ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD REPEALING, RENUMBERING, RENUMBERING AND AMENDING, AMENDING, REPEALING AND RECREATING AND CREATING RULES

The Wisconsin Natural Resources Board proposed an order to **repeal** ss. NR 500.03(29), NR500.03(55), NR 502.05(1)(a)1., 2. and 3., NR 503.07(4)(c) and (5), NR 504.09(2)(e), NR 506.07(6), NR 507.14(6)(Note), NR 507.26(3)(a)2., NR 509.02(2)(b), NR 509.04(4)(c), NR 520.04(e) and (f), NR 520.14(3)(c)6.f. and (4), NR 526.07(2)(d), Ch. NR 536, NR 538.12(2)(d), **renumber** ss. NR 502.05(1)(c) and (d), NR 503.09(1) to (9), NR 538.10(11), (12) and (Note), **renumber and amend** NR 512.10(intro), (1), (2) and (3), and NR 538.03(2), (3), (4), (5), and (6), **amend** ss. NR 500.03(intro.), NR 500.03(36)(Note), NR 500.03(86)(Note) and (90)(Note), NR 500.03(106), NR 500.03(129) and (164), (164)(Note), (194) and (195), NR500.03(231), NR 500.03(259), NR 500.05(3), NR 500.05(4), NR 500.05(5), NR 500.05(6)(intro.), (a), (f) and (g), NR 500.06(4), NR 500.08(2)(a),, NR 502.05(1)(a)(intro.), NR 502.05(1)(b), NR 502.05(3)(intro.) and (a), NR 502.05(4)(a)6., NR 502.07(1)(a), (b) and (c), NR 502.07(2m), NR 502.07(3)(a)6., NR 502.07(4), NR 502.07(7), NR 502.08(3)(a)6., NR 502.10(2)(a)6., NR 502.11, NR 502.11(3)(a)6., NR 502.12(8)(a)7., NR 502.12(9)(a)7., NR 502.13(6)(a), (b)2., (c), (g)(Note) and Table 1.III.(intro.) and A., NR 503.04(2)(d), NR 503.04(3)(b), NR 503.06, NR 503.07(1), NR 503.09(6)(f), NR 503.10(2)(c) and (d)4.b., (3)(e)5., 6. and 6.(Note) and (4)(b)(intro.), (b)5.(Note), (d), (h) and (j)6., NR 503.10(7)(b), (c), and (e), NR 504.04(2)(a) and (b), (3)(d), (4)(b) and (f), NR 504.07(8), NR 504.08(2)(e), NR 506.07(2)(a)(intro.) and 5.(Note), NR 506.08(4), NR 506.09(2)(f)(Note), NR 506.105(4)(c), NR 506.15(2)(c) and (3)(g), NR 507.05(2)(Note), NR 507.14(5)(a), (b), (e) and (f)(Note), NR 507.16(intro.)(Note), NR 507.17(4), NR 507.17(5)(intro.) and (7)(m)(Note), NR 507.20(1)(a) and (b) and (3)(b), NR 507.22(1) to (4), NR 507.26(2) and (3)(a)1. and (Note), NR 507.26(3)(b)1., 4.b. and (Note), NR 507.27(2)(Note), NR 507 Appendix I Table 1, footnote 1 and (Notes), NR 507 Appendix I Table 2 and (Note), NR 507 Appendix I Table 3 and (Note), NR 507 Appendix I Table 4 and (Note), NR 507 Appendix I Table 5 and (Note), NR 507 Appendix II and (Note), NR 507 Appendix III and (Notes), NR 509.04(5)(b), NR 509.06(3), NR 512.09(intro.), NR 512.10(intro.), NR 514.05(7), NR 514.06(16), NR 514.07(1), NR 516.04(3)(d)1.d. and (5) (intro.), (b), and (c), NR 516.05(2)(f), NR 516.06(1)(b) and (2)(a), NR 516.07(2)(b), NR 516.07(2)(c)5 and (2m), NR 518.05(4)(f), NR 520.07(3), NR 520.12(1) and (3), NR 524.01, NR 524.05 (intro.), NR 524.05(1)(a) and (d), NR 524.05(2)(a), NR 524.05(2)(e)1. and 2., NR 524.11 (intro.), NR 524.14(1)(b), NR 526.07(2)(a) and (c), NR 526.10(2)(a), NR 526.10(3)(d)2.(Note), NR 526.11(2)(a)(Intro.), NR 526.12(1)(c), (4)(c)4., (4)(c)5., (4)(d)(Intro.) and (4)(d)2, NR 526.13, NR 526.14(1)(a), (1)(b), (1)(b)(Note), (4)(Intro.), (4)(a), (4)(b) and (4)(c), NR 526.18(2) and (Note), NR 526.21(1)(c)2., NR 538.02(Note), NR 538.04(2), NR 538.06(3)(c), NR 538.08(3) and (7) and note, NR 538.10(5)(a), (b), (c), (d) and (f), NR 538.10(6)(b)6. Note, NR 538.10(6)(d)4. Note, NR 538.10(7)(b), (8), (9), and (10), NR 538.12(2)(b), NR 538.14(4), NR 538.16(1)(a)4., NR 538.22(1), Chapter NR 538 Appendix I Table 1A, Chapter NR 538 Appendix I Table 2A, Chapter NR 538 Appendix I Table 3, Chapter NR 538 Appendix I Table 4, NR 540.04(1), NR 812.08(4)(g)1., NR 812.43(1), **repeal and recreate** ss. NR 500.03(14), NR 502.04(1)(a)4., NR 502.04(2)(c)1. and 2., NR 503.07(4)(b), NR 504.07(4), NR 507 Appendix IV and (Notes), NR 509.04(4)(b), NR 512.15, NR 514.09, NR 520.10, NR 520.15(3) Table 2, NR 520.15(3) Table 3, NR 524.03, NR 524.07, NR 524.08, NR 524.09, NR 524.10, NR 524.12, NR 526.15, NR 538.06(3) Notes and **create** ss. NR 500.03(9m), (14m) and (20m), NR 500.03(93m), NR 500.03(124e) and (124h), NR 500.03(214m), NR 500.03(231m), (237m) and (248m), NR 500.11, NR 502.05(1)(c) to (f), NR 502.05(3)(k), NR 502.07(1)(cm), NR 502.07(2r), NR 503.09(1), NR 503.10(7)(bg) and (br), NR 504.06(6), NR 504.075, NR 507.21(3), NR 507.22(2) and (3), NR 508.05(3m), NR 512.085, NR 514.06(6)(c), NR 514.07(7), NR 516.07(1m), NR 516.08, NR 520.04(7), NR 520.07(1m), NR 526.02(8), NR 526.04(9) and (10) and (Note), NR 526.05(1)(c)(Note)and (3), NR 526.055, NR 526.07(4), NR 526.10(2)(am) and (3)(d)3., NR 526.11(2)(f) and (note), NR 526.21(1)(c)3., NR 538.03(2), (3), (5) and (10), NR 538.10(5)(h) and (i), NR 538.10(11), NR 538.12(2)(br) and (8), NR 538.14(4)(f), NR 812.07(24m) and (57w), NR 812.43(1)(a), (b), (c) and (d) pertaining to landfilling of solid waste.

