Chapter 15.65 WASTEWATER DISPOSAL*

***Cross references:** Fines, § 14.60.030; sewer service, Ch. 26.50.

State law references: Wastewater disposal, AS 46.03.020 et seq.

PART I. WASTEWATER DISPOSAL*

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***Editor's note: AO No. 2002-177, § 1, effective Feb. 14, 2003, added Part I title designation to be inserted preceding Section 15.65.005. See the Code Comparative Table.**

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15.65.005Intent and scope of chapter.

A. **Intent.** On-site wastewater disposal systems provide an important, economically efficient, and relatively clean and healthful method of wastewater disposal in areas of the municipality not served by an integrated sewage collection and disposal system. The intent of this chapter is to maintain the public health and environmental quality through the regulation of on-site wastewater disposal.

B. **Scope**. This chapter provides:

1. Minimum standards governing the design, installation and operation of individual on-site wastewater disposal systems and authority to the municipality to administer and enforce these standards and regulations;

2. Prohibitions against wastewater discharges other than through approved means;

3. Authority to the municipality to create and empower limited local on-site sewer districts;

4. Authority to the municipality to require connection to public sewers and the conditions under which such connection must occur; and

5. Minimum standards for new subdivisions that are to be served by on-site wastewater disposal systems.

(AO No. 86-21; AO No. 90-48(S-1))

15.65.010 Definitions.

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Absorption area means that area in a subsurface disposal field used to

absorb treated effluent.

Absorption bed means a shallow excavation, usually rectangular, wider than five feet, containing gravel and perforated distribution pipes, that receives septic tank effluent and allows it to seep into the surrounding porous soil.

Alternative system means a particular design or type of on-site wastewater disposal system or component of a system based upon improvements or development in technology of sewage disposal and not otherwise provided for in this chapter.

Certificate of health authority approval means a written confirmation signed by an engineer and the department certifying that the on-site sewer or water system serving a single-family dwelling is functional and complies with all state and local regulations and codes. In the event of inconsistency among these regulations and codes, the most restrictive shall apply.

Cesspool means a subsurface pit which receives untreated wastewater.

Deep absorption trench means a 12- to 36-inch-wide ditch which contains at least four feet of gravel below the horizontal perforated distribution pipe. It receives treated effluent and allows the effluent to seep into the surrounding porous soil.

Earth privy means a device for the disposal of human excreta in a pit in the earth.

Engineer means a professional civil engineer registered pursuant to AS 8.08.

Gravel means rock measuring 0.5 to 2.5 inches in diameter with no more than three percent of the material passing a number 200 sieve screen (0.074 millimeter diameter openings).

Groundwater means subsurface water permanently or seasonally occupying the zone of saturation.

Hazardous substance means those substances which because of quantity or concentration of physical, chemical or infectious characteristics may pose a substantial threat to human health or the environment when improperly treated, stored, transported or disposed. Hazardous substances include those wastes defined as hazardous under federal, state and local law.

Holding tank means a watertight covered receptacle designed and built to receive and store domestic wastewater for disposal at another location.

Impermeable barrier means material with a percolation rate greater than 120 minutes per inch.

Insulation means two inches or more of high-density direct burial polystyrene insulation or other material of comparable insulating value approved by the department.

Lift station means a tank or chamber accompanied by a pump and related controls used to retain effluent and periodically discharge it.

Limited wastewater *service district* means a group of properties associated for the purpose of disposing of wastewater by a common means as

described in Section 15.65.170.

Malfunction* and *malfunctioning system mean an on-site wastewater disposal system which is not functioning in compliance with the requirements of this chapter or the design of the system. Malfunctions include but are not limited to the following:

1. Absorption systems and disposal systems which allow untreated effluent to seep or flow to the surface of the ground or into waters of the state;

2. Systems which fail to operate in accordance with their designated operation; and

3. Systems discharging effluent which does not comply with the applicable effluent discharge standards.

Mound system means a soil absorption system that is elevated above the natural soil surface utilizing suitable fill material, horizontal perforated distribution pipes, and standpipes.

On-site wastewater disposal system means any wastewater storage, treatment or disposal system serving a single-family dwelling that is not connected to any other system or dwelling. Types of on-site wastewater disposal systems are systems with septic tanks and subsurface disposal fields, alternative systems and holding tanks.

Owner means the person responsible for control of the property on which an on-site wastewater disposal systems exists or for which one is proposed.

Percolation rate means the rate at which water flows or trickles through porous soils, as determined by a percolation test.

Percolation test means a falling-head percolation test as described on page 41 of the U.S. Environmental Protection Agency's design manual entitled, "On-Site Wastewater Treatment and Disposal Systems," 1980 edition, and taken at the depth of a proposed absorption system or similar component of an on-site wastewater disposal system. The test determines the rate at which water is absorbed in the soil.

Public sewer means a sewer that is operated by a public utility as defined in AS 42.05.701, as amended.

Pumper means a person holding a permit issued by the department to pump on-site wastewater disposal tanks.

Repair means to restore or replace a component of an on-site wastewater disposal system, but does not include an enlargement of any component of the system.

Replacement disposal site means an area suitable for an on-site subsurface disposal field which is identified and set aside for that purpose.

Seepage pit means a covered porous walled pit through which treated effluent may seep into surrounding porous soil.

Septic tank means a watertight covered receptacle designed and built to receive domestic wastewater, separate floating and settling solids from the

liquid, anaerobically digest organic matter, store digested solids through a period of detention, and allow clarified liquids to discharge for final disposal.

Shallow absorption trench means a trench five feet or less in width which contains not less than six inches and not more than four feet of gravel below the horizontal distribution pipe.

Subsurface disposal field means an absorption bed, deep or shallow absorption trench, seepage pit or mound system.

Subsurface drain means any subsurface drainage structure which intercepts or diverts underground water flows.

Surface water means any persistent natural or manmade source of water which is not directly attributable to a single rainfall or snowmelt event. Surface water includes all lakes, springs, creeks, streams, intermittent or seasonal flows, natural or artificial bodies of water and waters of the state as defined in AS 5.25.100(5).

Vault privy means an earth privy in which the pit is lined with an impervious material and in which provision is made for the removal of excreta.

Wastewater means water contaminated by human excreta, food wastes, washwater and other liquid wastes commonly discharged into water-carried sewage disposal systems, and such diluting water as may have entered the waste disposal system. Wastewater does not mean liquids containing hazardous wastes as defined by federal, state or municipal law.

Water-carried sewage disposal system means a wastewater disposal system through which wastes are conveyed with the aid of water.

Water table **means the level of saturated soil where the hydraulic pressure is zero. This is the depth at which the free water level stabilizes in an open hole that just penetrates the water table.***Watershed* **means the area which has been zoned under municipal regulations.**

(AO No. 86-21; AO No. 90-48(S-1); AO No. 93-89; AO No. 98-124, § 3, 8-18-98)

Cross references: **Definitions and rules of construction generally, § 1.05.020.**

15.65.015 On-site wastewater system technical review board.

Editor's note: Section 15.65.015 has been recodified as Section 4.50.065 by AO No. 96-152, § 3, effective December 17, 1996; expires December 17, 1999. Section 4.50.065 was then renumbered as Section 4.40.150.

15.65.020 Wastewater discharge restrictions.

A. No person may cause or permit any wastewater to be discharged or disposed of except into an on-site wastewater disposal system

conforming to the standards of this chapter and 18 AAC 72 or into a public sewer in a manner conforming to this chapter and to the tariff and laws governing the utility operating the public sewer.

B. A lot or parcel serving a single-family dwelling and served by a well or public water supply must have an on-site wastewater disposal system conforming to this chapter, or a public sewer.

C. A person may not cause or permit any wastewater to be discharged or disposed of on the surface of the ground or in such a manner that it may gain access to surface water or groundwater except in accordance with provisions of this chapter or the regulations of the state department of environmental conservation.

D. A person may not cause or permit the construction, installation or operation of an excavation that receives wastewater and permits the liquids to seep through the bottom or the sides into the surrounding porous soil except as specifically provided for in this chapter.

(AO No. 86-21; AO No. 90-48(S-1))

15.65.025 Restrictions on discharges into wastewater disposal systems.

A. A person may not cause or permit any machinery cooling water, footing water, surface water or roof drainage water, or hazardous substance to be discharged into any on-site wastewater disposal system.

