. The stored liquid waste may not be disposed in a subsurface adsorption system without pretreatment conforming to the operations guidelines approved with an SWF permit.
- iv. Holding tanks must be located in an area readily accessible to the pump truck and where the tank itself will not float due to high groundwater. If seasonal high groundwater may be present, the tank shall be properly anchored.
- v. The minimum liquid volume shall be the greater of 1,000 gallons or seven (7) days storage based upon flow rate determined from 9-3-2.
- vi. All holding tanks shall be equipped with a high-water level alarm. The device shall be an audible alarm or an indoor illuminated alarm or both. The device shall be installed so that the alarm is triggered when the water level reaches 3/4 of the tank capacity.

e. Lift Stations

- i. A facility is considered a lift station if it is located outside of a building and receives wastewater from one or more sources and pumps that wastewater to another on-site lift station, on-site treatment tank, or connects to a community sewer collection system.
- ii. Lift stations that connect to a community sewer collection system shall be approved by the owner/ operator of that system, and shall meet any requirements imposed by the sewer collection system owner/ operator if they are more stringent than these regulations. Approval from the sewer collection system owner operator must be provided with the permit application. Permits may not be approved if the sewer collection system is not covered by a permit in good standing by the Wyoming Department of Environmental Quality.
- iii. Lift stations and similar wastewater pumping facilities must be sized according to the peak hourly flow of all fixtures to which they are connected, and shall be designed to accommodate a one-hour pump failure while receiving 80% of maximum fixture flow without wastewater backing up into the related structures or surfacing upon the ground.
- iv. Lift stations that propose to connect to a community sewer collection system must provide evidence of approval for the connection from the owner/ operator of the community sewer collection system. Permits may not be approved if the sewer collection system is not covered by a permit in good standing by the Wyoming Department of Environmental Quality.
- v. The discharge piping, valves, and connection fittings from a lift station to the collection system must be rated for 1.5 times the highest anticipated pumping pressure and be constructed of materials rated by their manufacturers to be compatible with wastewater.
- vi. The installation of the discharge piping from the exterior of the lift station basin to the main must be leak free, as demonstrated by a pressure test.
- vii. For connections to a community force main sewer, the lift station and discharge piping must include at least one check valve and one manual shut off valve that allows servicing of the check valve.
- viii. Potential for air/gas release and vacuum relief shall be addressed in the application where the installation has multiple high points.

f. Grease Interceptors

- i. A commercial or institutional food preparation facility with a waste stream containing fat, oil, and grease (FOG) in excess of 25 mg/L shall install an exterior grease interceptor or a device approved by the delegated health department or county. Facilities that typically have waste streams high in FOG are, but not limited to, restaurants, cafeterias, slaughterhouses, and institutional kitchens.
 - A. Facilities that connect to community collection and off-site treatment systems, the applicant shall meet the requirements of the collection system owner/ operator if they are more stringent than those of these regulations, and provide evidence of such approval as part of the permit application.
 - B. For applications for facilities that are typically anticipated to exceed the FOG criteria but are not proposing the installation of a Grease Interceptor, the permittee may be required to conduct monitoring to verify compliance.

