

the processing of scrap iron, steel or nonferrous metal using large machines to produce a principal product of scrap metal for sale or use for remelting purposes; nor does the term include a site or facility which uses large machines to sort, grade, compact or bale clean wastepaper, fibers or plastics, not mixed with other solid waste, or sale or use for recycling purposes.

(59) "Solid waste management" means the systematic administration of activities which provide for collection, source separation, storage, transportation, transfer, processing, treatment and disposal of solid waste.

(60) "Stabilization of waste" means any chemical, physical, or thermal treatment of a waste, either alone or in combination with biological processes, which results in a significant reduction of pathogenic organisms including viruses.

(61) "Stabilization of a land disposal site or facility" means the process of waste settlement and associated land surface maintenance to insure that the majority of settlement has occurred, that pockets or depressions caused by settlement have been re-filled or re-graded, and that the final land surface contours represent a stable condition for closure and site maintenance purposes.

(62) "Storage site or facility" means a solid waste disposal site or facility for the storage of solid waste, on a temporary basis in such a manner as not to constitute ultimate disposal of solid waste.

(63) "Surface impoundment facility" means a natural topographic depression, artificial excavation, or dike arrangement which is used for storage or disposal of waste fluids or semi-solids.

(64) "Termination" means the final actions taken by an owner or operator of a solid waste land disposal site or facility when formal responsibilities for long-term care cease.

(65) "Topsoil" means natural loam, sandy loam, silt loam, silt clay loam or clay loam humus-bearing soils or other material that will easily produce and sustain dense growths of vegetation capable of preventing wind and water erosion of the material itself and other materials beneath.

(66) "Transfer facility" means a solid waste disposal site or facility at which transferring of solid waste from one vehicle or container to another, generally of larger capacity, occurs prior to transporting to the point of processing or disposal.

(67) "Treatment work" means any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial waste of a liquid nature or necessary to recycle or reuse water at the most economical cost over the estimated life of the work, including intercepting sewers, outfall sewers, sewage appurtenances, extensions, improvements, remodeling, additions, and alterations thereof, elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities; and any works, including site acquisition of the land that will be an integral part of the treatment process or is used for ultimate disposal of residues resulting from such treatment. Additionally, "treatment work" means any other method or system for

preventing, abating, reducing, storing, treating, separating or disposing of municipal waste, including storm water runoff, or industrial waste, including waste in combined storm water and sanitary sewer systems.

(68) "USGS" means United States geological survey.

(69) "Waterworks" means all structures, conduits and appurtenances by means of which water is delivered to consumers except piping and fixtures inside buildings served, and service pipes from building to street main.

(70) "Well nest" means 2 or more wells installed within 10 feet of each other at the ground surface and constructed to varying depths.

(71) "Wetland" as defined in s. 23.32 (1), Stats., means an area where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions.

History: Cr. Register, February, 1980, No. 290, eff. 3-1-80; am. (71), Register, June, 1984, No. 342, eff. 7-1-84.

NR 180.05 License periods and fees. (1) No person shall maintain or operate a solid waste disposal site or facility unless the person has obtained an operating license from the department, except as otherwise provided in this chapter. The license period shall be 2 years beginning on October 1 and terminating on September 30, 2 years later. The license period for land disposal sites and facilities shall begin on October 1 of even-numbered years. The license period for all other solid waste management sites or facilities shall begin on October 1 of odd-numbered years.

(a) Application for initial licensing of new solid waste disposal sites or facilities may be submitted at any time during the license period. Fees for initial licensing are proratable. The license period is divided into 4, 6-month periods, with $\frac{1}{4}$ of the 2 year license fee applied to each period. The applicant for initial licensing of a site or facility shall submit the appropriate fees as shown in Table 1, "Fee Schedule".

(b) Application for renewal of a solid waste disposal license shall be submitted to the department by June 1 preceding the license period being applied for. Applicants failing to submit the relicensing application by June 1 shall pay a late processing fee equal to 50% of the renewal fee or \$150.00 whichever is less, in addition to the relicensing fee. The department shall transmit application forms to renewal applicants by April 1.

(c) Application for an operating license shall be submitted on forms supplied by the department and shall be accompanied by the appropriate fees as shown in Table 1, "Fee Schedule".

(d) License fees for solid waste disposal sites or facilities are not refundable.

(2) No person shall establish or construct a solid waste disposal site or facility prior to obtaining written approval from the department of

plans describing site or facility feasibility and/or operation, except as otherwise provided in this chapter. The plan review fee specified herein shall accompany all plans submitted to the department for approval. Plan review fees are not transferable, proratable or refundable.

(3) Following closure of a land disposal site or facility, the owner or any successor in interest shall be required to have a license during the period of owner responsibility indicated in s. 144.441, Stats. The license shall be issued in accordance with sub. (1) except that the fee shall be \$50.00 per license period.

