Residential On-Site Sewage System Ordinance Development: Porter, Lake, and LaPorte Counties

March 2024

Contents

Purpose

The Indiana State Department of Health revised and published Rule 410 IAC 6-8.3, the "Residential On-Site Sewage Systems Rule," on May 9, 2014. This extensive regulatory ordinance details all requirements for residential on-site sewage systems in Indiana. Local county governments around the state have developed their own ordinances, adapting Rule 410 IAC 6-8.3 to address their specific needs.

Illinois-Indiana Sea Grant and Purdue University Extension are collaborating with the Indiana Department of Natural Resources (IDNR) Lake Michigan Coastal Program (LMCP) and Porter, Lake, and LaPorte Counties to: 1) facilitate the development of a residential on-site sewage system ordinance and action plan using updated state guidelines; 2) create and implement a web-based dashboard platform for septic inventories and tracking; and 3) collaboratively develop and launch an online resource for residential on-site sewage system education and ordinance development. Community engagement meetings were conducted Porter, Lake, and LaPorte counties to examine the effectiveness of current ordinances and how they may be impacted by changing regulations at the state level.

Preparation

Meeting preparation involved a series of sessions with IDNR team members and Purdue Extension, the development of meeting content based on prior county meeting concerning septic regulation, and the development of ordinance comparison documents to cross-examine Rule 410 IAC 6-8.3 with Porter, Lake, and LaPorte County ordinances.

To facilitate ordinance evaluation, Purdue Extension developed an ordinance assessment tool that allowed community members to see both the content of their ordinance, and the different categories by which the Technical Review Panel of the Indiana Department of Health would potentially use to approve their ordinance. The following notes were taken during each county workshop. The issues noted may potentially be included in septic ordinances.

Engagement Session Summary

Participants from each county engaged in a systematic review of their current residential on-site sewer ordinances with emphasis on those portions of the ordinances that were included on the Indiana Department of Health's Technical Review Panel checklist. The Department of Health's checklist is intended to provide an opportunity for communities to identify and justify local deviation from the Indiana's overall rule on on-site residential sewer systems (IAC 410). Participants were asked to determine if the ordinance in their community varies from the IAC 410 Rule, and if so, to discuss locally specific or unique aspects of their ordinance may justify the need for variance from IAC 410. All local ordinances incorporated the IAC 410 Rule by reference.

Purdue Extension collaborated with LMPC staff to hold engagement sessions in LaPorte and Lake Counties on December 12th, 2023, which were attended by thirteen and eight participants, respectively. A third engagement session was held with Porter County on January 25th, 2024, which was attended by six community members.

The following section lists each county with a summary of key discussion covering the most relevant elements of the county's ordinance. These were ordinance sections that were pre-identified as differing from IAC 410, or sections that were covered by the state's technical review panel checklist.

LaPorte County

Varies from IAC 410? Discuss justification for variance.

Connection to sewer: Needs to have 300-foot regulation in 2012-01 (g) Re-mound – TRP unlikely to approve.

Installer/Inspector Certification & Registration: required for consumer protection (time and money considerations), establishing a base level of expertise, and ensuring a source for reliable recommendations for homeowners.

Enforcement: Fees to be moved into a separate ordinance.

Point of Sale Inspections: Definition of "failing system" is too narrow as home buyers are not experts and only see "passed inspection," currently the only point in time a system is inspected mandatorily.

- Useful to create an education piece on why inspection is important.

Septic tank size, Septic Tank Compartments, Septic Tank Riser on Inlet, Holding Tanks, Holding Tank Size: Regulations in LaPorte are not based on size. Rather, the types listed on the "ISDH Approved Septic Tank List" statement is where the ordinance varies.

If not addressed in local ordinance, is reference to IAC satisfactory?

Method of Soil Evaluation: Should be required up to 6.5 feet deep in Indiana state legislation.

LaPorte County Ordinance Review Supplemental Information Packet

Checklist items below are sourced from the "Request for Technical Review Panel Review of Local Residential On-Site Sewage System Ordinance."

***Checklist items referenced in local ordinances are indicated by asterisks.

Minimum lot/parcel size

410 IAC 6-8.3-53 Construction permits (p. 7)
(n) Individual lots in subdivisions designed to utilize residential on-site sewage systems, for which the plats were approved by the local plan commission, county health department, or the county recorder, and recorded prior to December 21, 1990, are exempt from the provisions of

sections 70(b)(8) and 72(b)(7) of this rule if the soils on the individual lot have characteristics that would allow the soil to be rated slight or moderate in accordance with guidelines as set forth in the soils manuals and handbooks of the NRCS. The soil absorption system to serve each lot that is exempted by this section shall meet the sizing criteria as follows:

Permeability Rating
2 in. to 6 in. per hour
1 in. to 2 in. per hour

Square Feet Needed in Trench Bottom per Bedroom
250 square feet per bedroom
330 square feet per bedroom

Connection to sewer

410 IAC 6-8.3-52 General sewage disposal requirements (p. 6)
(d) Any dwelling that is not connected, or cannot be connected, to a sanitary sewerage system shall be provided with a residential on-site sewage system that includes a septic tank and a soil absorption system that has not failed.

****Ordinance No. 2012-01*
SECTION 4. On-site Sewage Systems: General Requirements

(g) Wherever a sanitary sewer is within 300 feet of the property line of the residential or commercial property served by an onsite sewage system which is in failure a connection shall be made to said sewer.

Reconnection to OSS

Not included in ordinances.

Installer/Inspector registration

****La Porte County Property Transfer Ordinance*
Section 4: Septic Inspection
C. Inspectors shall be registered with the La Porte County Health Department and pay a registration fee established by the La Porte County Commissioners.
D. Inspectors applying to be registered shall provide a surety bond established by the La Porte County Commissioners payable to the La Porte County Health Department

****Ordinance No. 2012-01*
SECTION 6. Installer Registration

(a) Installer Registration: Effective January 1, 2012, no person shall construct, install, replace, alter, or repair any part of any Onsite Sewage System (OSS) in La Porte County

unless the person is registered and has a surety bond with the LaPorte County Health Department.

1. An installer shall file an Application for Installer Registration with the La Porte County Health Department (LPCHD), and keep on file at the LPCHD a current certification in gravity OSS, flood OSS, trench pressure OSS, sand mound OSS, and alternative technology OSS for which an interim standard has been published by the Indiana State Department of Health (ISDH).

2. Such registration shall be valid for a term of one year beginning January 1st and expiring December 31st, of the same year and shall be renewed annually. The registration shall bear the name and address of the registered installer and the expiration date and shall not be transferable.

3. Any installer new to LaPorte County shall be placed on a probationary status for their first three (3) installations. At the completion of the third installation the contractor shall either be granted full registration, denied registration, or have their probation extended.

Installer/Inspector certification

****La Porte County Property Transfer Ordinance*
Section 4: Septic Inspection
(A) Septic system inspections of an existing septic system for the purpose of a property transfer shall be conducted by an IOWPA certified inspector.

****Ordinance No. 2012-01*
SECTION 6. Installer Registration
(b) Installer Examination: Every installer engaged in the construction, alteration, installation, replacement, or repair of OSS in La Porte County shall be knowledgeable of all laws, rules, technical specifications, and ordinances of both the State of Indiana and La Porte County governing OSS.

1. The applicant for certification shall demonstrate knowledge of the applicable laws, rules, technical specifications, and ordinances before becoming certified by passing a written proficiency examination conducted by the LPCHD or an entity approved by the LPCHD.

2. The examination shall be in multiple parts. The LPCHD or an entity approved by the LPCHD will develop examinations to test the applicant knowledge of laws, rules, regulations, and ordinances of the State of Indiana and La Porte County in the following areas:

a. Part A will cover gravity OSS and flood dose OSS;

b. Part B will cover trench pressure distribution OSS and sand mound OSS.

c. Additional examinations for alternative technology OSS for which an interim standard has been published by the ISDH.

3. The examinations shall be reviewed from time to time to determine their applicability to current laws, rules, technical specifications, and ordinances. The examinations shall be reviewed from time to time to determine their applicability to current laws, rules, technical specifications, and ordinances.

4. Homeowners wishing to install their own systems may do so for gravity systems only and after passing the gravity OSS portion of the installer exam.

Application requirements

410 IAC 6-8.3-53 Construction permits (p. 7)

(d) The application for a construction permit shall be made on a form provided by the local health department. The application shall contain, or include as attachments, the following:
(1) Information on the following:
(A) The name and address of the property owner.
(B) The location of the property.
(C) The number of bedrooms and bedroom equivalents.
(2) The on-site soils evaluation, as outlined in section 56 of this rule, for the site where the residential soil absorption system is to be constructed.
(3) Written plans of sufficient clarity that it can be verified that the design of the residential on-site sewage system shall comply with the provisions of this rule.
(4) Any other information deemed necessary by the health officer.

(e) When site limitations and soil information for the site have been determined, the owner is responsible for the residential on-site sewage system design that:
(1) addresses the demands of the site in accordance with this rule; and
(2) will meet local health department approval.

(f) The local health department may require scale drawings of the site and residential on-site sewage system as part of the application process.

(g) In accordance with IC 16-41-25-1(a), the local health department shall issue or deny, in writing to the owner, a residential on-site sewage system construction permit within forty-five (45) days of receipt of an application and plan submittal.

Residential outbuildings

410 IAC 6-8.3-15 "Dwelling" or "residence" defined (p. 2)
Sec. 15. "Dwelling" or "residence" means any house or place used or intended to be used as a place of seasonal or permanent human habitation or for sleeping for one (1) or two (2) families, and any associated outbuildings that are for the private use of the owner.

410 IAC 6-8.3-52 General sewage disposal requirements (p. 6)
(c) All residential on-site sewage systems utilizing sanitary privies shall conform to department bulletin SE 11, "The Sanitary Vault Privy", 1986 Edition.

Enforcement

410 IAC 6-8.3-54 Operating permits (p. 9)
(e) The operating permit for a residential on-site sewage system in violation of subsection (d) may be revoked by the health officer in accordance with section 55(e) of this rule.

410 IAC 6-8.3-55 Violations; permit denial and revocation (p. 10)
(c) Any person found to be violating this rule may be served by the health officer with a written order stating the nature of the violation and providing a time limit for satisfactory correction thereof.
(d) After receiving an order in writing from the local board of health or the health officer, the owner of the property shall comply with the provisions of this rule as set forth in the order and within the time limit specified therein. The order shall be served on the owner or the agent of the owner, but may be served on any person who, by contract with the owner, has assumed the duty of complying with the provisions of an order.
(e) The health officer may deny an application for a construction or operating permit, or may revoke a permit previously issued, for reasons including, but not limited to, any of the following:
(1) An on-site sewage system design does not meet the minimum requirements of this rule or local sewage ordinances, or both.
(2) Failure to comply with any provisions of this rule or local sewage ordinances, or both.
(3) Failure to comply with limitations, terms, or conditions of a permit that has been issued.
(4) Failure to disclose all the facts relevant to the construction and use of an on-site sewage system.
(5) Misrepresentation.
(6) Any change relating to the design, construction, or use of the on-site sewage system not approved, in writing, by the local health department.

(f) The written denial or revocation shall state the following:
(1) The basis for the denial or revocation.
(2) The method or methods available for compliance, if applicable.
(3) The time frame for compliance, if applicable.
(4) That the owner has the right to appeal the denial or revocation.
(5) The procedure for registering any such appeal.

(g) The parties involved may agree to use the appeal procedures set forth in IC 4-21.5, the Administrative Orders and Procedures Act.

****La Porte County Property Transfer Ordinance*
Section 7: Violation Notices, Penalties and Fines

A. Any person found to be violating any provision of this Ordinance may be served by the County Board of Health or the duly appointed Health Officer with a written order stating the nature of the violation conditions that may transmit disease and provide a time limit for satisfactory correction thereof.

B. If a person refuses or neglects to obey an order issued under this section or IC 16-20-1-25, proceedings may be instituted in the courts for enforcement or an order may be enforced by injunction if the action is a criminal offense and a law enforcement authority with the jurisdiction over the location where the offense occurred shall be notified.

C. Any person who violates any provision of this Ordinance shall be deemed to have committed an ordinance violation and shall be fined not more than ($500.00) five hundred dollars for the first offense and not more than one - thousand dollars ($1000.00) for the second offense and for the third and each subsequent offense by a fine of not more than two- thousand five - hundred dollars ($2,500.00). Each day after the expiration of the time limit as ordered by the County Board of Health or by the duly appointed Health Officer of the County shall constitute a distinct and separate offense. Such fines collected shall be accounted for and shall be transferred to the health fund of the taxing unit.

Construction inspections

410 IAC 6-8.3-53 Construction permits (p. 7)
(h) No construction on the residential on-site sewage system may take place if the residential on-site sewage system site is disturbed or altered after the on-site evaluation by the addition of fill material (other than construction necessary for the residential on-site sewage system) or by cutting, scraping, compaction, or the removal of soil, until a new on-site evaluation has been conducted and a modified construction permit has been issued.

(i) A soil absorption system replacement for a residential on-site sewage system shall meet or exceed the minimum provisions of this rule. When replacement is necessary due to on-site sewage system failure, and if the replacement soil absorption system cannot meet all of the provisions of this rule, deviations to this rule for a soil absorption system replacement may be made in accordance with the best judgment of the local department of health, based on the following:
(1) Limitations of the site.
(2) Written results of an evaluation of the operational status of all of the on-site sewage system components and probable reasons for system failure.
(3) Written results of an on-site soils evaluation.

(l) The permittee shall notify the health officer or his or her designee when the work is ready for final inspection:
(1) using the procedure published by the local board of health; or (2) at least forty-eight (48) hours or two
(2) working days before any subsurface portions are to be covered if the local health board has not published inspection procedures.

410 IAC 6-8.3-56 On-site evaluation (p. 11)
Sec. 56. (a) Before issuance of any permit for construction of a residential on-site sewage system or the replacement or alteration of a soil absorption system, an on-site evaluation, which shall include a description of the soil profile, shall be conducted.

Number of soil borings/pits

Not included in ordinances.

Method of soil evaluation

410 IAC 6-8.3-56 On-site evaluation (p. 11)
Sec. 56. (a) Before issuance of any permit for construction of a residential on-site sewage system or the replacement or alteration of a soil absorption system, an on-site evaluation, which shall include a description of the soil profile, shall be conducted.

(b) Properties of the soil at each site shall be described by a soil scientist using the guidelines set forth in the soil manuals, technical bulletins, and handbooks of the NRCS.
(c) Soil profile information shall be recorded:
(1) to a depth of five (5) feet; or
(2) until a layer is encountered that cannot be readily penetrated; whichever is shallower.

(d) The on-site evaluation shall be conducted before application and plan submittal.
(e) The information in the written on-site soils evaluation report shall include the following:
(1) For topographic information, the following:
(A) The slope and slope aspect.
(B) Surface drainage characteristics and patterns including swales, ditches, and streams.
(C) The proposed or existing location of house and well or other water supply.
(D) The location of other major features or structures.
(E) The location of soil evaluation sites and appropriate soil type boundaries.
(F) The topographic position of the site.

(2) For soil characteristics, the following:
(A) Parent material.
(B) The approximate depths of soil horizons.
(C) The soil color, structure, and texture at each horizon.
(D) The horizon designation for each horizon.
(E) The depth to any layer that has a soil loading rate greater than seventy-five hundredths (0.75) gallons per day per square foot or less than twenty-five hundredths (0.25) gallons per day per square foot.
(F) The depth to seasonal high ground water as indicated by soil wetness characteristics.
(G) The depth to bedrock.
(H) The soil consistence at each horizon.
(I) The soil effervescence at each horizon.
(J) The percent coarse fragments at each horizon.

(K) The percent clay at each horizon, by field estimation, for any horizon where the percent coarse fragments is greater than thirty-five percent (35%) by volume.
(L) The presence or absence of roots.
(M) Frost penetration depth, if applicable.

(f) When soil characteristics are to be used for calculations for the depth of a subsurface drainage system, the following information shall be recorded to a depth of eighty (80) inches:
(1) The information required in subsection (e)(2).
(2) Particle size family.