B. A person may not cause or permit any object or substance to be placed in any on-site wastewater disposal system which might hinder the operation of the on-site wastewater disposal system.

(AO No. 86-21; AO No. 90-48(S-1))

15.65.030 On-site wastewater disposal permits.

A. **Required**. A person may not install or modify an on-site wastewater disposal system, earth privy or vault privy without a permit from the department, except for simple repairs such as piping or moving parts repairs. A separate permit is required for each installation or modification.

B. **Submittal of application**. All permit applications must be prepared by and bear the original signature of the applicant or an authorized representative. Such applications must be submitted to the department on forms provided by the department.

C. **Contents of application for repair or replacement of tanks**. An application for a permit for repair or replacement of tanks such as septic tanks, holding tanks or lift stations must include:

1. The legal description of the property on which the system is located;

2. A description of the proposed repairs; and

3. For proposed repairs involving replacement of the tank, distances from the old tank to all features listed in Section 15.65.050.A that are within 200 feet of the on-site wastewater disposal system.

D. **Contents of application for installation or modification of subsurface disposal field**. An application for a permit for repairs or modification of an existing on-site wastewater system that would involve expansion or construction of a subsurface disposal field, or an application for a permit for a new system, must include:

1. A site plan, bearing the original signature and stamp of an engineer, drawn to standard engineering scale but not smaller than one to 100. The site plan shall show:

a. The location of the on-site well and all components of the on-site wastewater disposal system, including but not limited to all piping and manholes, septic tank or holding tank, lift station, cleanouts, standpipes, the subsurface disposal fields, including all attendant piping, and the replacement subsurface disposal field;

b. Measured dimensions of the on-site wastewater disposal field and distribution piping;

c. Measured distances to all wastewater disposal systems, wells, surface water or drainage courses, roads, property lines and structures within 200 feet of the location of any existing or proposed on-site wastewater disposal systems;

d. The locations of all soils, percolation or water table tests; and

e. A description of the topography, areas of excessive slope, and extent of slopes and surface drainage patterns within 100 feet of any part of the system or portion of the lot intended for use for on-site wastewater disposal;

2. A design of the on-site wastewater disposal system bearing the original signature and stamp of an engineer;

3. The results of soils, percolation and water table tests conducted in accordance with this chapter. For new systems, these tests must be conducted and reported for both the original and replacement subsurface disposal fields; and

4. A narrative description of probable impacts to adjacent properties. The comments must include but are not limited to consideration of:

a. Wells;

b. Wastewater systems;

c. Reserved space or surface, and subsurface; and

d. Drainage.

E. **Records.** The department shall maintain indexed records of all engineering data submitted for permits and inspection reports and make this data available to the public. These data will provide historical information to aid in the design and approval of future systems.

F. **Issuance.** The department shall determine, after review of the application and test results as well as available historic data, whether the proposed system complies with this chapter. The permit may be denied if provisions of this chapter or of accepted engineering and construction practices are not met.

G. **Authority to grant exceptions to requirements**. The department may approve an on-site wastewater disposal system that does not conform to this chapter if the department finds, after consideration of relevant test results, engineering data, publications and other materials, that the system will function as effectively as a system that conforms to this chapter. The applicant shall be responsible for furnishing proof that the system will function as effectively as a system provided for in this chapter.

H. **Inspections; authority to require additional information**. The department may conduct site inspections or require submission of additional information prior to the issuance of permits or health authority certificates. Information may include but is not limited to soil and percolation test results and topographic maps.

I. **Non-liability of department**. Issuance of a permit does not constitute assumption by the department or its employees of liability for the failure of any on-site wastewater disposal system.

J. **Expiration of permit**. A permit for an on-site wastewater disposal system shall expire one year from the date of issuance, but may be renewed for one additional year at no additional fee.

(AO No. 86-21; AO No. 90-48(S-1); AO No. 99-66(S), § 2, 5-11-99)

Cross references: Building regulations, Ch. 23.05.

15.65.033 Certificates of health authority approval.

A. Prior to the transfer by gift, deed or contract of any ownership or use interest in a privately owned, on-site wastewater disposal system, the transferor shall obtain a certificate of health authority approval, as defined in Section 15.65.010, from the department.

1. The requirements of subsection A. of this section do not apply to transfers between spouses.

B. Upon request and subject to the provisions of this section, the department may issue or deny the issuance of a certificate of health authority approval for any dwelling or site which is served by a privately owned wastewater disposal system.

C. Where an on-site wastewater disposal system does not conform to state and/or municipal laws, but no health material hazard is posed by postponing correction of the wastewater disposal system's defects, the department may issue a certificate of conditional health authority approval to extend the period of time for corrective action until weather conditions allow. This certificate of conditional health authority approval may be issued with conditions necessary to ensure that the public health and safety are not endangered.

D. The department shall issue a certificate of health authority approval if the department finds that information provided by an engineer demonstrates that the system for which the certificate is sought conforms to all applicable provisions of this Code, regulations promulgated there under and applicable state statutes and regulations in effect at the time of original installation or at the time of any subsequent modification and does not presently create a health hazard.

E. The department may require that a request for a certificate of health authority approval be on forms provided by the department.

F. All test procedures used to collect the information necessary to meet the requirements of this section shall be approved by the department.

(AO No. 98-124, § 2, 8-18-98)

15.65.035 Permits for manufacturers, installers, excavators and pumpers.

A. A person may not engage in the business of manufacturing, installing, excavating, inspecting, maintaining, pumping or cleaning on-site wastewater disposal systems or in the transportation or disposal of the contents of on-site wastewater disposal systems without first obtaining a permit from the department. An application for a permit under this section must be submitted to the department on a form provided by the department. The department may require attendance at seminars, written or oral competency examinations, and verification of knowledge and experience before issuing a permit.

B. A person responsible for designing, approving or inspecting construction of an on-site wastewater disposal system must be an engineer. The department may conduct or sponsor continuing education seminars for engineers and shall maintain a list, available to the public, of engineers who have successfully completed such a course within the previous two years.

C. Pumpers shall report to the department by noon of the next business day the presence of dye in any pumped effluent.

(AO No. 86-21; AO No. 90-48(S-1))

15.65.040 Use of on-site disposal systems.

A. A person may not construct, install or use an on-site wastewater disposal system except in accordance with the provisions of this chapter or other ordinances, regulations or statutes in effect at the time of system construction. Except as this subsection provides otherwise, an on-site wastewater disposal system must conform to the standards in this chapter, 18 AAC 72, and applicable portions of the Uniform Plumbing Code, as amended. In the event of inconsistency among these regulations and standards, the more restrictive shall apply. All solid pipe used in an on-site wastewater disposal system shall be cast iron, ductile iron, high-density polyethylene, PVC rated by the American Society of Testing and Materials (ASTM) and labeled D3034, or an approved equal pipe.

B. An on-site wastewater disposal system must have a design and actual operational capacity sufficient to dispose of 150 gallons of wastewater per day per bedroom.

C. A lot with an on-site wastewater disposal system must have an original subsurface disposal field and one replacement site.

D. The location of a well, on-site wastewater disposal system or subsurface drain, either separately or in combination with each other and other wells, on-site wastewater disposal systems or subsurface drains in the vicinity, shall not have the effect of prohibiting future residential use of an adjacent lot or parcel. The department may require an agreement and necessary easements with the owner of the affected property for the sharing of a well or other resolution of the problem. The agreement shall be recorded.

(AO No. 86-21; AO No. 90-48(S-1))

15.65.On-site wastewater disposal system operating permits. (Repealed)

(AO No. 93-89; AO No. 93-162, § 1, 8-15-93)

15.65.Septic tanks.

A. A septic tank must be located no less than:

1. Five feet from any property line or building foundation;

2. Ten feet from any water main or water service line;

3. One hundred feet from any surface water; and

4. The separation distances required by 18 AAC 72 from water supply wells.

B. A septic tank must have a minimum working capacity, comprised of

the volume of the septic tank below the bottom of the tank's discharge outlet, of 1,000 gallons plus 250 gallons for each bedroom over three.

