

(c) *Vacuum-breaker.* If the water supply inlet cannot be raised above the maximum possible water level, an approved type of vacuum-breaker shall be installed between the control valve and the fixture in such manner that no back-siphonage is possible under any degree of vacuum in the water lines and with water in the fixture at the maximum possible water level. For positive protection each such fixture shall have a vacuum-breaker installed 4 inches above the maximum water level.

(d) *Maximum water level.* The maximum possible water level referred to heretofore shall be construed as the height to which water can rise in a fixture, tank or vat before it flows freely into the open atmosphere above the fixture rim or through adequate size openings so designed as not to be obstructed by debris or waste matter.

(e) *Impure liquids.* Fixture contents against which back-siphonage protection shall be maintained include all polluttional material, sewage, waste water, processing liquids, chemicals, and all water and other liquids which can be polluted at some time or other.

(5) SPECIAL EQUIPMENT PROTECTION. All water supply equipment and appliances serving special fixtures shall conform with the intent and purposes of this section. Any unusual use for water, as for air-conditioning equipment, hydraulic elevators, presses, fountains, etc., shall be given special consideration in relation to possible pollution of the pure water supply system.

(6) IMPROPER LOCATION OF SEWERS AND DRAINS. Sewers and drains shall never pass directly over water tanks or any place where drinking water, ice, or food is prepared, handled, or stored.

(7) DUAL WATER SUPPLIES. The maintenance of a pressure system of water supply whose purity is questionable, such as cistern water, in the same building in which a pure water supply exists is discouraged, especially if the water is piped throughout the building and not confined to a certain section for special uses or processing. The piping containing such impure water supply shall be painted red and properly labeled at intervals. Under no circumstances shall the two supplies be cross-connected or provision made for their cross-connection. No cross-connection shall be made between piping connected to a public water supply system and piping of a private water supply system. See H 62.22 (40).

H 62.20 Private domestic sewage treatment and disposal systems.

(1) APPROVALS AND LIMITATIONS. (a) *Allowable use.* Septic tank and effluent absorption systems or other treatment tank and effluent disposal systems as may be approved by the department may be constructed when no public sewerage system is available to the property to be served or likely to become available within a reasonable time. All domestic wastes shall enter the septic or treatment tank unless otherwise specifically exempted by the department or this section.

(b) *Public sewer connection.* Private domestic sewage treatment and disposal systems shall be discontinued when public sewers become available to the building served. The building sewer shall be disconnected from the private system and be connected to the public sewer. All abandoned septic tanks and seepage pits shall have the contents removed and shall be immediately filled with sand, gravel or similar material.

(c) *Plans and specifications.* 1. Public buildings. Complete plans and specifications shall be submitted to the department and written approval received before letting contracts or commencing work for all private domestic sewage treatment and disposal systems, and for the addition to or replacement of existing systems for all public buildings. Included as public buildings but not limited by enumeration herewith are:

- a. Theaters and assembly halls
- b. Schools and other places of instruction
- c. Apartment buildings, hotels and places of detention
- d. Factories, office and mercantile buildings
- e. Mobile home parks, camp grounds and camping resorts
- f. Parks

2. Local approval. The approval by county or other local governmental agency shall not exempt the requirements for state approval for the installation of sewage treatment and disposal systems serving public buildings.

3. Submission of plans and specifications. All plans and specifications shall be submitted in triplicate and shall include the following:

a. Detailed plan of the proposed septic tank or treatment tank and effluent disposal system showing building location with all lateral distances indicated, including distance from building served to system, from system to well, lot line, lake, stream or other watercourse.

b. Legal description of the property on which the system is to be installed.

c. Soil boring and percolation test data.

d. Ground slope and lot size.

e. Complete data relative to the expected use and occupancy of the building to be served.

4. Availability of plans. There shall be maintained at the project site one set of plans bearing the department's stamp of approval.

(d) *Specific limitations.* 1. Cesspools. Cesspools are prohibited.

2. Revised plans. Approved plans and specifications shall not be revised except with the written approval of the department.

3. Industrial wastes. When industrial wastes are intended to be disposed of by soil absorption, the department shall be consulted as to requirements.

4. Clear water. The discharge of surface, rain and other clear water into a private domestic sewage disposal system is prohibited.