- ii. Waste streams high in FOG shall be plumbed separately and directly to a grease interceptor prior to the waste treatment process.
- iii. Waste streams from sanitary facilities such as bathrooms, toilets, urinals, or other similar fixtures shall not be discharged into the grease interceptor. These sources must be connected at least four to six (4-6) feet downstream of the grease interceptor's discharge. The design shall prevent any backflow from the sanitary sources into the grease interceptor
- iv. Only one source facility per grease interceptor shall be allowed.
- v. Grease interceptors shall be located so that they are easily accessible for inspection, cleaning, and removal of the collected wastes. The interceptor shall not be closer than fifteen (15) feet from the last discharging fixture and no further away than thirty-five (35) feet.
- vi. Grease interceptors shall have at least two (2) compartments with a 20-inch minimum diameter access opening for each compartment for cleanout. Each access opening shall have a riser brought to the surface and have a secured, sealed lid that is rated for any anticipated load. There shall be a means provided to sample the effluent.
- vii. There shall be no internal cleanout tees or bypasses.
- viii. The inlet and outlet of the grease interceptor shall be vented. The vent pipe shall be at least two (2) inches in diameter. The inlet and outlet vents shall not be interconnected.
- ix. The outlet pipe invert shall be no more than two (2) inches lower than the inlet invert.
- x. The dividing wall between compartments shall be the same height as the other walls and the cover should contact the top of the dividing wall. If the partition/dividing wall does not contact the cover, the outlet tee or baffle shall extend below the liquid level, 40-50% of the total liquid depth.
- xi. The effluent from each compartment shall be drawn from the bottom of a riser pipe that terminates at least eighteen (18) inches below the inlet pipe invert of that same compartment.
- xii. Grease interceptors shall be accessible during normal business hours without interrupting normal business operations.
- xiii. Grease interceptors shall be installed in accordance with the manufacturer's instructions and applicable requirements of this section. A copy of the manufacturer's instructions shall be submitted with every permit to construct application submitted to the Sanitarian.

xiv. Grease interceptors shall be sized according to the following:

Kitchens (grease, garbage)

Number of meals per peak	X	Waste Flow	X	Retention time**	X	Storage factor**	=	Interceptor size (liquid)
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*Waste flow rate – see Table 2.

**Retention times

Kitchen waste:	
Dishwasher and/or disposal	2.5 hours
Single service kitchen:	
Single serving with disposal	1.5 hours

***Storage factors

Fully equipped commercial kitchen	8 hr. operation: 1 16 hr. operation: 2 24 hr. operation: 3
Single service kitchen:	1.5

A. The minimum interceptor size (liquid capacity) shall be 750 gallons.

g. Other Interceptors

i. Interceptors are required for oil, grease, sand, and other substances harmful or hazardous to the building drainage system, or the small wastewater treatment system.

A. Laundries

- Commercial laundries, laundromats, and dry-cleaners shall be equipped with an interceptor in order to reduce the quantity of lint and silt that enter the collection system.
- The system must be of adequate size and design to allow for cool-down of wastewater so that separation can be more readily achieved.
- The interceptor shall be installed with a wire basket or similar device. The wire basket or similar device shall be removable for cleaning and shall prevent passage into the drainage system of solids 1/2 inch (12.7 mm) or larger in size, such as string, rags, buttons, or other materials which are detrimental to the waste treatment system.
- Sizing must be in accordance with the following formula:

Laundries (grease, lint, silt)

Total gallons per cycle	X	Cycles per hour	X	Retention time*	X	Storage factor*	=	Interceptor
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*Retention times

Institutional laundries	2.5 hours
Standard commercial laundry	2.0 hours
Light commercial laundry	1.5 hours

**Storage factors

8 hours of operation	1.0
12 or more hours of operation	1.5

B. Car Washes

1. Where automobiles are washed (including detail shops using hand-wash practices), separators shall have a minimum capacity of 1000 gallons for the first bay, with an additional 500 gallons of capacity for every other bay.
2. Additionally, wash racks must be constructed to eliminate or minimize the impact of run-off from rain/storm events. Minimum requirements are roofed structures with at least two walls and appropriate grading to prevent storm water infiltration into the sanitary sewer.
3. An effluent sampling point is required.

h. Abandonment of Septic and Holding Tanks

- i. The following is the procedure to abandon septic tanks and holding tanks when the system is upgraded, equipment replacement as necessary, or central sewer lines are made available.
 - A. The abandoned tank shall be pumped and the septage hauled to a licensed facility approved to receive the waste or the septage pumped into the newly constructed septic or holding tank. Discharging to a central sewer requires coordination with, and the approval of, the owner/operator of the sewer system.
 - B. Once the abandoned tank is empty, it shall be handled in one of the following
 1. The tank shall be completely removed and properly disposed, and the excavation backfilled and compacted.
 2. The access covers can be removed; the bottom drilled or broken up sufficiently to drain; and the tank filled completely with native soil, pit run, or sand.