C. A septic tank installed after May 20, 1986, shall have a four-inch or larger diameter standpipe with an airtight cap providing effective access to each compartment, and a cleanout installed one to four feet from the building foundation, and in the line between the tank and the distribution system there shall be two adjacent cleanouts. The cleanouts shall be located on undisturbed soil not more than ten feet from the tank. The first cleanout in the line shall be to clean the line toward the distribution system and the second cleanout will be oriented to allow cleaning toward the septic tank.

D. All septic tanks must be fitted at the inlet and outlet with watertight couplings approved by the department.

E. Septic tank manholes must be equipped with gaskets so as to minimize infiltration of water.

F. If a septic tank is not buried or is buried at a depth of four feet or less, the tank must be insulated.

G. A septic tank must be installed only in an area that will continue to be readily accessible to a pump truck. The point of access for the pump truck must be no more than 100 feet from the septic tank. The ground surface at the point of access for the pump truck must not be more than 11 feet higher than the bottom of the septic tank.

(AO No. 86-21; AO No. 90-48(S-1))

15.65.Subsurface disposal fields.

A. **Location**. The location of an original or replacement subsurface disposal field must be in accordance with the following standards:

1. A subsurface disposal field may not be located less than:

a. One hundred feet from the mean annual flood level of any surface water, major drainage course or source of domestic water supply;

b. Fifty feet uphill from any manmade or any natural break in the natural slope of the terrain where the slope changes to 25 percent or greater unless the top of the drainfield is lower in elevation than the toe of the slope;

c. Fifty feet upgradient or 20 feet downgradient from any portion of a subsurface drain;

d. Two times the depth of gravel below the level of the horizontal perforated pipe or ten feet, whichever is greater, from any existing or abandoned subsurface disposal field;

e. Ten feet from any property line;

f. Ten feet from any building or structure foundation;

g. Ten feet from any water main or water service line; or

h. Five feet from any septic tank.

A subsurface disposal field shall be located in compliance with the separation distances required by 18 AAC 72.

2. A subsurface disposal field may not be located:

a. On a slope greater than 25 percent unless the department finds that the system will function effectively and in compliance with this chapter. The department shall base its decision upon the report of an engineer, or on relevant test results, publications, engineering data or similar materials;

b. Where the water table during any season of the year will be within four feet of the bottom of the absorption area;

c. Where there is bedrock or any other impermeable barrier or where fractured or weathered bedrock occurs within six feet of the bottom of the absorption area; or

d. Where surface water may pond over the disposal field.

3. Areas reserved for the original and replacement disposal sites may not have driveways, parking areas or structures over them, except that connecting pipes may be constructed under driveways and parking areas provided the pipes are protected from freezing.

B. **Soil, percolation and groundwater testing**. Soil, percolation and groundwater testing as may be required by this chapter shall conform to the following:

1. Soil, percolation and groundwater table tests must be conducted in accordance with procedures specified in this chapter. The results of such tests must bear the original signature and stamp of an engineer and be submitted on a form provided by the department.

2. Soil and percolation tests must be taken in each soil strata that will be used as absorption area by the subsurface disposal field. If more than one soil stratum is used for the absorption of wastewater, the area-weighted average rating of the soils in the strata proposed for use for absorption must be determined or the absorption areas may be designed on the basis of the least permeable strata proposed for use for absorption.

3. A percolation test shall be applicable to the design of a subsurface disposal field for a radius of no more than 30 feet around the test site. The engineer shall obtain sufficient percolation tests to ensure the required subsurface disposal area exists.

4. A test to determine the depth of the groundwater shall be made no closer than five feet and no more than 30 feet from the proposed or existing subsurface disposal field. The elevation of the bottom of the test hole shall be at least six feet below the bottom of the proposed or existing subsurface disposal field. A perforated plastic pipe or similar device shall be installed and the test hole backfilled and mounded to slope away from the pipe so as to prevent entry of surface water. The water level in the pipe will be measured at least seven days after installation to determine the water table depth below the surface. The department may require that the water level be tested for its response to the sudden addition or withdrawal of water.

5. When initial groundwater monitoring identifies the depth of groundwater table at six feet or less, or when available historic data indicates the highest seasonal groundwater level may be within four feet or less below the bottom of the proposed subsurface disposal system, the department may require monitoring of water levels at least once a month for not more than 12 consecutive months. The department must approve a specific monitoring program.

6. If theproposed subsurface disposal field will be located in an area that has been filled, the engineer shall determine the suitability of the fill for its intended use.

C. **Soil and area requirements**. Soil and area requirements for subsurface disposal fields must meet or exceed the following standards:

1. A subsurface disposal field may not be installed unless a percolation test of the soil to be used for the absorption area demonstrates the percolation rate is 60 minutes per inch or faster.

2. A subsurface disposal field may not be installed in an accepting soil stratum having a percolation rate faster than one minute per inch without installing a filtration layer in accordance with subsection D of this section.

3. The size of an absorption area must be based on the percolation rate of one gallon per day per square foot for the filtration layer or the percolation rate of accepting soil, whichever requires the greater area.

4. Minimum absorption areas may not be less than as determined in accordance with the formula provided for each type of subsurface disposal field using the wastewater

application rates provided in Table 1.

TABLE 1. WASTEWATER APPLICATION RATES FOR SUBSURFACE DISPOSAL FIELDS

TABLE INSET:

Percolation Rate (minutes/inch)and Shallow or Deep Trench Application Rate (gpd/square foot)System Bed Application Rate (gpd/square foot)		
0--1suitablesuitable		
1--5	.2	.8
6--15	.8	.5
16--30	.6	.4
31--60	.45	.3
Greater than 60suitablesuitable		
Filter layer	.0	.7

gpd = gallons per day

D. **Filter materials**.	

Filter materials must meet the following standards:

1. Filter material must be of naturally occurring material;

2. Filter material must be within the following size limits:

   a. The maximum diameter of the smallest ten percent by weight (effective grain size) of the particles shall be between 0.25 (number 40 sieve) and 1.0 millimeters (number 18 sieve);

   b. The ratio of the maximum diameter of the smallest 60 percent by weight of the filter particles to the maximum diameter of the smallest ten percent by weight (uniformity coefficient) shall be less than 4.0;

   c. Not more than five percent by weight of the particles shall be finer than 0.074 millimeters (number 200 sieve);

3. A filtration layer may not be less than two feet thick; and

4. If an engineer elects to submit an alternate design of a filtering layer, the department must be satisfied that it will function in compliance with the intent of this section and will meet all other requirements of this chapter.

E. **General construction standards**. Construction of subsurface disposal fields must be accomplished in accordance with the following standards:

1. Single segments of subsurface disposal fields must not exceed 100 feet in length.

2. From October 15 to April 15, a subsurface soil absorption system under construction during freezing weather must be either:

   a. Opened and closed on the same day; or

   b. Covered, sealed and heated to prevent freezing.

3. All horizontally laid perforated pipe in a subsurface disposal field and the bottom of the excavation must be level.

. The surface of the native soils in subsurface disposal fields must be scarified before backfilling to establish a porous infiltrative surface.

5. After perforated pipe is laid over the six-inch minimum gravel bed in subsurface fields, an additional six-inch layer of gravel must be installed to provide a minimum of two inches of gravel over the perforated pipe.

6. A permeable nontoxic silt barrier must be installed between the final gravel layer and the native soil backfill. Insulation may be used for this purpose as long as it is installed to prevent the intrusion of silt or sand into the gravel layer below the insulation.

7. A subsurface disposal field must be backfilled to a depth of a least 24 inches over the final layer and silt barrier.

8. If the backfilled depth over the final gravel layer is less than 36 inches, insulation must be placed over the top of the final gravel layer.

9. Insulation must be placed over any wastewater line or pipe over which a driveway, parking or vehicle storage area may be constructed.

10. The horizontal separation between subsurface disposal fields or segments of subsurface disposal field must be at least twice the depth of the gravel below the level of the horizontal perforated pipe, but not less than ten feet.

11. The finished grade over a subsurface disposal field must be mounded to prevent the formation of a depression after the backfill soil has settled.

12. A subsurface disposal field must have cleanouts. The cleanouts shall be connected to the underground piping system in such a manner that cleaning can be performed and the disposal field thawed. The cleanouts must be at least four inches in diameter for gravity systems and located near each end of the field.

