

CHAPTER 7 ON SITE SUBSURFACE SEWAGE DISPOSAL SYSTEMS

SECTION 7.1 DEFINITIONS

For the purpose of this Chapter,

“Accessory Structure” means a permanent non-habitable structure that is not served by a water supply or sewage system and is used incidental to Residential or Non-residential Buildings. Accessory Structures include, but are not limited to, attached and detached garages, open decks, sheds, gazebos, barns etc. Small structures of less than 200 square feet and portable structures such as sheds without permanent foundations, such as concrete slab, piers or footings, are not considered permanent structures.

“Area of Special Concern” means an area with soil conditions which would require special design considerations. This may include soils with a very slow or very fast percolation rate, areas with shallow groundwater or ledge, areas with excessive slope, wetlands, or areas located near a public water supply.

“Conversion” means the act of converting a summer use building or other previous non-habitable space into a space suitable for year-round use by providing a positive heating supply to the converted area; by providing a potable water supply which is protected from freezing per the Connecticut Building Code or by providing adequate energy conservation measures such as insulation for protection from heat loss per the Connecticut Building Code.

“Change in Use” means any structural, mechanical or physical change to a building which allows the occupancy to increase, or the activities within the building to expand or alter, such that a net water use increase will likely occur.

“Certified Professional Soil Scientist” means an individual duly qualified to classify and interpret soils in accordance with standards set by the Soil Science Society of America.

“Groundwater Monitoring Pipe” means a solid or perforated pipe, four inches in diameter, which is installed vertically in an excavation and backfilled to allow measurement of the groundwater surface in the pipe.

“Individual lots” are defined as two or less lots with one Residential or commercial building per lot having a Subsurface Sewage Disposal System receiving 2,000 gallons per day or less and/or served by an individual private Water Supply Well.

“Leaching System” means a structure, excavation or product designed to allow effluent to disperse into the receiving soil. Leaching Systems include leaching trenches, leaching galleries, leaching pits, and proprietary dispersal systems.

“Licensed Subsurface Sewage Disposal System Installer or Licensed Septic Installer” means a person licensed by the Connecticut Department of Public Health, pursuant to the Connecticut General Statutes section 20-341e, providing services of construction, installation, repairing, cleaning or servicing subsurface sewage disposal systems.

“Licensed Surveyor” means a person who is qualified by knowledge of mathematics, physical and applied sciences and the principles of land surveying, and who is licensed to practice the profession of land surveying by the Connecticut Department of Consumer Protection pursuant to the Connecticut General Statutes Sections 20-299 through 20-310.

“Non-residential Building” means any commercial, industrial, institutional, public or other building, not occupied as a dwelling.

“Professional Engineer” means a person who is licensed to engage in engineering practice, by the Connecticut Department of Consumer Protection pursuant to the Connecticut General Statutes Sections 20-299 through 20-310.

“Residential Building” means any house, apartment, trailer or mobile home or other structure occupied by individuals permanently or temporarily as a dwelling place, but not including Residential Institutions.

“Residential Institution” means any institutional or commercial building occupied by individuals permanently or temporarily as a dwelling, including dormitories, boarding houses, hospitals, nursing homes, jails and residential hotels or motels.

“Select Fill” means clean bank run sand and gravel, or approved manufactured fill, each having a gradation which conforms to the specifications stipulated in the Technical Standards Section VIII A or ASTM C 33.

“Soil Test” shall consist of at least four deep test pits on each lot; two in the primary area and two in the reserve area, and at least two percolation tests, one in each area.

“Subdivisions” are defined as developments with three or more lots served by on site Subsurface Sewage Disposal Systems and/or individual water supply wells and shall include Individual Lots previously part of a subdivision.

“Subsurface Sewage Disposal System” or **“Septic system”** means a system consisting of a house sewer pipe, a septic tank followed by a Leaching System, any necessary pumps and siphons, and any ground water control system on which the operation of the Leaching System is dependent.

“Technical Standards” means the latest revised “Technical Standards for The Design and Construction of Subsurface Sewage Disposal Systems” published by the Commissioner of Public Health of the State of Connecticut prepared pursuant to Section 19a-13-B103d(d) of the Regulations of Connecticut State Agencies.

“Wet Season” means February 1 through May 31, when the seasonal water table is generally the highest.

SECTION 7.2 MINIMUM REQUIREMENTS FOR SITE TESTING AND PLAN DESIGN FOR NEW LOTS

A. Site Testing Application

A completed application for Soil Testing must be submitted to the Health District, with the appropriate fee, prior to scheduling of testing.