9-3-8 EFFLUENT DISTRIBUTION DEVICES

- a. Distribution boxes and flow divider tees are suitable for level or nearly level ground and are installed upstream of the soil absorption system with the goal of splitting flows equally between soil absorption system laterals. Drop boxes are suitable for sloping ground and are installed to achieve serial loading.
 - i. Distribution Boxes
 - A. The distribution box shall be installed on a level, stable base to prevent tilting or settling, and to minimize movement from frost heave.
 - B. Boxes shall be watertight and constructed of concrete or other durable material to withstand structural loading and chemical attack.

- C. Boxes shall be designed to accommodate the inlet pipe and the necessary distribution lines. The inlet piping to the distribution box shall be at least one (1) inch above the outlet pipes and all pipes shall have a watertight connection to the distribution box.
 - D. The box shall be protected against freezing.
 - E. The box shall be accessible for service after installation by means of an access riser.
 - F. Boxes shall be installed so that each outlet receives equal flow.
 - G. The outlets of the box shall be configured lower in elevation than the lowest finished grade above the absorption field or trenches.
- b. Flow divider tees may be used in place of distribution boxes. They shall be rated by the manufacturer and installed to promote even division of effluent.
 - c. Drop boxes are suitable for sloping ground and are installed to achieve serial loading. The drop boxes shall meet the requirements in paragraphs (a)(i through v) of this section.
 - i. The Drop box shall be designed to apply effluent to an upper field segment or trench to a specified liquid level prior to allowing flow to the next lower field segment or trench.

9-3-9 STANDARD SOIL ABSORPTION SYSTEMS

- a. General Design Requirements:
 - i. All soil absorption systems shall be designed in such a manner that the effluent is effectively dispersed and retained below the ground surface. The absorption surface accepts, treats, and disposes the wastewater as it percolates through the soil or porous media.
 - ii. Soil absorption systems shall not be excavated when the soil is wet enough to smear or compact easily. Open soil absorption system excavations shall be protected from surface runoff to prevent the entrance of silt and debris. All smeared or compacted surfaces shall be raked to a depth of one (1) inch, and loose material removed before filter or filler material or chambers are placed in the soil absorption system excavation.
 - iii. Soil absorption systems shall be designed to approximately follow the ground surface contours so that variation in excavation depths will be minimized. The trenches may be installed at different elevations, but the bottom of each individual trench shall be level throughout its length.
 - iv. Shallow soil absorption system depths are encouraged to promote treatment and evapotranspiration. The minimum soil cover depth over the soil absorption system is one (1) foot. The maximum depth to the bottom absorption surface of a soil absorption system is five (5) feet. Finished grading shall prevent ponding and promote surface water runoff.
 - v. Pipes, chambers, or other products shall be bedded on firm, stable material. Heavy equipment shall not be driven in or over soil absorption systems during construction or backfilling.

- vi. Standard trenches refer to perforated pipe embedded in aggregate-filled trenches that shall conform to the following:
 - A. The perforated pipe shall have a minimum diameter of 4 inches. Suitable pipe materials include: ASTM D-2729-11 PVC, ASTM D-3034-08 PVC, Schedule 40 PVC ASTM d1784-11, and ASTM F810-07 PE.
 - B. Perforations shall be sized and configured to avoid clogging and promote even effluent distribution throughout the absorption area.
 - C. The aggregate shall be crushed rock, gravel or other acceptable, durable and inert material that is free of fines, and has an effective diameter between ½ inch and 2- ½ inches.
 - D. Prior to backfilling, the aggregate shall be covered throughout with a woven/non-woven geotextile material or a three (3) inch layer of straw.
 - E. Aggregate shall extend the full width and length of the soil absorption system to a depth of at least twelve (12) inches with at least six (6) inches of drain gravel under the distribution pipe and at least two (2) inches over the distribution pipe.
 - F. Maximum width of trench excavation is three (3) feet.
 - G. Minimum spacing of trenches (wall to wall) is three (3) feet. Trench spacing shall be increased to nine (9) feet when the area between each trench is considered as reserve area.

