

## Division 33 – 30 SUBSURFACE SEWAGE TREATMENT SYSTEMS (SSTS)

### 33-30-01 General Provisions

**01.1 PURPOSE.** The purpose of this standard is to establish minimum requirements for regulation of subsurface sewage treatment systems (SSTS) for the treatment and dispersal of sewage within the jurisdiction of the University of Minnesota (UMN) to protect public health and safety, groundwater quality and prevent or eliminate the development of public nuisances. It is intended to serve the best interests of the State's citizens by protecting its health, safety, general welfare, and natural resources.

**01.2 INTENT.** This standard is intended to promote the following:

01.2.1. The protection of lakes, rivers and streams, wetlands, and groundwater in Minnesota essential to the promotion of public health, safety, and welfare.

01.2.2. The regulation of proper SSTS construction, reconstruction, repair, and maintenance to prevent the entry and migration of contaminants, thereby protecting surface water and groundwater from degradation.

01.2.3. The establishment of minimum standards for SSTS placement, design, construction, reconstruction, repair, and maintenance to prevent contamination and, if contamination is discovered, the identification and control of its consequences and the abatement of its source and migration.

01.2.4. The provision of SSTS technical assistance and education, plan review, inspections, surveys, and complaint investigations to prevent and control water-borne diseases, lake degradation, groundwater related hazards, and public nuisance conditions.

**01.3 AUTHORITY.** This standard is enacted pursuant to M.S. §§ 115.55 and 115.56; or successor statutes and Minn. Rules Chapters 7080, 7081, and 7083; or successor rules as they may be amended from time to time.

**01.4 DEFINITIONS.**

01.4.1. Building Code Department (BCD). The BCD is the authority having jurisdiction and is responsible for the administration and enforcement of Minnesota Rules Chapter 7080. The BCD jurisdictional territory encompasses all

University campuses and property owned and/or leased by the University.

01.4.2. Department of Environmental Health & Safety (DEHS). DEHS monitors and proactively assesses the University's physical environment to ensure safe and healthy working and living conditions, system-wide, for University of Minnesota students, staff, and faculty and community neighbors.

01.4.3 Onsite Sewage Treatment Program (OSTP). The OSTP is housed in the Water Resource Center at the University of Minnesota. The engineering and soil scientist program staff are Minnesota Pollution Control Agency (MPCA) certified Advanced Designers and Inspectors and Service Providers. On UMN septic related projects they serve as an expert technical resource and may provide design standards and review for new systems, existing SSTS assessments and new system construction inspections.

### **33-30-02 SSTS Standards**

02.1 **STANDARDS ADOPTED BY REFERENCE.** Minnesota Rules Chapters 7080, 7081, and 7083, as they may be amended from time to time, relating to SSTS are hereby adopted by reference and made part of this standard as if fully set forth herein, except as modified by or inconsistent with provisions of this standard. This adoption does not supersede the UMN's right or ability to adopt other standards that are in compliance with M.S. § 115.55.

#### **02.2 AMENDMENTS TO THE ADOPTED STANDARDS:**

02.2.1 Rules 7080.1500, subpart 6, is amended to include: An SSTS design that proposes to reuse an existing tank(s) for a replacement SSTS must include the MPCA Tank Integrity and Safety Compliance form, which includes a verification that all tank and riser joints, riser connections, and pipe connections are watertight according to Minnesota Rules 7080.2010, subpart 1, item A.

02.2.2 Minnesota Rules 7080.2100, subpart 2 item C, is amended to: The pump tank must either include an alternating two-pump system or have a minimum total capacity of 1000 gallons or 100 percent of the design flow whichever is greater.

02.2.3 An effluent screen with an audible and visual alarm must be installed on

the outlet of the last septic tank in series unless a Type IV system is installed which does not include an effluent screen.

02.2.4 Minnesota Rules 7080.2000, item C, is amended as follows: The top of sewage tanks must not be buried deeper than four feet from final grade. Exceptions may be made on a case by case basis for existing uses with extenuating circumstances preventing a shallow burial, not to exceed the tank manufacturer's maximum designed depth for the tank.

02.2.5 Minnesota Rules 7080.2100, subpart 2, item B, and is amended to include: The pump discharge line must be sleeved with a four-inch PVC pipe from the edge of the tank or maintenance hole to undisturbed ground.

