SEWAGE DISPOSAL CONSTRUCTION STANDARDS

SECTION 1.0 - AUTHORITY AND ADMINISTRATION

SECTION 1.1 AUTHORITY

On-site sewage disposal systems approved for installation under authority of Chapter VI of the Genesee County Environmental Health Regulations shall meet the construction standards and criteria as set forth herein. These criteria, standards, and specifications are hereby adopted by reference as a part of the Regulations pursuant to Section 6.60 of Chapter VI and to authority conferred upon local health departments by the Public Health Code. It shall be the purpose of these standards to set forth design and construction criteria for on-site sewage disposal systems based upon commonly recognized engineering and public health practices to ensure that systems when installed are sound, functional, and meet minimum acceptable requirements.

SECTION 1.2 SPECIFICATION

The following specifications shall be the design and construction criteria for determining the minimum size of sewage disposal systems required for private single and two-family dwellings. Sewage disposal systems for multiple, public, semi-public or commercial establishments shall conform to the “Michigan Subsurface Sewage Disposal Criteria” and Michigan Department of Environmental Quality published policy, which are incorporated by reference in these standards. Plans, specifications, and other data shall be submitted to this office, as required for any sanitary waste disposal system, for approval prior to obtaining a building permit.

SECTION 1.3 - HIGH WATER TABLE

The site will be considered denied for on-site sewage disposal when the seasonal high water table is closer than 12” to the ground surface in clay type soils and 6” to the ground surface in sand type soils.

SECTION 2.0 - GENERAL REQUIREMENTS OF CONVENTIONAL DISPOSAL SYSTEMS

SECTION 2.1 INTRODUCTION

The most common method of on-site subsurface sewage disposal in Genesee County is the septic tank and drain field system. The proper functions of a septic system depends on many variables, such as soil condition, depth, rainfall, grading, surface vegetation, design and operation, family size, and others. The purpose of the survey and permit program is to determine and develop specifications that will result in satisfactory performance throughout the life of the system permitted by the Health Department. Construction standards shall be general requirements. These requirements cover aspects of system planning, materials, sizing, design and construction, and other factors influencing the system, such as maintenance and water conservation. All septic tank and disposal field systems shall be constructed in accordance with accepted public health practice, be of durable, serviceable materials and be installed in a workmanlike manner.
SECTION 2.2 SITE PLAN REQUIREMENT

An agreed upon site plan of the proposed development is required prior to issuing the permit. This shall be drawn to scale and include lot size, location of house, septic, well, any adjacent wells, other landmarks, any surface waters, and location of tile field reserve area. Slope and direction of surface water run-off, if known, shall be included. The Health Department may require data on any proposed features, such as outbuildings, pools, patios, etc.

SECTION 2.30 SEPTIC TANKS (General)

Compartmentalization - Septic tanks shall be compartmentalized, or installed in series, with the first compartment affording two-thirds (2/3) of total capacity. The tank shall have a liquid depth of not less than four (4) feet. The entire primary treatment system shall permit at least a twenty-four (24) hour retention time. Septic tanks shall have a lid over each compartment large enough to facilitate cleaning of the tank. If the septic tank manhole exceeds twenty-four (24) inches below finish grade, a manhole riser must be provided to bring the clean out cover to within twenty-four (24) inches of finish grade.

Design and Construction Methods, as well as material used in fabricating the septic tank, shall be approved by the Health Department prior to installation. In general, design specifications found in the current edition of the “EPA Design Manual” will apply as a guide. Septic tanks are to be installed in a level position and rendered water tight. Septic tanks hereafter used in Genesee County shall be legibly marked with its liquid capacity readily visible, or the installer shall provide the Health Officer with a copy of the septic tank purchase receipt prior to the final approval.

Maintenance - Septic tanks shall be pumped periodically and as necessary to minimize accumulations of sludges and scums which, when carried over into the tile field, reduce the life of the system. Under normal conditions it is recommended that septic tanks be inspected annually and pumped at least every three years.

Inlets and Outlets - Sewer lines from the building to a septic tank shall be under the authority of the Plumbing Inspector. The bottom of the inlet into the septic tank shall be at least two (2) inches above the operating water level of the tank. The inlet must be so designed to permit gas above the liquid level to pass through the line and out the vent pipe servicing the sewer line leading to the tank. A straight inlet shall be provided to prevent clogging. The inlet to a septic tank shall be baffled in such a manner as to prevent turbulence and pass-through velocities which would result in carry-over of particulates. All pipe connections to a septic tank shall be sealed watertight with roofing tar or equivalent.