(2) **SOIL TESTS AND SITE REQUIREMENTS.** (a) *Soil tests supervision.* Soil boring and percolation tests shall be made by or under the direction and control of a master plumber, or master plumber restricted licensed in Wisconsin to install private sewage disposal systems or an engineer, architect, surveyor or sanitarian registered in Wisconsin. Certification of the tests shall be signed by the person providing supervision and control on blank forms furnished by the department.

(b) *Percolation and boring tests.* The size and design of each proposed soil absorption system shall be determined from the results of soil percolation tests and soil borings conducted in accordance with this section. At least 3 percolation tests shall be conducted with the holes located uniformly over the area and to the depth of the proposed absorption system. At least 3 soil borings shall be dug to a depth

at least 3 feet below the bottom of the proposed system. The borings shall be distributed uniformly in the area of the proposed system.

(c) *Septic tank location.* No tank shall be located within 5 feet of any building or its appendage, 2 feet of any lot line, 10 feet of any cistern, 25 feet from any well, reservoir, swimming pool or the high water mark of any lake, stream, pond or flowage. Where practicable, greater distances should be maintained.

(d) *Soil absorption site.* 1. Location. All soil absorption disposal systems should be located at a point lower than the surface grade of any nearby water well. The soil absorption system shall be located not less than 25 feet from any building, dwelling or cistern, 50 feet from any water well, reservoir or swimming pool, 5 feet of any lot line, 25 feet of any water service or 50 feet of the high water mark of any lake, stream or other watercourse. Where possible, greater distances should be maintained.

2. Percolation rate—trench or bed. A subsurface soil absorption system of the trench or bed type shall not be installed where the average percolation rate of the 3 tests for the site is slower than 60 minutes for water to fall one inch.

3. Percolation rate—seepage pit. For a seepage pit, percolation tests shall be made in each vertical stratum penetrated below the inlet pipe. Soil strata in which the percolation rates are slower than 30 minutes per inch shall not be included in computing the absorption area. The average of the results shall be used to determine the absorption area.

4. Flood plain. A soil absorption system shall not be installed in a flood plain.

5. Slope. The soil absorption system shall be constructed on that portion of the lot which does not exceed the slope here specified for the class. In addition, the soil absorption system shall be located at least 20 feet from the top of the slope.

Minutes Required for Water to
Fall One Inch

Class	Shallow Absorption Systems	Deep Absorption Systems	Slope
1.-----	Under 3	Under 2	20%
2.-----	3 to 45	2 to 30	15%
3.-----	45 to 60	30 to 60	10%

6. Filled area. A soil absorption system shall not be installed in a filled area unless written approval is received from the department.

7. Ground water and bedrock. There shall be at least 3 feet of soil between the bottom of the soil absorption system and high ground water or bedrock.

(3) PERCOLATION TEST PROCEDURE. (a) *Type of hole.* The hole shall be dug or bored. It shall have vertical sides and have a horizontal dimension of 4 to 12 inches.

(b) *Preparation of hole.* The bottom and sides of the hole shall be carefully scratched with a sharp pointed instrument to expose the natural soil interface. All loose material shall be removed from the

bottom of the hole which shall then be covered with 2 inches of coarse sand or gravel when necessary to prevent scouring.

(c) *Test procedure, sandy soils.* For tests in sandy soils containing little or no clay, the hole shall be carefully filled with clear water to a minimum depth of 12 inches over the gravel and the time for this amount of water to seep away shall be determined. The procedure shall be repeated and if the water from the second filling of the hole at least 12 inches above the gravel seeps away in 10 minutes or less, the test may proceed immediately as follows: Water shall be added to a point not more than 6 inches above the gravel. Thereupon, from a fixed reference point, water levels shall be measured at 10-minute intervals for a period of one hour. If 6 inches of water seeps away in less than 10 minutes, a shorter interval between measurements shall be used, but in no case shall the water depth exceed 6 inches. The final water level drop shall be used to calculate the percolation rate. Soils not meeting the above requirements shall be tested as in subsection (d) below.