**02.3 DETERMINATION OF HYDRAULIC LOADING RATE AND SSTS SIZING.** Minnesota Rules 7080.2150, subpart 3, item E, Table IX, entitled "Loading Rates for Determining Bottom Absorption Area and Absorption Ratios Using Detail Soil Descriptions" and herein adopted by reference, must be used to determine the hydraulic loading rate and infiltration area for all SSTS permitted under this standard. Percolation testing may also be used in conjunction with detailed soil descriptions as described in Minnesota Rules 7080.2150, subpart 3, item E, Table IXa, entitled "Loading Rates for Determining Bottom Absorption Area and Absorption Ratios Using Percolation Tests" and herein adopted by reference. The larger sizing factor of the two must be used for the SSTS design. Soil verification must occur during the design phase prior to issuance of the construction permit.

#### **02.4 HOLDING TANKS.**

02.4.1 Holding tanks may be used for homes and other structures with limited water use only if a Type I, III or IV cannot be installed.

02.4.2 The facility manager must provide to the BCD a copy of a valid monitoring and disposal contract executed between the facility manager and a licensed SSTS maintainer, which guarantees the removal of the holding tank contents in a timely manner that prevents an illegal discharge.

**02.5 CLASS V INJECTION WELLS** All facilities with new or replacement SSTS that are considered to be Class V injection wells, as defined in 40 C.F.R. § 144, are required by the Federal Government to submit SSTS inventory information to the Environmental Protection Agency.

### **33-30-03 SSTS CONSTRUCTION PERMIT, COMPLIANCE AND REPORTING**

**03.1 SSTS CONSTRUCTION PERMIT REQUIRED.** All persons, businesses, firms, or corporations shall obtain the appropriate permit from the BCD prior to constructing, installing, modifying, replacing, or operating an SSTS.

**03.2 SSTS CONSTRUCTION PERMIT.** An SSTS construction permit must be obtained by the installer from the BCD prior to the installation, construction, replacement, abandonment, modification, alteration, repair, or capacity expansion of an SSTS. The purpose of this permit is to ensure that the proposed construction activity is sited, designed, and constructed in accordance with the provisions of this standard by appropriately certified and/or licensed SSTS professional(s). The as-built provided must meet the requirements of the BCD SSTS as-built standards.

#### **03.3 ACTIVITIES REQUIRING AN SSTS CONSTRUCTION PERMIT.**

03.3.1 A SSTS construction permit is required for the installation of a new SSTS, replacement of an existing SSTS, or any repair or replacement of components that will alter the original design, layout, function, treatment capacity, or location of the system.

03.3.2 A SSTS construction permit is also required for minor repairs. Examples of such minor repairs include, but are not limited to: replacement of the pump, floats, alarm, inspection pipes or caps, maintenance hole risers, or tank baffles.

03.3.3 Rejuvenation and remediation technologies are allowed as prescribed in Minnesota Rules 7080.2450, subpart 8; or successor rules. These types of repair technologies are not to be considered a minor repair, and require an SSTS construction permit.

**03.4 SSTS CONSTRUCTION PERMIT APPLICATION REQUIREMENTS.** SSTS construction permit application must be submitted to the BCD by the licensed installer. The design documentation must be submitted on the UMN OSTP design forms and meet SSTS design standards.

03.5 **FEES.** The UMN BCD has the authority to establish fees for activities undertaken by the BCD pursuant to this standard. Fees shall be due and payable at a time and in a manner to be determined by the BCD. Construction started before an SSTS construction permit has been obtained shall be charged twice the current SSTS construction permit fee.

03.6 **ANNUAL REPORT.** The BCD shall provide an annual report of SSTS permitting activities to the MPCA.

03.7 **SSTS INSPECTIONS.** Inspections of existing SSTS are required:

03.7.1 Before any permit is issued for a property with an SSTS.

03.7.2 When there is a change in the use of the property or structure(s) that would affect water use. The assessment must also certify that all components are sized to current State minimum requirements for the change in use.

03.7.3 When a SSTS construction permit is required to repair, modify, or upgrade an existing SSTS.

03.7.4 At the time of property sale or transfer.

03.8 **BCD RESPONSIBILITY.** The BCD, or its agent, is authorized to perform various SSTS inspections to assure that the requirements of this standard are met. Inspections must be performed on new or replacement SSTS to determine compliance with Minn. Rules 7080 or 7081, by a SSTS Certified Inspector or licensed SSTS inspection business, authorized by the BCD, who is independent of the facility manager and the licensed SSTS installer.