WA-15-05

Analysis prepared by the Department of Natural Resources

1. Statutes Interpreted

ss. 289.21, 289.24, 289.29 through 289.32, 289.42, 289.43, 289.45, and 289.61, Stats.

2. Statutory Authority

ss. 289.05, 289.06, and 289.07, Stats.

3. Explanation of Agency Authority to Promulgate the Proposed Rule Under the Statutory Authority

In ss. 289.05, 289.06, and 289.07, Stats., the Department has the duty and authority to promulgate rules implementing ch. 289, Stats.

4. Related Statute or Rule

None.

5. Plain Language Analysis of the Proposed Rule

The proposed rules streamline solid waste requirements and lower transactional costs for both stakeholders and the Department. They also clarify existing requirements, correct errors in existing code language, and include minor fee adjustments.

6. Summary of and Preliminary Comparison to Existing or Proposed Federal Regulations Intended to Address the Activity to be Regulated by the Proposed Rule

Subtitle D of the Resource Conservation and Recovery Act addresses land disposal of solid waste. Revisions were made to our NR 500 Series in 1996 to bring Wisconsin fully in line with these federal regulations. The rule revisions proposed here are not in response to federal regulations and address other solid waste facilities in addition to landfills.

7. Comparison of Similar Rules in Adjacent States (MN, Iowa, IL and MI)

All surrounding states have authorization from EPA to regulate land disposal of solid waste and also have rules regulating other aspects of solid waste management. With few exceptions, the rules proposed here reduce or clarify existing State of Wisconsin requirements.

8. Summary of The Factual Data and Analysis Methodologies That the Agency Used in Support of the Proposed Rules and How Any Related Findings Support the Regulatory Approach Chosen for the Proposed Rules.

This rule is the result of nearly two years of collaboration between the Department and a small group of external stakeholders. Members of this workgroup have many decades of experience in the field of solid waste management. In addition, three larger meetings have been held to solicit input from a wider group of interested parties.

9. Any Analysis and Supporting Documentation That the Agency Used in Support of the Agency's Determination of the Proposed Rule's Effect on Small Business Under s. 227.114, Stats., or That Was Used When the Agency Prepared an Economic Impact Report.

In the 1970s and 80s there were more than 1,000 licensed landfills in Wisconsin. With the development and enactment of Federal RCRA Sub-title D regulations, many smaller landfills began to close due to the complexity and cost of the requirements. At present, there are no active landfills in Wisconsin that meet the definition of a small business. This rule also addresses non-landfill solid waste facilities. However, as a result of industry consolidation occurring over the past 20-plus years, we also do not believe that the proposed changes to non-landfill facilities will affect small businesses.

Section 227.14(2g), Stats. requires proposed rules to include provisions detailing how the rules will be enforced. To meet this requirement, the proposed rules create a new s. NR 500.11, Wis. Adm. Code. This provides that the requirements for landfills and disposal of solid waste set out in chs. NR 500 through 538 will be enforced

through the authority in subch. VIII of ch. 289, Stats. (ch. 289 is the statutory chapter authorizing regulation of landfills and solid waste disposal). This proposed new code section also authorizes enforcement under applicable provisions of the landfill and solid waste codes.

10. Anticipated Cost Incurred by the Private Sector

This rule package contains minor fee adjustments that would affect owners of both private and public solid waste facilities. However, the streamlining proposed in this rule package (along with the associated guidance that we have prepared with significant input from our streamlining work group) will lower the transactional costs of all solid waste facility owners.

11. Effect on Small Businesses

None.

12. Agency Contact Person

Jack Connelly, Solid Waste Team Leader
608/267-7574
johnston.connelly@dnr.state.wi.us

SECTION 1. NR 500.03(intro.) is amended to read:

NR 500.03 Definitions. (intro.)The following definitions as well as the definitions in ~~ch~~ chs. 289 and 299, Stats., are applicable to the terms used in chs. NR 500 to 538 unless the context requires otherwise.

SECTION 2. NR 500.03(9m), (14m) and (20m) are created to read:

NR 500.03(9m) "Areas of special natural resource interest" has the meaning in s. 30.01(1am), Stats., and as identified in s. NR 1.05.

(14m) "ASTM International" means American Society for Testing and Materials International, located at 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, (610) 832-9585, www.astm.org

(20m) "Borrow source" means a location where nonmetallic mining, as defined in s. NR 135.03 (13), is conducted for soils and aggregates used in landfill construction, operation and closure.

SECTION 2M. NR 500.03(14) is repealed and recreated to read:

NR 500.03(14) "ASTM method", "ASTM standard" or "ASTM-" means a method or standard recognized and published by ASTM International.

SECTION 3. NR 500.03(29) is repealed.

SECTION 4. NR 500.03(36)(Note) is amended to read:

NR 500.03(36) Note: The determination as to whether a soil environment meets the definition of a coarse-grained soil environment shall be based on an interpretation of soil stratigraphy after consideration is given to the deposition and origin of the deposits and their engineering classification under the unified soil classification system specified in ASTM standard ~~D 2487-69 (1975)~~ D2487-00 (2000). Copies of ~~this publication are available~~ the standard may be obtained from ASTM International,

~~1916 race street~~ 100 Barr Harbor Drive, ~~Philadelphia~~ West Conshohocken, PA ~~19103-1187~~ 19428-2959, (610) 832-9585, www.astm.org. Copies of the ~~test procedures~~ standard are available for inspection at the offices of the department of natural resources, the secretary of state and the revisor of statutes.

SECTION 5. NR 500.03(55) is repealed.

SECTION 6. NR 500.03(86)(Note) and (90)(Note) are amended to read:

NR 500.03(86) Note: The determination as to whether a soil environment meets the definition of a fine-grained soil environment shall be based on an interpretation of soil stratigraphy after consideration is given to the deposition and origin of the deposits and their engineering classification under the unified soil classification system specified in ASTM standard ~~D 2487-69 (1975)~~ D2487-00 (2000). Copies of ~~this publication are available~~ the standard may be obtained from ASTM International, ~~1916 race street~~ 100 Barr Harbor Drive, ~~Philadelphia~~ West Conshohocken, PA ~~19103-1187~~ 19428-2959, (610) 832-9585, www.astm.org. Copies of the ~~test procedures~~ standard are available for inspection at the offices of the department of natural resources, the secretary of state and the revisor of statutes.

(90) **Note:** Free liquids shall be determined using the paint filter liquids test ~~(~~ , Method 9095 ~~)~~ , ~~as described~~ in "Test Methods for Evaluating Solid ~~Wastes~~ Waste, Physical/Chemical Methods , " EPA ~~Pub. No.~~ Publication SW-846 , third edition, November 1986, as amended by Updates I in July 1992, II in September 1994, IIA in August 1993, IIB in January 1995, III in December 1996 and IIIA in April 1998. The test methods are available at no cost at www.epa.gov/epaoswer/hazwaste/test/main.htm. Copies of the test ~~procedures~~ methods are available for inspection at the offices of the department of natural resources, the secretary of state , and the revisor of statutes. Copies may be obtained from the superintendent of documents, U.S. government printing office ~~(GPO), Washington, D.C. 20401~~, P.O. Box 371954, Pittsburgh, PA 15250-7954, (866) 512-1800, www.gpoaccess.gov. Copies may also be obtained from the National Technical Information Service, U.S. department of commerce, 5285 Port Royal Road, Springfield, VA 22161, (800) 553-6847, www.ntis.gov.

