

**Summary of Proposed January 1, 2023 Revisions to the
Technical Standards for Subsurface Sewage Disposal Systems
November 18, 2022
Code Advisory Committee Meeting**

- **Cover Page, Table of Contents, and Public Health Code (PHC) Regulation Sections**
 - Cite January 1, 2023 date for the revised standards and added January 1, 2018 revision date to the list of former standards.
 - Include a reference to CT General Statute Section 22a-430 (g) in the note about the 7,500 GPD jurisdiction change per Public Act No. 17-146, Section 30. Make similar reference in the PHC B103 and B104 regulation section headings.
 - Added the Environmental Engineering Program’s abbreviated email address to the cover page:
DPH.EnviroEng@ct.gov
 - Added a note to the PHC B100a regulation section that the reference to PHC Section 19-13-B103d (d) in the Technical Standards definition is a clerical/Scrivener’s error as it should have been PHC Section 19-13-B103d (b).
 - Revise Appendix E title to Water Treatment Wastewater Discharges to Subsurface Sewage Disposal Systems to be consistent with actual appendix title.
- **Section I Definitions:**
 - Added the word “gravity” before pipe in the building sewer definition.
 - Added Department definition to mirror regulations
 - Replace Commissioner of Public Health with Department in the following definitions: Approved aggregate, Proprietary leaching system, Proprietary pressure-dosed dispersal system, Watertight tank seal, and Water treatment wastewater dispersal system. Note #1: Department is defined in PHC Section 19-13-B103b (a). Note # 2: The reference to Commissioner shall be changed to Department throughout the standards except in cases where a regulation citation specifically cites the Commissioner.
 - Replace “guest houses, and in-law apartments” with “accessory apartment” in the outbuilding definition.
 - Minor grammar revisions made to definitions.
- **Section II Location of Sewage Systems:**
 - Subsection A. Separating Distances: Changed subsection title to Separating Distance to a Water Supply Well.
 - Referenced Item A in Table 1 for the minimum separating distance to a water supply well for a SSDS installation or repair and note an exception is required from the Commissioner pursuant to PHC Section 19-13-B103d (a) (3) if the distance cannot be achieved.
 - Noted that the application for an exception to minimum separating distance for Item A in Table 1 is the Department’s website with guidance that references CT General Statute Section 19a-209c that requires certified notice to all affected well owners and mention the notice must include a copy of the exception application per the statute.
 - Moved all other current language in Subsection A into Subsection B retitled: Separating Distances to Approved SSDS Piping & Table 1 Items Except Item A (Water Supply Well).
 - Stipulated SSDS piping may also be approved by the Department in an approval letter issued after the current revision of the standards.
 - Changed current Subsections B, C, and D to Subsections D, E, and F, respectively.
 - Created new Subsection C titled Off-Site & Central Subsurface Sewage Disposal Systems. Cited PHC Section 19-13-B103d (d) that requires each building be served by a separate SSDS located on same lot as building served, cite PHC Section 19-13-B103d (a) (2) that provides for Commissioner exceptions for

off-site SSDSs and central SSDSs serving more than 1 building. Note that the applications and guidance for exceptions for off-site and central SSDSs are available on the Department's website. Added information about SSDS assessments for proposed new building connections to existing SSDSs.

- Subsection F. System Abandonment: Stipulated that the DOH may authorize a former sewage system component to be utilized for another purpose (e.g., WTW dispersal system) rather than be formally abandoned if property owner/applicant demonstrates the component is in acceptable condition and such use will unlikely cause a health hazard or nuisance condition. Stipulated the DOH may authorize hollow sewage system structures to be filled with material other than sand or gravel when abandoning such structures.

Table 1 Revisions:

- Added statements above title block of table: #1: Separating distances are based on horizontal measurements except for non-vertical closed-loop geothermal system bore holes that are measured from the closest portion of the bore hole. #2: Sewage tanks in Table 1 include septic tanks, grease interceptor tanks, pump chambers, and holding tanks.
- Item H. Storm water infiltration system (SWIS): Remove sewage tank from special provision #2 that applies to non-single-family residential buildings lots, as a reduction to 25 feet is already provided for all sewage tanks. Added statement to special provision #2 that distance can be further reduced to 25 feet for a minor SWIS (e.g., rain garden) with the approval of the DOH if demonstrated that the leaching system will not be adversely impacted. Added a statement that a minor SWIS discharges storm water collected from a localized area on a property and does not include a SWIS that discharges storm water collected from large areas on a property.
- Item O. Utility service trench: Stated in the special provision that the distance does not apply to electrical and alarm connections to sewage tanks. Added **recommendation** that detectable underground magnetic tracer/warning tape be provided at least one foot above buried utility lines within 25 feet of a SSDS.
- Item R. Closed Loop Geothermal System: Reduced distance from 50 feet to 25 feet minimum separating distance to trench or bore hole. (Change in line with DCP regulations.) Reduce minimum separating distance from geothermal piping to trench or bore hole from 10 feet to 5 feet.