Effluent Filter - The outlet of the septic tank shall be fitted with an effluent filter. The outlet shall be designed and constructed to permit withdrawal of liquid from the middle third of the depth of the liquid in the tank. The outlet shall be a minimum of four (4) inches in diameter. The first five (5) feet of pipe from the septic tank outlet shall be a minimum of Schedule 40 laid upon compacted ground.
Location - No septic tank shall be located where it is inaccessible for cleaning or inspection purposes, nor shall any structure be placed over any existing tank making the same inaccessible for cleaning and inspection purposes. Septic tanks shall be located on the same side of a building that the sewer line leaves the wall, with not more than one (1) long curve ninety (90) degree bend, or two forty-five (45) degree bends between the wall and the septic tank.

SECTION 2.31 CONCRETE TANKS (Pre-Cast)

Concrete tanks shall be constructed of clean, washed aggregate and properly vibrated to produce a minimum compression strength of three thousand five hundred (3,500) pounds per square inch. Design of baffles and compartments in a concrete multi-chambered tank shall permit only the middle third of the contents of the first compartment to enter the second compartment, and so forth.

SECTION 2.32 CONCRETE TANKS (Block Construction)

Tanks constructed of concrete block shall be laid on a four (4) inch reinforced concrete bottom, and mortar joints shall be thoroughly filled. The interior of the tank shall have a smooth cemented surface and be appropriately sealed on both inside and outside to insure water tightness. All tops and covers must be reinforced with steel rod to ensure structural stability and to provide a degree of safety when in the ground.

SECTION 2.33 POLYMER or PLASTIC TANKS

Septic tanks constructed of materials other than concrete, such as fiberglass or polyethylene, may be approved by the Health Department. Data showing characteristics of longevity and decay resistance, tightness of construction, puncture and impact resistance, structural stability under load, anti-flotation, size to meet local needs, adaptability for compartmentation, and internal configuration with respect to design and dimensions, must be submitted to the Health Department for approval prior to use.

SECTION 2.34 SPECIAL TANKS

Aerated tanks or package treatment plants of a household size shall meet National Sanitation Foundation (NSF) criteria or equivalent and must include a maintenance contract as part of the installation of the system.
SECTION 2.35 MINIMUM CAPACITIES

Minimum Capacities - The following minimum capacity for a septic tank is hereby established and required:

<table>
<thead>
<tr>
<th>Number Of Bedrooms</th>
<th>Minimum Capacities For Septic Tanks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 or 2</td>
<td>1,000</td>
</tr>
<tr>
<td>3</td>
<td>1,250</td>
</tr>
<tr>
<td>4</td>
<td>1,500</td>
</tr>
<tr>
<td>5</td>
<td>1,750</td>
</tr>
</tbody>
</table>

Additional Bedrooms/Garbage Grinder - Each additional bedroom shall require two hundred fifty (250) additional gallons of septic tank capacity. If there are more than two (2) persons per bedroom, one hundred twenty-five (125) additional gallons per additional person shall be added. The above septic tank capacities are to be used only with a single family residence. If a garbage grinder is installed, two hundred fifty (250) additional gallons of capacity are required.

Design Daily Flow. - Generally, flow design shall be based on one hundred fifty (150) gpd for the first bedroom and 100 gpd for each additional bedroom.

SECTION 2.4 DOSING TANKS

Dosing Tank construction shall be equivalent to septic tank construction and shall have a minimum capacity equal to the design daily flow. The Dosing Tanks must be properly vented to insure safety.

Effluent Pumps - Mechanical pumps used for sewage effluent are to be manufactured and classified as such and shall meet specifically engineered conditions. The pump shall be equipped with an alarm system activated by a mercury float switch to provide ample warning in event of failure (Alarm circuit shall be separate from pump circuit). All electrical construction shall be enclosed in conduit and meet applicable State Codes. (Bell siphons may be used in place of mechanical pumps for dosing.)

Discharge - The discharge line from the pump shall be provided with an accessible union to accommodate easy pump removal. This discharge line shall be uniformly graded so that complete drainage occurs: check valves thereon shall be prohibited. Excess liquid from each surge shall drain back the dosing tank to assure frost-free design. The discharge at the header shall be vertical so as to prevent backflow from the drain field.
SECTION 2.5 FINAL DISPOSAL PIPING

The final disposal field for disposal of septic tank effluent shall be constructed in such fashion that uniform distribution of liquid over the entire soil area is effectively accomplished.

