

**OAKLAND COUNTY HEALTH DIVISION
SANITARY CODE
ARTICLE III**

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**OAKLAND COUNTY HEALTH DIVISION
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**ARTICLE III
SEWAGE DISPOSAL AND TREATMENT**

To protect the public health and safety from nuisances, hazards and causes of illness resulting from improper sewage disposal and treatment, there are hereby provided the following rules and regulations relating to the design, location, construction, operation and maintenance of Onsite Wastewater Treatment Systems within the County of Oakland.

SECTION 1 – DEFINITIONS:

- 1.1 Acceptable Soils – Acceptable Soils are those which consist of sand, sand and silt mixture, or clay silt sand mixture with the sand comprising at least fifty (50) percent of the mixture.
- 1.2 Available Public Sewer – The term Available Public Sewer shall mean a public system, which is under the jurisdiction of 1994 PA 451, as amended, specifically MCL 324.4101 et seq., and is located not more than two hundred (200) feet at its nearest point to a structure from which Sanitary Sewage originates and the use of which is permitted by the responsible governmental entity.
- 1.3 Code – The term Code shall mean the Oakland County Sanitary Code.
- 1.4 Commercial – The term Commercial shall mean all public, semi-public, and non-residential Premises, including structures or buildings not herein defined as a single or two-family residence.
- 1.5 Failure – The term Failure shall mean one of the following conditions:
 - 1.5.1 The discharge of sewage to the surface of the ground
 - 1.5.2 The inability of the Onsite Wastewater Treatment System to accept Sanitary Sewage discharges at the rate being discharged
 - 1.5.3 The discharge of Sanitary Sewage into surface water or groundwater
 - 1.5.4 The discharge of Wastewater effluent which does not comply with applicable effluent discharge standards
- 1.6 Health Division – The term Health Division shall mean the Oakland County Health Division.
- 1.7 Health Officer – The term Health Officer shall mean the Manager of the Oakland County Health Division or his/her authorized representative.

- 1.8 Industrial Waste – The term Industrial Waste shall mean the liquid waste products from industrial processes as distinct from Sanitary Sewage.
- 1.9 Installer – The term Installer shall mean any Person that installs, alters, constructs and/or repairs an Onsite Wastewater Treatment System.
- 1.10 Maintenance – The term Maintenance shall include the pumping of a septic tank, cleaning of effluent filter, work or servicing performed on alternative treatment devices, adjustment of pump floats or settings, and similar activities to maintain the Onsite Wastewater Treatment System.
- 1.11 Minor Repair– The term Minor Repair shall include installation of service access risers, clearing of obstructed sewer lines, replacing pump or electrical components, replacing damaged sewage conveyance lines outside of the header and soil absorption system, minor grading changes to divert surface runoff away from any system component, or other similar Minor Repairs.
- 1.12 Onsite Wastewater Treatment System – The term Onsite Wastewater Treatment System shall mean a system, other than a public sewer which receives Sanitary Sewage and is entirely located on property owned by the individual or entity. Included within the scope of this definition are Septic Tanks, Soil Absorption Systems, Pump Chambers, aeration systems, package treatment plants, lagoons, privies, chemical toilets, composting toilets, or any similar contrivance used in the treatment and disposal of Sanitary Sewage as may be approved by the Health Officer.
- 1.12.1 Alternative System – The term Alternative System shall mean a treatment and Soil Absorption System that is not a Conventional System and provides for an equivalent or better degree of protection for public health and the environment than a Conventional System. Alternative Systems may utilize Pretreatment technology.
- 1.12.2 Conventional System – The term Conventional System shall mean a system which includes a building sewer, one or more Septic Tanks, a Soil Absorption System with non-uniform distribution of effluent, and all associated connections, fittings, and appurtenances installed below Original Grade in a location meeting the site suitability criteria prescribed in this Article.
- 1.12.3 Engineered Alternative System – The term Engineered Alternative System shall mean an Onsite Wastewater Treatment System designed by a professional engineer, currently licensed under 1980 PA 299, which may employ Pretreatment or other plan features, processes, construction and operational methods as approved by the Health Officer.
- 1.13 Original Grade – The term Original Grade shall mean the highest elevation of a naturally occurring soil profile as altered by climatic elements and living matter originally formed from materials that were deposited by, or associated with, glacial activity. Filled ground is not considered part of the naturally occurring soil profile.

- 1.14 Person – The term Person shall mean any individual, firm, partnership, corporation, company, society, association, or other legally definable entity and every agent, officer or employee thereof.
- 1.15 Premise – The term Premise shall mean any dwelling, structure, building, parcel of land, or other place where human beings reside, are employed or congregate.
- 1.16 Pretreatment – The term Pretreatment shall mean a device or process to alter the composition of the Wastewater prior to soil absorption using filtration, aerobic or enhanced microbial processes to yield an effluent with substantially reduced pathogens, biochemical oxygen demand and other parameters than that of typical Septic Tank effluent defined as meeting the National Sanitation Foundation/American National Standards Institute (NSF/ANSI) Standard 40 for Residential Wastewater Treatment Systems or equivalent.
- 1.17 Private Water Supply Well – The term Private Water Supply Well shall mean that system which serves not more than a single dwelling or a dwelling with two family Residential units.
- 1.18 Public Water Supply Systems – The term Public Water Supply Systems shall mean all other water supply systems defined in 1976 PA 399 and Rules not herein defined as a Private Water Supply Well.
- 1.18.1 Community Type I Water Supply – The term Community Type I Water Supply shall mean a public water supply system that provides year-round service to not less than fifteen (15) living units or serving not less than twenty-five (25) persons.
- 1.18.2 Non-Community Type II Water Supply – The term Non-Community Type II Water Supply shall mean a Public Water Supply System that provides service to not less than fifteen (15) service connections or serves not less than twenty – five (25) individuals on an average daily basis not less than sixty (60) days out of the year.
- A. Type II a water supplies have an average production during the maximum month equal to or greater than 20,000 gallons per day.
- B. Type II b water supplies produce less than 20,000 gallons per day during the peak month.
- 1.18.3 Type III Water Supply – The term Type III Water Supply shall mean a Public Water Supply System that is not a Community Type I or Non-Community Type II Water Supply; they serve less than twenty-five (25) persons a day.
- 1.19 Pump Chamber – The term Pump Chamber shall mean a watertight tank, or compartment following the Septic Tank or other Pretreatment process, which contains a pump, floats and volume for storage of effluent for automatic or controlled discharge.