****Ordinance No. 2012-01*
SECTION 4. On-site Sewage Systems: General Requirements

(j) A soil profile analysis shall be required for all new and repair residential on-site sewage systems. The soil profile analysis shall be conducted by a registered professional soil scientist with the Indiana Registry of Soil Scientists (IRSS). The soil profile information shall be recorded to a depth of five (5) feet for new OSS and a depth of six (6) feet for repair OSS or until layer is encountered that cannot be readily penetrated.

Separation distances

410 IAC 6-8.3-57 Separation distances (p. 12)
Sec. 57. (a) All septic tanks, dosing tanks, lift stations, and soil absorption systems shall be located in accordance with Table I as follows:

Table I – Separation Distances		
Minimum Distance in Feet from	Septic Tank and Other Treatment Units, Dosing Tank, Lift Station	Soil Absorption System
Private water supply well[1,2]	50	50
Private geothermal well[1,2]	50	50
Commercial water supply well[1]	100	100
Commercial geothermal well[1]	100	100
Public water supply well, lake,[1,3,4] or reservoir[1,3,4]	200	200
Other pond, retention pond, lake, or reservoir[3]	50	50
Storm water detention area[3, 5]	25	25
River, stream, ditch, or drainage tile[6]	25	25
Buildings, foundations, slabs, garages, patios, barns, aboveground and belowground swimming pools, retaining walls, closed loop geothermal systems, roads, driveways, parking areas, or paved sidewalks	10[7]	10[8]
Front, side, or rear lot lines	5	5
Water lines continually under pressure	10	10
Suction water lines	50	50
[1]The distances enumerated shall be doubled for soil absorption systems constructed where there exist horizons, layers, or strata within thirty-four (34) inches of the ground surface with a soil loading rate greater than seventy-five hundredths (0.75) gallons per day per square foot as determined from Table IV of section 70(b)(8) of this rule, unless that hazard can be overcome through on-site sewage system design.		
[2]The separation distance to a private water supply well abandoned in accordance with 312 IAC 13-10-2(e) may be reduced to ten (10) feet.		
[3]Measured from the normal or ordinary high water mark.		
[4]See subsections (b) and (c)		
[5]Storm water detention area: area designated for the temporary detention of storm water, with the outlet located at the lowest elevation of the depression.		
[6]See section 59(f) of this rule for subsurface drainage system separation.		
[7]Patios without footers, aboveground swimming pools, and sidewalks may be located within ten (10) feet of septic tank, as long as no required access points are obstructed.		
[8]A minimum separation of ten (10) feet is required on all sites.		

(b) A residential on-site sewage system shall not be located within two hundred (200) feet of a public water supply lake or reservoir. However, any residential on-site sewage system that includes secondary treatment and meets the following requirements may be less than two hundred (200) feet, but not less than fifty (50) feet, from the normal or ordinary high water mark of the lake or reservoir:

(1) Meets the minimum requirements of section 60(h)(1) through (3) of this rule; or

(2) Is a system component independent of the soil absorption field that meets the effluent quality requirements of NSF/ANSI for certification under Standard 40 as a Class I plant, and that is approved by the department under the provisions of section 52(h) of this rule.

(c) Any residential on-site sewage system approved under the provisions of subsection (b) must be maintained for the life of the system through an operating permit issued under the provisions of section 54 of this rule.

(d) Sewers shall not be located within fifty (50) feet of any water supply well or subsurface pump suction line, except as follows:
(1) Sewers constructed of waterworks grade ductile iron pipe with tyton or mechanical joints, or PVC pressure sewer pipe with an SDR rating of twenty-six (26) or less with compression gasket joints, may be located within the fifty (50) foot distance.
(2) In no case shall sewers be located closer than twenty (20) feet to dug and bored water supply wells, or closer than ten (10) feet to drilled and driven water supply wells or subsurface pump suction lines.
(e) Water lines and sewers shall not be laid in the same trench, as follows:
(1) A horizontal separation of ten (10) feet shall be maintained between water lines and sewers.
(2) Where crossings are necessary, a minimum of eighteen (18) inches vertical clearance must be maintained with the water line positioned above the sewer line when possible.
(3) When it is impossible to maintain proper horizontal and vertical separation, the sewer shall be constructed of ductile iron pipe with mechanical joints or PVC pressure sewer pipe with an SDR rating of twenty-six (26) or less, having mechanical or compression gasket joints within ten (10) feet of the water line with the water line positioned above the sewer line when possible. The sewer shall be pressure tested to assure watertightness prior to back filling.

Septic tank size

410 IAC 6-8.3-60 Septic tanks: general requirements (p. 16)
(c) Every septic tank shall have a minimum capacity below the water line as specified in Table III as follows:

Table III – Required Minimum Capacities for Septic Tanks	
Number of Bedrooms in Dwelling	Capacity of Tank in Gallons
2 or less	750
3	1,000
4	1,250
5	1,500
5 +	1,500 plus 300 multiplied by the number of bedrooms over 5

(f) When multiple tanks are used in series, no single tank may be less than seven hundred fifty (750) gallons. The larger of the two (2) tanks must be upstream of the other.

****Ordinance No. 2012-01*
SECTION 5. Septic and Dosing Tanks

(a) Only septic tanks listed on the Indiana Stated Department of Health approved septic tank list shall be installed in La Porte County. The minimum septic tank size allowed to be installed in LaPorte County is 750 gallons.

Septic tank compartments

410 IAC 6-8.3-60 Septic tanks: general requirements (p. 16)
(e) Two-compartment tanks shall meet the following requirements:
(1) The liquid volume of the first compartment shall be between one-half (1/2) and two-thirds (2/3) of the total tank volume.
(2) The divider wall shall be:
(A) monolithically cast in the tank; or
(B) permanently secured within the tank body using noncorrosive fasteners or fittings.
(3) The transfer port or ports between the compartments shall consist of two (2) or more openings with a combined area of at least fifty (50) square inches. A continuous port across the width of the divider wall is also acceptable.
(4) The transfer port or ports shall be located in the middle twenty-five percent (25%) of the liquid depth.
(5) An access opening meeting the requirements of section 61(o) of this rule must be provided above each compartment, including riser meeting the requirements of section 61(p) of this rule, for maintenance pumping.

(g) When sewage is pumped into a septic tank using a grinder pump:
(1) a two-compartment tank must be used with the sewage pumped into the first compartment; or
(2) two (2) tanks in series must be used, with the sewage pumped into the first tank.

Septic tank rise on inlet

410 IAC 6-8.3-61 Septic tanks: construction details (p. 18)
(c) The inlet baffle or sanitary tee shall extend at least:
(1) eight (8) inches below the liquid level; and
(2) to the top of the inlet sewer.

(f) There shall be at least one (1) inch clear space between the underside of the septic tank lid and the top of the inlet and outlet baffles or tees.

(h) The inlet baffle shall not be more than twelve (12) inches nor less than four (4) inches from the inside of the inlet end of the tank. The outlet baffle shall not be more than twelve (12) inches nor less than four (4) inches from the outlet end of the septic tank. Baffles shall be constructed of durable materials not subject to corrosion or decay.
(i) The bottom of the septic tank inlet shall not be less than two (2) inches nor more than four (4) inches above the liquid level.

(2) An access opening shall be located over each of the following:
(A) The inlet.
(B) The outlet.
(C) The sanitary tee or baffle, if present, on the partition or divider wall of a two-compartment septic tank.

(f) The outlet filter housing shall:
(3) be installed so the bottom of the filter inlet extends below the liquid level at least ten (10) inches, but not more than forty percent (40%) of the septic tank liquid depth;

(e) The influent port shall be located or baffled to prevent unequal distribution of effluent to the distribution system. If baffles are provided, the baffles and their mounts or retainers shall:
(2) extend to one (1) inch above the top of the inlet.

Holding tanks

410 IAC 6-8.3-52 General sewage disposal requirements (p. 6)
(e) A temporary sewage holding tank is an alternative method of sewage disposal subject to the written approval of the department, except as provided in subsection (f). A temporary sewage holding tank shall not be used as a primary means of residential sewage disposal except:
(1) where necessary to prevent continued discharge of sewage from a failed existing residential on-site sewage system;
(2) when soil conditions exist that preclude the prompt construction of a soil absorption system on a site that has already received a construction permit; or
(3) where the holding tank is operated by a conservancy district, sewer district, private utility, or municipality as a part of its sewage disposal plan or for not more than one (1) year while connection to sanitary sewer is being secured. This one (1) year time frame may be extended upon documentation of satisfactory operation of the holding tank.

(f) A temporary sewage holding tank may be approved by the local health department:
(1) as a temporary storage facility where occupancy of the home must continue while an existing residential on-site sewage system is being replaced or renovated; or
(2) until soil conditions permit the installation of a soil absorption system for which a construction permit has been issued.

Dosing tank size

410 IAC 6-8.3-62 Dosing tanks (p. 19)
(c) Reinforced concrete dosing tanks shall be constructed of concrete with a compressive strength of four thousand (4,000) pounds per square inch or greater.

(d) Concrete dosing tank walls shall be at least two and one-half (2 1/2) inches or greater in thickness. The design shall allow at least one (1) inch cover over reinforcing steel or welded wire fabric.

(e) The required liquid holding capacity of the dosing tank shall not be considered as any portion of the required liquid volume of the septic tank.

(f) The liquid holding capacity of a dosing tank must equal the dose volume required by this rule for each type of soil absorption system, in addition to the volume of liquid that will drain back from any effluent force main when pumping ceases. Additional capacity must be provided to:
(1) keep the dosing tank effluent pump submerged at all times; and

(2) provide sufficient freeboard for a high water alarm.

(g) Dosing tanks shall be provided with pipe connectors that meet the following requirements:
(1) Each pipe penetration shall be sealed with a flexible, resilient rubber pipe connector that uses an expansion ring, tension band, or a take-up device for mechanically compressing the resilient portion of the connector against the pipe.

(h) Each dosing tank shall be fitted with an effluent pump sized in conformance with section 65 and section 76(b), 78(d), 78(q), 82(b), or 82(j) of this rule, whichever is applicable, with controls, and with a high water alarm switch set at a level above the design high water mark. The alarm shall:
(1) be on a separate circuit from the effluent pump; and
(2) include an audible and visible alarm.

****Ordinance No. 2012-01*
SECTION 5. Septic and Dosing Tanks

(b) Dosing tanks shall meet the same standards as septic tanks and shall come from the same manufacturers listed on the Indiana State Department of Health approved septic tank list.

(c) Dosing tank sizing shall be the same as septic tank sizing as described in rule 410 IAC 6-8.2-58.

Effluent pump or electrical

410 IAC 6-8.3-65 Effluent pumps (p. 22)
Sec. 65. (a) All effluent pumps shall be:
(1) submersible pumps suitable for use in a corrosive atmosphere;
(2) sized to deliver the total design flow rate while meeting the total dynamic head requirements of the onsite sewage system;
(3) connected to pump discharge piping that is adequately secured; and
(4) installed in such a manner as to allow for removal without entering the dosing tank or dewatering the dosing tank.

(b) Effluent pumps shall be provided with a suitable means of quick, convenient disconnection from the discharge piping, as follows:
(1) Fittings and valves shall be of compatible corrosion resistant material.
(2) A quick disconnect coupling, breakaway flange, or similar disconnect device shall be provided for each pump discharge pipe.
(3) Quick disconnect couplings and valves shall be readily accessible from the ground surface without entering the dosing tank.
(4) Submersible pumps shall be provided with a corrosion resistant lifting apparatus such as a rope or chain to facilitate removal of the pump.

(c) All floats for pump operation shall be mounted according to manufacturer's specifications using fasteners manufactured for that purpose.

(d) Controls other than liquid level sensors shall not be located within the dosing tank.

(e) Junction boxes shall be rated as a NEMA 4X, National Electrical Manufacturers Association, NEMA 250-2008. All connectors to the junction box shall form a watertight seal:
(1) to the junction box; and
(2) between connector openings and incoming wires.

(f) Any connector not used for wiring shall be fitted with a watertight plug.

Distribution box riser or material

410 IAC 6-8.3-66 Distribution box specifications (p. 22)
Sec. 66. (a) Concrete distribution boxes shall be constructed of concrete with a compressive strength of four thousand (4,000) pounds per square inch or greater. Other materials may be considered on a case-by-case basis. All materials must:
(1) be resistant to corrosion and decay; and
(2) have sufficient structural strength to contain sewage and resist lateral compressive and bearing loads.

(b) The minimum interior dimension of a distribution box shall be twelve (12) inches.

(c) The distribution box shall be fitted with a watertight, removable lid for access. The distribution box may be fitted with a riser to the ground surface. The riser joints and the lid connection to the riser must be watertight.

(d) The interior bottom of the distribution box shall be at least four (4) inches below the invert elevation of the effluent ports. A minimum of eight (8) inches freeboard above the invert elevation of the effluent port shall be provided.

(e) The influent port shall be located or baffled to prevent unequal distribution of effluent to the distribution system. If baffles are provided, the baffles and their mounts or retainers shall:
(1) provide a passageway for effluent between the box bottom and the bottom edge of the baffle of not more than two (2) inches; and
(2) extend to one (1) inch above the top of the inlet.

(f) An elbow or sanitary tee in the vertical position may be used in place of a baffle, as follows:
(1) If an elbow is used, the elbow must:
(A) be a ninety (90) degree elbow;
(B) be turned down into the distribution box with the end of the elbow not more than two (2) inches above the bottom of the distribution box; and
(C) include a weep hole in the upper part of the elbow.
(2) If a sanitary tee is used, the bottom of the sanitary tee must be not more than two (2) inches above the bottom of the distribution box and the top of the sanitary tee at least one (1) inch below the lid.

(g) Each distribution box shall be designed to split the effluent flow equally among the effluent ports. All effluent ports shall be:
(1) at the same elevation;
(2) of the same diameter; and
(3) located at an elevation at least one (1) inch lower than the influent port.

Soil loading rate used for sizing

Table IV - Soil Loading Rates for Subsurface Trench On-site Sewage Systems (in gpd/ft^2)								
	SOIL STRUCTURE CLASSES							
SOIL TEXTURE CLASSES	Single Grain	Granular	Strong: Angular, Sub-Angular Blocky, Prismatic	Moderate: Angular, Sub-Angular Blocky, Prismatic	Weak: Angular, Sub-Angular Blocky, Prismatic; Platy[1]	Fragic Characteristics: Very Coarse Prismatic	Structureless, Massive, Friable, V. Friable	Structureless, Massive, Compact, Firm, V. Firm; Platy[2]
Gravel, Coarse Sand	>1.20	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Loamy Coarse Sand, Medium Sand	1.20	1.20	N/A	N/A	1.20	N/A	N/A	N/A
Fine Sand, Loamy Sand, Loamy Fine Sand	0.75	0.60	N/A	0.75	0.75	N/A	0.75	N/A
Very Fine Sand, Loamy V. Fine Sand	0.50	0.50	N/A	0.75	0.60	N/A	0.60	N/A
Sandy Loam, Coarse Sandy Loam	N/A	0.75	N/A	0.60	0.60	0.00	0.60	0.00
Fine Sandy Loam, V. Fine Sandy Loam	N/A	0.75	N/A	0.60	0.60	0.00	0.60	0.00
Loam	N/A	0.75	0.75	0.50	0.50	0.00	0.50	0.00
Silt Loam, Silt	N/A	0.75	0.75	0.50	0.30	0.00	0.30	0.00
Sandy Clay Loam	N/A	0.60	0.60	0.50	0.30	0.00	0.30	0.00
Silty Clay Loam, Clay Loam, Sandy Clay	N/A	0.60	0.60	0.30	0.25	0.00	0.25	0.00
Silty Clay, Clay	N/A	0.60	0.50	0.30	0.25	N/A	0.25	0.00
Organic Soil Materials	N/A	N/A	N/A	N/A	N/A	N/A	0.00	N/A
Limnic Soil Materials	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00
Bedrock	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A NOT APPLICABLE								
[1]Naturally occurring platy structure.								
[2]Platy structure caused by mechanical compaction has a soil loading rate of 0.00 gpd/ft^2 unless broken up by methods approved by the department.								