13. A subsurface disposal field must have vertical monitoring pipes installed. At least one monitor pipe with a minimum

diameter of four inches shall be installed in each disposal field or section of disposal field if the field is not continuous. Monitor pipe is to be perforated to allow liquid level measurement to the bottom of the trench excavation. Non-perforated monitor pipe shall extend from the distribution pipe invert to above ground level.

14. Perforated pipe used in gravity subsurface disposal fields must be four inches in diameter and must meet specifications.

F. **Seepage pit and deep absorption trench types**.

1. The absorption area required for a seepage pit or deep absorption trench is equal to the number of bedrooms multiplied by 150 gallons per day per bedroom and divided by the trench application rate derived from table 1 in subsection C.4 of this section.

2. In calculating the absorption area for deep absorption trenches or seepage pits, only the porous soil strata intended for absorption of wastewater on the side wall of the trench or pit below the lateral distribution pipe may be considered as absorption area.

3. Deep absorption trenches need not be straight, but must run parallel to the contour lines of the slope.

4. A seepage pit may not be used in soils with a percolation slower than 30 minutes per inch.

G. **Shallow absorption trench type**.

1. A standard shallow absorption trench is one in which gravel material extends two inches above and six inches below the perforated distribution pipe and is 12 inches wide.

2. The absorption area required for a standard shallow absorption trench is equal to the number of bedrooms multiplied by 150 gallons per day per bedroom and divided by the trench application rate in gallons per day per square foot derived from table 1 in subsection C.4 of this section.

3. In calculating the absorption area for shallow trenches, only the porous soil strata intended for absorption of wastewater on the bottom and side wall below the lateral distribution pipe may be considered as absorption area. The soil layer used for the absorption area must be a minimum of 24 inches thick below the bottom of the gravel.

4. The required length of trench, for trenches of greater depth of gravel or of greater width than a standard shallow trench, shall be determined by multiplying the length of standard trench required by the appropriate factor derived from the following formula:

Factor = W + 2/W +1 + 2D

where W is the width of the trench in feet and D is the depth of gravel in feet below the distribution pipe.

5. A shallow absorption trench need not be straight but must parallel the contour lines of the ground surface.

H. **Absorption beds**.

1. The absorption area required for an absorption bed must be computed by multiplying the number of bedrooms by 150 gallons per day per bedroom and dividing by the bed application rate in gallons per day per square foot derived from table 1 of subsection C.4 of this section. In calculating the absorption area required for an absorption bed, only the bottom area of the absorption bed may be considered as absorption area. The soil layer used for the absorption area must be a minimum of 24 inches thick below the bottom of the gravel.

2. The bed bottom must be within two inches of level.

3. An absorption bed may not be installed on a ground surface slope greater than ten percent.

4. The width of an absorption bed must not exceed 15 feet without approval from the department.

5. The perforated distribution pipes used in an absorption bed must be no more than six feet apart. The distance between the outermost perforated distribution pipes and the sidewall of the absorption bed must be no more than three feet.

I. **Mound systems**. Mound systems must be designed by an engineer and constructed to meet or exceed the following standards:

1. Any peat or organic matter must be removed from the elevated mound site;

2. Sufficient filtering material as described in subsection D of this section must be placed on top of the accepting stratum of native soil to create a combined total separation from the water table or impermeable strata which equals or exceeds those standards set out in subsection A of this section. The unsaturated accepting stratum must be a minimum of 24 inches thick;

3. The absorption area required for a mound system must be computed in the same way as for an absorption bed, except that the percolation rate used for calculating the absorption area needed for an elevated mound system must be the percolation rate of the accepting stratum of natural soil or the percolation rate of the filtering sand, whichever requires the larger area;

4. The side slope of the top layer of the mound system

exclusive of topsoil must not be steeper than 33 percent;

5. A mound system must function so as to ensure that all treated effluent is contained within the mound area and absorbed into the intended accepting soil stratum;

6. The upper six inches of a mound system must consist of top soil; and

7. The mound must be vegetated sufficiently to prevent erosion.

(AO No. 86-21; AO No. 90-48(S-1))

15.65.070 Holding tanks.

A. A person may not install a holding tank, unless:

1. Public sewer will be available within one year and the use of the holding tank is terminated within 60 days of the date public sewer is available in accordance with Section 15.65.110; or

2. An engineer certifies it is necessary as a remedial measure where an existing on-site wastewater disposal system malfunctions and cannot be repaired, rejuvenated or replaced to bring the system in compliance with this chapter.

A holding tank may be used as a temporary, seasonal measure to allow for repairs of the existing system.

B. A holding tank shall be located no less than:

1. Five feet from any property line or building foundation;

2. Ten feet from any water main or water service line;

3. One hundred feet from surface water; and

4. The separation distances required by 18 AAC 72 from water supply wells.

C. The capacity of a holding tank may not be less than 2,000 gallons and must be increased by 500 gallons for each bedroom over three.

D. A holding tank must be installed in an area that is readily accessible to a pump truck at all times and where overflow during operation or spillage during pumping will not create a health hazard. The access site for the pump truck must not be more than 100 feet from the holding tank. The elevation of the site must not be more than 11 feet higher than the bottom of the holding tank.

E. A holding tank must be secured against flotation under high water table conditions.

F. A holding tank installed after September 25, 1990, must have a six-inch diameter standpipe with an airtight cap to provide pumping access. The standpipe must extend at least 12 inches above the surface of the ground.

G. A holding tank must have a watertight manhole to provide access to the interior of the tank. The manhole must be at least 20 inches in diameter.

H. If a holding tank is not buried or is buried at a depth of four feet or less, the tank and standpipe must be insulated.

I. A holding tank must be equipped with an approved high water level alarm which registers both visually and audibly inside the dwelling. The alarm must be positioned to allow at least 150 gallons per bedroom of additional storage but not less than 300 gallons after the alarm has been activated.

J. A holding tank must conform to the corrosion prevention standards for septic tanks under the Uniform Plumbing Code, as amended.

K. The department may also ensure that the holding tank is designed and constructed so as to perform adequately and maintained and operated appropriately by requiring pumping contracts, operating plans, financial arrangements and other reasonable conditions.

(AO No. 86-21; AO No. 90-48(S-1))

15.65.072 Drainfields (shallow trench) (Repealed)

(AO No. 86-21; AO No. 90-48(S-1))

15.65.075 Absorption beds. (Repealed)

(AO No. 86-21; AO No. 90-48(S-1))

15.65.077 Elevated mound system. (Repealed)

(AO No. 86-21; AO No. 90-48(S-1))

15.65.080 Lift stations.

A. When a lift station is required, the system must be designed by an engineer and have the approval of the department. A design bearing the original signature and stamp of an engineer must be submitted to the department for approval before a permit will be issued. The design must meet the standards contained in this chapter.

B. A lift station must have an approved high water alarm which registers both visually and audibly inside the dwelling. The alarm system must be on a separate electrical circuit from the pump controls. The alarm must be triggered when there is less than 150 gallons of capacity remaining in the tank.

C. A lift station must be accessible at all times.

D. A lift station must be insulated and protected from freezing.

E. Lift stations made of steel shall be internally and externally protected against corrosion.

F. A lift station must be located no less than:

1. Five feet from any property line or building foundation;

2. Ten feet from any water main or service line;

3. One hundred feet from any surface water or major drainage; and

4. The separation distances required by 18 AAC 72 from water supply wells.

(AO No. 90-48(S-1))

15.65.090 Earth privies.

A. Earth privies must be constructed in accordance with the latest edition of the Sanitarian's Handbook, or in a similar manner approved by the department.

B. An earth privy may not be used where running water is available to operate a water-carried wastewater disposal system, except for short periods of time as approved in writing by the department and where the purposes of this chapter are not significantly affected.

