Subchapter IV
DESIGN AND INSTALLATION

Comm 83.40 PURPOSE. This subchapter establishes minimum parameters for the design and installation of a POWTS for the purpose of:

(1) Safeguarding public health;

(2) Minimizing the level of substances which have a reasonable probability of entering waters of the state; and

(3) Delineating performance standards by which to evaluate designs.

Comm 83.41 PRINCIPLES. (1) A POWTS shall be designed to hold wastewater or reduce the contaminant load and disperse the flow of wastewater as specified in this subchapter.

(2) A POWTS shall be designed to have sufficient capacity to accommodate the anticipated quantities of wastewater that will be discharged into the system.

(3) A POWTS shall be designed to have sufficient ability to treat or separate out the anticipated types, quantities and concentrations of wastewater contaminants to be discharged into the system so that the dispersed wastewater will not create a human health hazard.

(4) A POWTS shall be designed to disperse wastewater below the surface of the ground.

Comm 83.42 APPLICATION. (1) DESIGN BASIS. The design of a POWTS shall be based on the methods and limitations outlined in this subchapter or on other documented data acceptable to the department.

(2) DESIGN RELATION TO ACTUAL FLOWS AND CONTAMINANT LOADS. For any situation where it is known that the wastewater flow or contaminant load exceeds the parameters of this subchapter, the POWTS shall be designed in relation to the known flow or load.

(3) DESIGN CONSIDERATIONS. The evidence to support assertions relative to contaminant reduction and hydraulic dispersal shall include at least all of the following:

(a) The flow and contaminant load of the influent wastewater.

(b) The ability of all components to reduce contaminant load and disperse hydraulic flow into the environment.

(c) The flow velocities and friction losses throughout the system based upon accepted engineering practice.

Comm 83.43 GENERAL REQUIREMENTS. (1) MATERIALS. The components of a POWTS shall be constructed of materials and products that are of a type recognized under this chapter or ch. Comm 84.

(2) DESIGN FLOW. In order to accommodate peak wastewater flow, the design wastewater flow of a POWTS shall equal at least 150% of the estimated daily flow generated from a dwelling, building or facility.

(3) ESTIMATED DAILY COMBINED FLOW FOR A POWTS SERVING A DWELLING. The estimated daily wastewater flow of combined graywater, clear water and blackwater from a dwelling shall be based on one or more of the following:

(a) The following equation:

100 gallons x B = F

Where: B = number of bedrooms, based on 2 persons per bedroom, unless otherwise approved by the department.

F = Estimated daily wastewater flow per dwelling per day (in gallons), excluding storm water discharges.

(b) A detailed estimate of wastewater flow based upon per capita or per function.

(4) ESTIMATED DAILY SEGREGATED GRAYWATER FLOW FOR A POWTS SERVING A DWELLING. The estimated daily wastewater flow of graywater and clear water from a dwelling shall be based on one or more of the following:

(a) The following equation:

60 gallons x B = F

Where: B = number of bedrooms, based on 2 persons per bedroom, unless otherwise approved by the department.

F = Estimated daily graywater flow per dwelling per day (in gallons), excluding storm water discharges.

(b) A detailed estimate of graywater flow based upon per capita or per function.

(5) ESTIMATING SEGREGATED BLACKWATER FLOW FOR A POWTS SERVING A DWELLING. The estimated daily wastewater flow of blackwater from a dwelling shall be based on one or more of the following:

(a) The following equation:

40 gallons x B = F

Where: B = number of bedrooms, based on 2 persons per bedroom, unless otherwise approved by the department.

F = Estimated daily blackwater flow per dwelling per day (in gallons).

(b) A detailed estimate of blackwater flow based upon per capita or per function.

(6) ESTIMATING WASTEWATER FLOW FOR COMMERCIAL FACILITIES. The estimated daily wastewater flow of graywater, blackwater, or combined graywater-blackwater flow from commercial facilities shall be based on one or more of the following:

(a) Measured daily wastewater flow over a period of time representative of the facility's use or occupancy.

(b) A detailed estimate of wastewater flow based upon per capita or per function.

Note: See appendix for further information.

(7) ESTIMATING CONTAMINANT LOADS. Estimates of contaminant loads from dwellings and public facilities shall be based on a detailed analysis including all contaminants listed in s. Comm 83.44 (2) (a).

Note 1: See appendix for further information.

Note 2: See Note under s. Comm 83.32 (2) for information relative to industrial wastes.

(8) GENERAL DESIGN REQUIREMENTS. (a) Flow velocity. 1. Piping within a POWTS shall be designed and installed to supply wastewater to POWTS treatment and dispersal components while maintaining the velocity required to ensure operation of the POWTS.

2. Gravity flow piping between POWTS components shall be installed at a pitch that produces a computed flow velocity of at least one foot per second when flowing half full.

3. Pressurization equipment or devices and piping to be utilized upstream of a POWTS treatment or dispersal component consisting in part of in situ soil shall be designed and installed to produce a computed velocity of at least 2 feet per second.

4. Gravity piping within a POWTS treatment or dispersal component consisting in part of in situ soil shall be installed level or pitched downstream a maximum 4 inches per 100 feet.

(b) Distribution and drain pipe sizing. The piping within a POWTS shall be of a diameter to permit the operation of the POWTS.

(c) Frost protection. All POWTS components shall be protected from freezing temperatures that could detrimentally affect component operation.

(d) Component placement. The orientation of a POWTS treatment or dispersal component consisting in part of in situ soil shall take into account variations in elevation, slope orientation, and other conditions that could affect component performance.

(e) Alarms or warning systems. 1. a. A POWTS component utilizing a mechanical device to treat wastewater or to distribute effluent shall be provided with an automatic visual or audible means of notifying the user of the POWTS of a mechanical device failure in accordance with this subdivision.

Note: In accordance with s. Comm 16.28, an alarm that is electrically powered is to be on a separate circuit from the circuit supplying power to the mechanical device.

b. An alarm indicating the failure of a pump shall remain audible or visible until manually turned off.

c. Where duplex pumping equipment is employed to provide continuous component operation in the event that one pump fails, the pumps shall be installed in such a manner so as to provide the continuous operation automatically.

2. A POWTS holding tank shall be provided with an automatic visual or audible means of notifying the user of the POWTS of the necessity for pumping.

(f) Accessibility. The design of a POWTS shall include provisions to provide access to all components that require maintenance or observation.

(g) Anchoring system components. An exterior subsurface POWTS treatment tank or POWTS holding component to be installed in an area subject to saturated conditions shall be installed so as to prevent flotation of the tank or component.

Note: See appendix for further information.

(h) Treatment byproducts. 1. All treatment byproducts discharged from or as a result of operating a POWTS shall be disposed of so as not to create a human health hazard.

Note: The disposal of the contents of holding tanks and the sludge, scum, and contaminated liquids from treatment tanks and components is regulated by the department of natural resources under chs. NR 113 and NR 204.

2. Deleterious or hazardous materials segregated out from effluent flows shall be disposed of in a manner conforming with the rules of the state agency having jurisdiction.

3. Effluent from a POWTS shall be dispersed so as not to create a human health hazard.

4. All POWTS components within a building or structure shall be gas tight unless provisions are made assuring the safety of individuals entering the building or structure.

(i) Site parameters and limitations. POWTS treatment, holding and dispersal components shall be located so as to provide the minimum horizontal setback distances as outlined in Table 83.43-1 or as otherwise approved by the department.

Note: Chapter NR 812 establishes upslope location criteria for wells relative to contamination sources.

Table 83.43-1
HORIZONTAL SETBACK PARAMETERS

Physical Feature	POWTS Treatment Component Consisting in Part of In Situ Soil or Dispersal Component	Exterior Subsurface Treatment Tank or Holding Tank Component	Servicing, Suction Lines and Pump Discharge Lines
Building	10 feet	5 feet[a]	5 feet[a]
Property Line	5 feet	2 feet	2 feet
Swimming Pool	15 feet	none[b]	none[b]
OHWM of Navigable Waters	50 feet	10 feet	10 feet
Water Service and Private Water Main	10 feet	10 feet	10 feet
Well	chs. NR 811 & 812[c]	chs. NR 811 & 812[c]	chs. NR 811 & 812[c]

OHWM = Ordinary High-Water Mark
Note a: Except camping unit transfer containers
Note b: See s. Comm 84.43 (8) (f) relative to accessibility.
Note c: Portions of chs. NR 811 & 812 are reprinted in the appendix.

Note: The Department of Transportation under s. Trans 233.08 establishes setback limits from the centerline of state trunk highways or connecting highways to structures and improvements which include septic systems.

(j) Service suction and discharge lines. 1. A suction line or discharge line serving a holding tank for servicing purposes shall comply with all of the following:

a. A pipe serving as the suction or discharge line shall be of an acceptable type in accordance with ch. Comm 84.

b. A suction or discharge line shall terminate with a service port consisting of a quick disconnect fitting with a removable plug.

c. The service port of a suction or discharge line shall terminate at least 2 feet above final grade.

d. The service port of a suction or discharge line shall be identified as such with a permanent sign with lettering at least ½ inch in height.

e. The service port of a suction or discharge line shall be secured to a permanent support that is capable of withstanding the loads and forces placed on the port.

f. A suction or discharge line shall be at least 3 inches in diameter.

2. A suction line serving a holding tank may not be installed in such a manner or arrangement that the tank can be drained by gravity or siphonic action.

3. Where a lift station is employed for servicing a holding tank, the pump discharge line shall conform with subd. 1, except as provided in subpars. a. and b.

a. A discharge line from the lift station shall be at least 2 inches in diameter.

b. The lift station pump shall be activated by means of a keyed-switch at the service port.

Comm 83.44 PARAMETERS FOR POWTS COMPONENTS CONSISTING OF IN SITU SOIL. (1) EVALUATION. POWTS treatment and dispersal components consisting in part of in situ soil shall be evaluated in accordance with ch. Comm 85.

(2) INFLUENT QUALITY. (a) The quality of influent discharged to a POWTS treatment or dispersal component consisting in part of in situ soil shall be equal to or less than all of the following:

1. A monthly average of 30 mg/L fats, oil and grease.

2. A monthly average of 220 mg/L BOD_5.

3. A monthly average of 150 mg/L TSS.

(b) The monthly average under par. (a) shall be calculated as the sum of all measurements taken over 30 consecutive days, with at least 6 measurements occurring on 6 separate days, and divided by the number of measurements taken during that period.

(c) Influent discharged to a POWTS treatment or dispersal component that consists in part of unsaturated soil may not contain any solid or suspended solid exceeding 1/8 inch in diameter.

(3) INFILTRATIVE SURFACE. (a) The infiltrative surface of unsaturated soil to which influent is discharged shall be located at least 24 inches above the estimated highest groundwater elevation and bedrock.

(b) 1. At least 6 inches of the 24-inch soil separation required under par. (a) shall be an in situ soil type for which soil treatment capability has been credited under Table 83.44-3.

2. The purpose of the 6 inches of in situ soil under subd. 1. shall be to assure that the influent will be assimilated into subsurface soils without ponding on the ground surface.

(c) The infiltrative surface of unsaturated soil to which influent is discharged shall be located at least one inch below the finished grade.

(4) CAPABILITIES. (a) 1. a. Except as provided under subd. 2, the dispersal capability of a POWTS treatment or dispersal component consisting in part of unsaturated soil shall be limited to that specified in Table 83.44-1 or Table 83.44-2 based upon the influent quality concentrations being applied.

b. Under subpar. a. the influent quality parameter with the highest concentration shall determine the maximum application rate.

c. Except as provided in par. (c), the soil conditions at the infiltrative surface of unsaturated soil to which influent is to be discharged shall be used to establish the maximum application rate for a POWTS dispersal design.

d. The moist soil consistence of the soil horizon in which the infiltrative surface of a POWTS treatment or dispersal component will be located may not be stronger than firm or any cemented classification.

e. The application rates specified under Table 83.44-1 shall only be recognized where the percolation results have been filed with the governmental unit before July 2, 1994.

