

18 AAC 72 Regulation Amendments

Response to Public Comments

Introduction

The Alaska Department of Environmental Conservation (DEC or the Department) proposed to update the wastewater treatment and disposal regulations contained in Alaska Administrative Code (AAC) Title 18, Chapter 72 (18 AAC 72).

DEC issued notice of public comment period beginning January 6, 2022 through February 18, 2022 and hosted a question and answer session followed by a public hearing on February 3, 2022. Due to incorrect call-in information provided in the public notice and at the request of multiple stakeholders, DEC issued a supplemental notice of public comment period, extended the comment period until March 20, 2022, and hosted an additional question and answer session followed by public hearing on March 3, 2022. Subsequently, the Department again extended the public comment period and the final date of closure was March 31, 2022.

This document summarizes the verbal comments received during the public hearings and written comments submitted during the public notice period. Similar comments were grouped by main topic

Summary of Proposed Regulations

The wastewater treatment and disposal regulations at 18 AAC 72 were proposed to be amended with the intent to provide clarity to existing regulations by reorganizing the chapter, provide consistency in the plan review process for systems receiving non-domestic wastewater, and reduce regulatory burden by expanding the systems that can be covered under a permit-by-rule or authorization-by-rule process while also allowing the Department to consider a permit issued under 18 AAC 83 or 18 AAC 15 to satisfy a requirement for plan review.

Reorganization and Clarity

The chapter was reorganized to better group requirements by system type while also eliminating a different plan review process for non-domestic wastewater systems. For non-domestic wastewater systems that are authorized under a discharge permit issued by the state or EPA, the review and permitting process is not intended to change. For some industries and facilities, the plan review process may become less burdensome with revised language that allows the Department to consider a discharge permit as satisfying a plan review requirement. The articles previously dedicated to permit and plan review requirements for non-domestic wastewater systems were repurposed to cover requirements for conventional and alternative wastewater systems.

Some of the proposed language was intended to clarify the policies and procedures the Department already implements based on current regulations as reflected in modifications to definitions and wastewater terms added to Table A of 18 AAC 80. In addition, the Department introduced procedures currently implemented by policy for an ‘after the fact’ approval or authorization-by-rule.

Expansion of systems that can be installed without plan approval

The main highlight of the proposed amendments was the significant expansion of systems that can be installed without prior plan approval under an “authorization-by-rule” process. Current

regulations allow only some conventional systems to be installed without plan approval. The Department proposed to allow more conventional systems and some small alternative systems to be installed without prior review by the program in addition to allowing larger utilities to extend or replace sewer mains without prior approval of each project.

Persons who commented

Name	Company/Affiliation (if provided)	Location
Aniya Cannon		Greensboro, NC
Bambi Henry	Arctic Engineering, LLC	North Pole, AK
Catherine Fritz	AELS Board	Juneau, AK
Clayton Spitler		Soldotna, AK
Dawn Crater	Alaska Oil & Gas Association	Anchorage, AK
Eric Lanser		Salcha, AK
James Caslin	Golden Heart Utilities	Fairbanks, AK
James Armstrong	Anchorage Water and Wastewater Utility	Anchorage, AK
Jeff Garness	Garness Engineering Group, Ltd	Anchorage, AK
Jeff Garness	MOA Onsite Technical Review Board	Anchorage, AK
Joel Teune		Ketchikan, AK
John Barry		Gustavus, AK
Ken Marchbanks	Glacier Bay Construction, Inc.	Gustavus, AK
Kyle Ramirez		AK
Loren Leman		Anchorage, AK
Michael Erdman		Wasilla, AK
Mike Taylor	City of Gustavus	Gustavus, AK
Nathan Kaaihue	3-Tier Alaska	Fairbanks, AK
Rebecca Carroll	MOA Onsite Water and Wastewater	Anchorage, AK
Steven Pannone		Palmer, AK
Tom Williams	City of Gustavus	Gustavus, AK
Vanessa Blevins		Anchorage, AK
Veronica Keithley	Alaska Oil & Gas Association	Seattle, WA
William (Bill) Joiner	Joiner Engineering LLC	Haines, AK

Summary of Comments and Related Amendments

The Division grouped all public comments received into categories. The following sections summarizes only the topics that had comments that resulted in amended language to the proposed regulations. All modifications to proposed regulations as the result of public comments are included in the following summary. Minor edits to proposed language for grammatical correctness, not otherwise relevant to public comments, may not be shown in this summary. In addition, legal technical edits made throughout the amended regulations by the Department of Law during their final review are not included in this summary but are reflected in the paragraphs below. Edits from the public comment document are shown with added language in bold underline and deletions with strikethrough. The Department used the following labels to categorize comments into main topics.

Main Topics of Comments Received	
Resulted in amended proposed regulation	CI Scope of Work
	Construction Standards
	General
	Lift Station
	Log Cribs
	Plan Review
	Private Water Systems
	Separation Distances
No change in proposed regulation	Definitions
	Engineer Scope of Work
	Extend Public Notice
	Nitrate Model
	Soils
	Technical Review Committee

A complete list of all public comments received with the Department’s response, sorted by topic, is included in Appendix A.

General Comments

Several comments received expressed concerns that language in proposed regulations will increase the cost to the public due to not being specific enough while other comments expressed concerns that there will be increased costs due to being too prescriptive. The Department sees the proposed regulation amendments will reduce regulatory burden by allowing more system installations and modifications to be completed without prior plan approval while also allowing the Department discretion to better incorporate plan review requirements with permit authorizations. Overall, the Department anticipates the proposed regulation changes will reduce regulatory costs for Alaskans.

The following sections were modified as the result of General comments.

18 AAC 72.005(a)(1): standards for the design, construction, performance, operation, and maintenance of wastewater **collection, storage,** treatment ~~works,~~ and disposal systems; and

18 AAC 72.005(b)(2): engages in the **design,** installation, construction, or modification of wastewater collection, storage, treatment, or disposal systems or private water systems.

18 AAC 72.050(a): A person may be authorized to discharge **domestic** wastewater into or onto water or land, if the discharge

18 AAC 72.065: Certified operator requirement. The owner or operator of a wastewater system that has 100 or more service connections or that is used, or intended for use, by 500 or more people ~~a per~~ day shall ensure that the system is operated by a person certified **as required** under 18 AAC 74.

18 AAC 72.110(d)(3): the right of the department to require an annual report from the entity summarizing the ~~domestic~~-wastewater systems the entity approved or inspected;

CI (Certified Installer) Scope of Work:

Several commenters are concerned that the proposed amendments would allow Certified Installers (CI) to perform work that may conflict with regulations and statutes governing Architects, Engineers, and Land Surveyors (AELS). The received comments are well summarized in the letter dated February 24, 2022 from the AELS board, which states “[AS] 08.48.331 does not provide an exemption that would allow ‘Certified Installers’ to prepare waiver reports, interpret percolation test data, or perform design services associated with any commercial septic systems, regardless of size.” Although not specifically mentioned in the public comments, the Department also considered those proposed regulations regarding a multi-family dwelling in addressing the comments on this topic.

The Department is no longer including proposed 18 AAC 72.540(b)(1)(B) in the final amendments. Because 18 AAC 72 will not allow CI’s to prepare separation distance waiver reports, the Department does not find it necessary to address comments raising that issue.

Existing regulations at 18 AAC 72.015 allow Certified Installers to install or modify a conventional onsite wastewater system serving a private residence (<1500 gpd) or a small commercial facility (<500 gpd). The regulations allowing a CI to install a small commercial facility has been in effect since 1999. Although the content of 18 AAC 72.015(c) has been moved to 72.511(a), the proposed regulations do not change what a CI is already allowed to install for a commercial facility. Therefore, the Department finds the comments concerning these already existing regulations are effectively outside the scope of the amendments. Regardless, the regulations provide prescriptive construction requirements, and these requirements eliminate any “design” that would entail the specialized knowledge expected from the “practice of engineering” under AS 08.48.341. Any rollback on this existing regulation would increase costs to small businesses in Alaska.

Concerning the comments related to footnote a of the table in section 72.530(f)(3), the proposed regulation allowing a CI to complete a percolation test does not conflict with AELS statutes and regulations. The AELS board has previously communicated to the Department that a CI can perform percolation tests. The Department finds that a CI’s selection of an appropriate application rate for a conventional soil absorption system, as provided in that table, does not amount to “interpretation” of percolation test data, and therefore CI’s would not be practicing engineering design work under AS 08.48.341. In addition, the Department will be limiting multi-family dwellings to four units in the final amendments; thus, all residential dwellings for which CI’s can install a system (and, in turn, perform percolation tests) fall within the exemption at AS 08.48.331(a)(6). Eliminating the requirement that an engineer perform a percolation test for wastewater systems that can otherwise be installed by a CI will reduce the cost to Alaskans and streamline the system installation process while not increasing the risk to public health or the environment.

The following modifications will be made to the public notice version of proposed regulations:

18 AAC 72.511(a): A conventional onsite **wastewater** system serving only a single private residence, multi-family dwelling **with not more than four single-family units**, or small commercial facility operated independently on a single lot with a total on lot

design flow of not more than 1,500 ~~gpd~~ **gallons per day may** be installed without prior department approval if the system is installed by a person certified under 18 AAC 72.405.

18 AAC 72.540(b): A request to reduce a separation distance required ~~under~~ **under** by 18 AAC 72.100 or 18 AAC 72.520(a) - (g) must be submitted in a report that specifies each waiver being sought. The report must

(1) be sealed by a registered engineer; the department will waive this requirement for ~~a~~ conventional onsite **wastewater** systems if the department determines that

~~(A)~~ **(A)** public health, public and private water systems, and the environment are adequately protected without this requirement and

~~(BA)~~ **(BA)** ~~the~~ a-site of the proposed system is remote from a community with access to professional engineering services; and

~~(C)~~ **(C)** the resulting cost of bringing a registered engineer to the site would be overly burdensome; ~~or~~

~~(B) if the request for reduction is equal to or less than five percent of the required separation distance, the request may be submitted by a person certified under 18 AAC 72.405 for systems being installed or modified by that person;~~

18 AAC 72.540(d): The department's **will base its** decision under this section ~~will be based on~~ information submitted to justify the waiver or modification, the risk to public health, the **risk to the** environment, **the** protection of surface water, groundwater, existing or proposed drinking water sources, and the impact on conventional wastewater system performance. As necessary, the department will require changes to the system **construction** design as a condition of approval.

18 AAC 72.990(58): "observed percolation rate" means the rate at which water will pass through a soil as measured by a person certified under 18 AAC 72.405 or a registered engineer during a percolation test conducted in accordance with standard ~~engineering~~ practice **or a best management practice publicly identified by the department under 18 AAC 72.070;**

Construction Standards and Lift Stations

Comments in this category include those that applied to prescriptive standards that are proposed to be in regulation. For conventional wastewater systems, the majority of the construction standards are the same as currently contained in 18 AAC 72 or the Onsite Wastewater System Installation Manual which is adopted by reference. The following modifications will be made to the public notice version of proposed regulations:

18 AAC 72.520(f): The minimum horizontal separation distance between a septic tank and an absorption field is **five** ~~10~~-feet.

18 AAC 72.530(d)(3): solid pipe without joints must span **five** ~~10~~ feet from the inlet and outlet of the septic tank onto undisturbed earth, or the soil may be backfilled and compacted in six-inch lifts **before** ~~prior to~~ laying the pipe;

18 AAC 72.530(f)(1): include **a** distribution medium meeting specifications **and criteria** publicly identified by the department **under 18 AAC 72.070** ~~as acceptable~~ or alternate specifications presented to and approved by the department; the distribution medium must provide adequate void space and be, **as measured from the springline of the distribution pipe or height of chambers,**

18 AAC 72.530(g)(3): if installed as a separate **pump vault** unit, the ~~pumping chamber~~ must be premanufactured **as a single unit or have watertight manufactured risers extended to the ground surface with** ~~for that purpose and~~

(A) ~~have a minimum volume of 350 gallons; and~~

(B) ~~access to the pump, float switches, and other hardware must be provided through a minimum 24-inch diameter opening~~ **with locking lid;** and

18 AAC 72.530(f)(4)(A): if a basement sump or lift station is located before the septic tank, ~~then~~

(A) have the minimum septic tank size, described in **(e)(2) of this section,** ~~Table 3 must be increased by at least 25 percent;~~

(i) 250 gallons for residential dwellings and commercial facilities with not more than 18 bedrooms or 1,250 gallons per day; and

(ii) at least 25 percent for residential dwellings and commercial facilities not described in (i) of this subparagraph;

18 AAC 72.630(d)(1): gravity flow sewer lines must

(A) have a minimum nominal diameter of four inches; and

(B) ~~must be laid at a minimum two percent~~ **slopes that maintain a minimum flow velocity of two feet per second** and a maximum **flow velocity of 10 feet per second when flowing full** ~~20 percent slope;~~

18 AAC 72.630(e)(1): to **have current certification from an accredited third-party testing organization** ~~be currently certified by NSF International Standards/American National Standard NSF/ANSI 40; or~~

18 AAC 72.990(1): "5-wide" means a conventional soil absorption system that is five feet wide, contains one line of distribution piping, and has at least 18 inches but not more than four feet of distribution medium **measured from the springline of the distribution pipe**

to the bottom of the distribution media; ~~and is designed with the absorption area is calculated using the bottom area and sidewalls;~~

18 AAC 72.990(8): "bed" or "bed system" means a conventional soil absorption system that is a level excavation, wider than five feet, **using an** ~~that contains at least two lines of distribution piping, and is designed with the absorption area calculated~~ **based on** using the bottom area only;

18 AAC 72.990(21): "deep trench" means a conventional soil absorption system that

(A) is at least four feet deep but not more than 12 twelve feet deep, with distribution media depth measured from the springline of the distribution pipe to the bottom of the bottom of the distribution media;

(B) and is at least 12 inches wide with one line of distribution piping; ~~and~~

(C) has ~~is designed with the absorption area calculated based on the area of the two vertical sidewalls along the length of the trench;~~

18 AAC 72.990(29): "distribution pipe" means perforated pipe, ~~tubing, or other conveyance~~ used to distribute effluent from a ~~pretreatment~~ process to the distribution medium within a soil absorption system;

18 AAC 72.990(90): "shallow trench" means a conventional soil absorption system that does not exceed five feet in width, ~~contains a single distribution pipe, and is designed with the absorption area calculated using the bottom area only;~~

Log Cribs

Several commenters expressed concern with the proposed language at 18 AAC 72.015, namely the use of log cribs would be prohibited. The concerns focused on the potential expectation that all log cribs in use would immediately require replacement upon implementation of the regulation changes. The Department does see a need to eliminate the use of existing log cribs for protection of public health and the environment but recognizes the industry's concern about undue burden. To address these comments, the program modified that section to allow a more phased out approach for log cribs. The modified section also addresses a comment regarding the potential interpretation that the use of wood media as a treatment component would not be allowed.

18 AAC 72.015. Restrictions on use and modification. (a) A person may not install, modify, or use **a cesspool for wastewater treatment or disposal.** ~~the following systems for wastewater treatment or disposal~~

~~(1) a cesspool;~~

~~—— (2) a log crib; or~~

~~—— (3) any system utilizing wood components in contact with wastewater.~~

(b) A person may not install, modify, or repair a wastewater collection or disposal system utilizing wood components in contact with wastewater.

(c) Any modified existing system must meet the requirements of this chapter.

Plan Review

Comments received under this category resulted in the following edits to proposed regulations:

18 AAC 72.200(b): The department will base its approval of wastewater system plans on the provisions of AS 46.03 and, this chapter, ~~and other requirements to protect public health, public and private water systems, and the environment.~~

18 AAC 72.201(e): throughout this subsection, the term “regulated utility” was changed to “wastewater utility”.

18 AAC 72.220(f): **Not later than 30 days after receiving a submittal, the Department will provide a** ~~If the department requests for~~ additional information to satisfy the submittal requirements or to adequately evaluate whether a system design is in conformance with this chapter, ~~the applicant has 45 days to fulfill the request.~~ If the **applicant fails to provide** additional information **not later than** ~~is not provided within~~ 45 days **after** ~~of~~ the request, the department **may** ~~will~~ issue a notice **that** the application will be closed as incomplete, and a new application, including the appropriate plan review fee, must be submitted for department review.

18 AAC 72.225(a): The department will issue its approval or denial to construct a wastewater system **not later than 30 days** after the department receives ~~and reviews~~ all plans and information required by this chapter, **including any additional information requested by the department. Failure of the department to issue an approval or denial during the 30-day period does not constitute automatic approval of the plans.**

18 AAC 72.270(b)(7): the system does not **receive** ~~collect~~ stormwater or silty water from construction dewatering efforts, gutter runoff, or street runoff **into a sewer designed to handle only domestic wastewater or nondomestic wastewater without stormwater;**

18 AAC 72.270(b)(9): the system does not collect oil, petroleum products, industrial solvents, or other substances ~~detrimental to the receiving wastewater treatment works~~

(A) into a sewer designed to handle only domestic wastewater or stormwater;
or

(B) that will be received by a treatment works or disposal system that is not designed and approved to handle these substances; and

18 AAC 72.611(a)(1): **is one that**

(A) serves a private residence, multi-family dwelling, ~~small~~ commercial facility, or combination **of those** ~~thereof~~, with a total on lot design flow of 1,500 gallons per day or less; or

(B) consists of holding tanks only and serves a temporary or mobile camp associated with mining or oil and gas development; and

Separation Distances and Private Water Systems

Many comments were received regarding separation distance requirements, mostly as they relate to private water systems. Responses to these numerous comments ranged from clarification on interpretation, referencing existing regulations where language is substantially similar to proposed regulations, and in some cases recognizing the need to modify some sections. The following modifications will be made to the public notice version of proposed regulations as the result of comments categorized as “Separation Distances” or “Private Water Systems”:

18 AAC 72.100(a)(4): at least 25 horizontal feet, measured nearest edge to nearest edge, to ~~any a fuel heating oil storage tanks or and~~ lines; the minimum separation distance to ~~a fuel heating oil storage tanks or lines~~ does not apply to

18 AAC 72.100(b)(1): at least 10 horizontal feet, measured nearest edge to nearest edge, to ~~any a fuel heating oil storage tanks or and~~ lines; the minimum separation distance for ~~fuel heating oil storage tanks or line~~ does not apply to

18 AAC 72.990(34): "drain"

(A) means ~~a the lowest~~ line in or beneath a building ~~and~~ that receives and carries the sewage to the sewer service line or private sewer line;

(B) ~~does not include a line in or beneath a building when it meets the definition of a sewer main or community sewer line; however, a line that also serves separate private residences or other separate buildings and structures, even if it runs beneath a building, is still considered to be a sewer main or community sewer line;~~

18 AAC 72.990(86): "sewer" or "sewer line"

(A) means a pipeline, conduit, or other constructed conveyance that carries domestic or nondomestic wastewater; ~~“sewer line”~~

(B) does not include

(i) a private sewer line or sewer service line;

(ii) an open ended culvert or unlined ditch that conveys stormwater only;

18 AAC 80.020 Table A: Private sewer line, sewer service line, drain (buried in the ground ~~below ground~~), petroleum lines and storage tanks^d, drinking water treatment waste^e

Department Edits

During the in-depth review of proposed regulations to respond to public comments, the program noted that a subsection was missing to carry forward current separation distance requirements. The lack of inclusion in the public noticed regulation was an oversight and does not result in a change from how current regulations are interpreted and implemented according to existing regulation at 18 AAC 72.020.

18 AAC 72.270(b)(4): the location meets the minimum separation distance requirements set out in

(A) under 18 AAC 80 for public water systems unless the department has approved a lesser separation distance under that chapter; ~~and~~

(B) under 18 AAC 72.100 for private water systems unless the department has approved a lesser separation distance under this chapter; and

(C) of 100 feet between the mean annual high water level of a lake, river, stream, spring, or slough, or the mean higher high water level of tidally influenced coastal waters and a tank, lift station, or sewer manhole, measured horizontally from nearest edge to nearest edge;

Other grammatical edits or technical edits that did not change the intent of current regulations or public noticed regulations made during the Department of Law final review are not included in this document.