SECTION 7. NR 500.03(93m) is created to read:

NR 500.03(93m) "GCL" or "geosynthetic clay liner" means factory manufactured geosynthetic product consisting of a layer of bentonite contained between geotextiles that are attached by adhesion, stitch bonding or needlepunching or a layer of bentonite attached to a geomembrane by adhesion.

SECTION 8. NR 500.03(106) is amended by adding a note as follows:

NR 500.03(106) "Human tissue" means tissue removed from human beings. Human tissue does not include hair or nails, but does include teeth.

Note: A tooth containing mercury amalgam may be both an infectious waste and a hazardous waste. See s. NR 526.11(2)(f) for how to manage teeth containing mercury amalgam.

SECTION 9. NR 500.03(124e) and (124h) are created to read:

NR 500.03(124e) "Licensed professional engineer" means a professional engineer registered or licensed with the Wisconsin department of regulation and licensing.

(124h) "Licensed professional geologist" means a professional geologist registered or licensed with the Wisconsin department of regulation and licensing.

SECTION 10. NR 500.03(129), (164), (164)(Note), (194) and (195) are amended to read:

NR 500.03(129) "Liquid waste" means any waste material that is determined to contain "free liquids" as defined by Method 9095 ~~(~~, Paint Filter Liquids Test ~~)~~, ~~as described~~ in "Test Methods for Evaluating Solid ~~Wastes~~ Waste, Physical/Chemical Methods, " ~~(~~ EPA ~~Pub. No.~~ Publication SW-846 ~~)~~, third edition, November 1986, as amended by Updates I in July 1992, II in September 1994, IIA in August 1993, IIB in January 1995, III in December 1996 and IIIA in April 1998.

Note: The test methods are available at no cost at www.epa.gov/epaoswer/hazwaste/test/main.htm. Copies of the test ~~procedures~~ methods are available for inspection at the offices of the department of natural resources, the secretary of state ~~,~~ and the revisor of statutes. Copies may be obtained from the superintendent of documents, U.S. government printing office ~~(GPO), Washington, D.C. 20401~~, P.O. Box 371954, Pittsburgh, PA 15250-7954, (866) 512-1800, www.gpoaccess.gov. Copies may also be obtained from the National Technical Information Service, U.S. department of commerce, 5285 Port Royal Road, Springfield, VA 22161, (800) 553-6847, www.ntis.gov.

(164) "Paint filter liquids test" means the test used for determining whether a waste contains free liquids as defined by Method 9095 ~~(~~, Paint Filter Liquids Test ~~)~~, ~~as described~~ in "Test Methods for Evaluating Solid ~~Wastes~~ Waste, Physical/Chemical Methods, " ~~(~~ EPA ~~Pub. No.~~ Publication SW-846 ~~)~~, third edition, November 1986, as amended by Updates I in July 1992, II in September 1994, IIA in August 1993, IIB in January 1995, III in December 1996 and IIIA in April 1998.

Note: The test methods are available at no cost at www.epa.gov/epaoswer/hazwaste/test/main.htm. Copies of the test ~~procedures~~ methods are available for inspection at the offices of the department of natural resources, the secretary of state ~~,~~ and the revisor of statutes. Copies may be obtained from the superintendent of documents, U.S. government printing office ~~(GPO), Washington, D.C. 20401~~, P.O. Box 371954, Pittsburgh, PA 15250-7954, (866) 512-1800, www.gpoaccess.gov. Copies may also be obtained from the National Technical Information Service, U.S. department of commerce, 5285 Port Royal Road, Springfield, VA 22161, (800) 553-6847, www.ntis.gov.

(194) "Registered professional engineer" means a professional engineer registered or licensed with the Wisconsin ~~examining board of architects, professional geologists, engineers, designers and land surveyors~~ department of regulation and licensing.

(195) "Registered professional geologist" means a professional geologist registered or licensed with the Wisconsin ~~examining board of architects, professional geologists, engineers, designers and land surveyors~~ department of regulation and licensing.

SECTION 10m. NR 500.03(214m) is created to read:

NR 500.03(214m) "Soil barrier layer" means a soil layer or set of layers that is constructed as a subgrade for a GCL and which provides a smooth surface and hydration water source for the GCL, reduces flow through the barrier system, reduces settlement stresses on a GCL and geomembrane and minimizes geochemical effects on a GCL.

SECTION 11. NR 500.03(231) is amended to read:

NR 500.03(231) "SW-846" means the document ~~entitled~~ "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," ~~November, 1986, including December 1987 and November 1990 updates, and any subsequent updates published by the U.S.~~ EPA Publication SW-846, third edition, November 1986, as amended by Updates I in July 1992, II in September 1994, IIA in August 1993, IIB in January 1995, III in December 1996 and IIIA in April 1998.

Note: The test methods are available at no cost at www.epa.gov/epaoswer/hazwaste/test/main.htm. Copies of the test methods are available for inspection at the offices of the department of natural resources, the secretary of state and the revisor of statutes. Copies may be obtained from the superintendent of documents, U.S. government printing office, P.O. Box 371954, Pittsburgh, PA 15250-7954, (866) 512-1800, www.gpoaccess.gov. Copies may also be obtained from the national technical information service, U.S. department of commerce, 5285 Port Royal Road, Springfield, VA 22161, (800) 553-6847, www.ntis.gov.

SECTION 12. NR 500.03(231m), (237m) and (248m) are created to read:

NR 500.03(231m) "Take of an endangered or threatened species" has the meaning defined in s. NR 27.01(8).

(237m) "Trace chemotherapy waste" means items contaminated with antineoplastic chemotherapy drugs, including drug dispensing devices, gloves and other items that have come into contact with chemotherapy drugs.

(248m) "USDOT" means the United States department of transportation.

SECTION 13. NR 500.03(259) is amended to read:

NR 500.03(259) "WGNHS" means the Wisconsin ~~geologic~~ geological and natural history survey.

SECTION 14. NR 500.05(3) is amended to read:

NR 500.05(3)(title) ~~NUMBER OF~~ PAPER AND ELECTRONIC COPIES. Unless otherwise specified, ~~5~~ 4 paper copies and one electronic copy of the plan or report prepared pursuant to the appropriate section of chs. NR 500 to 538, and an additional electronic copy of any plan sheets or drawings submitted as a part of the plan or report. ~~Two~~ Three paper copies shall be submitted to the department's field office responsible for the area in which the facility is located and ~~3 copies~~ one paper copy, one electronic copy, and the additional electronic copy of associated plans or drawings shall be submitted to the bureau of waste management in Madison unless otherwise specified by the department. The complete electronic copy of the report and the separate electronic copy of any plan sheets or drawings shall be provided in formats and on media acceptable to the department.

SECTION 15. NR 500.05(4) is amended to read:

NR 500.05 (4) CERTIFICATION. (a) The ~~report~~ reports and plan sheets shall be under the seal of a ~~registered~~ licensed professional engineer. In addition, the following certification shall be included: "I, _____, hereby certify that I am a ~~registered~~ licensed professional engineer in the State of Wisconsin~~, registered~~ in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 500 to 538, Wis. Adm. Code."