(d) *Test procedure, other soils.* The hole shall be carefully filled with clear water and a minimum water depth of 12 inches shall be maintained above the gravel for a 4-hour period by refilling whenever necessary or by use of an automatic siphon. Water remaining in the hole after 4 hours shall not be removed. The soil shall be allowed to swell not less than 16 hours or more than 30 hours. Immediately following the soil swelling period, the percolation rate measurements shall be made as follows: Any soil which has sloughed into the hole shall be removed and water shall be adjusted to 6 inches over the gravel. Thereupon, from a fixed reference point, the water level shall be measured at 30-minute intervals for a period of 4 hours unless 2 successive water level drops do not vary by more than $\frac{1}{8}$ of an inch. The hole shall be filled with clear water to a point not more than 6 inches above the gravel whenever it becomes nearly empty. Adjustment of the water level shall not be made during the last 3 measurement periods except to the limits of the last measured water level drop. When the first 6 inches of water seeps away in less than 30 minutes, the time interval between measurements shall be 10 minutes and the test run for one hour. The water depth shall not exceed 6 inches at any time during the measurement period. The drop that occurs during the final measurement period shall be used in calculating the percolation rate.

(e) *Verification.* 1. Physical characteristics. Depth to high ground water and bedrock, ground slope and percolation test results shall be subject to verification by the department. Verification of high ground water shall include, but not be limited to, a morphological study of soil conditions with particular reference to soil color and sequence of horizons.

2. Filling. Where the natural soil condition has been altered by filling or other attempts to improve wet areas, verification may require observation of high ground water levels under saturated soil conditions.

Note: Detailed soil maps are of value for determining estimated percolation rates and other soil characteristics.

(4) TREATMENT TANKS. (a) *Design.* 1. General requirements. a. Septic tanks shall be fabricated or constructed of welded steel, monolithic concrete or other materials approved by the department.

All tanks shall be watertight and fabricated so as to constitute an individual structure.

b. The design of prefabricated septic tanks shall be approved by the department.

c. Plans for site-constructed concrete tanks shall be approved by the department prior to construction.

d. The liquid depth shall not be less than 3 feet nor more than an average of 6 feet. The total depth shall be at least 8 inches greater than the liquid depth.

e. Rectangular tanks shall have a minimum width of 36 inches and shall be constructed with the longest dimensions parallel to the direction of flow.

f. Cylindrical tanks shall have an inside diameter of not less than 48 inches.

g. Each prefabricated tank shall be clearly marked to show liquid capacity and the name and address or registered trademark of the manufacturer. The markings shall be inscribed into or embossed on the outside wall of the tank immediately above the outlet opening. Each site-constructed concrete tank shall be clearly marked at the outlet opening to show the liquid capacity. The marking shall be inscribed into or embossed on the outside wall of the tank immediately above the outlet opening.

h. Precast concrete tanks shall have a minimum wall thickness of 2 inches.

2. Materials and joints. a. The concrete used in constructing a precast or site-constructed tank shall be a mix to withstand a compressive load of at least 3,000 pounds per square inch. All concrete tanks shall be designed to withstand the pressures to which they are subjected.

b. The floor and sidewalls of site-constructed concrete tanks shall be monolithic except a construction joint will be permitted in the lower 12 inches of the sidewall of the tank. The construction joint shall have a key way in the lower section of the joint. The width of the key way shall be approximately 30% of the thickness of the sidewall with a depth equal to the width. A continuous water stop or baffle at least 6 inches in width shall be set vertically in the joint, embedded one-half its width in the concrete below the joint with the remaining width in the concrete above the joint. The water stop or baffle shall be copper, neoprene, rubber or polyvinylchloride designed for this specific purpose.

c. Joints between the septic tank and its cover and between the septic tank cover and manhole riser shall be tongue and groove or shiplap type and sealed watertight using neat cement, cement or bituminous compound.

d. Steel tanks shall be fabricated of new, hot rolled commercial steel. The tanks, including cover with rim, inlet and outlet collars and manhole extension collars shall be fabricated with welded joints in such manner as to provide structural stability and watertightness. Steel tanks shall be coated, inside and outside, in compliance with the U. S. Department of Commerce Commercial Standard 177.