Table V – Soil Loading Rates for Elevated Sand Mound On-site Sewage Systems (in gpd/ft^2)								
	SOIL STRUCTURE CLASSES							
SOIL TEXTURE CLASSES	Single Grain	Granular	Strong: Angular, Sub-Angular Blocky, Prismatic	Moderate: Angular, Sub-Angular Blocky, Prismatic	Weak: Angular, Sub-Angular Blocky, Prismatic; Platy[1]	Fragic Characteristics: Very Coarse Prismatic	Structureless, Massive, Friable, V. Friable	Structureless, Massive, Compact, Firm, V. Firm; Platy[2]
Gravel, Coarse Sand	>1.20	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Loamy Coarse Sand, Medium Sand	1.20	1.20	N/A	N/A	1.20	N/A	N/A	N/A
Fine Sand, Loamy Sand, Loamy Fine Sand	0.60	0.60	N/A	0.60	0.60	N/A	0.60	N/A
Very Fine Sand, Loamy V. Fine Sand	0.50	0.50	N/A	0.50	0.50	N/A	0.50	N/A
Sandy Loam, Coarse Sandy Loam	N/A	0.60	N/A	0.60	0.60	0.00	0.60	0.00
Fine Sandy Loam, V. Fine Sandy Loam	N/A	0.60	N/A	0.60	0.60	0.00	0.60	0.00
Loam	N/A	0.50	0.50	0.50	0.50	0.00	0.50	0.00
Silt Loam, Silt	N/A	0.50	0.50	0.50	0.50	0.00	0.50	0.00
Sandy Clay Loam	N/A	0.50	0.50	0.50	0.50	0.00	0.50	0.00
Silty Clay Loam, Clay Loam, Sandy Clay	N/A	0.25	0.25	0.25	0.25	0.00	0.25	0.00
Silty Clay, Clay	N/A	0.25	0.25	0.25	0.25	N/A	0.25	0.00
Organic Soil Materials	N/A	N/A	N/A	N/A	N/A	N/A	0.00	N/A
Limnic Soil Materials	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00
Bedrock	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A NOT APPLICABLE								
[1] Naturally occurring platy structure.								
[2] Platy structure caused by compaction has a soil loading rate of 0.00 gpd/ft^2 unless broken up by methods approved by the department.								

Table XIII - Soil Loading Rates Versus Pressure Distribution Lateral Hole Spacing for Subsurface Trench Pressure Distribution Systems	
Soil Loading Rates: Gallons per Day per Square Foot	Lateral Hole Spacing Feet Between Holes
1.2	3
0.75	3 to 5
0.5 and 0.6	3 to 6
0.25 and 0.3	3 to 7

Minimum DDF or SAF sizing

410 IAC 6-8.3-12 "Design daily flow" or "DDF" defined (p. 2)
Sec. 12. "Design daily flow" or "DDF" means the calculated peak daily sewage flow from a residence used to design a residential on-site sewage system. It is one hundred fifty (150) gallons per day times the number of bedrooms and bedroom equivalents.

Elevated sand mounds

410 IAC 6-8.3-72 Elevated sand mound on-site sewage system site suitability (p. 28)
Sec. 72. (a) On-site sewage system feasibility, location, selection, and design shall be based on the:
(1) site evaluation;
(2) information obtained from the on-site soils evaluation; and
(3) DDF.

(b) Elevated sand mound on-site sewage systems may be constructed if the following site conditions are met:
(1) Sufficient area exists on the lot for an appropriately sized elevated sand mound on-site sewage system, while meeting the:
(A) separation distances of section 57 of this rule; and
(B) dispersal area requirements of section 58 of this rule.
(2) The topographic position of the site on which the elevated sand mound on-site sewage system is to be built is convex, hill slope, or flat. If surface and subsurface drainage can be diverted around the site, a toe slope position can be utilized.
(3) The site on which the elevated sand mound on-site sewage system is to be built has a slope of six percent (6%) or less.
(4) Site conditions permit any seasonal high water table at the site of the proposed elevated sand mound onsite sewage system to be lowered to at least twenty (20) inches below original grade, in accordance with section 59 of this rule.
(5) When no soil horizon from the ground surface to twenty (20) inches below the ground surface in a soil developed from Wisconsin glacial till shows effervescence when treated with a ten percent (10%) hydrochloric acid solution, unless:
(A) the on-site soils evaluation report shows that the presence of the horizon is not detrimental to the proper functioning of an on-site sewage system; and
(B) the determination in clause (A) is made using the guidelines as set forth in the soil manuals, technical bulletins, and handbooks of the NRCS guidelines and as approved by the department.
(6) When there are no soil horizons from the ground surface to twenty (20) inches below the ground surface with:
(A) less than twenty percent (20%) clay by volume and greater than thirty-five percent (35%) coarse fragments by volume; or
(B) greater than or equal to twenty percent (20%) clay by volume and greater than sixty percent (60%) coarse fragments by volume.
(7) All soil horizons from the original grade to twenty (20) inches below the original grade have a soil loading rate of not less than twenty-five hundredths (0.25) gallons per day per square foot and not more than one and twenty-hundredths (1.20) gallons per day per square foot as determined from Table V as follows:

Table V – Soil Loading Rates for Elevated Sand Mound On-site Sewage Systems (in gpd/ft^2)								
	SOIL STRUCTURE CLASSES							
SOIL TEXTURE CLASSES	Single Grain	Granular	Strong: Angular, Sub-Angular Blocky, Prismatic	Moderate: Angular, Sub-Angular Blocky, Prismatic	Weak: Angular, Sub-Angular Blocky, Prismatic; Platy[1]	Fragic Characteristics: Very Coarse Prismatic	Structureless, Massive, Friable, V. Friable	Structureless, Massive, Compact, Firm, V. Firm; Platy[2]
Gravel, Coarse Sand	>1.20	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Loamy Coarse Sand, Medium Sand	1.20	1.20	N/A	N/A	1.20	N/A	N/A	N/A
Fine Sand, Loamy Sand, Loamy Fine Sand	0.60	0.60	N/A	0.60	0.60	N/A	0.60	N/A
Very Fine Sand, Loamy V. Fine Sand	0.50	0.50	N/A	0.50	0.50	N/A	0.50	N/A
Sandy Loam, Coarse Sandy Loam	N/A	0.60	N/A	0.60	0.60	0.00	0.60	0.00
Fine Sandy Loam, V. Fine Sandy Loam	N/A	0.60	N/A	0.60	0.60	0.00	0.60	0.00
Loam	N/A	0.50	0.50	0.50	0.50	0.00	0.50	0.00
Silt Loam, Silt	N/A	0.50	0.50	0.50	0.50	0.00	0.50	0.00
Sandy Clay Loam	N/A	0.50	0.50	0.50	0.50	0.00	0.50	0.00
Silty Clay Loam, Clay Loam, Sandy Clay	N/A	0.25	0.25	0.25	0.25	0.00	0.25	0.00
Silty Clay, Clay	N/A	0.25	0.25	0.25	0.25	N/A	0.25	0.00
Organic Soil Materials	N/A	N/A	N/A	N/A	N/A	N/A	0.00	N/A
Limnic Soil Materials	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00
Bedrock	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A NOT APPLICABLE								
[1] Naturally occurring platy structure.								
[2] Platy structure caused by compaction has a soil loading rate of 0.00 gpd/ft^2 unless broken up by methods approved by the department.								

Observation Ports

Not included in ordinances.

Subsurface drainage type/depth/size

410 IAC 6-8.3-59 Drainage (p. 15)
Sec. 59. (a) A surface diversion:
(1) shall be constructed if drainage from an adjoining upslope landscape affects the soil absorption system site;
(2) shall have a positive grade of at least two and four-tenths (2.4) inches per one hundred (100) feet, or a grade of two-tenths percent (0.2%);
(3) shall be of sufficient depth and width to move surface water away from the soil absorption system;
(4) shall be located:

(A) for subsurface trench on-site sewage systems that do not require additional soil cover, at least ten (10) feet from the soil absorption system, as measured from the downslope edge of the surface diversion to the outside edge of the nearest soil absorption system trench;
(B) for subsurface trench on-site sewage systems that require additional soil cover, at least ten (10) feet from the soil absorption system, as measured from the downslope edge of the surface diversion to the upslope edge of the additional soil cover; or
(C) for elevated sand mound on-site sewage systems, at least ten (10) feet from the soil absorption system, as measured from the downslope edge of the surface diversion to the upslope edge of the soil cover; and
(5) may be used in combination with an on-site subsurface drainage system.

(b) When a subsurface drainage system is constructed, it shall be sufficiently deep to lower a seasonal high water table as required in subsection (d) or (e).

(c) If the site has a slope of equal to or less than two percent (2%), the subsurface drain shall surround the on-site sewage system. If the site slope exceeds two percent (2%), the subsurface drain may be constructed only on the upslope side of the on-site sewage system.

(d) If the seasonal high water table is perched, the subsurface drain trench shall be constructed at least two (2) inches into structureless massive compact clay with firm or very firm consistence, glacial till, or fragipan whenever site and soil conditions permit. When the drain cannot be constructed at least two (2) inches into the structureless massive compact clay with firm or very firm consistence, glacial till, or fragipan, the depth of the drain shall be the following unless calculations are used to determine drain depth:
(1) For trench on-site sewage systems, the invert elevation of the subsurface perimeter, interceptor, or segment drain shall be at least thirty-six (36) inches below the invert elevation of any adjacent soil absorption trench bottom.
(2) For elevated sand mound on-site sewage systems, the invert elevation of the subsurface perimeter or interceptor drain shall be at least thirty-two (32) inches below existing grade.

(e) If drainage calculations are used to determine drain depth, drainage formulas and calculations shall be submitted to the local health department as part of the plan submittal, showing a lowering of the seasonal high-water table:
(1) for subsurface trench on-site sewage systems, at least twenty-four (24) inches below the trench bottoms in the center of the soil absorption field; or
(2) for elevated sand mound on-site sewage systems, at least twenty (20) inches below original grade.

(f) Subsurface drainage systems shall be located at soil absorption system sites as follows:
(1) All portions of a subsurface drainage system shall be installed at least ten (10) feet from the outside edge of any soil absorption trench.
(2) All portions of a subsurface drainage system shall be installed at least ten (10) feet from the outside edge of the INDOT Specification 23 sand.
(3) Spacing of subsurface perimeter drains and segment drains installed parallel to the trench lengths along the contour of the site for a subsurface trench system or parallel to the long axis of

an elevated sand mound must be less than or equal to sixty-five (65) feet, unless a greater spacing is determined through calculations.
(4) The subsurface drain shall not cross any portion of the soil absorption system.

(g) The subsurface drain pipe shall be:
(1) at least four (4) inches in diameter;
(2) slotted; and
(3) wrapped with a geotextile fabric with an effective opening size not smaller than two-tenths (0.2) millimeter and not larger than eighty-five hundredths (0.85) millimeter when installed in:
(A) sands;
(B) loamy sands;
(C) sandy loams;
(D) fine sandy loams;
(E) loams;
(F) silt loams; or
(G) silts.

(h) The subsurface drain trench shall:
(1) have a positive slope of at least two-tenths (0.2) foot per one hundred (100) feet when a four (4) inch drain pipe is used;
(2) have a positive slope of at least one-tenth (0.1) foot per one hundred (100) feet when a six (6) inch drain pipe is used; and
(3) be constructed with no sags in the line.

(i) A subsurface drain trench installed upslope from a residential on-site sewage system shall be:
(1) backfilled to final grade with aggregate that meets the minimum requirements of subsection (k); or
(2) filled to within six (6) inches of final grade with aggregate that meets subsection (k) and the final six (6) inches to final grade with cover soil material.

(j) A subsurface drain trench installed on sides or downslope, and segment drain trenches may be:
(1) backfilled to final grade with aggregate that meets the minimum requirements of subsection (k); or
(2) filled to within six (6) inches of final grade with aggregate that meets the minimum requirements of subsection (k) and the final six (6) inches to final grade with cover soil material.

(k) The aggregate backfill for subsurface drain trenches shall meet the minimum requirements of:
(1) section 68 of this rule;
(2) washed aggregate with a gradation in the range of INDOT Specification 8 through 11; or
(3) INDOT Specification 23 sand or equivalent.

(l) When INDOT Specification 23 sand is used for backfill, the drainpipe shall be wrapped with a geotextile fabric.

(m) The aggregate used as backfill in the perimeter, interceptor, or segment drain trenches described in subsections (i)(2) and (j)(2) shall be covered with a geotextile fabric barrier that meets the minimum requirements in section 69 of this rule in such a manner as to prevent the aggregate from becoming clogged with the earth fill.

(n) The subsurface drain trench and the associated discharge piping shall be constructed to permit water to flow by gravity throughout its length. No pumps or siphons shall be utilized to effect the movement of the collected water.

(o) Tile outlets shall be provided with rodent guards.

Use of technologies new to IN

410 IAC 6-8.3-52 General sewage disposal requirements (p. 6)
(h) In order to permit development of new or more efficient sewage treatment or disposal processes, the department may approve the installation of experimental and TNI equipment, facilities, or pollution control devices for which extensive experience or records of use have not been developed in Indiana. The applicant for such approval must submit evidence of sufficient clarity and conclusiveness to convince the department that the proposal has a reasonable and substantial probability of satisfactory operation without failure.

Point of Sale inspections

****La Porte County Property Transfer Ordinance*
Section 3: General Requirements

C. If the property has an on-site septic system or potable water well, the seller/buyer or their authorized agent shall have the septic system inspected and potable water tested prior to closing the property transfer and shall provide the results of the inspection and tests to the buyer and the Health Department

****La Porte County Property Transfer Ordinance*
Section 6: Reporting

Septic system inspections and water tests should be performed as early as possible in the property transfer process.

A. The following must be received by the prospective buyer(s) prior to or at closing:
    1) A copy of all water analyses as defined in Section 5.A. or a copy of the water bill or a letter from the municipality as defined in Section 3.D.
    2) A copy of the septic inspection report as defined in Section 4.A & B. or a copy of the sewer bill or a letter from the municipality as defined in Section 3.D.

B. The following information must be received by the Health Department not later than Five (5) days after the date of closing.

1) A copy of all water analyses as defined in Section 5.A. or a copy of the water bill or a letter from the municipality as defined in Section 3.D.
2) A copy of the septic inspection report as defined in Section 4.A & B. or a copy of the sewer bill or a letter from the municipality as defined in Section 3.D.
3) A completed Property Transfer Application form.
4) The fee designated by the County Commissioners.

Porter County

Varies from IAC 410? Discuss justification for variance.

Minimum Lot Standards (**top concern**):

- Dune considerations
- Impacts of small lots
- Wetlands
- Need to have replacement sit requirement.

Holding Tanks: State draft ordinance is too broad, so local health department is development regulations.

- Cost prohibitive ($250 – l000 gallons)

If not addressed in local ordinance, is reference to IAC satisfactory?

Residential Outbuildings: [Unable to read]

Additional Notes:

Installer/Inspector Registration & Certification: Not included in ordinance.

Additional Category – Perimeter Drains: All systems have to have perimeter drains, more efficient drainage.

Porter County Ordinance Review Supplemental Information Packet

Checklist items below are sourced from the "Request for Technical Review Panel Review of Local Residential On-Site Sewage System Ordinance."

***Checklist items referenced in local ordinances are indicated by asterisks.

Minimum lot/parcel size

410 IAC 6-8.3-53 Construction permits (p. 7)

(n) Individual lots in subdivisions designed to utilize residential on-site sewage systems, for which the plats were approved by the local plan commission, county health department, or the county recorder, and recorded prior to December 21, 1990, are exempt from the provisions of sections 70(b)(8) and 72(b)(7) of this rule if the soils on the individual lot have characteristics that would allow the soil to be rated slight or moderate in accordance with guidelines as set forth in the soils manuals and handbooks of the NRCS. The soil absorption system to serve each lot that is exempted by this section shall meet the sizing criteria as follows:

Permeability Rating	Square Feet Needed in Trench Bottom per Bedroom
2 in. to 6 in. per hour	250 square feet per bedroom
1 in. to 2 in. per hour	330 square feet per bedroom

Connection to sewer

410 IAC 6-8.3-52 General sewage disposal requirements (p. 6)
(d) Any dwelling that is not connected, or cannot be connected, to a sanitary sewerage system shall be provided with a residential on-site sewage system that includes a septic tank and a soil absorption system that has not failed.

Reconnection to OSS

Not included in ordinances.