(4) For the purposes of plan review and license fees charged to land disposal facilities as provided in Table 1, the following shall apply:

(a) Plan review fees shall be charged on the basis of the maximum design capacity of the site, cell or module for which plans have been submitted. As a example, a feasibility report may be submitted for a 1 million cubic yard site requiring a review fee as specified for greater than 500,000 cubic yards; the plan of operation, however, may be submitted over a period of time in several modules. Each plan of operation review would be charged on the basis of the maximum design capacity of the module submitted.

(b) License fees shall be based on the total design capacity of the site being licensed including already deposited solid waste at the site. For sites which have not had a plan approval, the department shall make a reasonable estimate of the maximum design capacity of the site and shall charge a fee accordingly. For most township operated sites, the fee shall be as specified in the 0-50,000 cubic yard category.

History: Cr. Register, February, 1980, No. 290, eff. 3-1-80; r. and recr. table 1, Register, March, 1984, No. 339, eff. 4-1-84.

Table 1
FEE SCHEDULE

NR 180	Facility Type	License Required	Plan Review Required	Plan Review Fees (1) (2)					License Fees				
				Initial Site Report (3)	Feasibility Report	Plan of Operation	Site Construction Documentation	Closure Plan	0-6 months	6-12 months	12-18 months	18-24 months and 2 yr renewals	
.07	STORAGE FACILITY												
	Containerized	No	No										
	Non-containerized	Yes	Yes		300	300	150			75	150	225	300
.08	Collection and Transportation	Yes	No							40	80	120	160
.09	Transfer Facility	Yes	Yes			300	150			75	150	225	300
.10	Processing Facility(4)(5)	Yes	Yes		300	300	150			75	150	225	300
.11	Incineration(4)(5)	Yes	Yes		300	300	150			75	150	225	300
.12	Air Curtain Destructor	Yes	Yes			300	150			75	150	225	300
13.	LAND DISPOSAL FACILITY (6)	Yes	Yes										
	Landfill < 50,000 yds	Yes	Yes	700	1500	1500	150	150	100	200	300	400	
	Landfill 50,000-500,000 yds	Yes	Yes	700	3000	2500	200	900	400	800	1200	1600	
	Landfill > 500,000 yds	Yes	Yes	700	4500	2500	400	1200	1125	2250	3375	4500	
	Surface Impoundment	Yes	Yes		1500	1500	400	150	375	750	1125	1500	
	Plan Modification(7)	No	Yes		600	600		150					
.14	Land Spreading Plan	Yes	Yes			500				100	200	300	400
	Other(8)	Yes	Yes		150	150	150			75	150	225	300
.20	Exemption Request	No	Yes										

(1) The plan review fees specified in Table 1 cover the department's review from initial submittal through approval or denial of the report or plan. An applicant may revise or supplement a report or plan deemed incomplete and resubmit it without paying an additional review fee. The applicant shall pay a plan review fee as specified in Table 1 for resubmittal of a plan which has been previously denied or withdrawn after having been determined to be complete.

(2) The department may waive any plan review fee if it determines that the total review time is not likely to exceed 4 hours.

(3) For an Initial Site Report submittal which includes more than one site, the applicant shall pay a separate fee, as shown in Table 1, for each site.

(4) If an applicant chooses not to submit a feasibility report for a processing facility or incinerator, but rather makes the initial submission of the plan of operation, the fee for review of the plan of operation as given in Table 1 shall be increased by the amount of the fee indicated under feasibility in Table 1.

(5) The department shall waive the plan review fees and license fees for a processing facility or incinerator which has a primary purpose of converting solid waste into usable materials, products or energy.

(6) The applicant shall pay a maximum 2-year license fee of \$1600 for landfills which are licensed to accept only wastewater treatment plant sludge, ash, foundry waste, wood waste, demolition waste and other wastes of a similar nature not requiring daily cover pursuant to s. NR 180.13 (10) (a) 8.

(7) A plan modification, as referred to in Table 1, is a submittal which proposes to modify a feasibility report, plan of operation or closure plan previously approved by the department.

(8) Submittals termed as "Other" in Table 1 include such submittals as reports and plans required under s. NR 180.18, plans for woodburing facilities and plans for one-time disposal under s. NR 180.13 (2) (b) 2.

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WISCONSIN ADMINISTRATIVE CODE

NR 180.06 General submittal requirements. (1) Unless otherwise specified in this chapter, all submittals for review and approval of any initial site report, feasibility report, plan of operation, construction observation report or closure plan shall include the following:

(a) The review fee specified in NR 180.05 in check or money order payable to the department (to be sent to the department district or area office as appropriate).

(b) A letter detailing the desired department action or response.