Appendix A

All Public Comments and Department Response

**18 AAC 72 Regulations Amendments
Detailed Response to Comments**

Topic	Commenter	Submitted By	Comment	Response
CI Scope of Work	John Barry		18 AAC 72.990. Definitions and abbreviations (a) (58) Observed percolation rate: "Standard engineering practice" implies work done by an engineer. The AELS Board in their letter dated October 25, 2017 states that Certified Installers may perform percolation tests, and that evaluating the results of the tests in order to design wastewater systems should be accomplished by engineers with the knowledge to do so. This appears to be another conflict with the AELS Board determination.	Amended language removes "engineering" from the definition; the Department did not intend to imply percolation tests are an engineering activity. The AELS board provided written confirmation in April 2017 that Certified Installers can perform percolation tests. DEC asserts that there is no interpretation of percolation test data needed that could be considered the practice of engineering.
CI Scope of Work	Catherine Fritz	AK Board of Registration Architects Engineers Land Surveyors Landscape Architects	Upon review of the proposed revisions to 18-AAC-72 (Wastewater Disposal), currently out for public comment, it was noticed that there are provisions related to the role of "Certified Septic System Installers" regarding commercial septic systems that appear to conflict with current AELS statute specific to the authorized practice of engineering. AELS Statute 08.48.331 does not provide an exemption that would allow "Certified Installers" to prepare waiver reports, interpret percolation test data, or perform design services associated with any commercial septic systems, regardless of size. To ensure that 18-AAC-72 does not conflict with AELS statutes and/or regulations, we encourage you to review AS 08.48.331 (exemptions) and 12-AAC-36. One solution may be for the legislature to add an exemption to AS.08.48.331 that would allow for "Certified Installers" to design "small commercial septic systems" (up to 1500 gpd). Another possible solution is to see if there is a statutory path (via AELS Statute 08.48.331(7)) for "specialty contractors" to install and document the installation of commercial septic systems that are designed by engineers. Although this latter option would not provide as much latitude for Certified Installers as the proposed regulation would allow, it would likely provide a cost savings for some projects, which we realize is beneficial when public health risk is low.	See other responses to comments in this section more specific to waivers and percolation tests. In regards to small commercial systems, 18 AAC 72 has allowed Certified Installers to construct a conventional onsite system serving a small commercial facility (<500 gpd) since 1999. Regardless that there is not a specific exemption at 08.48.331(a)(6) similar to that for residences with no more than four families, the Department does not agree there is a conflict. Because CI's are required to follow prescriptive construction standards, the Department asserts there is no "design" work that falls under the practice of engineering. No specialized knowledge is needed beyond the additional training they receive to become certified, much like for plumbers or other specialty trades, which are arguably exempt when applying 08.48.331(a)(2), 08.48.331(a)(7), and 08.48.331(a)(8).
CI Scope of Work	Jeff Garness, PE	Garness Engineering Group, Ltd	72.060 requires than a waiver request (report) be sealed by a registered engineer, implying that the subject work is "engineering"; however, Paragraph 72.540 (b)(1)(B) allows for an unlicensed individual (under certain conditions) to perform "engineering work". It needs to be determined if such an exemption exists within AELS Statute 0848.331, particularly in regard to commercial systems.	To eliminate the perceived conflict with AS 08.48 and 12 AAC 36 as it applies to the practice of engineering, the Division choose to eliminate the proposed provision to allow CI's to apply for a separation distance waiver of <5% of the required distance.
CI Scope of Work	Jeff Garness, PE	Garness Engineering Group, Ltd	72.511(a) — If there is a design component to the installation, then the installation of a of commercial septic system by "certified installers" would appear to be in with AELS Statute 08.48.331.	The Department asserts there is no "design component" when applying the construction requirements and standards developed by the Department. Certified Installers receive additional training in the trade and are also required to be licensed as a general contractor or specialty contractor, both of which are allowed to do commercial work.
CI Scope of Work	Jeff Garness, PE	Garness Engineering Group, Ltd	72.540(b)(1)(B) - It is arguable that AELS Statute 08.48.331 does not provide an exemption that would allow for non-licensed persons to prepare the subject report for commercial systems.	To eliminate the perceived conflict with AS 08.48 and 12 AAC 36 as it applies to the practice of engineering, the program choose to eliminate the proposed provision to allow CI's to apply for a separation distance waiver of <5% of the required distance.
CI Scope of Work	Jeff Garness, PE	Garness Engineering Group, Ltd	72 540 (d) — The use of the word "design" in the last paragraph implies that a certified installer is performing design work, when in some cases they are merely installing a system using a prescriptive "installation manual". Perhaps changing the word to "configuration" will resolve this issue.	While very little of that section would have applied to Certified Installers (and only under an exception clause with very limited applicability), the Department determined changing the word "design" to "construction" would be prudent.
CI Scope of Work	Jeff Garness, PE	Garness Engineering Group, Ltd	72.990 (59) — "Observed Percolation Rate — The definition implies that ADEC is proposing to allow "Certified Installers" to perform percolation tests. Historically in ADEC regulations, percolation tests and/or interpretation of the data have been deemed "engineering" The AELS board has previously determined (in a 2017 letter) that interpretation of percolation test data is in the realm of "engineering".	Amended language removes "engineering" from the definition, the Department did not intend to imply percolation tests are an engineering activity. DEC maintains that performing and reading percolation test data is not restricted to the practice of engineering.
CI Scope of Work	Jeff Garness, PE	Garness Engineering Group, Ltd	It is arguable that AELS Statute 08.48.331 does not provide an exemption that would allow "certified installers" to prepare waiver reports, interpret percolation test data, or perform design services associated with any commercial septic systems, regardless of size. If that proves to be the case, one avenue ADEC should investigate as a means for reducing the cost of commercial septic system installations would be to see if there is a statutory path (via AELS Statute 08.48331 (7)) for "specialty contractors" to install and document the installation of commercial septic system that are designed by engineers. Although this would not provide as much latitude for Certified Installers as called for in the proposed regulation, it would still provide a cost savings for the residents of Alaska.	Certified installers have been allowed to install a conventional onsite system serving a "small commercial facility" since 1999. There is no change for small commercial facilities in proposed regulations (a single conventional system is still limited to no more than 500 gpd). Rolling back existing regulations and requiring a professional engineer for all wastewater systems serving a commercial building would unnecessarily increase the cost to many small business owners in Alaska when public health, safety, or welfare hasn't be adversely impacted over the last 23 years that this regulation has been in place.
CI Scope of Work	Jeff Garness, PE	Garness Engineering Group, Ltd	Sections within the proposed version of 18-AAC-72 appear to be at least partially written around the "Certified Installer" programs. It would be better to refer the reader to Article 4, "Certified Installer Program" for the various Plan Review exemptions and the system installation restrictions that certified installers are subject too. The goal would be to keep everything associated with Certified Installers under One Article. This will shorten the other Articles and simplify the regulation.	The Department respectively declines your suggestion.

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Detailed Response to Comments**

CI Scope of Work	Jeff Garness, PE	Garness Engineering Group, Ltd	The definition of a "conventional soil absorption system" (72.990 (18)(F) appears to exclude mound-type drainfields. per 72.511(a), it appears that certified installers are restricted to "conventional onsite systems". It is unclear why ADEC is prohibiting certified installers from design-building mound-type drainfields for single-family homes and multi-family structures that fall within the AELS exemptions in Statute 08.48.331.	A mound (above-ground system) is not considered a conventional system, it is a type of alternative soil absorption system. Proposed regulations have fully developed prescriptive construction requirements that apply to conventional systems that have proven to be effective in the protection of public health and the environment but does not yet have the same prescriptive standards developed for alternative systems that are needed when site conditions are not suitable for a conventional system. This is not a change from existing regulations.
CI Scope of Work	John Barry		18 AAC 72.511. Conventional wastewater systems not requiring plan approval: A conventional on site wastewater treatment system for commercial projects must be designed by a licensed engineer. Refer to the letter from the AELS Board dated October 25, 2017.	Duplicative comment. See response to similar comments.
CI Scope of Work	John Barry		18 AAC 72.530. Construction requirements for conventional wastewater systems (f) (3) Table 4 Note a, 18 AAC 72.990. Definitions and abbreviations (58) and (59): The AELS Board in their letter dated October 15, 2017 states that Certified Installers may perform percolation tests, and that evaluating the results of the tests in order to design wastewater systems should be accomplished by engineers with the knowledge to do so. This appears to be an obstacle for ADEC to allow Certified Installers to perform percolation tests.	The proposed language in Table 4, Note a states that Certified Installers can perform percolation tests for systems installed under their certification. The AELS board agreed that percolation tests are not required to be performed by an engineer in their April 2017 correspondence with the program. There is no evaluation or interpretation of the results that should be considered the practice of engineering. DEC maintains that performing and reading percolation test data is not restricted to the practice of engineering.
CI Scope of Work	John Barry		My second comment is, in the comments I've already submitted I included a letter from the Board of Registration for Architects, Engineers, and Land Surveyors that I received back in 2017, and there are some conflicts between what the board considers to be engineering practice and what isn't. And I think that ADEC needs to get with the board and make sure there aren't any conflicts in the new regulations where certified installers are allowed to either perform design work on small commercial projects, or the other conflict is regarding percolation tests. So it's not my issue personally, but I think that DEC needs to sort this out with the board and make sure that it's all in compliance with the way the board is regulating the engineering profession	The Department engaged with the AELS board. The Department amended some language in proposed regulations to resolve most conflicts. See more detailed response on other comments within this topic.
CI Scope of Work	Ken Marchbanks	Glacier Bay Construction Inc	2. Mention was made sometime ago of a plan to allow Certified Installers to provide inspection services for the purpose of real estate transfer etc. My reasoning is since we (Certified Installers) have done most of the installations we should be competent to inspect same.	Potential regulations for time of title transfer adequacy evaluations and qualifications or certification of an individual to perform those inspections is still being considered by the Department for future regulation updates.
CI Scope of Work	Steven Pannone		540(b)(1) – Waivers are Engineer activities. Either they need to be Engineered or not. If a certified Installer can sign it off, then that should be the requirement everywhere. Also if you are requiring an Engineer to justify the waiver, then it's a violation of 18AAC08 if someone other than an engineer justifies the waiver.	To eliminate the perceived conflict with AS 08.48 and 12 AAC 36 as it applies to the practice of engineering, the program choose to eliminate the proposed provision to allow CI's to apply for a separation distance waiver of <5% of the required distance.
Construction Standards	Clayton Spittler		72.630 (e) (1): Recommend adding "or equivalent third party accreditation organization" after "NSF/ANSI 40".	Thank you for the comment. This subsection has been amended.
Construction Standards	Jeff Garness, PE	Garness Engineering Group, Ltd	72.611 — General comment. This section includes small commercial facilities; however, the requirement for NSF 40 certification referenced in 72.630 will never apply because NSF-40 certification only applies to residential systems serving 400-1500 gpd. Although the subject treatment system may perform adequately, it needs to be understood that the system is not NSF-40 certified for such an application.	While NSF 40 may be specific for residential, the Department may still consider the standard relevant for small commercial applications. Sections referencing NSF 40 have all been amended.
Construction Standards	Jeff Garness, PE	Garness Engineering Group, Ltd	72.615 (b)(1 & 2) — Any system designed/sized to treat greater than 1500-gpd is not NSF-40 certified. This section fails to acknowledge A\MNTS systems that already have been tested and used extensively in Anchorage but are not NSF 40 certified. One such system is Intermittent Dosing Sand Filters.	The proposed language is substantially the same as currently contained at 72.263(2) for package plants. Regardless, all sections referencing NSF 40 have been amended.
Construction Standards	Jeff Garness, PE	Garness Engineering Group, Ltd	72.630(e)(1) - It is important to note that NSF 40 does not apply AWWTS systems handling more 1500 gpd, or those serving commercial facilities.	Duplicative comment. Please see the response to similar comments.

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Construction Standards	Steven Pannone		Article 6 – Alternate and advanced wastewater systems have been in operation for 24 years. They have proven themselves over that time. This section should address increased soil application rates (like the ones established and approved by the Department in 2000) and reduced horizontal and vertical separation distances requirements (like the department has accepted in 2019). An engineer should not need to justify a waiver for these every time they use an advanced wastewater system. It is a waste of time and money.	The Department respectively disagrees that standards established specific to a small region and serving up to 2 residential dwelling units only, should be considered relevant on a statewide basis. The MOA requires every system to go through a review process and obtain a permit regardless if the system meets their code or not. The Department will continue to evaluate waivers and deviations from prescriptive construction standards on a case-by-case basis through the plan review process. This is not a change from existing regulations.
Construction Standards	Veronica Keithley	Alaska Oil and Gas Association	72.615(b)(1): NSF 40 is specific to residential wastewater treatment systems. Recommend that ADEC clarify if such standards/equivalents are also acceptable for non-residential facilities. If not, clarify what standards would be acceptable for non-residential facilities.	Duplicative comment. Please see the response to similar comments.
Construction Standards	Clayton Spittler		72.530 (f) (2) (A): Recommend revising this section to essentially copy MOA Wastewater Disposal Code 15.65.210 (B) (4).	The Department respectively disagrees that standards established specific to a small region serving up to 2 residential dwelling units only should be considered relevant on a statewide basis. The MOA requires every system to go through a review process and obtain a permit regardless if the system meets their code or not. The Department will continue to evaluate waivers and deviations from prescriptive construction standards on a case-by-case basis through the plan review process. This is not a change from existing regulations.
Construction Standards	Jeff Garness, PE	Garness Engineering Group, Ltd	72.520 (c) — The Municipality of Anchorage has a Steep Slope code provision that allows for trench type drainfields to be installed on slopes as steep as 45%. It was modeled after the State of Idaho code. If the State of Alaska were to incorporate such a provision into 18 AAC 72 it would allow for the development of more properties and provide a cost-benefit to the residents of Alaska.	Duplicative comment. Please see the response to similar comments.
Construction Standards	Steven Pannone		The Code rewrite does not address steep slopes and installing systems on steep slopes. There are numerous codes across the Pacific Northwest and in the Ten State Standards that have a steep slope code. The MoA researched these standards real well during their last code rewrite, which the state was a party to and signed off on their use.	Duplicative comment. Please see the response to similar comments.
Construction Standards	Jeff Garness, PE	Garness Engineering Group, Ltd	72.530(f)(1) (A, B, & D) - When referencing drainrock thickness, it is not specified whether it includes the drainrock over the top of the pipe, or only the drainrock below the invert of the pipe. It is standard to utilize the drainrock depth below the invert. 72.530(f)(1)(B) - Why is a deep trench limited to an effective drainrock depth of 12 feet? This restriction seems arbitrary and unnecessary, potentially increasing the cost of an installation.	The department has specified drain rock is to be measured from the springline of the perforated distribution pipe in the OWSIM since 2016. The department intends to continue that standard and has amended proposed language to include an (E) in this section to read: "measured from the springline of the distribution pipe or height of chambers". Ultimately this topic is better covered in detail in technical guidance manuals. The maximum recommended depth of a deep trench is 10 feet and has been for years. There are very few site conditions where it is feasible to install a deeper trench.
Construction Standards	Jeff Garness, PE	Garness Engineering Group, Ltd	72.990 (1) — The definition of a 5-wide and a shallow trench (definition #90) need to be combined into a single definition. The effective depth of a 5-wide trench used in conjunction with a sand filter should have an effective depth below the invert of less than 12 inches.	The department respectfully declines your suggestion. There are still fundamental differences between the two systems as the Department defines them, mainly calculation of absorption area and the fact that a 5-wide cannot be used with a sand liner.
Construction Standards	John Barry		18 AAC 72.530. Construction requirements for conventional wastewater systems (f)(4), 18 AAC 72.550. Notification and documentation requirements for systems not requiring plan approval (c) (3) (E): Requirement for filter fabric placed over the distribution media: Gravelless infiltrative chambers should not require a filter fabric cover. The manufacturer's installation instructions call for covering with compacted soil backfill, not a filter fabric cover.	The OWSIM currently requires filter fabric to be placed over gravelless chambers regardless of the manufacturer recommendations. This will continue to be a requirement.
Construction Standards	Rebecca Carroll	Municipality of Anchorage Onsite Water and Wastewater Section	Reference 18 AAC thru D) (pgs 61 & 62) Does the minimum depth of distribution medium include the material that extends above the distribution pipe (so the depth of material starting below the filter fabric) or only the material below the distribution pipe? If it only includes the material below the distribution pipe, why is the minimum required distribution medium 12-inches for beds and shallow trenches? Has it shown that 6-inches is not sufficient? Why can't the bottom of a seepage pit extend more than 2 ft below the bottom of the tank, as long as the minimum separation to groundwater and impermeable soil has been provided?	Detailed distribution media standards have been in place since 2016 as covered in the OWSIM. No changes are proposed from current requirements for leach field media. The depth of distribution medium in the form of leach rock is measured from the springline of the distribution pipe. The depth of a leach pit must be limited to ensure adequate distribution and treatment of effluent. The Department has not allowed only 6-inches of media for decades.

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Constructio n Standards	Steven Pannone		530(f)(1)(A) – The Code needs to define where the thickness of the distribution material is calculated from.	Noted. This is attempted to be addressed in a proposed (E) in this section stating "measured from the springline of the distribution pipe or height of chambers".
Constructio n Standards	Steven Pannone		530(f)(1)(B) – why are you limiting a deep trench to 12 feet of effective depth?	The maximum recommended depth of a deep trench is 10 feet and has been for years. There are very few site conditions where it is feasible to install a deeper trench due to soil sloughing.
Constructio n Standards	Steven Pannone		530(f)(6) – Monitor tubes should be placed at the four corners of a bed to define its size.	The Department currently recommends that monitor tubes be placed in all 4 corners of a bed system.
Constructio n Standards	William Joiner	Joiner Engineering LLC	5. 18 AAC 72.530 (f)(6) – Why can't monitoring tubes be placed near the crown of leach chambers instead of in the distribution media? Why can't they be cut off at or below ground if marked with metal for metal detectors and or swing ties to permanent objects if the owner wants to use the area without the monitoring tubes?	Monitoring tubes must be extended to the bottom of a leach field. Monitoring tubes provide the ability to "see" what is happening in a field and if they only extend to the top of the media, there is no way to monitor how the field is doing before it completely fails. The Department will continue to review deviations from prescriptive standards through a plan review process.
Constructio n Standards	William Joiner	Joiner Engineering LLC	7. 18 AAC 72.900 a. (1) – How will a "5-wide" soil absorption system – five-foot-wide trench with one line of distribution pipe, with 1.5'-4' of distribution media (sewer rock, polystyrene beads, chambers, and gravelless pipe) distribute the effluent better than a 3' chamber with 1' of sewer rock on each side (total of 5' width)?	Chambers cannot be used in a 5-wide. A chamber does not distribute effluent and should be confused with perforated pipe.
Constructio n Standards	Clayton Spitler		72.530 e (3) (B): In my opinion, it is not necessary to require manhole access openings extended to grade on ALL septic tanks greater than 2,000-gal in volume. Evaluating this requirement on a case-by-case basis, dependent on facility/waste type, makes more sense.	The OWSIM Section 20.03, Article 3.1(B) currently requires manhole access openings extended to grade on all septic tanks, regardless of size, serving community soil absorption systems. Community soil absorption system currently defined included every system except one serving only a single private residence or a small commercial facility. The proposed language relaxes the current regulation to more appropriately address access to maintain larger tanks.
Constructio n Standards	Clayton Spitler		72.630 (d) (1): As proposed, this language appears to be in partial conflict with Table 2 in 72.530 (d) (1), as it indicates an allowable pipe slope of 2 to 20% for all pipe diameters greater than or equal to 4".	The proposed language will be modified to read: "gravity flow sewer lines must have a minimum nominal diameter of four inches and must be laid at slopes that maintains a minimum flow velocity of two feet per second and a maximum velocity of ten feet per second when flowing full"
Constructio n Standards	James Armstrong	Anchorage Water and Wastewater Utiliyt	22. 72.530(d) Where does ADEC have the allowable pipe types listed? One thing AWWU has difficulty with in private sewer lines that are above the maximum. Energy dissapation and drop connects are not beneficial. ADEC should look into if a maximum is necessary as internal house plumbing goes above the maximum and it is okay there. Shouldn't ADEC also address line and grade requirements? Is a small belly okay or not, what about a half pipe belly. What is the slope tolerance. These are areas in which AWWU has addressed, but did not find similar requirements in 18AAC72	ADEC does not regulate plumbing inside a house, this is covered by the State Plumbing code and the UPC. For conventional systems covered under Article 5, the allowable pipe materials will be the same as currently required in the OWSIM and will be published in technical guidance manuals. For material types for service line connections to a utility, the utility should publish standards for connections to their collection system. ADEC addressed minimum and maximum slope requirements for onsite systems in Article 5 and Article 6. Other requirements for collection systems are contained at 72.270 and must follow standard engineering practice.
Constructio n Standards	Jeff Garness, PE	Garness Engineering Group, Ltd	72.515(b)(1)(F): Why would "information on conduit velocity" be required if minimum pipe slopes are maintained?	Duplicative comment, see response to similar comment.

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Construction Standards	Jeff Garness, PE	Garness Engineering Group, Ltd	<p>72.530(d)(1) — Sewer Line Slopes - To the best of my knowledge, neither the MOA, UPC, AWWU, or Ten State Standards restrict the slope of sewer lines to 20%. The Ten State Standards do have pipe anchoring requirement for sewer mains installed on slopes of 20-35%, 35-50%, and over 50%. In short, they are installing sewer mains on slopes greater than 50%. If I had to guess, there are thousands of private sewer lines installed in Anchorage at over 20% slope. Some over 100% slope. I have never seen a problem associated with running a private sewer line at a slope of over 20%. If you look at the sewer collection systems in downtown Seattle and San Francisco (where the streets are steep), they are not installing drop connects every 20 feet. In short, ADEC keeps making this restrictive slope requirement, without any real justification that I am aware of. If the collection system is transferring quantities of sand/grit that could contribute to pipe scouring (and if liquid velocities exceed 10 4 of 7 feet per second) then mitigation should be proposed (ductile iron pipe, thicker wall plastic pipe, ect). There are few situations where such mitigation would be necessary for a small residential collection system handling domestic wastewater. The ADEC for drop-connects (to reduce pipe slopes) imposes an unneæssary construction cost to Alaska residents. It is also arguable that drop- connects are more likely to result in a construction deficiency, versus installing a straight run of pipe at a steeper slope, and that they are localized points of accelerated velocity and potential pipe erosion.</p> <p>72.530 (d)(2) — The Municipality of Anchorage no such restriction, and I am unaware of any adverse consequences. What is driving ADEC to impose the subject slope restriction? If there is no reasonable justification for the requirement, it is recommended that it be removed from regulation.</p>	The Department is including prescriptive minimum and maximum slopes of pipes into regulation as it already requires in the OWSIM. Deviations from prescriptive standards may be reviewed under a plan approval process and the Department would expect an engineered design with high velocity protection according to standard engineering practice. Refer to the Ten State Standards provision at 33.45 for high velocity protection and referenced steep slope protection at 33.46. This is not a change from existing regulations.
Construction Standards	Jeff Garness, PE	Garness Engineering Group, Ltd	<p>72,630 ((d)(l) — See comment #21 regarding pipe slopes. — It is important to note that NSF 40 does not apply systems</p> <p>[21. 72.530(d)(1) — Sewer Line Slopes - To the best of my knowledge, neither the MOA, UPC, AWWU, or Ten State Standards restrict the slope of sewer lines to 20%. The Ten State Standards do have pipe anchoring requirement for sewer mains installed on slopes of 20-35%, 35-50%, and over 50%. In short, they are installing sewer mains on slopes greater than 50%. If I had to guess, there are thousands of private sewer lines installed in Anchorage at over 20% slope. Some over 100% slope. I have never seen a problem associated with running a private sewer line at a slope of over 20%. If you look at the sewer collection systems in downtown Seattle and San Francisco (where the streets are steep), they are not installing drop connects every 20 feet. In short, ADEC keeps making this restrictive slope requirement, without any real justification that I am aware of. If the collection system is transferring quantities of sand/grit that could contribute to pipe scouring (and if liquid velocities exceed 10 4 of 7 feet per second) then mitigation should be proposed (ductile iron pipe, thicker wall plastic pipe, ect). There are few situations where such mitigation would be necessary for a small residential collection system handling domestic wastewater. The ADEC for drop-connects (to reduce pipe slopes) imposes an unneæssary construction cost to Alaska residents. It is also arguable that drop- connects are more likely to result in a construction deficiency, versus installing a straight run of pipe at a steeper slope, and that they are localized points of accelerated velocity and potential pipe erosion]</p>	Duplicative comment, see reponse to similar comment.
Construction Standards	Rebecca Carroll	Municipality of Anchorage Onsite Water and Wastewater Section	Reference 18 AAC (pgs 58 & 59) and 18 AAC (pg 81) —What are the reasons for limiting the maximum slope of piping? Would these reasons be of concern on smaller, residential systems?	Duplicative comment, see response to similar comment.
Construction Standards	Steven Pannone		530(d)(1) Table 2 – Why is the code specifying a maximum slope? The Ten State Standards do not limit slope. This should be modified and brought into alignment with the ten state standards.	Duplicative comment, see response to similar comment.
Construction Standards	Steven Pannone		530(d)(1) * - Why limit the velocity to 10 fps? Scour of pipes using modern material are very resistant to scour.	Duplicative comment, see response to similar comment.
Construction Standards	Steven Pannone		530(d)(1)** - the department should develop a standard drawing for drop connects that are acceptable. It opens the door for arbitrary requirements and forcing engineers to accept ADEC Staff requirements that may go against good engineering practices.	The Department has included a standard detail for drop connections in the OWSIM since 2016 and will carry forward that standard drawing to future technical guidance manuals.

