

CHAPTER III

Sewage Disposal

SECTION I - SEWAGE DISPOSAL FOR ANY PREMISE

1.1 Premise Occupancy

It shall be unlawful for any person to occupy, or permit to be occupied, any premise which **has a sewage disposal system is in violation of these Regulations.** ~~not equipped with an adequate sewage disposal system for the disposal in a sanitary manner of all forms of sewage.~~ **All** such facilities shall be constructed in accordance with the provisions of these Regulations. Under no condition may the sewage from the existing or hereafter-constructed premise be discharged or deposited upon the surface of the ground, or into any lake, river, stream, county drain, ditch, or storm sewer. Any premise constructed or maintained which is not in accordance with these regulations may be declared unfit for habitation and may be so posted by the Health Officer and ordered vacated.

1.2 Connection Required

All facilities such as flush toilets, urinals, lavatories, sinks, bathtubs, **laundry**, showers or any other facility from which sewage emanates shall be connected to a private sewage disposal system except that any such facilities hereafter installed on a premise where public sewage is available shall be connected to said sewer. When such connections are made from a private sewage disposal system to the public system, the septic tank(s) shall be properly abandoned as defined in these regulations.

1.3 Separate Systems for Each Family or Establishment

Unless otherwise specifically approved by the Health Officer, each habitable building or dwelling may be served by its own private sewage disposal system, when public sewers are not available and/or accessible.

1.4 Permits

No person shall construct, alter or extend any on-site sewage disposal system unless he/she has obtained a permit issued by the Health Officer and/or their authorized representative. All permit forms shall be provided by the Mid-Michigan District Health Department, Environmental Health Division. Any person found to have constructed, altered, or extended any on-site sewage disposal system without benefit of an approved permit shall be subject to the penalties set forth in Chapter I, Section 1.13 for violation of these Regulations.

1.5 Application for Permit

Application for permit to construct, alter, or extend an on-site sewage disposal system shall be made by the property owner or their authorized representative to the Health Officer. The application shall include the name and address of the applicant, the description of the property on

which said construction, alteration or extension is proposed, and a plot plan showing the pertinent features of the sewage disposal system and the well system along with property lines and the building location. At the discretion of the Health Officer, the Health Department may require substantiating data including, but not limited to, engineered drawings, maps, soil analyses, test borings, percolation tests, groundwater and flood elevations, and detailed plans of the proposed sewage disposal system. The actual or proposed use of the property shall be indicated in all instances. At the discretion of the Health Officer, the Health Department may require that the design plans and specifications for a sewage disposal system be prepared by a professional engineer (PE) or registered sanitarian (RS).

1.6 Expiration of Permits

Any permit issued pursuant to the requirements of the preceding sections shall be valid for the term of twenty-four (24) months from the date of issuance, unless declared void as provided in Section 2.7 of these regulations. At the request of the applicant, said permit may be extended for a period of not more than one year from the original date of expiration.

1.7 Void Permits

The Health Officer may declare a previously-issued Sewage Disposal System Permit to be null and void for any of the following reasons:

- a. False, inaccurate, or incomplete information supplied by the applicant or permit holder.
- b. A change in the construction plans of the applicant or permit holder affecting circumstances relative to the water supply design, location or use.
- c. Discovery of health hazards at the site that might impact public health.
- d. The area designated for the soil absorption system is disturbed due to vehicular traffic and excessive compaction; or by major fillings, excavating, paving, or flooding; or by the installation of public sewer; or by location of a water supply well or other feature so as to encroach on any required isolation distance.
- e. An increase in the scope of the project prior to, during, or following construction of said system to the point that the quantity of anticipated sewage flow is beyond the capacity of said system to provide treatment.

1.8 Transfer of Permits

Should the ownership of the property for which a permit has been issued change, the permit may be transferred to the new owner. Such transfer must be requested in writing on forms to be provided by the Health Officer and signed by the permit holder. The permit holder shall be the person to whom the permit was originally issued.