(c) Five copies of the plan or report prepared pursuant to the appropriate section of this chapter. Two copies shall be submitted to the department field office responsible for the area in which the site is located and 3 copies shall be submitted to the bureau of solid waste management in Madison. Review time starts when copies are received by the bureau. The plans and reports and all methods and procedures used to prepare them shall conform to the following:

1. Preparation. The submittal shall be under the seal of a registered professional engineer (except for salvage yards).

2. Investigation. All technical procedures used to investigate a solid waste disposal site or facility shall be the current standard procedures as specified by the American society for testing materials, USGS, standard methods for the examination of water and wastewater, or other equivalent or appropriate methods approved by the department. Test procedures used shall be specified. Any deviation from a standard method shall be explained in detail with reasons provided.

3. Format. All submittals shall include:

a. The required technical information as specified in this chapter.

b. Maps, figures, photographs and tables where applicable to clarify information or conclusions. The visuals shall be legible. All maps, plan sheets, drawings, isometrics, cross-sections and aerial photographs shall meet the following requirements:

1) Generally be no larger than 24 inches x 36 inches and no smaller than 8-½ inches x 11 inches.

2) Be of appropriate scale to show all required details in sufficient clarity.

3) Be numbered, referenced in the narrative, titled, have a legend of all symbols used, contain horizontal and vertical scales (where applicable), and specify drafting or origination dates.

4) Use uniform scales as much as practical.

5) Contain a north arrow.

6) Use USGS datum as basis for all elevations.

7) Plan sheets showing site construction, operation or closure topography, shall also show original topography.

8) Plan sheets for land disposal sites and facilities shall indicate a survey grid based on monuments established in the field specifically for that purpose.

9) All cross-sections shall show survey grid location and be referenced to major plan sheets.

c. An appendix listing names of all references, all necessary data, procedures and calculations.

(2) Unless otherwise specified in this chapter, no person shall operate or maintain a solid waste disposal site or facility without a license from the department.

(a) A submittal for initial licensing of any solid waste disposal site or facility shall include:

1. The license fee specified in NR 180.05 in check or money order payable to the department (to be sent to the department district or area office as appropriate).

2. A completed copy of the appropriate application form.

3. For all land disposal sites and facilities with plans of operation approved under this chapter and licensable land spreading facilities, proof of financial responsibility as specified in NR 180.15.

(b) A submittal for the relicensing of any solid waste disposal site or facility shall include:

1. The relicensing fee specified in NR 180.05 in check or money order payable to the department (to be sent to the department district or area office as appropriate).

2. A completed copy of the appropriate application form.

3. For all land disposal sites and facilities with plans of operation approved under this chapter and licensed land spreading facilities, proof of financial responsibility as specified in NR 180.15.

History: Cr. Register, February, 1980, No. 290, eff. 3-1-80.

NR 180.07 Storage facility requirements. (1) **GENERAL.** No person shall maintain or operate a solid waste storage site or facility unless the person has obtained an operating license from the department, except as otherwise provided in sub. (2). All waste shall be stored in containers unless its volume precludes practical containerized storage in which case it shall meet the noncontainerized storage requirements of this section.

(2) **EXEMPTIONS.** (a) The following facilities are exempt from all requirements of this section:

1. Garbage cans for household wastes located on property where waste is generated.

2. Containerized storage facilities for municipal solid waste serving apartments, commercial establishments, business establishments, and industries which are located on the premises served.

a. The purpose and need for the proposed project and for the recommended site shall be evaluated.

b. The probable adverse and beneficial physical, biological, social, economic and other impacts of proposed site development shall be identified and evaluated.

c. The probable adverse impacts of site development that cannot be avoided shall be identified and evaluated.

d. The irreversible or irretrievable commitments of resources if the site is developed as proposed shall be identified and evaluated.

e. The alternatives to the proposed site development shall be identified and evaluated.

f. The direct, indirect and cumulative effects of the proposed site development shall be identified and evaluated.

(d) Within 30 days after a feasibility report is submitted, the department shall either publish notice under s. 144.44 (2) (d), Stats., that the report is complete or notify the applicant in writing that the report is not complete, specifying the information which must be submitted before the report is deemed complete. The department will determine whether or not the feasibility report is complete by determining whether or not the minimum requirements of this subsection have been met. Additional feasibility information may be required of the applicant after a determination that the feasibility report is complete only if the department establishes that a detailed review of the feasibility report indicates that site feasibility cannot be determined in the absence of such additional information.

(e) The department may by order require the submittal of any of the information specified in this section for any existing landfill.