Tile and Piping - All tile and piping used in subsurface sewage disposal systems shall be approved by the Michigan Department of Public Health and bear the “Michigan Standards” (MS) logo. Rigid non-perforated header pipe, meeting at least fifteen hundred (1,500) pounds crush strength, shall be required. The header shall be laid on disturbed level subsoil. When necessary, any backfill material under the header shall be compacted sand.

Limitations - In no case shall the disposal field be laid under any drive, parking area, paved surface or building, or area subject to seasonal flooding.

A Header or Distribution Box - shall be set true so as to afford an even distribution of all septic tank effluent throughout the subsurface laterals. The Health Officer may require that dosing tanks and automatic siphons or pumps be used in installations where the design daily flow is over two thousand (2,000) gallons, or when grade conditions do not permit gravity flow. All pump installations shall meet the requirements of Section 2.4 of these standards.

Headers and Footers - A bridle or manifold header shall be provided for systems with more than six (6) trenches or laterals, and a connection made for every twenty (20) lineal feet of header pipe. Multiple connections may require a double-header or wye (“Y”) to assure uniform distribution.

Header Connections - must attach at ninety (90) degree angles and be located so as to provide the most symmetrical, equal distribution possible. Elbows and “T’s” are required whenever a change of direction is necessary. Distribution boxes may be accepted if they are constructed on adequate footings to prevent any frost heave. Terminal ends of each tile line shall be interconnected with perforated drain tile (footer).

Installation Requirements - The final disposal field shall contain not less than two (2) lines: the length of each line shall not exceed one-hundred (100) feet. Solid bed construction requires a minimum of four (4) feet from tile center to tile center and trench design requires six (6) feet from tile center to tile center. The drain tile shall be covered with at least twelve (12) inches, but not more than twenty-four (24) inches of fill material. There shall be a minimum of six (6) inches of stone beneath the tile across the entire width of the trench or bed, and a minimum of two (2) inches of stone over the tile for the entire width of the trench or bed. The slope or grade of the tile lines shall not exceed four (4) inches in one hundred (100) feet.

SECTION 2.6 AGGREGATE

All aggregate shall be clean, washed 6A or 10A stone only, and subject to on-site approval. All other materials, and those which could result in clogging, cementing, deterioration or cause other adverse effects, are prohibited.
SECTION 2.7 FINAL DISPOSAL AREA

The Application Rate - for the particular soil type and shall not exceed one (1) gallon per square foot (g/ft²) absorption area in the most permeable soils. The minimum amount of seepage area, defined as “trench bottom”, shall be provided for in on-site sewage disposal systems as follows:

<table>
<thead>
<tr>
<th>Soil Type</th>
<th>Minimum Feet of 18” Trench per Bedroom</th>
<th>Minimum Square Feet Solid Bed per Bedroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>Sandy Loam</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>Sandy Clay Loam</td>
<td>300</td>
<td>600</td>
</tr>
<tr>
<td>Clay Loam/Clay</td>
<td>Unacceptable unless approved Under Section 3.0 of these Standards or Section 6.70 of Chapter VI (Variances) of the Regulations</td>
<td>Unacceptable unless approved Under Section 3.0 of these Standards or Section 6.70 of Chapter VI (Variances) of the Regulations</td>
</tr>
</tbody>
</table>

SECTION 2.8 MINIMUM ISOLATION DISTANCES

Horizontal isolation distances (in feet) for residential applications shall be:

<table>
<thead>
<tr>
<th>Buried Sewers (constructed of approved watertight materials*)</th>
<th>Buried Sewers (constructed of other materials)</th>
<th>Septic Tank</th>
<th>Tile Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well or Suction Line</td>
<td>10</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Water Line under Pressure</td>
<td>5</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Property Line</td>
<td>2</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Foundation Wall</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Bank or Drop-off</td>
<td>5</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Lake or Stream</td>
<td>10</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>
Building Sewers - No sewer shall be installed within ten (10) feet of a private of Type II or Type III well. All sewers installed within fifty (50) feet of a private water well shall be of cast iron service weight. Schedule 40 plastic or any other material approved by the Michigan Department of Environmental Quality, and have water-tight joints. Sewer installed within seventy-five (75) feet of Type II or Type III public, well is unacceptable unless approved in writing as a deviation by the Health Department.