1.9 Denial of Permit

The Health Officer shall have the right to deny the issuance of a permit under one or more of the following conditions:

- a. Where an available public sewer system (as defined in ~~Section I of this chapter~~ the **Glossary**) exists.
- b. Where the septic tank would be inaccessible for cleaning or inspection purposes.
- c. Where the property served is too small for proper isolation from existing water wells, the premise water well, surface waters or has insufficient drainage area.
- d. Where the seasonal high groundwater table elevation and/or vertical distance between hardpan, clay, or other impervious soils would be less than one (1) foot or twelve (12) inches below the original grade.
- e. Where the soil conditions are deemed to be unsuitable for the disposal of sewage as based upon recognized soil evaluation techniques or where the stabilized percolation rate is in excess of 60 minutes per inch.
- f. Where conditions exist or may be created which may endanger the public health or the environment.
- g. Where the proposed site is subject to flooding and/or within the 100-year flood plain.

1.10 Easements – Sewage Disposal Systems

If any portion of a sewage disposal system (septic tank, pump tank, sewer line, drainfield, drainbed, berm, or reserve area) is proposed for placement on a separate, legally recognized parcel, then an easement or permanent deed restriction shall be required and shall be recorded with the applicable County Register of Deeds Office. A “separate, legally recognized parcel” is defined as a parcel of land with a legal description or tax parcel identification number differing from the parcel where the dwelling is located or proposed to be built.

Plans, which may include a recorded survey, are to accompany any permit application where the intended sewage disposal system, or any part thereof, is proposed on a “separate, legally recognized parcel”.

The Health Department shall require proof that all applicable documents related to an easement or permanent deed restriction have been recorded with the applicable County Register of Deeds Office prior to the issuance of a sewage disposal permit.

In instances where the recording of an easement or permanent deed restriction may delay construction of the repair or replacement of an existing sewage disposal system, the homeowner may request authorization to record these documents at the completion of the sewage disposal repair or replacement process. Health Department final approval of the completed construction will be withheld until proof that all applicable documents recorded with the Register of Deeds Office have been submitted to the Health Department.

1.11 Building Site Criteria for Conventional Septic Systems.

The following specifications shall be used in determining the stability of the soil to provide satisfactory drainage for a conventional sewage disposal system utilizing one or more septic tanks and an absorption field, trench or bed:

- a. Soil Data - The soil classification and interpretations as provided by the United States Department of Agriculture, Natural Resources Conservation Service, and the use limitations pertaining to that soil classification may be considered by the Health Officer and used as part of the soil and drainage evaluation.
- b. Deep Borings – Test borings or excavations shall be made within the area proposed for the sewage disposal system and proposed replacement area to determine that the groundwater level and soil formations comply with this section. The Health Officer may request that excavations or borings beyond a depth of five (5) feet be made available for inspection and evaluation of soil types and conditions.
- c. High Groundwater – A minimum of twenty-four (24) inches of suitable soils, twelve (12) inches of which are measured from original grade and native to the profile, shall be required between the bottom of the proposed trench or bed and the point where the high water table, or evidence thereof, is determined.
- d. Hardpan, Clay, Impervious Material – A minimum of twenty-four (24) inches of suitable soils, twelve (12) inches of which are measured from original grade and native to the profile, shall be required between the bottom of the proposed trench or bed and the point where clay, hardpan, or other impervious materials are found.
- e. Filled Ground – Filled ground or “made land” shall be subject to evaluation to a minimum depth of five (5) feet or sixty (60) inches below the point where the original grade has been identified. Fill material shall not be allowed over unstable soil, peat, muck, and organic material.
- f. Percolation Tests – In addition to evaluation of the data required above, the Health Officer may require stabilized percolation rate tests when deemed necessary to determine the absorption capacity of the soil.

- g. Replacement Area – Sufficient area of suitable or similar soil conditions shall be set aside or put on reserve for a future replacement system. Such replacement system area shall be at least equal the area required for the initial system and shall be located no closer than five (5) feet from any portion of the initial system (including berm areas).