(7) **PLAN OF OPERATION.** (a) *General.* No person shall establish or construct a site or facility for the land disposal of solid waste or expand an existing land disposal site or facility until a plan of operation has been submitted in accordance with NR 180.06 (1) and approved in writing by the department, except as otherwise provided herein. No person shall establish, construct, operate, maintain, close, provide long-term care for, or terminate a site or facility for the land disposal of solid waste except in accordance with this section and with the approved plan of operation, if required by this section. Only persons who have obtained a favorable determination of site feasibility from the department may submit a plan of operation for review and approval.

(b) *Content.* All plans of operation for land disposal sites and facilities shall contain complete plans and specifications necessary for the construction, operation, monitoring, closing, long-term care and termination of the project and any additional information the department may require for the analysis of environmental impacts of the project. Because these documents are to be used for the day-to-day operation of the site, it is imperative that the information be presented in a manner that is clear and understandable. The plan of operation shall contain, at a minimum, the following information:

1. Engineering plans consisting of the following:

a. A title sheet indicating the project title, who prepared the plans, the person for whom the plans were prepared, a table of contents, and a location map showing the location of the site and the area to be served.

b. An existing site conditions plan sheet indicating site conditions prior to development. The details and extent of coverage shall be the same as that required for the existing site conditions map in subd. (6) (c) 2.

c. A base grade plan sheet indicating site base grades or the appearance of the site if it were excavated in its entirety to the base elevation, before installation of any engineering modifications or the beginning of any filling.

d. An engineering modifications plan sheet indicating the appearance of the site after installation of engineering modifications. More than one plan sheet may be required for complicated sites. This plan is required only for those sites with engineering modifications.

e. A final site topography plan sheet indicating the appearance of the site at closing including the details necessary to prepare the site for long-term care.

f. A series of phasing plan sheets showing the progression of site development through time. At a minimum, a separate plan shall be provided for initial site preparations and for each subsequent major phase or new area where substantial site preparation must be performed. Each such plan shall include a list of construction items and quantities necessary to prepare the phase indicated.

g. A site monitoring plan sheet showing the location of all devices for the monitoring of leachate production, groundwater quality and gas production and venting. This plan shall include a table indicating the parameters to be monitored for and the frequency of monitoring before and during site development. This plan sheet is required only for sites with a design capacity of more than 50,000 cubic yards.

h. A long-term care plan sheet showing the site at the completion of closing and indicating those items anticipated to be performed during the period of long-term care for the site. The plan shall include a table listing the items and the anticipated schedule for monitoring and maintenance. In many instances this information can be presented on the final site topography sheet.

i. When applicable, the following information shall be presented on the plan sheet (s):

1) All information required for the existing site conditions map as described in sub. (6) (c) 2, unless including this information leads to confusion with the data intended for display. However, in all instances, existing site topography shall be sketched lightly or otherwise indicated on the plan sheets required in pars. (c), (d), (e) and (f).

2) A survey grid with base lines and monuments to be used for field control.

3) Limits of filling for each major waste type or fill area.

4) All drainage patterns and surface water drainage control structures both within the actual fill area and at the site perimeter. Such structures may include berms, ditches, sedimentation basins, pumps, sumps, culverts, pipes, inlets, velocity breaks, sodding, erosion matting, or other methods of erosion control.

5) The direction and sequence of filling within each phase.

6) Ground surface contours at the time represented by the drawing. Spot elevations should be indicated for key features.

7) Areas to be cleared and grubbed and stripped of topsoil.

8) Borrow areas for liner materials, gas venting materials, berms, roadway construction, daily cover and final cover.

9) All soil stockpiles including daily and final cover, topsoil, liner materials, gas venting materials and other excavation.

10) Access roads and traffic flow patterns to and within the active fill area.

11) All temporary and permanent fencing.

12) The methods of screening such as berms, vegetation or special fencing.

13) Leachate collection, control and treatment systems which may include pipes, manholes, trenches, berms, collection sumps or basins, pumps, risers, liners and liner splices.

14) Gas, leachate and groundwater monitoring devices and systems.

15) Severe weather disposal areas.

16) Support buildings, scale, utilities, gates and signs.

17) Special waste handling areas.

18) Construction notes and references to details.

19) Other appropriate site features.

j. A series of site cross-sections shall be drawn perpendicular and parallel to the site base line at a maximum distance of 500 feet between cross-sections and at points of grade break and important construction features. The location of the cross-sections shall be shown on the appropriate plan sheet (s) and the section labeled using the site grid system. Where applicable, each cross-section shall show existing, proposed base and final grades; soil borings and monitoring wells which the section passes through or is adjacent to; soil types, bedrock and water table; leachate control, collection and monitoring systems; gas venting and monitoring systems; limits of filling for each major waste type; drainage control structures; access roads and ramps on the site perimeter and within the active fill area; the filling sequence or phases; and other appropriate site features.

k. Detailed drawings and typical sections for, as appropriate, drainage control structures, access roads, fencing, leachate and gas control systems and monitoring devices, buildings, signs and other construction details.