C. An earth privy may not be constructed, installed or operated:

1. In low, wet areas, or where the groundwater during any season of the year will be within four feet of the bottom of the privy;

2. Where there is bedrock, fractured bedrock or any impermeable barrier within six feet of the bottom of the privy; or

3. Where there is inadequate surface drainage away from the privy.

D. An earth privy must be located no less than:

1. Ten feet from any water main or service line;

2. Thirty feet from any property line;

3. Twenty feet from any building or structure foundation;

4. Ten feet from any abandoned privy or subsurface disposal field;

5. Fifty feet uphill from any manmade or natural break in the natural slope of the terrain where the slope changes by 25 percent or greater;

6. One hundred feet uphill or 30 feet downhill from a curtain drain;

7. One hundred feet from any surface water or any source of domestic water supply; and

8. The separation distances required by 18 AAC 72 from water supply wells or systems.

E. Abandoned earth privies must be backfilled to 12 inches above the original ground level.

F. An earth privy may not be used in a watershed for a public water supply.

(AO No. 86-21; AO No. 90-48(S-1))

15.65.095 Lift stations. (Repealed)

(AO No. 86-21; AO No. 90-48(S-1))

15.65.100 Vault privies.

A. Vault privies must be constructed in accordance with the latest edition of the Sanitarian's Handbook or in a similar manner approved by the department.

B. A concrete vault privy or other similar facility approved by the department may be used instead of an earth privy for the disposal of human excreta in watersheds for public water supplies when running water is not available.

C. The vault of the facility must be constructed of reinforced concrete, metal or other watertight corrosion resistant material approved by the department. The vault must be maintained in a sanitary condition, and the vault contents must be removed from the watershed and disposed of by burial or another method approved by the department.

D. A vault privy shall be located no less than:

1. Five feet from any property line or building foundation;

2. Ten feet from any water main or service line;

3. One hundred feet from surface water or any source of domestic water supply; and

4. The separation distances required by 18 AAC 72 from water supply wells or systems.

(AO No. 86-21; AO No. 90-48(S-1))

15.65.105 Vault privies. (Repealed)

(AO No. 86-21; AO No. 90-48(S-1))

15.65.110 Connection to public sewer system.

The following are requirements for connection to the public sanitary sewer system:

1. When this section prohibits the operation of an on-site wastewater disposal system that system must be removed or abandoned, and rendered harmless, at the owner's expense.

2. Any lot which is served by on-site wastewater disposal system and for which there is not a second replacement disposal site and to which public sewer is available must connect to the public sewer at such time as the on-site wastewater disposal system fails or requires upgrading. Simple repairs of broken pipes, moving parts, or accidental puncture of the tank may be accomplished in accordance with original design standards.

3. A public sewer system is available to a lot or parcel when:

    a. A public sewer line extends the full frontage of at least one side of the lot or parcel; or

    b. The lot or parcel abuts a cul-de-sac in which a sewer line extends past the center of the bulb of the cul-de-sac.

4. Lots which contain less than 40,000 square feet within lot lines may not construct an on-site wastewater disposal system if the public sewer system has been approved or installed in accordance with Title 19. An approved system means a system which will be under construction within one calendar year from the application for an on-site wastewater disposal system.

5. A person may not operate a holding tank for more than 60 days after a public sewer is available.

6. A property where public sewer was not extended by Title 19 (with the vote and approval of the property owners), will not be assessed for sewers unless the property owner completes a sewer connect permit application. Upon issuance of the sewer connect permit, the property will be assessed through a permission to enter (PTE) or levy upon connection (LUC) procedure.

(AO No. 86-21; AO No. 90-48(S-1))

Cross references: Building regulations, Ch. 23.05; sewer service, Ch. 26.50.

15.65.120 Nonconforming on-site disposal systems.

A. Except as provided in this section, any on-site wastewater disposal system installed pursuant to a construction permit before September 25, 1990, must operate in compliance with the installation and design standards for that system which were in effect when the permit for the installation of the system was issued.

B. Repair of broken pipes, moving parts or perforations of a tank may be accomplished in accordance with original or current design

standards.

C. If a component of an on-site wastewater disposal system malfunctions and is replaced, its replacement must be in compliance with this chapter.

D. Cesspools may not be installed or operated.

(AO No. 86-21; AO No. 90-48(S-1))

15.65.130 Alternative on-site disposal systems.

A. The department shall encourage development of alternative methods of on-site wastewater disposal. Once a year the department shall solicit designs for alternative systems. The department shall submit all proposals to the on-site wastewater technical review board for consideration prior to issuance of a provisional permit and shall provide a reasonable period for public review and comment on any proposal.

B. The department may issue provisional permits allowing the installation and operation of alternative systems which meet or exceed the treatment standards of this chapter and 18 AAC 72. Permits shall be for a period of one year, during which time testing and evaluation of the particular system shall be conducted.

C. Proposed proprietary equipment must be approved by the National Sanitation Foundation and the test and evaluation results must be made available to the department.

D. Anyone proposing to install an alternative system shall submit to the department a description of the system and an effluent testing and reporting program. Tests may include but are not limited to tests for fecal coliform, suspended solids, biological oxygen demand, pH, dissolved oxygen and nitrate nitrogen.

E. The department may require that the person installing the alternative system provide a detailed description of maintenance, operation and abandonment procedures which ensure the alternative system will operate in compliance with applicable laws and regulations.

F. As a condition of issuing a permit for an alternative system, the department may require that a bond payable to the municipality be provided in an amount sufficient to pay the cost of repair or conversion of the on-site wastewater disposal system so that it complies with this chapter.

G. The department may enter into a contract with the installer through which appropriate responsibilities for installation, maintenance, testing, reporting and system abandonment are established and compliance with laws and regulation are ensured.

H. The department may fund all or any part of a nonproprietary alternative on-site wastewater treatment system program.

I. After the period of the provisional permit, the department shall evaluate the contract and the performance and practicability of the system.

J. The department shall propose changes in regulations or ordinances to enable use of the system as a conventional system upon demonstration to the satisfaction of the department of the effectiveness and practicality of the alternative system.

(AO No. 86-21; AO No. 90-48(S-1))

15.65.135 Inspections of on-site wastewater disposal system installation. (Repealed)

(AO No. 86-21; AO No. 90-48(S-1))

15.65.140 Separation distance waivers for on-site disposal systems.

A. When authorized by the state department of environmental conservation, the department may issue waivers of the separation distances required between on-site wastewater disposal systems and those areas specified in 18 AAC 72 by using criteria established by the state department of environmental conservation.

B. The department may issue waivers of the separation distances between on-site wastewater disposal systems and those areas described in this chapter, if the issuance of such waivers will not adversely affect achievement of the objectives of this chapter and will not be in conflict with state law. A written application for a waiver from the separation distances contained in this chapter must be submitted by an engineer and must contain, but need not be limited to:

1. A description of the separation distances from which the waiver is requested and the reasons why the separations cannot be maintained;

2. Information on soil, topography, lot size, anticipated wastewater flow and other technical information relevant to the request;

3. Any measures which are proposed to mitigate adverse effects associated with the waiver;

4. A statement by the engineer identifying all positive and negative impacts associated with granting the waiver request; and

5. A list including addresses and telephone numbers of all adjoining property owners.

C. The department must notify all adjacent property owners at least seven days prior to issuing a waiver unless the applicant submits notarized letters of non-objection from the owners of adjacent

property.

D. The department must review each waiver request and must issue a written decision. A denial of a waiver request must include reasons for the denial. A record of the request, review and analysis procedure, and approval or denial shall be maintained by the department for public inspection.

(AO No. 90-48(S-1))

15.65.145 Subdivision standards. (Repealed)

(AO No. 86-21; AO No. 90-48(S-1))

15.65.150 Inspections of on-site disposal system installations.

A. An on-site wastewater disposal system may not be backfilled, completed or used until the department or an engineer has inspected and approved the installation in accordance with this section. The department must be notified at least two hours prior to any inspections.

B. Inspection reports for replacement or modification of system components may encompass only those features appropriate to the specific component.

C. There must be a minimum of two inspections during installation of an on-site wastewater disposal system, except holding tanks.

1. The first inspection must be conducted after the excavation of ditches, pits, trenches or beds and before any gravel is placed in the ditches, pits, trenches or beds. A septic tank may be set in place, but may not be backfilled before this inspection.

2. The second inspection must be conducted after the placement of the filter material, gravel, distribution lines, standpipes, cleanouts, silt barriers and insulation, but before the placement of any other backfill.

D. A holding tank installation must be inspected after the tank has been set in place and all piping and controls have been installed, but before the placement of any backfill.