1.12 Building Site Criteria for Alternative Septic Systems.

The following specifications shall be used in determining the stability of the soil to provide satisfactory drainage for an alternative sewage disposal system utilizing one or more septic tanks and an absorption field, trench or bed:

- a. Soil Data - The soil classification and interpretations as provided by the United States Department of Agriculture, Natural Resources Conservation Service, and the use limitations pertaining to that soil classification may be considered by the Health Officer and used as part of the soil and drainage evaluation.
- b. Deep Borings – Test borings or excavations shall be made within the area proposed for the sewage disposal system and proposed replacement area to determine that the groundwater level and soil formations comply with this section. The Health Officer may request that excavations or borings beyond a depth of five (5) feet be made available for inspection and evaluation of soil types and conditions.
- c. High Groundwater – A minimum of twelve (12) inches of suitable native soils, as measured from original grade, shall be required between the bottom of the proposed trench or bed and the point where the high water table, or evidence thereof, is determined.
- d. Hardpan, Clay, Impervious Material – A minimum of twelve (12) inches of suitable native soils, as measure from original grade, shall be required between the bottom of the proposed trench or bed and the point where clay, hardpan, or other impervious materials are found.
- e. Filled Ground – Filled ground or “made land” shall be subject to evaluation to a minimum depth of five (5) feet or sixty (60) inches below the point where the original grade has been identified. Fill material shall not be allowed over unstable soil, peat, muck, and organic material.
- f. Percolation Tests – In addition to evaluation of the data required above, the Health Officer may require stabilized percolation rate tests when deemed necessary to determine the absorption capacity of the soil.
- g. Replacement Area – Sufficient area of suitable or similar soil conditions shall be set aside or put on reserve for a future replacement system. Such replacement system area shall be at least equal the area required for the initial system and shall be located no closer than five (5) feet from any portion of the initial system (including berm areas).

- h. Lake and Riverfront Properties - For aerobic treatment units, sand filters, pressure mounds or similar type alternative technologies that are installed in environmentally sensitive areas such as properties fronting on lakes, rivers or other similar bodies of water, a minimum of twenty-four (24) inches of suitable soils, twelve (12) inches of which are measured from original grade and native to the profile, shall be required between the bottom of the proposed trench or bed and the point where clay, hardpan, or other impervious materials are found OR where the high water table, or evidence thereof, is determined.

1.13 Inspection and Certification

After construction of the sewage disposal system has been completed to the extent of the placement of all sewers and distribution tile lines, and before any portion of the distribution tile system has been covered or placed in operation, request for an inspection shall be made to the Health Officer. If the inspection has not been made within two (2) working days or 48 hours after notification to the Health Officer that the system is ready for inspection, the installer may proceed to cover the system and place it into operation. The installer in such an instance shall furnish a written statement to the Health Officer on forms provided by the Health Department certifying that the system was installed exactly as shown on the permit or describing exactly any deviations there from. After approval of the system for backfill, it shall not be allowed to remain open for longer than 48 hours, unless otherwise approved by the Health Officer.

1.14 Condemnation of Existing Installations

The Health Officer may condemn any existing individual sewage disposal system where the effluent there from is exposed to the surface or is permitted to drain onto the surface of the ground or into any lake, river, county drain, storm sewer, or stream, or where the seepage of effluent there from may endanger a public or private water supply or where an improperly constructed or maintained system creates a public or private nuisance. The Health Officer may condemn any existing sewage disposal system where the performance of the system meets any or all of the conditions of a sewage system failure.

1.15 Variances

Variances to the provisions of these regulations may be made in cases where physical size or shape of the premise makes their application a physical impossibility. In such event, if the Health Officer finds that special conditions are present, the owner may construct or cause to be constructed an individual sewage disposal system under the direction of the Health Officer and subject to such reasonable conditions as the Health Officer may require considering the limitations of the property, the protection of public health, and the prevention of any nuisance. An alternate method of sewage disposal may be approved by the Health Officer if it provides equal or better treatment than the minimum requirements provided for herein. The Health Officer, on application may make exceptions to the specific requirements when, in the Health Officer's judgment, special factors warrant such a variance. Approval of variances shall be in writing and filed with the Health Department.

1.16 Registration Required

Any person, firm, company, or corporation who shall engage in the business of installation of a sewage disposal system or any part thereof within the counties of Clinton, Gratiot, or Montcalm, under the provisions of these regulations, shall register with the Mid-Michigan District Health Department. In no way shall this provision be construed to prohibit an individual from installing their own sewage disposal system (with the exception of alternative on-site sewage treatment systems as defined in **the Glossary** ~~Section 1.3 of this Chapter~~) provided that said person obtains a permit from the Mid-Michigan District Health Department.