- 1.20 Residential – The term Residential shall mean any single or two-family dwelling, each consisting of one or more rooms arranged as a single housekeeping unit, with cooking, living, sanitary and sleeping facilities.
- 1.21 Sanitary Sewage – The term Sanitary Sewage shall mean human excreta, as well as all waste and Wastewater discharged from sanitary conveniences, including but not limited to: toilets, urinals, sinks, laundries, showers, bathtubs, dishwashers, garbage grinders, and Septic Tank overflow or effluent. Sanitary Sewage shall not include discharge from water softening and water treatment devices, industrial and commercial processes, commercial laundries and roof, footing or storm drainage.
- 1.22 Sanitary Sewer – The term Sanitary Sewer shall mean any enclosed water-tight conduit for transporting Sanitary Sewage.
- 1.23 Septic Tank – The term Septic Tank shall mean a water-tight covered receptacle designed and constructed to receive the discharge of Sanitary Sewage, separate solids from the liquid, digest organic matter and store digested solids through a period of detention, and allow the liquids to discharge for final disposal.
- 1.24 Soil Absorption System – The term Soil Absorption System shall mean that part of the Onsite Wastewater Treatment System in which Septic Tank effluent is distributed by an arrangement of subsurface trenches, beds, or drywells that allow the effluent to be absorbed and treated by the surrounding soil.
- 1.25 Variance – The term Variance shall mean a deviation or modification from the rules and regulations printed herein as may be permitted by the Health Officer.
- 1.26 Wastewater – The term Wastewater shall mean Sanitary Sewage.

SECTION 2 – GENERAL PROVISIONS

- 2.1 Injunctive Proceedings - Notwithstanding the existence or pursuit of any other remedy, the Health Officer may maintain in a court of competent jurisdiction an action for an injunction or other process against any Person to restrain or prevent violations of the Code.
- 2.2 Severability - If any part of the requirements of this Article is found by a court of competent jurisdiction to be void or unenforceable, all remaining parts of this Article shall remain fully valid and enforceable.
- 2.3 Other Laws – This Code is supplemental to the rules and regulations duly enacted by the Michigan Department of Environmental Quality and to laws of the State of Michigan relating to public health and environment, and this Code shall supersede all local minimum standards heretofore enacted and inconsistent herewith.
- 2.4 Priority over Building Permits – No city, village, township, municipality, or other agency acting for a governmental agency shall issue a building permit or otherwise allow commencement of construction on any land where public sewers and/or a public water

supply is not available until all permits required by this Code are obtained or approval has been obtained from the Health Officer.

2.5 Penalties

2.5.1 Civil – The Health Officer shall have the power and authority to issue and serve civil citations as provided by 1978 PA 368, as amended, being MCL 333.2461. Citations may be issued within thirty (30) days of the discovery of the alleged violation of the provisions of this Article. The citation shall be written and shall state with particularity the nature of the violation, including reference to the section, rule, order, or regulation alleged to have been violated. The citation shall include a monetary civil penalty of not more than \$250.00 for each violation or day that the violation continues. Violators have the right to appeal the citation pursuant to Section 11 of this Article.

2.5.2 Criminal – A Person who violates any provision of this Article is guilty of a misdemeanor punishable by imprisonment for not more than 6 months or a fine of not more than \$200.00 or both. Each day that the violation continues is considered to be a separate violation.

SECTION 3 – HEALTH OFFICER POWERS AND RESPONSIBILITIES:

3.1 Scope of Health Officer Responsibilities – The Health Officer shall be responsible for regulating the design, installation, operation and Maintenance of all Onsite Wastewater Treatment Systems serving single and two-family homes within Oakland County. The Health Officer shall also be empowered to exercise regulatory control over Onsite Wastewater Treatment Systems serving other types of Premises when authorized by other public agencies or officials possessing statutory jurisdiction over sewage disposal facilities serving such Premises.

3.2 Health Officer Powers – The Health Officer shall have the authority under this Article to establish policies, procedures and guidelines, including design and construction requirements; operation permit conditions; compliance schedules; notification requirements; and other mechanisms deemed necessary to assure compliance with this Article.

3.3 Right of Entry and Inspection – The Health Officer shall be empowered to conduct inspections of all properties, public or private, in conjunction with the fulfillment of the duties and responsibilities in this Article. In the event that a Health Officer is refused permission to inspect any Premise, the Health Officer may seek an investigation warrant as provided in 1978 PA 368, being MCL 333.2247.

3.4 Power to Issue Violation Notices – The Health Officer shall be empowered to issue a notice to any Person who violates a provision of this Article. Such notice shall contain a description of the violation, and shall cite the specific section of the Article which applies. The Health Officer may also order correction of a violation, and may specify the corrective action required as well as a reasonable time limit for such corrective action to

be completed. In the case of violations that may present an imminent danger to public health, immediate corrective action may be required.

- 3.5 Power to Condemn – The Health Officer shall be empowered to condemn any structure as unfit for human occupancy if such structure is not provided with acceptable sewage disposal as set forth in this Article. No Person shall occupy, or permit to be occupied, any structure condemned until the Health Officer has terminated the condemnation order.
- 3.6 Power to Evaluate Onsite Systems for Altered or Repaired Existing Buildings – The size and adequacy of an existing Onsite Wastewater Treatment System will be evaluated during any alteration, addition or repair to an existing building, to determine if the system is sufficient to allow an increase in living or working area to an existing building and/or to ensure that the construction proposal will not interfere with current or future use of the Onsite Wastewater Treatment System. Such construction shall include, but not be limited to: complete renovations of seasonal or year-round homes; additions to an existing dwelling; construction of garages, outbuildings, decks, porches, swimming pools or driveways; basement remodels; and additions to industrial or Commercial establishments.
- 3.7 Use of Existing Soil Absorption Systems – An existing Soil Absorption System that does not meet the standards contained in this Article may remain in service. This provision shall apply only if the Health Officer determines that systems are capable of performing their intended function in an acceptable manner and that no dangers to human health and safety, nuisances or degradation of the natural environment will result from their continued use.