E. Within 30 working days from the date of the final inspection of an on-site wastewater disposal system, an inspection report, including but not limited to the information described in subsection F of this section, shall be submitted to the department by the owner or his agent. The report must bear the seal of an engineer and be on a form and to standards prescribed by the department.

F. The final inspection report shall include:

1. An as-built plan to an appropriate scale on an 8 1/2- by 11-

inch sheet showing the location of all system components. The as-built plan shall also show all features described in Sections 15.65.040 and 15.65.050 and 18 AAC 72.

2. A profile of the on-site system which provides the relative elevation of the following with respect to an actual or assumed elevation mark:

   a. Invert elevations of tank inlets and outlets;

   b. The invert elevation of the beginning and end of all distribution pipes;

   c. The elevation of the ground surface, the monitoring well bottom and the water table at all monitoring wells; and

   d. A description of the location of the elevation mark.

3. From at least one tank standpipe and at least one drainfield standpipe, accurate distances to at least two points readily locatable under winter conditions.

4. A soils log of the pit or trench walls and bed of the subsurface disposal field if the soils differ from conditions upon which the permit was based.

5. Justifications for all departures from permit conditions.

6. Copies of all agreements required by Section 15.65.040.D.

(AO No. 86-21; AO No. 90-48(S-1))

15.65.160 Maintenance requirements for on-site disposal systems.

A. The property owner shall be responsible for maintenance of the on-site wastewater system so as to comply with the intent of this chapter and for the abatement of any nuisance or health hazard arising from its malfunction.

B. Septic tank maintenance shall meet or exceed the following requirements:

1. A septic tank must be inspected to determine the need for pumping and cleaning at least once each year unless it has been pumped within the preceding two-year time period;

2. Inspection shall be by an engineer or by a person holding a permit to perform that work under Section 15.65.035;

3. The septic tank shall be pumped and cleaned within seven days of the inspection if two inches or more of floating scum, or 24 inches or more of sludge, is present in the second compartment of the septic tank;

4. Pumping and cleaning shall be accomplished by a person holding a permit to perform that work issued under Section

15.65.035; and

5. The owner or his agent shall furnish to the department within ten days a completed form prescribed by the department which certifies the results of the inspection or of the pumping and cleaning.

(AO No. 90-48(S-1))

15.65.170 Limited wastewater assessment-service districts.

A. **Establishment.** A limited wastewater assessment-service district may be established by ordinance for the following capital and service functions that will be charged for or financed by assessment, taxes or private corporation financing. This is for lots platted before May 20, 1986, and not intended for development of subdivisions.

1. Such district may be established for the purpose of treating and disposing of wastewater for dwellings and facilities that are unable to utilize individual on-site wastewater disposal systems. The design, construction and operation of a wastewater disposal system serving less than five dwellings and delivering septic tank effluent via gravity or pressure lines to a community disposal field or to a public sewer will be allowed. The charges for the capital improvements and services are to be allocated in accordance with Title 19.

2. Supervision of the assessment-service districts shall be by a board of supervisors appointed or elected, as determined at the election at which the creation of the assessment-service district is approved by the property owners residing within the proposed boundaries. The development of preliminary information required for balloting of the assessment-service district and all costs associated will be paid for in advance by the district. This would include preliminary engineering, characterization of soil conditions, seasonal groundwater fluctuations and other potential environmental constraints; also, ongoing service charges for operations, maintenance, debt service and reserves required after the project is operational.

3. Districts shall utilize procedures outlined in Title 19 for capital improvements and Title 27 for providing services.

B. **Assistance by municipality**. In support of the furnishing of such functions, the board of supervisors may request the assistance of the municipality with the following duties:

1. Contract with licensed septic tank service persons for the performance of responsibilities under subsection A.1 of this section.

2. Acquire lands and rights-of-way in accordance with Chapter 25.20 under subsection A of this section.

3. Enter in accordance with Title 7 into contracts for the design and supervision of construction, and the construction of facilities under subsection A.2 of this section.

C. **Fees**. The disposal of pumped effluents or connection to the public sewer system will be in accordance with municipal wastewater utility tariff.

D. **Standards and procedure for approval**. It shall be demonstrated to the satisfaction of the assembly prior to the placing on the ballot of a proposition for the formation of an assessment service district that:

1. Under subsection A.1 of this section, the public health, safety and welfare would be enhanced.

2. Under subsection A.2 of this section that:

a. Neither individual on-site wastewater systems, nor connection to an existing public sewer, is feasible for one or more particular lots or tracts.

b. The proposed work and the estimated construction costs are feasible for the district proposed to be incorporated within the assessment-service district.

After approval under these standards, the department shall conduct not less than two public meetings with adequate notice to property owners that may be affected. If approved by the property owners, there will be a public hearing before the assembly.

E. **Financing.** The provision of services will be paid by mill levy within such an assessment-service district.

1. The mill levy each year shall be adequate to support operation, maintenance, debt service, and a reserve for repairs and replacements.

2. All accounting, money management, assessment collection and assigned rate of collections shall be provided by the municipality.

3. The municipality is to be reimbursed for services rendered.

4. It is not the intent for limited wastewater assessment-service districts to be designed, managed, operated or funded by the municipal wastewater utility. Financing of the project will be borne by the district.

(AO No. 90-48(S-1))

15.65.180 Subdivision standards for lots to be served by on-site disposal systems.

A lot in a proposed subdivision that is to be served by an on-site wastewater disposal system must conform to the following standards:

A. The minimum area of any lot must be 40,000 square feet within lot lines. The department may require a larger lot area where necessary to meet the requirements of this section.

B. Each lot in a proposed subdivision must contain minimum reserved space suitable for the original and two replacement on-site wastewater disposal systems. The minimum reserved area may be determined by either of the following two methods:

1. Total reserved area requirements may be determined from the table 2 without consideration of subsurface disposal fields or the number of bedrooms allowed on the plot.

TABLE 2

TABLE INSET:

Percolation Rate (minutes/inch)	Total Reserved Area (square feet)
1--5	10,000
5--12	12,000
12--24	14,000
24--60	16,000

2. The lot must contain sufficient area to provide for structures, and a well or other water source, and sufficient area for an original on-site wastewater disposal system and two replacement subsurface disposal fields designed in accordance with the standards and procedures of Sections 15.65.040, 15.65.050 and 15.65.060. The plat must designate the maximum number of bedrooms allowed on each lot. The area to be used for wastewater disposal system and replacement subsurface disposal fields must be designated on the plat for each lot as being unavailable for use for driveways, parking areas or structures.

C. A holding tank shall not be considered as either the original or replacement site for on-site wastewater disposal.

D. This section does not apply to subdivisions that received preliminary plat approval before May 20, 1986.

E. Proposed subdivisions containing on-site wastewater disposal systems which are permitted under Section 15.65.030 may be approved without conforming to this section if the density of existing and proposed housing in the subdivision as currently zoned, the number of bedrooms in the existing structures in the subdivision and the number of lots in the subdivision are not increased and:

1. The lot sizes do not decrease except for reasons described under subsection E.2. of this section; or

2. Upon application for a variance to the department of health and human services, the subdivision owner(s) demonstrate that:

a. Lot sizes must be decreased in order to resolve a surveying error, provided the decrease in lot size of any one lot does not exceed 15 percent of the lot size prior to the decrease; and

b. Strict application of this section would be impractical and unreasonable or not in the best interests of the public health, safety or welfare; and

c. The granting of a variance would not be detrimental to the public welfare or injurious to other property; and

d. The variance will not nullify the intent and purpose of this chapter; and

e. Undue hardship would result from strict compliance with the requirements of this section.

(AO No. 90-48(S-1); AO No. 96-15, § 1, 3-5-96)

Cross references: Subdivision standards, generally, Ch. 21.75; subdivision standards, improvements, Ch. 21.85; building regulations, Ch. 23.05.

15.65.190 Reserved.

PART II. ADVANCED WASTEWATER TREATMENT SYSTEMS

15.65.200 Definitions.

Advanced wastewater treatment systems (AWWTS) means all wastewater disposal systems, designs or types, that use advanced technology to provide a higher quality effluent than a conventional septic system as defined in 15.65.040 through 15.65.100.