B. Scheduling

Soil Testing shall be scheduled by the applicant, installer or engineer with the Health District at a mutually agreed upon time. In case of inclement weather, testing may be cancelled by either party with notification to the other. The applicant, installer or engineer must call the Health District and consult with an Environmental Health Specialist to reschedule. Scheduling of Soil Testing for new lots or Subdivisions during the dry season, or when there is frost in the ground, will be at the discretion of the Health District. The Health District may require a Certified Professional Soil Scientist be present during Soil Testing, at the applicant's expense, when testing is conducted during the dry season or when the soils are in an Area of Special Concern.

C. Individual and Subdivision Lot Testing

The applicant shall arrange for site testing, to be witnessed by an Environmental Health Specialist who is certified by the Connecticut Department of Public Health in septic phase 1. The applicant shall be responsible for Soil Test preparation including:

- 1) Lot boundary lines and corners clearly marked.
- 2) Proposed house location staked, if applicable.
- 3) A backhoe or other piece of equipment to excavate the deep test pits usually to a depth of seven feet, but maybe deeper depending on site conditions and plans. These pits are necessary for the soil profile study required by Section 19-13-B103e(d) of the Connecticut Public Health Code.
- 4) The lot must be accessible for the backhoe to get to the test areas, for example brush removed as needed.
- 5) It is the responsibility of the applicant and their engineer/installer to have the percolation test holes dug, usually to the depth of the bottom of the proposed Leaching System and six to 12 inches in diameter, at the time of testing. This is usually done with a post hole digger.
- 6) A sufficient clean water supply must be provided at each percolation hole for the hole to be presoaked for a minimum of two hours, and an additional five gallons in a suitable container to be used to conduct the percolation test. Percolation tests will be conducted by the Health District.
- 7) If for any reason the applicant has been unable to prepare the lot as indicated above, the Health District must be notified at least two hours before the scheduled time. A no-show fee may be assessed if the appointment is not cancelled in advance.
- 8) It is the responsibility of the applicant to have all test pits filled in after the Soil Test data is recorded.

D. Seasonal Groundwater Monitoring Requirements

If Soil Testing is conducted during the dry season, defined as June 1 through October 31, and if there is evidence of groundwater in the test pit(s) or soil mottling is observed in the test pit(s), the applicant/engineer may be required to install Groundwater Monitoring Pipes in the proposed septic system areas. The Groundwater Monitoring Pipes shall be marked with an identification number and stick up a sufficient distance above grade to remain visible when there is snow on the ground, or a minimum of two feet. Groundwater monitoring is conducted during the Wet Season, defined as February 1 through May 31.

The Health District will record water table readings on a weekly basis. A monitoring fee will be charged for the testing and must be paid before monitoring data will be released.

The Health District reserves the right to require a Certified Professional Soil Scientist be present during any Soil Testing conducted for a new lot or subdivision during the dry season. The cost of the soil scientist will be the applicant's responsibility.

E. Groundwater Drains

On proposed lots where groundwater is observed less than 18 inches from the bottom of the proposed Septic System during the Wet Season, and groundwater drains are proposed to lower the groundwater table, these drains must be proved to be effective.

The groundwater drain must lower the water table a minimum of 24 inches below the proposed septic system, as stated in Section IX of the Technical Standards. Groundwater Monitoring Pipes shall be installed upgradient and downgradient of the drain and monitored throughout the Wet Season. Upon proper installation of the Groundwater Monitoring Pipes each pipe shall be monitored by the engineer and the data submitted to the Health District.

Groundwater drains shall have a clean-out installed at the beginning of the drain and at every point which the drain changes direction. The clean-out(s) shall be brought to grade.

F. Reports Of Soil Testing

Upon completion of the Soil Tests, the Environmental Health Specialist shall send a report of the testing results, along with a comment on the soil suitability and recommendations based on those tests, to the applicant.

G. Re-Testing Requirements

If, as a result of plan review or site testing of a lot, or subdivision, it becomes necessary or desirable for the applicant to change or revise the lot layout or placement of the Septic System and either the percolation test or the deep test pits, or both, are not located in the newly proposed location, additional testing shall be required. The applicant must submit a new application and the appropriate fee prior to the re-testing.