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Construction Standards	Clayton Spittler		72.511 (d) (3): Recommend adding "(and associated dual-classifications)" prior to "under".	The referenced subsection addresses appropriate soil types for conventional systems and it is unnecessary to add "associated dual-classifications". Table 4 effectively addresses dual classifications through soil texture.
Construction Standards	Clayton Spittler		72.511 (d) (4) (B): Recommend adding "similar and properly installed" prior to "conventional".	The Department respectfully declines your suggestion.
Construction Standards	Clayton Spittler		As others have commented, the Municipality of Anchorage (MoA) has an existing wastewater code which was extensively researched, refined, and generated by a TRC. In the interest of being efficient with revising 18AAC72, ADEC (and the TRC which should be formed for the current revision) may want to consider incorporating sections of the MoA code as/where applicable.	The Department respectfully declines your suggestion. Ordinances developed specific to a small area of the state, for small residential systems only, that all require a review and a permit issued by a local government should not be expected to apply to all other areas of the state.
Construction Standards	James Armstrong	Anchorage Water and Wastewater Utility	24 72.630(d)5 Why require glued joints? Why aren't gasketed joints okay, such as ductile iron pipe and PVC DR 18?	Note that 72.630(d)5 applies to alternative onsite systems installed without plan approval where it is expected that ABS or PVC pipe with glued joints will be used in the installation due to the simplicity. Other pipe materials may be appropriate for some applications and can be reviewed and approved through a plan approval process.
Construction Standards	Jeff Garness		I'd like DEC to consider -- if you look at the -- I call it the EPA purple book. I can't remember the -- well, it's not the one that was done like in 1980; it's the one that was called the Onsite Wastewater Treatment Systems Manual, and I believe it was published in 2002. As a matter of fact, I'm certain of that. And within there they talk about water usage and, you know, how we're trending towards water-efficient -- you know, there's certain federal laws that require, you know, water conservation, you know, in terms of appliances and fixtures. Toilets are not 5-gallon flushes anymore, and so we know these flows are lower. And what I'd like to see is DEC at least consider these lower application rates the EPA manual had indicated, that if these water-saving fixtures and appliances were incorporated, that they expected flows to average between 40 and 60 gallons per day per capita. And if you picked number in the middle there, 50, it's a pretty significant reduction. Now, I'm not saying that, you know, we should, across the board, do that for drain fields, but it may be a room for savings for folks in the state of Alaska on septic tank sizing. If you're using 50 gallons a day per capita instead of 75, which is pretty uncommon unless you've got some other issues going on with water wasting, you should be able to get by using smaller tankage and maybe in some cases arguably smaller drain fields. I'm not saying that -- you know, I think there's probably less room there for drain fields because we have drain field performance data out there right now where we know how they're performing regardless of a flow, you know, or regardless of water-efficient fixtures and things of that nature. But the tankage -- I think there's an avenue there that we consider that would actually provide a savings to residents of the state of Alaska and reflect a much more progressive, modern code. We're using, you know, flow rates that are fairly archaic, and we haven't changed that. And if we're going to do a code change of this size, I think we could sort of look at opportunities that, if a design engineer is going to submit information that they're building a new home and we've got, you know, all modern fixtures and appliances, it's reasonable to expect significantly less flows. And we're seeing that, you know, in apartment buildings, new apartment buildings that are being built. I'm seeing flows that are under, oh, I think 35, 40 gallons a day per person living in the apartment buildings, the larger apartment buildings. Don't quote me on that, but I'm pretty sure that was the most recent number that I saw in a larger apartment building. I think we're missing an opportunity here to really, you know, step up and be a little bit more progressive with our code and look at an opportunity to recognize the changes we have made in water efficiency over the last few decades. And that is acknowledged in the EPA manual, and actually the Municipality of Anchorage codified that in 2018, that you can actually -- if you can document that you have lower, you know, flush volume toilets and fixtures, appliances, and things of that nature, you can actually put in, you know, a . . . having to float it down the river versus getting it in a plane or something. So I would like to ask you to take that into consideration in this revision, which, again, we probably won't see another one maybe in my lifetime, and let's make it a legacy one.	The Department respectfully declines your suggestion. The Department will continue to require industry published flow rate standards for commercial facilities and 150 gpd/bedroom for residential dwellings for those systems that do not otherwise obtain approval for a different standard. The Department regularly accepts actual water use records or other justification to consider reduced design flow through the plan review process and will continue to review deviations from prescriptive standards under a plan review or waiver process. The organic loading theoretically does not change (or rather would be less diluted if only hydraulic loading is considered).
Construction Standards	Jeff Garness, PE	Garness Engineering Group, Ltd	Paragraph 72.530 — The peak design flow requirement of 150 for a new dwelling is arguably archaic. Homes that were built after 1994 and use modern appliances are expected to generate 40-60 gpd (EPA Onsite Wastewater Treatment Systems Manual, 2002, page 3-3). I believe the State of Oregon uses 625 gpd. Allowing a reduced design flow for new homes (built after a specific date) would save Alaska residents money by reducing septic tank size requirements and possibly drainfield sizes. It is recommended that the State of Alaska consider adopting a more progressive code in regard to design flows when systems are engineered for new homes. 72.530 (e)(2). See comment [#20] above regarding reduced design flows.	Duplicative comment, see response to similar comment.

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Construction Standards	Jeff Garness, PE	Garness Engineering Group, Ltd	27.530 (f)(3) — Table 4, subparagraph b — Sand Filters — The ADEC/MOA standard method for installing sand filters only provides limited benefit until the sand/drainrock interface biomats and inhibits the downward absorption of wastewater. At that point, the effluent flow laterally out the sidewalls of the shallow trench, into the GW/GP soils, likely for years, essentially negating the benefit of the sand filter. The State of Washington mandates that the vertical sidewalls of the trench (drainrock above the sand) be lined with a visquæen type barrier to prevent the lateral migration of effluent into the GW/GP soil. Placement of the visquæen barrier is very inexpensive and will help to prevent short-circuiting of effluent laterally into the GW/GP soil and bypassing of the sand filter. ADEC should strongly consider implementing this into regulation.	Thank you for the suggestion. The department will consider requiring a sand liner to be extended beyond the footprint of a bed or shallow trench type system in future regulation revisions and would address the concern in technical guidance manuals. A visquæen barrier will also inhibit oxygen transfer and is not appropriate.
Construction Standards	Jeff Garness, PE	Garness Engineering Group, Ltd	72.630 (b)(l) — See comment #20 regarding design flows [20. Paragraph 72.530 — The peak design flow requirement of 150 for a new dwelling is arguably archaic. Homes that were built after 1994 and use modern appliances are expected to generate 40-60 gpd (EPA Onsite Wastewater Treatment Systems Manual, 2002, page 3-3). I believe the State of Oregon uses 625 gpd. Allowing a reduced design flow for new homes (built after a specific date) would save Alaska residents money by reducing septic tank size requirements and possibly drainfield sizes. It is recommended that the State of Alaska consider adopting a more progressive code in regard to design flows when systems are engineered for new homes.]	Duplicative comment, see response to similar comment.
Construction Standards	John Barry		Fall Protection: The subject of fall protection in access risers is not addressed in the proposed regulations. Specifically, this would be to install an inexpensive fall prevention device, such as a Tuff Tite Safety Pan, in the top of access risers of septic tanks or other holding tanks. Thank you for the opportunity to comment on the proposed changes to the Wastewater Treatment and Disposal Regulations.	Thank you for your suggestion. This topic is best addressed in best management practices as a recommendation. Manhole risers must be secured with a locking lid to prevent unwanted access as proposed at 18 AAC 72.530(e)(3)(B).
Construction Standards	Ken Marchbanks	Glacier Bay Construction Inc	Thank you for providing this opportunity to comment on proposed DEC regulations. 1. I would like to see the minimum cover regs lowered to 2' within the coastal area from Yakutat south. Generally the temperatures here are very similar to Southwest regions where 2' separation is required. Many older houses with substandard wastewater treatment systems like log cribs and or plywood boxes which need to be replaced would benefit substantially from a decrease in required cover. Would you consider more ridged insulation in lieu of the extra foot of soil cover?	The current and proposed regulations allow some soil cover to be substituted by installing insulation, meeting standards as currently adopted in the OWSIM which will be similarly covered in the department published technical guidance manuals. In all areas of the state, soil cover is not allowed to be reduced to less than 2 feet. Applicants are currently and will continue to be allowed to substitute 1 foot of soil cover with equivalent insulation but will still be required to maintain a minimum of 2 ft of soil cover.
Construction Standards	William Joiner	Joiner Engineering LLC	7. 18 AAC 72.900 b. (5) – What is the significance of "original grade" and how is it defined? A few days, a few decades, a few centuries or geologic time old? What difference does it make if an excavator built it a few days ago or a river, ocean or glacier deposited a few centuries ago, as long as you have a test pit to describe the formation. What is the difference between excavating down 2 feet and installing a sand filter and installing a 2-foot sand filter on top of the existing ground?	There are substantial technical publications regarding the construction of below grade fields, mounds, soil conditions, and other limiting conditions that determine the appropriate system selection. Decades of published research and standards regarding conventional systems all say they must be installed in native soils, not fill material. There is a significant difference between site conditions for when a soil absorption system above ground is needed vs. when a sand liner is needed below ground.
Definitions	Steven Pannone		(1) – Recommend using the USPHS and EPA definition of 5-Wides. They typically have an effective depth from 6 inches to 48 inches. Also nowhere in the Code is it defined where the measurement of depth starts from. Invert? Spring line? Top of distribution pipe?	5-wide systems were first introduced to ADEC regulations in the OWSIM in 2016. The proposed definition is consistent with the standards for minimum/maximum depth and typical drawings adopted by reference. The program declines to use other agency standards for this system type. The Department intended to clarify depth and width of required distribution media depending on what used (ex. sewer rock vs. chambers) in technical guidance. The Department made some amendments to better address this in proposed regulations.
Definitions	Steven Pannone		(18) – Seepage pits constructed using concrete rings or steel are not included	(18) defines a conventional soil absorption system and includes (B) "is of a typical 5-wide, shallow trench, deep trench, bed, or seepage pit design". This is not the appropriate definition to include requirements for seepage pit in that detail. Regardless, concrete or steel rings would not meet the existing requirements for a distribution tank used in a seepage pit.
Definitions	Steven Pannone		(28) – where it is measured from and to is not defined.	(28) "distribution media" or "distribution medium" means the material used to provide void space in a soil absorption system, through which effluent flows and is stored prior to infiltration into the surrounding soils; "distribution media" includes sewer rock, polystyrene beads, chambers, and gravelless pipe;. The depth of the distribution media, and the type of media that may be used depends on the system type. It would be inappropriate to add how the media is "measurement from and to" in this definition.
Definitions	Steven Pannone		(80) – An Also Known As (AKA) should be added to include "crib"	(80) "seepage pit" means a conventional soil absorption system that uses a perforated tank to distribute septic tank effluent to a distribution medium of clean sewer rock... The Department respectively disagrees that a "crib" is the same as a seepage pit.

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Definitions	Steven Pannone		(90) – A shallow trench is the same a 5-wide but with only six inches of effective depth. See comments concerning definition (1) – use USPHS and EPA definitions for a 5-wide.	The Department disagrees that a shallow trench is the same as a 5-wide. That is why there are two different definitions, terms, calculations, and diagrams used for the system types. The Department first introduced 5-wides to state code in 2016 and intends to carry the same construction standards forward. No conventional system allows only a 6-inch depth according to current regulations.
Definitions	Veronica Keithley	Alaska Oil and Gas Association	72.990(54): This definition does not appear to include potable water treatment discharges (such as backwash, concentrate, cleaning wastes, CIP wastes). Recommend adding potable water discharges as a separate category (i.e. 18 AAC 72.990(54)(F)).	Nondomestic wastewater is broadly defined to include liquid or water-carried wastes other than domestic wastewater. The definition further provides some examples of nondomestic wastes and is not intended to be all inclusive.
Definitions	Jeff Garness, PE	Garness Engineering Group, Ltd	72990 GENERAL COMMENT: The definitions section, is very confusing. In order to provide clarity, an effort should be made to eliminate any term that is not used in the regulation and to eliminate all terms that are now obsolete. For example, is there a need to use all of the following terms: domestic waster disposal system, domestic wastewater treatment works, non-domestic wastewater disposal system, non- domestic wastewater treatment works, "treatment works with individual marine outfall", "supervising construction", "observing construction", "landsurface disposal system", "graywater, disposal sewer, "private residence" ...and possibly more	The definitions section was amended to remove multiple terms that were not commonly used or were duplicative such as "collector sewer" while introducing definitions for more commonly used terms such as "sewer main". Of the examples provided, all of those definitions are routinely referred will continue be defined in regulation.
Definitions	Jeff Garness, PE	Garness Engineering Group, Ltd	72.990 (34) — The term "drain" should be replaced with "Building Drain" to remain consistent with the UPC.	The Department respectively disagrees and uses the term "drain" differently than how "building drain" is defined and used in the UPC. The Department's definition is important to clarify at what point separation distance requirements apply or where construction falls under DEC's jurisdiction.
Definitions	Steven Pannone		There are definitions in this section that do not apply and should be removed. The definitions in use are new and confusing. The definition section should be brought into alignment with the definitions used in the Ten State Standards, EPA Guidelines, and USPHS Manual. Why reinvent the wheel? The definitions are being used in the Pacific Northwest and throughout the upper tier states.	The definitions proposed at 72.990 have not substantially changed. Some terms were removed since they were not regularly used and seemed unnecessary or duplicative. Some terms were provided with a more detailed definition to make the intent more clear. Other terms are new or were only slightly modified to be more consistent with terminology regularly used (ex. sewer mains had not previously been defined).
Definitions	Steven Pannone		100(a)(2) – The word Sump is not defined.	Sump is defined in the UPC. The program did not identify a need to have a different definition for that term.
Definitions	Steven Pannone		General Comment: These definitions do not define a subsurface drain or curtain drain. Also a Sump is not defined. They should be added for clarification	The definitions in 18 AAC 72 have never included a subsurface drain or curtain drain used to direct stormwater away from building foundations. The definitions also do not define a rain gutter dry well. In general, the Department might consider these features to be a type of soil absorption system (SAS) and should meet the separation distance requirements for distance to an adjacent SAS. See similar comment regarding "sump".
Definitions	Steven Pannone		(17) – What about two different owners utilizing a community wastewater system?	(17) "conventional onsite wastewater system" means a conventional wastewater system that (A) receives only domestic wastewater; and (B) is located wholly on property owned by the person(s) or entity who also has ownership of the dwellings, buildings, and structures it serves; The system may still be considered "conventional" but it would no longer be considered "onsite". In the event of multiple owners sharing a system, it would require plan approval under proposed 72.515 since it would no longer fall under proposed 72.511.
Definitions	Steven Pannone		86)-(88) – these definitions are confusing. Consider word-smithing these for clarification.	Thank you for your comment, without further explanation we are unable to address this.
Engineer Scope of Work	Clayton Spitler		72.650 (a) (2): Remove "installation and". Engineers are not responsible for the installation, the same as installers are not responsible for design, and in this case, documentation.	The Department asserts the engineer is responsible for ensuring the system meets prescriptive construction requirements and regulatory requirements. While the engineer may not be driving the backhoe, laying pipe, or otherwise "getting their hands dirty", the engineer is responsible for ensuring the system is installed according to the design, applicable regulations, and overseeing the construction such that record drawings can be prepared demonstrating conformance under the engineer' seal.
Engineer Scope of Work	Clayton Spitler		72.650 (b) (2): This language is currently inaccurate. Engineers do not install or modify systems. They are the consulting/design part of the team, and installers do the installing and modifying.	Duplicative comment, see response to similar comment.

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Engineer Scope of Work	Jeff Garness, PE	Garness Engineering Group, Ltd	72.550 — The wording is confusing because the "person" responsible for the installation and the "person" responsible for documentation of the construction could be two separate "persons". This is the case when the property owner hires an engineer to design the system and inspect/document the installation, instead of utilizing the services of a "certified installer" to perform all of the subject services. In such cases, who is responsible for notifying ADEC? The engineer is responsible for inspecting the installation and preparing documentation of the system, but they are not responsible for construction of the system	Duplicative comment, see response to similar comment.
Engineer Scope of Work	Jeff Garness, PE	Garness Engineering Group, Ltd	72.611(a)(6) - In most situations, the engineer does not have supervisory authority over the contractor. All the registered engineer can do is inspections as necessary to document that the system was installed in compliance with the design documents.	Duplicative comment, see response to similar comment.
Engineer Scope of Work	Jeff Garness, PE	Garness Engineering Group, Ltd	7[2].650 (a)(2) — The engineer is not responsible for the system installation. That is the responsibility of the owner and/or their contractor. The engineer is responsible for inspection of the installation and documentation of the installation. 7[2].650 (c) - The engineer is not responsible for the construction of the system. That is responsibility Of the owner and/or their contractor. The engineer is responsible for inspection of the installation and documentation of the installation. 43.76.650 (c)(4) — ADEC should not be regulating what photographs the engineer has to take during the construction	Duplicative comment, see response to similar comment.
Engineer Scope of Work	Steven Pannone		(16) – Engineers are not typically supervising construction. They are observers. Supervision implies control.	Duplicative comment, see response to similar comment.
Engineer Scope of Work	Clayton Spittler		72.550 (c) (3): It is not necessary to require engineers to provide photographs. Engineers are required to seal the DOC, and record drawing(s) if applicable.	The Department respectfully disagrees. Photographs of various stages of construction provide details and insight on the construction that are often left out of the Documentation of Construction for those systems that can be installed without plan approval.
Engineer Scope of Work	Clayton Spittler		72.650 (c) (4): It is not necessary to require an engineer to submit photos of construction, especially since the engineer is also required to prepare and seal the DOC and/or record drawing(s).	Duplicative comment, see response to similar comment.
Engineer Scope of Work	John Barry		18 AAC 72.550. Notification and documentation requirements for systems not requiring plan approval (c) (3), 18 AAC 72.650. Notification and documentation requirements (c) (4): Requirement for the engineer to submit photos: Currently engineers are not required to submit photos. The photos ADEC proposes to require from engineers have to be taken at different stages of construction, so if the engineer has to take the photos that will likely mean the engineer has to spend additional time on a project at a significant cost to the property owner. The engineer should be able to delegate the photography requirement to the contractor performing the installation, but there is no assurance that the contractor will obtain exactly the photos required by ADEC.	It is the responsibility of the engineer to oversee construction and therefore the engineer, or someone under their responsible charge, should be onsite during different stages of construction and can take photographs of those various stages of construction. However, the Department does not specify in regulation who should be taking the photographs.
Extend Public Notice	Clayton Spittler		I request that the comment period be extended (60 days as others have requested, or more) to allow wastewater industry stakeholders ample time to review the proposed significant revisions to 18 AAC 72.	Thank you for your comment. The public comment period was extended twice.
Extend Public Notice	Clayton Spittler		As others have commented, it is important not to rush the process of revising 18AAC72. Based on review of the draft proposed revisions, and industry stakeholder comments submitted thus far, it is apparent that more time (and more input from stakeholders) will be necessary in order to generate well thought-out, reasonable, regulations which are protective of public health and the environment while being minimally burdensome to all stakeholders in the wastewater industry, and Alaskans in general. The additional time spent now will be worth it many times over, as the potential unnecessary effort and cost associated with poorly written regulations will negatively affect all parties (including ADEC) later if we don't fix the issues now.	Thank you for your comment. The public comment period was extended twice.

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Extend Public Notice	Dawn L. Crater	Alaska Oil & Gas Association	The Alaska Oil and Gas Association ("AOGA") is a professional trade association whose mission is to foster the long-term viability of the oil and gas industry for the benefit of all Alaskans. We represent the majority of companies that are exploring for, developing, producing, refining, transporting, or marketing oil and gas on the North Slope, in the Cook Inlet, and in the offshore areas of Alaska. This letter is to request a 60-day extension of the February 18, 2022 deadline for submittal of comments on the proposed revisions to 18 AAC 72 Wastewater Treatment and Disposal Regulations. ADEC proposes to significantly revise these regulations, including a major reorganization throughout and an expansion in permit-by-rule processes. AOGA seeks to provide to the ADEC focused and robust comments to help meet the ADEC's stated goal of providing better clarity of regulatory requirements by system type. To do so, AOGA intends to bring to bear our members' vast engineering expertise. A comment deadline of February 18, 2022 simply does not provide enough time to marshal the resources necessary to fully develop meaningful comments that will inform the ADEC's judgment. For these reasons, AOGA requests that the ADEC extend the comment deadline by at least 60 days. We appreciate the ADEC's consideration of AOGA's concerns and look forward to your response.	Thank you for the comment. Public Comment period was extended twice.
Extend Public Notice	Jeff Garness, PE	Municipality of Anchorage Onsite Technical Review Board	Some of the proposed changes to 18-AAC-72 have the potential to restrict property development and may cause adverse economic impact to the residents of Anchorage; therefore, as co-chair of the Municipality of Anchorage Onsite Technical Review Board (OSTRB), I am requesting (on behalf of the board) that the public comment period be extended 60 days so as to provide time for the OSTRB board to thoroughly review the proposed changes to 18AAC72 and prepare a formal response.	Thank you for the comment. Public Comment period was extended twice.
Extend Public Notice	Joel Teune		After briefly reviewing the proposed changes, it has become clear that many of the proposed changes would substantially alter the current industry standards and methods. Some changes could introduce an increased risk for failure and harm to human health regarding wastewater treatment and disposal. I respectfully request an extension on this review period to fully understand each proposed change, how implementation would affect the current status, and develop a prudent response . Thank you, Joel Teune	The Department disagrees that the proposed regulations would substantially alter the current industry standards and methods. The intent of the proposed regulations was to reorganize the chapter to be more clear in requirements based on system type and requirements. The Department believes the proposed changes will help streamline system installs for low risk systems which will not increase the risk or threaten public health and the environment. The Department extended the public notice period twice.
Extend Public Notice	John Barry		I request a sixty day extension of the comment period and the reestablishment of the Stakeholder Working Group that was last active in 2017. At the public hearing on February 3, 2022, it was said that the current proposed revisions are based on input from the working group, of which I was involved. There are several proposed changes that do not appear in the working group's written record. In order to thoroughly assess the impacts of the proposed regulations a new working group is needed to evaluate the changes. The changes to the Wastewater Treatment and Disposal Regulations should not be put into effect until 2023 at the earliest. Planning and purchasing of materials are already committed for the 2022 construction season, and current supply chain problems are well known.	The Department intends to convene a working group in 2023 to review technical guidance manuals and intends to have other working groups for future regulation changes. Obviously the implementation of regulation changes is not a fast process and was always unlikely to occur by the 2022 construction season. The Department does not see that there should be an impact for materials needed as the result of implementation of the proposed regulations.