2. Maximum soil application rates other than those specified in Tables 83.44-1 or 83.44-2 may be employed for the design of a POWTS treatment or dispersal component consisting in part of in situ soil if documentation is submitted and approved under s. Comm 83.22 and is based on soil permeability and evapotranspiration estimates correlated to specific soil characteristics described in a detailed morphological soil evaluation.

(b) The treatment capability of a POWTS treatment component consisting of unsaturated soil shall be limited to that specified in Table 83.44-3, unless otherwise approved by the department.

(c) The design of a treatment or dispersal component consisting in part of situ soil shall reflect restrictive soil horizons that affect treatment or dispersal.

(5) EFFLUENT DISTRIBUTION. (a) The distribution of effluent to silt loam or finer soil material with weak platy or massive structure shall be accomplished by means of pressurized distribution.

(b) 1. The distribution of effluent to in situ soil shall be accomplished by means of pressurized distribution, if the quality of the effluent is equal to or less than all of the following:

a. A monthly average of 30mg/L BOD_5.

b. A monthly average of 30mg/L TSS.

c. A monthly geometric mean of 10^4 fecal coliform cfu per 100 ml.

Note: "CFU" mean colony forming units.

2. The geometric mean under subd. 1. c. shall be determined on the basis of measurements taken over 30 consecutive days, with at least 6 measurements occurring on 6 separate days.

(c) No dose of effluent to in situ soil by means of pressurized distribution may be less than 5 times the void volume of the POWTS distribution laterals.

Table 83.44-1
MAXIMUM SOIL APPLICATION RATES
BASED UPON PERCOLATION RATES

Percolation Rate (minutes per inch)	Maximum Monthly Average $BOD_5 > 30$ mg/L ≤ 220 mg/L TSS > 30 mg/L ≤ 150 mg/L (gals/sq ft/day)	Maximum Monthly Average $BOD_5 \leq 30$ mg/L TSS ≤ 30 mg/L (gals/sq ft/day)
0 to less than 10	0.7	1.2
10 to less than 30	0.6	0.9
30 to less than 45	0.5	0.7
45 to less than 60	0.3	0.5
60 to 120	0.2	0.3
greater than 120	0.0	0.0

Note: > means greater than
$\leq$ means less than or equal to

Table 83.44-2
MAXIMUM SOIL APPLICATION RATES
BASED UPON MORPHOLOGICAL SOIL EVALUATIONS

Soil Texture	Soil Structure	Maximum Monthly Average $BOD_5 > 30 \leq 220$mg/L TSS > 30 ≤ 150mg/L (gals/sq ft/day)	Maximum Monthly Average $BOD_5 \leq 30$ mg/L TSS ≤ 30 mg/L (gals/sq ft/day)
Coarse sand or coarser	N/A	0.7	1.6
Loamy coarse sand	N/A	0.7	1.4
Sand	N/A	0.7	1.2
Loamy sand	Weak to strong	0.7	1.2
Loamy sand	Massive	0.5	0.7
Fine sand	Moderate or strong	0.5	0.9
Fine sand	Massive or weak	0.4	0.6
Loamy fine sand	Moderate or strong	0.5	0.9
Loamy fine sand	Massive or weak	0.4	0.6
Very fine sand	N/A	0.4	0.6
Loamy very fine sand	N/A	0.4	0.6
Sandy loam	Moderate to strong	0.5	0.9
Sandy loam	Weak, weak platy	0.4	0.6

Table 83.44-2 continued

Soil Texture	Soil Structure	Maximum Monthly Average	
		$BOD_5 > 30 \leq 220$mg/L TSS > 30 ≤150mg/L (gals/sq ft/day)	$BOD_5 \leq 30$ mg/L TSS ≤ 30 mg/L (gals/sq ft/day)
Sandy loam	Massive	0.3	0.5
Loam	Moderate or strong	0.5	0.8
Loam	Weak, weak platy	0.4	0.6
Loam	Massive	0.3	0.5
Silt loam	Moderate or strong	0.5	0.8
Silt loam	Weak, weak platy	0.2	0.3
Silt loam	Massive	0.0	0.2
Sandy clay loam	Moderate or strong	0.4	0.6
Sandy clay loam	Weak, weak platy	0.2	0.3
Sandy clay loam	Massive	0.0	0.0
Clay loam	Moderate or strong	0.4	0.6
Clay loam	Weak, weak platy	0.2	0.3
Clay loam	Massive	0.0	0.0
Silty clay loam	Moderate or strong	0.4	0.6
Silty clay loam	Weak, weak platy	0.2	0.3
Silty clay loam	Massive	0.0	0.0
Sandy clay	Moderate or strong	0.2	0.3
Sandy clay	Massive or weak	0.0	0.0
Clay	Moderate or strong	0.2	0.3
Clay	Massive or weak	0.0	0.0
Silty clay	Moderate or strong	0.2	0.3
Silty clay	Massive or weak	0.0	0.0

Note: > means greater than
≤ means less than or equal to
N/A means Not Applicable

Table 83.44-3
MINIMUM DEPTH OF UNSATURATED SOIL FOR TREATMENT PURPOSES[a]
(in inches)

Soil Texture	Soil Structure	Influent Quality	
		Fecal Coliform[b] $>10^4$ cfu/100ml	Fecal Coliform[b] $\leq 10^4$ cfu/100ml
Very coarse sand or coarser	N/A[c]	120	60
Coarse sand	N/A[c]	60	36
Loamy coarse sand (w/ ≤35% coarse fragments)	N/A[c]	60	36
Loamy coarse sand (w/ >35% to ≤60% coarse fragments)	N/A[c]	120	60
Loamy coarse sand (w/ >60% coarse fragments)	N/A[c]	NC	NC
Sand (w/ ≤35% coarse fragments)	N/A[c]	36	24
Sand (w/ >35% to ≤60% coarse fragments)	N/A[c]	120	60
Sand (w/ >60% coarse fragments)	N/A[c]	NC	NC
Loamy sand	N/A[c]	36	24
Fine sand	Moderate or strong	36	24
Fine sand	Massive or Weak	36	24
Loamy fine sand	Moderate or strong	36	24
Loamy fine sand	Massive or Weak	36	24
Very fine sand	N/A[c]	36	24
Loamy very fine sand	N/A[c]	36	24
Sandy loam	Moderate or strong	36	24
Sandy loam	Weak, weak platy	36	24
Sandy loam	Massive	36	24
Loam	Moderate or strong	36	24
Loam	Weak, weak platy	36	24
Loam	Massive	36	24
Silt loam	Moderate or strong	36	24
Silt loam	Weak, weak platy	36	24
Silt loam	Massive	36	24
Sandy clay loam	Moderate or strong	36	24
Sandy clay loam	Weak, weak platy	36	24
Sandy clay loam	Massive	36	24
Clay loam	Moderate or strong	36	24
Clay loam	Weak, weak platy	36	24
Clay loam	Massive	36	24
Silty clay loam	Moderate or strong	36	24
Silty clay loam	Weak, weak platy	36	24
Silty clay loam	Massive	36	24

Table 83.44-3 continued

Soil Texture	Soil Structure	Influent Quality	
		Fecal Coliform[b] $>10^4$ cfu/100ml	Fecal Coliform[b] $\leq 10^4$ cfu/100ml
Sandy clay	Moderate or strong	36	24
Sandy clay	Massive or weak	36	24
Clay	Moderate or strong	36	24
Clay	Massive or weak	36	24
Silty clay	Moderate or strong	36	24
Silty clay	Massive or weak	36	24

Note a: Influent quality as per s. Comm 83.44 (2)
Note b: Fecal coliform is determined as a monthly geometric mean is accordance with s. Comm 83.43 (8) (b).
Note c: Structure will not affect performance
N/A means Not Applicable
NC means No Credit
$\leq$ means less than or equal to
$>$ means great than

(6) ORIENTATION. (a) 1. The infiltrative surface of a distribution cell within a POWTS treatment or dispersal component consisting in part of in situ soil and located in fill material above original grade shall be level.

2. The longest dimension of a POWTS treatment or dispersal component consisting in part of in situ soil shall be oriented along the contour of the component site location unless otherwise approved by the department.

Note: See appendix for an illustration depicting a distribution cell.

(b) The infiltrative surface of a distribution cell within a POWTS treatment or dispersal component consisting in part of in situ soil and located below the surface of the original grade shall be level.

(7) GEOMETRY. The geometry of a subsurface treatment or dispersal component consisting in part of the in situ soil shall take into account linear loading rates that are based on soil texture, structure, consistence and distance to seasonal soil saturation and restrictive soil horizons.

Comm 83.45 INSTALLATION. (1) GENERAL. A POWTS shall be constructed and installed in such a manner to hold wastewater or reduce the contaminant load and disperse the flow of wastewater in accordance with this subchapter and the plan approval under s. Comm 83.22.

(2) FROZEN SOIL. POWTS treatment and dispersal components consisting in part of in situ soil may not be installed if the soil is frozen at the infiltrative surface of the component.

(3) SNOW COVER. Snow cover shall be removed before excavating or installing POWTS treatment and dispersal components consisting in part of in situ soil.

(4) MOISTURE. The soil moisture content for a POWTS treatment or dispersal component consisting in part of in situ soil shall be evaluated immediately prior to installation of the component. If the soil at the infiltrative surface can be rolled into a 1/4-inch wire, the installation may not proceed.

(5) BEDDING. All vessels and pipes of a POWTS shall be bedded in accordance with a product approval under s. Comm 84.10 or a plan approval under s. Comm 83.22.

(6) FLOOD FRINGE. (a) All POWTS treatment tanks, holding and dispersal tanks that are located in flood fringe areas shall be made and maintained watertight to prevent infiltration.

(b) Vent pipes and observation pipes serving POWTS components that are located in flood fringe areas shall terminate at least 2 feet above regional flood levels.

Note: See s. Comm 83.43 (8) (g) relative to anchoring provisions.

Subchapter V
MANAGEMENT

Comm 83.50 PURPOSE. The purpose of this subchapter is to:

(1) Establish monitoring and maintenance requirements for POWTS in order to ensure that POWTS will operate as designed and thereby protect the public health and the waters of the state; and

(2) Provide the department with data by which to make regulatory decisions.

Comm 83.51 PRINCIPLES. (1) A POWTS, including a POWTS existing prior to [the effective date of this chapter . . . revisor to insert effective date], shall be maintained at all times so as not to create a human health hazard.

(2) When upon inspection of a POWTS, including a POWTS existing prior to [the effective date of this chapter . . . revisor to insert effective date], any part of the system that is found to be defective in conformance with the applicable provisions of this chapter, the installation or modification plan, or the approvals, the part shall be repaired, renovated, replaced or removed.

Note: Section Comm 87.60 (5) (b) 4 also establishes management and maintenance requirements for a POWTS that is located in a governmental unit which participates in the replacement and rehabilitation program under s. 145.245, Stats.

Comm 83.52 RESPONSIBILITIES. (1) (a) The owner of a POWTS shall be responsible for operating and maintaining the POWTS in accordance with this chapter and the approved management plan under s. Comm 83.54 (1).

(b) The owner of a POWTS existing prior to [the effective date of this chapter . . . revisor to insert effective date], shall be responsible for maintaining the POWTS in accordance with s. Comm 83.54 (4).

(2) A POWTS, including a POWTS existing prior to [the effective date of this chapter . . . revisor to insert effective date], that is not maintained in accordance with the approved management plan or as required under s. Comm 83.54 (4) shall be considered a human health hazard.

(3) The activities relating to evaluating and monitoring mechanical POWTS components after the initial installation of the POWTS in accordance with an approved management plan shall be conducted by person who holds a credential issued by the department as a registered mechanical POWTS maintainer.

Note: See s. Comm 5.36 concerning the application and qualification requirements to become a registered mechanical POWTS maintainer.