Note: Commercial standard CS 177-62 of the U. S. Department of Commerce is available for inspection at the office of the department of Health and Social Services, the Secretary of State and the Revisor of Statutes, or may be procured for personal use from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

Any damage to the bituminous coating shall be repaired by recoating prior to installation of the tank. The gauge of the steel shall be as follows:

Septic Tank Capacity	Tank Component	Gauge of Steel
500 to 1,000 gallons.....	Bottom and sidewalls.....	14
	Cover.....	12
	Baffles.....	12
1,000 to 2,000 gallons.....	Complete tank.....	10
2,000 or more gallons.....	Complete tank.....	7

3. Tank accessories. a. The inlet and outlet openings shall contain a "boss," stop or other provision which will prevent the insertion of the sewer piping beyond the inside wall of the tank.

b. The inlet and outlet on all tanks or tank compartments shall be provided with open-end coated iron sanitary tees or baffles made of approved materials, so constructed as to distribute flow and retain scum in the tank or compartments. The tees or baffles shall extend at least 6 inches above and 9 inches below the liquid level, but not to exceed $\frac{1}{8}$ the liquid depth. At least 2 inches of clear space shall be provided over the top of the baffles or tees. The bottom of the outlet opening shall be at least 2 inches lower than the bottom of the inlet.

c. Each single compartment tank and each unit of a multicompartment tank shall be provided with at least one manhole opening no less than 24 inches square or 24 inches in diameter. Manholes shall terminate no more than 6 inches below the ground surface and be provided with a substantial, fitted, watertight concrete, steel or cast iron cover. Steel tanks shall have a collar for the manhole extensions permanently welded to the tank. The collar shall have a minimum height of 2 inches.

d. An airtight inspection opening shall be provided over the inlet baffle of all septic tanks which may be either a manhole or a cast iron pipe at least 4 inches in diameter. The upper end of the inspection pipe or manhole shall terminate not more than 6 inches below the ground surface.

(b) *Capacity and sizing.* 1. Minimum capacity. The capacity of a septic tank shall be based on the number of persons using the building to be served or upon the volume and type of waste. The minimum liquid capacity shall be 500 gallons.

2. Multiple tanks. When increased capacity is to be provided by a multiple number of tanks, the capacity of any tank shall be a minimum of 500 gallons. When 2 or more tanks are installed, approval of the design of the system shall be obtained from the department. The installation of more than 4 tanks in series is prohibited. Installation of septic tanks in parallel is prohibited.

3. Sizing of tank. a. The minimum liquid capacity for one and two family residences shall be as established in the following table:

Septic Tank Capacity One and Two Family Residences

Number of Bedrooms	Normal Plumbing Fixtures	With Food Waste Grinder, Automatic Washer, Dishwasher Singly or in Combination
2 or less.....	500	750
3.....	650	975
4.....	800	1200
5.....	950	1375
6.....	1100	1650
7.....	1250	1875
8.....	1400	2200

b. For buildings other than one and 2 family residences the liquid capacity shall be increased above the 500-gallon minimum as established in the following table. For buildings having kitchen and/or laundry waste, the tank capacity shall be increased to receive the anticipated volume for a 24-hour period from the kitchen and/or laundry.

Apartment buildings (per bedroom).....	150	gals.
Assembly hall (per person—no kitchen).....	2	“
Bars and cocktail lounges (per patron space).....	9	“
Bowling alley (per alley).....	125	“
Bowling alley with bar (per alley).....	225	“
Camp grounds and camping resort (per camp space).....	100	“
Camps, day use only—no meals served (per person).....	15	“
Camps, day and night (per person).....	40	“
Car wash—subject to state approval		
Churches—no kitchen (per person).....	3	“
Churches—with kitchen (per person).....	7.5	“
Country clubs—subject to state approval		
Dance halls (10 sq. ft. per person).....	3	“
Dining hall—kitchen and toilet waste (per meal served).....	10	“
Dining hall—kitchen waste only (per meal served).....	3	“
Drive-in restaurants (per car space).....	30	“
Drive-in theaters (per car space).....	5	“
Factories and offices, (per employee—total all shifts—exclusive of industrial wastes).....	20	“
Hospitals (per bed space).....	200	“
Hotels or motels and tourist rooming houses (per room 2 persons per room).....	100	“
Migrant labor camp, central bath house (per employee).....	30	“
Mobile home parks, homes with bathroom groups (per site).....	200	“
Nursing and rest homes (per bed space).....	100	“
Parks, toilet wastes (per person—75 persons per acre).....	5	“
Parks, with showers and toilet wastes (per person—75 persons per acre).....	10	“
Restaurant—kitchen and toilet wastes (per seating space).....	30	“
Retail store (per employee).....	20	“
Retail store—customers (10 sq. ft. per person).....	1.5	“

Schools (per classroom).....	450	"
Schools with meals served (per classroom).....	600	"
Schools with meals served and showers provided (per classroom).....	750	"
Self-service laundries (per machine, toilet wastes only).....	50	"
Service stations (per car).....	10	"
Swimming pool bath houses (per person).....	10	"

(c) *Installation.* 1. Location. Tanks shall not be installed within the interior foundation walls of a building nor shall a new building or addition to an existing building be constructed or located over, or within 5 feet of a tank.