H. Septic System Design Plan Requirements

Upon completion of the site testing a Septic System design plan for each lot shall be prepared by a Connecticut licensed Professional Engineer (P.E.) and by a Connecticut Licensed Surveyor. Stamp and original signature of the licensed P.E. and Licensed Surveyor are required on the plan. The Health District may waive the requirement for a Professional Engineer on lots if the site testing is conducted by a Connecticut Licensed Septic Installer and site conditions are deemed suitable for a septic plan to be prepared by the installer. The applicant shall provide three copies of the final approved site plan to the Health District. All plans shall include:

- 1) All pertinent information as to the basis of design, soil conditions, groundwater and bedrock elevations, both original and finished surface contours and elevations, property lines, building locations, water courses, ground and surface water drains, including footing drains and drains in the street, nearby wells and

water service lines, possible sources of pollution such as buried fuel tanks and wetlands. Wetlands shall be field located by a Certified Professional Soil Scientist and then surveyed by a Licensed Surveyor. The certification and original signature of the Certified Professional Soil Scientist are required on the plan when wetland boundaries have been located.

- 2) Basement and first floor elevations and the flow line elevations of the house sewer line and lateral piping.
- 3) A scaled cross section for the Leaching System showing depth of system into original soil, including a note stating the maximum depth of the proposed system into grade.
- 4) Field location and designation of all Soil Testing and monitoring pipes.
- 5) Reserved septic area with limit of fill, if required.
- 6) Benchmark elevation and location on the lot to be established in the field before any site work is begun.
- 7) Plans shall be drawn to a scale of one-inch equals 20 feet, or other appropriate scale so as to be easily legible to the reviewer.
- 8) Where a proposed building is to be serviced with an on site Water Supply Well, the proposed well location and water line shall be shown as well as all nearby sources of pollution including buried fuel tanks, nearby septic tanks and leaching fields, reserve septic areas, private dumping areas etc.
- 9) If the site is to be served by an on site Water Supply Well the plan shall include an area designated for a future water treatment wastewater leaching field.
- 10) Any public water supply lines located within 200 feet of any property line must be shown on the site plan. It is the engineer's or surveyor's responsibility to verify this information on the plan.
- 11) All wells within 150 feet of the septic system shall be indicated.
- 12) Lots containing septic system sites located in an "Area of Special Concern" as defined in Section 19-13-B103d(1) of the Connecticut Public Health Code will require engineered plans of greater detail to insure Connecticut Public Health Code compliance.
- 13) For proposed groundwater drains, construction details shall be provided including cross-section, pipe elevations, slope and method of construction.
- 14) For sites having septic systems up-slope from footing drains, a separating distance of 50 feet is required from any part of the septic system including the septic tank and pump chamber unless the septic tank and pump chamber meet the requirements of Technical Standards, Table No. 1.
- 15) Septic system sites having hydraulic restrictions such as shallow bedrock, impervious soils or a seasonal high-water table may be subject to special design criteria to demonstrate adequate hydraulic capacity for dispersal of sewage utilizing natural soil capacity. Refer to Appendix A of the Technical Standards pursuant to Section 19-13-B103 regarding Minimum Leaching System Spread (MLSS).

- 16) No approval for septic system construction will be authorized unless the proposed lot can demonstrate the ability to comply with the provisions in Section 19-13-B103 and/or B104 (inclusive) of the Connecticut Public Health Code and this chapter.

I. Septic System Design Review

Each Septic System plan shall be submitted with a completed application, house plans and the required fee. Each system design shall be reviewed by an Environmental Health Specialist, certified by the Connecticut Department of Public Health in septic phase 1 and 2, for compliance with the Connecticut Public Health Code, Technical Standards, and this chapter.

The engineer and applicant shall receive a written copy of the plan review, including any recommendations from the Health District.

J. Septic Permits

Permits to construct shall be issued provided that prior to the issuance:

- 1) A Connecticut Licensed Septic Installer submits a completed application accompanied by the proper fee to the Health District. The Health District will make a copy of the installer's driver's license and state issued installer's license card to keep on file. Permits to construct are issued to the Licensed Septic Installer. The Licensed Septic Installer must install or supervise the installation of the septic system.
- 2) A site plan for the proposed septic system is approved by the Health District.
- 3) Prior to the start of construction, a benchmark must be set in the area of the proposed system. This must be set by the design engineer for an engineered plan. If an engineered plan was not required, the Licensed Septic Installer may set the benchmark.
- 4) Permits to construct shall be valid for one year from the date of their issuance and shall terminate and expire upon a failure to start construction within that period.

K. Consultation Required

Consultation between the Licensed Septic Installer and a Health District Registered Environmental Health Specialist is required prior to construction. An inspection schedule shall be set up with the Health District staff prior to the start of construction in accordance with the requirements of the septic permit to construct.