Comm 83.53 GENERAL. (1) No product for chemical or physical restoration or chemical or physical procedures for POWTS, including a POWTS existing prior to [the effective date of this chapter . . . revisor to insert effective date], may be used unless approved by the department in accordance with ss. Comm 84.10 and 84.13.

(2) Nothing in this subchapter shall limit a governmental unit's authority and power in establishing a mandatory POWTS maintenance program, including management or maintenance undertaken by the governmental unit.

Comm 83.54 MANAGEMENT REQUIREMENTS. (1) MANAGEMENT PLAN. (a) The management plan for each POWTS shall include information and procedures for maintaining the POWTS to operate and function within the standards of this chapter and as designed and approved.

(b) The management plan for a POWTS shall be a part of the plan submittal under s. Comm 83.22 or 84.10.

(c) The management plan for POWTS shall specify all necessary management and servicing information which may include, but is not limited to all of the following:

1. Accumulated solids or byproduct removal requirements.

2. Influent quantities and qualities and effluent quantities and qualities.

3. Metering, sampling and monitoring schedules and requirements.

4. Load and rest schedules.

5. Pumping frequency requirements.

6. Installation and inspection checklists.

7. Evaluation, monitoring and maintenance schedules for mechanical POWTS components.

8. Start up and shutdown procedures.

9. Procedure for abandonment.

(d) If the owner of the POWTS wishes to operate or maintain a POWTS differently than that specified in the approved management plan, a written request for approval to amend the management plan shall be submitted to the agency that initially reviewed the installation plan under s. Comm 83.22.

(2) METERING AND MONITORING. (a) General. The management plan specified in sub. (1) shall include the metering or monitoring of POWTS influent or effluent as specified in this subsection.

(b) Department option. The department may require the metering or monitoring of any POWTS to evaluate the operation of the POWTS.

(c) Required influent metering. Influent flow meters shall be installed in accordance with par. (d), if a POWTS:

1. Includes one or more holding tanks, except camping unit transfer containers;

2. Receives wastewater of a type exceeding the quality limits in s. Comm 83.44 (2), except from one- and 2-family dwellings; or

3. Is required by a POWTS component manufacturer.

(d) Metering influent flows. 1. Influent flows to POWTS shall be metered by one of the following methods:

a. Installing event counters and elapsed time meters.

b. Installing water meters to meter the water distribution system flow to the POWTS.

c. Metering wastewater flow from all parts of the plumbing system discharging to the POWTS.

d. Metering the water distribution system and metering exterior hydrant use, except as provided in subd. 2.

2. Where meters are installed on water distribution systems existing prior to [the effective date of this chapter . . . revisor to insert effective date], the entire water distribution system may be metered and the exterior hydrant usage estimated and subtracted from the total flow to meet the requirements of this paragraph.

(e) Monitoring influent and effluent loads. 1. When and where the monitoring of groundwater is required, groundwater monitoring wells constructed in accordance with ch. NR 141 shall be utilized.

2. When influent or effluent contaminants are to be monitored, samples shall be collected in accordance with the requirements of the approved management plan or, where no procedures are specified, in accordance with published sampling procedures accepted by the department.

Note: Acceptable sampling procedures include those contained in the following sources:

"Procedures Manual for Ground Water Monitoring at Solid Waste Disposal Sites" EPA SW-611, Office of Water and Waste Management, U. S. Environmental Protection Agency, Dec. 1980, Washington, D. C.

"Techniques of Water Resources Investigations of the United States Geological Survey, Guidelines for Collection and Field Analysis of Ground Water Samples for Selected Unstable Constituents," Book I, Chapter D2, U. S. Geological Survey, Washington, D. C.

"Procedures for the Collection of Representative Water Quality Data from Monitoring Wells," Cooperative Groundwater Report 7, Illinois State Water Survey, 1981, Champaign, Illinois.

"Manual of Ground Water Sampling Procedures," NWWA/EPA Series, Robert S. Kerr Environmental Research Laboratory, 1981, Ada, Oklahoma.

"Groundwater Sampling Procedures Guidelines", Wisconsin DNR, PUBL-WR-153, February 1987.

"Groundwater Sampling Procedures Field Manual", Wisconsin DNR, PUBL-WR-168, September 1987.

3. All groundwater samples collected to evaluate influent or effluent quality, except samples collected for total coliform bacteria analysis and the field analyses for pH, specific conductance and temperature, shall be analyzed by a laboratory certified under s. 299.11, Stats., and rules adopted under that section.

4. The results of the analysis required under subd. 2. shall be maintained and reported as required in the approved management plan and in accordance with s. Comm 83.55 (1) (a).

(3) SERVICING REQUIREMENTS. (a) The management plan specified in sub. (1) shall reflect the servicing schedules of POWTS components as specified in this subsection.

(b) The pumping frequency of an anaerobic treatment tank for a POWTS shall occur at least when the combined sludge and scum volume equals 1/3 of the tank volume.

(c) The pumping frequency of a holding tank for a POWTS, except for camping unit transfer containers, shall occur at least when the wastewater of the tank reaches a level of one foot below the inlet invert of the tank.

Note: The pumping of POWTS holding and treatment components, including septic tanks and holding tanks, is required to be performed by licensed pumpers under chs. NR 113 and NR 114.

(4) EXISTING POWTS. (a) The pumping frequency of an anaerobic treatment tank for a POWTS existing prior to [the effective date of this chapter . . . revisor to insert effective date] shall occur at least when the combined sludge and scum volume equals 1/3 of the tank volume.

(b) The pumping of a holding tank for a POWTS existing prior to [the effective date of this chapter . . . revisor to insert effective date], except for camping unit transfer containers, shall occur at least when the wastewater of the tank reaches a level of one foot below the inlet invert of the tank.

(c) The servicing of POWTS treatment components other than those under pars. (a) and (b) existing prior to [the effective date of this chapter . . . revisor to insert effective date] shall be provided in accordance with the requirements specified by the manufacturer or designer of the component.

(d) 1. A POWTS that exists prior to [the effective date of this chapter . . . revisor to insert effective date] and that utilizes a treatment or dispersal component consisting in part of in situ soil shall be visually inspected at least once every 3 years to determine whether wastewater or effluent from the POWTS is ponding on the surface of the ground.

2. The inspection required by subd. 1. shall be performed by one of the following:

a. A licensed master plumber.

b. A licensed master plumber-restricted service.

c. A certified POWTS inspector.

d. A certified septage servicing operator under ch. NR 114.

Comm 83.55 REPORTING REQUIREMENTS. (1) (a) The owner of a POWTS or his or her agent shall report to the department or department authorized agent at the completion of each inspection or pumping event specified in the approved management plan, except for camping transfer containers.

(b) The owner of a POWTS existing prior to [the effect date of this chapter . . . revisor to insert effective date] or their agent shall report to the department or designated agent shall report to the department or designated agent the completion of each servicing or inspection event required under s. Comm 83.54 (4), except for camping transfer containers.

(2) The management and servicing reports required under sub. (1) shall be submitted to the department or designated agent:

(a) In a manner specified by the department or designated agent;

(b) Within 10 business days from the date of inspection or pumping; and

(c) By the owner or the owner's agent.

(3) The management and servicing reports required under sub. (1) shall include the following information:

(a) A POWTS identifying number.

(b) The location of the POWTS.

(c) The date of inspection or pumping.

(d) The credential number of the individual performing the inspection or pumping.

(e) Other information required by the approved management plan.

(4) The department or designated agent may require verification of any information contained in a management and servicing report.

Note: This subsection does not require the maintaining of test data which is collected voluntarily and which is not being collected to determine compliance with this chapter.

(5) DEPARTMENT RESPONSIBILITY. (a) The department shall maintain records relating to the operation, maintenance and repair of POWTS as specified in this section for a period of not less than 6 years.

(b) Upon request by a governmental unit, the department may delegate to the governmental unit the responsibility to maintain records relating to the operation, maintenance and repair of POWTS as specified in this section.

Subchapter VI
RECOGNIZED METHODS AND TECHNOLOGIES

Comm 83.60 PURPOSE. (1) This subchapter identifies methods and technologies that have been recognized by the department under s. Comm 84.10 (3) that conform with subchs. IV and V and that may be utilized in the design of POWTS for a specific project.

(2) This subchapter does not limit the use of other designs of POWTS or POWTS components the performance of which has been recognized under s. Comm 83.22 or Comm 84.10 (3) or both.

Comm 83.61 ACCEPTABLE METHODS AND TECHNOLOGIES. Pursuant to s. Comm 84.10 (3), the department recognizes at least the following methods and technologies to be utilized in the design of POWTS:

(1) Pressure Distribution Component Manual for Private Onsite Wastewater Treatment Systems, June 11, 1999.

(2) At-Grade Component Manual Using a Pressure Distribution System for Private Onsite Wastewater Systems, June 11, 1999.

(3) Mound Component Manual for Septic Tank Effluent for Private Onsite Wastewater Systems, June 11, 1999.

(4) Conventional Soil Absorption Component Manual for Private Onsite Wastewater Systems, June 11, 1999.

(5) Holding Tank Component Manual for Private Onsite Wastewater Systems, June 11, 1999.

(6) Single Pass Sand Filter Component Manual for Private Onsite Wastewater Systems, June 25, 1999.

(7) Recirculating Sand Filter Component Manual for Private Onsite Wastewater Systems, June 25, 1999.

(8) Split Bed Recirculating Sand Filter System Component Manual for Private Onsite Wastewater Treatment Systems, June 25, 1999.

(9) Drip-Line Effluent Dispersal Component Manual for Private Onsite Wastewater Treatment Systems, June 24, 1999.

Note: See appendix for information on obtaining copies of the above from the department.

Comm 83.62 PARAMETERS FOR USING ACCEPTABLE METHODS AND TECHNOLOGIES. When a design of a POWTS for a specific project utilizes a method or technology recognized under s. Comm 84.10 (3), a deviation from the specifications and limitations relative to the installation and maintenance of that method or technology shall constitute a violation of this chapter.

Chapter Comm 83
Appendix

The material and information contained in this appendix is for clarification purposes only. Appendix material and information are numbered to correspond to the rule number as it appears in the text of the code. Material and information included in this appendix is subject to change without notice, including names, addresses, phone numbers and forms, and reflects information known at the time of publication.

A-83.21 (2) APPLICATION. The specific format of a sanitary permit application is specified by the department and may change depending on the data tracking needs of the department. The uniform application form issued by the department is to be used by all permit issuing agents. It may consist of a paper or electronic format, or both. The sanitary permit application form will require the applicant to report information pertinent to the ownership, use, location, system type, maintenance schedule, and responsible installer. Additionally, plans and specifications for the project must also be submitted with, and are part of, the permit application. Fees for the sanitary permit are based on a statutory minimum as cited in s. 145.19(2), Wis. Stats. and any additional costs levied by the issuing agent.

Table A-83.21-1 contains the names, addresses and telephone numbers of the local governmental units from which sanitary permit application forms may be obtained, and to which completed applications are submitted.