(b) Initial site reports, feasibility reports, plans of operation, site investigation, remedial action options reports and any other reports where interpretation of geology or hydrogeology is necessary shall be under the seal of a ~~registered~~ licensed professional geologist. In addition, the following certification shall be included:

"I, _____, hereby certify that I am a ~~registered~~ licensed professional geologist in the State of Wisconsin~~, registered~~ in accordance with the requirements of ch. ~~A-E 10~~GHSS 2, Wis. Adm. Code; that the preparation of this document has ~~been prepared in accordance with the Rules of Professional Conduct~~ not involved any unprofessional conduct as detailed in ch. ~~A-E 8~~GHSS 5, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 500 to 538, Wis. Adm. Code."

SECTION 16. NR 500.05(5) is amended to read:

NR 500.05(5) TECHNICAL PROCEDURES. All technical procedures used to investigate a solid waste facility shall be the current standard procedures as specified by ~~the American society for testing materials~~ ASTM International, United States ~~geologic~~ geological survey, USEPA's 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.

SECTION 17. NR 500.05(6)(intro.), (a), (f) and (g) are amended to read:

NR 500.05 (6) VISUALS. (intro.) Maps, figures, photographs and tables to clarify information or conclusions. The visuals shall be legible. All paper copies of maps, plan sheets, drawings, isometrics, cross-sections and aerial photographs shall meet the following requirements:

(a) No larger than ~~24~~32 inches ~~X 36~~ by 44 inches and no smaller than 8 ½ inches ~~X~~by 11 inches.

(f) Use ~~USGS datum~~mean sea level as ~~a~~ the basis for all elevations.

(g) Contain a survey grid based on monuments established in the field which ~~is referenced to state plane~~ utilizes a coordinate system and datum acceptable to the department. Examples of acceptable coordinate systems include state plane, Universal Transverse Mercator, and Wisconsin Transverse Mercator.

SECTION17m. NR 500.06(4) is amended to read:

NR 500.06(4) AFFIDAVIT OF FACILITY REGISTRY. Submittal on form ~~4400-67~~ 4400-067 that proof that a notation of the existence of the facility has been recorded in the office of the register of deeds in each county in which a portion of the facility is located. Owners of landfills applying for relicensure need only submit this form if the legal description of the landfill has changed from that identified on a previously submitted form 4400-067.

Note: This form may be obtained from the Department of Natural Resources, Bureau of Waste Management, 101 S. Webster Street, ~~Natural Resources Building,~~ P.O. Box 7921, Madison, WI 53707-7921, (608) 266-2111, waste.management@dnr.state.wi.us.

SECTION 18. NR 500.08(2)(a) is amended to read:

NR 500.08(2)(a) Facilities where only clean soil, brick, building stone, concrete, or reinforced concrete not painted with lead-based paint, broken pavement, and ~~unpainted or untreated~~ wood not treated or painted with preservatives or lead-based paint are disposed.

SECTION 18m. NR 500.11 is created to read:

NR 500.11 Enforcement. If the department has reason to believe that a violation of the requirements of ch. 289, Stats., or chs. NR 500 to 538 has occurred, it may take enforcement action as authorized under subch. VIII. of ch. 289, Stats., or as authorized in applicable enforcement provisions for landfill and solid waste disposal program requirements in chs. NR 500 to 538.

SECTION 19. NR 502.04(1)(a)4. is repealed and recreated to read:

NR 502.04(1)(a)4. A take of an endangered or threatened species or other activity prohibited under s. 29.604, Stats.

SECTION 20. NR 502.04(2)(c)1. and 2. are repealed and recreated to read:

NR 502.04(2)(c)1. Identification of any known potential impacts to endangered and threatened species in accordance with s. 29.604(4), Stats., and the federal endangered species act or historical, scientific or archeological areas in accordance with s. 44.40, Stats., including any prior studies or surveys conducted at the proposed site.

SECTION 20M. NR 502.04(2)(c)3. is renumbered NR 502.04(2)(c)2.

SECTION 21. NR 502.05(1)(a)(intro.) is amended to read:

NR 502.05(1)(a)(intro.) Unless exempt under sub. (2), ~~or~~ (3)(b) or (d) to (i), owners and operators of solid waste storage facilities shall comply with ~~all of~~ the ~~following:~~performance standards and closure requirements in s. NR 502.04(1) and (3)(a) and (b).

SECTION 22. NR 502.05(1)(a)1., 2. and 3. are repealed.

SECTION 23. NR 502.05(1)(b) is amended to read:

NR 502.05(1)(b) Unless exempt under sub. (2) or (3)(a) to (j), all new or expanded solid waste storage facilities shall comply with initial site inspection requirements in s. NR 502.04(2) and demonstrate compliance with the applicable locational criteria listed in sub. (4).

SECTION 24. NR 502.05(1)(c) and (d) are renumbered NR 502.05(1)(g) and (h).

SECTION 25. NR 502.05(1)(c) to (f) are created to read:

NR 502.05(1)(c) Unless exempt under sub. (2) or (3)(b) to (i), owners and operators of solid waste storage facilities shall store all waste in containers in compliance with the operational requirements for containerized storage facilities under sub. (5).

(d) Unless wastes are stored only in containers, or the facility is exempt under sub. (2) or (3)(b) to (i), owners and operators of solid waste storage facilities shall comply with operational requirements for noncontainerized storage facilities under sub. (6).

(e) Unless exempt under sub. (2) or (3), all new or expanded solid waste storage facilities shall obtain approval of a plan of operation as specified in sub. (8), and comply with requirements for engineering plans and construction documentation in subs. (9) and (10).

(f) Unless exempt under sub. (2) or (3)(a) to (j), owners and operators of solid waste storage facilities shall obtain an operating license from the department.

SECTION 26. NR 502.05(3)(intro.) and (a) are amended to read:

NR 502.05(3) OTHER EXEMPTIONS. (intro.) The following storage facilities are exempt from all requirements of this ~~section~~ chapter, except as specified.

(a) Storage facilities utilizing containers such as lugger boxes or rolloffs for solid waste storage serving apartments, commercial establishments, business establishments and industries which are located on the premises served, provided the facility complies with the ~~general~~ performance standards and closure requirements ~~listed under~~ in s. NR 502.04(1) and (3)(a) and (b) and the operational requirements listed under sub. (5).

SECTION 27. NR 502.05(3)(k) is created to read:

NR 502.05(3)(k) Containerized storage facilities within a building that meet all of the following criteria are exempt from all other requirements of this chapter:

1. Comply with performance standards and closure requirements in s. NR 502.04(1) and (3)(a) and (b).

2. New or expanded facilities shall comply with initial site inspection requirements in s. NR 502.04(2) and demonstrate compliance with applicable locational criteria in sub. (4).