### 03.9 **EXISTING SYSTEMS INSPECTIONS UPDGRADES**

03.9.1 **Imminent Threat to Public Health or Safety.** An SSTS that is determined to be an imminent threat to public health or safety in accordance with Minnesota Rules 7080.1500, subpart 4, item A, must be connected to a municipal wastewater treatment system, upgraded, repaired, replaced, or abandoned in accordance with the provisions of this standard within ten months to the date of the notice of

noncompliance or discovery by the BCD, whichever is the earlier date. The BCD has the authority to require repair or replacement of an imminent threat to public health sooner than specified above. The BCD may require the facility manager to:

03.9.1.1 Respond within five business days of notification by submitting a plan for abating the discharge; or

03.9.1.2 Pump the septic tank(s) as an interim abatement measure.

03.9.2 Failing to Protect Groundwater. When an SSTS that fails to protect groundwater, as described in Minnesota Rules 7080.1500, subpart 4, item B, a plan of action must be submitted by the facility manager within 90 days of the notice of noncompliance to the both the DEHS and BCD describing how the SSTS is to be brought into compliance.

**03.10 OCCUPANCY OR USE OF A STRUCTURE WITHOUT ADEQUATE WASTEWATER TREATMENT.** It is prohibited for any person to maintain, occupy, or use any dwelling or structure with plumbing that is not:

03.10.1 Connected to a municipal wastewater treatment system; or

03.10.2 Connected to an MPCA permitted facility; or

03.10.3 Provided with an SSTS that disperses wastewater in a manner that complies with the provisions of this standard.

**03.11 OPERATING PERMITS.**

03.11.1 A SSTS operating permit is required for all newly installed or repaired SSTS. Sewage effluent must not be discharged to the soil treatment and dispersal system until the BCD certifies that the SSTS was installed in substantial conformance, as determined by the BCD with the approved plans and a valid SSTS operating permit is issued to the facility manager.

03.11.2 All existing SSTS installed prior to the effective date of this standard shall obtain a SSTS operating permit upon transfer of ownership, replacement, modification, or expansion of the SSTS that requires an SSTS construction

permit.

**03.12 SSTS OPERATING PERMIT APPLICATION REQUIREMENTS.** Application for an SSTS operating permit must be made on a form provided by the BCD including:

03.12.1 Property name, facility manager, mailing address, telephone, and email address,

03.12.2 SSTS construction permit reference number and date of issue;

03.12.3 SSTS operating permit contracts. The facility manager of all SSTS must have a valid contract with a licensed SSTS service provider at all times.

**03.13 SSTS OPERATING PERMIT TERMS AND CONDITIONS.** The SSTS operating permit must include the following:

03.13.1 SSTS performance and operating requirements;

03.13.2 Maintenance requirements and frequency;

03.13.3 Monitoring locations, procedures, and recording requirements;

03.13.4 Compliance limits and boundaries;

03.13.5 Reporting requirements of monitoring and maintenance;

03.13.6 Requirement that the facility manager or licensed SSTS service provider must notify the BCD when the SSTS operating permit requirements are not being met;

03.13.7 Disclosure of the location and condition of the alternate SSTS location;

03.13.8 Stipulation of acceptable and prohibited discharges; and

03.13.9 Valid contract between the facility manager and a licensed SSTS maintenance business or service provider.

**03.14 SSTS OPERATING PERMIT EXPIRATION AND RENEWAL.** SSTS operating permits shall be valid for the specific term stated on the permit as determined by the BCD.

**03.15 MONITORING REQUIREMENTS FOR ALL SSTS.**

03.15.1 Monitoring of an SSTS must be performed by a licensed SSTS maintainer or service provider hired by the holder of the SSTS operating permit in accordance with the monitoring frequency and parameters stipulated in the SSTS operating permit.

03.15.2 A monitoring report must be prepared and certified by the licensed SSTS maintainer or service provider. The report must be provided to the facility manager and must be available upon request to the DEHS and BCD or before the reporting date stipulated in the SSTS operating permit. The report must contain a description of all maintenance and servicing activities performed since the last monitoring report as described below:

03.15.2.1 Property name and address;

03.15.2.2 SSTS operating permit number;

03.15.2.3 Average daily flow since last monitoring report;

03.15.2.4 Description of type of maintenance and date performed;

03.15.2.5 Description of samples taken (if required), analytical laboratory used, and results of analyses;

03.15.2.6 Problems noted with the SSTS, and actions proposed, or taken, to correct them; and

03.15.2.7 Name, signature, and license number of the licensed SSTS service provider who performed the work.

03.15.3 The facility manager must hold a valid contract with a licensed SSTS maintainer at all times.



03.15.4 The licensed SSTS maintainer must certify and provide a report including: (a) the date the pumping occurred and number of gallons removed, (b) any tank leakage below or above the operating depth, and (c) the treatment facility to which the waste was discharged or field land applied to and if applicable, water meter reading at the time of pumping. The licensed SSTS maintainer is to note any safety concerns, troubleshooting or repairs conducted and submit this information to the BCD.