L. Notification Prior To Inspection Required

The Licensed Septic Installer must notify the Health District a minimum of 24 hours prior to each requested inspection.

M. Approval Of Fill Material

Any Select Fill material needed for the Septic System area shall be clean bank run sand and gravel, or approved manufactured fill, each having a gradation which conforms to

the specifications stipulated in the Technical Standards Section VIII A or ASTM C 33. It must be free from stumps, lumps of silt, clay or organic matter. A recent sieve analysis of the fill material is required for any imported fill. Septic Systems installed predominantly in fill shall require additional percolation tests once the fill is in place and prior to construction of the Septic System. System sizing shall be determined per the Technical Standards criteria (Section VIII) for systems installed totally in fill material.

N. As-Built Requirement

The Licensed Septic Installer or design engineer shall submit an “As-Built” drawing and information showing the separating distances of the entire Septic System installation from two permanent points on the house, or other permanent structure, nearest the installation.

O. Permit To Discharge

After final inspection and upon submission and review of the As-Built drawing, well completion report and approved water analysis, as appropriate, the Health District shall issue a Permit to Discharge. For new construction, a copy of this permit must be submitted to the Building Official in order to obtain a Certificate of Occupancy.

SECTION 7.3 ALTERATIONS AND REPAIRS TO SEPTIC SYSTEMS

No Septic System shall be altered, extended or repaired without meeting the minimum requirements of this chapter and without first obtaining a permit to construct from the Health District.

A. Repairs

Investigation of an existing Septic System must be conducted by a Licensed Septic Installer and witnessed by an Environmental Health Specialist certified by the Connecticut Department of Public Health in septic phase 1. No work is to be done prior to submitting an application to the Health District for Soil Testing and paying the applicable fee. The Licensed Septic Installer shall schedule an appointment with a Health District Environmental Health Specialist to evaluate the existing system and conduct Soil Testing. Repairs must meet Section 19-13-B103d of the Connecticut Public Health Code and Appendix A of the Technical Standards. Repairs which do not meet these requirements, or which are in an “Area of Special Concern” shall be designed by a Professional Engineer licensed by the State of Connecticut. The Health District may grant a variance from the requirement for an engineered design based on review of the specific site conditions.

Minor repairs, such as replacing a D-box, and adjustments to a Septic System that is operational can only be made after consultation and approval by the Health District. A permit to construct is required for minor repairs, as is an As Built drawing following the repair.

B. Addition, Conversion Or Change In Use

When an addition, Conversion or Change in Use is proposed for a Residential Building, Residential institution or a Non-residential Building, and public sewers are not available, the proposed addition, Conversion or Change in Use shall meet the requirements of

Section 19-13-B100a and the current requirement of the Connecticut Public Health Code as amended from time to time, except for the one hundred percent reserve area requirement.

A completed application with fee, current pumper's report and a site plan must be submitted to the Health District for review and approval. The application form shall be obtained from the Health District. The site plan shall include an explanation of the proposed addition, Conversion or Change in Use and the following:

1. Existing house location and existing locations of any above grade structures such as garage, pool, shed etc.
2. Existing location of any below grade facilities such as pool, fuel tank, drains, water service lines, curtain drain etc.
3. Existing location of current Septic System including piping, tank(s) and leaching field.
4. Existing location of an approved reserve area if one has been designated.
5. Existing location of all wells within 150 feet of the existing Septic System or any proposed Septic System components.
6. Existing property lines and any easements.
7. Existing wetlands, streams, bodies of water, storm drainage basins, drywells or piping, water treatment wastewater discharge location etc.
8. Any Soil Test data available for the property.

A current pump out report shall be submitted by a Connecticut licensed septic pumper. Current shall be defined as within one year of the date an application is submitted. If soil data is not available for the property deep test pit and percolation test data must be collected prior to approval for the addition, Conversion or Change in Use.

This section shall apply to those structures defined as Accessory Structures under the Technical Standards, including above and in-ground swimming pools.

Sheds under 200 square feet without a permanent foundation do not require a review and Soil Testing pursuant to Section 19-13- B100a.

Table 1: License Renewal Schedule

LISTED IN ORDER OF CODE CHAPTERS

Categories	Renewal Deadline
Food Establishments (Ch. 2)	June 30
Public Swimming Pools (Ch. 3)	April 30
Rooming Units (Ch. 4)	May 30
Salons (Ch. 5)	September 30