2. An operations manual and design report consisting of the following information:

a. The report shall identify the project title; engineering consultant (s); site owner, licensee and operator; proposed licensed acreage; site life and capacity; municipalities, industries and collection and transportation agencies served; waste types and quantities to be disposed; and any exemptions applied for.

b. Specifications for site construction and operation shall be presented, including detailed instructions to the site operator for all aspects of site construction and operation. References to specifications on the plan sheet shall be pointed out as well as additional instructions included, where appropriate. The specifications shall include, at a minimum the following information:

1) Initial site preparations including specifications for clearing and grubbing, topsoil stripping, other excavations, berm construction, drainage control structures, leachate collection system, access roads and entrance, screening, fencing, groundwater monitoring and other special design features.

2) A plan for initial site preparations including a discussion of the field measurements, photographs to be taken, sampling and testing procedures to be utilized to verify that the in-field conditions encountered were the same as those defined in the feasibility report, and to document that the site was constructed according to the engineering plans and specifications submitted for department approval.

3) Daily operations including a discussion of the timetable for development, waste types accepted or excluded, typical waste handling techniques, hours of operation, traffic routing, drainage and erosion control, windy, wet and cold weather operations, fire protection equipment, manpower, methods for handling of unusual waste types, methods for vector, dust and odor control, daily clean-up, direction of filling, salvaging, record keeping, parking for visitors and employes, monitoring, abandonment of filled areas, gas and leachate control methods, backup equipment with names and telephone numbers where equipment may be obtained, and other special design features. This may be developed as a removable section to improve accessibility for the site operator.

4) Development of subsequent phases consisting of a discussion of those items in subs. 2.b. 1), 2), and 3), above as they relate to the development of subsequent phases of the site.

5) Site closing information consisting of a discussion of the anticipated sequence of events for site closing and a discussion of those actions necessary to prepare the site for long-term care and final use.

6) Long-term care information including a discussion of the procedures to be utilized for the inspection and maintenance of runoff control structures, settlement, erosion damage, gas and leachate control feasibilities, monitoring for gas, leachate and groundwater, and other long-term care needs.

7) An economic analysis including an engineer's cost estimate for the construction of each major phase of site development, daily operation, site closing, and long-term care.

c. A design report shall be submitted which shall include supplemental discussions and design calculations to facilitate department review and provide supplemental information on financial responsibility and long-term care as required by ss. 144.44 and 144.441, Stats., including the following information:

1) A discussion of the reasoning and logic behind the design of the major features of the site, such as traffic routing, base grade and relationships to subsurface conditions, anticipated waste types and characteristics, phases of development, liner design, facility monitoring, and similar design features shall be provided. A list of the conditions of site development as stated in the department determination of site feasibility and the measures taken to meet the conditions shall be included. A discussion of all calculations, such as refuse-cover balance computations, stockpile sizing estimates, estimate of site life and runoff and leachate volume estimates shall be included. The calculations shall be summarized with the detailed equations presented in the appendix.

2) A detailed analysis in accordance with NR 180.15 shall be made of the financial responsibility for long-term care from the time of site closing to termination.

d. An appendix shall be submitted which shall include any additional data not previously presented, calculations, material specifications, operating agreements, leachate treatment agreements, documents related to long-term care funding and other appropriate information.

(c) *Completeness.* Within 30 days after a plan of operation is submitted, the department shall notify the applicant in writing that the plan is either complete or not complete, specifying the information which must be submitted before the report is deemed complete. The department will determine if the plan of operation is complete by determining whether or not the minimum requirements of this subsection have been met. Additional plan of operation information may be required of the applicant after a determination that the plan of operation is complete only if the department establishes that a detailed review of the plan of operation indicates that the plan of operation is insufficient in the absence of such additional information.

(8) The department may require that a registered professional engineer document site construction and render an opinion whether the site has been constructed and/or operated in substantial conformance with the plan of operation.

(9) Prior to licensing the owner or operator shall submit proof that a notation of the existence of the site has been recorded in the office of the register of deeds in each county in which a portion of the site is located.