- vii. Standard beds shall conform to the same pipe and aggregate requirements for trenches as found in subparagraphs (vi)(A through D) of this section. Standard beds shall also conform to the following:
 - A. The soils shall have percolation rates greater than five (5) and less than sixty (60) minutes per inch (5-60 mpi).
 - B. The bottom of the bed shall be level.
 - C. Distribution laterals within a bed must be spaced on not greater than six (6) feet centers.
 - D. Beds must not be wider than twenty-five (25) feet if gravity distribution is used. Multiple beds must be separated by at least 50% of the widest bed width.
 - E. Rubber tired vehicles must not be driven on the bottom surface of any bed excavation.

- viii. Chambered trenches, when used in lieu of perforated pipe and aggregate, shall be installed in conformance with the manufacturer recommendations. No cracked, weakened, modified, or otherwise damaged chamber units shall be used or remain in any installation.
 - A. All chambers shall be an open, arch-shaped structure of durable, non- degradable design, suitable for distribution of effluent without filter material.
 - B. All chamber endplates shall be designed so that the bottom elevation of the inlet pipe is at least six (6) inches from the bottom of the chamber.
 - C. Inlet and outlet effluent sewer pipes shall enter and exit the chamber endplates. Inspection ports shall be installed at all outlet effluent sewer pipes.
 - D. All chambers shall have a splash plate under the inlet pipe or another design feature to avoid unnecessary channeling into the trench bottom.

- E. Chambers shall be bear upon a firm soil foundation that will prevent settling during long-term operation. Imported granular fill may be required as native soils dictate.
 - F. The maximum width of the bottom absorption surface for a chambered trench is three (3) feet. The excavation to install a chambered trench may exceed three (3) feet.
 - G. Minimum spacing of trenches (wall to wall) is three (3) feet. Trench spacing shall be increased to nine (9) feet when the area between each trench is considered as reserve area.
- ix. Chambered beds shall conform to the same requirements for chambered trenches as found in subparagraphs (viii)(A through E) of this section. Aggregate, as specified in subparagraph (vi)(B) of this section, or native soil shall be used to fill the space between the chambers.
 - x. Serial Sidehill Trench:
 - A. A minimum horizontal spacing of six (6) feet of undisturbed soil shall be maintained between adjacent trench or bed side walls.
 - B. The bottom of each serial trench or bed system shall be level.
 - C. The overflow pipe between serial soil absorption systems shall be set no higher than the mid-point of the upstream distribution pipe. The overflow pipe shall not be perforated.

9-3-10 PRESSURE DISTRIBUTION SYSTEMS

- a. General Design Requirements:
 - i. The basic elements of a pressure distribution system include a dosing tank, and a means to deliver specified doses to a small diameter pipe network within a soil absorption system. Where site elevations allow, the selection and installation of pressure distribution systems using sufficient hydraulic potential, such as siphons or similar devices, is recommended. Where pumping of effluent to the soil absorption area is required, a pressure distribution shall be required. Pressure distribution is required for mound systems or for bed systems with a width greater than twenty-five (25) feet.
 - ii. Pumps must be sized to match the distribution system curve or demand with a minimum residual distribution pressure of 24 inches of hydraulic head throughout the dosing cycle, measured at a point most distant from the pump. Flow delivered throughout the distribution area shall not vary by more than 10%. Pumps shall be designed for sewage pumping applications and be accessible from the ground surface.
 - iii. The control system for the pump and dosing tank shall, at a minimum, consist of a “pump off” level switch, a “pump on” level switch, and a liquid level “high alarm”.
 - A. Teton County Electrical Permits must be separately obtained to cover any work that requires it. Compliance with National Electrical Code as administered by the Teton County Fire Department is a requirement of compliance for SWF permits. A qualified electrician shall be responsible for work on applicable portions of the system.
 - B. All electrical connections must be made outside of the chamber in either an approved weatherproof box or an explosion-proof junction box.