Installer/Inspector registration

****Municipal Code Chapter 12, Article VII. – RESIDENTIAL SEWAGE DISPOSAL SYSTEMS*
Sec. 12-163. Installer registration.

No person shall construct, install, replace, alter, or repair any part of any on-site sewage system (OSS) in the county unless the person is registered with the county health department.
(1) An installer shall file an application for registration with the county health department, and keep on file at the county health department a current certification in gravity OSS, flood dose OSS, trench pressure OSS, sand mound OSS, and alternative technology OSS for which an interim standard has been published by the department.
(2) Such registration shall be valid for a term of one year beginning January l and expiring December 31, of the same year and shall be renewed annually. The registration shall bear the name and address of the registered installer and the expiration date and shall not be transferable.
Installer/Inspector certification

****Municipal Code Chapter 12, Article VII. – RESIDENTIAL SEWAGE DISPOSAL SYSTEMS*
Sec. 12-165. Installer certification.

An applicant shall comply with the requirements for obtaining a certification, and may be certified to install OSS for the following.
(1) Upon successful completion of the examination for section 21-164(2)a, the applicant shall be issued a certification to install gravity OSS and flood dose OSS. Certification to install gravity OSS and flood dose OSS is required prior to certification to install trench pressure OSS and sand mound OSS, or certification to install an alternative technology OSS for which an interim standard has been published by the department.
(2) Upon successful completion of the examination for section 21-164(2)b, the applicant shall be issued a certification to install trench pressure OSS and sand mound OSS.
(3) Upon successful completion of an examination for section 21-164(3)c for an alternative technology OSS for which an interim standard has been published by the department, the applicant shall be issued a certification to install an OSS for that alternative technology.
(4) Such certification shall be valid for a term of three years beginning January 1, and expiring December 31 of the third year and shall be renewed tri-annually. The certification shall bear the name and address of the certified installer and the expiration date and shall not be transferable. The installer shall re-apply for certification and pass the proficiency test, or provide proof of recertification by an entity approved by the county health department.
(5) The county health department may approve continuing education units (CEUs), for educational experiences attended by the certified installer, in lieu of the testing requirement for renewal. Six CEUs related to each part of the exam listed under section 12-164(2) shall be required during the three-year certification period, to avoid retesting for that part of the exam.
(6) The installer shall possess a copy of the certification at all times when installing OSS.
(7) A certified installer shall be on the site at all times during OSS construction, and shall be deemed responsible for the construction. A certified installer may supervise other construction workers as necessary to assist in the construction.
(8) Every certified installer shall be working under a registered installer. If the certified installer is not also a registered installer, they shall declare at the time of certification the registered installer they work for and shall maintain employment with the registered installer as a condition of their certification.
(9) A property owner wanting to install, repair, replace, or otherwise work on the OSS serving the property owner's dwelling shall be required to demonstrate knowledge of the applicable laws, rules, technical specifications, and local ordinances by passing the proficiency exam in section 12-164(2) (if applicable), conducted by the county health department or an entity approved by the county health department.
(10) If the OSS installation is being done by an entity other than an individual (such as a corporation or partnership) then, and in that event, the entity installing the OSS shall have in its employ a certified and registered installer who shall be responsible for all aspects of the design, installation, construction, replacement, altering or repair of the OSS.
****Municipal Code Chapter 12, Article VII. – RESIDENTIAL SEWAGE DISPOSAL SYSTEMS*
Sec. 12-164. Installer examination.
Every installer engaged in the construction of OSS in the county shall be knowledgeable of all laws, rules, technical specifications, and ordinances of both the state and county governing OSS.
(1) The applicant for certification shall demonstrate knowledge of the applicable laws, rules, technical specifications, and ordinances before becoming certified by passing a written proficiency examination conducted by the county health department or an entity approved by the county health department.

(2) The examination shall be in multiple parts. The county health department or an entity approved by the county health department will develop examinations to test applicant knowledge of laws, rules, regulations, and ordinances of the state and county in the following areas:
a. Part A will cover gravity OSS and flood dose OSS;
b. Part B will cover trench pressure distribution OSS and sand mound OSS;
c. Additional examinations for alternative technology OSS for which an interim standard has been published by the department.
(3) The examinations shall be reviewed from time to time to determine their applicability to current laws, rules, technical specifications and ordinances.
a. A score of 80 percent or higher on each part will be considered passing. If the applicant fails to pass any part of the examination, the applicant may re-apply for installer certification no earlier than one month following the examination date.
b. When taking a written examination is not feasible due to language or reading difficulties, oral examination will be allowed.

Application requirements

410 IAC 6-8.3-53 Construction permits (p. 7)

(d) The application for a construction permit shall be made on a form provided by the local health department. The application shall contain, or include as attachments, the following:
(1) Information on the following:
(A) The name and address of the property owner.
(B) The location of the property.
(C) The number of bedrooms and bedroom equivalents.
(2) The on-site soils evaluation, as outlined in section 56 of this rule, for the site where the residential soil absorption system is to be constructed.
(3) Written plans of sufficient clarity that it can be verified that the design of the residential on-site sewage system shall comply with the provisions of this rule.
(4) Any other information deemed necessary by the health officer.

(e) When site limitations and soil information for the site have been determined, the owner is responsible for the residential on-site sewage system design that:
(1) addresses the demands of the site in accordance with this rule; and
(2) will meet local health department approval.

(f) The local health department may require scale drawings of the site and residential on-site sewage system as part of the application process.

(g) In accordance with IC 16-41-25-1(a), the local health department shall issue or deny, in writing to the owner, a residential on-site sewage system construction permit within forty-five (45) days of receipt of an application and plan submittal.

Residential outbuildings

410 IAC 6-8.3-15 "Dwelling" or "residence" defined (p. 2)

Sec. 15. "Dwelling" or "residence" means any house or place used or intended to be used as a place of seasonal or permanent human habitation or for sleeping for one (1) or two (2) families, and any associated outbuildings that are for the private use of the owner.

410 IAC 6-8.3-52 General sewage disposal requirements (p. 6)
(c) All residential on-site sewage systems utilizing sanitary privies shall conform to department bulletin SE 11, "The Sanitary Vault Privy", 1986 Edition.

Enforcement

410 IAC 6-8.3-54 Operating permits (p. 9)
(e) The operating permit for a residential on-site sewage system in violation of subsection (d) may be revoked by the health officer in accordance with section 55(e) of this rule.

410 IAC 6-8.3-55 Violations; permit denial and revocation (p. 10)
(c) Any person found to be violating this rule may be served by the health officer with a written order stating the nature of the violation and providing a time limit for satisfactory correction thereof.
(d) After receiving an order in writing from the local board of health or the health officer, the owner of the property shall comply with the provisions of this rule as set forth in the order and within the time limit specified therein. The order shall be served on the owner or the agent of the owner, but may be served on any person who, by contract with the owner, has assumed the duty of complying with the provisions of an order.
(e) The health officer may deny an application for a construction or operating permit, or may revoke a permit previously issued, for reasons including, but not limited to, any of the following:
(1) An on-site sewage system design does not meet the minimum requirements of this rule or local sewage ordinances, or both.
(2) Failure to comply with any provisions of this rule or local sewage ordinances, or both.
(3) Failure to comply with limitations, terms, or conditions of a permit that has been issued.
(4) Failure to disclose all the facts relevant to the construction and use of an on-site sewage system.
(5) Misrepresentation.
(6) Any change relating to the design, construction, or use of the on-site sewage system not approved, in writing, by the local health department.

(f) The written denial or revocation shall state the following:
(1) The basis for the denial or revocation.
(2) The method or methods available for compliance, if applicable.
(3) The time frame for compliance, if applicable.
(4) That the owner has the right to appeal the denial or revocation.
(5) The procedure for registering any such appeal.

(g) The parties involved may agree to use the appeal procedures set forth in IC 4-21.5, the Administrative Orders and Procedures Act.

****Municipal Code Chapter 12, Article VII. – RESIDENTIAL SEWAGE DISPOSAL SYSTEMS*

Sec. 12-166. Enforcement.
(a) If a registered installer has repeated violations of any provision of this article or the applicable rules or technical specifications of the department, the county health officer may revoke the appropriate registration. If registration is revoked, the requirements for becoming registered, including testing and the payment of the registration fee, shall apply prior to re-registration. An installer who has been re-registered shall be on probationary status for a period of one year.
(b) If a registration is revoked, the installer shall be advised, in writing, for the basis of the revocation, the right and procedure for appeal, the deadline for appeal, and the opportunity for a fair hearing.
(c) Any person (except for a property owner who complies with the requirements of section 12-165(9)) constructing, installing, repairing, replacing, or altering any OSS who is not registered in the county shall be deemed to be in violation of this article. A person who is in violation of this chapter shall be fined for the first offense no more than $500.00; for the second and each subsequent offense no more than $1,000.00. Each violation of this article shall constitute a separate violation.
****Municipal Code Chapter 12, Article VII. – RESIDENTIAL SEWAGE DISPOSAL SYSTEMS*
Sec. 12-144. Violation; penalty.

In addition to any and all other existing penalties and procedures available to the county board of health, any violation of the provisions, terms or conditions of this article shall be punishable by a fine in an amount not to exceed $2,500.00.

Construction inspections

410 IAC 6-8.3-53 Construction permits (p. 7)
(h) No construction on the residential on-site sewage system may take place if the residential on-site sewage system site is disturbed or altered after the on-site evaluation by the addition of fill material (other than construction necessary for the residential on-site sewage system) or by cutting, scraping, compaction, or the removal of soil, until a new on-site evaluation has been conducted and a modified construction permit has been issued.

(i) A soil absorption system replacement for a residential on-site sewage system shall meet or exceed the minimum provisions of this rule. When replacement is necessary due to on-site sewage system failure, and if the replacement soil absorption system cannot meet all of the provisions of this rule, deviations to this rule for a soil absorption system replacement may be made in accordance with the best judgment of the local department of health, based on the following:
(1) Limitations of the site.
(2) Written results of an evaluation of the operational status of all of the on-site sewage system components and probable reasons for system failure.
(3) Written results of an on-site soils evaluation.

(l) The permittee shall notify the health officer or his or her designee when the work is ready for final inspection:

(1) using the procedure published by the local board of health; or (2) at least forty-eight (48) hours or two
(2) working days before any subsurface portions are to be covered if the local health board has not published inspection procedures.

410 IAC 6-8.3-56 On-site evaluation (p. 11)
Sec. 56. (a) Before issuance of any permit for construction of a residential on-site sewage system or the replacement or alteration of a soil absorption system, an on-site evaluation, which shall include a description of the soil profile, shall be conducted.

Number of soil borings/pits

Not included in ordinances.

Method of soil evaluation

410 IAC 6-8.3-56 On-site evaluation (p. 11)
Sec. 56. (a) Before issuance of any permit for construction of a residential on-site sewage system or the replacement or alteration of a soil absorption system, an on-site evaluation, which shall include a description of the soil profile, shall be conducted.

(b) Properties of the soil at each site shall be described by a soil scientist using the guidelines set forth in the soil manuals, technical bulletins, and handbooks of the NRCS.
(c) Soil profile information shall be recorded:
(1) to a depth of five (5) feet; or
(2) until a layer is encountered that cannot be readily penetrated; whichever is shallower.

(d) The on-site evaluation shall be conducted before application and plan submittal.
(e) The information in the written on-site soils evaluation report shall include the following:
(1) For topographic information, the following:
(A) The slope and slope aspect.
(B) Surface drainage characteristics and patterns including swales, ditches, and streams.
(C) The proposed or existing location of house and well or other water supply.
(D) The location of other major features or structures.
(E) The location of soil evaluation sites and appropriate soil type boundaries.
(F) The topographic position of the site.

(2) For soil characteristics, the following:
(A) Parent material.
(B) The approximate depths of soil horizons.
(C) The soil color, structure, and texture at each horizon.
(D) The horizon designation for each horizon.
(E) The depth to any layer that has a soil loading rate greater than seventy-five hundredths (0.75) gallons per day per square foot or less than twenty-five hundredths (0.25) gallons per day per square foot.
(F) The depth to seasonal high ground water as indicated by soil wetness characteristics.

(G) The depth to bedrock.
(H) The soil consistence at each horizon.
(I) The soil effervescence at each horizon.
(J) The percent coarse fragments at each horizon.
(K) The percent clay at each horizon, by field estimation, for any horizon where the percent coarse fragments is greater than thirty-five percent (35%) by volume.
(L) The presence or absence of roots.
(M) Frost penetration depth, if applicable.

(f) When soil characteristics are to be used for calculations for the depth of a subsurface drainage system, the following information shall be recorded to a depth of eighty (80) inches:
(1) The information required in subsection (e)(2).
(2) Particle size family.

Separation distances

410 IAC 6-8.3-57 Separation distances (p. 12)
Sec. 57. (a) All septic tanks, dosing tanks, lift stations, and soil absorption systems shall be located in accordance with Table I as follows:

Table I – Separation Distances		
Minimum Distance in Feet from	Septic Tank and Other Treatment Units, Dosing Tank, Lift Station	Soil Absorption System
Private water supply well[1,2]	50	50
Private geothermal well[1,2]	50	50
Commercial water supply well[1]	100	100
Commercial geothermal well[1]	100	100
Public water supply well, lake,[1,3,4] or reservoir[1,3,4]	200	200
Other pond, retention pond, lake, or reservoir[3]	50	50
Storm water detention area[3, 5]	25	25
River, stream, ditch, or drainage tile[6]	25	25
Buildings, foundations, slabs, garages, patios, barns, aboveground and belowground swimming pools, retaining walls, closed loop geothermal systems, roads, driveways, parking areas, or paved sidewalks	10[7]	10[8]
Front, side, or rear lot lines	5	5
Water lines continually under pressure	10	10
Suction water lines	50	50
[1]The distances enumerated shall be doubled for soil absorption systems constructed where there exist horizons, layers, or strata within thirty-four (34) inches of the ground surface with a soil loading rate greater than seventy-five hundredths (0.75) gallons per day per square foot as determined from Table IV of section 70(b)(8) of this rule, unless that hazard can be overcome through on-site sewage system design.		
[2]The separation distance to a private water supply well abandoned in accordance with 312 IAC 13-10-2(e) may be reduced to ten (10) feet.		
[3]Measured from the normal or ordinary high water mark.		
[4]See subsections (b) and (c)		
[5]Storm water detention area: area designated for the temporary detention of storm water, with the outlet located at the lowest elevation of the depression.		
[6]See section 59(f) of this rule for subsurface drainage system separation.		
[7]Patios without footers, aboveground swimming pools, and sidewalks may be located within ten (10) feet of septic tank, as long as no required access points are obstructed.		
[8]A minimum separation of ten (10) feet is required on all sites.		

(b) A residential on-site sewage system shall not be located within two hundred (200) feet of a public water supply lake or reservoir. However, any residential on-site sewage system that includes secondary treatment and meets the following requirements may be less than two hundred (200) feet, but not less than fifty (50) feet, from the normal or ordinary high water mark of the lake or reservoir:

(1) Meets the minimum requirements of section 60(h)(1) through (3) of this rule; or

(2) Is a system component independent of the soil absorption field that meets the effluent quality requirements of NSF/ANSI for certification under Standard 40 as a Class I plant, and that is approved by the department under the provisions of section 52(h) of this rule.

(c) Any residential on-site sewage system approved under the provisions of subsection (b) must be maintained for the life of the system through an operating permit issued under the provisions of section 54 of this rule.

(d) Sewers shall not be located within fifty (50) feet of any water supply well or subsurface pump suction line, except as follows:
(1) Sewers constructed of waterworks grade ductile iron pipe with tyton or mechanical joints, or PVC pressure sewer pipe with an SDR rating of twenty-six (26) or less with compression gasket joints, may be located within the fifty (50) foot distance.
(2) In no case shall sewers be located closer than twenty (20) feet to dug and bored water supply wells, or closer than ten (10) feet to drilled and driven water supply wells or subsurface pump suction lines.
(e) Water lines and sewers shall not be laid in the same trench, as follows:
(1) A horizontal separation of ten (10) feet shall be maintained between water lines and sewers.
(2) Where crossings are necessary, a minimum of eighteen (18) inches vertical clearance must be maintained with the water line positioned above the sewer line when possible.
(3) When it is impossible to maintain proper horizontal and vertical separation, the sewer shall be constructed of ductile iron pipe with mechanical joints or PVC pressure sewer pipe with an SDR rating of twenty-six (26) or less, having mechanical or compression gasket joints within ten (10) feet of the water line with the water line positioned above the sewer line when possible. The sewer shall be pressure tested to assure watertightness prior to back filling.