3. Obtain an operating license from the department.

4. Accept a maximum of 50 tons of waste per day and store a maximum of 1,000 tons of waste at any one time.

5. Comply with operational requirements for containerized storage facilities in sub. (5).

6. Do not accept municipal solid waste combustor residue.

7. Prior to or with the initial license application, and with each subsequent license application, submit a cover letter containing the following certification:

I, _____(authorized individual name), _____(position title), hereby certify that I am the owner or authorized representative of the solid waste containerized storage facility, _____(facility name), located at _____(location address); that I am aware of ss. NR 502.04 and 502.05, Wis. Adm. Code applicable to the facility; and that the facility is in compliance with the codes.

_____(signature of authorized individual) _____(signature date)

8. If the certification required in subd. 7. is not submitted with a license renewal application prior to expiration of any license period, the facility shall pay compliance inspections fees in accordance with s. NR 520.04(7) for up to 2 inspections completed by the department during the subsequent license period.

SECTION 28. NR 502.05(4)(a)6. is amended to read:

NR 502.05(4)(a)6. Within 1,000 feet of the nearest edge of the right-of-way of any state trunk highway, interstate or federal aid primary highway or the boundary of any public park~~,~~ or state natural area under ss. 23.27(1) and 23.28(1), Stats., unless the facility is screened by natural objects, plantings, fences or other appropriate means so that it is not visible from the highway~~, or~~ park or state natural area.

SECTION 29. NR 502.07(1)(a), (b) and (c) are amended to read:

NR 502.07(1)(a) Unless exempt under sub. (2m), owners and operators of solid waste transfer facilities shall comply with the ~~general~~ performance standards and closure requirements in s. NR 502.04(1) and (3)(a) and (b).

(b) Unless exempt under sub. (2), (2f) or (2m), owners and operators of new or expanded solid waste transfer facilities shall comply with initial site inspection requirements in s. NR 502.04(2) and demonstrate compliance with the locational criteria listed under sub. (3).

(c) Unless exempt under sub. (2), (2f)~~, or~~ (2m) or (2r), no person may operate or maintain a solid waste transfer facility unless the person has received approval of a plan of operation as specified in sub. (4)~~ and obtained an operating license from the department~~.

SECTION 30. NR 502.07(1)(cm) is created to read:

NR 502.07(1)(cm) Unless exempt under sub. (2), (2f) or (2m), no person may operate or maintain a solid waste transfer facility unless the person has obtained an operating license from the department.

SECTION 31. NR 502.07(2m) is amended to read:

NR 502.07(2m) EXEMPT USED OIL FACILITIES. Transfer facilities for only used oil which is managed in compliance with ch. NR 590 are exempt from all requirements of this ~~section~~ chapter.

SECTION 32. NR 502.07(2r) is created to read:

NR 502.07(2r) EXEMPT TRANSFER FACILITIES ACCEPTING LESS THAN 50 TONS PER DAY. Transfer facilities that meet all of the following criteria are exempt from all other requirements of this chapter:

(a) Comply with performance standards and closure requirements in s. NR 502.04(1) and (3)(a) and (b).

(b) New or expanded facilities shall comply with initial site inspection requirements in s. NR 502.04(2) and demonstrate compliance with locational criteria in sub. (3).

(c) Obtain an operating license from the department.

(d) Accept a maximum of 50 tons of waste per day and store a maximum of 50 tons of waste at any one time.

(e) Comply with operational requirements for transfer facilities in sub. (7) and all of the following:

1. Limit storage periods to a maximum of 24 hours, except within leak-proof vehicles or containers with impermeable tops used by a licensed collection and transportation service.

2. Do not accept sewage solids, sludge, asbestos or wastes containing free liquids.

3. At the end of each operating day, place all waste in leak-proof vehicles or containers with impermeable tops.

(f) Prior to or with the initial license application, and with each subsequent license application, submit a cover letter containing the following certification:

I, _____(authorized individual name), _____(position title), hereby certify that I am the owner or authorized representative of the solid waste transfer facility, _____(facility name), located at _____(location address); that I am aware of s. NR 502.07, Wis. Adm. Code applicable to the facility; and that the facility is in compliance with the code.

_____(signature of authorized individual) _____(signature date)

(g) If the certification required in par. (f) is not submitted with a license renewal application prior to expiration of any license period, the facility shall pay compliance inspections fees in accordance with s. NR 520.04(7) for up to 2 inspections completed by the department during the subsequent license period.

SECTION 33. NR 502.07(3)(a)6. is amended to read:

NR 502.07(3)(a)6. Within 1,000 feet of the nearest edge of the right-of-way of any state trunk highway, interstate or federal aid primary highway or the boundary of any public park~~,~~ or state natural area under ss. 23.27(1) and 23.28(1) Stats., unless the facility is screened by natural objects, plantings, fences or other appropriate means so that it is not visible from the highway, ~~or~~ park or state natural area.

SECTION 34. NR 502.07(4)(intro.) and (7)(intro.) are amended to read:

NR 502.07(4) PLAN OF OPERATION.(intro.) ~~No~~Unless exempt under sub. (2), (2f), (2m) or (2r), no person may establish or construct a transfer facility prior to obtaining approval in writing from the department of a plan of operation for the facility. The plan of operation shall specify the intent and objectives of the proposal, indicate methods and procedures to minimize adverse environmental impacts and provide a design which complies with the operational requirements in sub. (7). Unless an exemption is granted by the department in writing, the plan shall be submitted in accordance with s. NR 500.05 and shall contain engineering plans specified under sub. (5) and a report containing at a minimum the following information:

(7) OPERATIONAL REQUIREMENTS FOR TRANSFER FACILITIES.(intro.) Unless exempt under sub. (2), (2f) ~~or~~, (2m) or (2r), no person may operate or maintain a transfer facility except in conformance with an approved plan of operation, if applicable under sub. (4), and the following operational requirements:

SECTION 35. NR 502.08(3)(a)6. is amended to read:

NR 502.08(3)(a)6. Within 1,000 feet of the nearest edge of the right-of-way of any state trunk highway, interstate or federal aid primary highway or the boundary of any public park~~,~~ or state natural area under ss. 23.27(1) and 23.28(1) Stats., unless the facility is screened by natural objects, plantings, fences or other appropriate means so that it is not visible from the highway,~~or~~ park or state natural area.

SECTION 36. NR 502.10(2)(a)6. is amended to read:

NR 502.10(2)(a)6. Within 1,000 feet of the nearest edge of the right-of-way of any state trunk highway, interstate or federal aid primary highway or the boundary of any public park~~,~~ or state natural area under ss. 23.27(1) and 23.28(1) Stats., unless the facility is screened by natural objects, plantings, fences or other appropriate means so that it is not visible from the highway~~,or~~ park or state natural area.

SECTION 37. NR 502.11(title) is amended to read:

NR 502.11(title) Woodburning facilities and open burning.

SECTION 38. NR 502.11(3)(a)6. is amended to read:

NR 502.11(3)(a)6. Within 1,000 feet of the nearest edge of the right-of-way of any state trunk highway, interstate or federal aid primary highway or the boundary of any public park~~,~~ or state natural area under ss. 23.27(1) and 23.28(1) Stats., unless the facility is screened by natural objects, plantings, fences or other appropriate means so that it is not visible from the highway~~,or~~ park or state natural area.