- C. The wiring from the junction box to the control box must pass through a sealing fitting to prevent corrosive gases from entering the control panel.
 - D. All wires must be contained in solid conduit from the dosing chamber to the control box.
- iv. The pressure transport and distribution piping from the pump through the soil absorption system shall be designed to prevent freezing. The transport piping shall also be sized to promote self-cleaning velocity of 2 feet per second minimum.
- A. Pressure piping and fittings shall be PVC or HDPE or stainless steel piping that is rated for no less than 1.5 times the highest anticipated pumping pressure, and is installed to provide leak-free integrity. No materials shall be used unless they are rated by their manufacturer for continuous exposure to domestic wastewater.
 - B. The ends of lateral piping shall be constructed with long sweep elbows or an equivalent method to bring the end of the pipe to finished grade. The ends of the pipe shall be provided with threaded plugs, caps, or other devices to allow for access and flushing of the lateral. Manifolding of the lateral ends is allowed. All joints in the manifold, lateral piping, and fittings shall be solvent-welded using the appropriate solvent welding chemicals for the pipe material. Pressure transport piping may be solvent-welded or flexible gasket jointed with appropriate restraints.
 - C. HDPE piping shall be fused using electrofusion equipment produced for such work, and according to the instructions from the manufacturer.
 - D. Where automatic siphons or other hydraulic potential devices are used, they shall be designed to empty the dosing tank in less than ten (10) minutes. The residual distribution head requirements from (a)(i) above shall also apply to dosing systems that do not use a pump.
- v. The pressure distribution system shall have a combination of at least three (3) vertical feet of filter sand and/or unsaturated native soil above the high groundwater level. The filter sand shall conform to ASTM C-33, with less than 2% passing the #200 sieve.

9-3-11 SAND MOUND SYSTEMS

- a. The sand mound consists of a sand fill, an aggregate bed or chambers containing pressure-dosed laterals, and a soil cap. Pressure dosing shall be according to 9-3-9.
 - i. Selection Criteria:
- b. The high groundwater level, bedrock, or impervious clay layer must be at least (4) feet below the bottom of the soil absorption system excavation.
- c. Site Requirements:
 - i. A minimum of one (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. The rise in groundwater due to effluent loading shall be considered in meeting this standard.

- ii. 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 (5-60 mpi). The percolation shall be measured in the top twelve (12) inches of native soil.
 - iii. Sand mound systems must not be sited where they may allow effluent to surface.
- d. General Design Requirements:
- i. Sand Layer
 - A. Filter sand shall conform to ASTM C-33, with less than two percent (2%) passing through the #200 sieve.
 - B. The minimum depth of sand below the aggregate bed surface shall be one (1) foot.
 - C. The total depth of fill sand, other suitable fill material, and native soils must provide at least 3 vertical feet of separation to seasonally high groundwater.
 - D. The total depth of fill sand, other suitable fill material, and native soils must provide no less than 4 vertical feet of separation to the top of restrictive soil layers or bedrock.
 - E. The top of the sand layer under the aggregate bed, or infiltrative surface which serves as the base for chambers, shall be level in all directions.
 - F. The sand layer shall fill around the perimeter of and to the top of the aggregate bed.
 - G. The slope of all sides shall be three (3) horizontal to one (1) vertical or flatter. The side slopes shall be graded to prevent seepage and/or ponding at the bottom of the slope.
 - H. The basal area, which is the bottom of the sand fill, shall be calculated by dividing the design flowrates (gpd) from 9-3-2 by the loading rate (gpd/ft²) found in Table 5 corresponding to the measured percolation rate of in-situ soils.
 - ii. Aggregate Bed
 - A. The aggregate shall be crushed rock, gravel or other acceptable, durable and inert material that is free from fines, and has an effective diameter between one-half (1/2) inch and two and one half (2 ½) inch.
 - B. 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 and two (2) inches above the distribution pipe. The aggregate shall be covered with an approved geotextile material.
 - C. Chambers may be used in place of an aggregate bed.
 - D. The design shall be a long, narrow bed design with a maximum width of twenty-five (25) feet.
 - E. The infiltrative surface, which is the bottom of the aggregate bed (top of the sand fill), shall be calculated by dividing the design flowrates (gpd) from 9-3-2 by the loading rate of 0.8 gpd/ft². No additional area reduction factor shall be allowed when chambers are used in place of the aggregate bed.
 - iii. Soil Cover
 - A. The soil cap shall be constructed of a sandy loam, loamy sand, or silt loam. The depth of the soil cap shall be at least twelve (12) inches. The slope of all sides shall be three (3) horizontal to one (1) vertical or flatter.