SECTION 4 – UNLAWFUL SEWAGE DISPOSAL:

- 4.1 Unlawful Disposal of Sanitary Sewage – Under no conditions shall Sanitary Sewage from any structure be deposited upon the surface of the ground, into roadside ditches, watercourses, inland lakes, or into any closed drain other than a Sanitary Sewer.
- 4.2 Connections Required – It shall be unlawful for any Person to construct, install, alter, repair or maintain, any Premise from which Sanitary Sewage originates that is not equipped with an Onsite Wastewater Treatment System or served by a public Sanitary Sewer.

Any Onsite Wastewater Treatment System shall be constructed, installed, altered, repaired and maintained in accordance with the provisions of this Article.

- 4.3 Unlawful Disposal of Industrial Waste – It shall be unlawful for any Person to dispose of Industrial Waste in a manner which tends to create a dangerous or obnoxious condition, or creates a menace to health or safety, or impairs the use by any Person of any lake, stream, or other body of water.

4.4 Sewage Discharge of Unknown Origin from Public or Private Drains

- 4.4.1 Notice - Whenever the Health Officer determines that improperly treated sewage is flowing from the outlet from any public or private drain, the Health Officer may issue public notices requiring persons owning Premises from which Sanitary Sewage originates to cease and desist from the further discharge of improperly treated Sanitary Sewage and to connect to an Available Public Sewer, or in the absence thereof, to comply with the provisions of this Article. Public notice shall consist of at least five (5) conspicuous notices in the probable area served by the drain.
- 4.4.2 Corrective Action by Health Officer - 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 the drain until such time as the source of the improperly treated sewage has been located. Owners of properties known to be discharging improperly treated sewage into a drain posted by the Health Officer shall be given written notice of the corrections required within the time allowed by the posted notices. Failure to comply with such notices, or malicious destruction or removal of public notices, shall be a violation of the Code and punishable as set forth in Article I Section 5 and Section 2 of this Article. Notwithstanding MCL 333.2465 the Health Officer shall not be liable for any damage which results, or might result, from action authorized by this Section.
- 4.5 Operation of a Failed System – All facilities for the management, treatment and disposal of Wastewater shall be constructed, maintained and operated, so that there is no system Failure.
- 4.6 Corrective Action Required – In the event of an Onsite Wastewater Treatment System Failure, the Health Officer may require the property owner, or occupant, to immediately cease the discharge until an approved corrective action plan has been implemented in accordance with this Article. A corrective action plan may include, but is not limited to the following:
- 4.6.1 Connect the property to an Available Public Sewer
- 4.6.2 Repair or replace the failed Onsite Wastewater Treatment System, or any of its components, after receiving approval and a permit from the Health Division, except as provided in Sections 1.10 and 1.11 of this Article
- 4.6.3 Vacate/discontinue occupancy of the property
- 4.7 Abandonment – When an Onsite Wastewater Treatment System is abandoned, or its use terminated, the existing Septic Tanks, drywells, privies, or other below grade facilities shall be emptied by a state licensed septage hauler and crushed or backfilled with earth, preferably sand, and compacted. Abandoned tanks shall be made safe from the hazard of collapse or entrapment.

SECTION 5 – PERMIT REQUIRED:

- 5.1 General Provisions – It shall be unlawful for any Person to construct, install, alter, enlarge, relocate or repair, or cause to be constructed, installed, altered, enlarged, relocated or repaired any Onsite Wastewater Treatment System or other device for the disposal of Sanitary Sewage, except for Minor Repairs or Maintenance as defined in Sections 1.10 and 1.11 of this Article, without first obtaining a permit from the Health Division.
- 5.1.1 Application Procedure – Application for an Onsite Wastewater Treatment System permit shall be made by a Person to the Health Officer on forms provided for such purpose by the Health Division.
- 5.1.2 The application shall include the name and address of the applicant and property owner, location of the property and a scaled plot plan that includes, but is not limited to, property lines, abutting roads, existing or proposed structures, the driveway, any and all Public Water Supply Systems and Private Water Supply Wells, underground utilities, easements, surface water and swimming pools.
- 5.1.3 The application shall be submitted with the required fee as authorized by the Oakland County Board of Commissioners.
- 5.1.4 The Health Officer may require additional information when necessary to adequately evaluate a permit application. The Health Officer may require that design plans and specifications for an Onsite Wastewater Treatment System be prepared by a licensed professional engineer in the State of Michigan in accordance with specifications outlined in Section 9.3 of this Article.
- 5.1.5 The application shall be valid for a period of one (1) year from the date of submittal and void thereafter. Valid applications are transferable from one Person to another for the same property as described on the application.
- 5.2 Issuance of Permit – The Health Division shall issue an Onsite Wastewater Treatment System permit when the data obtained indicates that the requirements of this Article and applicable state statutes, rules, or criteria will be or have been met.
- 5.3 Permit Expiration – The permit will be valid as written for a period of two (2) years from date of issuance and void thereafter. Valid permits are transferable from one permit holder to another when no change to the design, location or use of the Onsite Wastewater Treatment System have been made or is proposed.
- 5.4 Permit Denied Reasons – Except as provided for in Section 5.6, the Health Division shall refuse to issue an Onsite Wastewater Treatment System permit when the data obtained indicates that the requirements of this Article and/or applicable state statutes, criteria have not or cannot be met. Conditions for denial may include, but are not limited to:
- 5.4.1 Availability of a public Sanitary Sewer to serve the Premise;