2. Bedding. A 3-inch thick tamped bedding shall be provided for all septic tank installations. The bedding material shall be sand, gravel, granite, limerock or other noncorrosive materials of such size that 100% will pass a ½-inch screen.

3. Backfill. a. The backfill material for steel tanks shall be as specified for bedding and shall be tamped into place, care being taken to prevent damage to the coating.

b. The backfill for concrete tanks shall be soil material, 100% of which shall pass a 2-inch screen and shall be tamped into place.

4. Piping. The inlet and outlet piping between a septic or other sewage tank and the firm ground beyond the excavation made to install the tank shall be cast iron pipe or other pipe approved by the department for the specific purpose. The joints between pipe and tank openings shall be made with lead and oakum.

5. Manhole riser joints. a. All joints on steel risers shall be welded or flanged and bolted and be watertight. All manhole extensions shall be bituminous coated inside and outside.

b. All joints on concrete risers and manhole covers shall be tongue and groove or shiplap type and sealed watertight using neat cement, cement or bituminous compound.

(5) SOIL ABSORPTION SYSTEM. (a) *Disposal of tank effluent.* The effluent from septic tanks shall be disposed of by soil absorption systems or by such other manner approved by the department.

(b) *Sizing—residential.* The area required for a soil absorption system serving residential property shall be determined from the following table using soil percolation test data:

Percolation Rate Minutes Required for Water to Fall One Inch	Minimum Absorption Area in Square Feet Per Bedroom			
	Normal Plumbing Fixtures	With Garbage Grinder	With Automatic Washer	With Both Grinder and Automatic Washer
Less than 3.....	50	65	75	85
3 to 10.....	100	120	135	155
10 to 30.....	150	180	205	250
30 to 45.....	180	215	245	300
45 to 60.....	200	240	275	330

(c) *Sizing—Other.* The required area for a soil absorption system serving installations other than residential property shall equal the absorption area specified for normal plumbing fixtures according to

the percolation test results multiplied by the applicable unit specified in column 2, multiplied by the applicable factor in column 3 of the following table:

Column 1 Building Classification	Column 2 Units	Column 3 Factor
Apartment buildings	1 per bedroom	1.0
Assembly hall—no kitchen	1 per person	0.02
Bar and cocktail lounge	1 per patron space	0.2
Bowling alley	1 per bowling lane	2.5
Bowling alley with bar	1 per bowling lane	4.5
Camps, day use only	1 per person	0.2
Camps, day and night	1 per person	0.45
Camp ground and camping resort	1 per camping space	0.9
Church—no kitchen	1 per person	0.04
Church—with kitchen	1 per person	0.09
Dance hall	1 per person	0.06
Dining hall—kitchen and toilet	1 per meal served	0.2
Dining hall—kitchen only	1 per meal served	0.1
Drive-in restaurant	1 per car space	0.6
Drive-in theater	1 per car space	0.1
Factories, office buildings, exclusive of industrial waste	1 per person	0.4
Hotels or motels and tourist rooming houses	1 per room	0.9
Hospital	1 per bed space	2.0
Migrant labor camp—central bath house	1 per employee	0.25
Mobile home park	1 per mobile home site	2.0
Nursing and rest homes	1 per bed space	1.0
Parks—toilet waste only	1 per acre	4.0
Parks—showers and toilets	1 per acre	8.0
Restaurant—kitchen and toilet	1 per seating space	0.6
Retail store	1 per employee	0.4
Retail store	1 per customer	0.03
Self-service laundry—toilet wastes only	1 per machine	1.0
Service station	1 per car served	0.15
Swimming pool bath house	1 per person	0.2
School—no meals, no showers	1 per classroom	5.0
School—meals served or showers	1 per classroom	6.7
School—meals and showers	1 per classroom	8.0