- B. A layer of topsoil at least six (6) inches thick shall be placed over the entire sand mound area. The sand mound should be planted with vegetation that does not require watering and will not establish deep roots. Native grasses are commonly used.

9-3-12 PRIVIES OR OUTHUSES

- a. Privies or outhouses that meet the requirements of this section are permitted by rule. A permit by rule requires the owner to submit the information contained in paragraph (g) of this section to the Teton County Sanitarian prior to constructing or installing the facility. By submission of the required information, the owner acknowledges and certifies they will comply with the requirements contained in this section.
- b. Pre-fabricated privies or outhouses shall be sealed, water-tight vaults and shall meet the following conditions.
- c. The horizontal setback distance requirements for sealed privies or outhouses shall comply with Section 7(g) for septic tanks.
- d. The depth to seasonally high groundwater from the bottom of a water tight vault shall be sufficient to prevent floatation of the empty vault.
- e. The vault must have sufficient capacity for the dwelling served, and must have at least 67 cubic feet or 500 gallons of capacity.
- f. Privies or outhouses must be insect tight; must have a self-closing door; the privy or outhouse seat must include a cover; and all exterior openings, including vent openings, shall be screened.
- g. Privies or outhouses must be adequately vented.
- h. Privies or outhouses shall not be constructed within the 100 year floodplain.
- i. Privies or outhouses shall not have plumbing where the supplied water can enter the holding tank.
- j. Owner's name, address, phone number, legal description of privy or outhouse (address, latitude/longitude, or ¼ ¼ section), and the date construction or installation will begin.

9-3-13 GREYWATER SYSTEMS

- a. Greywater systems provide an opportunity for greater siting and design flexibility by keeping separate the more heavily contaminated blackwater from modestly contaminated greywater. Greywater systems shall require an individual permit to construct, install, and modify. Greywater systems must demonstrate and maintain compliance with the intent of the Small Wastewater Facility Regulations.
 - i. Greywater Operation and Requirements
 - ii. Restrictions
 - A. Greywater shall not leave the property on which it is generated. Ponding or runoff is prohibited.
 - B. Greywater systems shall not be installed in a special flood hazard area.
 - C. The volume of greywater shall not exceed an average of 2000 gallons per day.

- D. Greywater shall not come in direct contact with or adversely impact surface or groundwater.
 - E. Food crops for direct human consumption should not be harvested for 30 days after application of greywater.
- iii. Odor control of the greywater system shall meet the requirement of Wyoming DEQ Air Quality Regulations Chapter 2, Section 11.
 - iv. If the greywater system is to be used during the winter, the greywater system shall be designed to prevent freezing.
- b. 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 by using the standard design flows multiplied by 0.75 to subtract for toilet discharge, as applicable.
 - c. Greywater System Configurations
 - i. All greywater systems that are constructed and operated in parallel with a corresponding blackwater system shall have means to direct greywater to either the blackwater system or the greywater system.
 - ii. Diverter valves shall not have the potential to allow backflow from the blackwater system into the greywater system.
 - iii. The diverter valve shall be used during system operation whenever the disposal of blackwater wastes enter the greywater system. The diverter valve shall not be operated to direct regular greywater to the blackwater system on an ongoing basis.
 - iv. Greywater used for surface irrigation should be disinfected. The disinfection should achieve a fecal coliform level of 200 cfu/100 mL or less.
 - d. Black water systems
 - i. Where greywater systems are intended to work in tandem with a corresponding black water system, the black water system shall be sized according to organic loading rather than hydraulic loading to the absorption system receiving soils.
 - ii. Black water systems are permitted under the same rules as a typical (black and grey water combined) on-site small wastewater facility.
 - e. Setbacks
 - i. A 30 foot buffer zone is required between the greywater application site and adjacent property lines and any public right-of-way.
 - ii. A 30 foot separation distance is required between greywater application sites and all surface waters.
 - iii. A 100 foot separation distance is required between greywater application sites and all potable water supply wells.