SECTION 2.9 CONSTRUCTION and INSTALLATION PRACTICE/PROCEDURE

The following specifications, practices and procedures apply to sewage disposal systems installed in Genesee County:

Sandy Clay Loam and Clay Loam - In sandy clay loam and clay loam soils, trenches shall be backfilled with sand above surface grade.

Types of Design - A narrow, shallow trench or an elevated mound are the preferred types of system design. All septic systems shall be installed as shallow as possible to provide an oxygen-rich environment for the proper breakdown of sewage and to enhance system longevity. When permitted, serial distribution shall be the system of choice in hill side applications.

Elevation Changes - Where changes in elevations occur, systems shall run along contour lines, resulting in a long, narrow mound or trench application.

Fill and Site Preparation - All sand fill shall be medium grade subject to on site approval. Top soil must be left in place and vegetation shall be mowed and tilled with a disc prior to sand filling.

Final Disposal Area - Shall be protected from compaction and other damage so as not to destroy the permeability of the soil.

Berms - Berms shall be constructed whenever the elevation of the tile is above existing grade. The berm shall consist of a horizontal bank of compacted sand extending a minimum of ten (10) feet beyond the edge of the trench. beyond which shall be a slope no steeper than four-to-one (4:1) to finish grade.

Top Soil - Top soil or cap and final grade shall be completed and made ready for sod or seed to be accomplished. Sod or seed shall be done within 30 days of final grading.

Reserve Area - Tile field reserve area equal to one and one-half (1 1/2) times the size of the initial system shall be provided.

Tile/Absorption Field Specifications - The following specifications are to be met with respect to isolation distances and system sizing:
<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Maximum</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleanouts Within Sewer Line</td>
<td>Feet</td>
<td>50</td>
<td>-</td>
</tr>
<tr>
<td>Number of Distribution Lines</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Length of Trenches</td>
<td>Feet</td>
<td>100</td>
<td>-</td>
</tr>
<tr>
<td>Width of Trenches</td>
<td>Inches</td>
<td>18 - 24</td>
<td>Dictated by practical limits</td>
</tr>
<tr>
<td>Length of Bed</td>
<td>Feet</td>
<td>60</td>
<td>-</td>
</tr>
<tr>
<td>Width of Solid Bed</td>
<td>Feet</td>
<td>-</td>
<td>10</td>
</tr>
<tr>
<td>Depth to Trench Bottom</td>
<td>Inches</td>
<td>36</td>
<td>24</td>
</tr>
<tr>
<td>Below Finished Grade</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distance Between Trenches (Center to Center)</td>
<td>Feet</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>Distance Between Tiles in Solid Bed</td>
<td>Feet</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Slope of Tile Lines</td>
<td>Inches/100 Feet</td>
<td>4</td>
<td>Level</td>
</tr>
<tr>
<td>Depth of Stone:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under Tile</td>
<td>Inches</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>Over Tile</td>
<td>Inches</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Under Tile Located within Ten Feet of Trees</td>
<td>Inches</td>
<td>-</td>
<td>12</td>
</tr>
<tr>
<td>Size of Stone</td>
<td>-</td>
<td>6A</td>
<td>10A</td>
</tr>
<tr>
<td>Depth of Porous Backfill</td>
<td>Inches</td>
<td>24</td>
<td>12</td>
</tr>
<tr>
<td>Over Stone (Including Topsoil)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth to Groundwater</td>
<td>Inches</td>
<td>-</td>
<td>24</td>
</tr>
<tr>
<td>Depth of Septic Tank Manhole (or Riser) Below Finished Grade</td>
<td>Inches</td>
<td>24</td>
<td>3</td>
</tr>
<tr>
<td>Sewers Under Driveways</td>
<td>-</td>
<td>-</td>
<td>Schedule 40</td>
</tr>
</tbody>
</table>

**Additional Requirements for Proper Septic Installation** - Recommended construction technique procedures developed and published from time to time by the Health Department to help avoid problems with septic installations in general, are to be followed by the installer/homeowner or appropriate contractor, and are hereby incorporated by reference in these standards.
Special Construction Methods/Alternate Systems - Nothing contained in this Chapter shall prevent the use of special construction methods, materials, or installation techniques, provided the design of such system is first approved by the Health Officer and meets the equivalent and intent of these Construction Standards.

Engineered Systems - The Health Officer may require that the owner obtain specifications and/or installation certification from a licensed professional engineer or sanitarian on specially constructed disposal system or where sewage is pumped from the septic tank to the disposal field.