(d) *Installation.* 1. Shallow system. a. A seepage trench or a seepage bed having a depth of 36 inches or less below final grade shall be termed a shallow absorption system.

b. The bottom of the seepage trench shall be level. Seepage trench excavations shall be from 1 to 3 feet in width. The absorption area of a seepage trench shall be computed by using the bottom area only. Trench excavations shall be spaced at least 10 feet apart. The individual laterals preferably should not be over 100 feet long.

c. Seepage beds shall meet the requirements of a seepage trench except that the excavation is more than 3 feet wide and has more than one distribution line. Distribution lines in a seepage bed shall be uniformly spaced no more than 6 feet apart and no less than 3 feet apart and no more than 3 feet from the sidewall.

d. Seepage trenches or beds shall not be excavated when the soil is excessively wet.

e. All smeared or compacted surfaces in the seepage trench or bed shall be scarified to the depth of the compaction and the loose material removed.

f. Distribution piping shall be perforated clay tile, bituminous fiber or cement asbestos or short lengths of clay or concrete drain pipe. In seepage trenches or beds the bottom of the distribution piping shall be laid 12 to 24 inches below the surface in continuous straight or curved lines. A slope of 2 to 4 inches per 100 feet shall

be maintained. Drain pipe shall be spaced approximately $\frac{1}{4}$ inch apart and blinded at the top with tar paper.

g. Fresh air inlets of cast iron pipe shall be provided and be placed so as to assure a free flow of air throughout the entire installation. The vent pipes shall be at least 4 inches in diameter and extend at least 12 inches above the ground surface and terminate with an approved vent cap. Fresh air inlets shall be located at least 25 feet from any window, door or air intake of any building used for human habitation. A maximum of 4 distribution lines may be served by one common 4-inch vent when interconnected by a common header pipe.

h. A minimum of 12 inches of clean, graded rock or similar aggregate ranging in size from 1 to $2\frac{1}{2}$ inches shall be laid into the trench or bed below the distribution pipe and such aggregate shall extend at least 2 inches over the top of the distribution pipe. The aggregate shall be covered with untreated building paper or 2 inches of marsh hay or equal. The first 4 to 6 inches of soil backfill shall be hand tamped.

i. Where the total lineal feet of drain pipe in a seepage trench or bed exceeds 1,000 feet, discharge of septic tank effluent into the absorption system should preferably be regulated by an automatic siphon. The dosing tank in which the siphon is situated shall have a capacity equal to 75% of the combined volume of the distribution lines in the absorption system.

2. Deep system. a. A seepage trench, seepage bed or a seepage pit developed to a depth of more than 36 inches below the final grade shall be termed a deep absorption system.

b. The bottom of the distribution line shall be laid 12 to 48 inches below the surface in continuous straight or curved lines. Slope, spacing and venting shall be equal to section H 62.20 (5) (d) 1.

c. Credit may be given for the added absorption area provided for the depth that exceeds 12 inches of aggregate below the distribution line. Such credit shall be in accord with the following table which establishes the percentage of length of a standard absorption trench. The standard absorption trench is one which the aggregate material extends 12 inches below the distribution pipe.

Depth of Aggregate Below Distribution Line	Percent of Length of Standard Trench			
	Trench Width 12"	Trench Width 13"	Trench Width 24"	Trench Width 36"
12	100	100	100	100
18	75	78	80	83
24	60	64	66	71
30	50	54	57	62
36	43	47	50	55
42	37	41	44	50
48	33	37	40	45

d. The area of a seepage bed having aggregate to a depth that exceeds 12 inches below the distribution pipe may be computed as follows:

$$\text{Percent of standard bed area} = \frac{w + 2}{w + 1 + 2d} \times 100$$

w = width of bed in feet

d = depth of aggregate below distribution pipe in feet minus 6 inches

e. A seepage pit shall have a minimum inside diameter of 5 feet and shall consist of a chamber walled up with material such as a perforated precast concrete ring, concrete block, brick or other material approved by the department which allows effluent to percolate into the surrounding soil. Seepage pits shall be located 10 feet or more apart. The pit bottom shall be left open to the soil. Crushed rock or similar aggregate 1 to 2½ inches in size shall be placed into a 6-inch minimum annular space separating the outside wall of the chamber and sidewall excavation. Depth of the annular space shall be measured from the inlet pipe to the bottom of the walled-up chamber. Each seepage pit shall be provided with a 24-inch manhole extending within 6 inches of the ground surface and a 4-inch fresh air inlet which shall meet the requirements of sections H 62.20 (4) (a) and H 62.20 (5) (d). Excavation and scarifying shall be in accord with section H 62.20 (5) (d). The effective area of a seepage pit shall be the vertical wall area of the walled-up chamber for the depth below the inlet for all strata for which the percolation rates are lower than 30 minutes per inch. Six inches of annular opening outside the vertical wall area may be included for determination of effective area. The following table may be used for determining the effective sidewall area of circular seepage pits:

Inside Diameter of Walled Up Chamber in Feet*	Depth Below Inlet					
	3	4	5	6	7	8
7	75	101	126	151	176	201
8	85	113	142	170	198	226
9	94	126	157	188	220	251
10	104	138	173	208	242	277
12	123	163	204	246	286	327

*The 6 inch annular opening credit is included.

(6) MAINTENANCE AND SLUDGE DISPOSAL. (a) *Maintenance.* Septic tanks shall be cleaned whenever the sludge and scum occupies ½ of the tank volume. All sludge, scum, liquid and any other material removed from a private domestic sewage treatment and disposal system is hereafter referred to as sludge.

(b) *Sludge disposal.* Sludge shall be disposed of as follows:

1. Public sewer. By discharge into a public sewerage system when practical. The point and method of discharge into the system shall be subject to the requirements of the municipality.

2. Approved site. By discharge at a disposal site designated by the local governmental authority.

3. Other. In the absence of a public sewerage system or designated disposal site by one of the following methods:

a. By burial under 36 inches of earth on the premises on which produced at a distance of at least 50 feet from a well or if on other premises at a distance of at least 500 feet from a place of habitation provided that there is also at least 36 inches of soil between the buried sludge and the high ground water level or bedrock.

b. By spreading on land, not used for pasturing livestock or for growing vegetables, at a distance of at least 1,000 feet from a place of habitation or any stream, lake, pond or flowage.

4. Prohibited sites. The sludge shall not be disposed of by discharge into a lake, stream, ditch or dry run or be buried within 50 feet of such watercourses or in a flood plain.

(7) **HOLDING TANKS.** (a) *Approval.* Holding tanks shall be considered on an individual basis. Three complete sets of plans shall be submitted to the department for each request to install a holding tank. The installation of the holding tank shall be made in accord with the following criteria.

(b) *Installation.* 1. Materials. The tank shall be constructed of material approved by the department.

2. Location. Tanks shall be located in accord with subsection H 62.20 (2) (c) except the tanks shall be 20 feet from a building or its appendage.

3. Capacity. Tanks shall have a minimum 5-day holding capacity. Sizing shall be based in accord with section H 62.20 (4) (b).

4. Warning device. A high water warning device shall be installed. This device shall be either an audible or an illuminated alarm. If the latter, it shall be conspicuously mounted.

5. Manhole. Each tank shall be provided with a round manhole at least 24-inch inside diameter extending at least 6 inches above ground surface. Each manhole cover shall have an effective locking device.

6. Septic tank. If an approved septic tank is installed to serve as a holding tank, the inlet and outlet baffles shall be removed and the outlet sealed.

7. Vent. Each tank shall be provided with a minimum 2-inch fresh air inlet extending 12 inches above final grade terminating with a return bend fitting.

8. Servicing. Holding tanks shall be serviced in accord with chapter 146, Wis. Stats., Wis. Adm. Code chapter RD 13, and subsection H 62.20 (6).

History: 1-2-56; am. (1) (f), Register, June, 1956, No. 6, eff. 7-1-56; am. (2) (a), (2) (b), (2) (c) 2, Register, February, 1957, No. 14, eff. 3-1-57; am. (1) (b), (d) and (e), Register, April, 1962, No. 76, eff. 10-1-62; r. and recr. Register, November, 1969, No. 167, eff. 12-1-69.

H 62.21 Inspection and tests. (1) **STATE APPROVED INSTALLATIONS.** Plumbing installations in newly annexed territory complying with the requirements of the state code shall be approved by the local governing body of the municipality of which such territory becomes a part, and the owner of the property shall be granted permission to connect to the public water supply and sewerage system upon the payment of permit fees where such fees are required.