9-3-14 OPERATION AND MAINTENANCE

- a. An Operations and Maintenance (O & M) Manual shall be submitted as part of the permit application, prepared or adapted for such use by the design engineer. The O & M manual should be addressed to the homeowner and shall include:
 - i. An accurate location map of the major components of the small wastewater facility.
 - ii. A basic conceptual description of system components and their functions.
 - iii. A description of operational practices allowed, and those not allowed, and associated recommendations.
 - iv. A description of required maintenance, recommended time intervals for each maintenance procedure, and an indication of what qualifications are required for each person to perform each maintenance procedure.
- b. Septic tanks should be pumped as needed maintain treatment capacity and to prevent solids carryover into the soil absorption system.
- c. Holding tanks and sealed vaults shall be pumped prior to exceeding their maximum design capacity.
- d. Any service provider that pumps septic tanks, holding tanks, or sealed vaults, shall dispose of the collected wastes at a permitted wastewater treatment facility or in a manner approved by the WYDEQ.
- e. Damaged fittings, broken, crushed, collapsed, or plugged piping, worn or failed pumps, controls, and any other components subject to normal wear or degradation over time associated with any small wastewater system shall be replaced in a timely manner. Contact the Sanitarian to determine whether a repair permit is required.
- f. Inspection of each small wastewater facilities by qualified service providers is recommended when property ownership changes, or after a period of 20 years has elapsed since the time of installation or previous inspection. Inspections should be conducted according to EPA-recommended best practice.
- g. Composting or non-discharging toilets, where permitted, shall have their waste disposed of at a permitted wastewater treatment facility or landfill, or in a manner approved by the WYDEQ.

9-3-15 COMMERCIAL AND INDUSTRIAL WASTES AND/OR DOMESTIC WASTES GREATER THAN 2000 GALLONS PER DAY

- a. According to the Delegation Agreement between Teton County and the Wyoming Department of Environmental Quality, wastewater systems designed for treatment and disposal of flows greater than 2000 gallons per day, or receiving industrial, commercial, or non-domestic wastes cannot be permitted by Teton County, and must be permitted directly by the WYDEQ. This shall apply to any cluster of separate systems under common ownership or within any 5-acre area.

- b. This shall not apply to multiple lift stations that are connected to, and discharge only to an authorized community sewer collection and or disposal facility, so long as each facility is designed for flow less than 2000gpd.

APPENDIX A PERCOLATION TEST PROCEDURE

A. Purpose

- a. Percolation tests are used to determine absorption system site suitability and to size the absorption system.

B. Procedure

- a. General Requirements:

- i. Percolation tests shall not be conducted in test holes that extend into groundwater, bedrock, or frozen ground.
- ii. The percolation test shall be conducted only after the soil exploration pit has been dug and examined.
- iii. A minimum of three (3) percolation test holes are required.
- iv. The percolation test holes shall be spaced uniformly over the proposed soil absorption system site.

- b. Preparation

- i. A twelve (12) inch diameter hole shall be dug or bored to the proposed depth of the soil absorption system
- ii. The walls shall be vertical, with the natural soil surface exposed without smearing.
- iii. 30
- iv. The sides and bottom shall be scarified with a sharp pointed instrument and the loose material shall be removed from the hole.
- v. Two (2) inches of gravel or coarse sand shall be placed in the bottom of the hole to prevent it from scouring and sealing during water addition.