(10) Minimum requirements for land disposal site or facility design and operation. (a) *New and existing sites and facilities.* No person shall operate or maintain a new or existing land disposal site or facility except in conformance with any approved plan of operation and the following minimum requirements:

1. Open burning is prohibited, except where all of the following criteria are satisfied:

a. The site or facility serves a population equivalent of less than 2,500 or, if the operation is controlled by more than one municipality, a population equivalent of less than 2,500 for each such municipality. The department shall give consideration to seasonal variations in population in granting partial yearly burning exemptions.

b. All portions of the licensed site are greater than ¼-mile from any residence or place of public gathering, or written consent is obtained from all residents and proprietors within ¼-mile of the burning operation at the time the site is initially licensed.

c. The open burning does not include the burning of wet combustible rubbish, garbage, oily substances, asphalt, plastic or rubber products.

d. The burning operation is supervised by an attendant.

e. The burning is accomplished in a nuisance-free manner and does not create hazards for adjacent properties.

f. Adequate firebreaks are provided and provision is made to obtain the services of the local fire protection agency if needed.

g. The open burning is not in violation of any federal air pollution control rules, or any state air pollution control rules required to be adopted under applicable federal laws or regulations.

h. The operation is not located in one or more of the following counties: Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington or Waukesha.

2. No solid waste shall be deposited in such a manner that the solid waste or leachings therefrom will have a detrimental effect on any ground or surface water.

3. Deposition of solid waste shall be confined to as small an area as practical.

4. The deposition and active area shall be provided with facilities to confine windblown material within that area.

5. At the conclusion of each day of operation, all windblown material shall be collected, returned to the deposition area, and properly disposed of in accordance with the provisions of this section unless the operator establishes, to the satisfaction of the department, that all the following criteria are satisfied:

a. All windblown material cannot be collected using reasonable efforts because of conditions beyond the control of the operator.

b. The operator has collected and properly disposed of all windblown materials which can be collected using such reasonable efforts.

c. Nuisance conditions do not exist.

6. To provide for maximum compaction, each single layer of municipal solid waste shall be spread and compacted in 2-foot layers.

7. All unprocessed municipal solid waste shall be compacted and covered at the end of each operating day with a compacted layer of 6 inches

of soil, except that the department may grant an exemption in writing for less frequent covering if the following criteria are satisfied:

a. For operations serving a population equivalent of less than 2,500:

1) All portions of the licensed operation shall be greater than ¼-mile from any residence or place of public gathering or written consent shall be obtained from all residents and proprietors living within ¼-mile of the operation at the time the site is initially licensed.

2) Potential nuisance conditions shall not be created.

3) The solid waste shall be compacted and covered with at least 6 inches of soil, no less frequently than once per month, except for the months of December, January, February and March.

b. For operations serving a population equivalent of 2,500 or greater:

1) All portions of the licensed operation shall be greater than ¼-mile from any residence or place of public gathering or written consent shall be obtained from all residents and proprietors living within ¼-mile of the operation at the time the site is initially licensed.

2) The operation does not receive any garbage or other putrescible wastes.

3) Potential nuisance conditions shall not be created.

4) The solid waste shall be compacted and covered with at least 6 inches of soil, no less frequently than once per month.

8. All processed municipal solid waste, industrial waste and commercial waste shall be compacted and covered at the end of each operating day with a compacted layer of 6 inches of soil, except the department may grant an exemption in writing for less frequent covering. In granting such exemptions, the department shall consider the characteristics of the solid waste, the leaching potential of the solid waste, and the potential for nuisance conditions if other than daily covering is utilized.

9. Surface water drainage shall be diverted away from the working area and off of the landfill operation.

10. Putrescible materials such as spoiled foods and animal carcasses shall be immediately covered and compacted.

11. Access to the facility shall be restricted through the use of fencing, natural barriers, or other methods approved in writing by the department.

12. Effective means shall be taken to limit access to the active disposal area to minimize exposure of the public to hazards.

13. Effective means shall be taken to control flies, rodents, and other insects and vermin.

14. All access roads to the active area of the operation shall be of all-weather construction and shall be maintained in good condition.

15. Equipment shall be provided to control accidental fires and arrangements shall be made with the local fire protection agency to acquire its services when needed.

16. An attendant shall be on duty at the operation at all times while it is open for public use.

17. A gate shall be provided at the entrance to the operation and it shall be kept locked when an attendant is not on duty.

18. The gate area shall be policed at the beginning of each day of operation to remove any solid waste which may have been indiscriminately dumped during periods when the site was closed.

19. A sign, acceptable to the department, shall be posted at the entrance to the operation of any site operated for public use which indicates the name, license number, and hours of use of the operation, penalty for unauthorized use, necessary safety precautions, and any other pertinent information.

20. The site shall be surrounded with rapidly growing trees, shrubbery, fencing, or other appropriate means to screen it from the surrounding area and to provide a wind break.

21. Effective means shall be utilized to prevent the migration of explosive gases from within the limits of waste fill. At no time shall the concentration of explosive gases in any facility structures (excluding gas control or recovery system components) or in the soil at or beyond the site property boundary exceed the lower explosive limit for such gases.

22. Any area to be utilized for the disposal of solid waste or borrow areas shall first be stripped of all topsoil and the topsoil shall be stockpiled to insure that adequate amounts are available for closure.