SECTION 39. NR 502.12(8)(a)7. and (9)(a)7. are amended to read:

NR 502.12(8)(a)7. Within 1,000 feet of the nearest edge of the right-of-way of any state trunk highway, interstate or federal aid primary highway or the boundary of any public park~~,~~ or state natural area under ss. 23.27(1) and 23.28(1) Stats., unless the facility is screened by natural objects, plantings, fences or other appropriate means so that it is not visible from the highway~~,or~~ park or state natural area.

(9)(a)7. Within 1,000 feet of the nearest edge of the right-of-way of any state trunk highway, interstate or federal-aid primary highway or the boundary of any public park~~,~~ or state natural area under ss. 23.27(1) and 23.28(1) Stats., unless the facility is screened by natural objects, plantings, fences or other appropriate means so that it is not visible from the highway~~,or~~ park or state natural area.

SECTION 40. NR 502.13(6)(a), (b)2., (c), (g)(Note) and Table 1.III.(intro.) and A. are amended to read:

NR 502.13(6)(a) An operator of a municipal solid waste combustor with a design capacity of 10 tons per day or greater shall test its residue quarterly the first year after an approval has been issued. After the first year of quarterly testing the residues shall be tested on an annual basis, except as provided in par. (m). The testing program listed in Table 1 shall be applied to all samples collected as required by sub. (5) (a) to (d). The department may require dioxin and ~~foran~~ furan testing, if circumstances warrant. Test results shall be submitted to the department with the annual report specified under sub. (8).

(b)2. Test its residue annually beginning the first June after an approval has been issued using the testing program listed in Table 1 for all samples collected under ~~required by~~ sub. (5)(f). The department may require ~~dioxin/furan~~ dioxin or furan testing, if circumstances warrant.

(c) A leachate sample from the monofill where the residue is disposed of may be substituted for the synthetic precipitation leaching procedure, EPA Method 1312 ~~leach procedure listed in Table 1, Section III~~, after the initial 4 rounds of testing. The leachate sample shall be tested for all of the parameters listed ~~under the EPA Method 1312 leach requirements~~ in Table 1, Section III, unless a reduction in the number of parameters tested for has been approved by the department. The municipal solid waste combustor using the leachate substitute shall be responsible for the testing. If significant levels of any of the listed parameters are detected in the leachate tested from a monofill that receives multiple sources of residue,

the department may require all contributing municipal solid waste combustors to perform leach testing of their residue using EPA Method 1312.

Note: Method 1312 is in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, third edition, November 1986, as amended by Updates I in July 1992, II in September 1994, IIA in August 1993, IIB in January 1995, III in December 1996 and IIIA in April 1998. The test methods are available at no cost at www.epa.gov/epaoswer/hazwaste/test/main.htm. ~~A copy~~ Copies of ~~this~~ the test ~~method can~~ methods may be obtained from the ~~department of natural resources, bureau of waste management, 101 s. webster street, Madison, Wisconsin 53707~~ superintendent of documents, U.S. government printing office, P.O. Box 371954, Pittsburgh, PA 15250-7954, (866) 512-1800, www.gpoaccess.gov. Copies may also be obtained from the National Technical Information Service, U.S. department of commerce, 5285 Port Royal Road, Springfield, VA 22161, (800) 553-6847, www.ntis.gov. Copies of ~~this~~ the test ~~method~~ methods are ~~also~~ available for inspection at the offices of the department of natural resources, revisor of statutes and the secretary of state. ~~Personal copies can be obtained from the U.S. environmental protection agency, office of solid waste, 401 m street sw, Washington D.C. 20460.~~

(g) **Note:** Method 1311 is in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846, third edition, November 1986, as amended by Updates I in July 1992, II in September 1994, IIA in August 1993, IIB in January 1995, III in December 1996 and IIIA in April 1998. The test methods are available at no cost at www.epa.gov/epaoswer/hazwaste/test/main.htm. Copies of ~~these~~ the test ~~procedures can~~ methods may be obtained from the ~~department of natural resources, bureau of waste management, 101 s. webster street, Madison, Wisconsin 53707~~ superintendent of documents, U.S. government printing office, P.O. Box 371954, Pittsburgh, PA 15250-7954, (866) 512-1800, www.gpoaccess.gov. Copies may also be obtained from the National Technical Information Service, U.S. department of commerce, 5285 Port Royal Road, Springfield, VA 22161, (800) 553-6847, www.ntis.gov. Copies of ~~these~~the test methods are ~~also~~ available for inspection at the offices of the department of natural resources, revisor of statutes and the secretary of state. ~~Personal copies can be obtained from the U.S. environmental protection agency, office of solid waste, 401 m street sw, Washington D.C. 20460.~~

Table 1.III. Synthetic Precipitation ~~Leach Test~~ Leaching Procedure EPA Method 1312.

A. **Note:** Methods 1311 and 1312 are in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846, third edition, November 1986, as amended by Updates I in July 1992, II in September 1994, IIA in August 1993, IIB in January 1995, III in December 1996 and IIIA in April 1998. The test methods are available at no cost at www.epa.gov/epaoswer/hazwaste/test/main.htm. Copies of ~~these~~ the test ~~procedures can~~ methods may be obtained from the ~~department of natural resources, bureau of waste management, 101 s. webster street, Madison, Wisconsin 53707~~ superintendent of documents, U.S. government printing office, P.O. Box 371954, Pittsburgh, PA 15250-7954, (866) 512-1800, www.gpoaccess.gov. Copies may also be obtained from the National Technical Information Service, U.S. department of commerce, 5285 Port Royal Road, Springfield, VA 22161, (800) 553-6847, www.ntis.gov. Copies of ~~these~~the test methods are ~~also~~ available for inspection at the offices of the department of natural resources, revisor of statutes and the secretary of state. ~~Personal copies can be obtained from the U.S. environmental protection agency, office of water regs & std's, 401 m street sw, Washington D.C. 20460.~~

SECTION 41. NR 503.04(2)(d) and (3)(b) are amended to read:

NR 503.04(2)(d) Within 1,000 feet of the nearest edge of the right-of-way of any state trunk highway, interstate or federal-aid primary highway or the boundary of any public park~~,~~ or state natural area under ss. 23.27(1) and 23.28(1) Stats., unless the landfill is screened by natural objects, plantings, fences or other appropriate means so that it is not visible from the highway~~,~~ ~~or~~ park or state natural area.

(3)(b) A ~~significant adverse impact on critical habitat areas~~ take of an endangered or threatened species or other activity prohibited under s. 29.604, Stats.

SECTION 42. NR 503.06 is amended to read:

NR 503.06 Affidavit of site registry. Unless otherwise specified, no person may operate or maintain a landfill regulated under this chapter unless the person has submitted on form ~~4400–67~~ 4400–067 proof that a notation of the existence of the landfill has been recorded in the office of the register of deeds in each county in which a portion of the landfill is located. Landfills which were in existence prior to July 1, 1996, and continue to operate after this date shall submit an affidavit of site registry within 90 days after July 1, 1996.

Note: This form may be obtained from the department of natural resources, bureau of waste management, 101 ~~s. webster street, natural resources building,~~ S. Webster Street, P.O. Box 7921, Madison, ~~Wisconsin 53707~~ WI 53707-7921, (608) 266-2111, waste.management@dnr.state.wi.us.