Sanitary Permit Issuing Agents
Table A-83.21-1

Governmental Unit	Address and Telephone	Governmental Unit	Address and Telephone
ADAMS	ADAMS COUNTY COURTHOUSE P O BOX 187 FRIENDSHIP WI 53934-0187 (608) 339-4222	BAYFIELD	BAYFIELD COUNTY COURTHOUSE P O BOX 58 WASHBURN WI 54891 (715) 373-6138; (715) 373-6139
ASHLAND	ASHLAND COUNTY COURTHOUSE 201 WEST SECOND ST. ROOM 109 ASHLAND WI 54806 (715) 682-7014	BROWN	BROWN COUNTY 305 E WALNUT ST. P.O. BOX 23600 GREEN BAY WI 54305-3600 (920) 448-4490
BARRON	BARRON COUNTY ZONING OFFICE COURTHOUSE AG CENTER 330 EAST LA SALLE AVE. BARRON WI 54812 (715) 537-6375	BUFFALO	BUFFALO COUNTY ZONING BUFFALO COUNTY COURTHOUSE P.O. BOX 492 ALMA WI 54610-0492 (608) 685-6217; (608) 6290

Governmental Unit	Address and Telephone
BURNETT	BURNETT COUNTY GOVERNMENT CENTER 7410 COUNTY ROAD K #102 SIREN WI 54872 (715) 349-2138
CALUMET	CALUMET COUNTY PLANNING ZONING AND SANITATION COURTHOUSE 206 COURT ST. CHILTON WI 53014 (920) 849-1442
CHIPPEWA	CHIPPEWA COUNTY ZONING AND PLANNING DEPARTMENT 711 NORTH BRIDGE ST CHIPPEWA FALLS WI 54729 (715) 726-7943; (715) 726-7944
CLARK	CLARK COUNTY COURTHOUSE PLANNING, ZONING AND SOLID WASTE 517 COURT ST. ROOM 204A NEILLSVILLE WI 54456 (715) 743-5130
COLUMBIA	COLUMBIA COUNTY ADMINISTRATION BUILDING P.O. BOX 177 PORTAGE WI 53901
CRAWFORD	CRAWFORD COUNTY 111 WEST DUNN ST. PRAIRIE DU CHIEN WI 53821 (608) 326-0294
DANE	DANE COUNTY ENVIRONMENTAL HEALTH DIVISION 1202 NORTHPORT DR. RM. 154 MADISON WI 53704 (608) 242-6515
DODGE	DODGE COUNTY DEPARTMENT OF PLANNING AND DEVELOPMENT COURTHOUSE 127 EAST OAK ST. JUNEAU WI 53039 (920) 386-3700
DOOR	DOOR CO BOARD OF HEALTH COURTHOUSE 421 NEBRASKA STURGEON BAY WI 54235-0670 (920) 746-2398 EXT. 2218
DOUGLAS	DOUGLAS COUNTY COURTHOUSE 1313 BELKNAP ST. ROOM 206 SUPERIOR WI 54880 (715) 395-1380
DUNN	DUNN COUNTY ZONING 800 WILSON AVE. MENOMONIE WI 54751 (715) 232-1401
EAU CLAIRE	EAU CLAIRE CITY/COUNTY COURTHOUSE 720 SECOND AVE. EAU CLAIRE WI 54703 (715) 839-4718
FLORENCE	FLORENCE COUNTY COURTHOUSE 501 LAKE AVE. P.O. BOX 627 FLORENCE WI 54121 (715) 528-3206
FOREST	FOREST COUNTY COURTHOUSE 200 EAST MAIN ST. CRANDON WI 54520-1414 (715) 478-3893
GRANT	GRANT COUNTY SANITATION DEPARTMENT 125 SOUTH MONROE ST. LANCASTER WI 53813-1635 (608) 723-4394
GREEN	GREEN COUNTY P.O. BOX 358 MONROE WI 53566 (608) 328-9423; (608) 328-9446
GREEN LAKE	GREEN LAKE COUNTY COURTHOUSE 492 HILL ST. GREEN LAKE WI 54941-3188 (920) 294-4027
GREEN LAKE SANITATION DISTRICT	GREEN LAKE SANITATION DISTRICT P.O. BOX 417 GREEN LAKE WI 54941 (920) 294-3261
IOWA	IOWA COUNTY COURTHOUSE 222 NORTH IOWA ST. DODGEVILLE WI 53533 (608) 935-0398; (608) 935-0333; (608) 935-0330

Governmental Unit	Address and Telephone
IRON	IRON COUNTY COURTHOUSE HURLEY WI 54534 (715) 561-5414
JACKSON	JACKSON COUNTY PUBLIC HEALTH DEPARTMENT COURTHOUSE 307 MAIN ST. BLACK RIVER FALLS WI 54615 (715) 284-0220
JEFFERSON	JEFFERSON COUNTY COURTHOUSE 320 SOUTH MAIN ST. RM 214 JEFFERSON WI 53549 (920) 674-7130
JUNEAU	JUNEAU COUNTY ZONING OFFICE 250 0AK ST. MAUSTON WI 53948-1345 (608) 847-4718
KENOSHA	KENOSHA COUNTY PLANNING AND DEVELOPMENT KENOSHA COUNTY CENTER 19600 75TH ST. P.O. BOX 520 BRISTOL WI 53104-0520 (414) 857-1895
KEWAUNEE	KEWAUNEE COUNTY COURTHOUSE 613 DODGE ST. KEWANUEE WI 54216 (920) 388-4410 EXT. 132
LA CROSSE	LA CROSSE COUNTY DIVISION OF ENVIRONMENTAL HEALTH 300 NORTH 4TH ST. LA CROSSE, WI 54601-3299 (608) 785-9771; (608) 785-9731; (608) 785-9726; (608) 785-9730; (608) 785-7816
LAFAYETTE	LAFAYETTE COUNTY AG CENTER – COURTHOUSE 627 WASHINGTON ST DARLINGTON WI 53530 (608) 776-4830
LANGLADE	LANGLADE COUNTY LAND RECORDS & REGULATIONS RESOURCE CENTER 837 CLERMONT ST. P.O. BOX 505 ANTIGO WI 54409 (715) 536-0333

Governmental Unit	Address and Telephone
LINCOLN	LINCOLN COUNTY COURTHOUSE 1110 EAST MAIN ST. MERRILL WI 54452 (715) 536-0333
MANITOWOC	MANITOWOC COUNTY 1701 MICHIGAN AVE. MANITOWOC WI 54220 (920) 683-4185; (920) 683-4186
MARATHON	MARATHON COUNTY 210 RIVER DR. WAUSAU WI 54403-5449 (715) 732-7535
MARINETTE	MARINETTE COUNTY SOURTHOUSE 1926 HALL AVE. P.O. BOX 320 MAINETTE WI 54143-0320 (715) 732-7535
MARQUETTE	MARQUETTE COUNTY COURTHOUSE 77 WEST PARK ST. P.O. BOX 21 MONTELLO WI 53949 (608) 297-9159
MENOMINEE	MENOMINEE ZONING/ ASSESSORS OFFICE MENOMINEE COUNTY COURTHOUSE P.O. BOX 279 KESHENA WI 54135-0279 (715) 799-3301; (715) 799-3096
MILWAUKEE COUNTY BROWN DEER, VILLAGE OF	VILLAGE OF BROWN DEER 4800 WEST GREEN BROOK DR. BROWN DEER WI 53223 (414) 357-0144
MILWAUKEE COUNTY CUDAHY	CITY OF CUDAHY MUNICIPAL BUILDING 5050 SOUTH LAKE DR. CUDAHY WI 53110 (414) 471-8400
MILWAUKEE COUNTY FRANKLIN	CITY OF FRANKLIN CITY HALL 9229 WEST LOOMIS ROAD FRANKLIN WI 53212 (414) 425-0084
MILWAUKEE COUNTY GLENDALE	CITY OF GLENDALE 5909 NORHT MILWAUKEE RIVER PKWY. GLENDALE WI 53209 (414) 423-2100

Governmental Unit	Address and Telephone
MILWUAKEE COUNTY GREENDALE	VILLAGE OF GREENDALE VILLAGE HALL 6500 NORTHWAY GREENDALE WI 53129 (414) 423-2100
MILWAUKEE COUNTY GREENFIELD	CITY OF GREENFIELD CITY HALL 7325 WEST FOREST HOME AVE. GREENFIELD WI 53220 (414) 543-5465 EXT. 328
MILWAUKEE COUNTY HALES CORNERS	VILLAGE OF HALES CORNERS 5635 SOUTH NEW BERLIN RD. HALES CORNERS WI 53130 (414) 529-6160
MILWAUKEE COUNTY MILWAUKEE	CITY OF MILWAUKEE MUNICIPAL BUILDING RM 1017 841 NORTH BROADWAY MILWAUKEE WI 53202 (414) 286-3364
MILWAUKEE COUNTY OAK CREEK	CITY OF OAK CREEK CITY HALL 8640 SOUTH HOWELL AVE. OAK CREEK WI 53154 (414) 768-6545
MILWAUKEE COUNTY RIVER HILLS	VILLAGE OF RIVER HILLS VILLAGE HALL 7650 NORTH PHEASANT LN. RIVER HILLS WI 53217 (414) 352-8213
MILWAUKEE COUNTY ST. FRANCIS	CITY OF ST. FRANCIS 4235 SOUTH NICHOLSON AVE. ST. FRANCIS WI 53235 (414) 481-2300
MILWAUKEE COUNTY SOUTH MILWAUKEE	CITY OF SOUTH MILWAUKEE 2424 15TH AVE. SOUTH MILWAUKEE WI 53172 (414) 762-2222
OZAUKEE	OZAUKEE COUNTY ENVIRONMENTAL HEALTH DEPARTMENT COURTHOUSE 121 WEST MAIN ST. P. O. BOX 994 PORT WASHINGTON WI 53074-0994 (414) 284-8313; (414) 284-8315 (414) 284-8316; (414) 284-8318
PEPIN	PEPIN COUNTY COURTHOUSE 550 7TH AVE. WEST P. O. BOX 39 DURAND WI 54736 (715) 672-8897
PIERCE	PIERCE COUNTY COURTHOUSE P. O. BOX 647 ELLSWORTH WI 54011 (715) 273-6747
POLK	POLK COUNTY ZONING ADMINISTRATION COUNTY COURTHOUSE 100 POLK COUNTY PLAZA BALSAM LAKE WI 54810 (715) 485-9279
PORTAGE	PORTAGE COUNTY COURTHOUSE 1516 CHURCH ST. STEVENS POINT WI 54481 (715) 346-1334
PRICE	PRICE COUNTY NORMAL BUILDING ROOM 205 PHILLIPS WI 54555 (715) 339-3272
RACINE	RACINE COUNTY CODE ADMINISTRATION DEPARTMENT IVES GROVE BUILDING 14200 WASHINGTON AVE. STURTEVANT WI 53177 (414) 886-8475
RICHLAND	RICHLAND COUNTY COURTHOUSE 181 WEST SEMINARY ST. RICHLAND CENTER WI 53581 (608) 647-2447
ROCK	ROCK COUNTY ENVIRONMENTAL HEALTH DEPARTMENT P. O. BOX 1143 JANESVILLE WI 53547-1143 (608) 757-5441
RUSK	RUSK COUNTY ZONING OFFICE 311 MINER AVE. EAST LADYSMITH WI 54848 (715) 532-2181
ST. CROIX	ST. CROIX COUNTY ZONING OFFICE 1101 CARMICHAEL RD. HUDSON WI 54016 (715) 386-4680; (715) 386-4684 (715) 386-4682; (715) 386-4683

Governmental Unit	Address and Telephone
SAUK	SAUK COUNTY PLANNING AND ZONING SAUK COUNTY WEST SQUARE BUILDING 505 BROADWAY BARABOO WI 53913 (608) 355-3285
SAWYER	SAWYER COUNTY ZONING ADMINISTRATION COURTHOUSE P. O. BOX 668 HAYWARD WI 54843-0668 (715) 634-8288
SHAWANO	SHAWANO COUNTY COURTHOUSE 311 NORTH MAIN ST. SHAWANO WI 54166 (715) 526-6766; (715) 524-233-21
TAYLOR	TAYLOR COUNTY ZONING OFFICE 224 SOUTH 2ND ST. ROOM 110 MEDFORD WI 54451 (715) 748-1485
TREMPEALEAU	TREMPEALEAU COUNTY ZONING DEPARTMENT COURTHOUSE 36245 MAIN ST. P. O. BOX 67 WHITEHALL WI 54773-9430 (715) 538-2311 EXT. 222 or 223
VERNON	VERNON COUNTY COURTHOUSE P. O. BOX 306 VIROQUA WI 54665 (608) 637-7018
VILAS	VILAS COUNTY COURTHOUSE P. O. BOX 369 EAGLE RIVER WI 54521 (715) 479-3620
WASHBURN	WASHBURN COUNTY COURTHOUSE P. O. BOX 506 SHELL LAKE WI 54871-0506 (715) 468-2666
WASHINGTON	WASHINGTON COUNTY LAND USE AND PARK DEPARTMENT PUBLIC AGENCY CENTER SUITE 2300 333 EAST WASHINGTON ST. WEST BEND WI 53095-2584 (414) 335-4445