23. Effective means shall be taken to control dust resulting from site operation.

24. All soil borings and monitoring wells shall be backfilled with a bentonite Portland cement slurry when such borings or wells are abandoned.

25. Facility monitoring shall be performed in accordance with sub. (10) [(11)].

26. Site closure shall be accomplished in accordance with the approved plan of operation or, for those sites with no approved plan of operation, in accordance with sub. (11) [(12)].

27. Scavenging within the active disposal area is prohibited when such activity interferes with site operation.

28. Provisions for back-up equipment in the event of operating equipment breakdown shall be made.

29. A minimum separation distance of 20 feet shall be maintained between the limits of waste filling and adjacent property.

30. All topsoil within the site construction limits shall be salvaged and stored on-site in a nuisance-free manner for use in site closure.

31. Provisions shall be made for leachate treatment for all sites designed to contain and collect leachate.

32. Only wastes types and sources listed on the license or otherwise approved by the department in writing shall be accepted for disposal.

(b) *Additional requirements applicable to new and expanded sites and facilities.* No person shall construct, establish, operate or maintain a new land disposal site or facility or an expansion of an existing site or facility except in accordance with the requirements of par. (a), the approved plan of operation, and the following additional requirements.

1. All access roads shall be constructed with a maximum grade no greater than 10%. The intersection of the access road with an existing highway shall be designed to provide sufficient sight distance and provide for minimum interference with traffic on existing highways.

2. All surface water drainage ditches, culverts and other drainage control structures shall be designed for a 10 year, 24-hour rainfall event as defined in section NR 205.05, Wis. Adm. Code.

3. All base grades shall be designed and constructed with a minimum slope of one percent.

4. The final slopes of a completed land disposal site or facility shall be no less than 2% and no greater than 3 horizontal to one vertical unless the site or facility is specifically designed for a final use compatible with other slopes.

5. All sites shall have a final cover designed to minimize infiltration and subsequent leachate production.

6. All borrow areas shall be abandoned in accordance with Wisconsin department of transportation procedures.

7. A minimum separation distance of 100 feet shall be maintained between the limits of waste filling and adjacent property.

(11). **MONITORING.** The department may require the owner or operator of any land disposal site or facility, or any person who permits the use of property for such purpose, to conduct monitoring of groundwater, leachate, gas, surface water, or other physical features.

(a) *Groundwater and leachate monitoring.* The department may require the installation of groundwater and leachate monitoring wells, lysimeters, moisture probes, and similar devices, and water quality sampling and analysis programs to detect the effects of leachate on groundwater. The location of such monitoring devices shall be approved in writing by the department.

1. The number of required wells shall be approved by the department based on the site size, waste type (s), site design and the hydrogeologic and geologic setting of the site. Unless otherwise specified by the department, the minimum number of monitoring wells shall be in accordance with the following:

TABLE 3

Site Size (maximum design capacity)	Up-gradient Wells	Down-gradient Wells	Well Nests
0-50,000 cubic yards	1	2	0
50,000-500,000 cubic yards	2	2	1
500,000-up	2	4	2

2. Water level measurements and sampling of monitoring wells shall be accomplished in accordance with the schedule set forth in the plan of operation. This schedule may vary depending on site geology, hydrogeology and design. Sampling and test schedules for other groundwater monitoring devices shall be approved by the department. The results of all water elevation measurement and sampling shall be reported to the department within 60 days of sampling. All data shall be submitted on forms supplied by the department. Unless otherwise specified by the department, the minimum frequency shall be as follows:

TABLE 4

Site Size (maximum design capacity)	Within 15 days of:	Parameters (See Table 5)
50,000 cubic yards or less	March 15	All
	September 15	All
Greater than 50,000 cubic yards	March 15	All
	June 15	All
	September 15	All
	December 15	All

3. The methods of groundwater and leachate sample collection, preservation, and analysis shall be accomplished in accordance with standard methods for the examination of water and wastewater or other methods approved in writing by the department.

4. All monitoring wells shall be constructed utilizing a minimum 2-inch inside diameter PVC pipe or similar inert material.

5. The department may require the operator to sample public or private wells as part of a regular monitoring program or to determine the extent of groundwater contamination.

6. If for any reason a monitoring well or other monitoring device is destroyed or otherwise fails to properly function, the site operator shall immediately notify the department in writing. All such devices shall be properly abandoned and replaced with a functioning device within 60 days of notification to the department unless the operator is notified otherwise in writing by the department.

7. Sampling parameters shall be in accordance with Table 5 unless otherwise specified by the department. In most instances, additional parameters will be specified for paper mill sludge, fly or bottom ash, and foundry waste depending on the waste characteristics and process raw materials utilized. In all cases, the physical appearance of the water sample including odor, color and turbidity at the time of sampling shall be recorded.