1.17 Contractor/Installer Registration – Revocation/Suspension

Septic contractor or installer registration may be revoked or suspended by the Mid-Michigan District Health Department for any of the following:

- a. Failure to abide by recognized construction standards and/or installation practices; or
- b. Failure to adhere to the conditions and specifications provided within a sewage disposal permit; or
- c. Failure to adhere to the requirements of the Mid-Michigan District Health Department's Environmental Health Regulations.

Should revocation or suspension be initiated by the Health Department, the subject contractor/installer shall be afforded hearing before the Health Officer or his/her designee, with the right to appeal any adverse decision to the Board of Appeals.

1.18 Methods of Sewage Disposal

When a sewer is not available for public use, all facilities hereafter installed (such as flush toilets, urinals, lavatories, sinks, bathtubs, showers, **laundry**, basement drains, and any similar fixtures used to receive or conduct sewage) shall be connected to an approved sewage disposal system or to some other device approved by the Health Officer, provided that such facilities existing at the time these regulations are adopted and which may become or are at present a possible hazard to public health, in the opinion of the Health Officer, shall be connected to a sewage disposal system or to some other device approved by the Health Officer.

No sewage may be discharged into any body of water or into the ground within fifty (50) feet of a body of water or into a county drain or ditch. Footing drainage, downspouts or roof drains, water conditioners recharge water and any other wastewater not defined as sewage shall not be connected to or discharge into the sewage disposal system.

1.19 Drains

Whenever the Health Officer shall determine that sewage is flowing from any public or private sewer or drain of unknown course and origin, the Health Officer may issue public notices requiring persons owning premises from which such sewage could originate, to connect such

sewage flow to a public sewage system if available, or in the absence thereof, to comply with the provisions of these regulations. Public notice shall consist of the posting of at least five (5) conspicuous notices in the probable area served by said sewer or drain. After not less than thirty (30) days following the posting of the notices, the Health Officer may plug or cause to be plugged the outlet of said sewer or drain until such time as the sources of the sewage have been located.

Owners of the properties known to be discharging sewage into such sewers or drains posted by the Health Officer shall be given written notice of corrections required within the time allowed by the posted notices. Failure to comply shall be considered a violation of these regulations.

1.20 Facilities other than Single and Two Family Dwellings.

Minimum septic tank capacity, number of tanks, and size of sub-surface absorption area for facilities other than single and two family dwellings shall be determined in accordance with good engineering practice and based on the recommendations contained in the “Michigan Guidelines for Subsurface Sewage Disposal”, adopted December 1977 (revised April, 1994) by the Bureau of Environmental and Occupational Health, Michigan Department of Public Health.

SECTION II – CONSTRUCTION AND MAINTENANCE OF PRIVIES AND SIMILAR TOILET DEVICES

2.1 Privies and Outhouses

All privies and other non-flushing toilet devices shall be constructed and maintained in accordance with Section 12771 of Act 368, P.A. of 1978 and Administrative Rules promulgated therefrom.

2.2 Prohibition of Privies

No privy shall be maintained or be constructed on or moved to any premise where the service of a public sewer is available. No privy shall be maintained at any licensed food service establishment.

2.3 Location of Privies in Relation to Other Dwellings

Privies shall be located at least 100 feet from all dwellings other than that which they serve. No privy shall serve more than one dwelling.

2.4 Temporary Privies

Temporary privies used at construction sites, places of public assembly, camps, etc., shall comply with Section 12771 of Act 368, P.A. of 1978 and Administrative Rules promulgated therefrom, and when cleaned or serviced, the agency performing such service shall comply with Act 243, of Public Acts of 1951, as amended.

SECTION III – SUITABILITY FOR DEVELOPMENT

3.1 Subdivision/Site Condominium Development

The Subdivision Control Act of 1967 (Act 288, PA 1967) and the rules of the Michigan Department of Environmental Quality (R560.401-R560.405 as amended and R560.406 to R560.428) shall be the basis for acceptance or rejection of proposed subdivisions that are not served by public sewers and/or public water.