Governmental Unit	Address and Telephone
WAUKESHA	WAUKESHA COUNTY DEPARTMENT OF PARKS AND LAND USE DIVISION OF ENVIRONMENTAL HEALTH 1320 PEWAUKEE RD. RM. 260 WAUKESHA WI 53188 (414) 896-8300
SHEBOYGAN	SHEBOYGAN COUNTY COURTHOUSE PLANNING DEPARTMENT 615 NORTH 6TH ST. SHEBOYGAN WI 53081 (920) 459-3060
WAUSHARA	WAUSHARA COUNTY ZONING P. O. BOX 149 WAUTOMA WI 54982-0149 (920) 787-0453
WISCONSIN STATE OF	DEPARTMENT OF COMMERCE SAFETY & BUILDINGS DIVISION 201 WEST WASHINGTON AVE. P. O. BOX 2658 MADISON WI 53701-2658
WINNEBAGO	WINNEBAGO COUNTY PLANNING AND ZONING COURTHOUSE P. O. BOX 2808 OSHKOSH WI 54903-2808 (920) 236-4844
WAUPACA	WAUPACE COUNTY COURTHOUSE 811 HARDING ST. WAUPACE WI 54981-2072 (715) 258-6255; (715) 258-6257
WALWORTH	WALWORTH COUNTY COURTHOUSE ANNEX LAKELAND COMPLEX W3929 COUNTY NN ELKHORN WI 53121 (414) 741-3394
WOOD	WOOD COUNTY ZONING OFFICE COURTHOUSE 400 MARKET ST. WISCONSIN RAPIDS WI 54494-8095 (715) 421-8466

A-83.21 (3) PROCESSING. The state sanitary permit is issued when evidence and documentation is presented by the owner of the property that minimum code standards have been or will be met.

[Insert sample form of sanitary permit]

Chapter 145 Wisconsin Statutes provides some direction as to the issuance of sanitary permits as follows:

145.135 Sanitary permits.

(1) Validity. In this section, "sanitary permit" means a permit issued by the department or any governmental unit responsible for the regulation of private sewage systems for the installation of a private sewage system. No person may install a private sewage system unless the owner of the property on which the private sewage system is to be installed holds a valid sanitary permit. A sanitary permit is valid for 2 years from the date of issue and renewable for similar periods thereafter. A governmental unit responsible for the regulation of private sewage systems may not charge more than one fee for a sanitary permit or the renewal of a sanitary permit in any 12-month period. A sanitary permit shall remain valid to the end of the established period, notwithstanding any change in the state plumbing code or in any private sewage system ordinance during that period. A sanitary permit may be transferred from the holder to a subsequent owner of the land, except that the subsequent owner must obtain a new copy of the sanitary permit from the issuing agent. The results of any percolation test or other test relating to the disposal of liquid domestic wastes into the soil shall be retained by the governmental unit responsible for the regulation of private sewage systems where the property is located. The governmental unit responsible for the regulation of private sewage systems shall make the test results available to an applicant for a sanitary permit and shall accept the test results as the basis for a sanitary permit application unless the soil at the test site is altered to the extent that a new soil test is necessary.

(2) Notice. A sanitary permit shall include a notice displayed conspicuously and separately on the permit form, to inform the permit holder that:

(a) The purpose of the sanitary permit is to allow installation of the private sewage system described in the permit.

(b) The approval of the sanitary permit is based on regulations in force on the date of approval.

(c) The sanitary permit is valid and may be renewed for a specified period.

(d) Changed regulations will not impair the validity of a sanitary permit.

(e) Renewal of the sanitary permit will be based on regulations in force at the time renewal is sought, and that changed regulations may impede renewal.

(f) The sanitary permit is transferable.

145.19 Sanitary permit.

(1) Requirement; information; forms. No septic tank may be purchased and no private sewage system may be installed unless the owner of the property on which the private sewage system is to be installed holds a valid sanitary permit from the governmental unit responsible for the regulation of private sewage systems in which the property is located. The department shall prescribe the information to be included in the sanitary permit and furnish sanitary permit forms to the governmental unit. The applicant shall submit the completed sanitary permit to the governmental unit. The governmental unit shall approve or disapprove the sanitary permit according to the rules promulgated by the department under this chapter. No person may sell at retail, as defined under s. 100.201 (1) (d) , a septic tank for installation in this state unless the purchaser holds a valid sanitary permit issued under this section.

(2) Fee. No fee for a sanitary permit may be less than $61, or the amount determined under department rule. The governing body for the governmental unit responsible for the regulation of private sewage systems may establish a fee for a sanitary permit which is more than $61, or the amount determined under department rule.

(3) Copy of permit forwarded to the department. The governmental unit responsible for the regulation of private sewage systems shall forward a copy of each valid sanitary permit and $20, or the amount determined under department rule, of the fee to the department within 90 days after the permit is issued.

(4) Use of fee. The portion of this fee retained by the governmental unit responsible for the regulation of private sewage systems shall be used for the administration of private sewage system programs.

(5) Fee adjustment. The department, by rule promulgated under ch. 227 , may adjust the minimum permit fee under sub. (2) and the fee portion forwarded under sub. (3).

(6) Groundwater fee. In addition to the fee under sub. (2) , the governmental unit responsible for the regulation of private sewage systems shall collect a groundwater fee of $25 for each sanitary permit. The governmental unit shall forward this fee to the department together with the copy of the sanitary permit and the fee under sub. (3) . The moneys collected under this subsection shall be credited to the environmental fund for environmental management.

A-83.21 (6) RENEWALS. Sanitary permit renewals are completed in compliance with s.145.135 (1) and 145.135 (2) (e), Wis. Stats. A completed sanitary permit renewal application form must be submitted to the local permit issuing agent.

[Insert sample renewal form]

A-83.22 (2) PLANS AND SPECIFICATIONS. A POWTS plan review application form must be completed and submitted with a plan submittal. The application form is uniform state-wide and includes a worksheet to calculate the appropriate fees for the project.

[Insert sample plan review application form]

A-83.22 (3) PLAN REVIEW PROCESS. All proposed POWTS installations require plan review prior to sanitary permit issuance. Projects subject to department review include all projects under Table 83.22-1, and many of the projects under Table 83.22–2. Designated agents may review projects included in Table 83.22-2.

[Insert current county agent plan review listing]

Commerce Plan Review Offices

Hayward Office 15837 USH 63 Hayward WI 54843 (715) 634-4870	LaCrosse Office 2226 Rose Street LaCrosse WI 54603 (608) 785-9334	Madison Office 201 W. Washington Ave PO Box 7162 Madison WI 53707-7162 (608) 266-3151
Shawano Office 1340 Green Bay Street Suite 300 Shawano WI 54166 (715) 524-3626	Green Bay Office 2331 San Luis Place Green Bay WI 54304 (920) 492-5601	Waukesha Office 401 Pilot Court Ste C Waukesha WI 53188 (414) 548-8606

A-83.25 (2) ISSUANCE OF BUILDING PERMITS. A building permit is defined in s. Comm 81.01 (44), Wis. Adm. Code, as any written permission from a municipality that allows construction to commence on a structure. In effect, this means that land use and zoning permits, as well as other similar permits that constitute permission to construct are considered building permits.

Prior to building permit issuance, the issuing agent has a statutory responsibility, under s. 66.036, Wis. Stats., to consider whether or not the proposed structure requires connection to a private onsite wastewater treatment system (POWTS), or if the construction will interfere with the operation of an existing POWTS.

> Section 66.036, Stats. Building on unsewered property. (1) No county, city, town or village may issue a building permit for construction of any structure requiring connection to a private domestic sewage treatment and disposal system unless a system satisfying all applicable regulations already exists to serve the proposed structure or all permits necessary to install such a system have been obtained.

(2) Before issuing a building permit for construction on any structure on property not served by a municipal sewage treatment plant, the county, city, town or village shall determine that the proposed construction does not interfere with a functioning private domestic sewage treatment and disposal system. The county, city, town or village may require building permit applicants to submit a detailed plan of the owner's existing private domestic sewage treatment and disposal system.

A-83.25 (2) (e) Setbacks. Horizontal setbacks from encumbrance for new POWTS installations are in conformance with Table Comm 83.43 –1 or the rule in effect at the time the system was installed, which ever is less. For setback distances associated with previous administrative codes refer to the previous code issue or the following table.

[Insert Table on previous code setbacks]

A-83.43 (3) (a) Normal wastewater flow from a dwelling is estimated at 2 persons per bedroom. However, when occupancy is less than or greater than 2 persons per bedroom POWTS designers may estimate the combined graywater and blackwater flows using the equation pursuant to Comm 83.43 (3) (b).

A-83.43 (6) COMMERCIAL FACILITIES. Table A-83.43-1 may be used to estimate wastewater flows from a commercial building.

Table A-83.43-1
Public Facility Wastewater Flows

Source	Unit	Estimated Wastewater Flow (gpd)
Apartment or Condominium	Bedroom	100
Assembly hall (no kitchen)	Person (10 sq. ft./person)	1.3
Bar or cocktail lounge (no meals served)	Patron (10 sq. ft./patron)	4
Bar or cocktail lounge* (w/meals – all paper service)	Patron (10 sq. ft./patron)	8
Beauty salon	Station	90
Bowling alley	Bowling lane	80
Bowling alley (with bar)	Bowling lane	150
Camp, day and night	Person	25
Camp, day use only (no meals served)	Person	10
Campground or Camping Resort	Space, with sewer connection and/or service building	30
Campground sanitary dump station	Camping unit or RV served	25
Catch basin	Basin	65
Church (no kitchen)	Person	2
Church* (with kitchen)	Person	5
Dance hall	Person (10 sq. ft./person)	2
Day care facility (no meals prepared)	Child	12
Day care facility* (with meal preparation)	Child	16
Dining hall* (kitchen waste only without dishwasher and/or food waste grinder)	Meal served	2
Dining hall* (toilet and kitchen waste without dishwasher and/or food waste grinder)	Meal served	5
Dining hall* (toilet and kitchen waste with dishwasher and/or food waste grinder)	Meal served	7
Drive-in restaurant* (all paper service with inside seating)	Patron seating space	10
Drive-in restaurant* (all paper service without inside seating)	Vehicle space	10
Drive-in theater	Vehicle space	3
Employees (total all shifts)	Employee	13
Floor drain (not discharging to catch basin)	Drain	25
Gas station / convenience store	Patron	3

Table A-83.43-1
Public Facility Wastewater Flows
(continued)

Source	Unit	Estimated Wastewater Flow (gpd)
Gas station (with service bay)		
Patron	Patron	3
Service bay	Service bay	50
Hospital*	Bed space	135
Hotel, motel or tourist rooming house	Room	65
Medical office building		
Doctors, nurses, medical staff	Person	50
Office personnel	Person	13
Patients	Person	6.5
Migrant labor camp (central bathhouse)	Employee	20
Mobile Home (Manufactured home) (served by its own POWTS)	Bedroom	100
Mobile home park	Mobile home site	200
Nursing, Rest Home, Community Based Residential Facility	Bed space	65
Outdoor sport facilities (toilet waste only)	Patron	3.5
Parks (toilets waste only)	Patron (75 patrons/acre)	3.5
Parks (toilets and showers)	Patron (75 patrons/acre)	6.5
Public shower facility	Shower taken	10
Restaurant*, 24-hr. (dishwasher and/or food waste grinder only)	Patron seating space	4
Restaurant*, 24-hr. (kitchen waste only without dishwasher and/or food waste grinder)	Patron seating space	12
Restaurant, 24-hr. (toilet waste)	Patron seating space	28
Restaurant*, 24-hr. (toilet and kitchen waste without dishwasher and/or food waste grinder)	Patron seating space	40
Restaurant*, 24-hr. (toilet and kitchen waste with dishwasher and/or food waste grinder)	Patron seating space	44
Restaurant* (dishwasher and/or food waste grinder only)	Patron seating space	2
Restaurant* (kitchen waste only without dishwasher and/or food waste grinder)	Patron seating space	6
Restaurant (toilet waste)	Patron seating space	14
Restaurant* (toilet and kitchen waste without dishwasher and/or food waste grinder)	Patron seating space	20
Restaurant* (toilet and kitchen waste with dishwasher and/or food waste grinder)	Patron seating space	22
Retail store	Patron (70% of total retail area ÷ 30 sq. ft. per patron)	1
School* (with meals and showers)	Classroom (25 students/classroom)	500
School* (with meals or showers)	Classroom (25 students/classroom)	400

Table A-83.43-1 Public Facility Wastewater Flows (continued)		
Source	**Unit**	**Estimated Wastewater Flow (gpd)**
School (without meals or showers)	Classroom (25 students/classroom)	300
Self-service laundry (toilet waste only)	Clothes washer	33
Self-service laundry (with only residential clothes washers)	Clothes washer	200
Swimming pool bathhouse	Patron	6.5

* = May be high strength waste

A-83.43 (6) (a). Actual meter readings may be used to calculate the combined estimated design wastewater flow from a dwelling. To calculate the estimated design wastewater flow use the following formula and compare the answer to the peak metered flow. Choose the larger of the two estimated design flows.