Septic tank size

410 IAC 6-8.3-60 Septic tanks: general requirements (p. 16)
(c) Every septic tank shall have a minimum capacity below the water line as specified in Table III as follows:

Table III – Required Minimum Capacities for Septic Tanks	
Number of Bedrooms in Dwelling	Capacity of Tank in Gallons
2 or less	750
3	1,000
4	1,250
5	1,500
5 +	1,500 plus 300 multiplied by the number of bedrooms over 5

(f) When multiple tanks are used in series, no single tank may be less than seven hundred fifty (750) gallons. The larger of the two (2) tanks must be upstream of the other.

Septic tank compartments

410 IAC 6-8.3-60 Septic tanks: general requirements (p. 16)
(e) Two-compartment tanks shall meet the following requirements:
(1) The liquid volume of the first compartment shall be between one-half (1/2) and two-thirds (2/3) of the total tank volume.
(2) The divider wall shall be:
(A) monolithically cast in the tank; or

(B) permanently secured within the tank body using noncorrosive fasteners or fittings.
(3) The transfer port or ports between the compartments shall consist of two (2) or more openings with a combined area of at least fifty (50) square inches. A continuous port across the width of the divider wall is also acceptable.
(4) The transfer port or ports shall be located in the middle twenty-five percent (25%) of the liquid depth.
(5) An access opening meeting the requirements of section 61(o) of this rule must be provided above each compartment, including riser meeting the requirements of section 61(p) of this rule, for maintenance pumping.

(g) When sewage is pumped into a septic tank using a grinder pump:
(1) a two-compartment tank must be used with the sewage pumped into the first compartment; or
(2) two (2) tanks in series must be used, with the sewage pumped into the first tank.

Septic tank rise on inlet

410 IAC 6-8.3-61 Septic tanks: construction details (p. 18)
(c) The inlet baffle or sanitary tee shall extend at least:
(1) eight (8) inches below the liquid level; and
(2) to the top of the inlet sewer.

(f) There shall be at least one (1) inch clear space between the underside of the septic tank lid and the top of the inlet and outlet baffles or tees.

(h) The inlet baffle shall not be more than twelve (12) inches nor less than four (4) inches from the inside of the inlet end of the tank. The outlet baffle shall not be more than twelve (12) inches nor less than four (4) inches from the outlet end of the septic tank. Baffles shall be constructed of durable materials not subject to corrosion or decay.
(i) The bottom of the septic tank inlet shall not be less than two (2) inches nor more than four (4) inches above the liquid level.

(2) An access opening shall be located over each of the following:
(A) The inlet.
(B) The outlet.
(C) The sanitary tee or baffle, if present, on the partition or divider wall of a two-compartment septic tank.

(f) The outlet filter housing shall:
(3) be installed so the bottom of the filter inlet extends below the liquid level at least ten (10) inches, but not more than forty percent (40%) of the septic tank liquid depth;

(e) The influent port shall be located or baffled to prevent unequal distribution of effluent to the distribution system. If baffles are provided, the baffles and their mounts or retainers shall:
(2) extend to one (1) inch above the top of the inlet.

Holding tanks

410 IAC 6-8.3-52 General sewage disposal requirements (p. 6)
(e) A temporary sewage holding tank is an alternative method of sewage disposal subject to the written approval of the department, except as provided in subsection (f). A temporary sewage holding tank shall not be used as a primary means of residential sewage disposal except:
(1) where necessary to prevent continued discharge of sewage from a failed existing residential on-site sewage system;
(2) when soil conditions exist that preclude the prompt construction of a soil absorption system on a site that has already received a construction permit; or
(3) where the holding tank is operated by a conservancy district, sewer district, private utility, or municipality as a part of its sewage disposal plan or for not more than one (1) year while connection to sanitary sewer is being secured. This one (1) year time frame may be extended upon documentation of satisfactory operation of the holding tank.

(f) A temporary sewage holding tank may be approved by the local health department:
(1) as a temporary storage facility where occupancy of the home must continue while an existing residential on-site sewage system is being replaced or renovated; or
(2) until soil conditions permit the installation of a soil absorption system for which a construction permit has been issued.

Dosing tank size

410 IAC 6-8.3-62 Dosing tanks (p. 19)
(c) Reinforced concrete dosing tanks shall be constructed of concrete with a compressive strength of four thousand (4,000) pounds per square inch or greater.

(d) Concrete dosing tank walls shall be at least two and one-half (2 1/2) inches or greater in thickness. The design shall allow at least one (1) inch cover over reinforcing steel or welded wire fabric.

(e) The required liquid holding capacity of the dosing tank shall not be considered as any portion of the required liquid volume of the septic tank.

(f) The liquid holding capacity of a dosing tank must equal the dose volume required by this rule for each type of soil absorption system, in addition to the volume of liquid that will drain back from any effluent force main when pumping ceases. Additional capacity must be provided to:
(1) keep the dosing tank effluent pump submerged at all times; and
(2) provide sufficient freeboard for a high water alarm.

(g) Dosing tanks shall be provided with pipe connectors that meet the following requirements:
(1) Each pipe penetration shall be sealed with a flexible, resilient rubber pipe connector that uses an expansion ring, tension band, or a take-up device for mechanically compressing the resilient portion of the connector against the pipe.

(h) Each dosing tank shall be fitted with an effluent pump sized in conformance with section 65 and section 76(b), 78(d), 78(q), 82(b), or 82(j) of this rule, whichever is applicable, with controls,

and with a high water alarm switch set at a level above the design high water mark. The alarm shall:
(1) be on a separate circuit from the effluent pump; and
(2) include an audible and visible alarm.

Effluent pump or electrical

410 IAC 6-8.3-65 Effluent pumps (p. 22)
Sec. 65. (a) All effluent pumps shall be:
(1) submersible pumps suitable for use in a corrosive atmosphere;
(2) sized to deliver the total design flow rate while meeting the total dynamic head requirements of the onsite sewage system;
(3) connected to pump discharge piping that is adequately secured; and
(4) installed in such a manner as to allow for removal without entering the dosing tank or dewatering the dosing tank.

(b) Effluent pumps shall be provided with a suitable means of quick, convenient disconnection from the discharge piping, as follows:
(1) Fittings and valves shall be of compatible corrosion resistant material.
(2) A quick disconnect coupling, breakaway flange, or similar disconnect device shall be provided for each pump discharge pipe.
(3) Quick disconnect couplings and valves shall be readily accessible from the ground surface without entering the dosing tank.
(4) Submersible pumps shall be provided with a corrosion resistant lifting apparatus such as a rope or chain to facilitate removal of the pump.

(c) All floats for pump operation shall be mounted according to manufacturer's specifications using fasteners manufactured for that purpose.

(d) Controls other than liquid level sensors shall not be located within the dosing tank.

(e) Junction boxes shall be rated as a NEMA 4X, National Electrical Manufacturers Association, NEMA 250-2008. All connectors to the junction box shall form a watertight seal:
(1) to the junction box; and
(2) between connector openings and incoming wires.

(f) Any connector not used for wiring shall be fitted with a watertight plug.

Distribution box riser or material

410 IAC 6-8.3-66 Distribution box specifications (p. 22)
Sec. 66. (a) Concrete distribution boxes shall be constructed of concrete with a compressive strength of four thousand (4,000) pounds per square inch or greater. Other materials may be considered on a case-by-case basis. All materials must:
(1) be resistant to corrosion and decay; and

(2) have sufficient structural strength to contain sewage and resist lateral compressive and bearing loads.

(b) The minimum interior dimension of a distribution box shall be twelve (12) inches.

(c) The distribution box shall be fitted with a watertight, removable lid for access. The distribution box may be fitted with a riser to the ground surface. The riser joints and the lid connection to the riser must be watertight.

(d) The interior bottom of the distribution box shall be at least four (4) inches below the invert elevation of the effluent ports. A minimum of eight (8) inches freeboard above the invert elevation of the effluent port shall be provided.

(e) The influent port shall be located or baffled to prevent unequal distribution of effluent to the distribution system. If baffles are provided, the baffles and their mounts or retainers shall:
(1) provide a passageway for effluent between the box bottom and the bottom edge of the baffle of not more than two (2) inches; and
(2) extend to one (1) inch above the top of the inlet.

(f) An elbow or sanitary tee in the vertical position may be used in place of a baffle, as follows:
(1) If an elbow is used, the elbow must:
(A) be a ninety (90) degree elbow;
(B) be turned down into the distribution box with the end of the elbow not more than two (2) inches above the bottom of the distribution box; and
(C) include a weep hole in the upper part of the elbow.
(2) If a sanitary tee is used, the bottom of the sanitary tee must be not more than two (2) inches above the bottom of the distribution box and the top of the sanitary tee at least one (1) inch below the lid.

(g) Each distribution box shall be designed to split the effluent flow equally among the effluent ports. All effluent ports shall be:
(1) at the same elevation;
(2) of the same diameter; and
(3) located at an elevation at least one (1) inch lower than the influent port.

Soil loading rate used for sizing

Table IV - Soil Loading Rates for Subsurface Trench On-site Sewage Systems (in gpd/ft^2)								
	SOIL STRUCTURE CLASSES							
SOIL TEXTURE CLASSES	Single Grain	Granular	Strong: Angular, Sub-Angular Blocky, Prismatic	Moderate: Angular, Sub-Angular Blocky, Prismatic	Weak: Angular, Sub-Angular Blocky, Prismatic; Platy[1]	Fragic Characteristics: Very Coarse Prismatic	Structureless, Massive, Friable, V. Friable	Structureless, Massive, Compact, Firm, V. Firm; Platy[2]
Gravel, Coarse Sand	>1.20	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Loamy Coarse Sand, Medium Sand	1.20	1.20	N/A	N/A	1.20	N/A	N/A	N/A
Fine Sand, Loamy Sand, Loamy Fine Sand	0.75	0.60	N/A	0.75	0.75	N/A	0.75	N/A
Very Fine Sand, Loamy V. Fine Sand	0.50	0.50	N/A	0.75	0.60	N/A	0.60	N/A
Sandy Loam, Coarse Sandy Loam	N/A	0.75	N/A	0.60	0.60	0.00	0.60	0.00
Fine Sandy Loam, V. Fine Sandy Loam	N/A	0.75	N/A	0.60	0.60	0.00	0.60	0.00
Loam	N/A	0.75	0.75	0.50	0.50	0.00	0.50	0.00
Silt Loam, Silt	N/A	0.75	0.75	0.50	0.30	0.00	0.30	0.00
Sandy Clay Loam	N/A	0.60	0.60	0.50	0.30	0.00	0.30	0.00
Silty Clay Loam, Clay Loam, Sandy Clay	N/A	0.60	0.60	0.30	0.25	0.00	0.25	0.00
Silty Clay, Clay	N/A	0.60	0.50	0.30	0.25	N/A	0.25	0.00
Organic Soil Materials	N/A	N/A	N/A	N/A	N/A	N/A	0.00	N/A
Limnic Soil Materials	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00
Bedrock	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A NOT APPLICABLE								
[1]Naturally occurring platy structure.								
[2]Platy structure caused by mechanical compaction has a soil loading rate of 0.00 gpd/ft^2 unless broken up by methods approved by the department.								

Table V – Soil Loading Rates for Elevated Sand Mound On-site Sewage Systems (in gpd/ft^2)								
	SOIL STRUCTURE CLASSES							
SOIL TEXTURE CLASSES	Single Grain	Granular	Strong: Angular, Sub-Angular Blocky, Prismatic	Moderate: Angular, Sub-Angular Blocky, Prismatic	Weak: Angular, Sub-Angular Blocky, Prismatic; Platy[1]	Fragic Characteristics: Very Coarse Prismatic	Structureless, Massive, Friable, V. Friable	Structureless, Massive, Compact, Firm, V. Firm; Platy[2]
Gravel, Coarse Sand	>1.20	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Loamy Coarse Sand, Medium Sand	1.20	1.20	N/A	N/A	1.20	N/A	N/A	N/A
Fine Sand, Loamy Sand, Loamy Fine Sand	0.60	0.60	N/A	0.60	0.60	N/A	0.60	N/A
Very Fine Sand, Loamy V. Fine Sand	0.50	0.50	N/A	0.50	0.50	N/A	0.50	N/A
Sandy Loam, Coarse Sandy Loam	N/A	0.60	N/A	0.60	0.60	0.00	0.60	0.00
Fine Sandy Loam, V. Fine Sandy Loam	N/A	0.60	N/A	0.60	0.60	0.00	0.60	0.00
Loam	N/A	0.50	0.50	0.50	0.50	0.00	0.50	0.00
Silt Loam, Silt	N/A	0.50	0.50	0.50	0.50	0.00	0.50	0.00
Sandy Clay Loam	N/A	0.50	0.50	0.50	0.50	0.00	0.50	0.00
Silty Clay Loam, Clay Loam, Sandy Clay	N/A	0.25	0.25	0.25	0.25	0.00	0.25	0.00
Silty Clay, Clay	N/A	0.25	0.25	0.25	0.25	N/A	0.25	0.00
Organic Soil Materials	N/A	N/A	N/A	N/A	N/A	N/A	0.00	N/A
Limnic Soil Materials	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00
Bedrock	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A NOT APPLICABLE								
[1] Naturally occurring platy structure.								
[2] Platy structure caused by compaction has a soil loading rate of 0.00 gpd/ft^2 unless broken up by methods approved by the department.								

Table XIII - Soil Loading Rates Versus Pressure Distribution Lateral Hole Spacing for Subsurface Trench Pressure Distribution Systems	
Soil Loading Rates: Gallons per Day per Square Foot	Lateral Hole Spacing Feet Between Holes
1.2	3
0.75	3 to 5
0.5 and 0.6	3 to 6
0.25 and 0.3	3 to 7

Minimum DDF or SAF sizing

410 IAC 6-8.3-12 "Design daily flow" or "DDF" defined (p. 2)
Sec. 12. "Design daily flow" or "DDF" means the calculated peak daily sewage flow from a residence used to design a residential on-site sewage system. It is one hundred fifty (150) gallons per day times the number of bedrooms and bedroom equivalents.

Elevated sand mounds

410 IAC 6-8.3-72 Elevated sand mound on-site sewage system site suitability (p. 28)
Sec. 72. (a) On-site sewage system feasibility, location, selection, and design shall be based on the:
(1) site evaluation;
(2) information obtained from the on-site soils evaluation; and
(3) DDF.