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Extend Public Notice	Loren Leman, P.E.		<p>Tonya, I commend you, Commissioner Brune and others in your Department who are trying to make the wastewater regulations more user friendly, useful, easier to understand, and less burdensome and costly through a major rewriting project. I know this is a monumental task--likely far greater than you anticipated when you started.</p> <p>While I agree with the basic premises behind the revisions, and even much of the work, you need to know that there are impacts to actions, perhaps some that you did not anticipate. I am hearing from practitioners in the engineering profession who know my background as an engineer with more than trivial experience in this area, as a legislator, and now as a member of the Board of Registration for Architects, Engineers, and Land Surveyors. They are expressing concern about impacts from the proposed regulations--and are identifying issues that probably will not be resolved in the remaining four days allowed for public comment. I hope many, perhaps all, of these engineers will submit their comments to you. But even if they do, I believe the public interest will be better served by reestablishing a working group or steering committee of talented, experienced professionals who can work through issues to produce a recommended product that we really can be proud of.</p> <p>I suggest extending the public comment period by at least 60 days to give time for this committee to be identified, organize, function, and produce advice to resolve significant issues that remain. Even 60 days may not be enough time to do this work, but it would be a good start.</p> <p>Perhaps more than any other engineer currently active in Alaska, I am experienced with wastewater engineering, the overarching Alaska Statutes, and the associated regulations. I hope you will take my comments as constructive advice. I am not seeking a spot on the steering committee, but would be happy to recommend other talented professional engineers who would do an outstanding job serving on it.</p> <p>Respectfully submitted, Loren Leman, P.E.</p>	Thank you for the comment. Public Comment period was extended twice. The Department did form a working group and intends to form an ongoing working group or technical review committee for future regulation changes and ongoing development of technical guidance manuals.
Extend Public Notice	Michael Erdman		The proposed action includes "significant revisions", reorganization, and expansion, of the regulations (18 AAC 72). Given the magnitude of the proposed changes, I suggest that the deadline for submission of comments be extended a minimum of 90 days.	Thank you for the comment. Public Comment period was extended twice.
Extend Public Notice	Mike Erdman		My comment is that this rewrite of the regulations is an extensive and a comprehensive rewrite of the complete regulation package. To date a number of engineers have reviewed the proposed regulations and submitted numerous detailed comments and, in my opinion, there are enough items of concern and comments to be reviewed that it warrants an extension of the review period.	Thank you for the comment. Public Comment period was extended twice.
Extend Public Notice	Nathan Kaaihue	3-Tier Alaska	Please provide an additional 60-day review period. Thank you.	Thank you for the comment. Public Comment period was extended twice.
Extend Public Notice	Tom Williams	City of Gustavus	Please extend the comment period 60 days. There is a lot of information with concerning implications.	Thank you for the comment. Public Comment period was extended twice.
General	Aniya Cannon		I do not agree with the proposed regulations as some of the proposed changes are hard to understand and they kind of mean the same thing. Although not allowing wastewater systems to not be approved by the department may cause for quicker changes, there could be more harm done then good.	Thank you for your comment, without further explanation we are unable to address this further.
General	Bambi Henry	Arctic Engineering, LLC	I propose renaming 18 AAC 72 to Wastewater Treatment, Wastewater Disposal, and Private Water Systems	Thank you for the suggestion but the Dept is not interested in renaming the Chapter at this time.

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General	Bambi Henry	Arctic Engineering, LLC	Regarding Table C Plan Review and Related Fees in section 18 AAC 72.954 I recommend removing the fees from prior years columns: "fees (in dollars) on for before December 31, 2017" and "Fees (in dollars) not earlier than January 1, 2018 and not later than December 21, 2018". If these regulation revisions will take place when the "on or after January 1, 2019" fees are applicable to all submissions, the historical fee information is just clutter and offers no value.	Thank you for your comment, the proposed amendments do exactly as commented.
General	Clayton Spittler		I agree with most, if not all, of the comments submitted by professional engineers thus far. However, I do not see re-typing them here as necessary, especially in light of my previous comments on this sheet and the need for a TRC.	Thank you for your comment.
General	James Armstrong	Anchorage Water and Wastewater Utiliyt	1. 72.005(b) ADEC should review the definition of person. The current definition is pointed at an individual, when some of the violations could be completed by a company.	There is no definition for "person" in chapter 72. The definition at AS 46.03.900(18) reads "person" means any individual, public or private corporation, political subdivision, government agency, municipality, industry, copartnership, association, firm, trust, estate, or any other entity whatsoever;
General	James Armstrong	Anchorage Water and Wastewater Utiliyt	3. 72.005(a) Why was goal of 72.005(a)2 about protection of the environment removed in this update. That would have covered private water systems and other items that may need protection?	Protection of the environment was not removed, 72.005(a) reads "... protect human health, the environment, and water quality..."
General	James Armstrong	Anchorage Water and Wastewater Utiliyt	4. 72.005(b)2 Is there a reason design isn't covered under the requirements of this chapter. Seems like it should be.	The Department amended the section to add "design" to 72.005(b)(2).
General	James Armstrong	Anchorage Water and Wastewater Utiliyt	7. 72.055 It is assumed that this isn't a change to the requirements that AWWU operates under as we accept the items in this area. Or does AWWU need a review of our septage receiving stations that above and beyond our current permit?	72.055 is substantially the same as in existing regulation except some additional terms were added to clearly cover potential non-domestic discharges. For specific questions on what a facility is allowed to receive, please engage directly with the program or permitting authority.
General	James Armstrong	Anchorage Water and Wastewater Utiliyt	10. 72.080(b)(1) Is AWWU at risk of having our operating approval revoked because of a misconception of what needs to be reviewed by ADEC and what we have been delegated or planned to have delegated to us?	For facility specific questions, please engage directly with the program.
General	James Armstrong	Anchorage Water and Wastewater Utiliyt	13. 72.100 Will AWWU's delegation stand or will we have to re-apply? What is liability requirement of the state that AWWU has to provide (18AAC72(c)(3)	For facility specific questions, please engage directly with the program.
General	James Armstrong	Anchorage Water and Wastewater Utiliyt	25 72.630(d_ Slope requirements are duplicated here, could be in other places too. Repetative requirements should be reduced in this update.	The Department's goal was to have articles specific to conventional wastewater systems and alternative wastewater systems so, for the most part, a person could go to one article in the regulation for all requirements.
General	James Armstrong	Anchorage Water and Wastewater Utiliyt	26 72.640 This is another section for waivers. Again these are repetative and redundant. Recommend consolidating to one location for easy use. The waiver requirements will most likely not differ much from type of system to system.	The Department's goal was to have articles specific to conventional wastewater systems and alternative wastewater systems so, for the most part, a person could go to one article in the regulation for all requirements.

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General	Jeff Garness		<p>I think I mentioned -- and I conveyed this earlier. I don't think that a lot of folks out there were aware of this regulatory change at all. And I won't speak for them. I'll speak at least that when I reached out to the Municipality of Anchorage, they were completely unaware of this. I reached out to one of the lead engineers that handles lots of the on-site work for the Alaska Native Tribal Health Consortium, and they were completely unaware of this. Both parties were also unaware that this was even -- this phone call was even taking place today. And I called a number of engineers in the valley, Kenai Peninsula, and none of them were aware of this phone call today. One of them was not aware that the regulatory change was going on. I guess what I'm trying to get at is I think that there's -- somewhere in the process it's missed getting out to people. I don't think that they're aware of what's going on to a great extent, and so -- and then, of course, the number was posted wrong so that some people probably didn't even call in. They don't even know what number to call in unless they got an e-mail through listserv that came late today, actually right before the phone call. As you're aware, the call-in number was posted incorrectly, so some folks, you know, are probably not even aware how they could call in if they didn't -- if they weren't, you know, checking their e-mail and whatnot. So I just wanted to bring that to your attention, and I think there's something -- and I don't -- I'm not blaming anybody. I'm saying these things kind of happen sometimes. It doesn't -- it's not been conveyed well to industry when you've got some of the folks that are major players being impacted by these things more than anybody who don't even know what's happening and have not chimed in at all. Well, I shouldn't -- I won't say they haven't chimed in at all. I don't believe they have chimed in at all with comments on any of this because they only found out about it just recently. So I think that goes back to that I think we need to focus on reaching out to people, extending public comment, and creating an avenue for dialogue that allows us to talk about why things are done. And if comments are not taken into consideration or adopted, you know, some reasoning, justification why because, again, a lot of these things do cost -- they may not cost DEC money, but they're costing our customers money whenever we have to deal with these things, you know, hourly rates for the engineers. It's costing the general public a lot of money. So I want to do what we can to make this better, and I speak as somebody who has been heavily involved with the regulatory rewrite in the Municipality of Anchorage. And I can tell you that I'm not smart enough to do it on my own. I really am not, and it takes a team. It takes a bunch of people to put their heads together and look at unintended consequences of things, look at their experience, and chime in and get us all working together. And we will be able to develop a regulation that will be better for everybody, particularly Alaskans, the people that have to live with these regulations. So I'm not</p>	<p>Thank you for the comment. The Department followed all applicable laws and regulations regarding public notice, additionally emails were sent to those individuals who self selected to receive updates.</p>
General	Jeff Garness		<p>The proposed regulations grant engineers and certified installers the latitude to install septic systems in some cases up to 2,500 gallons a day without undergoing ADEC plan review and, as a result, many of these systems are going to be installed without any assessment as to whether the system is a functional equivalent to a service discharge. And my concern is: How does ADEC intend to reconcile this with the Maui SCOTUS decision of 2020? And it's important to define which septic systems are going to be treated as functional equivalents. That needs to be addressed in 18 AAC 72. And furthermore, 18 AAC 72 should prohibit the installation of any septic system that is a functional equivalent without ADEC plan review. So I think we've got a big hurdle here where we basically have a lot of people, working as certified installers and engineers, installing systems that could fall within the definition of a functional equivalent of a surface discharge per the SCOTUS decision, and until ADEC sorts this out, I'm a bit confused how we're going to incorporate -- how we can move forward with 18 AAC 72 without fixing that within 18 AAC 72.</p>	<p>Thank you for your comment. Covering potential functional equivalency is outside the scope of the proposed regulation amendments especially lacking clear guidance from EPA for when the Clean Water Act applies. The potential trigger points for when the Department will consider a potential functional equivalency are the same as those that would already trigger a plan approval requirement and will be addressed on a case-by-case basis.</p>
General	Jeff Garness		<p>One additional comment is, I'd ask that you consider -- and I don't know, you know, how the regulations have to be laid out, but it would be nice to have one article in there, and you put all your horizontal/vertical separation distances for all the components there and put them in tables to the greatest extent possible, so you're not looking back and forth through all these different sections and repeating the same separation distances. It would be nice to have them in one section. You go to it, and then you know you haven't missed anything. Separation distance to curb and drain, separation distance -- vertical separation distance if it's advanced wastewater treatment, vertical/horizontal separation distances for every component, again, in a table if possible. I realize some of it is difficult to do because you're starting to get in water -- you know, separation of water and sewer lines and vertical separation and things of that nature. I realize there will be some verbiage there, but you would really help us a lot because we could just focus -- separation distance? Go right to that article, and it's all there. We're not chasing around. Right now you have to look at the section under private water systems in there. Then you got to look at the section for advanced wastewater treatment systems. Then you got to look for conventional systems, and you're going back and forth all over. And, again, if you just did it in one section, it would make our life so much easier, and it would make design work less -- more cost-effective and less room for error too. And then, you know, it would be easier in the future, as we change these things, so everybody knows which places to look through. You're not tearing through the whole new code, if it ever gets modified, to go, "What did they do this time?" You can look at vertical and horizontal separation distances in one spot.</p>	<p>Thank you for your suggestion. The Department's goal was to have articles specific to conventional wastewater systems and alternative wastewater systems so that, for the most part, a person could go to one article in the regulation for all requirements.</p>

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General	Jeff Garness		Since nobody is commenting, I'll seize the moment. I would like to see you consider, on anything related to certified installers – it appears that the code is written partially around certified installers in each one of these sections and what they can or can't do. It seems better to have, you know, your sections in the code dealing with the technical aspects of building these things, but have a -- within the certified installer section, Article 4 I believe it is, if my memory is correct, you could put everything in there -- what they can do, what they can't do, you know, what the restrictions are, and all of that under one spot so that the rest of us as engineers don't even have to look -- you know, go sort through that in the rest of the regulation. It would shorten the other articles up and move everything into one spot, where the certified installers could easily find it too. And so I'd ask you to take that into consideration.	Thank you for your suggestions. The Department's goal was to have articles specific to conventional wastewater systems and alternative wastewater systems so that, for the most part, a person could go to one article in the regulation for all requirements.
General	Jeff Garness, PE	Garness Engineering Group, Ltd	The existing version of 18 AAC-72 is significantly flawed and desperately needs to be revised. Although some of the proposed changes are good, there are some changes that are going to restrict/prohibit development and increase the cost of doing in Alaska. A regulatory change of this magnitude should seek to fix what has been problematic in the past, so as to minimize arbitrary design reviews and prevent imposing unnecessary costs on the residents of Alaska, in terms of both engineering fees and construction. Unfortunately, much of the problematic language in the current regulation has been carried forward into the proposed regulation. The assertion that the proposed changes reflect the Steering Committee findings of five (5) years ago is not obvious to this person who served on that Steering Committee. It appears that this regulation was written in somewhat of a regulatory vacuum with little consideration given to the engineers that have been subject to the plan review process. My comments are meant to provide insight from the perspective of a practicing engineer that has been for 32 years in the State of Alaska and has specialized in the fields of onsite water and wastewater treatment. I am sure there are portions of the proposed regulation that I have misinterpreted, and if so it only proves the need for better clarification in the verbiage. With that said, the following are my comments:	Thank you for your comment. The intent of the regulations is to not increase costs for wastewater disposal systems.
General	Jeff Garness, PE	Garness Engineering Group, Ltd	72.005 (a)(1) and (b)(2) are inconsistent. The first fails to address "collection" and "storage"	The Department has amended the proposed regulation to address this.
General	Jeff Garness, PE	Garness Engineering Group, Ltd	The proposed regulations grant engineers and "certified installers" the latitude to install septic systems (in some cases up to 2500 gpd) without undergoing ADEC plan review. As a result, many systems will be installed without any assessment as to whether the system is "functionally equivalent" to a surface discharge. How ADEC intend to reconcile this with the Maui SCOTUS decision of 2020? Defining which septic systems are going to as "functional must be addressed in 18-AAC-72. Furthermore, 18-AAC-72 should prohibit the installation of any septic system that is a "functional equivalent" without ADEC plan review.	This topic is outside the scope of the proposed regulations.
General	John Barry		The current Wastewater Treatment and Disposal Regulations are overdue for an update and I support the effort by ADEC to allow a broader scope of low risk systems to be installed without prior ADEC approval. This update is a big undertaking and there is support available from the engineering community in Alaska.	Thank you for your comment and support.
General	Kyle Ramirez		And then going to the regulation rewrite, I think there's a lot of good stuff in it, but I think we need to spend a little more time and refine some of the proposed regulation changes and just make sure they actually work in real life, and they're not causing us another problem down the road.	Thank you for the suggestions.
General	Mike Taylor	City of Gustavus	The City of Gustavus requests that the Department extend the notice period an additional 60 days to allow communities to fully understand the impacts of the proposed changes of the wastewater treatment and disposal regulations. Upon first reading, the proposed changes do not consider small communities such as Gustavus in the scope of the changes. The impacts of these changes could be significant to the point where people will not have the capacity to comply. The proposed changes are purported to be based on recommendations from a working group established in 2017, however there are many changes to the regulations that do not appear in any documents from that working group. Could you please provide any information that would explain the omission of the working groups comments and recommendations. We will collaborate with our many local government partners to understand the impacts. If you, or your department would like to provide any information for how the changes would affect those communities without wastewater utility departments, rural (off the road system) cities and towns, it would be very helpful.	The Department continues to see this proposed amendment as an overall reduction in regulatory burden, especially for small onsite (domestic) systems. For systems still requiring plan approval, the amendment does not introduce a different or more extensive review standard than that already established. The proposed language for plan reviews is substantially the same as in current regulations.

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General	Steve Pannone		My comment is I think this code rewrite and this public meeting was poorly advertised, and I didn't know about it until I was informed that there was even a phone call and a public hearing this evening. And I think taking information that was presented five years ago, rewriting things for five years, and then presenting it and not even publicly presenting it to all the industry that is actually involved in rewriting -- or actually implementing these codes and designing per these codes, it just doesn't make sense to me. I believe that we need to have a regroup with this, get together with industry and the regulators and review this and put our heads together to write a code that is actually going to work and that will apply for both the engineers designing this as well as the regulators regulating it.	Thank you for the comment. The Department followed all applicable laws and regulations regarding public notice, additionally emails were sent to those individuals who self-selected to receive updates.
General	Steven Pannone		The code is poorly organized and is hard to read. It has multiple section relating to drain fields with the same application rates. It would better to organize the Code so that it simplifies and makes it easier to read and apply.	Thank you for your comment. The main purpose of this regulations revision was to organize the content by system type and requirements instead of having regulations that apply to system types spread throughout the chapter. For example, the proposed regulations contain all requirements related to conventional systems in a single article with a planned supplemental technical guidance manual. The regulation also attempts to contain the regulations related to alternative systems to a single article for those systems that are proposed to be installed without plan approval.
General	Steven Pannone		The proposed Code as written will increase Engineering time (An added Cost), it is open to arbitrary requirements by the department (which will increase the time associated with a project and thus the cost of the project.	The proposed regulations will allow more small onsite systems to be installed without prior plan approval as long as the system is designed and constructed according to prescriptive requirements and department published best management practices (authorization by rule), incorporating the same process currently allowed for some conventional systems to apply to a much larger pool of systems. For those systems that still require prior plan approval, the Department will continue to follow standard engineering practice and ask engineers to address concerns on a project specific basis the same as the Department currently uses during plan reviews. The Department anticipates there will be an overall decrease in costs and delays to individual homeowners and small commercial businesses. There will be no additional burden or change in the existing plan review process for owners of larger systems. In addition, some utilities will also see a reduced regulatory burden and plan review requirements, further reducing engineering staff time needed for low risk installations, with the clarifications and proposed language at 72.201.
General	Steven Pannone		005 (a) (1) – What about collection, storage? It is referenced later in this section.	This section has been edited to include collection and storage systems as currently covered and intended to be covered by 18 AAC 72.
General	Steven Pannone		540(b)(6) – This requirement is open-ended and arbitrary.	72.540(b)(6) reads "A request to reduce a separation distance required by 18 AAC 72.100 or 18 AAC 72.520(a) - (g) must be submitted in a report that specifies each waiver being sought. The report must ... include other information the department determines to be necessary to assess the effect of a lesser separation distance upon public health, private water systems, and the environment. This is the substantially the same language and intent as already included in current regulations under 72.020(e)(4)(C).
General	Steven Pannone		540(c)(4) – This requirement is open-ended and arbitrary.	72.540(c)(4) reads "A request for modification of the construction requirements for a conventional wastewater system must include a report that specifies each variation being sought. The report must ... include other information the department determines to be necessary to assess the effect of the waiver or modification requested". This section has the same intent as other similar sections in current regulations such as 72.020(e)(4)(C), 72.020(f), and 72.225(c).
General	Steven Pannone		540(d) – This requirement is open-ended and arbitrary. Also it puts the Engineer in a position to having to modify a design to meet a potentially arbitrary and poorly thought through idea as required by the Department.	72.540(d) reads "The department's decision under this section will be based on information submitted to justify the waiver or modification, the risk to public health, the environment, protection of surface water, groundwater, existing or proposed drinking water sources, and the impact on conventional wastewater system performance. As necessary, the department will require changes to the system design as a condition of approval." This section has the same intent as other similar sections in current regulations such as 72.020(e)(4)(C), 72.020(f), and 72.225(c).
General	Vanessa Blevins		The DEC wastewater group has shrunk substantially over time. The new delegation of authority section (18 AAC 72.110) lists criteria which indicates an entities capability to take over regulatory oversight. It is not immediately apparent that the DEC wastewater group meets these criteria.	The delegation of authority section is not new. It is substantially the same as currently written in 72.280 but was better placed in Article 1 then Article 2. Unfortunately, very few communities/municipalities seek delegation of authority , currently only the MOA and the City of Valdez has a delegation from the state. That section allows delegation of DEC authority only to select entities outside ADEC.