3.2 Vacant Land Evaluations

Application for soil evaluation of vacant properties where proposed size and location of residential structure is unknown and the act of division is not under Act 288, PA 1967, may be made by the property owner or agent to the Health Officer. Such evaluation shall be documented and reported on forms provided by the Health Officer. Results of such evaluations shall not be construed to be a directive toward applicable zoning or land use.

SECTION IV – CONSTRUCTION CRITERIA FOR SEWAGE DISPOSAL SYSTEMS

4.1 Service/Sewer Lines

- a. All sewer lines shall meet the requirements of the Michigan Plumbing Code and shall be constructed of cast iron soil pipe with sealed joints, or schedule 40 plastic PVC pipe with glued joints, or other state approved materials.
- b. Grade – Sewer pipe installed prior to connection to a septic tank shall be laid at a grade of not less than 1/8 inch per foot or not more than 1/2 inch per foot unless otherwise approved by the Health Officer.
- c. Concentric Piping – Any portion of a sewer line between the house and the septic tank inlet or between the septic tank outlet and the absorption system header that lies below a driveway shall be encased in a six inch (or larger) schedule 40 plastic PVC or steel pipe.
- d. *Clean-Outs* – Any sewer line length greater or equal to 100 lineal feet or at any turn of a sewer line 45 degrees or greater shall be provided a clean-out extended to the ground surface meeting the requirements of the Michigan Plumbing Code. Clean-outs shall be schedule 40 PVC with glued joints or other State approved materials.

4.2 Septic Tanks

- a. Location – Septic tanks shall be located at least fifty (50) feet from any well, spring or other drinking water supplies. In no case shall a driveway, parking area, paved surface, stockpiled material, structure or building be placed over the septic tank. The septic tank must be located on the property being served unless otherwise approved by the Health Officer. Special written permission may be given by the Health Officer when it is

impractical to meet these requirements providing other satisfactory health safeguards are used.

- b. All septic tanks shall be equipped with an access port (at the outlet end) that has an attached watertight riser that extends to or above the finished grade. Said riser shall be equipped with a secure or locked lid to prevent unauthorized access. No septic tank shall be installed at a depth of more than five (5) feet below the finished grade, except by special permission of the Health Officer.
- c. All single compartment septic tanks shall be designed and constructed with inlet and outlet ports located at each end wall of the tank. Inlet and outlet ports on the side wall of the septic tank(s) shall not be allowed without approval from the Health Department.
- e. Capacity – Every septic tank shall have a capacity of at least the average volume of sewage flowing into it during the period of twenty-four (24) hours, but in no case less than seven hundred fifty (750) gallons, as measured from the water level, unless otherwise authorized by the Health Officer. If a tank consisting of more than one (1) compartment is installed, the first compartment must have a capacity of at least 2/3's of the total capacity. A two compartment tank shall be required for any proposed installations utilizing a sewage ejector or garbage disposal.
- f. The bottom of the inlet line into the septic tank shall be at least two (2) inches above the operating water level of the tank. The outlet shall be constructed to permit withdrawal of liquid from the middle third of the depth of the liquid in the tank and to prevent the escape of floating or settled solids and must have a minimum scum clearance of eight (8) inches. The inlet must be so designed to permit gas above the liquid level to pass through the inlet line and out the vent pipe serving the sewer leading to the tank.
- g. Construction Material – Septic tanks shall be constructed to conform to the specifications of the “Manual of Septic Tank Practice”. Tanks constructed of fiberglass, plastic or other materials shall not be installed without prior written approval of the Health Officer. Every septic tank shall be constructed in a workmanlike manner of materials not subject to corrosion or decay when installed; shall be of water-tight construction; and shall be provided with one or more suitable openings with cover to permit ease of inspection and cleaning.
- h. Effluent Filters – The final outlet (between the tank and absorption field) on all septic tanks installed on or after the effective date of these regulations, shall be equipped with an approved (per Michigan Department of Environmental Quality) sewage effluent filter.
- i. Abandonment of a Septic Tank – The Health Officer may order abandoned any septic tank that is in violation of these regulations, a threat to public safety, or representing a public or private nuisance. A properly abandoned septic tank shall be emptied of all effluent wastes with the top cover being crushed and the void space filled with sand. All wastes pumped from a septic tank shall be disposed of at either a municipal waste treatment facility or a MDEQ approved land application site.