(b) Elevated sand mound on-site sewage systems may be constructed if the following site conditions are met:
(1) Sufficient area exists on the lot for an appropriately sized elevated sand mound on-site sewage system, while meeting the:
(A) separation distances of section 57 of this rule; and
(B) dispersal area requirements of section 58 of this rule.
(2) The topographic position of the site on which the elevated sand mound on-site sewage system is to be built is convex, hill slope, or flat. If surface and subsurface drainage can be diverted around the site, a toe slope position can be utilized.
(3) The site on which the elevated sand mound on-site sewage system is to be built has a slope of six percent (6%) or less.
(4) Site conditions permit any seasonal high water table at the site of the proposed elevated sand mound onsite sewage system to be lowered to at least twenty (20) inches below original grade, in accordance with section 59 of this rule.
(5) When no soil horizon from the ground surface to twenty (20) inches below the ground surface in a soil developed from Wisconsin glacial till shows effervescence when treated with a ten percent (10%) hydrochloric acid solution, unless:
(A) the on-site soils evaluation report shows that the presence of the horizon is not detrimental to the proper functioning of an on-site sewage system; and
(B) the determination in clause (A) is made using the guidelines as set forth in the soil manuals, technical bulletins, and handbooks of the NRCS guidelines and as approved by the department.
(6) When there are no soil horizons from the ground surface to twenty (20) inches below the ground surface with:
(A) less than twenty percent (20%) clay by volume and greater than thirty-five percent (35%) coarse fragments by volume; or
(B) greater than or equal to twenty percent (20%) clay by volume and greater than sixty percent (60%) coarse fragments by volume.
(7) All soil horizons from the original grade to twenty (20) inches below the original grade have a soil loading rate of not less than twenty-five hundredths (0.25) gallons per day per square foot and not more than one and twenty-hundredths (1.20) gallons per day per square foot as determined from Table V as follows:

Table V – Soil Loading Rates for Elevated Sand Mound On-site Sewage Systems (in gpd/ft^2)								
	SOIL STRUCTURE CLASSES							
SOIL TEXTURE CLASSES	Single Grain	Granular	Strong: Angular, Sub-Angular Blocky, Prismatic	Moderate: Angular, Sub-Angular Blocky, Prismatic	Weak: Angular, Sub-Angular Blocky, Prismatic; Platy[1]	Fragic Characteristics: Very Coarse Prismatic	Structureless, Massive, Friable, V. Friable	Structureless, Massive, Compact, Firm, V. Firm; Platy[2]
Gravel, Coarse Sand	>1.20	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Loamy Coarse Sand, Medium Sand	1.20	1.20	N/A	N/A	1.20	N/A	N/A	N/A
Fine Sand, Loamy Sand, Loamy Fine Sand	0.60	0.60	N/A	0.60	0.60	N/A	0.60	N/A
Very Fine Sand, Loamy V. Fine Sand	0.50	0.50	N/A	0.50	0.50	N/A	0.50	N/A
Sandy Loam, Coarse Sandy Loam	N/A	0.60	N/A	0.60	0.60	0.00	0.60	0.00
Fine Sandy Loam, V. Fine Sandy Loam	N/A	0.60	N/A	0.60	0.60	0.00	0.60	0.00
Loam	N/A	0.50	0.50	0.50	0.50	0.00	0.50	0.00
Silt Loam, Silt	N/A	0.50	0.50	0.50	0.50	0.00	0.50	0.00
Sandy Clay Loam	N/A	0.50	0.50	0.50	0.50	0.00	0.50	0.00
Silty Clay Loam, Clay Loam, Sandy Clay	N/A	0.25	0.25	0.25	0.25	0.00	0.25	0.00
Silty Clay, Clay	N/A	0.25	0.25	0.25	0.25	N/A	0.25	0.00
Organic Soil Materials	N/A	N/A	N/A	N/A	N/A	N/A	0.00	N/A
Limnic Soil Materials	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00
Bedrock	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A NOT APPLICABLE								
[1] Naturally occurring platy structure.								
[2] Platy structure caused by compaction has a soil loading rate of 0.00 gpd/ft^2 unless broken up by methods approved by the department.								

Observation Ports

Not included in ordinances.

Subsurface drainage type/depth/size

410 IAC 6-8.3-59 Drainage (p. 15)
Sec. 59. (a) A surface diversion:
(1) shall be constructed if drainage from an adjoining upslope landscape affects the soil absorption system site;
(2) shall have a positive grade of at least two and four-tenths (2.4) inches per one hundred (100) feet, or a grade of two-tenths percent (0.2%);
(3) shall be of sufficient depth and width to move surface water away from the soil absorption system;
(4) shall be located:

(A) for subsurface trench on-site sewage systems that do not require additional soil cover, at least ten (10) feet from the soil absorption system, as measured from the downslope edge of the surface diversion to the outside edge of the nearest soil absorption system trench;
(B) for subsurface trench on-site sewage systems that require additional soil cover, at least ten (10) feet from the soil absorption system, as measured from the downslope edge of the surface diversion to the upslope edge of the additional soil cover; or
(C) for elevated sand mound on-site sewage systems, at least ten (10) feet from the soil absorption system, as measured from the downslope edge of the surface diversion to the upslope edge of the soil cover; and
(5) may be used in combination with an on-site subsurface drainage system.

(b) When a subsurface drainage system is constructed, it shall be sufficiently deep to lower a seasonal high water table as required in subsection (d) or (e).

(c) If the site has a slope of equal to or less than two percent (2%), the subsurface drain shall surround the on-site sewage system. If the site slope exceeds two percent (2%), the subsurface drain may be constructed only on the upslope side of the on-site sewage system.

(d) If the seasonal high water table is perched, the subsurface drain trench shall be constructed at least two (2) inches into structureless massive compact clay with firm or very firm consistence, glacial till, or fragipan whenever site and soil conditions permit. When the drain cannot be constructed at least two (2) inches into the structureless massive compact clay with firm or very firm consistence, glacial till, or fragipan, the depth of the drain shall be the following unless calculations are used to determine drain depth:
(1) For trench on-site sewage systems, the invert elevation of the subsurface perimeter, interceptor, or segment drain shall be at least thirty-six (36) inches below the invert elevation of any adjacent soil absorption trench bottom.
(2) For elevated sand mound on-site sewage systems, the invert elevation of the subsurface perimeter or interceptor drain shall be at least thirty-two (32) inches below existing grade.

(e) If drainage calculations are used to determine drain depth, drainage formulas and calculations shall be submitted to the local health department as part of the plan submittal, showing a lowering of the seasonal high water table:
(1) for subsurface trench on-site sewage systems, at least twenty-four (24) inches below the trench bottoms in the center of the soil absorption field; or
(2) for elevated sand mound on-site sewage systems, at least twenty (20) inches below original grade.

(f) Subsurface drainage systems shall be located at soil absorption system sites as follows:
(1) All portions of a subsurface drainage system shall be installed at least ten (10) feet from the outside edge of any soil absorption trench.
(2) All portions of a subsurface drainage system shall be installed at least ten (10) feet from the outside edge of the INDOT Specification 23 sand.
(3) Spacing of subsurface perimeter drains and segment drains installed parallel to the trench lengths along the contour of the site for a subsurface trench system or parallel to the long axis of

an elevated sand mound must be less than or equal to sixty-five (65) feet, unless a greater spacing is determined through calculations.
(4) The subsurface drain shall not cross any portion of the soil absorption system.

(g) The subsurface drain pipe shall be:
(1) at least four (4) inches in diameter;
(2) slotted; and
(3) wrapped with a geotextile fabric with an effective opening size not smaller than two-tenths (0.2) millimeter and not larger than eighty-five hundredths (0.85) millimeter when installed in:
(A) sands;
(B) loamy sands;
(C) sandy loams;
(D) fine sandy loams;
(E) loams;
(F) silt loams; or
(G) silts.

(h) The subsurface drain trench shall:
(1) have a positive slope of at least two-tenths (0.2) foot per one hundred (100) feet when a four (4) inch drain pipe is used;
(2) have a positive slope of at least one-tenth (0.1) foot per one hundred (100) feet when a six (6) inch drain pipe is used; and
(3) be constructed with no sags in the line.

(i) A subsurface drain trench installed upslope from a residential on-site sewage system shall be:
(1) backfilled to final grade with aggregate that meets the minimum requirements of subsection (k); or
(2) filled to within six (6) inches of final grade with aggregate that meets subsection (k) and the final six (6) inches to final grade with cover soil material.

(j) A subsurface drain trench installed on sides or downslope, and segment drain trenches may be:
(1) backfilled to final grade with aggregate that meets the minimum requirements of subsection (k); or
(2) filled to within six (6) inches of final grade with aggregate that meets the minimum requirements of subsection (k) and the final six (6) inches to final grade with cover soil material.

(k) The aggregate backfill for subsurface drain trenches shall meet the minimum requirements of:
(1) section 68 of this rule;
(2) washed aggregate with a gradation in the range of INDOT Specification 8 through 11; or
(3) INDOT Specification 23 sand or equivalent.

(l) When INDOT Specification 23 sand is used for backfill, the drainpipe shall be wrapped with a geotextile fabric.

(m) The aggregate used as backfill in the perimeter, interceptor, or segment drain trenches described in subsections (i)(2) and (j)(2) shall be covered with a geotextile fabric barrier that meets the minimum requirements in section 69 of this rule in such a manner as to prevent the aggregate from becoming clogged with the earth fill.

(n) The subsurface drain trench and the associated discharge piping shall be constructed to permit water to flow by gravity throughout its length. No pumps or siphons shall be utilized to effect the movement of the collected water.

(o) Tile outlets shall be provided with rodent guards.

Use of technologies new to IN

410 IAC 6-8.3-52 General sewage disposal requirements (p. 6)
(h) In order to permit development of new or more efficient sewage treatment or disposal processes, the department may approve the installation of experimental and TNI equipment, facilities, or pollution control devices for which extensive experience or records of use have not been developed in Indiana. The applicant for such approval must submit evidence of sufficient clarity and conclusiveness to convince the department that the proposal has a reasonable and substantial probability of satisfactory operation without failure.

Lake County

Varies from IAC 410? Discuss justification for variance.

Minimum Lot Standards: Consideration for small lot systems in existing developments may be necessary.

Connection to Sewer: Financial challenge on part of homeowner who is required to hook up may necessitate change from state rule.

If not addressed in local ordinance, is reference to IAC satisfactory?

Application Requirements: Water source + inspection requirements should be included in applications (not included in local ordinance).

Enforcement: Who enforces penalties and how? Requirements are unclear. Penalties need to be removed from ordinance if opting to adjust State Rule 410. State-local operations need to be outlined clearly.

Additional Notes:

Installer/Inspection Registration & Certification: State pending action.

Reconnection to OSS & Point of Sale Inspections: Not included in ordinance.

Lake County Ordinance Review Supplemental Information Packet

Checklist items below are sourced from the "Request for Technical Review Panel Review of Local Residential On-Site Sewage System Ordinance."

***Checklist items referenced in local ordinances are indicated by asterisks.

Minimum lot/parcel size

410 IAC 6-8.3-53 Construction permits (p. 7)
(n) Individual lots in subdivisions designed to utilize residential on-site sewage systems, for which the plats were approved by the local plan commission, county health department, or the county recorder, and recorded prior to December 21, 1990, are exempt from the provisions of sections 70(b)(8) and 72(b)(7) of this rule if the soils on the individual lot have characteristics that would allow the soil to be rated slight or moderate in accordance with guidelines as set forth in the soils manuals and handbooks of the NRCS. The soil absorption system to serve each lot that is exempted by this section shall meet the sizing criteria as follows:

Permeability Rating
2 in. to 6 in. per hour
1 in. to 2 in. per hour

Square Feet Needed in Trench Bottom per Bedroom
250 square feet per bedroom
330 square feet per bedroom

Connection to sewer

410 IAC 6-8.3-52 General sewage disposal requirements (p. 6)
(d) Any dwelling that is not connected, or cannot be connected, to a sanitary sewerage system shall be provided with a residential on-site sewage system that includes a septic tank and a soil absorption system that has not failed.

****Lake County, Indiana Code of Ordinances*
Chapter 50: Sewers
§ 50.16 CONNECTING BUILDINGS TO PRIVATE SEWAGE DISPOSAL SYSTEM.

At any business building situated within the county where there is installed a sewage disposal system which is not connected to a public sewer system, and no public sewer system is available, there shall be established, a private sewage disposal system which shall comply with the standards of the State Board of Health as contained in Bulletin S.E. 13 of the State Board of Health and including but not limited to compliance with 410 I.A.C. 6-10. Copies of Bulletin S.E.

13 are herewith incorporated by reference as part of this section and the copies are filed in the office of the County Auditor and County Health Officer for public inspection.

Reconnection to OSS

Not included in ordinances.

Installer/Inspector registration

Not included in ordinances.

Installer/Inspector certification

Not included in ordinances.

Application requirements

410 IAC 6-8.3-53 Construction permits (p. 7)
(d) The application for a construction permit shall be made on a form provided by the local health department. The application shall contain, or include as attachments, the following:
(1) Information on the following:
(A) The name and address of the property owner.
(B) The location of the property.
(C) The number of bedrooms and bedroom equivalents.
(2) The on-site soils evaluation, as outlined in section 56 of this rule, for the site where the residential soil absorption system is to be constructed.
(3) Written plans of sufficient clarity that it can be verified that the design of the residential on-site sewage system shall comply with the provisions of this rule.
(4) Any other information deemed necessary by the health officer.

(e) When site limitations and soil information for the site have been determined, the owner is responsible for the residential on-site sewage system design that:
(1) addresses the demands of the site in accordance with this rule; and
(2) will meet local health department approval.

(f) The local health department may require scale drawings of the site and residential on-site sewage system as part of the application process.

(g) In accordance with IC 16-41-25-1(a), the local health department shall issue or deny, in writing to the owner, a residential on-site sewage system construction permit within forty-five (45) days of receipt of an application and plan submittal.

****Lake County, Indiana Code of Ordinances*
Chapter 50: Sewers
§ 50.30 REQUIRED BEFORE CONSTRUCTION, REPLACEMENT, OR REPAIR OF PRIVATE SEWAGE DISPOSAL SYSTEM OR PRIVY; APPLICATIONS; FEES.

(A) Before commencement of construction of a private sewage disposal system or privy, the owner, or agent of the owner shall first obtain a written permit signed by the County Health Officer. The application for the permit shall be made on a form provided by the county, which the applicant shall supplement with any plans, specifications, and other information as are deemed necessary by the County Health Officer. A permit and inspection fee in accordance with the fee schedule shall be paid to the County Treasurer at the time application is filed.

(B) Before commencement of construction of a replacement private sewage disposal system, one which is designed to replace an existing but inoperable private sewage disposal system, the owner, or agent of the owner shall first obtain a written permit signed by the County Health Officer or his or her duly authorized agent. The application for the permit shall be made on a form provided by the county, which the applicant shall supplement with any plans, specifications, and other information as are deemed necessary by the County Health Officer. A permit and inspection fee of $35 shall be paid to the County Treasurer at the time the application is filed.

(C) Before commencement of repair or alteration of an existing but defective operating or inefficient private sewage disposal system, the owner, or agent of the owner shall first obtain a written permit, signed by the County Health Officer or his or her duly authorized agent. The application for the permit shall be made on a form provided by the county, which the applicant shall supplement with any plans, specifications, and other information as are deemed necessary by the County Health Officer. A permit and inspection fee of $35 shall be paid to the County Treasurer at the time the application is filed.

(Prior Code, § 50.30) (Ord. 3, passed 9-26-1955; Ord. 29, passed 7-7-1975) Penalty, see § 50.99

Residential outbuildings

410 IAC 6-8.3-15 "Dwelling" or "residence" defined (p. 2)
Sec. 15. "Dwelling" or "residence" means any house or place used or intended to be used as a place of seasonal or permanent human habitation or for sleeping for one (1) or two (2) families, and any associated outbuildings that are for the private use of the owner.

410 IAC 6-8.3-52 General sewage disposal requirements (p. 6)
(c) All residential on-site sewage systems utilizing sanitary privies shall conform to department bulletin SE 11, "The Sanitary Vault Privy", 1986 Edition.

Enforcement

410 IAC 6-8.3-54 Operating permits (p. 9)
(e) The operating permit for a residential on-site sewage system in violation of subsection (d) may be revoked by the health officer in accordance with section 55(e) of this rule.

410 IAC 6-8.3-55 Violations; permit denial and revocation (p. 10)
(c) Any person found to be violating this rule may be served by the health officer with a written order stating the nature of the violation and providing a time limit for satisfactory correction thereof.
(d) After receiving an order in writing from the local board of health or the health officer, the owner of the property shall comply with the provisions of this rule as set forth in the order and within the time limit specified therein. The order shall be served on the owner or the agent of the owner, but may be served on any person who, by contract with the owner, has assumed the duty of complying with the provisions of an order.
(e) The health officer may deny an application for a construction or operating permit, or may revoke a permit previously issued, for reasons including, but not limited to, any of the following:
(1) An on-site sewage system design does not meet the minimum requirements of this rule or local sewage ordinances, or both.
(2) Failure to comply with any provisions of this rule or local sewage ordinances, or both.
(3) Failure to comply with limitations, terms, or conditions of a permit that has been issued.
(4) Failure to disclose all the facts relevant to the construction and use of an on-site sewage system.
(5) Misrepresentation.
(6) Any change relating to the design, construction, or use of the on-site sewage system not approved, in writing, by the local health department.

(f) The written denial or revocation shall state the following:
(1) The basis for the denial or revocation.
(2) The method or methods available for compliance, if applicable.
(3) The time frame for compliance, if applicable.
(4) That the owner has the right to appeal the denial or revocation.
(5) The procedure for registering any such appeal.

(g) The parties involved may agree to use the appeal procedures set forth in IC 4-21.5, the Administrative Orders and Procedures Act.