○ **Section III Piping:**

- Subsection A. Building Sewers: Required a cleanout for buildings-built slab on grade that includes a new sewer connection, if a cleanout is not provided within the building, per building code requirements
- Subsection A. Building Sewers: Stipulated that when a cleanout is provided for a multi-bend change in direction on a building sewer, it shall be provided prior to the first change in direction.
- Table 2: Changed the pressure minimum pressure class of PVC AWWA C 900 pipe from 100 to 150 psi. Added: 3" wide stainless-steel joint couplings can be used for 4" diameter building sewers. 4" wide couplings are required for 6" and 8" diameter building sewers. Stipulated that Fernco couplings without shear bands can be used for joint connections between cast iron pipe and the bell end of an approved PVC Schedule 40 or 80 pipe. Stipulated in the Use column that building sewers and water piping shall be installed in accordance with Section III D. Added Gripper Gasket LLC Maxadaptor Sewer Repair Coupling to the acceptable joint column.
- Table 2-A: Stipulated that solid effluent distribution piping and water piping shall be installed in accordance with Section III D.
- Table 2-B: Changed the pressure minimum pressure class of PVC AWWA C 900 pipe from 200 to 150 psi. Stipulated in the use column that force main piping and water piping shall be installed in accordance with Section III D.
- Table 3: Add PE ASTM D 2239 & D 2737 pressure pipes. Added ADS N-12 Mega Green WT IB pipe (ASTM F 2648) pipe 4" to 24" diameters with gasketed bell/spigot (ASTM D 3212) pipe. Delete the ASTM F 667 reference from the currently approved ADS N-12 pipe listing and update the ASTM references for other ADS pipe. Deleted the Hancor Blue Seal pipe.

- **Section IV Design Flows:**
 - Subsection A. Residential Buildings: noted: reduced design flow (75 GPD) for each bedroom beyond three in a single-family residential building does not apply to the bedroom(s) in a residential outbuilding for central SSDS sizing purposes.
 - Subsection C. Water Usage Monitoring and Permits to Discharge: Added language to reference non-compliant ELA or MLSS leaching system repairs to be consistent with reference in Permit to Discharge Form #4.

- **Section V Septic Tanks & Grease Interceptor Tanks:**
 - Subsection A. General: Added statement in Subsection 3 (Septic Tank Access) to acknowledge that ASTM C 1227 allows oversized non-stepped covers that sit on top of tanks if the covers are prevented from lateral movement. Stipulated approved CT concrete septic tank manufacturers making such tank covers shall provide documentation to the Department on lateral movement control provisions.
 - Subsection A. General: Made note in Subsection 6 (Performance Testing) that installed tanks can be vacuumed tested prior to backfill in accordance with ASTM C 1719 to ensure water tightness.
 - Subsection A. General: Require a secondary safety lid or device for a riser assembly when the tank cover is not left in place, regardless of weight of riser cover.
 - Subsection B. Septic Tank Capacities: Stipulated that for tank sizing for a central SSDS serving a single-family residential building and a residential outbuilding shall calculate the minimum required capacity based on the single-family criteria for the main house and an additional 250 gallons for each bedroom in the outbuilding. Stipulated that for a single-family home with an attached or internal accessory apartment the minimum required tank capacity shall be calculated based on the single-family criteria for the main house and an additional 250 gallons for each bedroom in the accessory apartment.