- 5.4.2 The textural soil classification, as determined by the U.S. Department of Agriculture Soil Conservation Service, or other physical conditions that are deemed unsatisfactory for the treatment of Sanitary Sewage. Examples of unacceptable soils include: silt loam, clay loam, clays, silts, peat, muck, and marl;
 - 5.4.3 The highest zone of groundwater saturation is less than twenty-four (24) inches below the Original Grade or there is less than twelve (12) inches of Acceptable Soil without mottling below topsoil;
 - 5.4.4 The property served is too small for the required isolation distances, as described in Section 7.3, or the property has insufficient area for the Soil Absorption System and reserve area;
 - 5.4.5 Existence of less than twenty-four (24) inches of naturally occurring Acceptable Soil that is considered suitable for the treatment of Wastewater;
 - 5.4.6 The proposed site is subject to flooding;
 - 5.4.7 The Soil Absorption System would be inaccessible for repairs or Maintenance;
 - 5.4.8 The Septic Tank would be inaccessible for cleaning or inspection purposes;
 - 5.4.9 Issuance of the requested permit would create a public health nuisance or result in a hazard to public health.
- 5.5 Notification of Denial – When an application for an Onsite Wastewater Treatment System permit has been denied, the Health Division shall notify the applicant, in writing, of such action including the reasons for denial, recommendations which the applicant can take, if any, to secure the requested permit and the right to appeal, all in accordance with Article VI of the Code.
- 5.6 Variances – Variances from this Article may be made in cases where physical size or shape of the property or undue hardship makes its application a physical impossibility, or where there is application of sound engineering principles in accordance with criteria, policies and standards established by the Health Officer. In such event, if the Health Officer finds that special conditions are present, the owner may construct, or cause to be constructed, an Onsite Wastewater Treatment 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. Approval of a Variance shall be in writing and shall become part of the permit record for the Premise.
- 5.7 Rescinding a Permit – A permit to install an Onsite Wastewater Treatment System may be rescinded by the Health Officer if the original permit conditions cannot be met. Such conditions may include, but are not limited to: the area designated for the Soil Absorption System is disturbed by major filling, compaction, excavation, paving or flooding; by the

installation of public sewer; by location of a Private Water Supply Well or Public Water Supply System or other alterations that encroach on any required isolation distance. The permit may also be rescinded if there is any increase in the scope of the project prior to or during construction of said system.

- 5.8 Non-conforming Site Repairs – When Onsite Wastewater Treatment System repairs or replacements are deemed necessary to serve existing homes, it is recognized that the standards set forth in this Article may create undue hardships. Under such circumstances, repair or replacement may be made for properties containing limiting soil or site conditions if criteria established by the Health Officer can be met providing no public health hazard or nuisance is or will be created. Permits for such installations may stipulate water conservation, prohibit building expansion, or other measures as deemed appropriate by the Health Officer.
- 5.9 False or Inaccurate Information – It shall be a violation of this Article to misrepresent, omit, or withhold information or pertinent data relative to the use of the Premise or the facilities therein, or to alter permits, approved plans or other documents upon which the minimum requirements contained in this Article are based.

SECTION 6 –SOILS AND SYSTEM SIZING REQUIREMENTS:

- 6.1 Soil Analysis – The textural soil classification system and interpretations as provided by the United States Department of Agriculture, Soil Conservation Service, and the use limitations pertaining to that soil classification will be the basis of the site and soil evaluations.
- 6.2 Soil Borings – Soil borings or excavations shall be made by the applicant, or his agent, within the area proposed for the Soil Absorption System to determine the highest groundwater level and soil formations. Test borings or excavations shall be witnessed by the Health Officer for inspection and evaluation of soil types and conditions. Such borings shall be conducted to a minimum depth as determined by the Health Officer based on observed soil conditions. There shall be an adequate number of soil borings conducted to determine if Acceptable Soil and site conditions exist to construct both a primary and reserve Soil Absorption System, except as provided for in Section 6.3.
- 6.3 Primary / Reserve – Sufficient area of Acceptable Soil shall be set aside or put on reserve for a future replacement system. Such reserve replacement system areas shall be at least equal to the area required for the initial system. If the property served was established and described prior to January 22, 1995, the effective date of Article II of the Code, a reserve area may not be required.
- 6.4 Filled Ground – Installation of an Onsite Wastewater Treatment System on or in filled soils shall be acceptable only with specific written approval of the Health Officer.
- 6.5 Deep Cut Excavations –When soils explorations reveal the presence of Acceptable Soils beneath unacceptable soils, an excavation or cutdown through the unacceptable soils will be required. Cutdown installation to a depth greater than twelve (12) feet will be considered if proper protection of groundwater can be maintained.

6.6 Factors Affecting the Size of the Soil Absorption System –The size of the Soil Absorption System shall be based on anticipated water use and the type and structure of the subsoils. Under Acceptable Soil conditions, unless otherwise approved by the Health Officer, a Conventional System shall meet the following minimum sizing requirements:

6.6.1 Trench and Bed Application

Soil Texture	Trench Application Rate (gal. per sq. ft.)	Bed Application Rate (gal. per sq. ft.)
Coarse Sand, Sand, Loamy Sand	0.8	0.4
Fine Sand, Loamy Fine Sand, Sandy Loam	0.7	0.35
Loam, Sandy Clay Loam	0.6	0.3
Silt Loam, Clay Loam, Silts, Sandy Clay, Clay, Peat, Muck, Marl	Unacceptable for below Original Grade, Conventional Systems	

- A. The basis of design for single and two-family Residential homes will be based on the number of bedrooms or equivalent flow using one hundred fifty (150) gallons per bedroom per day.
- B. The basis of design for Commercial facilities generating less than one thousand (1,000) gallons per day will be based on actual flow, estimated based on comparable flow data, or by applicable state statute, criteria or guidelines.
- C. Calculations for trench Soil Absorption Systems will be based on trench bottom. The following conversions are used for varying trench widths.
 - 12-inch trench = 1.0 square foot per linear foot
 - 18-inch trench = 1.5 square feet per linear foot
 - 24-inch trench = 2.0 square feet per linear foot
 - 36-inch trench = 3.0 square feet per linear foot
- D. Calculations for bed Soil Absorption Systems will be based on total area of washed 6A stone placed in a single excavation. A cutdown of 100% of the required square footage through unacceptable soil to Acceptable Soils is required.