****Lake County, Indiana Code of Ordinances*
Chapter 50: Sewers
§ 50.99 PENALTY.

(A) A violation of any provision of this chapter for a penalty is not set out is subject to § 10.99

(B) Any person who shall continue any violation of §§ 50.01 *et seq.*, 50.15 *et seq.*, 50.30 and 50.31 beyond the time limit provided for in § 50.60 shall be guilty of a punishable offense. Upon conviction, the violator shall be punished for the first offense by a fine of not more than $500; for the second offense by a fine of not more than $2,500; and for the third and each subsequent offense by a fine of not more than $2,500. Each day after the expiration of the time limit for abating insanitary conditions and completing improvements to abate those conditions as ordered by the County Board of Health, or by

the duly appointed Health Officer of the county, shall constitute a distinct and separate offense.

(Prior Code, § 50.99) (Ord. 3, passed 9-26-1955)

Construction inspections

410 IAC 6-8.3-53 Construction permits (p. 7)
(h) No construction on the residential on-site sewage system may take place if the residential on-site sewage system site is disturbed or altered after the on-site evaluation by the addition of fill material (other than construction necessary for the residential on-site sewage system) or by cutting, scraping, compaction, or the removal of soil, until a new on-site evaluation has been conducted and a modified construction permit has been issued.

(i) A soil absorption system replacement for a residential on-site sewage system shall meet or exceed the minimum provisions of this rule. When replacement is necessary due to on-site sewage system failure, and if the replacement soil absorption system cannot meet all of the provisions of this rule, deviations to this rule for a soil absorption system replacement may be made in accordance with the best judgment of the local department of health, based on the following:
(1) Limitations of the site.
(2) Written results of an evaluation of the operational status of all of the on-site sewage system components and probable reasons for system failure.
(3) Written results of an on-site soils evaluation.

(l) The permittee shall notify the health officer or his or her designee when the work is ready for final inspection:
(1) using the procedure published by the local board of health; or (2) at least forty-eight (48) hours or two
(2) working days before any subsurface portions are to be covered if the local health board has not published inspection procedures.

410 IAC 6-8.3-56 On-site evaluation (p. 11)
Sec. 56. (a) Before issuance of any permit for construction of a residential on-site sewage system or the replacement or alteration of a soil absorption system, an on-site evaluation, which shall include a description of the soil profile, shall be conducted.

Number of soil borings/pits

Not included in ordinances.

Method of soil evaluation

410 IAC 6-8.3-56 On-site evaluation (p. 11)

Sec. 56. (a) Before issuance of any permit for construction of a residential on-site sewage system or the replacement or alteration of a soil absorption system, an on-site evaluation, which shall include a description of the soil profile, shall be conducted.

(b) Properties of the soil at each site shall be described by a soil scientist using the guidelines set forth in the soil manuals, technical bulletins, and handbooks of the NRCS.
(c) Soil profile information shall be recorded:
(1) to a depth of five (5) feet; or
(2) until a layer is encountered that cannot be readily penetrated; whichever is shallower.

(d) The on-site evaluation shall be conducted before application and plan submittal.
(e) The information in the written on-site soils evaluation report shall include the following:
(1) For topographic information, the following:
(A) The slope and slope aspect.
(B) Surface drainage characteristics and patterns including swales, ditches, and streams.
(C) The proposed or existing location of house and well or other water supply.
(D) The location of other major features or structures.
(E) The location of soil evaluation sites and appropriate soil type boundaries.
(F) The topographic position of the site.

(2) For soil characteristics, the following:
(A) Parent material.
(B) The approximate depths of soil horizons.
(C) The soil color, structure, and texture at each horizon.
(D) The horizon designation for each horizon.
(E) The depth to any layer that has a soil loading rate greater than seventy-five hundredths (0.75) gallons per day per square foot or less than twenty-five hundredths (0.25) gallons per day per square foot.
(F) The depth to seasonal high ground water as indicated by soil wetness characteristics.
(G) The depth to bedrock.
(H) The soil consistence at each horizon.
(I) The soil effervescence at each horizon.
(J) The percent coarse fragments at each horizon.
(K) The percent clay at each horizon, by field estimation, for any horizon where the percent coarse fragments is greater than thirty-five percent (35%) by volume.
(L) The presence or absence of roots.
(M) Frost penetration depth, if applicable.

(f) When soil characteristics are to be used for calculations for the depth of a subsurface drainage system, the following information shall be recorded to a depth of eighty (80) inches:
(1) The information required in subsection (e)(2).
(2) Particle size family.

Separation distances

410 IAC 6-8.3-57 Separation distances (p. 12)

Sec. 57. (a) All septic tanks, dosing tanks, lift stations, and soil absorption systems shall be located in accordance with Table I as follows:

Table I – Separation Distances		
Minimum Distance in Feet from	Septic Tank and Other Treatment Units, Dosing Tank, Lift Station	Soil Absorption System
Private water supply well[1,2]	50	50
Private geothermal well[1,2]	50	50
Commercial water supply well[1]	100	100
Commercial geothermal well[1]	100	100
Public water supply well, lake,[1,3,4] or reservoir[1,3,4]	200	200
Other pond, retention pond, lake, or reservoir[3]	50	50
Storm water detention area[3, 5]	25	25
River, stream, ditch, or drainage tile[6]	25	25
Buildings, foundations, slabs, garages, patios, barns, aboveground and belowground swimming pools, retaining walls, closed loop geothermal systems, roads, driveways, parking areas, or paved sidewalks	10[7]	10[8]
Front, side, or rear lot lines	5	5
Water lines continually under pressure	10	10
Suction water lines	50	50
[1]The distances enumerated shall be doubled for soil absorption systems constructed where there exist horizons, layers, or strata within thirty-four (34) inches of the ground surface with a soil loading rate greater than seventy-five hundredths (0.75) gallons per day per square foot as determined from Table IV of section 70(b)(8) of this rule, unless that hazard can be overcome through on-site sewage system design.		
[2]The separation distance to a private water supply well abandoned in accordance with 312 IAC 13-10-2(e) may be reduced to ten (10) feet.		
[3]Measured from the normal or ordinary high water mark.		
[4]See subsections (b) and (c)		
[5]Storm water detention area: area designated for the temporary detention of storm water, with the outlet located at the lowest elevation of the depression.		
[6]See section 59(f) of this rule for subsurface drainage system separation.		
[7]Patios without footers, aboveground swimming pools, and sidewalks may be located within ten (10) feet of septic tank, as long as no required access points are obstructed.		
[8]A minimum separation of ten (10) feet is required on all sites.		

(b) A residential on-site sewage system shall not be located within two hundred (200) feet of a public water supply lake or reservoir. However, any residential on-site sewage system that includes secondary treatment and meets the following requirements may be less than two hundred (200) feet, but not less than fifty (50) feet, from the normal or ordinary high water mark of the lake or reservoir:

(1) Meets the minimum requirements of section 60(h)(1) through (3) of this rule; or

(2) Is a system component independent of the soil absorption field that meets the effluent quality requirements of NSF/ANSI for certification under Standard 40 as a Class I plant, and that is approved by the department under the provisions of section 52(h) of this rule.

(c) Any residential on-site sewage system approved under the provisions of subsection (b) must be maintained for the life of the system through an operating permit issued under the provisions of section 54 of this rule.
(d) Sewers shall not be located within fifty (50) feet of any water supply well or subsurface pump suction line, except as follows:
(1) Sewers constructed of waterworks grade ductile iron pipe with tyton or mechanical joints, or PVC pressure sewer pipe with an SDR rating of twenty-six (26) or less with compression gasket joints, may be located within the fifty (50) foot distance.
(2) In no case shall sewers be located closer than twenty (20) feet to dug and bored water supply wells, or closer than ten (10) feet to drilled and driven water supply wells or subsurface pump suction lines.
(e) Water lines and sewers shall not be laid in the same trench, as follows:
(1) A horizontal separation of ten (10) feet shall be maintained between water lines and sewers.
(2) Where crossings are necessary, a minimum of eighteen (18) inches vertical clearance must be maintained with the water line positioned above the sewer line when possible.
(3) When it is impossible to maintain proper horizontal and vertical separation, the sewer shall be constructed of ductile iron pipe with mechanical joints or PVC pressure sewer pipe with an SDR rating of twenty-six (26) or less, having mechanical or compression gasket joints within ten (10) feet of the water line with the water line positioned above the sewer line when possible. The sewer shall be pressure tested to assure watertightness prior to back filling.

Septic tank size

410 IAC 6-8.3-60 Septic tanks: general requirements (p. 16)
(c) Every septic tank shall have a minimum capacity below the water line as specified in Table III as follows:

Table III – Required Minimum Capacities for Septic Tanks	
Number of Bedrooms in Dwelling	Capacity of Tank in Gallons
2 or less	750
3	1,000
4	1,250
5	1,500
5 +	1,500 plus 300 multiplied by the number of bedrooms over 5

(f) When multiple tanks are used in series, no single tank may be less than seven hundred fifty (750) gallons. The larger of the two (2) tanks must be upstream of the other.

Septic tank compartments

410 IAC 6-8.3-60 Septic tanks: general requirements (p. 16)

(e) Two-compartment tanks shall meet the following requirements:
(1) The liquid volume of the first compartment shall be between one-half (1/2) and two-thirds (2/3) of the total tank volume.
(2) The divider wall shall be:
(A) monolithically cast in the tank; or
(B) permanently secured within the tank body using noncorrosive fasteners or fittings.
(3) The transfer port or ports between the compartments shall consist of two (2) or more openings with a combined area of at least fifty (50) square inches. A continuous port across the width of the divider wall is also acceptable.
(4) The transfer port or ports shall be located in the middle twenty-five percent (25%) of the liquid depth.
(5) An access opening meeting the requirements of section 61(o) of this rule must be provided above each compartment, including riser meeting the requirements of section 61(p) of this rule, for maintenance pumping.

(g) When sewage is pumped into a septic tank using a grinder pump:
(1) a two-compartment tank must be used with the sewage pumped into the first compartment; or
(2) two (2) tanks in series must be used, with the sewage pumped into the first tank.

Septic tank rise on inlet

410 IAC 6-8.3-61 Septic tanks: construction details (p. 18)
(c) The inlet baffle or sanitary tee shall extend at least:
(1) eight (8) inches below the liquid level; and
(2) to the top of the inlet sewer.

(f) There shall be at least one (1) inch clear space between the underside of the septic tank lid and the top of the inlet and outlet baffles or tees.

(h) The inlet baffle shall not be more than twelve (12) inches nor less than four (4) inches from the inside of the inlet end of the tank. The outlet baffle shall not be more than twelve (12) inches nor less than four (4) inches from the outlet end of the septic tank. Baffles shall be constructed of durable materials not subject to corrosion or decay.
(i) The bottom of the septic tank inlet shall not be less than two (2) inches nor more than four (4) inches above the liquid level.

(2) An access opening shall be located over each of the following:
(A) The inlet.
(B) The outlet.
(C) The sanitary tee or baffle, if present, on the partition or divider wall of a two-compartment septic tank.

(f) The outlet filter housing shall:
(3) be installed so the bottom of the filter inlet extends below the liquid level at least ten (10) inches, but not more than forty percent (40%) of the septic tank liquid depth;

(e) The influent port shall be located or baffled to prevent unequal distribution of effluent to the distribution system. If baffles are provided, the baffles and their mounts or retainers shall:
(2) extend to one (1) inch above the top of the inlet.

Holding tanks

410 IAC 6-8.3-52 General sewage disposal requirements (p. 6)
(e) A temporary sewage holding tank is an alternative method of sewage disposal subject to the written approval of the department, except as provided in subsection (f). A temporary sewage holding tank shall not be used as a primary means of residential sewage disposal except:
(1) where necessary to prevent continued discharge of sewage from a failed existing residential on-site sewage system;
(2) when soil conditions exist that preclude the prompt construction of a soil absorption system on a site that has already received a construction permit; or
(3) where the holding tank is operated by a conservancy district, sewer district, private utility, or municipality as a part of its sewage disposal plan or for not more than one (1) year while connection to sanitary sewer is being secured. This one (1) year time frame may be extended upon documentation of satisfactory operation of the holding tank.

(f) A temporary sewage holding tank may be approved by the local health department:
(1) as a temporary storage facility where occupancy of the home must continue while an existing residential on-site sewage system is being replaced or renovated; or
(2) until soil conditions permit the installation of a soil absorption system for which a construction permit has been issued.

Dosing tank size

410 IAC 6-8.3-62 Dosing tanks (p. 19)
(c) Reinforced concrete dosing tanks shall be constructed of concrete with a compressive strength of four thousand (4,000) pounds per square inch or greater.

(d) Concrete dosing tank walls shall be at least two and one-half (2 1/2) inches or greater in thickness. The design shall allow at least one (1) inch cover over reinforcing steel or welded wire fabric.

(e) The required liquid holding capacity of the dosing tank shall not be considered as any portion of the required liquid volume of the septic tank.

(f) The liquid holding capacity of a dosing tank must equal the dose volume required by this rule for each type of soil absorption system, in addition to the volume of liquid that will drain back from any effluent force main when pumping ceases. Additional capacity must be provided to:
(1) keep the dosing tank effluent pump submerged at all times; and
(2) provide sufficient freeboard for a high water alarm.

(g) Dosing tanks shall be provided with pipe connectors that meet the following requirements:
(1) Each pipe penetration shall be sealed with a flexible, resilient rubber pipe connector that uses

an expansion ring, tension band, or a take-up device for mechanically compressing the resilient portion of the connector against the pipe.

(h) Each dosing tank shall be fitted with an effluent pump sized in conformance with section 65 and section 76(b), 78(d), 78(q), 82(b), or 82(j) of this rule, whichever is applicable, with controls, and with a high water alarm switch set at a level above the design high water mark. The alarm shall:
(1) be on a separate circuit from the effluent pump; and
(2) include an audible and visible alarm.

Effluent pump or electrical

410 IAC 6-8.3-65 Effluent pumps (p. 22)
Sec. 65. (a) All effluent pumps shall be:
(1) submersible pumps suitable for use in a corrosive atmosphere;
(2) sized to deliver the total design flow rate while meeting the total dynamic head requirements of the onsite sewage system;
(3) connected to pump discharge piping that is adequately secured; and
(4) installed in such a manner as to allow for removal without entering the dosing tank or dewatering the dosing tank.

(b) Effluent pumps shall be provided with a suitable means of quick, convenient disconnection from the discharge piping, as follows:
(1) Fittings and valves shall be of compatible corrosion resistant material.
(2) A quick disconnect coupling, breakaway flange, or similar disconnect device shall be provided for each pump discharge pipe.
(3) Quick disconnect couplings and valves shall be readily accessible from the ground surface without entering the dosing tank.
(4) Submersible pumps shall be provided with a corrosion resistant lifting apparatus such as a rope or chain to facilitate removal of the pump.

(c) All floats for pump operation shall be mounted according to manufacturer's specifications using fasteners manufactured for that purpose.

(d) Controls other than liquid level sensors shall not be located within the dosing tank.

(e) Junction boxes shall be rated as a NEMA 4X, National Electrical Manufacturers Association, NEMA 250-2008. All connectors to the junction box shall form a watertight seal:
(1) to the junction box; and
(2) between connector openings and incoming wires.

(f) Any connector not used for wiring shall be fitted with a watertight plug.

Distribution box riser or material

410 IAC 6-8.3-66 Distribution box specifications (p. 22)

Sec. 66. (a) Concrete distribution boxes shall be constructed of concrete with a compressive strength of four thousand (4,000) pounds per square inch or greater. Other materials may be considered on a case-by-case basis. All materials must:
(1) be resistant to corrosion and decay; and
(2) have sufficient structural strength to contain sewage and resist lateral compressive and bearing loads.

(b) The minimum interior dimension of a distribution box shall be twelve (12) inches.

(c) The distribution box shall be fitted with a watertight, removable lid for access. The distribution box may be fitted with a riser to the ground surface. The riser joints and the lid connection to the riser must be watertight.

(d) The interior bottom of the distribution box shall be at least four (4) inches below the invert elevation of the effluent ports. A minimum of eight (8) inches freeboard above the invert elevation of the effluent port shall be provided.

(e) The influent port shall be located or baffled to prevent unequal distribution of effluent to the distribution system. If baffles are provided, the baffles and their mounts or retainers shall:
(1) provide a passageway for effluent between the box bottom and the bottom edge of the baffle of not more than two (2) inches; and
(2) extend to one (1) inch above the top of the inlet.