(total meter flow/number of readings)(1.5) = estimated design wastewater flow

The frequency of meter readings should be daily for commercial.

A-83.43 (6) (b) A detailed per capita and per function flow may be established for commercial facilities. The per function flow ratings shall be substantiated by manufactures data of the per function flow and detailed use data from the facility in question or a similar facility under similar conditions of use. Estimated design wastewater flow shall be at least 1.5 times the total estimated daily flow calculated from the per capita and per function flow information

A-83.43 (7) ESTIMATING CONTAMINANT LOADS

Pathogenic contaminant load may be estimated based on data collected by a reputable testing or research facility.

Typical Data on the Unit Loading Factors and Expected Wastewater Contaminant Loads from Individual Residences

Contaminant	Unit Loading Factor lb/capita per day	Value		
		Unit	Range	Typical
BOD_5	0.180	mg/L	216-540	392
SS	0.200	mg/L	240-600	436
NH3 as N	0.007	mg/L	7-20	14
Org. N as N	0.020	mg/L	24-60	43
TKN as N	0.027	mg/L	31-80	57
Org P as P	0.003	mg/L	4-10	7
Inorg. P as P	0.006	mg/L	6-17	12
Grease		mg/L	45-100	70
Total Coliform		cfu/100mL	10^7-10^{10}	10^8

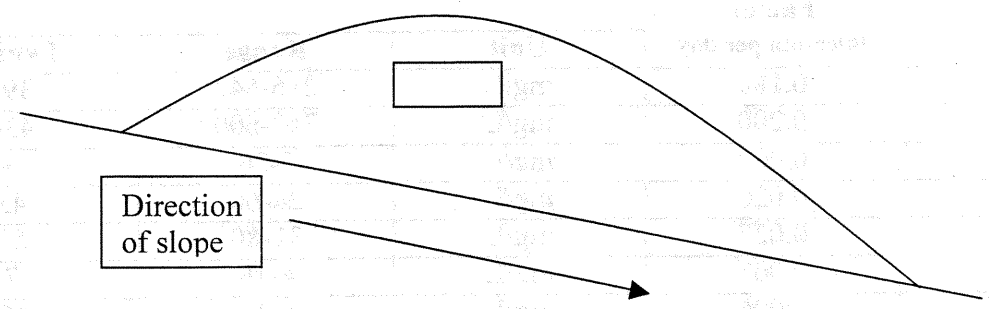
A-83.43 (8) (g) ANCHORING SYSTEM COMPONENTS.

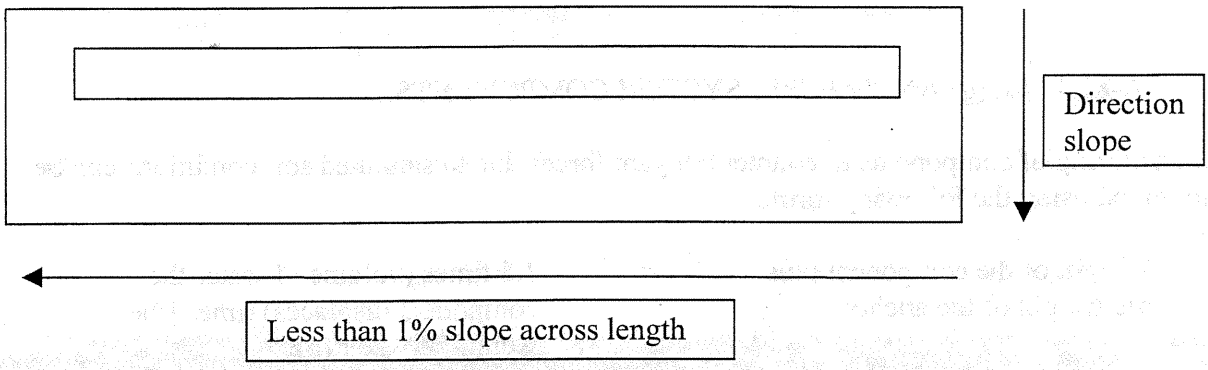
The anchoring of components to counter buoyant forces due to saturated soil conditions can be determined using the following formula:

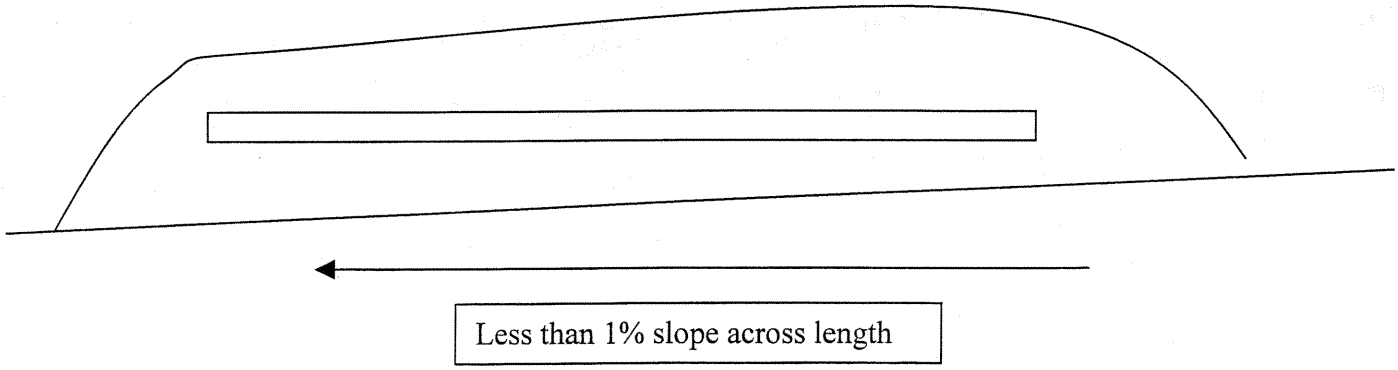
Weight of the component plus the weight of the anchor	=	1.5 times (volume of water the component displaces) times [the weight of water (62.4 pounds/cubic foot at 39°F)]

A-83.44 ORIENTATION (6)

Orientation of above grade dispersal structures is on the contour except that a 1% cross slope is acceptable along the length as shown below.







SECTION 57. Comm 84.10 Table 84.10 line 5 is amended to read:

Table 84.10
SUBMITTALS TO DEPARTMENT
(Partial Table)

	Product Categories
5.	Prefabricated ~~septic/holding tanks~~ holding or treatment components for POWTS

SECTION 58. Comm 84.10 (3) is repealed and recreated to read:

Comm 84.10 (3) VOLUNTARY POWTS PRODUCT APPROVAL. (a) The department may issue a product approval, upon request and review, for POWTS design packages and site constructed POWTS components which conform to the standards or specifications referenced in chs. Comm 81, 82, 83 and this chapter, but do not require approval under sub. (2) or s. Comm 84.50.

(b) Each request for approval shall be made on a form provided by the department.

Note: See appendix for a reprint of the form and addresses of the department where the form may be obtained.

(c) The submittal shall be accompanied by sufficient data and information to determine if the product complies with the provisions of chs. Comm 81, 82 and 83, this chapter and ch. 145, Stats. The submittal shall include, but not be limited to, all of the following:

1. Plans and specifications.

2. Theory of operation.

3. Testing protocol.

4. Testing data.

5. Limits of reliable operation.

6. Installation requirements and procedures.

7. Inspection checklist and worksheet.

8. Inspection requirements and procedures.

9. Operation and maintenance requirements.

10. Operation and maintenance schedule.

11. Operation and maintenance checklist and worksheet.

(d) 1. The department shall review a submittal under this subsection with input from a technical advisory committee.

2. The members on the technical advisory committee under subd. 1. shall be appointed by the department for staggered 3-year terms and shall include representatives of at least the following groups or organizations:

a. The department of natural resource.

b. Local governmental unit.

c. POWTS designer.

d. Academic or scientific community.

e. Plumber.

f. Environmental group.

g. POWTS component manufacturer.

(e) 1. If, upon review, the department determines that a product conforms to the provisions of chs. Comm 81, 82 and 83, this chapter and ch. 145, Stats., the department shall issue an approval in writing.

2. The department may impose specific conditions in granting an approval, including a provision to provide training to POWTS installers and POWTS inspectors.

3. Violations of the conditions under which an approval is granted shall constitute a violation of this chapter.

(f) If, upon review, the department determines that a product does not conform to the provisions of chs. Comm 81, 82 and 83, this chapter and ch. 145, Stats., the request for approval shall be denied in writing.

(g) The department shall review and make a determination on an application for a product approval within 3 months of receipt of all fees, plans, drawings, specifications and other information required to complete the review.

(h) If an approved plumbing product is modified or additional assertions of function or performance are made, the approval shall be considered null and void, unless the change is submitted to the department for review and the approval is reaffirmed.

SECTION 59. Comm 84.11 is amended to read:

Comm 84.11 IDENTIFICATION. Each length of pipe and each pipe fitting, trap, fixture, material, device and product to be used in plumbing shall be marked as required by the applicable standard specified by reference in this chapter or as specified ~~in s. Comm 83.15 for septic tanks and holding tanks, and s. Comm 84.20 (5) (o) for water treatment devices~~ by rule in this chapter.

SECTION 60. Comm 84.20 (5) (j) to (q) is renumbered 84.20 (5) (k) to (r).

SECTION 61. Comm 84.20 (5) (j) is created to read:

Comm 84.20 (5) (j) POWTS design packages and POWTS components. POWTS design packages and POWTS components shall function and perform in accordance with assertions submitted to and approved by the department under s. Comm 84.10.

SECTION 62. Comm 84.20 (5) (q) 1., as renumbered, Note is created to read:

Comm 84.20 (5) (q) 1. Note: See s. Comm 82.40 for limitations as to the types of water treatment devices which may discharge to a POWTS.

SECTION 63. Comm 84.25 is created to read:

Comm 84.25 POWTS HOLDING COMPONENTS OR TREATMENT COMPONENTS. (1) GENERAL. All POWTS holding components or treatment components shall conform to the requirements of this section.

(2) WATER TIGHTNESS. (a) General. Tank assemblies, including fittings and access openings, shall be manufactured to be water tight as required under this subsection.