6.6.2 Drywells

- A. General Provisions – Drywell installations are prohibited on properties that have never been served by an Onsite Wastewater Treatment System.

Drywells may be used only when specific approval is granted by the Health Officer, and when all other viable options have been exhausted.

- B. Installation – Drywells may be installed in series or in parallel with a minimum center to center spacing of twenty (20) feet. Drywell installations require a minimum of six inches (6”) of washed 6A stone, or equivalent, under the drywell. There shall be a maximum of two (2) feet of stone around the perimeter of the drywell.
- C. Drywell Absorption Area – The total square footage of drywell absorption area will be based on sidewall, stone-soil interface using the liquid depth of the drywell. The entire excavated absorption area shall consist of Acceptable Soils; sizing will be determined by the most restrictive, Acceptable Soil encountered. Total soil absorption area for each drywell will be based on the following formula:

$$A = D (2L+2W)$$

Where: A = the total soil absorption area in square feet
 D = the liquid depth of the drywell plus the amount of stone below the drywell in feet.
 L = the length of the excavation site in feet
 W = the width of the excavation site in feet

- D. Minimum Sizing Requirements – Drywell installations shall be based on 150 gallons per bedroom per day and meet the minimum sizing requirements set forth below:

Soil Texture	Maximum Soil Application Rate
Coarse Sand, Sand, Loamy Sand	0.8
Fine Sand, Loamy Fine Sand, Sandy Loam	0.7
Loam, Sandy Clay Loam, Silt Loam, Clay Loam, Silts, Sandy Clay, Clay	Drywells are unacceptable

SECTION 7 – REQUIREMENTS FOR THE CONSTRUCTION AND LOCATION OF ONSITE WASTEWATER TREATMENT SYSTEMS:

- 7.1 Scope of Onsite Wastewater Treatment Systems – Sewage from any Septic Tank or similar device which releases partially treated Sanitary Sewage effluent shall be discharged into a Soil Absorption System or device designed to distribute and confine such effluent beneath the surface of the ground.

Onsite Wastewater Treatment Systems will receive Sanitary Sewage only for onsite treatment and disposal in a manner prescribed herein and may consist of Septic Tanks, Soil Absorption Systems, Pump Chambers, aeration systems, package treatment plants,

lagoons, privies, chemical toilets, composting toilets, or any similar contrivance used in the treatment and disposal of Sanitary Sewage.

- 7.2 Location – In no case shall any driveway, parking area, paved surface, swimming pool, stockpiled material or building be placed over the Onsite Wastewater Treatment System. Additionally, the system shall not be located in an area that is subject to conditions that would allow the accelerated formation and penetration of frost into the system.
- 7.3 Required Minimum Isolation Distances – Onsite Wastewater Treatment Systems shall meet the required minimum isolation distances as specified in the table below. Greater isolation is required where Michigan State law, rules, or criteria prevail.

From	To Septic Tank (ft)	To Absorption System (ft)	To Sewer Line (ft)
Private Water Supply Well	50	50	50 (1)
Public Water Supply System			
Type I Community Well	200	200	200
Type II a Non-Community Well	200	200	200
Type II b Non-Community Well	75	75	75
Type III Public Water Well	75	75	75
Property Lines	10 (2)	10 (2)	-
Building Foundations	10 (2)	10 (2)	-
Surface Waters	50 (3)	50 (3)	10
Pressurized Water Lines	10	10	10 (4)
Retention /Detention Ponds not constructed in the water table	25	25	-
Retention/Detention Ponds constructed in the water table	50	50	-
Top of Drop-off (existing grade) \geq 25% Slope	5	20	5
Swimming pools	10 (2)	10 (2)	10 (2)
Designated county drains	50	50	-
Foundation walls w/o footing drains (slab) or footing drains w/o direct connection to surface waters	10 (2)	10 (2)	-
Footing drains installed in water table with direct connection to surface waters	50	50	-

Storm drains designed to lower groundwater table	25	100	25
Storm drains and catch basins designed to divert surface water	50 (5)	50 (5)	10

Notes Regarding Required Minimum Isolation Distances:

- (1) This minimum isolation distance may be reduced to ten (10) feet where a buried gravity-flow sewer that is constructed of service weight or heavier ductile-iron pipe with watertight joints, schedule 40 PVC plastic with watertight joints or other material and joints as approved by the Health Officer is present.
- (2) This minimum isolation distance may be decreased to no less than five (5) feet at the discretion of the Health Officer given due consideration to site conditions and remedies proposed in a written request for Variance submitted by a Person.
- (3) This minimum isolation distance may be increased up to one hundred (100) feet at the discretion of the Health Officer given due consideration to existing and potential contamination sources.
- (4) If ten (10) horizontal feet isolation cannot be maintained and sewer line must cross a water line, installation must adhere to the Michigan Plumbing Code or requirements of the local plumbing authority.
- (5) This minimum isolation distance may be decreased to twenty-five (25) feet if a premium joint structure is utilized for the construction of the storm drain and there is no possibility of the drain receiving sewage effluent.

7.4 Building Sewer

7.4.1 Scope and Authority Over Building Sewers – Except as otherwise provided herein, the design, construction and installation of building sewers serving Onsite Wastewater Treatment Systems falls under the regulatory jurisdiction of the local plumbing inspection authority.

7.4.2 Sewer Lines Between Tanks – Sewer lines between the building and Septic Tanks, between Septic Tanks, and between Septic Tanks and Pump Chambers shall be constructed of solid pipe with sealed joints, Schedule 40 PVC (solid), or other materials approved by the Michigan State Plumbing Code.

7.5 Septic Tanks

7.5.1 Residential Septic Tank Capacity – The following minimum capacity for Septic Tanks shall be required for single and two-family dwellings except where in the opinion of the Health Officer increased capacities may be required. Septic Tank capacity shall not include capacity of Pump Chambers.