Water Conservation and System Maintenance - Septic systems, in an attempt to increase life expectancy, shall be subjected to the least amount of flow possible. Low or no-volume fixtures are encouraged and shall be installed and utilized wherever practical, and when specifically required by the Health Officer. Low or no-volume fixtures shall include, but not be limited to, toilet tank inserts, dual-flush toilets with air mix, low-volume flush toilets, shower head water reduction inserts, suds savers, faucet aerators, and incineration or composting toilets. The Health Officer shall have the authority to inspect flow reduction devices when they are required as a condition of permit. All such devices are subject to township or municipality and state plumbing board approval. All governmental agencies shall be encouraged to eliminate nonfunctional water uses through homeowner public education programs.

SECTION 3.0 GENERAL REQUIREMENTS of SAND FILTER SYSTEMS

SECTION 3.1 INTRODUCTION

Property that meets the following minimum site requirements may be approved utilizing Sand Filter Technology for on-site sewage disposal systems. All applicable materials and components specified in Section 2.0 - General Requirements shall apply along with the following specifications. A plan prepared by a licensed professional engineer or sanitarian must be submitted to the Health Department for approval.

SECTION 3.2 SITE CONDITIONS

- Minimum parcel size shall be two (2) acres with at least a percolation rate of 200 min/in or faster

- A minimum depth of 24 inches to the seasonal high water table.

- A natural minimum ground slope of 4% in the final disposal area with no evidence of filling or soil compaction

- Sufficient area for final disposal to include the initial absorption system, an equal area for replacement and a 50’ greenbelt area down gradient of that area.

Note: When more permeable soils are determined reduction of parcel size and slope limitation may be considered.
SECTION 3.3 SEPTIC/DOSING TANKS

- Septic tanks shall be designated, constructed and located as specified in Section 2 of these Standards.

- Dosing tanks shall have a minimum capacity equal to the design daily flow.

- An effluent filter shall be required on the outlet of the last compartment or tank prior to the Dosing tank.

- Effluent pumps shall be designed and constructed as specified in Section 2.4 of these Standards.

SECTION 3.4 INTERMITTENT SAND FILTERS

- Application rate shall be a maximum of 1.2 gallons per square foot of filter surface area with a minimum 360 square feet.

- The filter container shall be of an approved water tight material. Wood frame with flexible membrane liners of 30 mm thickness are acceptable.

- All effluent transport piping penetrating the filter container shall have a boot of compatible material or rendered watertight by alternative methods.

- Underdrain piping shall be 4" class 125 PVC or equivalent, laid level on the bottom of the filter container with end caps. Slots shall be cut halfway through the pipe diameter, a min 1/8", max. 1/4" in width every 4" along the entire length of the under drain pipe.

SECTION 3.5 FILTER MEDIA OF THE UNDER DRAIN PIPING

- Cover the under drain piping with a layer of pea gravel to 2" over the piping.

- A minimum of 24" of moist coarse approved filter sand shall be placed over the under drain media and leveled. Filter sand shall meet the following sizing and gradation requirements. If 2NS sand is used the percent of fines passing the 200 sieve may not exceed 3% (2NS sand may be substituted in the absence of material meeting the stated criteria).
SIEVE ANALYSIS/SAND MEDIA REQUIREMENT

<table>
<thead>
<tr>
<th>SIEVE</th>
<th>PERCENT PASSING</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8</td>
<td>100</td>
</tr>
<tr>
<td>No 4</td>
<td>95 - 100</td>
</tr>
<tr>
<td>8</td>
<td>80 - 100</td>
</tr>
<tr>
<td>16</td>
<td>45 - 85</td>
</tr>
<tr>
<td>30</td>
<td>15 - 60</td>
</tr>
<tr>
<td>50</td>
<td>3 - 15</td>
</tr>
<tr>
<td>100</td>
<td>0 - 4</td>
</tr>
</tbody>
</table>

-Minimum of 6" of 6A - stone shall be placed over the sand filter encasing the distribution piping to allow 4" of stone under and 1" of stone over the piping.

SECTION 3.6 FILTER DISTRIBUTION NETWORK

-Piping in the network shall be a minimum class 200 (Sch -40) 3/4" laid on 30" centers.

-Piping shall have a minimum 1/8" holes spaced at 2' intervals.

-Orifice shields are required when 1/8" holes are located on top of piping, and may be recommended if located on sides or bottom of piping.

-Each lateral shall be filtered with a valve or removable end cap. to permit flushing.

SECTION 3.7 FINAL COVER OF THE FILTER

-The top of the 6A stone layer shall be covered with a Geo-Textile fabric.