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General	Vanessa Blevins		3. New Regulations will result in increased cost to the public. The "Additional Regulation Notice Information" indicates that these regulations will not result in increased costs. However, no analysis of this was provided. Any reduction in effort that may be realized appears to be more than offset by less clear/predictable regulatory requirements, subjective reviews, as well as new requirements. Additional review time results in additional cost to the public. The cost of implementation section of the 'Additional Regulation Notice Information' indicated that the operating cost and capital costs are expected to be \$0 for FY2022. This appears to have been explained by the belief that there will be no change from the current budget. There was no analysis provided regarding the current budget, current workload, and the current level of service provided by the Department.	The Department continues to see this proposed amendment as an overall reduction in regulatory burden, especially for small onsite (domestic) systems. For systems still requiring plan approval, the amendment does not introduce a different or more extensive review standard than that already established. The proposed language for plan reviews is substantially the same as in current regulations.
General	Vanessa Blevins		Increase of Regulatory Scope: The update is presented as a regulatory reorganization, clarification, and an expansion of permit by rule. However, the update is much more comprehensive than that. While there are some reductions in regulatory authority, the regulations represent an overall increase in Department requirements and regulatory scope.	Duplicative comment, see response to similar comment.
General	Vanessa Blevins		My first comment is I don't feel like this hearing represents at least the intent of the public notice requirement in the promulgation of regulations. Regardless of what meetings on other subjects may have happened four or five years ago, I think that a regulation update of this magnitude requires more meetings in order to identify all of the unintended ramifications of these regs and the trickle-down effect of these regs, and I don't think it can be done in a two-hour public telephone call.	Thank you for your comment. The Department followed all applicable laws and regulations regarding public notice, additionally emails were sent to those individuals who self selected to receive updates.
General	Vanessa Blevins		The second comment is, there are many sections of the regs that are very, very open to -- I guess "engineer judgment" would be a word. I think that the clear requirements for submittals and approvals should be in regs, and that all of the sections that indicate "Other information as we decide we want it" -- I don't think that power should be vested in the staff. I think that should be vested somewhere else, either in an oversight committee or in a higher office like the commissioner's office. Those "other information as needed" components have been used extensively, and it seems like the use of those special circumstances has increased substantially in the last few years. And I think that is in direct conflict with the requirement that regulations undergo a public notice process.	Current regulations use the language "other information the department requires" to assess or determine compliance with the regulations, statutes, and impact on public health and the environment. The proposed regulations do not change the intent of this language.
General	Vanessa Blevins		And I think that, given the fact that there's only two licensed engineers doing wastewater plan reviews and four staff total, that the implementation of these regs over four people and two engineers should be carefully considered. It seems like there's a lot of stuff here for four people to do and do well in a timely manner.	Thank you for your comments and concerns.
General	Veronica Keithley	Alaska Oil and Gas Association	This letter provides the comments of the Alaska Oil and Gas Association ("AOGA") in response to the proposal of the Alaska Department of Environmental Conservation ("ADEC") to revise the wastewater treatment and disposal regulations at 18 AAC Part 72. AOGA is a non-profit, professional trade association whose mission is to foster the long term viability of the oil and gas industry for the benefit of all Alaskans. AOGA's membership includes 14 companies representing the industry in Alaska that have state and federal interests, both onshore and offshore. AOGA's members have a well established history of prudent and environmentally responsible oil and gas exploration, development, and production in Alaska. AOGA's members have and will continue to develop and operate projects that contain wastewater systems that are subject to Alaska's regulations for wastewater treatment and disposal. AOGA appreciates ADEC's efforts to revise the wastewater regulations and engage with the regulated community during this process. AOGA provides these comments to offer the perspective of AOGA's members and the regulated community. AOGA supports revising the regulations to clarify them and create a more linear approach to permitting. Many of the proposed changes do that. Unfortunately, despite the efforts of ADEC, several of the proposed changes do not provide the clear direction that the regulated community needs. AOGA has four main concerns with the proposed regulations:	Thank you for your comments and support.
General	Veronica Keithley	Alaska Oil and Gas Association	The proposed regulations create potential confusion by appearing to restate regulatory requirements from outside 18 AAC 72 rather than incorporating them by reference. The confusion arises because it is not clear if the proposed regulations truly intend to restate existing requirements or, instead, are creating new requirements. If the intent is to incorporate regulatory requirements outside of 18 AAC 72, AOGA requests that ADEC modify the proposed regulations to expressly incorporate by reference, as was done with 18 AAC 15, 18 AAC 80, and 18 AAC 83.	The Department is unclear to which section this comment is referring. If referencing 72.070, the Dept is establishing a list of resources that may be useful to engineers and staff that may assist in determining standard engineering practice otherwise not covered in department published technical guidance manuals. All state and federal regulations will apply to a project regardless of adoption or specific reference.

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General	Veronica Keithley	Alaska Oil and Gas Association	18 AAC 72.010 (a) and (c): Removing the term "domestic" means a wide range of discharges fall under this requirement. Recommend that ADEC clarify if the intent is to include non-domestic discharges from oil and gas, mining, or fish processing operations under this plan review requirement, or if 18 AAC 72.010(c) is intended to exclude such discharges. Recommend that ADEC clarify when plan review for industrial discharges such as those from mining, oil and gas, and fish processing that are covered under a permit issued under 18 AAC 83 or 18 AAC 15 would be required.	Under the existing 72.500 and 72.600, all non-domestic discharges require plan approval and may also require a discharge permit. This is not a change from current regulations. Any new facility will require plan approval just as current regulations require. 72.010(c) gives the Department a regulatory path to review modifications with changes to a permit or consider the discharge permit as the approval to operate which should keep the plan review process the same for non-domestic wastewater systems associated with oil & gas, mining, and other industries.
General	Veronica Keithley	Alaska Oil and Gas Association	18 AAC 72.050: Recommend changing (a) to refer to domestic wastewater; consistent with (b). (c) appears to refer to domestic as well, whereas (d) covers non-domestic wastewaters. (a)(1-3) Per 18 AAC 72.990 Definition (106), "wastewater" includes both domestic and non-domestic wastewater. A non-domestic wastewater could be a potential health hazard without being a biological hazard (i.e. toxic hazards). Thus, the requirement to disinfect all wastewaters that are potential health hazards increases treatment requirements that would have no effect on wastewater quality. Recommend this apply to domestic wastewater only.	Added "domestic" to 72.050(a).
General	Veronica Keithley	Alaska Oil and Gas Association	18 AAC 72.050(d): 18 AAC 72.990(54) does not include potable water treatment discharges in the definition of "nondomestic wastewater". Perhaps under this provision or elsewhere, ADEC could coordinate internally and update 18 AAC 72 and applicable permits issued under 18 AAC 83 to allow water treatment plant (WTP) concentrates to be received and treated at a wastewater treatment plants (WWTP), and by their authority determine such concentrates do not trigger "Significant Industrial User (SIU)" status. When WTP concentrate is discharged to the WWTP it has the effect of returning alkalinity and stabilizing pH, and typically results in more stable biological treatment and often eliminates the need to add imported chemicals (ie soda ash, etc) for pH adjustment.	Thank you for your comment. This subject is outside the scope of 18 AAC 72.
General	Veronica Keithley	Alaska Oil and Gas Association	There is no state certification program for non-domestic system operators, and the reference to service connections and use by "people" implies domestic wastewater. Recommend returning the word "domestic" to the original statement.	Added "as required" to clarify that If 18 AAC 74 does not require a certified operator, then 72.065 does not apply.
General	Veronica Keithley	Alaska Oil and Gas Association	18 AAC 72.070(b): The State Plumbing Code primarily references the UPC which generally does not apply to wastewater treatment/water quality issues. Unclear why it is referenced here.	The UPC contains standards that do apply to wastewater systems. For example, Appendix H covers onsite septic systems and is regularly referenced in reviewing plans.
General	Veronica Keithley	Alaska Oil and Gas Association	18 AAC 72.070(c - d): Recommend that ADEC provide and maintain a list available to the public of design manuals and technical publications that are used to evaluate plans submitted for approval. Recommend that ADEC provide and maintain a list available to the public of engineering principles and industry accepted construction standards that are used to evaluate plans submitted for approval and to develop technical guidance manuals. Also, the last sentence applies to systems NOT requiring plan review. Recommend that, for clarity, the last sentence be extracted as a stand-alone citation i.e., 18 AAC 72.070(e).	Thank you for your comment. The Department will create a list of references it regularly uses that are published by other entities.
General	Veronica Keithley	Alaska Oil and Gas Association	18 AAC 72.110: As written, it is unclear if delegation of authority is applicable to all wastewater or solely domestic wastewater. Previous version of 18 AAC 72.280 specifically applied to domestic wastewater systems only. There is no mention of wastewater type within the section until 18 AAC 72 (d)(3), in which domestic wastewater is called out. Recommend that ADEC clarify which type of wastewater systems are eligible for delegation.	It was an oversite to leave "domestic" referenced at 72.110(d)(3). As stated at 72.110(a), the delegation of authority may apply to regulations contained at 72.005-72.660 except for the authority to issue discharge permits (72.110(i)).
General	Veronica Keithley	Alaska Oil and Gas Association	72.205(a)(10): This section requires an operator certified under 18 AAC 74 for certain sized systems but does not differentiate between domestic and non-domestic wastewater. There is no certification available under 18 AAC 74 for operators of non-domestic wastewater treatment systems. Recommend that the term "domestic" be included in this language.	This section references "as required by 18 AAC 74". If chapter 74 does not require a certified operator for the system, then this general submittal requirement does not apply.
General	Veronica Keithley	Alaska Oil and Gas Association	72.220(e): Recommend that ADEC clarify the source of technical assistance, i.e., other State regulations or technical guidance, or remove 18 AAC 72.220(e) from proposed regulations. Unclear why this statement is included as it refers to "advisory notes".	This language is the same as existing regulation at 72.220(d).

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General	Veronica Keithley	Alaska Oil and Gas Association	72.245(d): Recommend section read "If no discharge permit is required under 18 AAC 72.010(b), the department..."	Thank you for the comment. The Department will check with LAW to see if a reference is needed, however, 72.010(b) would not be the correct reference since that subsection covers plan approval in lieu of permit. Potentially this section should state "If no discharge permit is required by 18 AAC 83, the department..." The language at 72.245(d) was simply intended to confirm the department will not duplicate monitoring of a system.
General	Veronica Keithley	Alaska Oil and Gas Association	72.530(b)(2) and 72.530(f)(1): Recommend that ADEC "publicly identify" acceptable criteria before regulations are implemented. We assume the "publicly identified" specification will apply to systems "authorized by rule". Recommend clarification of the process to request approval of alternate specifications, and clarify this request will not trigger plan review.	The Department intends to publish technical guidance manuals prior to implementation of the proposed regulations. The publicly identified standards are intended to provide greater detail for the construction of systems that can be installed without plan approval. If a person wishes to use different standards than those publicly identified by the department, the process would be to request plan approval to justify that different standard.
General	Veronica Keithley	Alaska Oil and Gas Association	72.550(a): Recommend clarification of notification process, i.e. designated email address, online form, or phone hotline.	The method of notification is likely best covered in guidance.
General	Veronica Keithley	Alaska Oil and Gas Association	72.611(a)(6): Recommend that ADEC recognize that an engineer could be comfortable with documentation provided by on-site personnel through photos, videos, Zoom meetings, redlined documents, etc. without the engineer, or a person under their responsible charge, being physically present on site. Covid has taught us how to do many things remotely, and the engineer should be able to determine the necessary level of observation.	The definition of "construction supervision" or "supervising construction" does not state the engineer must be physically present on site. The Department agrees that there may be means and methods available to provide remote supervision.
General	Veronica Keithley	Alaska Oil and Gas Association	72.615(b)(2): Request that ADEC provide the minimum requirements of such a plan if available at this time.	This language is the same as current regulation at 72.263*** and would be expected to be submitted by the design engineer. The Department can otherwise add details on expectations in guidance manuals or checklists.
General	Veronica Keithley	Alaska Oil and Gas Association	72.615(d): Recommend clarifying that this provision does not apply to systems covered under 18 AAC 72.611(a)(2).	72.615 specifically covers submittal requirements for alternative systems requiring plan approval. Many of the items and information listed under 72.615(d) would be expected to be met and submitted under the documentation requirements for system not requiring plan approval under 72.611(a)(2).
General	Veronica Keithley	Alaska Oil and Gas Association	72.615(f)(2): Recommend that these forms be available on the ADEC website before new regulations are adopted.	The Department will have all forms referenced in regulation available prior to implementation.
General	Veronica Keithley	Alaska Oil and Gas Association	72.990(15) and (16): Recommend that ADEC recognize that an engineer could be comfortable with documentation provided by on-site personnel through photos, videos, Zoom meetings, redlined documents, etc. without the engineer, or a person under their responsible charge, being physically present on site. Covid has taught us how to do many things remotely, and the engineer should be able to determine the necessary level of observation.	These definitions do not state the means or methods that may be used by the engineer or someone under their responsible charge.
General	Veronica Keithley	Alaska Oil and Gas Association	72.990(32): Request clarification that ADEC does not intend to apply plan review requirements of 18 AAC 72 to systems discharging to Class I injection wells operated under EPA approval and UIC Class I General Permit 2021DB0002.	DEC WDAP previously evaluated whether plan reviews for facilities associated with Class I Underground Injection Control (UIC) Wells authorized under a general permit would be appropriate and applicable. After considering the level of review performed by EPA as well as siting reviews conducted by DEC Solid Waste, engaging with industry, and communicating with EPA who has primacy for issuing Class I Injection Well Permits for AK, DEC concluded it was not necessary to conduct an additional plan review under 18 AAC 72. The proposed regulation amendment will not change that determination.
General	Wade Ellis	ANTHC	18 AAC 72.055 – This section may require treatment of septage, sewage, bagged honey bucket waste and sludge etc. prior to disposal. What could be the level of expected treatment in rural locations? Will mixing with lime be considered treatment?	Thank you for your comment, The Department will consider adding verbiage to make it clear that "disposal" is more meant as "off site disposal".

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General	William Joiner	Joiner Engineering LLC	1. 18 AAC 72.090 (c) – surface discharge on own lot is satisfactory, only a nuisance if on adjacent property. Nuisance on own property satisfactory?	AS 09.45.255 defines a nuisance under the Code of Civil Procedure to mean "a substantial and unreasonable interference with the use or enjoyment of real property, including water". The Department maintains that a nuisance only exists when it affects someone else, public health, or the environment.
General	William Joiner	Joiner Engineering LLC	3. 18 AAC 72.110 (c)(1) – does this mean that the Municipality of Anchorage (MoA) regs can be used in other parts of the state, since MoA regs are at least as stringent as DEC regs?	This section is strictly for determining delegation authority to an entity other than DEC. Rules and requirements developed by the delegated authority will never apply in areas under DEC jurisdiction.
Lift Station	Jeff Garness		In regards to the lift stations, one of the things I would recommend you take into consideration is there's all sorts of technology available now with alarms that you can hook up to the float that go in your house, and it will actually e-mail you or text you, or e-mail and text multiple people, and they're inexpensive. You know, they're like \$250, \$300. And so if you have a lift station failure, you can get immediate notification when you're at work. You can get notification to your neighbor, maybe your service provider, for example, if it's a holding tank. But the technology is available to where you don't need to have all this extra storage capacity if you can get the alarm in a quick enough time, you know, and get notification to multiple people. So this is what we see with a lot of the small pump vaults and whatnot that are used like in the Municipality of Anchorage. At least the justification we've used for lift stations ahead of the septic tank or after the drain field go into an elevated drain field or a drain field that's acceptable, is we utilize these alarm systems as justifications for not having to put in a large lift station because we're going to get immediate notification, not only to the owner but perhaps, you know, their daughter, their son who lives in town if they're out of town. Somebody can respond to it if they left, you know, the water running when they got on the airplane and went to Hawaii. So, anyway, I think it's something that is really worth taking into consideration. Technology has changed, and we just need to – we need to roll with it. Putting in 350-gallon lift stations is unnecessary and extremely expensive, particularly in a lot of remote areas. It adds -- if you put in a 24-inch diameter pump vault, the cost is pretty significant. And so I think we should look for a cost savings to the citizens of Alaska in this, and that 350-gallon lift station is going to cost people more money and, in my opinion, unnecessarily. So I ask that you please take that into consideration.	Unfortunately, detailed prescriptive requirements for lift stations have not previously been developed or published by DEC. While the Department still sees a need to include more prescriptive lift station requirements in regulation, the proposed language specifying a minimum vault size will be removed.
Lift Station	Jeff Garness, PE	Garness Engineering Group, Ltd	27.530 (g)(3). The requirement for a 350-gallon lift station seems excessive. Most of the AV/N"TTTS in Anchorage use a 24-inch diameter PVC pump vault after the treatment tank. If there is a pump failure, the remaining volume in the pump vault (above the high-level alarm float) along with the volume it takes to surcharge the septic tank, is typically in the range of 125-150 gallons. With moderated water usage, this volume is enough to allow for the property owners to get the pump replaced or install a temporary bypass pump. I do not believe there is a commercially available 350-gallon pump vault, which means that most installations will be standard, and expensive, 500-gallon steel lift-stations with an insulated MH riser. Steel lift-stations are prone to corrosion (failure) and resulting groundwater contamination. The cost to Alaska residents in mandating a 350-gallon pump vault is difficult to justify and will likely result in greater potential for groundwater contamination in the future (when the steel tank fails).	Duplicative comment. Please see response to similar comments.
Lift Station	John Barry		18 AAC 72.530. Construction requirements for conventional wastewater systems (g) (3) (A) Requirement for premanufactured lift station with 350 gal. minimum volume: Premanufactured lift stations are not practical for use in Gustavus because they don't have flexibility to fit into system designs that are constrained by a shallow ground water table. Lift stations are mostly needed in areas where the depth to the seasonal high water table is between two and four feet. Premanufactured lift stations are not reasonably available here. The premanufactured pump stations I've been able to find so far are 500 gallons. This would be costly overkill for a single family residence. What is the justification for this new requirement? A minimum 350 gallon volume has not proven to be necessary for any private residence in Gustavus and will add significant cost to a wastewater project. Current practice is to construct a lift station on site during the spring and early summer when the water table is at its lowest. The chambers are about 100 gal. capacity and built using 24 inch diameter corrugated plastic culvert set vertically in a six inch thick, four foot square concrete slab poured in and around the culvert. The slab extends out around the perimeter of the chamber to prevent uplift when the water table is elevated during wet periods. The electrical components of the lift stations are installed by a licensed electrician. This practice has proven to be effective over the last several years.	The Department currently requires lifts stations to be an "approved package system" in the OWSIM Article 3.19. Unfortunately, detailed prescriptive requirements for lift stations have not previously been developed or published by DEC and no list of "approved lift stations" was ever published. The proposed minimum lift station vault size will be removed.

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Lift Station	John Barry		<p>18 AAC 72.530. Construction requirements for conventional wastewater systems (g) (4) (A) Requirement for increasing the size of a septic tank by 25% if the lift station is before the septic tank: Placing the lift station before the septic tank is a last resort when the seasonal high water table is very shallow and the septic tank can't be placed deep enough for gravity flow from the building.</p> <p>What is the justification for requiring the larger tank in this case? The Infiltrator septic tanks have proven to be the best tank for cost (mostly due to shipping from down south) and the ground conditions in the Gustavus area. There are two sizes, 1094 gal. and 1537 gal. The larger tank is oversize for a three bedroom home. This new regulation will require projects located in areas where the water table is shallow to significantly increase the cost of installing a wastewater treatment system.</p>	<p>A lift station prior to a septic tank may result in smaller particle sizes and increased velocity of the wastewater entering the tank which would need a longer settling time so solids and scum do not pass through to the leach field, leading to premature failure. The current recommendation is to increase the volume of a tank at least 250 gallons when a lift station must be placed before a septic tank.</p> <p>However, the department recognizes a straight 25% increase in septic tank size may be overly burdensome for small residential systems. Language will be modified to include a 250 gallon increase until the formula for calculating minimum tank size applies.</p>
Lift Station	Kyle Ramirez		<p>Regarding – going back to the lift station, I'd like to, you know, reiterate the fact that we should take that under review, with the alarms and some of the different technology as well. You know, there's some places where if you put in a 300-gallon one, that you would never be able to utilize more than half of its capacity, even if you put it in, because of how the ground or the water table and some of the onsite restrictions would make it where you had to put it in. You would never be able to use that full capacity of it.</p>	<p>Duplicative comment. Please see response to similar comments.</p>
Lift Station	Rebecca Carroll	Municipality of Anchorage Onsite Water and Wastewater Section	<p>Reference 18 AAC 72.530(g)(3)(A) (pg 55) –The premanufactured pumping chambers utilized in the MOA have significantly less than 350 gallons capacity. Why is 350 gallons the minimum required volume for a pumping chamber that is separate from the tank?</p>	<p>Duplicative comment. Please see response to similar comments.</p>
Lift Station	Steven Pannone		<p>530(g)(3)(A) – 350 gallon lift station appears to be arbitrary. An exterior lift station should be designed by an Engineer and sized accordingly. In some cases, a 50 gallon separate lift station is acceptable. Other cases it will need to be larger. Let the Engineer decide and provide calculations to support the design.</p>	<p>The Department respectfully declines your suggestion that all lift stations should be designed by an engineer. This would be a change from current regulations and would be overly burdensome. Unfortunately, detailed prescriptive requirements for lift stations have not previously been developed or published by DEC. While the Department still sees a need to include more prescriptive lift station requirements in regulation, the proposed language specifying a minimum vault size will be removed.</p>
Lift Station	William Joiner	Joiner Engineering LLC	<p>6. 18 AAC 72.530 (g)(3)(A) – Why must the minimum pump chamber size be 350 gallons? Orenco and other onsite manufacturers make package pump vaults less than half this size that seem to function satisfactorily.</p>	<p>Duplicative comment. Please see response to similar comments.</p>
Log Cribs	Jeff Garness		<p>I'd like to make a comment about the log cribs, if you could make an effort to clarify. The way I'm reading the regulation as written, it prohibits the use of log cribs, even if they have a septic tank in front of them, and log cribs are used extensively. There are many of them here within the municipality of Anchorage. They're tested and functional and meet all separation distances. And the regulation also prohibits any, I think, component of the system being made of wood. And I would ask you consider, you know, in some places it may be -- there may be a viable alternative rather than prohibiting any component being made of wood -- say, all-weather wood with, you know, a varathane lining or something like that. There may be some options. So I would make the comment that I think we should avoid putting something into regulation that absolutely prohibits something rather than, you know, writing a regulation that allows us to continue to use log cribs that are currently functional, because if you prohibit the use, there's people in the city of Anchorage that are going to spend, you know, \$20,000, \$30,000, \$40,000 putting in new septic systems because their log crib they can no longer use, and so it's a significant economic impact to people in the city of Anchorage. I can't speak for how heavily -- or how many log cribs exist outside the municipality of Anchorage, but I assume there's a lot of them.</p>	<p>Log cribs were not included as an acceptable system type decades ago due to lack of adequate treatment as well as safety concerns. To address concerns about immediate potential impacts to Alaskans, the Department edited the proposed language at 72.015 to allow a somewhat phased out approach. The department disagrees that wood should be used for a collection or disposal system and materials should be brought up to current standards when repairs or modification to the system are needed just as it is expected for other deficiencies.</p>