(b) Concrete tanks. 1. Where concrete tanks are required to have covers, the tanks shall meet one of the following requirements:

a. Withstand a vacuum of at least 2 inches of mercury for 60 minutes, without loss of pressure.

b. Hold water for one hour, without leakage after the tank has been filled with water to the top of the cover and let stand for 24 hours, then refilled to the top of the cover.

2. Concrete tanks that are not required to have a cover shall hold water for one hour, without leakage after the tank has been filled with water and let stand for 24 hours, then refilled to the highest liquid level required to be held in the tank.

(c) Steel tanks. 1. Steel tanks that are required to have a cover shall be capable of withstanding one of the following requirements:

a. An internal air pressure of at least 5 psig for 15 minutes, without loss of pressure.

b. An internal water pressure of at least 5 psig for 60 minutes, without loss of pressure.

2. Steel tanks that are not required to have a cover shall be capable of holding water after being filled to their inlet or outlet, whichever is higher, for 24 hours without loss of water.

(d) Tanks constructed of materials other than concrete or steel. 1. Tanks constructed of materials other than concrete or steel that are required to have a cover shall be capable of withstanding one of the following requirements:

a. A vacuum of at least 2 inches of mercury for 60 minutes, without loss of pressure.

b. An internal air pressure of at least 5 psig for 15 minutes, without loss of pressure.

c. An internal water pressure of at least 5 psig for 60 minutes, without loss of pressure.

2. Tanks constructed of materials other than concrete or steel that are not required to have a cover shall be capable of holding water after being filled to their inlet or outlet, whichever is higher, for one hour without loss of water.

(3) STRENGTH. Tank assemblies, including fittings and access openings, shall be capable of withstanding loads and pressures that the tanks are intended to encounter and remain watertight.

(4) PROTECTION FROM ELEMENTS. (a) Concrete tanks. 1. The interior of a concrete tank assembly, including fittings and access openings, shall have a protective coating or be constructed of material, above the lowest liquid level expected in the tank, that will inhibit the deterioration of the concrete due to internal environmental effects.

2. Under subd. 1., concrete with a water cement ratio not exceeding 0.45 shall be considered resistant to deterioration due to internal environmental effects.

(b) Steel tanks. 1. Steel tank assemblies, including fittings and access openings, shall have a protective coating that will inhibit the deterioration of the steel due to internal and external environmental effects.

2. Steel tank assemblies, including fittings and access openings, installed underground shall be provided with cathodic protection in accordance with UL Standard 1746 or STI-P_3.

(c) Tanks constructed of materials other than concrete or steel. Tank assemblies, including fittings and access openings, constructed of materials other than concrete or steel shall be protected against deterioration due to internal and external environmental effects.

(5) VENTING. (a) Each tank, except camping unit transfer containers, shall be provided with a means of venting gases formed inside of the tank to the atmosphere.

(b) The tank vent shall terminate in accordance with s. Comm 82.31 (16).

(6) PIPE CONNECTION. All pipe connection openings to a tank shall be designed to allow connections in accordance with s. Comm 84.40.

(7) ACCESS. (a) Each covered tank shall be provided with one or more openings of sufficient size and located in such a manner to provide a means for inspection or required cleaning or maintenance of the tank.

(b) Inspection openings for tanks located below ground shall extend at least to the finished grade.

(c) Cleaning and maintenance openings for treatment tanks located below ground shall extend to at least within 6 inches below finished grade.

(d) Cleaning and maintenance openings for holding components shall comply with all of the following:

1. Extend to at least 4 inches above finished grade when the holding component is below ground.

2. Be located to allow servicing of pumps or siphons located in the holding component.

(e) Inspection, maintenance and cleaning openings shall terminate with a means that prevents entrance of deleterious materials.

(f) Covers located at or above ground for openings larger than 8 inches in diameter shall be provided with locking devices and shall remain locked except for cleaning or maintenance purposes.

(8) WARNING LABEL. (a) Covers for all tank openings larger than 8 inches in diameter shall be provided with a permanent warning label indicating the dangers of entering the tank, in accordance with this subsection.

(b) The warning label shall be securely attached and made of a noncorrosive metal or plastic bearing the legend "DO NOT ENTER WITHOUT PROPER EQUIPMENT" or "DANGEROUS GASES EXIST IN TANK" or similar language.

(c) The label shall be rectangular in shape with minimum dimensions of 4 by 5 inches.

(d) The wording on the label shall be a minimum of 1/2 inch in height and be either indented or raised.

(9) DOSING APPARATUS. (a) Pumps for POWTS used to disperse air, treated wastewater or final effluent shall be rated by the pump manufacturer for such use.

(b) Siphons for POWTS shall be rated by the siphon manufacturer for wastewater use.

(c) All other dosing apparatus for POWTS shall be constructed of corrosive resistant materials and designed to perform as intended.

(10) ALARM SYSTEM. (a) All pump and alarm controls for POWTS shall be specifically designed by the manufacturer for such use.

(b) The use of pressure diaphragm switches in POWTS tanks shall be prohibited.

(11) TANK LABEL. (a) Anaerobic tanks. Each anaerobic treatment tank or holding component shall be labeled near an inlet or outlet opening. The label shall be embossed, impressed, or securely attached to the tank. The label shall include all of the following information:

1. Name or trademark of the manufacturer.

2. Capacity of each compartment.

3. Manufacturer's model number.

(b) Aerobic tanks. 1. Each aerobic treatment tank shall be provided with 2 label plates. Label plates shall be inscribed to be easily read and understood, and be securely attached.

2. One label plate shall be attached to the front of the electrical control box. The second label plate shall be attached to the aeration equipment assembly, tank, or riser at a location normally subject to access during inspection of the unit.

3. Each label plate shall include all of the following information:

a. Name or trademark of the manufacturer.

b. Model number.

c. Rated daily flow capacity of the unit.

(12) OTHER TREATMENT COMPONENTS. A treatment component not specifically covered in this section may not be sold for use in a POWTS or may not be installed in a POWTS, unless it has received department approval and conforms to the applicable performance standards of this chapter and chs. Comm 82 and 83, and ch. 145, Stats.

SECTION 64. Comm 84.30 (2) (d) is repealed and recreated to read:

Comm 84.30 (2) (d) Treated wastewater piping. 1. Nonpressurized, nonperforated drain piping conveying treated wastewater from a POWTS treatment or holding component to a POWTS treatment or holding component, distribution cell or dispersal zone shall conform to one of the standards listed in Table 84.30-3.

2. Nonpressurized perforated drain piping conveying treated wastewater in a POWTS soil treatment or dispersal component shall conform to one of the standards listed in Table 84.30-4.

3. Pressurized perforated drain piping conveying treated wastewater in a POWTS treatment or dispersal component shall conform to one of the standards listed in Table 84.30-5 and shall be perforated in accordance with the POWTS design.

SECTION 65. Comm 84.30 Table 84.30-5 is amended to read:

Table 84.30-5
PRESSURIZED DRAIN PIPE AND TUBING AND SERVICE SUCTION LINES

Material	Standard
Acrylonitrile butadiene styrene (ABS)[a]	ASTM D1527; ASTM D2282; ASTM D2661; ASTM F628
~~Acrylonitrile butadiene styrene (ABS) composite[a]~~	~~ASTM D2680~~
Brass	ASTM B43
Cast iron	ASTM A74; ASTM A377; AWWA C115/A21; CISPI 301
Chlorinated polyvinyl chloride (CPVC)[a]	ASTM 2846; ASTM F441; ASTM F442
Concrete	ASTM C14; ASTM C76
Copper[b]	ASTM B42; ASTM B88; ASTM B306
Ductile iron	ASTM A377; AWWA C115/Z21.15; AWWA C151/A21.51
Galvanized steel	ASTM A53
Polyvinyl chloride (PVC)a	ASTM D1785; ASTM D2241; ASTM D2665; ASTM 2672; AWWA C900
Stainless steel	ANSI B36.19M; ASTM A270; ASTM A450

Note a: Thermoplastic sewer pipe shall be installed in accordance with ASTM D2321.
Note b: Copper tubing , type M, may not be installed underground.

SECTION 66. Comm 84.30 (6) (g) to (j) and Table 84.30-12 are created to read:

Comm 84.30 (6) (g) Geotextile fabrics. Geotextile fabric used in a POWTS to prevent backfill material from entering the distribution cell shall meet the requirements listed in Table 84.30-12.

Table 84.30-12
GEOTEXTILE FABRICS

Property	Test Method	Minimum Average Roll Value
Grab Tensile, lbs	ASTM D4632	35 lbs, minimum
Grab Elongation, %	ASTM D4632	50%, minimum
Puncture, lbs	ASTM D4833	10 lbs, minimum
Trapezoidal tear, lbs	ASTM D4533	11 lbs, minimum
AOS, US Sieve #	ASTM D4751	20 US sieve #, minimum
AOS, US Sieve #	ASTM D4751	70 US sieve #, maximum

(h) Leaching chambers. Leaching chambers for distribution cell components of POWTS shall meet all of the following requirements:

1. Constructed of corrosion resistant materials.

2. Designed to prevent soil surrounding the chamber from entering the chamber.

3. Capable of withstanding pressures that the leaching chamber is intended to encounter.

(i) Stone aggregate. Stone aggregate which is used as a filtering medium or to create a distribution cell in a treatment or dispersal component of a POWTS shall meet all of the following requirements:

1. Conform to ASTM Standard C33 for coarse aggregate prior to washing.

2. Be washed to remove fine material.

3. Be 1/2 to 2-1/2 inch in size.

4. Have a hardness value of at least 3 on Moh's Scale of Hardness.

Note: Stone that can scratch a copper penny without leaving any residual stone material on the penny has a hardness value of at least 3 on Moh's Scale of Hardness.

(j) Sand. Sand which is used as a filtering medium in a treatment or distribution cell of a POWTS shall conform to ASTM Standard C33 for fine aggregate.

SECTION 67. Comm 84.50 (3) (g) 1 and 7 are amended to read:

Comm 84.50 (3) (g) 1. Plans detailing the installation of the plumbing material or product shall be submitted to the department in accordance with s. Comm 82.20 (4) or ~~83.07 (2)~~ 83.22.

Comm 84.50 (3) (g) 7. Five years after the date of the completed installation the department shall within 6 months order the removal of the plumbing material or product ~~or~~, issue an ~~alternate~~ approval, or renew the experimental approval for another 5-year period to obtain additional information to determine the result of the experiment.

SECTION 68. Comm 84.60 is repealed.

SECTION 69. A-84.10 (3) (b) is created to read:

A-84.10 (3) (b) Request forms for voluntary POWTS products approval may be obtained at the following locations:

Department of Commerce Offices

Madison Office
201 W. Washington Ave
PO Box 7162
Madison, WI 53707-7162
608) 266-3151

(Insert sample form approval request)

SECTION 70. Chapter Comm 85 is repealed and recreated to read:

Chapter Comm 85

SOIL AND SITE EVALUATIONS

Comm 85.01 PURPOSE. The purpose of this chapter is to establish the minimum requirements for evaluating and reporting soil and site characteristics that may affect treatment or dispersal of wastewater, treated wastewater, final effluent or nonwater-carried human wastes.

Comm 85.02 SCOPE. Pursuant to s. 145.02, Stats., this chapter applies to all soil and site evaluations conducted relative to the treatment or dispersal of wastewater, treated wastewater, final effluent or nonwater-carried human wastes into soil.

Comm 85.10 QUALIFICATIONS. (1) SOIL EVALUATION. A soil evaluation for treatment or dispersal of wastewater, treated wastewater, final effluent or nonwater-carried human wastes regulated by chs. Comm 83 and 91 shall be performed by an individual who is a certified soil tester.

Note: Section Comm 5.33 delineates the qualifications and certification procedures for certified soil testers.

(2) SITE EVALUATION. A site evaluation, relative to the installation of a POWTS treatment, holding or dispersal component location, or to determine land slope or setback distances to topographic or other site features shall be performed by a Wisconsin registered architect, professional engineer, designer of plumbing systems, designer of private sewage systems or land surveyor; a certified soil tester or POWTS inspector; or a licensed master plumber or master plumber-restricted service.