$CBOD_5$ means five day carbonaceous biochemical oxygen demand.

TN means total nitrogen.

TP means total phosphorus.

TSS means total suspended solids.

(AO No. 2002-177, § 2, 2-14-03)

15.65.210 Regulation of AWWTS.

A. Refer to 15.65.005 for the general authority of the municipality.

B. The municipality may reject, revoke, suspend or otherwise limit or restrict a license, certificate or permit granted under this section if the municipality finds it to be in the best interest of the health, safety and welfare of the citizens of the municipality.

C. All design changes to AWWTS must be approved by the municipality.

D. The municipality may require specific AWWTS in areas it deems necessary for the protection of groundwater resources and public health.

(AO No. 2002-177, § 2, 2-14-03)

15.65.220 AWWTS selection and acceptance procedures.

A. AWWTS shall be regulated by their performance. The categories for system performance are defined in 15.65.310, 15.65.320 and 15.65.330.

B. The administration with the advice of the On-Site Systems Technical Review Board shall determine:

1. **Selection of proposed systems:** The designs (types) of systems selected for testing under this program.

2. **Number of designs (types) of systems to be tested:** The number of different designs (types) of systems selected for testing during any one annual period. This number may vary depending on staffing levels within the department, complexities of systems, numbers of individual systems tested and other variables.

3. **Number of systems of each design (type) to be tested:** Testing shall occur on a predetermined number of systems of each design (type) proposed and shall range from two to five individual systems. This number may be based on the complexity of the system, the number and locations of any other systems currently operating, the projected reliability of the system and other considerations.

4. **Acceptance procedures:** Following the annual testing period, the design (type) shall either be approved for standard construction permitting and installation within the municipality under one of the categories defined in 15.65.310, 15.65.320 and 15.65.330, or the system shall be rejected for use with the municipality. Acceptance or rejection shall be based on sampling results, general performance and reliability of the system and other considerations deemed important by the department. A system passing all testing requirements for category I, II or III defined in 15.65.310, 15.65.320 and 15.65.330 and functioning adequately for the entire annual testing period shall be accepted for general use in the municipality.

C. A system selected for the testing program that does not meet the requirements for a category II or category III, defined in 15.65.320 and 15.65.330, may be accepted as an AWWTS for installation as a category I system, defined in 15.65.310, if it meets those requirements. Maintenance and repair requirements shall be identical to those specified when the system was accepted for testing under this chapter.

D. The sampling period to determine acceptance or rejection and regulatory category shall occur over a period of 12 consecutive months.

(AO No. 2002-177, § 2, 2-14-03)

15.65.230 Appeal of rejection or category classification.

A. Following the annual testing period, the system representative may request a hearing on the rejection or category classification of the AWWTS system. The hearing shall be conducted pursuant to Chapter 3.60 of this Code. Justification for the rejection or classification shall be determined by the department and must be in writing.

B. Any decision to reject, revoke, suspend or otherwise limit or restrict a license, certificate or permit granted under this section shall be effective immediately and is final.

(AO No. 2002-177, § 2, 2-14-03)

15.65.240 General requirements for all sampling procedures.

A. Qualified disinterested individuals must conduct all sampling. The department shall maintain a list of qualifications required of those individuals who will conduct the sampling.

B. A sampling schedule shall be submitted to the department for approval prior to the start of the annual sampling period. Deviations from this proposed schedule shall receive prior approval from the department. Any required system start-up time shall be included in this schedule.

C. The department reserves the right to collect random samples at its discretion.

D. All samples shall be delivered to a laboratory certified by the State of Alaska for each parameter tested. A copy of the results of all samples shall be mailed directly to the department by the laboratory.

E. A portion of the annual sampling program may be conducted a second time with the prior approval of the department. Approval shall be granted based on valid reasons for discarding the first sample results. The justification for re-sampling shall be determined by the department.

F. All sampling shall be approved by the department and accomplished according to accepted industry standards and procedures.

(AO No. 2002-177, § 2, 2-14-03)

15.65.250 Specific requirements for all sampling procedures.

A. All systems selected for testing as an AWWTS shall undergo a one-year minimum sampling program. The sampling regimen shall meet the following requirements:

1. **$CBOD_5$ and TSS.** The arithmetic mean of the $CBOD_5$ and TSS values for the effluent samples collected (whether grab or composite technique is used) during a sampling period shall meet requirements in 15.65.310, 15.65.320 and 15.65.330.

    a. *Year long sampling:* A minimum of 12 consecutive monthly samples shall be collected approximately 30 days apart. One sample result from subsection 15.65.250.A.1.b, Month Long Sampling, may be used as one of the 12 monthly samples required by this paragraph.

    b. *Month long sampling:* A minimum of 4 consecutive weekly samples shall be collected approximately seven days apart. One sample result from subsection 15.65.250.A.1.c, Week Long Sampling, may be used as one of the four monthly samples required by this paragraph.

    c. *Week long sampling:* A minimum of seven daily samples shall be collected on a separate day of seven consecutive days.

2. **Fecal coliform.** The geometric mean of the fecal coliform values collected during a sampling period shall meet the requirements in 15.65.310, 15.65.320 and 15.65.330.

    a. *Year long sampling:* A minimum of 12 consecutive monthly samples shall be collected approximately 30 days apart. One sample result from 15.65.250.A.2.b Month Long Sampling, may be used as one of the 12 monthly samples required by this paragraph.

    b. *Month long sampling:* A minimum of 4 consecutive weekly samples shall be collected approximately seven days apart. One sample result from 15.65.250.A.2.c Week Long Sampling, may be used as one of the four monthly samples required by this paragraph.

    c. *Week long sampling:* A minimum of seven daily samples shall be collected on a separate day of seven consecutive days.

(AO No. 2002-177, § 2, 2-14-03)

15.65.260--15.65.290 Reserved.

PART III. ADVANCED WASTEWATER TREATMENT STANDARDS

15.65.300 Baseline system standards.

A. A passive dual compartment septic tank, with or without a lift station, and subsurface soil absorption field which meet the requirements of 15.65.050 and 15.65.060 should have anticipated effluent concentrations from the treatment (septic) tank with the following characteristics:

1. $CBOD_5$ . . . 300 mg/l.
2. TSS . . . 250 mg/l.
3. TN . . . 60--80 mg/l.
4. TP . . . 15 mg/l.
5. Fecal Coliform--1.5×10^6 col./100 ml.

B. A Baseline System that does not incorporate any advanced treatment technology or moving parts (except a lift station) shall not require an AWWTS maintenance and repair contract and is not considered advanced technology.

(AO No. 2002-177, § 2, 2-14-03)

15.65.310 Category I, Wastewater Treatment Standards.

A. A Category I system design (type) using advanced treatment technology is a system comprised of a tank or tanks, filters, air pumps (or other devices), which fails to meet the requirements of a Category II system.

B. An advanced treatment system which undergoes the annual sampling regimen and fails to meet the requirements of Category II, may be installed as a Category I system. Maintenance and repair requirements shall be identical to those specified when the system was accepted for testing under this chapter.

(AO No. 2002-177, § 2, 2-14-03)

15.65.320 Category II, Wastewater Treatment Standards

A. A Category II system design (type) using advanced treatment technology, comprised of a tank or tanks, filters, air pumps (or other devices), shall produce an effluent, prior to discharging to the disposal field, with the following characteristics:

TABLE INSET:

$CBOD_5$ and TSS	mg/l	mg/l	mg/l
Fecal Coliform	,000 col/100 ml	,000 col/100 ml	100,000 col/100 ml

(AO No. 2002-177, § 2, 2-14-03)

15.65.330 Category III, Wastewater Treatment Standards.

A Category III system design (type) using advanced treatment technology, comprised of a tank or tanks, filters, air pumps (or other devices), shall produce an effluent, prior to discharging to the disposal field, with the following characteristics:

TABLE INSET:

Parameter Long Sampling Long Sampling Long Sampling			
$CBOD_5$ and TSS	mg/l	mg/l	mg/l
Fecal Coliform	,000 col/100 ml	,000 col/100 ml	30,000 col/100 ml

(AO No. 2002-177, § 2, 2-14-03)

15.65.340 Nitrogen reducing systems.

A. All category I, II and III systems, defined in 15.65.310, 15.65.320 and 15.65.330, may be additionally classified as Nitrogen Reducing Systems if their effluent meets the following nitrogen characteristics:

1. *Year long sampling:* The arithmetic mean of the TN values for the effluent samples collected (whether grab or composite technique is used) during an annual period shall not exceed 20 mg/l. A minimum of 12 monthly samples shall be collected approximately 30 days apart.