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Log Cribs	Jeff Garness, PE	Garness Engineering Group, Ltd	72.015(a) prohibits the use of log cribs (seepage pits made out of wood). There are many (perhaps hundreds) of "log cribs" in use just in the Municipality of Anchorage. The installations were approved and fully in compliance with the regulations in place at the time of construction. The proposed wording will force many residents to unnecessarily install new septic systems at a significant cost. In short, in order to avoid significant cost to the public, this paragraph needs to be amended to allow for previously approved cribs" to be used and maintained.	Duplicative comment. Please refer to response to similar comment.
Log Cribs	Rebecca Carroll	Municipality of Anchorage Onsite Water and Wastewater Section	Reference 18 AAC 72.015 (pg 5) — We understand not allowing new log cribs and systems utilizing components in contact with wastewater, but why can't existing systems remain in use if an engineer determines they are still structurally sound?	Duplicative comment. Please refer to response to similar comment.
Log Cribs	Steven Pannone		015(a)(2) – A crib is not defined in the definitions. A reference to a Seepage Pit constructed of log or wood material should be added	Modified proposed language eliminates the use of the term "log crib" and instead references any system using wood for a collection or disposal system. Logs or wood have not been an acceptable material for these systems for decades.
Log Cribs	Steven Pannone		015(b) – you're making it contrary to code to repair a log crib, which may have been previously approved under 18AAC72. These system work very well and the lids sometimes collapse and need repair while the system is still working adequately. This section will add cost to the homeowner to require them to upgrade the system, when a simple repair is all that is needed. Crazy.	A crib would not need a "simple repair" when the top collapses and soil falls in to mix with effluent. That is considered a failure just like a septic tank collapsing or a leach field that is completely plugged and it must be replaced to meet current regulations. Log cribs have not been an acceptable system type for decades. When a system is discovered that needs "repairs" due to a failure, the entire system needs to be brought into compliance; the Department has never recognized "grandfather" rights.
Log Cribs	Veronica Keithley	Alaska Oil and Gas Association	18 AAC 72.015 prohibits the use of cesspools, log cribs, and any system using wood components in contact with wastewater, despite the success of these structures in helping to treat wastewater. The new, flat prohibition on these established, functioning systems raises concerns about the viability of existing wastewater systems that use them and financial impacts. AOGA requests that ADEC reconsider this prohibition and, at a minimum, amend the regulations to allow operators to phase these structures out over time. In addition, the specific prohibition in 18 AAC 72.015 on wood and wood fiber products would eliminate preferred support media for modern wastewater systems, including fixed-film bioreactors and trickling filters. AOGA requests that ADEC reconsider this prohibition but, if the prohibition is retained, modify 18 AAC 72.015(a)(3) to read: any system utilizing wood components in contact with wastewater unless the component is included in a treatment system certified by a registered engineer.	Duplicative comments. See response to similar comment.
Log Cribs	Veronica Keithley	Alaska Oil and Gas Association	18 AAC 72.015 (a): This language makes any such system illegal to use as is. A prohibition on installation or modification of such systems would allow them to be phased out over time. Recommend removing the term "use". (1) As written, the proposed regulation prohibits the use of existing cesspool onsite wastewater systems. There are numerous cesspool onsite wastewater systems actively in use throughout Alaska and many are in good, working condition. The proposed regulation would require immediate cessation of their use and replacement. As such, the proposed restriction on use seems impractical. Alternatively, a prohibition on installation of new cesspools or modification of existing cesspools would be more appropriate and allow these systems to be phased out. (2) As written, the proposed regulation prohibits the use of existing log crib onsite wastewater systems. There are numerous log crib onsite wastewater systems actively in use throughout Alaska and many are in good, working condition. The proposed regulation would require immediate cessation of their use and replacement. As such, the proposed restriction on use seems impractical. Alternatively, a prohibition on installation of new log cribs or modification of existing log cribs would be more appropriate and allow these systems to be phased out. (3) Wood and wood fiber products are preferred support media for some fixed-film bioreactors and trickling filters. We assume the intent is to eliminate the use of wood-stave pipe and outdated onsite treatment systems. Recommend editing to state "any system utilizing wood components in contact with wastewater unless they are part of a treatment system certified by a registered engineer"	Current regulations prohibit the use of cesspools, this is not a new prohibition. Log cribs have not been an acceptable system type for decades and can present a significant safety hazard. However the Department has amended this language to allow a more phased out approach for log cribs. The amended section also addresses the unintentional interpretation that prohibits the use of wood as a treatment media in a wastewater treatment plant.

**18 AAC 72 Regulations Amendments
Detailed Response to Comments**

Nitrate Model	Jeff Garness		<p>I'd like to address the issue of nitrate analysis, and I'd like to see a working group come up with something with staff and develop something that is a common-sense regulation. Right now it's based upon gallons per day. If you discharge 2,500 gallons a day, that's what's driving your nitrate study, when in reality it doesn't matter how many gallons a day you are discharging. What matters is: What's the quality of the effluent, and how many pounds of nitrogen are you discharging? And whether you want to do that on a monthly basis or an annual basis, we can take that into consideration, but we also have to look at, you know: Is the aquifer confined? Is it a nonissue because the aquifer is confined? And the way the regulation is written, it's driving people that would not know better to come to you guys and say, "Hey, we'd like to talk to you about, you know, what latitude you have in all this." They're going to charge their client to do this stuff, bill them, and then they're going to submit it to you. And it may be something along the lines of, you know, "We are operating three months out of the year in a remote location with no neighbors, but we did a nitrate study and charged our clients whatever that's going to be, when in reality we didn't need one at all because the total nitrogen we're discharging is so insignificant compared to 2,500 gallons a day of septic tank effluent being discharged." That's what you're really driving, the way you have the regulation written out. 2,500 gallons a day of, let's say, septic tank effluent at 60, 80 milligrams per liter total nitrogen. But if I'm only discharging three months a year in a remote location because it's a fishing lodge, why would I do a nitrate study in that particular case? Or if the aquifer is confined, why would we do a nitrate study? And so what I'm getting at is, let's provide avenues to actually prevent people from paying for engineering work they don't need and doesn't actually -- or in situations where the total nitrogen load is so insignificant that we shouldn't be doing the study because it doesn't matter how many gallons per day. If I've got an advanced treatment system that's designed for nitrogen removal, we could be down into maybe the 20s of milligrams per liter, so maybe we're, you know, under a half or a third of what a septic tank might be. That needs to be taken into consideration when we're doing the -- determining whether a nitrate analysis is necessary. We're concerned about total nitrogen; we're not concerned about gallons of water. But the way the regulation is written, it basically drives us towards doing these analyses when, in fact, they should be unnecessary until we get a certain, you know, total pounds of nitrogen per month or per year or whatever. You know, come up with something. And that's where the working group could come in. We could literally bring hundreds of years of experience to the table from the people probably sitting in this conference right now that could do something that would provide a cost savings to the residents of Alaska and not compromise the environment. So I would ask you to consider when you consider the working group and the value we can bring to the residents of the state of Alaska and the cost savings we can bring in engineering, and your wasted time in plan review. I shouldn't use the term "wasted time," but your time spent reviewing things that are perhaps unnecessary. So let's find an avenue where we can take better care of the public without compromising public health, welfare, and safety. That should be our goal, and I'd ask that you work with us to do that.</p>	<p>Thank you for your comment. DEC regulations have historically been written with flow as a trigger category for many effluent parameters, assuming a standard domestic influent. The requirement to evaluate the nitrogen impact to groundwater has not changed and the Department does not intend to change this section. During the Plan Review process, an engineer could justify why a nitrate model is not necessary based on some of the justifications presented here but these site and design specific justifications should not be blanketly applied in a regulation.</p>
Nitrate Model	Jeff Garness, PE	Garness Engineering Group, Ltd	<p>72.515 (4)(B) — The criteria for establishing when a nitrate analysis is required should not be based solely on daily flow. The paragraph should instead the pounds per year of Total Nitrogen discharged per acre (or some other measurement of area) that will trigger a nitrate study. The proposed verbiage will result in the performance of unnecessary nitrate studies and an unjustifiable cost to residents of Alaska (to pay for unnecessary engineering services, monitoring wells, and/or aquifer studies) and will, in some cases, result in a waste of ADEC's limited plan review resources.</p> <p>72.515 (4)(B) — The seasonal nature of a facility will impact the pounds of Total Nitrogen introduced. Facilities that only discharge during summer months will have a reduced impact. Designers should be able to calculate the annual nitrogen load per acre (or some other measurement) and prove that the proposed discharge will not reach the threshold required to trigger a Nitrate impact analysis.</p> <p>72.515 (4)(B) and 72.615(c)(6) — Drainfields that receive effluent from Advanced Wastewater Treatment Systems receive significantly lower Total Nitrogen concentrations than effluent from a conventional septic tank. Such systems should be able to discharge a larger volume of effluent annually before triggering a Nitrate impact analysis.</p> <p>72.515 (4)(B) - The regulations should waive the nitrate analysis if the aquifer of concern is confined (protected). The nitrate analysis should also be waived if the facility is rural, and the aquifer is not used as a source for potable water. In many cases the source for potable water is a surface water source; therefore, the nitrate impact to the aquifer may be moot.</p>	<p>Duplicated comment, see response to similar comment.</p>

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Nitrate Model	Jeff Garness, PE	Garness Engineering Group, Ltd	72.615 (c)(6) — This needs to be modified to take into consideration the reduced Total Nitrogen (TN) levels in AWWTS effluent. See comments #12, #13, #14, and #15. Failure to amend this will result in Alaska residents being subject to the increased costs associated with unnecessary engineering fees and studies.	The criteria triggering a nitrate model has not changed from current regulation. The department will continue to review justifications on why a nitrate model is not necessary on a site and design specific basis during the plan review process.
Plan Review	James Armstrong	Anchorage Water and Wastewater Utiliyt	21. 72.270(b)(7) The exclusion of ground and silty water seems out of place. AWWU has incidental acceptance of groundwater, construction water and surface water from various sources. Would having infiltration be considered a violation?	This subsection is intended to replace and be interpreted the same as current regulation at 72.040(b). Some infiltration and inflow is to be expected, the regulation is intended to prevent combined sewers and intentional commingling of stormwater.
Plan Review	Veronica Keithley	Alaska Oil and Gas Association	The proposed regulations significantly change how non-domestic wastewater treatment systems are regulated and make non-domestic systems subject to requirements that are inappropriate or inapplicable. By removing the word "domestic" in multiple locations, the regulations establish one regulatory scheme for both non-domestic and domestic wastewater systems. The result is that non-domestic systems must meet requirements that, while applicable to domestic systems, are not appropriate or applicable to non-domestic systems. AOGA requests that ADEC modify the proposed regulations to separate domestic and non-domestic regulatory requirements to reflect the specific needs and attributes of these different systems. Specific examples of this mismatch between domestic requirements and non-domestic systems illustrate this concern. For example, 18 AAC 72.205 fails to distinguish between domestic and non-domestic systems and, as a result, requires a certified operator under 18 AAC 74 for certain non-domestic systems. But, to AOGA's knowledge, the state does not have a certification program for operators of non-domestic systems, so non-domestic system operators would have no method to meet this requirement. Similarly, 18 AAC 72.270(b) establishes collection and pumping design criteria that are typically applied to domestic systems but, under the proposed regulations, would also be applied to non-domestic systems. The result is unworkable requirements and prohibitions for non-domestic systems, like prohibiting petroleum products from entering a non-domestic collection system that was specifically designed to address petroleum products. See 18 AAC 72.270(b)(9). AOGA requests that ADEC modify the proposed regulations to set separate, appropriate requirements for domestic and non-domestic systems to avoid confusion and unworkable regulatory requirements.	Thank you for the summary of your comments. The Department has responded to each comment independently in detail. Comments are categorized by topic in this document.
Plan Review	Veronica Keithley	Alaska Oil and Gas Association	The design criteria specified in 18 AAC 72.270(b)(1-3) are those that apply to domestic wastewater systems. The nature and quantity of non-domestic wastewaters vary greatly depending on the type of contaminants present and the collection and treatment processes necessary to appropriately manage those wastewaters. Recommend this section apply to domestic wastewater systems only. 72.270(b)(7): This criteria, as written, prohibits the design of storm water management and collection systems. This design criteria should only apply to domestic wastewater systems. 72.270(b)(9): Many non-domestic wastewater treatment systems operate exclusively for the collection, management, and treatment of wastewater streams containing oil, petroleum products, and industrial solvents. As written, the proposed regulation would prohibit the design and construction of many industrial processes at fuel storage terminals, upstream oil and gas operations, and refineries. At a minimum, this requirement should be limited to domestic wastewater systems only. However some large domestic wastewater systems may be equipped with appropriate treatment technologies to manage oils or petroleum products as well, which would typically be regulated under an industrial pretreatment program authorized by an MS4 permit. Recommend that this section be removed or reworded.	The design criteria proposed at 72.270(b)(1-3) is generic standards that should apply to any collection system. 72.270(b)(7): noted, proposed amended language reads "the system does not combine domestic wastewater with the collection of stormwater or silty water from ..." 72.270(b)(9): noted, proposed amended language will be modified to read: "the system does not collect oil, petroleum products, industrial solvents, or other substances detrimental to the received wastewater treatment works or (A) in a sewer designed to handle only domestic wastewater or stormwater; or (B) will be received by a treatment works or process not designed to handle these substances;"
Plan Review	Clayton Spittler		72.270 (b) (1): If ADEC is going to specify allowable sewer line slopes for standard pipe diameters as proposed in 72.530 (d) (1), then calculations of mean conduit velocity are not necessary for the same standard pipe diameters. Perhaps this could be revised by prefacing with the following language: "For pipe diameters other than those listed in Table 2 in 72.530,".	Article 5 is intended to apply to conventional wastewater systems. The minimum pipe sizes and slopes may not apply to different pipe material that may be used in other collection and pumping systems.
Plan Review	Clayton Spittler		72.515 (b) (1) (F): Recommend adding "if applicable" after "conduit velocity". See comment for 72.270 (b) (1).	The Department respectively declines your suggestion. If the minimum/maximum slopes are met, it may simply be stated in the application.

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Plan Review	Clayton Spittler		72.220 (f): If ADEC is going to enact a 45 day deadline for applicants to respond to ADEC review comments, it would be fair to add "If ADEC does not respond to an applicant's initial submittal or subsequent submittals or correspondence within 45 days, the ADEC review fee will be refunded.". This comment also applies to any other section of the proposed regulation revisions indicating the 45 day deadline.	The intent of this proposed language is to give the Department the ability to close out a submittal when the applicant is unresponsive. The applicant can request to withdraw a submittal at any time and, if appropriate, the plan review fee may be refunded.
Plan Review	James Armstrong	Anchorage Water and Wastewater Utiliyt	17. 72.240(c) Why change the submittal deadline from 90 days to 60 days? AWWU has a hard enough time to achieve the 90 days due to other contract requirements 18. 72.240(c) What is the definition of completion of construction. As mentioned above, our construction isn't technically complete until all contract requirements have been met.	The Department proposes to bring the submittal deadline to better correspond to the 90-day interim approval to operate which usually accompanies an approval to construct. This allows the department a 30-day review period prior to the interim operational approval expiring. The Department considers construction completion to generally mean the system is ready for operation and no later than the date the installation or modification is first placed into operation. Other contract requirements may extend well beyond the default 90-day interim approval in which case an extension of the interim approval would be needed in order to continue to operate the system if final approval submittal requirements cannot be met.
Plan Review	Vanessa Blevins		In addition to being in conflict with requirements for public notice, some of the proposed changes directly contradict existing regulations, and provide opportunities for confusion to the public. One of the points of clarification is to remove the language from 18 AAC 72 that references how far in advance submittals must be provided to the State. However, 18 AAC 15.020 requires the submittal of plan review information at least 30 days before commencing construction on sewerage system, or at least 60 days before commencing construction on municipal sewerage system. The department routinely cannot provide plan review service that meets these deadlines. Removing this language from the regulations does not improve clarity. Since most of the public does not realize that administrative requirements are addressed in 18 AAC 15, they would have no idea of the submittal time frame. This appears to be an effort to address issues associated with lengthy Department reviews	The reference to a 30 day timeline did not correlate to how far in advance a plan review should be submitted to the department, it referenced that the department will issue a "decision" within 30 days. Although the decision is not always possible within 30 days since it depends on many factors, including the completeness of the submittal, the engineer adequately addressing site conditions and design standards, and the responsiveness of the engineer to requests for additional information, our goal remains to respond to a submittal within 30 days.
Plan Review	Veronica Keithley	Alaska Oil and Gas Association	The proposed regulations change the timeframes for plan review for wastewater system construction, modification, and operation by placing strict time limits on applicants with no corresponding time limits for ADEC. For example, 18 AAC 72.220(f) requires applicants to reapply if the applicant fails to meet a 45-day deadline for providing additional information. AOGA supports efficiency in plan review but requests that ADEC modify the proposed regulations to add timeframes for ADEC plan review, thereby making efficiency a shared responsibility.	Thank you for your comment. The Department will incorporate a timeframe for the Department's response to submittals.
Plan Review	Veronica Keithley	Alaska Oil and Gas Association	72.220(f): ADEC is stipulating a set time period in regulation for applicant submittals but has removed agency plan review time commitments (18 AAC 72.225(a)). Restarting the process after 45 days seems extreme. Perhaps the applicant should be allowed to RESPOND within 45 days and request an extension. For example, additional soil sample testing, analysis, and reporting could easily require more than 45 days to complete. 72.225(a): it appears that ADEC has removed any requirement to conduct a plan review in a timely manner. The burden of a timely response lies solely on the applicant. Extending the current 30 day window, rather than eliminating the commitment, would be more equitable.	Duplicative comment. See response to similar comment.
Plan Review	Veronica Keithley	Alaska Oil and Gas Association	72.240(b)(2)(A): Recommend that the department automatically grant an extension if the delay is on the part of the department. See comment under 18 AAC 72.240(b)(3). 72.240(b)(3): Recommend that ADEC clarify that if owner/engineer submits information required in 18 AAC 72.240(c) of this section within 60 days, but ADEC does not issue FATO within 30 days, the system will not be out of compliance.	Duplicative comment. See response to similar comment.
Plan Review	Wade Ellis	ANTHC	18 AAC 72.225 – We recommend keeping the 30 day review expectation and clarifying that if it passes without ADEC response it is not a de facto approval. The 30 day goal is appreciated, however the world of projects is driven by schedules and without a stated expectation on ADEC turnaround it makes it difficult to plan project timelines.	Duplicative comment. See response to similar comment.

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Plan Review	James Armstrong	Anchorage Water and Wastewater Utiliyt	14. 72.201(c) What is the review process for ADEC to decide if something doesn't require approval for replacement in kind. AWWU completes a lot of projects of replacement in kind that should fall under this category.	Requests for replacement in kind will be reviewed on a case-by-case basis. Communities with delegated authority should reach out to the Dept independently.
Plan Review	James Armstrong	Anchorage Water and Wastewater Utiliyt	15. 72.201(e)(3) This adds to AWWU's work load and has potentially out weighted failure costs. This should be completed only when ADEC requests it.	Thank you for your comment. The Department respectfully declines the suggestion and believes providing an updated utility map should not be overly burdensome when utilizing the plan review exemption for all sewer main extensions/replacements.
Plan Review	James Armstrong	Anchorage Water and Wastewater Utiliyt	16. 72.230(a)(5) I don't think that a change of pipe material should qualify for a reason to review the plans again.	This is the same as currently required at 72.230(a)(4).
Plan Review	James Armstrong	Anchorage Water and Wastewater Utiliyt	19. 72.240(c)(2)(B)ii The requirement to have a professional engineer stamp the record drawings is problematic for bigger projects that require multiple specialties, but is overseen by one. Also electrical drawings may be stamped, but construction takes place by others and overseen by non-electrical engineers.	The Department does not see that there should be a conflict. The regulations already require record drawings prepared by the engineer responsible for observing construction of the project and the definition of "record drawings" indicates they are the original design documents that are revised to reflect how the system was constructed or installed. For large multi-discipline projects, the Department expects only those sheets relevant to it's regulatory authority to be submitted as they relate to the civil and environmental disciplines. Plan review staff scope generally does not extend to structural, electrical, or mechanical elements of a project.
Plan Review	James Armstrong	Anchorage Water and Wastewater Utiliyt	20. 72.270 Is this intended for single family residential when talking about pump stations?	There are several references to pump stations in this section. In general, it does not apply to a single service connection (a single building or private residence by definition) for information needed to be submitted to the department. Some standards are specifically stated as not applying to a service connection such as the reference at 72.270(b)(5).
Plan Review	James Caslin	Golden Heart Utilities	1. 18 AAC 72.200. Application for department approval. Golden Heart Utilities and College Utilities support these changes. 2. 18 AAC 72.201. Exceptions to prior written approval of engineering plans. Golden Heart Utilities and College Utilities support these changes and believe that the project review process will be streamlined with the rule proposal. The streamlined process will potentially save time for both Utilities and the Agency. Both Utilities also agree with the proposed annual reporting requirement and the associated audit requirement.	Thank for your comment and support.
Plan Review	Jeff Garness, PE	Garness Engineering Group, Ltd	72.200(b) - the verbiage "other requirements" is undefined. If there are specific regulations they should be referenced. Otherwise, the term allows for arbitrary and open-end demands by the Department during the plan review process.	The Department will amend the proposed language to read "... other state and federal regulations ...".
Plan Review	Jeff Garness, PE	Garness Engineering Group, Ltd	72.515 (5) has the potential to create an arbitrary and open-ended list of reviewer requirements that can cause an unreasonable cost to Alaska residents.	The department disagrees that the proposed language has the potential to create arbitrary and open-ended list of requirements. This is similar to and has the same intent as language currently contained at 72.220(b).
Plan Review	John Barry		18 AAC 72.290. After-the-fact approval of systems I support the concept of approval for undocumented systems. It will be difficult to demonstrate that a system conforms to the current standards since many were constructed in years past under different standards or no standard at all, and in most cases there is no record of the subsurface installation, such as photos. ADEC should take this under consideration if ADEC desires to have these systems recorded rather than leave them undocumented.	ADEC did take into account the difficulty of verifying a system meets standards if it is undocumented or modifications were made since the time it was documented. There are very few construction standards that have changed over time and ultimately it needs to be determined what it is and how it meets current standards, or a waiver needs to be requested and justified for how the system as constructed protects public health and the environment. This section attempts to put into regulation what we already do for these situations when they arise.
Plan Review	Vanessa Blevins		The expansion of permit by rule codifies much of the work that is already covered by department agreements (with AWWU and MOA), and includes departmental policies on service lines (authored by Lynn Kent). It would be interesting to see an analysis of current plan review submittal numbers, and how many current submittals would no longer be required.	Thank you for your comment. The proposed wastewater regulation changes do intend to make it easier on utilities and clarify/codify other policies/procedures the program has followed in the past (such as not requiring plan approval for every service line connection).