(f) An elbow or sanitary tee in the vertical position may be used in place of a baffle, as follows:
(1) If an elbow is used, the elbow must:
(A) be a ninety (90) degree elbow;
(B) be turned down into the distribution box with the end of the elbow not more than two (2) inches above the bottom of the distribution box; and
(C) include a weep hole in the upper part of the elbow.
(2) If a sanitary tee is used, the bottom of the sanitary tee must be not more than two (2) inches above the bottom of the distribution box and the top of the sanitary tee at least one (1) inch below the lid.

(g) Each distribution box shall be designed to split the effluent flow equally among the effluent ports. All effluent ports shall be:
(1) at the same elevation;
(2) of the same diameter; and
(3) located at an elevation at least one (1) inch lower than the influent port.

Soil loading rate used for sizing

Table IV - Soil Loading Rates for Subsurface Trench On-site Sewage Systems (in gpd/ft^2)								
	SOIL STRUCTURE CLASSES							
SOIL TEXTURE CLASSES	Single Grain	Granular	Strong: Angular, Sub-Angular Blocky, Prismatic	Moderate: Angular, Sub-Angular Blocky, Prismatic	Weak: Angular, Sub-Angular Blocky, Prismatic; Platy[1]	Fragic Characteristics: Very Coarse Prismatic	Structureless, Massive, Friable, V. Friable	Structureless, Massive, Compact, Firm, V. Firm; Platy[2]
Gravel, Coarse Sand	>1.20	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Loamy Coarse Sand, Medium Sand	1.20	1.20	N/A	N/A	1.20	N/A	N/A	N/A
Fine Sand, Loamy Sand, Loamy Fine Sand	0.75	0.60	N/A	0.75	0.75	N/A	0.75	N/A
Very Fine Sand, Loamy V. Fine Sand	0.50	0.50	N/A	0.75	0.60	N/A	0.60	N/A
Sandy Loam, Coarse Sandy Loam	N/A	0.75	N/A	0.60	0.60	0.00	0.60	0.00
Fine Sandy Loam, V. Fine Sandy Loam	N/A	0.75	N/A	0.60	0.60	0.00	0.60	0.00
Loam	N/A	0.75	0.75	0.50	0.50	0.00	0.50	0.00
Silt Loam, Silt	N/A	0.75	0.75	0.50	0.30	0.00	0.30	0.00
Sandy Clay Loam	N/A	0.60	0.60	0.50	0.30	0.00	0.30	0.00
Silty Clay Loam, Clay Loam, Sandy Clay	N/A	0.60	0.60	0.30	0.25	0.00	0.25	0.00
Silty Clay, Clay	N/A	0.60	0.50	0.30	0.25	N/A	0.25	0.00
Organic Soil Materials	N/A	N/A	N/A	N/A	N/A	N/A	0.00	N/A
Limnic Soil Materials	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00
Bedrock	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A NOT APPLICABLE								
[1]Naturally occurring platy structure.								
[2]Platy structure caused by mechanical compaction has a soil loading rate of 0.00 gpd/ft^2 unless broken up by methods approved by the department.								

Table V – Soil Loading Rates for Elevated Sand Mound On-site Sewage Systems (in gpd/ft^2)								
	SOIL STRUCTURE CLASSES							
SOIL TEXTURE CLASSES	Single Grain	Granular	Strong: Angular, Sub-Angular Blocky, Prismatic	Moderate: Angular, Sub-Angular Blocky, Prismatic	Weak: Angular, Sub-Angular Blocky, Prismatic; Platy[1]	Fragic Characteristics: Very Coarse Prismatic	Structureless, Massive, Friable, V. Friable	Structureless, Massive, Compact, Firm, V. Firm; Platy[2]
Gravel, Coarse Sand	>1.20	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Loamy Coarse Sand, Medium Sand	1.20	1.20	N/A	N/A	1.20	N/A	N/A	N/A
Fine Sand, Loamy Sand, Loamy Fine Sand	0.60	0.60	N/A	0.60	0.60	N/A	0.60	N/A
Very Fine Sand, Loamy V. Fine Sand	0.50	0.50	N/A	0.50	0.50	N/A	0.50	N/A
Sandy Loam, Coarse Sandy Loam	N/A	0.60	N/A	0.60	0.60	0.00	0.60	0.00
Fine Sandy Loam, V. Fine Sandy Loam	N/A	0.60	N/A	0.60	0.60	0.00	0.60	0.00
Loam	N/A	0.50	0.50	0.50	0.50	0.00	0.50	0.00
Silt Loam, Silt	N/A	0.50	0.50	0.50	0.50	0.00	0.50	0.00
Sandy Clay Loam	N/A	0.50	0.50	0.50	0.50	0.00	0.50	0.00
Silty Clay Loam, Clay Loam, Sandy Clay	N/A	0.25	0.25	0.25	0.25	0.00	0.25	0.00
Silty Clay, Clay	N/A	0.25	0.25	0.25	0.25	N/A	0.25	0.00
Organic Soil Materials	N/A	N/A	N/A	N/A	N/A	N/A	0.00	N/A
Limnic Soil Materials	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00
Bedrock	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A NOT APPLICABLE								
[1] Naturally occurring platy structure.								
[2] Platy structure caused by compaction has a soil loading rate of 0.00 gpd/ft^2 unless broken up by methods approved by the department.								

Table XIII - Soil Loading Rates Versus Pressure Distribution Lateral Hole Spacing for Subsurface Trench Pressure Distribution Systems	
Soil Loading Rates: Gallons per Day per Square Foot	Lateral Hole Spacing Feet Between Holes
1.2	3
0.75	3 to 5
0.5 and 0.6	3 to 6
0.25 and 0.3	3 to 7

Minimum DDF or SAF sizing

410 IAC 6-8.3-12 "Design daily flow" or "DDF" defined (p. 2)
Sec. 12. "Design daily flow" or "DDF" means the calculated peak daily sewage flow from a residence used to design a residential on-site sewage system. It is one hundred fifty (150) gallons per day times the number of bedrooms and bedroom equivalents.

Elevated sand mounds

410 IAC 6-8.3-72 Elevated sand mound on-site sewage system site suitability (p. 28)
Sec. 72. (a) On-site sewage system feasibility, location, selection, and design shall be based on the:
(1) site evaluation;
(2) information obtained from the on-site soils evaluation; and
(3) DDF.

(b) Elevated sand mound on-site sewage systems may be constructed if the following site conditions are met:
(1) Sufficient area exists on the lot for an appropriately sized elevated sand mound on-site sewage system, while meeting the:
(A) separation distances of section 57 of this rule; and
(B) dispersal area requirements of section 58 of this rule.
(2) The topographic position of the site on which the elevated sand mound on-site sewage system is to be built is convex, hill slope, or flat. If surface and subsurface drainage can be diverted around the site, a toe slope position can be utilized.
(3) The site on which the elevated sand mound on-site sewage system is to be built has a slope of six percent (6%) or less.
(4) Site conditions permit any seasonal high water table at the site of the proposed elevated sand mound onsite sewage system to be lowered to at least twenty (20) inches below original grade, in accordance with section 59 of this rule.
(5) When no soil horizon from the ground surface to twenty (20) inches below the ground surface in a soil developed from Wisconsin glacial till shows effervescence when treated with a ten percent (10%) hydrochloric acid solution, unless:
(A) the on-site soils evaluation report shows that the presence of the horizon is not detrimental to the proper functioning of an on-site sewage system; and
(B) the determination in clause (A) is made using the guidelines as set forth in the soil manuals, technical bulletins, and handbooks of the NRCS guidelines and as approved by the department.
(6) When there are no soil horizons from the ground surface to twenty (20) inches below the ground surface with:
(A) less than twenty percent (20%) clay by volume and greater than thirty-five percent (35%) coarse fragments by volume; or
(B) greater than or equal to twenty percent (20%) clay by volume and greater than sixty percent (60%) coarse fragments by volume.
(7) All soil horizons from the original grade to twenty (20) inches below the original grade have a soil loading rate of not less than twenty-five hundredths (0.25) gallons per day per square foot and not more than one and twenty-hundredths (1.20) gallons per day per square foot as determined from Table V as follows:

Table V – Soil Loading Rates for Elevated Sand Mound On-site Sewage Systems (in gpd/ft^2)								
	SOIL STRUCTURE CLASSES							
SOIL TEXTURE CLASSES	Single Grain	Granular	Strong: Angular, Sub-Angular Blocky, Prismatic	Moderate: Angular, Sub-Angular Blocky, Prismatic	Weak: Angular, Sub-Angular Blocky, Prismatic; Platy[1]	Fragic Characteristics: Very Coarse Prismatic	Structureless, Massive, Friable, V. Friable	Structureless, Massive, Compact, Firm, V. Firm; Platy[2]
Gravel, Coarse Sand	>1.20	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Loamy Coarse Sand, Medium Sand	1.20	1.20	N/A	N/A	1.20	N/A	N/A	N/A
Fine Sand, Loamy Sand, Loamy Fine Sand	0.60	0.60	N/A	0.60	0.60	N/A	0.60	N/A
Very Fine Sand, Loamy V. Fine Sand	0.50	0.50	N/A	0.50	0.50	N/A	0.50	N/A
Sandy Loam, Coarse Sandy Loam	N/A	0.60	N/A	0.60	0.60	0.00	0.60	0.00
Fine Sandy Loam, V. Fine Sandy Loam	N/A	0.60	N/A	0.60	0.60	0.00	0.60	0.00
Loam	N/A	0.50	0.50	0.50	0.50	0.00	0.50	0.00
Silt Loam, Silt	N/A	0.50	0.50	0.50	0.50	0.00	0.50	0.00
Sandy Clay Loam	N/A	0.50	0.50	0.50	0.50	0.00	0.50	0.00
Silty Clay Loam, Clay Loam, Sandy Clay	N/A	0.25	0.25	0.25	0.25	0.00	0.25	0.00
Silty Clay, Clay	N/A	0.25	0.25	0.25	0.25	N/A	0.25	0.00
Organic Soil Materials	N/A	N/A	N/A	N/A	N/A	N/A	0.00	N/A
Limnic Soil Materials	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00
Bedrock	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A NOT APPLICABLE								
[1] Naturally occurring platy structure.								
[2] Platy structure caused by compaction has a soil loading rate of 0.00 gpd/ft^2 unless broken up by methods approved by the department.								

Observation Ports

Not included in ordinances.

Subsurface drainage type/depth/size

410 IAC 6-8.3-59 Drainage (p. 15)
Sec. 59. (a) A surface diversion:
(1) shall be constructed if drainage from an adjoining upslope landscape affects the soil absorption system site;
(2) shall have a positive grade of at least two and four-tenths (2.4) inches per one hundred (100) feet, or a grade of two-tenths percent (0.2%);
(3) shall be of sufficient depth and width to move surface water away from the soil absorption system;
(4) shall be located:

(A) for subsurface trench on-site sewage systems that do not require additional soil cover, at least ten (10) feet from the soil absorption system, as measured from the downslope edge of the surface diversion to the outside edge of the nearest soil absorption system trench;
(B) for subsurface trench on-site sewage systems that require additional soil cover, at least ten (10) feet from the soil absorption system, as measured from the downslope edge of the surface diversion to the upslope edge of the additional soil cover; or
(C) for elevated sand mound on-site sewage systems, at least ten (10) feet from the soil absorption system, as measured from the downslope edge of the surface diversion to the upslope edge of the soil cover; and
(5) may be used in combination with an on-site subsurface drainage system.

(b) When a subsurface drainage system is constructed, it shall be sufficiently deep to lower a seasonal high water table as required in subsection (d) or (e).

(c) If the site has a slope of equal to or less than two percent (2%), the subsurface drain shall surround the on-site sewage system. If the site slope exceeds two percent (2%), the subsurface drain may be constructed only on the upslope side of the on-site sewage system.

(d) If the seasonal high water table is perched, the subsurface drain trench shall be constructed at least two (2) inches into structureless massive compact clay with firm or very firm consistence, glacial till, or fragipan whenever site and soil conditions permit. When the drain cannot be constructed at least two (2) inches into the structureless massive compact clay with firm or very firm consistence, glacial till, or fragipan, the depth of the drain shall be the following unless calculations are used to determine drain depth:
(1) For trench on-site sewage systems, the invert elevation of the subsurface perimeter, interceptor, or segment drain shall be at least thirty-six (36) inches below the invert elevation of any adjacent soil absorption trench bottom.
(2) For elevated sand mound on-site sewage systems, the invert elevation of the subsurface perimeter or interceptor drain shall be at least thirty-two (32) inches below existing grade.

(e) If drainage calculations are used to determine drain depth, drainage formulas and calculations shall be submitted to the local health department as part of the plan submittal, showing a lowering of the seasonal high water table:
(1) for subsurface trench on-site sewage systems, at least twenty-four (24) inches below the trench bottoms in the center of the soil absorption field; or
(2) for elevated sand mound on-site sewage systems, at least twenty (20) inches below original grade.

(f) Subsurface drainage systems shall be located at soil absorption system sites as follows:
(1) All portions of a subsurface drainage system shall be installed at least ten (10) feet from the outside edge of any soil absorption trench.
(2) All portions of a subsurface drainage system shall be installed at least ten (10) feet from the outside edge of the INDOT Specification 23 sand.
(3) Spacing of subsurface perimeter drains and segment drains installed parallel to the trench lengths along the contour of the site for a subsurface trench system or parallel to the long axis of

an elevated sand mound must be less than or equal to sixty-five (65) feet, unless a greater spacing is determined through calculations.
(4) The subsurface drain shall not cross any portion of the soil absorption system.

(g) The subsurface drain pipe shall be:
(1) at least four (4) inches in diameter;
(2) slotted; and
(3) wrapped with a geotextile fabric with an effective opening size not smaller than two-tenths (0.2) millimeter and not larger than eighty-five hundredths (0.85) millimeter when installed in:
(A) sands;
(B) loamy sands;
(C) sandy loams;
(D) fine sandy loams;
(E) loams;
(F) silt loams; or
(G) silts.

(h) The subsurface drain trench shall:
(1) have a positive slope of at least two-tenths (0.2) foot per one hundred (100) feet when a four (4) inch drain pipe is used;
(2) have a positive slope of at least one-tenth (0.1) foot per one hundred (100) feet when a six (6) inch drain pipe is used; and
(3) be constructed with no sags in the line.

(i) A subsurface drain trench installed upslope from a residential on-site sewage system shall be:
(1) backfilled to final grade with aggregate that meets the minimum requirements of subsection (k); or
(2) filled to within six (6) inches of final grade with aggregate that meets subsection (k) and the final six (6) inches to final grade with cover soil material.

(j) A subsurface drain trench installed on sides or downslope, and segment drain trenches may be:
(1) backfilled to final grade with aggregate that meets the minimum requirements of subsection (k); or
(2) filled to within six (6) inches of final grade with aggregate that meets the minimum requirements of subsection (k) and the final six (6) inches to final grade with cover soil material.

(k) The aggregate backfill for subsurface drain trenches shall meet the minimum requirements of:
(1) section 68 of this rule;
(2) washed aggregate with a gradation in the range of INDOT Specification 8 through 11; or
(3) INDOT Specification 23 sand or equivalent.

(l) When INDOT Specification 23 sand is used for backfill, the drainpipe shall be wrapped with a geotextile fabric.

(m) The aggregate used as backfill in the perimeter, interceptor, or segment drain trenches described in subsections (i)(2) and (j)(2) shall be covered with a geotextile fabric barrier that meets the minimum requirements in section 69 of this rule in such a manner as to prevent the aggregate from becoming clogged with the earth fill.

(n) The subsurface drain trench and the associated discharge piping shall be constructed to permit water to flow by gravity throughout its length. No pumps or siphons shall be utilized to effect the movement of the collected water.

(o) Tile outlets shall be provided with rodent guards.

Use of technologies new to IN

410 IAC 6-8.3-52 General sewage disposal requirements (p. 6)
(h) In order to permit development of new or more efficient sewage treatment or disposal processes, the department may approve the installation of experimental and TNI equipment, facilities, or pollution control devices for which extensive experience or records of use have not been developed in Indiana. The applicant for such approval must submit evidence of sufficient clarity and conclusiveness to convince the department that the proposal has a reasonable and substantial probability of satisfactory operation without failure.

Resources

Porter County On-Site Residential Septic System Ordinance
Lake County On-Site Residential Septic System Ordinance
LaPorte County On-Site Residential Septic System Ordinance
Rule 410 IAC 6-8.3: "Residential On-Site Sewage Systems Rule"