- c. Presoaking

- i. The purpose of presoaking is to have the water conditions in the soil reach a stable condition similar to that which exists during continual wastewater application. The minimum time of presoaking varies with soil conditions but must be sufficiently long so that the water seeps away at a constant rate. The following presoaking instructions are usually sufficient to obtain a constant rate.
 - A. Fill each hole with clear water to a level at least eighteen (18) inches above the gravel or coarse sand. If the eighteen (18) inches of water seeps away in eighteen (18) minutes or less, add eighteen (18) inches of water a second time. If the

second filling of eighteen (18) inches of water seeps away in eighteen (18) minutes or less, this indicates the soil is sand and is excessively permeable. The soil absorption system shall meet the requirements of Section 8 (c). If either the first or second fillings of eighteen (18) inches of water does not seep away in ninety (90) minutes, eighteen (18) inches of water must be maintained in the hole for at least four (4) hours to presoak the test hole. After the four (4) hours of water contact time, wait at least twelve (12) hours before starting the percolation rate measurement.

d. Percolation Rate Measurement

- i. Fill each test hole with twelve (12) inches of water and allow the soil to rehydrate for fifteen (15) minutes prior to any measurements.
- ii. Establish a fixed reference point to measure the incremental water level drop at constant time intervals. The water level drop should be measured to the nearest $\frac{1}{8}$ of an inch and the minimum time interval is ten (10) minutes.
- iii. Refill the test hole to twelve (12) inches above the gravel before starting the measurements. Continue to measure the incremental water level drop at a constant time interval until a consistent incremental water level drop is achieved. A consistent water level drop is achieved when three (3) consecutive water level drops are within $\frac{1}{8}$ inches of each other.
- iv. Before the water level drops below one (1) inch above the gravel, refill the test hole to twelve (12) inches and continue to measure the incremental water level drop.
- v. The percolation rate is calculated for each hole using the following formula:

$$\frac{\text{Time Interval (Minutes)}}{\text{Final Water Level Drop (inches)}} = \text{Percolation Rate (minutes/inch)}$$

- vi. If only three to five percolation tests are performed, the design percolation rate for the absorption system is the largest 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.
- e. The following information shall be recorded:
- i. Date(s) of test(s);
 - ii. Location, diameter, and depth of each test hole;
 - iii. Duration of presoak;
 - iv. Time of day for beginning and end of each water-level drop interval;
 - v. Each water-level drop measurement;

- vi. Calculated percolation rate;
- vii. Name and signature of person performing test;
- viii. Name of owner or project name; and

**NOTICE OF INTENT TO ADOPT TETON COUNTY RULES AND
REGULATIONS**
- Specifically Regarding Title 9 Small Wastewater Facility Regulations

Notice is hereby given pursuant to Wyoming Statute §16-3-103 that the TETON COUNTY BOARD OF COUNTY COMMISSIONERS intend to consider the adoption of RULES AND REGULATIONS REGARDING Small Wastewater Facilities. The proposed rules shall replace the 2010 Small Wastewater Facility Rules for Teton County. The Wyoming Department of Environmental Quality (WYDEQ) has delegated the authority to Teton County to promulgate these rules under Wyo. Stat. §35-11-304 and pursuant to the delegation, the WYDEQ has requested that Teton County update their Small Wastewater Facility Rules to more closely mirror the WYDEQ rules. The proposed rules exceed the state requirements in order to protect the unique water quality needs of Teton County. All interested parties may obtain a copy of the proposed rules at the office of the Teton County Sanitarian at 320 S. King St., Jackson, Wyoming or by contacting Ted VanHolland at tvanholland@tetoncountywy.gov. The proposed amendment is also posted on the county website at tetoncountywy.gov. Written comments may be submitted to the Teton County Sanitarian, P.O. Box 3594, Jackson, WY 83001 or at tvanholland@tetoncountywy.gov. A hearing to take testimony on the proposed rules shall be held on December 7, 2021 at 9 a.m. during the regular meeting of the Teton County Board of County Commissioners at the County Commissioner's Chambers located at 200 S. Willow St., Jackson, Wyoming. The Teton County Sanitarian has complied with the requirements of Wyoming Statute §9-5-304 and a copy of the assessment may be obtained from the Teton County Sanitarian.

Maureen E. Murphy
Teton County Clerk

Publish: October 13, 2021