- **Section VI Effluent Distribution, Pump Systems & Air Injection Processes**
 - Subsection A. General: Discuss current requirement that the top of level leaching systems be below the septic tank outlet invert.
 - Subsection C. Pump Systems: Recommend detectable underground magnetic tracer/warning tape be provided at least one foot above buried electric lines within 25 feet of the SSDS.
 - Subsection C. Pump Systems: Stipulated concrete pump chambers 1,000 gallons or larger shall provide manhole openings of at least 24 inches in diameter.
 - Subsection C. Pump Systems: In the raw sewage pump paragraph, added statement noting that to reduce velocity the force main should discharge via a 4" pipe connection, or the force main should transition to a 4" pipe with dissimilar pipe size coupling. An inlet baffle is required for the tank pipe connection.

- **Section VII Percolation Tests:**
 - Leaching system sizing: use the select septic fill percolation rate for systems constructed entirely in select fill where the bottom of the system is above original grade.

- **Section VIII Leaching Systems:**
 - Subsection A. General: Stipulated that lots that are to be filled to address unsuitable soil conditions shall be prepared with necessary select fill needed for the leaching system installation and shall be done in a manner to protect the naturally occurring soil, and the prepared area be stabilized to protect against erosion. Subsection A. General: Clarify that MLSS is not applicable when the receiving soil depth (RS Depth) is greater than 60 inches rather than more than 60 inches of receiving soil. Delete the word "essentially" that is in parenthesis along with "0 percent slope".
 - Subsection A. General: Revise the language about select fill lateral extensions around the outer perimeter of leaching systems: 5 feet extension down-gradient of systems on sloped restrictive layer lots, and 2 feet for all other extensions (up-gradient and sides on sloped restrictive layer lots, and on flat groundwater table lots).

- Subsection A. General: Removed the stipulation to fill unsuitable reserve areas due to ledge. New SSDSs... shall be laid out in such a manner to provide an acceptable reserve leaching area of suitable soil, or potentially suitable soil.
- Subsection E. Proprietary Leaching Systems & Proprietary Pressure-Dosed Dispersal Systems: Added the nine GLF 72 Series GreenLeach Filter proprietary leaching systems approved by DPH in an October 25, 2018 approval letter to the list of approved GreenLeach products. Added Matts approvals.
- Subsection F. Leaching system Sizing: Revised the language in the 3rd bullet (central SSDSs) in category 1 (Residential Buildings) to stipulate that the required ELA for each bedroom in a residential outbuilding shall be based on the multi-family classification. Added a 4th bullet concerning a single-family home with an attached or internal accessory apartment and note the required ELA for main house shall be based on the single-family home criterion and the required ELA for the accessory apartment shall be based on the multi-family criterion.
- **Section IX Groundwater and Surface Water Drainage:**
 - No changes
- **Section X Water Treatment Wastewater:**
 - Revised requirement #2 to indicate the DOH should consider requiring a PHC Section 19-13-B100a (e) review for WTW daily discharges that exceed the building's design flow (sewage). Noted: Certain water treatment systems (e.g., whole house/building reverse osmosis systems) can produce very large quantities of WTW that may require significant area for a WTW dispersal system, and such a review would ensure preservation of SSDS areas.
 - Table 9: Expanded DOH authority to grant an exception for distances specified in table 1 for existing SSDS.
- **Section XI Non-Discharging Toilet & Sewage Disposal Systems:**
 - Subsection C. Incineration Toilets: Lowed the minimum combustion temperature from 1,400 to 1,000 degrees Fahrenheit and stipulated that incineration can occur when the toilet lid is open if the toilet has a combustion chamber that is separate from the collection bowl.
- **Forms #1, 2, 2A, 3, & 4:**
 - Form #3 (SSDS Final Inspection Report): Deleted one of the two "Sieve Required (Y/N):" citations and added space to note type of effluent distribution pipe. Added space to note exceptions (e.g., minimum separating distances, MLSS, ELA).
 - Form #4 (Permit to Discharge): Revised the standard reference for non-compliant repairs from Section IV D to Section IV C and added "ELA or MLSS" between "non-compliant" and "repairs".
- **Appendix A, MLSS Revisions:**
 - Stipulated multiple SSDSs on a lot that rely on the same receiving soil (e.g., <50' apart on sloped lots) shall be evaluated collectively. Note: This is currently in the code however it doesn't indicate it's only for SSDSs on the same lot.
 - Delete the word "essentially" that is in parenthesis along with "0 percent".
 - Establish minimum depths (e.g., 18 inches) of receiving soil surrounding the leaching system for Categories 1 and 2. Currently not addressed and Category 2 cites minimum depth for including select fill in the receiving soil in the leaching system area measurement. Further discuss with CAC.
 - Clarified language in the heading for Category 2 (New SSDSs and MLSS Compliant Repairs) that the latter includes B100a Code-Complying Area and MLSS Compliant Potential Repair Area SSDS installations.