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Plan Review	Vanessa Blevins		In the public hearing the Department indicated that they had no ability to track plan submittals and no knowledge about the number of plans in the queue or the average review times. Each office has a submittal area (drawer) where submittals are placed prior to review. It would seem like these could be counted, and the receive date noted, to provide some basic information on the current ability of Department to provide plan review services. A simple spreadsheet could be used to track plan submittals. A large, comprehensive database isn't needed for basic information. Accounting for submittals would seem like a worthwhile task.	Thank you for your comment. The Department has now launched a system that will provide better tracking and access to documents by the public.
Plan Review	Vanessa Blevins		New regulations are subjective and require engineering judgement. The new regulations endow substantial authority to the Department to review engineering submittals on a case-by-case basis and make a determination based on plan review provisions, conditions, engineering standards, and possibly recommendations from a technical review committee. It seems that the Department still has one staff located in each main office (four staff), with 2 total licensed engineers, to complete wastewater plan reviews (in addition to other tasks). A custom, case-by-case review is extremely time consuming and an expansion of duties. It would seem that the Department currently has hundreds of wastewater plan reviews in the queue, with some review times exceeding months. Providing more custom reviews, based on less documented criteria will take more time. These reviews will be based on the engineering judgement of a reviewer, and will be less predictable due to their basis on Department standards that can be easily changed. These reviews will put a higher burden on the technical and engineering ability of a very limited number of statewide wastewater staff. Staff have limited opportunity to interact with consultants, extremely limited opportunity to participate in professional conferences, and participate in minimal, if any, fieldwork.	For systems requiring plan approval, the Department already reviews submittals on a case-by-case basis. The proposed amendment does not introduce a different or more extensive review standard than that already established. The proposed language for plan reviews is substantially the same as in current regulations. The Department continues to see this proposed amendment as an overall reduction in workload. For small onsite (domestic) systems, the Department expects to see a significant reduction in plan reviews.
Plan Review	Vanessa Blevins		4. The proposed changes eliminate public notice of Department requirements, and makes the plan review process much more subjective and less predictable. Many of the proposed regulations appear to have been written to make it easier to impose subjective criteria in the regulatory review process, without completing the public notice process. Public notice is required to ensure that the Department provides transparent, accountable service. Public notice for engineering requirements would seem particularly important in this instance, due to the limited number of engineers in the Department. Although time consuming, public notice is an important part of public service	The department does not see that plan review rigor will be changed. Plan review is not required be publicly noticed in current regulations. For systems still requiring plan approval, the amendment does not introduce a different or more extensive review standard. The proposed amendment contains substantially the same language and intent as that in existing regulations.
Plan Review	Vanessa Blevins		You know, I think that trying to make many aspects of the regs totally flexible, where you could waive any part of, you know, Section 200 in the engineering section of 18 AAC 72, seems – you know, I understand you want to do that to help meet the needs of a specific circumstance. The problem is it makes the plan reviews totally unpredictable. And nobody expects plan reviews to be consistent. I mean, the conditions in the state vary from place to place, but there has to be a high level of predictability in what you expect to have to do to meet a regulation. And so injecting all of those multiple variables in there goes the other way, and it makes the plan reviews take a lot longer, and it's a lot less of an efficient process for everybody involved. And so I guess I would urge you to look for opportunities to make the plans more predictable, not less predictable.	Thank you for the comment. 18 AAC 72 has always given the ability for design engineers to consider alternative and deviations from prescriptive standards and this does not change. The Department believes moving towards more comprehensive technical guidance manuals will better serve the public, industry, and provide as much predictability as possible for the varying conditions throughout the state while also giving flexibility in applying standards in rural areas with complicated sites.
Plan Review	Veronica Keithley	Alaska Oil and Gas Association	72.200(b): ADEC could indicate in a definition or other that AS 46.03 is the authority under which ADEC issues approvals/permits. 72.200(c): Recommend that ADEC clarify process in regulation or guidance documents. 72.201(c): Recommend that ADEC specify under what circumstances replacement in kind will require prior written plan approval, and provide additional details regarding the case by case approval process. Recommend explicitly excluding "routine maintenance" as defined under 18 AAC 72.990(77). 72.201(d): Recommend that ADEC clarify what "integral to the design and operation of a collection system" means, as the intent seems to be covered under first sentence. Also clarify how this exemption will be documented. 72.201(e): Recommend clarifying what "regulated utility" means, as it could refer only to utilities that operate under the Regulatory Commission of Alaska. Recommend that the requirement for a "certified operator" be deleted, as per 18 AAC 72.205(a)(9) (B) a certified operator is only required for larger systems. Proposed section 18 AAC 72.201(e)(1)(C) seems to cover this.	72.200(b): The Department modified the language to specify other "state and federal regulations". 72.200(c): this language is substantially the same as currently contained at 72.200(d). This is simply meant to cover those systems that may be innovative or experimental. 72.201(c): "routine maintenance" is specifically excluded at 72.201(a). Otherwise, requests for replacement in kind will likely be evaluated as the department currently handles them. 72.201(d): applies to those service lines that provide pressure or vacuum to a sewer main. The first sentence of this subsection focuses on overloading of a collection or treatment system. 72.201(e): The intent was to allow the exception on for a wastewater utility that is also regulated under RCA and also has a certified operator.
Plan Review	Veronica Keithley	Alaska Oil and Gas Association	72.511(a) and 72.611(a)(1): The definition of "small commercial facility" found in 18 AAC 72.990(93) limits the expected peak design flow to 500 gpd, which conflicts with the proposed total on-lot design flow of 1,500 gpd. Recommend that ADEC clarify if small commercial systems will be limited to 500 gpd under this regulation. If not, recommend changing the definition of "small commercial facility" for consistency, or remove the word "small" and let design flow govern.	For 72.511(a) as it applies to Certified Installers, the Department intends to limit installations to a single small commercial facility (<500 gpd). For 72.611(a)(1) as it applies to alternative systems and engineers, the program agrees that the small commercial facility limitation is not necessary. This section will be modified.

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Plan Review	Veronica Keithley	Alaska Oil and Gas Association	72.611(a)(2): Recommend ADEC clarify if "Envirovacs" and similar restroom modules/facilities fall into this category, and define the terms "temporary" and "mobile". We also recommend that ADEC consider including "permanent" installation holding tanks associated with mining or oil and gas development in this category.	This is best covered in guidance that will also include more details on minimum standards to be met. At this time, the Department is not considering permanent installations to be included under 72.611(a)(2).
Private Water Systems	James Armstrong	Anchorage Water and Wastewater Utiliyt	2. 72.005(a)2 Why is private water system being placed here? Why isn't other types of system also placed here. Isn't this already covered under 72.005(a)1?	18 AAC 72 has historically covered separation distance requirements for private wells. The Department proposed to also include basic construction standards for the protection of groundwater aquifers.
Private Water Systems	James Armstrong	Anchorage Water and Wastewater Utiliyt	5. 72.010(b)(2) There seems to be an unnecessary focus on Private Water systems, when all water systems need protection. Also should water systems be handled in 18AAC80? Why is wastewater being used to control water systems?	18 AAC 80 covers public water systems only. Language in this section states "public and private water systems". This section relates to permit and plan approval requirements for wastewater systems. The Department is not proposing a rule that would require private water systems to be documented with DEC, since well logs documenting construction are required to be submitted to DNR.
Private Water Systems	James Armstrong	Anchorage Water and Wastewater Utiliyt	11. 72.100 Private water systems belong under 18AAC80 not in wastewater.	18 AAC 80 applies to public water systems only. 72 has historically included requirements for private water systems.
Private Water Systems	Jeff Garness, PE	Garness Engineering Group, Ltd	72.005 continued: In the 2012 version of 18 AAC 80 (Drinking Water Regulations) a "private water system" was defined as a potable water system serving one single- family residence or a duplex". In the 2017 version of 18 AAC 80 (Drinking Water Regulations) the definition of a "private water system" was changed to "a potable water system that is not a public water system". A "public water system" is essentially a system that serves greater than 25 people per day for more than 60 days per year. This becomes significant because the proposed amendments to 18 AAC 72, paragraph 72.005 increases the scope of the chapter (18 AAC 72) to regulate the "minimum separation distance requirements and construction standards for private water systems. In short, the proposed change to 72.005 will increase State Of Alaska regulatory authority to a cateqorv Of wells (Old Class C wells) that are currentlv not reaulated bv ADEC. If ADEC regulates the c•onstruction of "private water systems", there will be an increased cost to the department (that is currently not staffed to handle the current workload) and the public.	72.005 as it relates to private water systems reads "The purpose of this chapter is to protect human health, the environment, and water quality by establishing ... minimum separation distance requirements and construction standards for private water systems." 18 AAC 72 has historically established and regulated minimum separation distances for private water systems and this is not a change from existing regulations. The Department does propose to establish construction standards for wells associated with private water systems to further protect groundwater from potential contamination.
Private Water Systems	Jeff Garness, PE	Garness Engineering Group, Ltd	The proposed version of 18-AAC-72 is not well laid-out and is not properly titled. The following suggestions should be considered: Regulation of "private water systems" should not encompass within the "Wastewater Treatment & Disposal" regulations. If ADEC intends to continue down this path then the title for 18-AAC-72, "Wastewater Treatment & Disposal" needs to be revised to include a reference to "Private Water Systems". It is not obvious to anyone searching for regulations regarding 'private water systems' that they should be looking to a regulation titled "Wastewater Treatment & Disposal". There should be a separate Article within 18-AAC-72 titled "Private Water Systems". All regulations regarding "Private Water Systems" should be addressed in this Article	The Department proposed to have all requirements and standards for private water systems under a single section at 72.100 titled Private Water Systems. There is no need to have a full article dedicated to private water systems.
Private Water Systems	Steven Pannone		A big question is why insert the private drinking water regulation into a wastewater code? I would never think of looking for it there. It's by definition a cross connection!! Does the Department have regulating authority to regulate Drinking water? It looks like the Code is trying to add scope to their authority without authorization. If so, then that will increase Cost to Alaskans in Engineering time and Regulator time. 005 (a)(2) – Why is a wastewater code setting minimum separation and construction standards for private water system? Seems like the wrong section. Is ADEC now regulating private water sources? 005(b)(2) - Why is Private water systems under the wastewater code?	Separation distance requirements to private water systems have been contained in 18 AAC 72 for decades. The regulations at 18 AAC 80 only apply to public water systems. With the repeal of the regulations regarding a class of state regulated public water systems (Class C), there is even less oversight of drinking water systems that may serve high risk populations but with a population that do not result in a classification of a federally regulated public water system. ADEC does not intend to regulate private water systems more than we have in the past. While it may not be intuitive that 18 AAC 72 also has requirements for private water systems, other regulations discuss private water systems as well. For example, 18 AAC 60 pertaining to Solid Waste specified separation distances to private wells and the proposed regulation changes now directs that section to 18 AAC 72 in the attempt to consolidate most requirements in one place. In regards to proposed language at 72.100(c) and (d), this language has the same intent as already included in the referenced sections of 18 AAC 80.
Private Water Systems	Steven Pannone		100 – This section in its entirety...Why is a wastewater code regulating private drinking water sources?	Separation distance requirements for private water systems have been in 18 AAC 72 for decades. 72.100(c) and (d) are basic standards that should already be in use and will help protect groundwater. The proposed language in this section does not add to the regulatory oversight of private water systems.

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Separation Distances	Steven Pannone		(34) – This definition should also include an AKA Building Drain as defined by the UPC. It is a confusing definition after the However...	Building drain as defined by the UPC is not the same as the Department interprets and uses the term "drain". The UPC definition states a "building drain" ... conveys [waste] to the "building sewer" (aka private sewer line or sewer service line) beginning 2 feet outside the building wall. The drinking water program's interpretation is that any sewer pipe outside of a building foundation (below slab) is subject to separation distance requirements for Public Water Systems under 18 AAC 80. The wastewater program has chosen to use the perimeter or footprint of the building for where separation distance requirements apply to a private water system, but still would not use "2 feet outside the building wall". This difference is simply due to how the Department regulates private water systems as compared to public water systems and should not imply there is no risk associated with sewer pipes (regardless of definition) in proximity of a drinking water source. The portion of the definition after "however" is consistent with the definition of a community sewer line or sewer main. Any sewer pipe (regardless of where it is located) serving multiple private residences or other buildings is no longer a private sewer line or sewer service line.
Separation Distances	Steven Pannone		(86) - Other Constructed conveyances could be construed to include road side ditches or drainage ditches. Is this intentional? Nondomestic wastewater include storm water runoff. This definition is overly broad. Should be refined	The department agrees that "constructed conveyance" in this definition is being interpreted to include things not intended. The department will amend this definition to clarify that culverts and roadside ditches are not included.
Separation Distances	Clayton Spittler		72.520 (c): Recommend revising this section to essentially copy Municipality of Anchorage (MOA) Wastewater Disposal Code 15.65.210 (B) (1) (d and e).	The Department respectfully declines your suggestion.
Separation Distances	Clayton Spittler		72.520 (f): Recommend replacing "10 feet" with "5 feet", to match 2021 Uniform Plumbing Code (UPC) Appendix H Table H 101.9.	The Department respectfully declines your suggestion. An applicant can request a waiver of this separation distance during plan review.
Separation Distances	Eric Lanser		18 AAC 72.100 states cleanouts need 100' separation distances from domestic water source. I like to put my wells in the house and the clean out right where the sewer line leaves the house. I will not be able to do that anymore under this constraint.	By definition, cleanouts in the context of 72.100(a)(1) refers to cleanouts for community sewer lines or sewer mains and would not apply to the foundation cleanout on a private sewer line or sewer service line. That separation distance to private sewer lines, with or without a cleanout, remains at 25 feet stated at 72.100(a)(2). Generally, the program does not recommend installing well heads inside the building envelope.
Separation Distances	James Armstrong	Anchorage Water and Wastewater Utiliyt	6. 72.020 This section should not have been disbanded into various places. One central location keeps it simple and prevents confusion as to what system needs what. Central locations for the generally the same requirements also keeps from repeating the same information multiple times.	Thank you for your comment. The main purpose of this regulations revision was to organize the content by system type and requirements instead of having regulations that apply to system types spread throughout the chapter.
Separation Distances	James Armstrong	Anchorage Water and Wastewater Utiliyt	8. 72.060(b) AWWU applies for a lot of waivers because of the way the separation rules are written. The requirements for separation distances should be revised for utilities in confined rights of ways and often cross each other. This should be coordinated between 18AAC72 & 18AAC80	Separation distance requirements and any associated waiver for public water systems are solely addressed and handled under 18 AAC 80 which is implemented by a different division, and operates under federal delegation.
Separation Distances	James Armstrong	Anchorage Water and Wastewater Utiliyt	9. 72.060(b) The report requirement here is not necessary for AWWU due to our system being regularly out of compliance with separation to storm and sewer pipes. These are standard in our system and need to adjusted accordingly.	Any facility specific requirements and waivers must be addressed directly with the program.
Separation Distances	James Armstrong	Anchorage Water and Wastewater Utiliyt	12. 72.100(b)(4)(A) The vertical separation distance between water and sewer is not achievable without a waiver as water is typically deeper to prevent freezing of water lines. This requirement doesn't appear to be written for typical Alaskan (Arctic) building requirements	This section applies to private water lines and water holding tanks associated with private water systems only and is no change from standards referenced in the UPC. By definition, a private water line is only associated with a private water system. A public water system should not see any impact from this regulation remaining the same.
Separation Distances	James Armstrong	Anchorage Water and Wastewater Utiliyt	23. 72.540 Waivers a big item for AWWU due to proximity of community lines. These should be addressed in this update.	Note that this section applies to conventional wastewater systems only. Waivers for public water systems are handled under 18 AAC 80 by a different division.

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Separation Distances	Jeff Garness		<p>I'd like to make a comment regarding the building drains and the separation distances that are being proposed. Correct me if I'm wrong. I believe that proposed separation distance is 100 feet, and that's to the piping that's within the building under the floor space, not a crawlspace but in a floor slab. And if the separation distance of 100 feet has been called out, I would really be interested to know what's driving that large of a separation distance. This subject matter has actually come up with the drinking water folks before, and they said, "No, we don't intend to regulate that." And, I mean, I don't think I'm a year down the road from that comment, and I see this. Now, I don't have a problem with you regulating. What I do have a concern about is why we picked 100 feet. If I'm not mistaken, in the Uniform Plumbing Code there is -- in Section 700 under sanitary drainage -- don't quote me on the term, but it's under, I think, Section 700. They allow -- or they call them separation distances to, I believe, building drain in one of the tables there, and it allows you -- it's 50 feet unless you have, I believe, a sewer -- or building a drainage pipe in that's suitable, you know, within the building footprint, in which case I think, because it's typically pressure-tested and inspected before the floor slab goes in, they allow a separation distance of 25 feet. And I would be -- I'd like to really ask DEC to consider really hard why we would go to such a restrictive separation distance if the Uniform Plumbing Code appears to allow us a separation distance of 25 feet instead of 100 feet. And if we're going to go to more than that, you know, it would be nice to know why. I mean, have there been a significant number of cases where we're having wells contaminated from the drainage from building drains and contaminating wells that's driving this, or is it just something that, you know, you decided to do? And then rather going to the Uniform Plumbing Code, you said, "Let's just make it 100 feet," which is going to force wells to go farther from buildings, you know, longer water line runs. On some sites it's going to make it really restrictive, maybe not even possible to put the well on the property, maybe make it undevelopable, possibly. I don't know, but I think we need to really consider making something that is that much more restrictive -- if we don't have something, you know, cases that are driving it, problems that are driving it, are we looking for a solution to a nonproblem?</p>	<p>There is no existing or proposed separation distance between a drain, as defined at 72.990(34) and a private water system. The additional terms added to 18 AAC 80 Table A helps clarify that the separation distance requirement between a drain and a public water system. The definition also further clarifies that a sewer pipe serving multiple buildings is still considered something more than a sewer service line or private sewer line even if it passes beneath a building. This is not change from existing regulations.</p>
Separation Distances	Jeff Garness		<p>I want to comment regarding the required separation distance to sumps. I'd like to note that it was not clear in the regulation what the intent was, whether that's a sump handling domestic wastewater or even nondomestic wastewater inside the crawlspace, and ask that you clarify that in the future. And then also, that separation distance has not been codified in the past to anything inside the building footprint regarding sumps, and so I would argue that that has the potential to increase costs if it's going to move private wells or public wells further away from the buildings and, you know, it's just one more separation distance. So I'd certainly ask you to look at, you know, what's driving this. Have we had health issues associated with this? And try and avoid creating greater separation distances than are necessary in the Uniform Plumbing Code so that we don't create more restrictive site conditions that drive the cost up for the residents of Alaska and make engineering costs more expensive and development more expensive overall.</p>	<p>Duplicative comment. See response to similar comment.</p>
Separation Distances	Jeff Garness		<p>I don't see anywhere in the regulations where there is a required separation distance between a subsurface drain and a septic system, and I believe that has been lacking for decades. You can correct me if I'm wrong, but I don't think it's in there. I mean, you could put that septic system right -- I mean, right up to a subsurface drain, where it could move laterally into it and discharge somewhere, you know, into surface waters or whatnot. And that's something that, you know, had somebody -- you know, in the steering group we would have brought that up. It's something that -- again, unless I'm missing something, that is not in regulation.</p>	<p>Duplicative comment. See response to similar comment.</p>
Separation Distances	Jeff Garness, PE	Garness Engineering Group, Ltd	<p>72.100 and the Definitions of 18 AAC 72 do not appear to address subsurface drains and separation distances between subsurface drains (like curtain drains) and private wells.</p>	<p>Duplicative comment. See response to similar comment.</p>
Separation Distances	Jeff Garness, PE	Garness Engineering Group, Ltd	<p>72.100 — The proposed definition of "sewer line" would include dry road ditches and street curbs/gutters that periodically carry "nondomestic wastewater (stormwater runoff)". The EPA definition of an MS4 storm sewer includes road ditches. In short, the use of "sewer line" in this paragraph is not suitable, unless the intent is to also establish a separation distance between a road ditch (that periodically carries stormwater) and a private well.</p>	<p>It was not the intent to include roadside ditches or open ended culverts that are solely used to handle stormwater to be included in the definition of "sewer line". The Department will include an exclusion for these items as part of the definition.</p>

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Separation Distances	Jeff Garness, PE	Garness Engineering Group, Ltd	72.100: It appears that one of the intents of this paragraph is to create a regulated separation between a private well and stormwater collection system components by using the term sewer line" rather than "private sewer line" or "community sewer line"; and changing the definition of term "cleanout". The Municipality of Anchorage Onsite Department has never deemed a stormwater collection system to be a potential source of contamination in regard to private wells. This has the to be a significant regulatory change that will limit development of some properties and increase the regulatory costs (waiver fees and plan review fees) associated with private wells encroaching of stormwater collection system components. It is arguable that the current ADEC drinking water regulations (18 AAC 80) do not have a regulated separation distance between a public well and "stormwater collection system" components. Page 114 of 116 of the proposed regulations changes 18 AAC 80, Table A to create a regulatory separation distance to "sewer lines", "sewer mains", and "drains" (piping below grade within the building envelope). The ADEC "list of potential sources of contamination", used in the past to perform "source water assessments", makes no reference to stormwater collection system components, and the list is very comprehensive.	The Department currently interprets regulation to apply to stormwater collection systems for both public and private wells.
Separation Distances	Jeff Garness, PE	Garness Engineering Group, Ltd	72.100 — The separation distance to a "Sump" is problematic because the term "Sump" is not defined in regulation. Is the intent to regulate the separation distance to sumps discharging water from crawlspaces or sumps discharging domestic wastewater... or both?	The OWSIM under Article 1.6(A) specifies a separation distance requirement between a sump and a private well to be the same as a private sewer line (25 feet). This separation distance requirement has been in place, as adopted by reference, since at least the year 2000. Sump is defined in the UPC; since other requirement pertaining to sumps contained within a building are regulated under the state plumbing code, the Department does not see a need to define sump in chapter 72.
Separation Distances	Jeff Garness, PE	Garness Engineering Group, Ltd	72.520 (f) — Separation distance between septic tank and drainfield - The 2018 Uniform Plumbing Code (UPC) allows for a separation distance of 5 feet. The Municipality of Anchorage has allowed a 5-foot separation distance for at least 30 years; ADEC should consider a less restrictive separation distance.	Thank you for your comment.
Separation Distances	Jeff Garness, PE	Garness Engineering Group, Ltd	Page 115 of 116 — The revisions to 18 AAC Table A are not minor and reflect several new regulated separation distances. Is inclusion of the term "disposal sewer" really necessary? The inclusion of the term "drain" establishes a separation distance between a public well and the build drain pipes under the concrete slab inside a building. This will make placement of a well more challenging becme it will often be necessary to plaæ the well much further from the building. This will increase the cost of running a water service line to the building. The Uniform Plumbing Code appears to call for a separation of 50 feet, and as little as 25 feet (see UPC 2018, Table 721.1 , footnote 3). This change will increase the cost of development and make it more difficult to develop properties. The term newly added term "sewer line" includes collection systems transporting stormwater (even if they only carry water during a runoff event). This is arguably a newly regulated separation distance that will make some properties more difficult and more costly to develop	The revisions to 18 AAC 80 Table A simply adds additional terms to clarify the separation distance requirements already interpreted to apply and currently implemented by the Drinking Water program. There are no new separation distances proposed to apply to public water systems.
Separation Distances	Jeff Garness, PE	Garness Engineering Group, Ltd	Unless I missed it, nowhere in the proposed does there appear to be a required separation distance between a subsurface drain and an absorption field. If so, an absorption field could be placed immediately adjacent to a curtain drain, allowing untreated wastewater to migrate through the drainage system and daylight downgradient via the drain outlet.	Duplicative comment, see response to similar comment.
Separation Distances	Jeff Garness, PE	Garness Engineering Group, Ltd	There should be a separate Article titled "Separation Distances". All separation distances (vertical and horizontal) should in one centralized and Tables should be used to the greatest extent possible. The reader should not have to search throughout 18-AAC-72 to find the various locations where separation distances (both vertical and horizontal) are addressed. This will shorten the other Articles and simplify the overall document.	Thank you for your comment. The Department intends to publish a table of separation distance requirements in technical guidance manuals.
Separation Distances	John Barry		18 AAC 72.100. Private water systems (a) (1) Requirement for a 100 ft. horizontal separation distance between a private well and a sewer line cleanout: Currently the minimum separation distance between a private sewer line cleanout and a private water system is 25 feet (OWSIM 2016). Add "private sewer line cleanout" to section (a) (2) to make it clear that this separation distance is still 25 feet.	The separation distance requirement between a private well and private sewer line cleanout remains the same in proposed regs compared to current regs. Private sewer line is already excluded from the definition of "sewer line".
Separation Distances	Rebecca Carroll	Municipality of Anchorage Onsite Water and Wastewater Section	Reference 18 AAC (pg 13) — Is there a reason that the separation distance between private wells and community sewer lines/sewer mains was increased to 100 ft, besides for consistency with separation to manholes/cleanouts?	Primarily the Department proposes to eliminate the 75' separation distances that aren't consistent with 100' separation distances for similar components. For example, holding tanks are very similar to other tanks and vaults which already require a 100' separation.