(3) SOIL SATURATION DETERMINATIONS. Soil saturation determinations may only be conducted and reported by an individual who is a certified soil tester.

Comm 85.20 SOIL EVALUATIONS. (1) GENERAL. (a) Soil boring methods and procedures shall comply with this section.

(b) Maximum soil application rates shall be determined relative to the soil texture, structure and consistence for each soil horizon or layer.

Note: Section Comm 83.44 establishes maximum soil application rates and soil treatment capability for the design of POWTS treatment or dispersal components consisting in part of in situ soil.

(2) NUMBER, TYPE AND DEPTH OF EVALUATIONS. (a) General. The number, type, depth and location of soil profile evaluations shall be sufficient to delineate the area under investigation and to assure consistency of the data within that area.

(b) Number and area. 1. a. Except as provided in subpar. d. and subd. 2., a minimum of 3 soil profile evaluation excavations shall be used to delineate a site within which POWTS treatment or dispersal components consisting in part of in situ soil are to be located.

b. For estimated daily flows of 1,000 gallons per day or less, at least one soil profile evaluation excavation per treatment or dispersal site shall be constructed as a soil pit, and described in accordance with s. Comm 85.30 (1) (c).

c. For estimated daily flows greater than 1,000 gallons per day, at least three soil profile evaluations per treatment or dispersal site shall be constructed as soil pits, and described in accordance with s. Comm 85.30 (1) (c).

d. The department or governmental unit may require additional soil profile evaluation excavations to be constructed where soil variability considerations may not be adequately addressed. The department or governmental unit may specify that soil profile descriptions in accordance with s. Comm 85.30 (1) (c) be conducted for any additional soil profile evaluation excavations.

2. At least one soil pit or soil boring shall be used to establish soil suitability for a pit privy.

Note: Sections Comm 83.44 (3) and 91.12 (1) (b) 1. contain further information regarding privy siting and soil requirements.

(c) Type. 1. Soil profile evaluations used to determine soil application rates shall be conducted using soil pits.

2. Soil profile evaluations used to determine or identify soil horizon depths, soil color, soil texture, redoximorphic feature colors or depth to groundwater or bedrock shall be conducted using either soil pits or soil borings.

(d) Depth. Soil profile evaluations shall extend an adequate depth below the land surface to identify soil properties critical to soil treatment or dispersal of wastewater, treated wastewater, final effluent or nonwater-carried human waste.

(3) EXCAVATION METHODS. (a) Soil profile excavations. A soil profile excavation shall be of such size and construction to allow accurate determination of soil characteristics.

(b) Soil borings. 1. Soil borings shall be created by means of a soil bucket auger, soil probe, split-spoon sampler or Shelby tube having at least a 2 inch diameter.

2. A soil boring may not be created by means of a power auger.

(c) Soil pits. A soil pit shall be of adequate size, depth and construction to enable a person to safely enter and exit the pit and to complete a morphological soil profile description.

Note: Occupational Safety and Health Administration rules and regulations (29 CFR 1926, Subpart P) apply to certain types of excavations, and the persons entering such excavations need to be familiar with those regulations.

(4) SOIL EVALUATION CONDITIONS. (a) Soil color evaluations shall be performed on days when light conditions permit accurate color determinations.

(b) Frozen soil material shall be thawed prior to conducting evaluations for soil color, texture, structure and consistence.

Comm 85.30 SOIL PROFILE DESCRIPTION AND INTERPRETATIONS. (1) GENERAL. (a) A soil profile description shall be prepared for each soil profile excavation constructed.

(b) Soil profile descriptions shall be written in accordance with the descriptive procedures, terminology and interpretations found in Chapter 3 of the Soil Survey Manual, USDA, October, 1993, except where modified by, or in conflict with, this chapter.

(c) A soil profile description to substantiate soil application rates shall include at least all of the following morphological information for each soil horizon or layer:

1. Thickness in inches or decimal feet.

2. Munsell soil color notation.

3. Soil mottle or redoximorphic feature color, abundance, size and contrast.`

4. United States Department of Agriculture, USDA, soil textural class with rock fragment modifiers.

5. Soil structure grade, size and shape.

6. Soil consistence.

7. Root abundance and size.

8. Soil boundary.

9. Occurrence of saturated soil, groundwater, bedrock or disturbed soil.

(d) A soil profile description to substantiate soil characteristics other than for application rates shall include the information specified in par. (c) 1. to 4. and 9.

(2) SOIL INTERPRETATIONS. (a) Redoximorphic features or mottles shall be interpreted as zones of seasonal or periodic soil saturation or groundwater, except as provided under sub. (3).

(b) Unless determined otherwise under s. Comm 85.60, the highest elevation of seasonal soil saturation shall be the ground surface where redoximorphic features are present within 4 inches of the bottom of the A horizon.

(3) SOIL COLOR PATTERN EXEMPTIONS. (a) Without filing a report under s. Comm 85.60 (2), a certified soil tester may discount the following conditions, not limited by enumeration, as indicators of seasonally saturated soil:

1. Fossilized soil color patterns formed by historic periodic soil saturation.

2. A soil profile that has an abrupt textural change, consisting of silt loam or finer textures overlying at least 4 feet of unsaturated loamy sand or coarser textured soil and 24 inches or less of periodically saturated soil immediately above the coarser material.

3. Redoximorphic features orientated along old or decayed root channels.

4. Residual sandstone colors.

5. Unevenly weathered glacially deposited material, glacially deposited material naturally gray in color, or concretionary material in various stages of decomposition.

6. Deposits of lime.

7. Light colored silt or fine sand coatings on soil ped surfaces.

(b) Without filing a report under s. Comm 85.60 (2) for a specific site, the department may accept the results of soil saturation determinations or of the hydrograph procedure under s. Comm 85.60 previously conducted for areas adjacent to the site, provided that the soil profile descriptions and interpretations confirms that the soil and site conditions are similar for the specific site and the adjacent areas.

(4) SOIL COLOR PATTERN REPORTS. The certified soil tester shall report and describe any soil color pattern exemptions encountered.

(5) DETERMINATION REQUESTS. A certified soil tester may request a determination by the governmental unit or department staff on the significance of unusual soil color patterns as indicators of soil saturation that may not indicate saturated soil conditions that will interfere with wastewater treatment, as specified by s. Comm 83.43 (7). The governmental unit or department may decline to make such determinations, and defer to the use of soil saturation determinations pursuant to s. Comm 85.60 or some other method to make a determination.

Comm 85.40 EVALUATION REPORTS. (1) GENERAL. A soil evaluation report shall be prepared and submitted to the governmental unit having jurisdiction upon the completion of the evaluation and associated report form.

(2) SOIL REPORT CERTIFICATION AND FORMAT. (a) Soil evaluation reports. Soil evaluation reports shall be prepared in a format specified by the department and this chapter.

Note: Soil evaluation report forms in an acceptable format are available from the Safety and Buildings Division, P.O. Box 7162, Madison, WI 53707-7162.

(b) Certification. 1. Except as provided in subd. 2., each page of a soil evaluation report shall bear:

a. The original signature of the certified soil tester who collected the data;

b. The certified soil tester's identification number; and

c. The date the report is signed.

2. When more than one sheet of a soil evaluation report is bound together into one volume, only the title sheet shall:

a. Be required to be signed, dated and bear the identification number of the certified soil tester who collected the data; and

b. Clearly identify all other sheets comprising the bound volume.

(3) REPORT CONTENTS. (a) Site report. A site evaluation report shall include at least all of the following:

1. The site's legal description to within 40 acres.

2. The date the data was collected.

3. A legible and permanent site plan that:

a. Is presented on paper no smaller than 8 1/2 inches by 11 inches in size;

b. Is drawn to scale or fully dimensioned;

c. Shows the extent of the site evaluated for soil dispersal or treatment;

4. Location information for all points under investigation including structures, property lines and other encumbrances to the treatment or dispersal component placement on the site.

5. Pertinent elevation data, such as:

a. A reference to, and description of, a permanent vertical and horizontal reference point or bench mark from which all distances and elevations are delineated on the site plan;

b. The natural, undisturbed surface grade elevation for all soil profile excavations;

c. The percent and direction of land slope for the site under evaluation;

d. Ground surface contour lines at an interval appropriate for the conditions present;

e. The floodplain elevation, if established, and current surface elevation of any adjacent navigable waters or reservoir; and

f. The existing grade adjacent to the groundwater elevation observation pipe, the top of the observation pipe, and the bottom of the observation pipe.

(b) Soil report. A soil evaluation report shall include at least all of the following:

1. A site evaluation report pursuant to par. (a).

2. The date soil evaluations were conducted.

3. The site's legal description to within 40 acres.

4. Soil profile descriptions pursuant to s. Comm 85.30 for all soil profile evaluation excavations.

Comm 85.50 GOVERNMENTAL UNIT REVIEW. (1) GENERAL. (a) A governmental unit shall review all soil evaluation reports and site evaluation reports within 30 days of receipt.

(b) Upon completing the review of a soil evaluation report a governmental unit shall accept the report, reject the report, request additional information or clarification, or require verification under sub. (2).

(c) When a report is deemed acceptable, a governmental unit shall so indicate on the report and file the report for future reference.

(d) If the report is not acceptable, a governmental unit shall notify the submitter in writing and shall state the deficiencies or actions, or both, necessary to bring the report into compliance with this chapter or ch. Comm 83.

(2) VERIFICATION. (a) Soil. 1. The governmental unit or the department may require the property owner or the certified soil tester to provide soil pits in accordance with s. Comm 85.20 (3) for verification of soil profile evaluation data.

2. The certified soil tester who is responsible for the soil report shall be present at the site during the verification of soil profile evaluation data if so requested by the governmental unit or the department.

3. Soil verifications may not be conducted under adverse weather or light conditions that may lead to inaccurate results.

(b) Site. 1. The governmental unit or the department may require the property owner or credentialed individual who certified the site report to provide assistance and equipment to verify site conditions.

2. The credentialed individual who is responsible for the site report shall be present at the site during the verification of site conditions if so requested by the governmental unit or department.

(c) Report. The governmental unit or the department shall complete a written report for each soil or site verification completed, and the results or findings of the report shall be filed with the soil and site evaluation report for future reference.

Comm 85.60 SOIL SATURATION DETERMINATIONS. (1) GENERAL. (a) Optional documentation. 1. A property owner, or their agent, may submit documentation to the department to prove that redoximorphic features, or other soil color patterns, at a particular site are not indicative of periodically saturated soil conditions or high groundwater elevation.

2. Documentation shall be in the form of an interpretative determination, soil saturation determination, or hydrograph procedure pursuant to this section.

(b) Artificially controlled navigable waters. If the groundwater elevation at a site is influenced by the artificial control of navigable waters by a recognized management entity, all of the following conditions shall be addressed:

1. If loamy sand or coarser soil textures prevail at a site, the groundwater elevation at the site shall be compared to the current and highest controlled navigable water elevation.

2. The highest normal groundwater elevation at such sites shall be the higher of either the observed elevation or an adjusted elevation based on the controlled water.

(2) INTERPRETIVE DETERMINATIONS. (a) A written report by a certified soil tester evaluating and interpreting redoximorphic soil features, or other soil color patterns, may be submitted to the department in lieu of high groundwater determination data. The written report shall conclusively demonstrate that the existing soil morphological features or color patterns are not indicative of current conditions of periodic soil saturation.

(b) The department shall make a determination on the validity of the data, results and conclusions set forth in the report.

(c) The written report shall include, but not limited, to all of the following information:

1. A soil evaluation report pursuant to s. Comm 85.40.

2. An interpretive review of the site including, but not limited, to all of the following:

a. Local hydrology.

b. An historical interpretation of the local geomorphology.

c. Soil disturbance and hydraulic modification.

d. The landscape position and local topography in the area under investigation.