TABLE 5

Waste Type Handled at Land Disposal Site	Parameters
Municipal Solid Waste	Water elevation, field pH, field conductivity, COD, dissolved iron, hardness, chloride, alkalinity.
Paper Mill Sludge	Same as above.
Fly or Bottom Ash	Water elevation, field pH, field conductivity, COD, hardness, alkalinity, sulfates, dissolved iron, boron.
Wood Waste	Water elevation, field pH, field conductivity, COD, hardness, dissolved iron, alkalinity.
Foundry Wastes	Water elevation, COD, field pH, field conductivity, hardness, sodium, alkalinity.
Other Solid Waste	As specified by the department.

8. No person shall begin filling operations at a new solid waste disposal site or facility until background groundwater quality in accordance with the parameters in Table 5 has been determined and results of such analyses submitted to the department.

(b) *Gas monitoring.* The department may require the installation of gas monitoring devices and sampling and analysis programs for protection against potential detrimental effects of gas production and to monitor the effectiveness of gas venting systems. Sample collection and analysis techniques shall be in accordance with standard methods.

(c) *Surface water monitoring.* The department may require monitoring of surface water runoff, leachate seeps, sump pumpings, sedimentation ponds and other surface water discharges resulting from site operation and of surface waters which may be affected by such discharges. Sampling times and parameters shall be as specified by the department.

(d) *Monitoring of physical features.* The department may require monitoring of air quality, landfill settlement, berm stability, vegetation growth, drainage control structures, or other aspects of site operation.

(e) *Operations report.* The department may request the owner or operator of any land disposal site or facility, or any person who permits the use of property for such purpose, to submit an operations report to assess the effectiveness and environmental acceptability of site operations. The contents of the report may include a discussion and analysis of entrance and access roads, windblown debris, confinement of active area, analysis of gas and leachate and other monitoring, cover to refuse ratios, surface water control and erosion control, revegetation, settlement, volume utilized, site users, leachate quantity and quality, slope stability, equipment performance and volume and type of waste accepted.

(12) CLOSURE. (a) Any person who maintains or operates a land disposal site or facility, or who permits use of property for such purpose shall, when the fill area or a portion thereof reaches final grade, or when the department determines that closure is required, cease to accept waste and close the site or portion thereof in accordance with any plan approval issued by the department and the following minimum practices:

1. At least 120 days prior to the closing of the site, the owner or operator shall notify the department in writing of intent to close the site. At the same time, or preferably prior to this date, the owner or operator shall notify all users of the facility of intent to close the site.

2. Within 10 days after ceasing to accept waste, the following shall be accomplished at a minimum:

a. Access shall be restricted by the use of gates, fencing or other appropriate means to insure against further use of the site. In the event the site final use allows access, such access shall be restricted until site closure has been completed and approved by the department.

b. Notification of closure shall be posted at the gate by proper signs indicating date of closure and alternative disposal site(s).

c. Notice shall be published in a local newspaper and a copy of the notice shall be provided to the department within 10 days of the date of publication.

3. Within 60 days after ceasing to accept waste, closure shall be accomplished in the following manner:

a. The entire area previously used for disposal purposes shall be covered with at least 2 feet of compacted earth sloped adequately to allow surface water runoff. A specific soil type may be required by the department for this 2-foot layer. Fine grain soils should be utilized to minimize infiltration. Top slopes shall be no less than 2%. Side slopes shall be no steeper than 33%.

b. Surface water shall be diverted to limit potential for erosion and sedimentation. Wherever possible, surface water shall be diverted around previously filled areas. Where it is necessary to divert drainage over previously filled areas, drainage shall be conveyed by clay lined drainage swales having a minimum depth of 2 feet.

c. The finished surface of the filled area shall be covered with a minimum of 6 inches of topsoil.

4. Within 90 days after ceasing to accept waste, seeding, fertilizing and mulching of the finished surface shall be accomplished in accordance with the site final use. The seed type and amount of fertilizer shall be selected depending on the type and quality of topsoil and compatibility with native vegetation.

5. Following closure of the land disposal site, the site shall be inspected and maintained by the owner or operator until it becomes stabilized or until the responsibility of the owner or operator terminates in accordance with the plan approval. The department may require installation of groundwater and leachate monitoring wells or other devices, groundwater and leachate quality sampling and analysis programs, gas monitoring and sampling and provisions for the protection against detrimental effects of leachate and gas migration from any land disposal site.

(13) Closure plans may be required by the department for sites and facilities not approved under this section. The department may require that the plans address any or all of the information outlined in subs. (6), (7), (10), and (11).

History: Cr. Register, February, 1980, No. 290, eff. 3-1-80; am. (5) (a), Register, March, 1984, No. 339, eff. 4-1-84.