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Separation Distances	Rebecca Carroll	Municipality of Anchorage Onsite Water and Wastewater Section	Reference 18 AAC (pg 13) — By definition, a sewer line carries nondomestic wastewater, which includes stormwater runoff. What is the ADEC's intent as far as requiring ft separation to stormwater runoff? Will this include road ditches?	Duplicative comment. See response to similar comments.
Separation Distances	Rebecca Carroll	Municipality of Anchorage Onsite Water and Wastewater Section	Reference 18 AAC 72.520(f) (pg 56) —What is the reason behind the 10 ft separation between a septic tank and an absorption field (MOA requires a 5 ft separation)?	This is not a change from current regulations.
Separation Distances	Rebecca Carroll	Municipality of Anchorage Onsite Water and Wastewater Section	Reference 18 AAC 72.620 (pgs 78 & 79) — Do alternative wastewater systems not have required separations to items specified under 18 AAC 72.520(c thru f) for conventional wastewater systems?	There are no current regulatory requirement regarding alternative soil absorption system having the same vertical separation distance requirements that apply to conventional soil absorption systems. The program has been applying professional engineering judgement when evaluating alternative systems and further address this subject in a technical guidance manual.
Separation Distances	Steven Pannone		100(a)(1) why is the requirement increasing for holding tanks to 100 feet? It has been at 75 feet for years with no known issues.	The Department is proposing to eliminate the 75 foot separation distance category for consistency. Holding tanks pose no less risk to a private water system than a septic tank.
Separation Distances	Steven Pannone		Also does that mean the a crawspace sump needs to be located greater than 25 feet from a well? And its discharge?	A sump located within the building is considered plumbing and must meet the requirements of the UPC. The separation distance is the same as for a building sewer (aka private sewer line or sewer service line). Unless it is a dewatering sump only, the sump must discharge to the building sewer.
Separation Distances	Steven Pannone		100(a)(3) – This is a new requirement and the ramifications of this requirement need to be discussed and analyzed in detail. Most likely it will add a cost to our fellow Alaskans.	This is not a new requirement. This requirement is currently at 72.020(c)(3).
Separation Distances	Steven Pannone		520(g) – The way it is written is open-ended and opens to door for arbitrary requirements not necessarily justified. Additionally, the justification usually required engineering judgment. The department will be requiring the Engineer to take responsibility for the Reviewer's opinion, where it may not be justified using good sound engineering judgment.	This section is substantially the same as the current regulatory reference at 72.020(d).
Separation Distances	Steven Pannone		18AAC80.020 Table A – This should be reviewed and discussed with industry. It is changing some significant issues concerning Public drinking water system. Also, how can a rewrite of one code, change another Code (18AAC80), without notifying the user groups associated with 18AAC80?	The drinking water program and the wastewater program coordinated on the proposed changes to Table A in 18 AAC 80. The changes simply represent adding previously defined terms for clarity (ex. sewer service line) or are proposed definitions to be added (ex. sewer main). There are no changes to separation distance requirements as currently interpreted or required for Public Water Systems.
Separation Distances	Vanessa Blevins		The separation distance between a wastewater holding tank was clarified to be 100 feet. This clarification increases the separation distance from the current distance of 75 feet, which has been in affect for decades. A statement was included that wastewater holding tanks pose just as much risk if not more than a septic tank. Holding tanks are serviced regularly (monthly or more often), unlike septic tanks. This would limit risk of surface contamination. Holding tanks are often installed in areas where the is no permeability and no ability to use an absorption field. This would limit any potential risk to the ground water. No information was provided that documented that this decades old separation distance had resulted in ongoing contamination issues.	The Department intends to eliminate the category of 75 foot separation distance requirements to private wells. It is reasonable to conclude that a wastewater holding tank poses no less risk than a septic tank, and in some cases will pose a higher risk (the separation distance from surface water is 100 feet for both). The department believes there are very few situations where changing the separation distance requirement from 75' to 100' isn't attainable and otherwise a waiver can be requested. In general, the use of wastewater holding tanks is discouraged. If the holding tank is part of a community-wide pump and haul system, there is likely also delivered water and no nearby wells associated with private water systems.
Separation Distances	William Joiner	Joiner Engineering LLC	2. 18 AAC 72.100 (a)(4)(B) – should include all petroleum tanks, excluding propane and natural gas. Is gen-set diesel any different from heating oil? Does not apply to ?500-gallon in aggregate storage of petroleum products. Does this mean it is satisfactory to have 500 gallons of diesel a foot from a well? How about secondary containment, Spill Prevention Control and Countermeasure Plans, so the home owner is aware of the potential danger?	"Heating oil" will be changed to "petroleum". The program doesn't intend to regulate home heating oil tanks or personal use fuel tanks. The separation distance requirement is intended to be the same as currently required. Technical guidance can provide further recommendations for protection of private water systems.

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Soils	Bill Joiner		<p>I just wanted to agree with Jeff there for the codification of ATU loading rates because that is a real problem that I tried to mention earlier in the meeting.</p> <p>Yeah. This is Bill Joiner again. I'd just like to comment on -- back to application rates. Just the application rate of leach chambers versus perforated pipe, that seems to -- it's not real obvious.</p> <p>And I know I just made a comment on it, but it would be nice if we could discuss sometime, speaking of application rates, of the effective infiltration area of leach chambers versus perforated pipe with drain rock. I've commented on this before in my comments I've submitted.</p>	<p>Thank you for your comments. The advanced treatment unit (ATU) application rates have been addressed in other responses. In regards to infiltration chambers, no reduction in absorption area is given. This standard has been contained in the OWSIM and is the generally published standard by the manufacturer. A chamber is essentially a replacement of leach rock and there is no justification why a reduced application rate would be granted. The absorption area must be calculated based on the bottom area of the trench or bed system as fully covered by a chamber, the same area that would be required to be covered by leach rock for a traditional rock and perf pipe field.</p>
Soils	Jeff Garness		<p>I wanted to bring up a comment regarding the soil application rates for drain fields receiving effluent from advanced wastewater treatment systems. And, of course, I've expressed concern that the Municipality of Anchorage codified separation distances -- or not separation distances, but application rates for effluent from advanced wastewater treatment systems in the year 2000, and we have about -- there's actually about 1,000 advanced wastewater treatment systems installed in Anchorage. Now, the comment that I've received back is, "Well, we just can't use that because you can't apply these to, you know, other systems." And in the end, ADEC always ends up making decisions. Sometimes it's their decision as to what the application rate going to be, not the design engineer's. And the reality is, we need to codify this. We can't kick this can down the road for every plan review. We don't know what the application rate is going to be until somebody in your Department decides what it's going to be. And we don't have to use the MOA application rates, but at least let's come up with something, and we can use those as a baseline and maybe, you know, utilize some application rate for a drain field size up to, you know, 1,000 square feet or whatever, you know, whatever the working group decides, but we should not be just ignoring this very important subject. We are not starting from scratch, in terms of the state of Alaska, in dealing with soil application rates for advanced wastewater treatment systems. We've got a baseline of success. So I would like to see us work this out in a working group and come up with something that, you know, everyone would agree on, you know, commercial systems with these sizes of drain fields or whatever, so that we don't design systems, submit them to you, let them get kicked back, then have to charge our clients to redesign systems because we have no idea what you guys are going to accept for an application rate. And in some cases, you know, we get dictated an application rate to us that we disagree with, but our client and us, we don't have the time, resources, or money to keep arguing with DEC about the application rate. And the end result is, we put in a drain field that, from maybe the design engineer's perspective, is way larger than it needs to be and costs our client a bunch of money. All I'm saying -- my comment is, we need to fix this. You know, if you care about the residents of the state of Alaska and making your process affordable, as affordable as possible in terms of plan review, and allowing them to put in septic systems or advanced wastewater treatment systems in as an affordable way as possible, you'll help us get this resolved.</p>	<p>There are established application rates for a conventional soil absorption system (regardless whether it is receiving septic tank effluent or effluent from an advanced treatment unit) contained at Table B in 18 AAC 72 and the proposed regulations do not change this standard. The Department is not considering other application rates in regulation amendments at this time.</p>
Soils	Jeff Garness, PE	Garness Engineering Group, Ltd	<p>72.530 (f)(3) — Here, or elsewhere in the regulation, soil application rates for drainfields receiving effluent (treated to secondary standards) from Advanced Wastewater Treatment Systems (AWWTS) needs to be addressed. This has been a long-disputed issue with ADEC reviewers because the regulation has not addressed it. The Municipality of Anchorage has codified AIMMTS effluent soil application rates and have been successfully applying them for over 20 years. The MOA has roughly 1000 AWWTS systems in operation and decades of data to support the subject soil application rates. Failure to address this issue in 18 AAC 72 will result in the current practice Of ADEC reviewers overriding the ratels proposed by the professional engineer and arbitrarily establishing rates that in some cases cause property owners to install over-sized drainfields. ..sometimes at significant cost. In short, failure to address this will result in continued adverse economic impact to the residents of Alaska.</p>	<p>Regualtions developed by the Department must be protective of human health and the enviroment for the entire state, codes developed for one region do address the vareity of landscapes, soil types, and environmental conditions across all of Alaska. The Department will continue to evaluate waivers and deviations from prescriptive construction standards on a case-by-case basis.</p>

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Soils	Jeff Garness, PE	Garness Engineering Group, Ltd	72.615 (c)(3) — This issue (sizing of absorption fields receiving AWWTS effluent) has been a long-disputed issue between ADEC and the engineering community. See comment #25 above. The soil application rates need to be codified ASAP. In some Alaska residents are being forced by ADEC reviewers to use unreasonably conservative soil application resulting in needlessly oversized drainfields and increased construction costs. I have designed approximately 400 AWWTS systems in Alaska over the last 25 years.	Duplicative comment, see response to similar comments.
Soils	Jeff Garness, PE	Garness Engineering Group, Ltd	Soil application rates for drainfields receiving effluent treated to secondary standards (perhaps short of disinfection) need to codified. In every case an application rate is ultimately determined, and in some cases it is an arbitrary decision made by an ADEC staff member. The application rates may need to be modified/reduced for larger drainfields, but it is something that can and should codified In short, soil application rates should no longer arbitrarily determined by ADEC staff during the plan review process.	Regualtions develeoped by the Department must be protective of human health and the enviroment for the entire state, codes developed for one region do addres the vareity of landscapes, soil types, and environmental conditions across all of Alaska. The Department will continue to evaluate waivers and deviations from prescriptive construction standards on a case-by-case basis.
Soils	Steven Pannone		The Code needs to address the application rates for advanced wastewater systems. It needs to define what is considered an advanced system and the applicable soil application rates. Ignoring that these system have been in use for over 25 years is plain negligence. The Municipality of Anchorage (MoA) spent a considerable amount of time developing a great Advanced Wastewater Code, which the State was a party to the writing and signed off on its use. It should be applied to residential wastewater systems up to 2500 gallons a day. It should also be applied to commercial systems on a case by case basis. But the code should be incorporated into this re-write	Duplicative comment, see response to similar comments.
Soils	Eric Lanser		18 AAC 72.511 As home prices escalate beyond some buyers ability to pay, I think adding the additional expense of paying for soil classification is excessive and unecesary for certified installers.	Without a specific section reference, the Department assumes this comment is in reference to 72.511(c)(2) that requires a homeowner who is installing their own system to have the soils classified by a professional. There is nothing in 72.511 that otherwise implies a Certified Installer cannot continue to visually classify soils installed under their certification.
Soils	Jeff Garness, PE	Garness Engineering Group, Ltd	530 (f)(3) — Table 4 does not address soils that are dual classified soils like GW- GM. GP-GM, GW-GC, and GP-GC. These soils can have percolation rates faster than 1 minute"nch (much like ADEC sand filter material) but contain interstitial silt/clay that would negate the need for a sand filter. If a sieve analysis a soil to be one of the above soils, it is arguable that the installation of a sand filter is unnecessary. Many insitu sands (and imported ADEC sand) "perk" faster than 1 minute per inch, so percolation rate alone should not trigger the need for a sand filter. If a laboratory soil analysis indicated the soil is one of the above dual classifications, I would argue that a sand filter is not required. Please confirm that Table 4 only requires a sand filter for GW or GP soils.	Table 4 includes soil textures that can be related to dual classifications. Article 5 addresses conventional wastewater systems only. Subscript b in Table 4 states the sand liner requirement. If a soil is classified as primarily as GW or GP and perc faster than 1 minute/inch, then a sand liner is required.

**18 AAC 72 Regulations Amendments
Detailed Response to Comments**

Soils	John Barry		<p>18 AAC 72.530. Construction requirements for conventional wastewater systems (f) (3) Table 4 Change to application rate for fine sand: Article 5.4 of the 2016 OWSIM states that the application rate for well graded (SW) and poorly graded (SP) sand should be 150 square feet per bedroom (1.0 gal./sq. ft./day at 150 gal./day), and that if SW or SP soils are encountered the soil may be visually rated by certified installers or engineers. Table 4 in the proposed regulations splits the application rate for sand between 150 square feet per bedroom for medium to coarse sand (SW/SP) and 190 square feet for fine sand (SP). Also in Table 4 the percolation rates overlap: 1-15 min./in. for medium to coarse sand and 6-15 min./in. for fine sand.</p> <p>What is the justification for this change? There have not been any problems with absorption fields built on visually rated fine grained sand in Gustavus. The costs of a sieve analysis to determine the actual sand grain size distribution of a visually rated sand, a perc test or adding 30% more gravelless chambers to a wastewater project will add to the already high cost of constructing the systems here. Based on my experience with installing wastewater disposal systems in the Gustavus area over the last 15 years I have observed that the sand here provides excellent drainage for the absorption area when using gravelless chambers. The current application rate for visually rated SW and SP soils should be retained without changing current well proven practices.</p>	<p>Proposed Table 4 combines the current requirements contained in Table B in 18 AAC 72 while also including an application rate based on sf/bedroom as presented in OWSIM. Table B includes fine sand with a percolation rate of 6-15 min/inch as requiring an application rate of 0.8 gpd/sf which works out to be 187.5 sf/bedroom when using 150 gpd/bedroom. This was rounded up to 190 sf/bedroom which correlates to the requirement in the OWSIM when considering percolation rate only. To have an SW or SP soil, it must contain less than 5% "fines" (passing the #200 sieve) or it will have a classification of SP-SM (as indicated in proposed table 4) or even fully into an SM or ML category depending on the percent. Additionally, the percolation rate of finer grained soils is generally expected to be slower than a soil with no fines. The percent of fines and overall texture of the soil also affect the long term application rate even if a percolation test has a faster rate than expected. The proposed Table 4 assigns appropriate application rates when taking into account both percolation rate and soil classification/texture.</p>
Soils	Steven Pannone		<p>530(f)(3) Table 4 – What is to be done concerning dual classifications of soils? Why not add application rates for advanced treatment effluent? Subscript c, seepage pits work well in soils having a percolation rate greater than 30 mpi...why restrict their use?</p>	<p>Table 4 includes soil textures that can be related to dual classifications. Article 5 addresses conventional wastewater systems only. Subscript c is the same as in current regulations in Table B and is consistent with the 1980 EPA manual.</p>
Soils	William Joiner	Joiner Engineering LLC	<p>4. 18 AAC 72.511 (c)(2)(A) & (B) – Confusing – lab sieve analysis or PE soils report and perc test, then mention perc and loading rates in Table 4. Should combine</p>	<p>72.511(c) applies to homeowner installs which allows two different methods for a homeowner to have the soils classified for the purposes of choosing the appropriate application rate.</p>
Technical Review Committee	Clayton Spitler		<p>72.007: The concept of a technical review committee is a good one, as wastewater industry stakeholders will all bring something useful and different to the table for discussion. It is, in my opinion, such a good idea that a technical review committee should be considered now to review the currently proposed revisions to 18 AAC 72. Doing so would likely help to generate regulations that accomplish the purpose while hopefully significantly decreasing inefficiency, confusion, and review timelines later.</p>	<p>The Department will form working groups and committees for future regulation changes and/or ongoing development of technical guidance manuals.</p>
Technical Review Committee	Clayton Spitler		<p>All stakeholders bring a valuable viewpoint to the table, and we need to work together to generate a good result. ADEC should form a technical review committee (TRC) comprised of interested industry stakeholders (perhaps it has been created but it needs to be formalized), and an iterative approach to revising 18 AAC72 should be implemented, perhaps as follows. It's unknown at this time how many iterations will be necessary, but again, a good product will take time.</p> <p>1. ADEC publishes draft #1 revisions (already performed) 2. TRC submits comments on draft #1 revisions (in process) 3. ADEC publishes draft #2 revisions, revised per TRC comments 4. TRC submits comments on draft #2 revisions 5. ADEC publishes draft #3 revisions, revised per TRC comments</p>	<p>Duplicative comment, see response to similar comments.</p>
Technical Review Committee	Jeff Garness, PE	Garness Engineering Group, Ltd	<p>72.007: A technical committee that includes industry is desperately needed.</p>	<p>Duplicative comment, see response to similar comments.</p>
Technical Review Committee	John Barry		<p>I request ... the reestablishment of the Stakeholder Working Group that was last active in 2017. At the public hearing on February 3, 2022, it was said that the current proposed revisions are based on input from the working group, of which I was I was involved. There are several proposed changes that do not appear in the working group's written record.</p> <p>18 AAC 72.007. Technical review committee: A Technical Review Committee should be convened to review the currently proposed changes to the wastewater treatment and disposal regulations.</p>	<p>Duplicative comment, see response to similar comments.</p>

**18 AAC 72 Regulations Amendments
Detailed Response to Comments**

Technical Review Committee	John Barry		The first one regards the 2017 working group that's been discussed already by some other listeners. I'd like to also give my support for reconstituting that group to review these regulations. As I go through the stakeholder engagement document here, I'm seeing where some of the recommended changes are being implemented in the new regulations, but there's quite a few of the proposed regulations that weren't covered in the stakeholder engagement sessions, in particular the lift stations that we have discussed already. So I would like to see that 11 working group reconstituted and have them review all the proposed regulations and make whatever changes that are going to be more compatible with the industry and the engineers who are installing the systems.	Duplicative comment, see response to similar comments.
Technical Review Committee	Michael Erdman		I also suggest that the Department consider forming a working group of regulators, municipal/utility officials, contractors, and professional engineers to review and develop recommendations regarding the proposed regulatory changes.	Duplicative comment, see response to similar comments.
Technical Review Committee	Mike Erdman		And I would also suggest and request that we reconstitute the stakeholder group or working group of professionals and industry representatives to assist in the final writing and review of these regulations before they go back out for comment.	Duplicative comment, see response to similar comments.
Technical Review Committee	Steven Pannone		A working group between the staff and Industry should be developed to go through these proposed regulations to make corrections. Codes should not be written in a vacuum by staff only. I know that five or six years ago there was input, but it appears that the input was not adequately duplicated to make a workable code for industry.	Duplicative comment, see response to similar comments.
Technical Review Committee	Vanessa Blevins		When these regulations were first promulgated there was a much higher number of engineers in the Department. In the past, the Commissioner was an engineer, the head of Regional Offices were engineers, District Offices Managers were engineers, and there were many more engineers on staff. This provided many checks and balances within the Department which helped prevent technical isolation and ensured predictability in addressing technical issues. These checks and balances are gone. An oversight committee (18 AAC 72.007) is an excellent opportunity to address existing issues with regulatory oversight, even without the proposed expansion in regulatory scope, and the associated higher level of technical responsibility that will be required of limited staff. However, a review committee couldn't be relied on for day to day activity. It would be interesting to see how much delay there would be in a plan review submittal, if it had to wait for the finding of technical oversight committee before moving forward	Duplicative comment, see responseB2:P255 to similar comments.