2. *Month long sampling:* The arithmetic mean of the TN values for a minimum of four effluent samples, each collected (whether grab or composite technique is used) on a separate day approximately seven days apart during a period of 30 consecutive days (monthly) shall not exceed 30 mg/l.

3. *Week long sampling:* The arithmetic mean of the TN values for a minimum of seven effluent samples, each collected (whether grab or composite technique is used) on a separate day of seven consecutive days shall not exceed 40 mg/l.

B. The Municipality shall have the authority to require nitrogen-reducing systems in areas it deems necessary for the protection of

groundwater resources and public health.

(AO No. 2002-177, § 2, 2-14-03)

15.65.350 General design requirements.

A. Components of wastewater treatment systems being evaluated as AWWTS and those systems approved as AWWTS shall meet all requirements set forth in this chapter, the Uniform Plumbing Code (latest adopted revision), and The Standards and Specifications for Component Parts and Materials used in Construction of On-Site Wastewater Disposal Systems, issued by the department.

B. Alarms or warning devices. Any system component utilizing a mechanical device shall be provided with an automatic visual or audible means of notifying the user of the system of a mechanical device failure.

1. Any alarm that is electrically powered is to be on a separate circuit from the circuit supplying power to the mechanical device.

2. An alarm indicating the failure of a pump shall remain audible or visible until manually turned off.

3. Where duplex-pumping equipment is employed to provide continuous component operation in the event that one pump fails, the pumps shall be installed in such a manner so as to provide the continuous operation automatically.

4. The control panel and electrical panel shall be outside or in a location visible and accessible to the system maintainer and municipality personnel.

C. Accessibility. The design of a system shall include provisions to provide access to all components that require maintenance and repair or observation.

D. Anchoring system components. A treatment tank or holding component to be installed in an area subject to saturated conditions shall be installed so as to prevent flotation.

E. Frost protection. All system components shall be designed for protection from freezing temperatures that could detrimentally affect component operation.

F. Disposal field sizing. Wastewater disposal fields shall be sized according to the requirements of the following table:

EFFLUENT APPLICATION RATES

TABLE INSET:

1--5	.2 gal./day/ft^2	.8 gal./day/ft^2	gal./day/ft^2	gal./day/ft^2
6--15	.8 gal./day/ft^2	.5 gal./day/ft^2	gal./day/ft^2	gal./day/ft^2
16--30	.6 gal./day/ft^2	.4 gal./day/ft^2	gal./day/ft^2	gal./day/ft^2
31--60	.45 gal./day/ft^2	.3 gal./day/ft^2	gal./day/ft^2	gal./day/ft^2
60--120/A/A	.5 gal./day/ft^2	.5 gal./day/ft^2		

G. The above application rates for Category II and Category III systems are valid for systems using a discharge pump or timed dosage only. Category II and Category III systems using gravity feed without timed dosage shall be allowed 50 percent of the above application rates.

H. All categories must use a sand filter layer in gravel soils that have a percolation rate of less than one minute per inch.

I. System rating. All AWWTS evaluated by the performance standards of this section shall have a category rating assigned by the department. The rating shall be determined by the sampling results, and the category limitations.

J. The discharge of domestic wastewater to the ground surface is prohibited, including wastewater treated by any advanced treatment technology.

(AO No. 2002-177, § 2, 2-14-03)

15.65.360 Maintenance and repair.

A. **General.** Due to the potential for degrading surface water and ground water quality or jeopardizing the public health, or both, routine maintenance and repair of AWWTS is required.

B. **Advanced wastewater treatment systems maintenance and repair covenant to run with the land.** Pursuant to 15.65.370, and in order to assure maintenance and repair is performed in a timely manner, an AWWTS Maintenance and Repair Covenant to Run with the Land between the system owner and the municipality is required. A system designated as an advanced treatment system, whether category I, II or III, defined in 15.65.310, 15.65.320 and 15.65.330, shall meet this requirement.

C. Existing systems. All existing advanced treatment systems installed prior to the passage of this ordinance shall be required to meet all maintenance and repair requirements required by this section. Existing maintenance and repair agreements on advanced treatment systems shall be replaced with an AWWTS Maintenance and Repair Covenant to Run with the Land between the system owner and the

municipality.

D. **Qualifications to perform maintenance and repair**. Individuals who perform maintenance and repair on advanced treatment systems must be certified by the system manufacturer as adequately trained and familiar with the treatment processes and maintenance and repair procedures for these specific systems.

E. **Certification approval**. The municipality shall have the right to accept or reject a manufacturer's certification process for maintenance and repair personnel referenced in 15.65.350D. This certification process shall be approved by the municipality prior to the acceptance of a specific system design (type) for the annual testing program.

F. **Revocation of AWWTS approval**. The municipality may revoke a manufacture's AWWTS approval if the manufacture fails to adequately maintain a sufficient certification process for maintenance and repair personnel pursuant to 15.65.350D and E.

G. **Certificates.** The manufacturer shall issue a certificate to each individual trained to maintain AWWTS. This certificate shall be issued only after the individual has completed approved training by the manufacturer (or approved designee) for each type of advanced treatment system to be maintained. The certificate shall specifically list each type of AWWTS for which the holder has been trained and certified. A copy of this certificate shall be provided to the municipality. The municipality shall maintain a listing of all approved maintenance and repair personnel.

(AO No. 2002-177, § 2, 2-14-03)

15.65.370 Covenant to run with the land required; application; contents.

A. **Covenant to run with the land is required**. Before a permit, license or Certificate of On-Site Systems Approval can be issued for an AWWTS; a covenant to run with the land must be signed between the municipal manager or his designee and the system owner. The applicant shall enter into an AWWTS Maintenance and Repair Covenant to Run with the Land with the municipality in accordance with this chapter.

B. **Application.** Application for an AWWTS maintenance and repair covenant to run with the land shall be made to the department. The application shall include a signed copy of the AWWTS Maintenance and Repair Covenant to Run with the Land, a copy of the standard specification guidebook for AWWTS, a proposed schedule of all preventive maintenance and repair, and an engineer's estimate of the cost of each required maintenance and repair item. The Municipality may require a showing of the applicant's financial responsibility.

C. **Contents**. The AWWTS maintenance and repair covenant to run with the land shall include but need not be limited to the following

provisions:

1. A written schedule of proposed routine maintenance and repair to be performed on the system at intervals which will be approved by the department and will be based on the type of AWWTS contemplated by the applicant.

2. A binding list of fines or penalties that would be applied to the owner of the AWWTS if the maintenance and repair provisions of the AWWTS covenant to run with the land are not performed as scheduled.

3. The consent of the homeowner that only maintenance personnel certified by the municipality will inspect and make any necessary repairs to the systems.

4. The consent of the homeowner allowing the municipality reasonable access to test and inspect the system with 24 hours notice.

5. The consent of the homeowner that any sale or transfer of title of the property will not occur without a Certificate of On-Site Approval and a new AWWTS Maintenance and Repair Covenant to Run with the Land signed by the new owner of the property.

6. The AWWTS Maintenance and Repair Covenant to Run with the Land shall specifically adopt by reference the relevant provisions of the standard specification guidebook for AWWTS and this chapter.

D. The department shall create and maintain a standard specification guidebook for AWWTS. The standard specification guidebook for AWWTS shall include but need not be limited to the following:

1. Specific maintenance intervals for the various approved AWWTS.

2. Specific information on the various types of AWWTS designed to assist the public in the selection of an AWWTS and educate the public about the necessary maintenance and repair and upkeep of AWWTS.

3. Health consequences for failure to perform routine maintenance according to the required schedule.

4. Financial consequences for failure to perform routine maintenance according to the required schedule.

5. Specific fines and penalties applied after specific number of days elapsed without maintenance and repair being performed.

(AO No. 2002-177, § 2, 2-14-03)