-The filter shall be backfilled with a minimum 6" and a maximum of 12" of loam/sand and crowned to assure good drainage.

SECTION 3.8 FINAL DISPOSAL

-Final disposal system shall be constructed in accordance with Section 2.5 through 2.9. with the following exceptions: A minimum of 6" from the trench bottom to the seasonal high water table may be approved where protected potable water supply exists.

-Trenches shall be a minimum of 10 feet on centers

-Trenches shall be a maximum of 18" deep

-Pressure dosing is desired in pumped situation

-Loading rates are 1.5gpd/lineal feet of 24" trench
<table>
<thead>
<tr>
<th># OF BEDROOMS</th>
<th>LINEAL FEET OF TRENCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>167</td>
</tr>
<tr>
<td>3</td>
<td>233</td>
</tr>
<tr>
<td>4</td>
<td>300</td>
</tr>
</tbody>
</table>

**NOTE: ALTERNATIVE SAND FILTER DESIGNS**

- Sand filter designs, including recirculating sand filters, which vary in design from this section may be approved by the division if they can be demonstrated to produce a comparable effluent quality.

**SECTION 3.9 MAINTENANCE, OPERATION AND INSPECTION**

- The design consultant shall provide the owner and the health department with written operation and maintenance procedures.

- Evaluation and inspection shall be conducted annually to review maintenance, operation and performance of the system.

- Owner shall have available verification of maintenance/testing as prescribed by the design consultant.

**SECTION 4.0 - PRIVIES AND SIMILAR TOILET DEVICES**

**SECTION 4.1 LOCATION**

- Earth-pit and vault-type privies shall be located at least fifty (50) feet from any well or other sources of water supply, and upon ground sloping away from the water supply. No privy shall be located within two-hundred (200) feet of a municipal water intake or any well used for a municipal water supply. Privies shall be located at least ten (10) feet from any property line, and fifty (50) feet from any lake or stream or another dwelling on adjacent property other than the one served. No privy shall serve more than one (1) dwelling or other habitable building.

**SECTION 4.2 DEPTH**

- An earth-pit privy shall be not less than four and one-half (4 1/2) feet or more than six (6) feet deep. Where ground water and seasonal high water tables are encountered, a mound may be constructed to allow not less than four (4) feet from the bottom of the pit to the ground water, nor two (2) feet to the seasonal high water tables.
SECTION 4.3 CONSTRUCTION

- The receptacle for receiving and storing fecal matter and its surrounding enclosure shall be constructed in such manner and of such material as to be fly-tight, vermin-proof, smooth, easily cleanable, light-colored, and durable. It shall provide adequate capacity under ordinary conditions of usage. Privies shall be vented so as to provide a continuous escape of odors through a screened vent inaccessible to flies. The ventilating pipe shall be connected to the receptacle or bowl and extend above all parts of the building.

SECTION 4.4 MAINTENANCE

- Privies shall be so maintained so as not to create a nuisance or odor condition or health hazard. The privy receptacle shall not be allowed to fill to a point higher than twelve (12) inches below the under surface of the floor of the building. Privies shall be emptied at sufficiently frequent intervals to prevent the creation of an insanitary or nuisance condition. The seat, floor and ground immediately surrounding a privy shall be kept clean at all times. The vent shall be maintained in good repair and free from obstructions at all times.

SECTION 5.0 COMPOSTING TOILETS

SECTION 5.1 GENERAL

- The use of composting toilets may be permitted in Genesee County where not prohibited by local or municipal ordinance, and upon approval by the Health Officer. When permitted, composting toilets shall meet the design and operation requirements of current and applicable Technical Bulletins published by the Michigan Department of Public Health, as promulgated pursuant to Act 421, P.A. 1980.
1. SEPTIC FIELD

II. STANDARD TANK
TYPICAL LAYOUT FOR LIFT CHAMBERS

- Standard Septic Tank
  - Electric maybe outside or in house
  - Any distance
  - Effluent filter
  - Sewage Ejector Pump
  - Warning Bell & Light Float
- Pipe sized by Pump Manufacturer

Riser chamber must be accessible
- Union coupling quick release type

This wet well-lift chamber must be free of surface water infiltration
Typical Schematic Of An Intermittent Sand Filter

- Septic Tank
- Pump Chamber
- Intermittent Sand Filter
- Drainfield
18' X 20' SAND FILTER w/ PUMP BASIN
COLD WEATHER