Number of Bedrooms	Minimum Liquid Capacity
1- 4 Bedrooms	1,500 gallons (two-compartment)
5 Bedrooms	2,000 gallons
Additional Bedrooms	add 250 gallons per bedroom

- 7.5.2 Existing Septic Tanks – When repairing or replacing an existing Onsite Wastewater Treatment System, the existing Septic Tanks that do not meet the standards contained in this Article may remain in service. This provision shall apply only if the Health Officer determines that such existing Septic Tank(s) are capable of performing their intended function in an acceptable manner and that no dangers to human health and safety, nuisances or degradation of the natural environment will result from their continued usage.
- 7.5.3 Septic Tank Location – No Septic Tank shall be located where it is inaccessible for cleaning or inspection purposes, nor shall any structure be placed over the existing tank making it inaccessible for cleaning and inspection purposes.
- 7.5.4 Septic Tank Materials – The Septic Tank shall be constructed of concrete or other material approved by the Health Division, not subject to excessive corrosion or decay, and structurally capable of supporting the stresses to which it will be subject. The tank shall be of water-tight construction and the structural design and materials used shall be in accordance with generally accepted good engineering practice providing a sound, durable tank which will safely sustain all liquid and earth pressure involved.
- 7.5.5 Inlet – The inlet connection to a Septic Tank shall not be less than four (4) inches inside diameter. The invert of the inlet shall be a minimum of two (2) inches above the operating level of the tank. The inlet must be designed to permit gas above the operating level to pass through the inlet line and out of the vent pipe servicing the sewer line leading to the tank.
- 7.5.6 Outlet – The outlet device (e.g., tee or baffle) shall have a minimum interior dimension of four (4) inches, shall extend into the middle one-third (1/3) of the liquid level of the Septic Tank and shall be constructed of Schedule 40 PVC (solid) or other material of sufficient strength to prevent sagging, deformation or collapse as approved by the Health Officer. The invert of the outlet shall be located not less than two (2) inches below the invert of the inlet.
- 7.5.7 Effluent Filter Required – All newly installed Septic Tanks shall be equipped with an effluent filter installed at the outlet of the last compartment of multi-compartment tanks, last compartment of the last tank when two (2) or more tanks are used in series, or in a secondary watertight structure located after the last Septic Tank. Effluent filters shall meet NSF/ANSI Standard 46 for Wastewater Treatment Components and Devices or equivalent. Effluent filters shall be rated by the manufacturer with a minimum daily flow rate of one and one-half (1.5) times the total required Septic Tank capacity or as approved by the Health Officer.

7.5.8 Service Access / Risers – Each Septic Tank, tank compartment or Pump Chamber shall be provided with service access of sufficient size to facilitate the inspection and cleaning of the tank. Risers shall be installed so that covers are at or above final grade. Risers must be watertight and installed per manufacturer’s recommendation. Risers shall be a minimum of twenty-four (24) inches in diameter. All Septic Tank lids and riser lids must be tight-fitting, secured, and tamper resistant. Riser lids shall be equipped with a locking mechanism or boltheads that need specialized tools for access.

7.5.9 Multiple Compartments or Multiple Tanks – When a Septic Tank is divided into two compartments, or multiple tanks are used, the liquid volume of the first compartment or tank shall be no less than one thousand (1,000) gallons. For multiple compartments, a vent space shall be provided between compartments. Inlets and outlets to a compartment tank shall be proportioned and located as for a single tank. The opening from the first compartment to the second compartment shall be a minimum of four (4) inches in diameter and permit the withdrawal of liquid from the middle one-third of the depth of the liquid in the tank.

7.6 Soil Absorption System

7.6.1 General Provisions – In addition to the provisions set forth above, the following regulations also apply to the construction and maintenance of the Soil Absorption System:

System Component	Maximum	Minimum
Number of lines or trenches	-	2
Size of gravity distribution pipe or tubing	-	4 in.
Length of lines or trenches	100ft	-
Width of trenches	36 in.	12 in.
Undisturbed space between each trench	-	4ft
Number of distribution lines per trench	1	-
Distance between distribution lines (bed construction)	6ft	4ft
System Component	Maximum	Minimum
Distance between distribution lines and bed wall	3ft	2 ft.
Final cover over soil absorption system	24 in	8 in
Slope of distribution lines	3 in / 100 ft	Level preferred
Depth of aggregate under distribution lines (includes entire trench or bed bottom)	-	6 in
Depth of aggregate over distribution lines	-	2 in
Size of aggregate	1 ½ in	¼ in
	Aggregate material shall be 6A washed stone or equivalent.	

- 7.6.2 Depth to Groundwater – The lowest point of any Soil Absorption System shall not be closer than four (4) feet to any known water table, high seasonal water table or evidence thereof.
- 7.6.3 Impervious Soil Layers – Impervious hardpan, or soils not meeting the definition of Acceptable Soils, stone or shale, if present, shall be at least two (2) feet below the bottom of the Soil Absorption System.
- 7.6.4 Slope – An acceptable site for an Onsite Wastewater Treatment System shall not possess slope conditions that may create a public health nuisance or which prevent construction or interfere with the satisfactory operation of all components of the system. For sites having a twelve (12) percent or greater slope in the area of the proposed Onsite Wastewater Treatment System, the Health Officer may require submission of a detailed development plan by a licensed professional engineer.
- 7.6.5 Header – A header or distribution box shall be set level between the Septic Tank and the Soil Absorption System with gravity distribution so as to evenly distribute all Septic Tank effluent throughout the Soil Absorption System. A double-header shall be used in all cases where the header is thirty (30) feet or more in length.
- 7.6.6 Distribution Piping – Piping or tubing installed between the last Septic Tank and the header of the Soil Absorption System shall be constructed of solid, smooth walled pipe with sealed joints, Schedule 40 PVC (solid), or equivalent of sufficient strength to prevent sagging, deformation or collapse as approved by the Health Officer.
- 7.6.7 Absorption System Material Requirements – The Soil Absorption System distribution piping shall be constructed of perforated, non-metallic pipe approved by the Health Officer. All perforated Soil Absorption System piping approved by the Michigan Department of Environmental Quality (MDEQ) is acceptable. The piping must be stamped with the letters "MS" (signifying certification under Michigan standards). All lines shall be connected to a solid, watertight distribution header or distribution box and perforated footer.
- 7.6.8 Site Modifications – Site modifications, such as cutting, grading or filling may be permitted to overcome soil permeability limitations. Such modifications must be reviewed and approved by the Health Officer and comply with this Article.
- 7.6.9 Aggregate Protective Barrier – The top surface of Soil Absorption System aggregate shall be provided with a soil entrapping barrier to minimize the infiltration of soil. Acceptable cover materials include geotextiles, fiberglass matting or other synthetic fabric material intended for use in such applications. Use non-woven fabric with a weight not to exceed two (2) ounces per square yard, a minimum trapezoidal tear strength of ten (10) pounds, and a minimum puncture strength of eight (8) pounds.