SECTION 42m. NR 503.07(1) is amended to read:

NR 503.07 Initial site inspection. (1) INSPECTION REQUEST. Any person intending to establish a new landfill~~,~~ or an expansion of an existing landfill regulated under this chapter~~, or a non-commercial soil borrow source designated to be used in the construction, operation or closure of a specific landfill~~ shall submit a written request to the department for an initial site inspection for the purpose of evaluating compliance with the applicable locational criteria and performance standards of s. NR 503.04.

SECTION 43. NR 503.07(4)(b) is repealed and recreated to read:

NR 503.07(4)(b) Identification of any known potential impacts to endangered and threatened species in accordance with s. 29.604(4), Stats., and the federal endangered species act or historical, scientific or archeological areas in accordance with s. 44.40, Stats., including any prior studies or surveys conducted at the proposed site.

SECTION 44. NR 503.07(4)(c) and (5) are repealed.

SECTION 45. NR 503.09(1) to (9) are renumbered NR 503.09(2) to (10).

SECTION 46. NR 503.09(1) is created to read:

NR 503.09(1) PUBLIC NOTICE. The applicant for a small size construction and demolition waste landfill shall publish a public notice in the local newspaper and send written notification to residents within 1200 feet of the proposed landfill footprint. The notice and notification shall identify the applicant's name, business address and phone number; the location, design capacity, and anticipated operational life of the proposed landfill; and the name, address and telephone number of the department representative to whom public comments may be submitted orally or in writing. Copies of both the proposed public notice and the notification to residents shall be provided to the department office located in the region of the proposed landfill prior to submission to the newspaper for publication. Documentation that the public notice and resident notification requirements were met shall be provided in the plan of operation under this subsection.

SECTION 47. NR 503.09(6)(f), as renumbered, is amended to read:

NR 503.09(6)(f) Detection groundwater monitoring shall be established at each monitoring well. Detection monitoring shall begin following the first acceptance of waste. Each well shall be sampled semi-annually and tested for the parameters listed in column 1 of Table 1 unless otherwise approved in writing by the department. All test results shall be submitted to the department in accordance with ch. NR 507.

SECTION 48. NR 503.10(2)(c)(intro.) and (d)4.b., (3)(e)5., 6. and 6.(Note) and (4)(b)(intro.), (b)5.(Note), (d), (h) and (j)6. are amended to read:

NR 503.10(2)(c)(intro.) The report shall include a discussion of the regional setting of the proposed landfill to provide a basis for comparison and interpretation of information obtained through field investigations. This discussion may be limited to information available from publications such as a hydrologic investigations atlas, water supply papers, informational circulars and technical bulletins published by the Wisconsin ~~geologic~~ geological and natural history survey, the United States geological survey and the natural resources conservation service. The regional setting to be discussed is the area which may affect or be affected by the proposed landfill. At a minimum, the report shall consider the area within one mile of the anticipated limits of filling. The discussions shall be supplemented with available regional bedrock and glacial geology maps, USGS topographic maps, NRCS soil maps and regional water table maps. Specifically, the following items shall be discussed:

(d)4.b. All available groundwater or surface water quality data which has been obtained from sampling at the proposed ~~landfill's~~ landfill location shall be submitted in the report. Any environmental monitoring data included in the report shall be submitted ~~on department forms or on diskette~~ electronically.

(3)(e)5. A minimum of 6 inches of topsoil shall be designed over the drainage and rooting zone layer to support the proposed vegetation. Fertilizer and lime shall be added in accordance with section 630, 2003 edition of the Wisconsin department of transportation standard specifications for ~~road~~ highway and ~~bridge~~structure construction and the 2004 supplemental specifications in order to establish a thick vegetative growth.

6. The seed type and amount of fertilizer applied shall be proposed depending on the type and quality of topsoil and compatibility with both native vegetation and the final use. Unless otherwise approved by the department in writing, seed mixtures and application rates shall be in accordance with section 630, 2003 edition of the Wisconsin department of transportation standard specifications for ~~road~~highway and ~~bridge~~structure construction and the 2004 supplemental specifications. Application rates for fertilizer and mulch shall also be specified.

Note: Copies of 2003 edition of the Wisconsin department of transportation standard specifications for ~~road~~ highway and ~~bridge~~structure construction and any annual supplemental specifications are available at www.dot.wisconsin.gov/business/engrserv/construction-library.htm or can be obtained from the department of natural resources, bureau of waste management, 101 S. Webster Street, P.O. Box 7921, Madison, ~~Wisconsin, 53707~~ WI 53707-7921, (608) 266-2111, waste.management@dnr.state.wi.us. Copies are also available for inspection at the offices of the revisor of statutes and the secretary of state.

(4)(b)(intro.) All areas of the landfill property, including areas of temporary disturbance, with the potential for off–site migration of sediment shall be designed, constructed, operated and maintained ~~in accordance with~~ according to the applicable requirements of s. ~~NR 503.09 (3)~~NR 503.09(4), and ~~best~~

~~management practices~~ technical standards developed under subch. V of ch. NR 151, which include the following:

(b)5. **Note:** ~~Best management practice is detailed in "Wisconsin Construction Site Best Management Practice Handbook" published~~ The technical standards developed by the Wisconsin department of natural resources, runoff management ~~practices section and~~ program are available at www.dnr.state.wi.us/org/water/wm/nps/stormwater/techstds.htm or can be obtained from the department of natural resources, bureau of ~~solid~~ waste management, 101 S. Webster Street, P.O. Box 7921, Madison, ~~Wisconsin 53707~~ WI 53707-7921, (608) 266-2111, waste.management@dnr.state.wi.us. Copies are also available for inspection at the offices of the revisor of statutes and the secretary of state.

(d) All areas of the landfill which do not contain solid waste and are planned for vegetative cover shall be topsoiled, seeded and mulched as soon as practical, but no later than 90 days after completion of construction or by October 15, whichever is earlier and, if construction is completed after September 15, no later than June 15 of the following year. This includes, but is not limited to, the landfill entrance, drainage ditches and surrounding areas. Erosion control measures shall be placed within 30 days after completion of construction. The seed type and amount of fertilizer applied shall be selected according to the type and quality of topsoil, its compatibility with native vegetation, and the final use. Unless otherwise approved by the department in writing, seed mixtures and ~~applications~~ sowing rates shall be ~~in accordance with~~ those specified for right–of–ways according to section 630, 2003 edition of the Wisconsin department of transportation standard specifications for ~~road~~ highway and ~~bridge~~ structure construction and the 2004 supplemental specifications.

Note: ~~Copies of~~ The 2003 edition of the Wisconsin department of transportation standard specifications for ~~road~~ highway and ~~bridge~~ structure construction and any annual supplemental specifications are available at www.dot.wisconsin.gov/business/engrserv/construction-library.htm or can be obtained from the department of natural resources, bureau of waste management, 101 S. Webster Street, P.O. Box 7921, Madison, ~~Wisconsin 53707~~ WI 53707-7921, (608) 266-2111, waste.management@dnr.state.wi.us. Copies are also available for inspection at the offices of the revisor of statutes and the secretary of state.