- Added a statement to Category 3 (Non-compliant repairs) stipulating leaching systems that solely utilize select fill as receiving soil (Diagram 6) shall be designed a minimum of 24” above maximum groundwater.
- Added statement in Flow Factor (FF) chart that for a central SSDS serving a single-family home and a residential outbuilding the main house shall utilize the FF based on the single-family criteria and the FF shall be increased by 0.5 for each bedroom in the outbuilding. Added statement in Flow Factor (FF) chart that for a single-family home with an attached or internal accessory apartment the main house shall utilize the FF based on the single-family criteria and the FF shall be increased by 0.5 for each bedroom in the accessory apartment.
- **Appendix B, Approved Septic Tank Effluent Filters**
 - No changes.
- **Appendix C, Approved Filter Fabric for Covering Stone Aggregate**
 - Replaced list with the list of approved filter fabrics dated August 14, 2019 and remove Carthage Mills M35 filter fabric from the list.
- **Appendix D, Approved Non-Concrete Septic Tanks:**
 - No changes.
- **Appendix E, Authorized Water Treatment Wastewater Discharges to SSDS’s**
 - Added arsenic, lead, and heavy metal adsorption medias (e.g., titanium oxide, iron oxide, activated alumina) to the list of water treatment wastewater that are authorized to discharge a SSDS.

Further discussion and possible future updates:

- Home Builders recommendations (11/16/2022)
- Subsection A. General: Further discuss reserve leaching system area requirements for new SSDSs.
- Design Flows: continue the discussion
- Building sewers: Cleanouts 45 vs 90
- Item J. Property line: Stipulate large (>2,000 GPD) leaching systems for new buildings shall provide a 50 feet minimum separating distance to the down-gradient property line on MLSS applicable lots unless there are restrictions that ensure the receiving soil surrounding the leaching system (See Appendix A: MLSS) will be preserved. Revise special provision #2 to indicate the reduced distance provision down to 15 feet on flat groundwater table lots applies only to small (<2,000 GPD) leaching systems. Potentially remove reserve leaching area special provision reference depending on if revisions are made to Section VIII A reserve area requirements.
- Item K. Water piping: Include provision to reduce distance to 25 feet when the water supply suction piping is sleeved in an approved solid carrier pipe and casing end seals are provided to seal the annular space around the inner pipe at the ends of buried carrier pipe. See Section III D for information on approved carrier pipes, and casing end seals.
- Piping: Subsection D. Drainage & Water Supply Piping: Include provision that the minimum distance between approved solid SSDS piping and water supply suction pipes is reduced from 25 feet to 10 feet if a satisfactory low-pressure air test is conducted on the SSDS piping, or when the water or SSDS piping is sleeved in an approved solid carrier pipe and casing end seals are provided to seal the annular space around the inner pipe at the ends of buried carrier pipe. Stipulate approved carrier pipes are listed in Tables 2 & 2-B, and casing end seals shall be rubber boot or wrap-around seals with stainless steel clamps.
- Per tests: Stipulate water level readings shall be taken until there is no more than 2 inches of water remaining in the hole unless the water level has stabilized for at least three consecutive readings and there is no more than 4 inches of water remaining in the hole.

- Subsection F. Leaching System Sizing: In the 1st bullet in category 1 (Residential Buildings) delete the phrase “on single-family residential building lots” from the current language concerning SSDSs for 1-bedroom residential outbuildings and revise the language to allow these systems to also serve one-bedroom tiny houses once criterion for such houses is incorporated into the State Building Code (not incorporated in 2022). Note: Appendix AQ of the 2021 International Residential Code governs tiny houses and adoption of the 2021 family of codes is expected in the final quarter of 2021.
- Sea level rise impacts on groundwater levels. Subsection A. General: Revise the current 4th bulleted minimum separation distance provision that applies to tidally impacted groundwater tables. Delete statement about SSDSs in coastal areas with tidally impacted groundwater tables. Stipulate that on a property in a coastal municipality bordering Long Island Sound that has a leaching system located in a 100-year or 500-year FEMA flood zone, the system shall be at least 30 inches and 24 inches above maximum groundwater, respectively.

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