- 7.7 Other Approved Materials – Other approved materials such as chambers and alternatives to aggregate may be considered and approved by the Health Officer.
- 7.8 Inspection of Onsite Wastewater Treatment Systems – All work authorized by a permit issued by the Health Officer shall be subject to an inspection. It shall be the responsibility of the contractor, homeowner or Installer to notify the Health Officer that the Onsite Wastewater Treatment System is ready for inspection, as specified on the permit.
- 7.8.1 Midcut Inspection – A midcut inspection shall be made by the Health Officer after the excavation to Acceptable Soils has been completed, if required by the installation permit. After the unacceptable soils have been removed, backfilling of the excavation shall be completed within twenty-four (24) hours after inspection. Inability to backfill prior to the allotted timeframe may require a re-inspection by the Health Division.
- 7.8.2 Final Inspection – A final inspection shall be made by the Health Officer when the Onsite Wastewater Treatment System has been completed, but before any portion of the system has been covered or placed in operation.

The Installer shall leave uncovered the following portions of the Onsite Wastewater Treatment System in order that the final inspection may reveal good workmanship and compliance with this Article and any stipulations as may be noted on the installation permit:

The building sewer line shall be exposed

All inlets and outlets to the Septic Tank(s) shall be exposed

All access covers of the Septic Tank(s) shall be exposed

The sewer line from the Septic Tank(s) to the Soil Absorption System or treatment system shall be exposed

Any distribution box, drop box or similar device shall be accessible for inspection

The full length of the header and footer shall be exposed

When a trench type Soil Absorption System is installed, the entire length of one (1) distribution line and an opening every twenty (20) feet in each additional line installed shall be exposed

When a bed or drywell type Soil Absorption System is installed, the entire absorption area shall be exposed with aggregate in place

All pumps and portions of the engineer designed pressure distribution systems shall be available for inspection

- 7.8.3 Final Cover – After final approval of the Onsite Wastewater Treatment System is granted by the Health Officer, it shall be backfilled or covered as soon as possible, not to exceed five (5) days. Failure to do so may cause the system to become damaged. Frozen soils shall not be used for backfill. The Health Officer may revoke previous approval if there is evidence of damage to the Soil Absorption System as a result of improper backfilling or if there is evidence of unacceptable soils covering the Soil Absorption System.

SECTION 8 – WATERLESS TOILETS:

- 8.1 Prohibition of Privies – A privy shall not be maintained, constructed on or moved to any Premise as a permanent means of sewage disposal except as approved by the Health Officer.
- 8.2 Privies – All privies and other similar toilet devices shall be of privy vault construction in accordance with 1978 PA 368, as amended, being MCL 333.12771 and the rules and regulations adopted pursuant to said act.
- 8.3 Temporary Portable Privies – Temporary portable privies used at construction sites, places of public assembly, camps, etc., shall comply with 1978 PA 368, as amended, being MCL 333.12771 and the rules and regulations adopted pursuant to said act, and when cleaned or serviced, the agency performing such service shall comply with 1994 PA 451, as amended, being Part 117, Septage Waste Servicers.
- 8.4 Other Waterless Toilet Designs – Other waterless toilet designs may be evaluated by the Health Officer as an Alternative System in accordance with Section 9 of this Article.

SECTION 9 – ALTERNATIVE ONSITE WASTEWATER TREATMENT SYSTEMS AND ENGINEERED PLANS:

- 9.1 Alternate Methods of Wastewater Treatment – The Health Officer shall have the authority to review, evaluate, approve, or reject applications, plans and specifications to alter, install, repair or replace Alternative Systems or Engineered Alternative Systems on sites where a Conventional System cannot be constructed due to specific site suitability deficiencies.
- 9.2 Design Criteria – The Health Officer is empowered to establish criteria, policies and standards governing the authorization, location, design, installation, inspection, use and operation of Alternative Systems and Engineered Alternative systems.
- 9.3 Plan Submission – Detailed design and construction plans, when required, shall be prepared by an engineer licensed under 1980 PA 299 and submitted to the Health Division with the appropriate fee. Additional fees may be required for review of revised plan submittals. Approval or denial of the initial or revised plan shall be made in writing to the engineer and applicant within thirty (30) days of plan receipt.
- 9.4 Plan Review – The Health Officer shall examine proposals for Alternative Systems and Engineered Alternative Systems in accordance with established criteria, policies and

standards to determine that the following design and construction plan acceptance conditions have been satisfied:

- 9.4.1 Alternative methods shall protect public health and environment in a manner at least equal to that of a Conventional System installed on a suitable property.
 - 9.4.2 The design of the Alternative System or Engineered Alternative System is based on sound engineering principles; is technically and factually accurate and complete; and can reasonably be expected to overcome identified onsite deficiencies and limitations.
 - 9.4.3 There is reasonable assurance that the proposed construction will provide satisfactory performance with no discharge of Sanitary Sewage to the ground surface or surface waters.
 - 9.4.4 Public health will not be jeopardized by the construction and operation of the Alternative System or Engineered Alternative System.
- 9.5 Design Approval / Denial – If the Health Officer determines that the engineer’s plan has satisfactorily resolved the onsite problems, the Health Division shall forthwith favorably endorse the application subject to any terms, conditions, restrictions and requirements imposed by the Health Officer and by the engineer’s plan. If the Health Officer determines that the engineer’s plan fails to meet established criteria, policies and / or standards for Alternative Systems or Engineered Alternative systems, the application shall stand as denied in accordance with Section 5.5.
- 9.6 Developing Technologies – Developing technologies may produce system designs of a non-traditional nature. Alternative wastewater treatment facilities, construction methods, or materials may be considered for approval by the Health Officer if it is determined that the use of such a facility, method or material will not result in a hazard to public health or safety, a degradation of the natural environment or creation of a nuisance.
- 9.7 Installation – All Alternative Systems or Engineered Alternative Systems shall be installed by a qualified contractor. The contractor shall be licensed as an Installer in Oakland County and be trained and certified by the manufacturer/distributor of the alternative or Pretreatment technology applied.
- 9.8 Deed Restriction Required – Prior to the Health Division granting final approval of the system, a deed restriction shall be recorded with the Oakland County Register of Deeds for all Alternative Systems or Engineered Alternative Systems that include Pretreatment and require continuing Maintenance. The deed restriction shall include a notification of the technology used and description of the necessary Maintenance. A copy of the recorded deed restriction shall be provided to the Health Division.
- 9.9 Operation Permit – An operation permit shall be issued for all Alternative Systems or Engineered Alternative Systems that include Pretreatment. Alternative Systems and Engineered Alternative Systems shall be maintained in accordance with manufacturer recommendations or at a frequency set forth by the Health Officer. The Health Division

may charge a nominal permit fee to review maintenance reports and administratively coordinate this program. Operation permits shall be issued annually for the life of the system, and are not transferable if the property undergoes a change of ownership.

- 9.10 Operation and Maintenance Reports – Annual reports of maintenance performed on an Alternative System or Engineered Alternative System shall be provided to the Health Division upon renewal of the operation permit. Operation and maintenance reports or documentation of maintenance performed shall be provided to the Health Division by the owner or maintenance provider within thirty (30) days of the service. Failure to conduct required maintenance or perform corrections recommended by the maintenance provider shall result in penalties set forth in this Article.
- 9.11 Maintenance and Repairs – Service performed on an Alternative System or Engineered Alternative System is limited to those individuals and/or companies that are recognized by the Health Division and trained and certified by the manufacturer/distributor of the alternative or Pretreatment technology to perform work on that technology.
- 9.12 Non-Compliance of Alternative System – If the operation and maintenance report indicates that the system is deficient and not in substantial compliance with this Article, the Health Officer shall, within ten (10) business days from the date a report is received, notify the owner in writing of all the deficiencies included in the report. The owner or his/her designated representative shall, within thirty (30) days from the date of the notification, bring the system into compliance with this Article.
- 9.13 Enforcement of Operation Permit – If an owner does not submit an operation and maintenance report as stipulated in this Article, the Health Division shall have the authority to cause an inspection to be performed and may charge all costs and fees for the evaluation to the owner of the Premise. If the owner or party violating this Article refuses on demand to pay such expenses incurred by the Health Division for monitoring purposes, the sum shall be assessed against the property and shall be collected and treated in the same manner as taxes assessed under the general tax laws of this State.

SECTION 10 – COMMERCIAL ONSITE WASTEWATER TREATMENT SYSTEMS:

- 10.1 General Provisions – Applicable Michigan State Law, criteria or guidelines shall apply to all Commercial Onsite Wastewater Treatment Systems generating daily sewage flow in an amount greater than one thousand (1,000) gallons per day.

Those Commercial Onsite Wastewater Treatment Systems generating one thousand (1,000) gallons or less per day shall be governed by the minimum standards for design, construction, review, approval and enforcement pursuant to Article III of the Oakland County Sanitary Code or applicable Michigan State Law, criteria or guidelines, whichever is more stringent.

- 10.2 Commercial Septic Tank Capacity – Minimum total Septic Tank capacities for Commercial, industrial, and multiple-residential Premises shall be determined on the basis of actual or calculated daily sewage flows. For sewage flows up to one thousand (1,000) gallons per day, the minimum required total Septic Tank capacity shall be one

thousand five hundred (1,500) gallons. For sewage flows exceeding one thousand (1,000) gallons per day, the minimum required total Septic Tank capacity shall be in accordance with applicable Michigan State Law, criteria or guidelines or shall have a minimum capacity not less than one thousand five hundred (1,500) gallons, whichever is more stringent.

SECTION 11 – APPEALS:

- 11.1 Right of Appeal – Any Person who has been affected by any order, decision, notice or citation issued by the Health Division in connection with the enforcement of any section of this Article shall have the right to appeal any order, decision, notice or citation by petition in writing and directed to the Oakland County Health Division. All petitions must be accompanied with the required fee and submitted within thirty (30) days from the receipt of the written order, decision, notice or citation. Such appeals shall be heard before the Oakland County Sanitary Code Appeal Board as established in Article V of the Code.
- 11.2 Scope – The Oakland County Sanitary Code Appeal Board shall hear all requests pertaining to reasonable and equitable interpretations of the provisions of this Article in accordance with Article V of the Code.
- 11.3 Right To Judicial Review – The decision of the Oakland County Sanitary Code Appeal Board shall be final. A Person aggrieved by a final decision of the Board under this Article may petition the Circuit Court of Oakland County.

SECTION 12 – EFFECTIVE DATE:

These regulations shall take effect on November 15, 2016, Adopted by the Oakland County Board of Health on October 18, 1972, Amendment, Sec. 6.5, Adopted by the Board of Commissioners December 5, 1974; Amendment, Sec. 8.1, Adopted by the Board of Commissioners June 5, 1975; Restatement, Adopted by the Board of Commissioners August 18, 2016.