4.3 Final Disposal

- a. Location – In no case shall any driveway, parking area, paved surface, stockpiled material, structure or building be placed over the final disposal system or reserve area. The final disposal system must be located on the property being served unless otherwise approved by the Health Officer. All surface drainage must be diverted away from the septic absorption system.
- b. Distribution Header/Box – A header or distribution box plus return header (footer) shall be required in all tile absorption systems, the exception being step/slope systems or other such similar designs. A header or distribution box shall be set true so as to afford an even distribution of all septic tank effluent throughout the subsurface disposal laterals. The sewer line from the septic tank outlet to the distribution header shall be connected at the center point of said header and shall be offset in such a manner that it does not discharge directly into a lateral run. Where six or more lateral distribution lines exist or are proposed, a “bridle” header connecting at two or more centralized points along the distribution header shall be required.
- c. Sewer Line Between the Septic Tank and the Final Disposal System – All sewer or distribution lines extending from the septic tank outlet to the connecting header of the final disposal system shall be constructed of schedule 40 PVC pipe with glued joints. Flexible corrugated pipe is not allowed.
- d. Dosing/Pump Chamber – The Health Officer may require that dosing/pump chambers or mechanical pumps be used in installations where adverse soil conditions or elevation deem it necessary. An alarm system may be required at the discretion of the Health Officer. The capacity of the dosing/pump chamber and/or pump size shall be determined by the Health Officer.
- e. Absorption System – Field or Bed – The absorption field or bed shall be constructed of drain tile, which complies with standards established by the Michigan Department of Environmental Quality.
- f. Aggregate or Stone – All aggregate or stone intended for use in a drainfield or drainbed must be washed, clean, and free of any soils or other foreign materials.
- g. Straw (a minimum two (2) inches) or other approved material shall be placed between the stone and the final cover to prevent soils from filtering into the aggregate stone.
- h. Approval of a tile distribution system may be withheld if one or more of the following conditions exist:
 1. Tile or perforated pipe does not meet acceptable construction criteria.
 2. Tile not laid at a uniform grade.

3. Tile in poor condition.
4. Soils have been allowed to fill up the air spaces around the stone.
5. Insufficient amount of tile in absorption system.
6. Distance between tile lines does not meet minimum **Regulation** code requirements.
7. Insufficient depth of stone around, under, and above tile.
8. Insufficient isolation between bottom of absorption bed and established groundwater level
9. Slope of tile exceeds **Regulation** code-requirements.
10. Any other violation of the construction requirements as specified herein.

4.4 Submission and Approval of Plans

Where installation, alterations and/or construction of any sewage disposal systems are planned in low or wet land areas, or where the water table is high, or where tight clay soil conditions exist, plans for such sewage disposal systems shall be submitted and approved by the Health Officer.

4.5 Minimum Isolation Distances In Feet*

	Septic Tank/ Sewer Line	Final Disposal
Well/Unprotected Suction Lines	50	50
Pressurized Water Lines	10	10
Storm and Drainage Ditches	25	25
Surface Waters inc. County Drains	50	50
Swimming Pools	10	10
Slope Bank (recommended)	10	25
Property Line (recommended)	10	10
Footing Drains	10	25
Dwelling/Structure w/Footing Drains	10	25
Dwelling/Structure w/o Footing Drains	10	10
Closed Loop Geothermal System	25	25

* *These distances are minimums and may be modified if conditions warrant.*

4.6 Subsurface Trench Construction Requirements

	Minimum	Maximum
Number of Lateral Trenches	2	---
Size of Gravity Distribution Sewer Line	4 inch	4 inch
Size of Pressurized Sewer Line	1 inch	---
Length of Lateral Line (Trench Length)	---	100 feet
Width of Trenches	12 inches	36 inches
Trench Laterals on Center	7 feet	---
Number of Lateral Lines per Trench	1	1
Depth of Cover over Stone	12 inches	24 inches
Slope of Lateral Lines	Level preferred	3 inches/100 feet
Depth of Stone over Lateral Line	2 inches	---
Depth of Stone under Lateral Line	6 inches	18 inches
Distance between Initial & Reserve area	5 feet	---
Size of Aggregate Stone	½ inch	2 inch

4.7 Additional Absorption Bed Construction Requirements

	Minimum	Maximum
Distance between Lateral Lines	18 inches	36 inches
Length of Lateral Line	---	100 feet
Distance between Lateral Lines and Bed Wall or beginning of Sand Berm Slope	12 inches	24 inches

4.8 Required Septic Tank Capacity in Gallons

Number of Bedrooms	Minimum Capacity*
1-2	1,000 gallons
3	1,500 gallon, 2 compartment (or equivalent gallons)
4	2,000 gallon, 2 compartment (or equivalent gallons)
5	2,500 gallon, 2 compartment (or equivalent gallons)

*Note that for over 5 bedrooms add 500 gallons per bedroom to the above listed capacities

4.9 Single Family Residential Based on Number of Bedrooms

*Subsurface absorption bed sizing in square feet***

Soil Texture	1-3	4	5
Sand and Gravel	600	700	800
Loamy Sand	900	1050	1200
Sandy Loam	1350	1575	1800
Loam, Sandy Clay Loam	1725	2015	2305
Silt Loam, Clay Loam	1800	2400	3000

4.10 Single Family Residential Based on Number of Bedrooms

Subsurface absorption trench sizing in square feet**

Soil Texture	1-3	4	5
Sand and Gravel	480	560	640
Loamy Sand	720	840	960
Sandy Loam	1080	1260	1440
Loam, Sandy Clay Loam	1380	1610	1840
Silt Loam, Clay Loam <i>(replacement only)</i>	1610	1880	2150

***Note that where a garbage disposal is planned, an additional 20% of square footage is added to all the above listed sizes.*

SECTION V – ALTERNATIVE ON-SITE SEWAGE DISPOSAL SYSTEMS

To function effectively, alternative on-site sewage disposal systems must be properly designed, constructed and maintained. To help ensure that an alternative on-site sewage disposal system functions properly, the Health Department shall require that a sewage permit be obtained for the design and installation of an alternative on-site sewage disposal system and that a maintenance contract assuring lifetime maintenance exists for the system.

5.1 Permits

A sewage permit shall consist of a Health Department-issued permit containing all pertinent information related to the construction and installation of the alternative on-site disposal system, including:

- a. An approved permit application;
- b. Detailed engineered plans signed by and bearing the seal of a licensed professional engineer OR detailed plans from a manufacturer certified design consultant;
- c. A signed Variance Request form;
- d. A signed Alternative Treatment Sewage Disposal System Permit Agreement;
- e. A signed Deed Advisory;
- f. Copy of the maintenance agreement signed by the applicant and maintenance provider clearly indicating the terms and length included therein.
- g. A copy of the Operations and Maintenance (O & M) Manual for the alternative treatment system.

Before a final inspection can be conducted, the applicant shall produce documentation to the Health Department verifying the signed Deed Advisory has been filed with the County Register of Deeds Office.

5.2 Maintenance Contracts

Maintenance for the lifetime of the alternative sewage disposal system shall be required. An initial maintenance contract agreement for the alternative septic system shall be signed by the applicant prior to the issuance of a permit to install an alternative septic system. Subsequent renewals of maintenance agreements shall be provided to and retained by the Health Department. Maintenance standards shall be a minimum of manufacturer requirements and shall be performed by person(s) meeting the manufacturer's minimum credentialing criteria.

Evidence that maintenance is occurring on a regular basis (as determined by the manufacturer) or that maintenance is occurring at a minimum of once per year shall be provided to the Health Department annually. Failure to provide suitable documentation of annual maintenance shall be reason for the Department to conduct an "operational inspection" to establish the septic system is not malfunctioning or failing. An Operational Inspection fee will be charged to the homeowner for failure to document annual maintenance of the alternative system.

5.3 Performance Standards

Performance standards for any alternative sewage disposal system installed shall be, at a minimum, those of the manufacturer and must be in accordance with standards established by the National Sanitation Foundation (NSF) OR (if applicable) standards as established by the Michigan Department of Environmental Quality and/or Environmental Protection Agency at a minimum.