(h) Documentation for ~~non–commercial borrow sources which are developed for the construction, operation or closure of a specific landfill shall comply with ch. NR 509 for an initial site inspection. Documentation for all non–commercial clay borrow sources for liners or capping layers which are developed exclusively for a specific landfill shall comply with ch. NR 509 for aninitial site inspection and with s. NR 512.15 for clay borrow source documentation. Documentation for commercial clay borrow sources for liners or capping layers shall identify the landowner, location by quarter – quarter section and the current commercial use and shall comply with s. NR 512.15 (2) and (3), for clay borrow source documentation. The preceding requirements do not apply to borrow sources approved as part of the feasibility determination under ch. NR 512. All borrow areas shall be abandoned in accordance with section 208.3, Wisconsin department of transportation standard specifications for road and bridge construction, and s. NR 135.02 (3) (i) non–metallic mining reclamation standards.~~

~~**Note:** Copies of Wisconsin department of transportation standard specifications for road and bridge construction can be obtained from the department of natural resources, bureau of waste management, 101 S. Webster Street, Madison, Wisconsin 53707. Copies are also available for inspection at the offices of the revisor of statutes and the secretary of state.~~ soil borrow sources shall comply with the requirements of s. NR 504.075.

(j)6. Within 180 days after ceasing to accept solid waste or, if solid waste disposal operations terminate after September 15, by June 15 of the following year, the owner or operator shall complete seeding, fertilizing and mulching of the finished surface. The seed type and amount of fertilizer applied shall be selected depending on the type and quality of topsoil and compatibility with both native

vegetation and the final use. Unless otherwise approved by the department in writing, seed mixtures and ~~applications~~ sowing rates shall be those specified for right–of–ways ~~in accordance with~~ according to section 630, 2003 edition of the Wisconsin department of transportation standard specifications for ~~road~~ highway and ~~bridge~~ structure construction and the 2004 supplemental specifications.

Note: ~~Copies of~~ The 2003 edition of the Wisconsin department of transportation standard specifications for ~~road~~ highway and ~~bridge~~ structure construction and any annual supplemental specifications are available at www.dot.wisconsin.gov/business/engrserv/construction-library.htm or can be obtained from the department of natural resources, bureau of waste management, 101 S. Webster Street, P.O. Box 7921, Madison, ~~Wisconsin 53707~~ WI 53707-7921, (608) 266-2111, waste.management@dnr.state.wi.us. Copies are also available for inspection at the offices of the revisor of statutes and the secretary of state.

SECTION 49. NR 503.10(7)(b), (c), and (e) are amended to read:

NR 503.10(7)(b) A minimum of 4 samples, with at least 30 days between sampling rounds, shall be collected and analyzed for all parameters in Table 3 except VOCs and the results shall be submitted with the proposal for constructing the landfill. Four additional samples, with at least 30 days between sampling rounds, shall be collected and analyzed for any parameter listed in Table 3 which attained or exceeded the preventive action ~~limits~~ limit established in Table 1 of ch. NR 140 during 2 or more of the first 4 rounds or attained or exceeded the enforcement standard established in Table 1 of ch. NR 140 during one or more of the first 4 rounds.

(c) If additional samples are required under par. (b) or (br), the results of the 4 additional samples shall be submitted in the construction documentation report for the landfill.

(e) A detection groundwater monitoring program shall be established at each monitoring well beginning with the first sampling period following acceptance of waste. Each well shall be sampled semi-annually for the parameters listed in column 1 of Table 3 unless otherwise approved in writing by the department.

SECTION 50. NR 503.10(7)(bg) and (br) are created to read:

NR 503.10(7)(bg) Baseline groundwater quality for VOCs shall be established for all VOCs listed in ch. NR 507, Appendix III, at all monitoring wells outside the proposed limits of filling.

(br) Samples shall be collected for VOC analysis from each well at the same time as the first and second sampling rounds are collected to establish baseline for the other Table 3 parameters. If any well has VOC parameters in concentrations above the limit of detection in either of the first 2 sampling rounds, that well shall be sampled for VOCs 2 additional times for a total of 4 sampling rounds. The results shall be submitted with the proposal for constructing the landfill and in accordance with s. NR 507.26 (3).

SECTION 51. NR 504.04(2)(a) and (b), (3)(d), (4)(b) and (f) are amended to read:

NR 504.04(2)(a) Exemptions from compliance with subs. (3) (a), (b), (d), (e), (f), (g), (h), (i) and (4) (b), (e) and (f) may be granted by the department only upon demonstration by the applicant of circumstances which warrant ~~such~~ an exemption. Compliance with sub. (4) (a) shall be evaluated in accordance with the standards in ch. NR 103. For the purpose of determining whether there is a practicable alternative to a proposed landfill expansion under s. NR 103.08, the department may allow an applicant to limit its analysis of alternatives to alternatives within the boundaries of the property where the existing landfill is located and on property immediately adjacent to the existing landfill. Exemptions from compliance with subs. (3) (c) and (4) (c) may not be granted. Exemptions from compliance with sub. (4) (d) may be granted only according to the procedures set forth in chs. NR 507 and 140. Exemptions from compliance with sub. (3) (f) will be based on an evaluation of the information contained in par. (b). However, no exemptions from sub. (3) (f) may be granted unless information on the well location, ~~former and present well owner~~ current and immediate past well owners, well driller, well log and construction details, ~~and~~ the general hydrogeologic setting and a completed s. NR 812.43 variance request is submitted to the department. Exemptions from sub. (3)(f) shall be requested by the applicant and re-evaluated for each subsequent expansion proposal. Exemptions from sub. (3) (i) may be granted only if the applicant demonstrates that engineering measures have been incorporated into the landfill's design to ensure that the integrity of the structural components of the landfill will not be disrupted.

Note: Contact the groundwater expert or water supply specialist in the local DNR office to obtain a list of the current requirements for a completed s. NR 812.43 variance request. To determine who is the appropriate contact in a particular part of the state either call (608) 266-0821 or e-mail the Drinking Water and Groundwater program at DG.Mail@dnr.state.wi.us.

(b) Additional factors which may be considered by the department in determining whether or not to grant exemptions under this section include waste types, characteristics and quantities; the geology and hydrogeology of the landfill; the proposed landfill design and operation; the availability of other environmentally suitable alternatives; status of the s. NR 812.43 variance application; compliance with other state and federal regulations and the health, safety and welfare of the public. Requests for exemptions and information needed to demonstrate the circumstances that warrant ~~such~~ exemptions shall be addressed by the applicant in the feasibility report.

(3)(d) Within 1,000 feet of the nearest edge of the right-of-way of any state trunk highway, interstate or federal aid primary highway or the boundary of any public park~~,~~ or state natural area, unless the landfill is screened by natural objects, plantings, fences or other appropriate means so that it is not visible from the highway~~,or~~ park or natural area.

(4)(b) A ~~significant adverse impact on critical habitat areas~~ take of an endangered or threatened species in accordance with s. 29.604, Stats.

(f) The emission of any hazardous air contaminant exceeding the limitations for those substances contained in s. NR ~~445.03~~445.04 or 445.05.

SECTION 52. NR 504.06(6) is created to read:

NR 504.06(6) COMPOSITE-LINED LANDFILLS USING GCLS. Use of GCLs in construction of a composite liner may not be used except in landfills which do not accept municipal solid waste, unless the GCL is used as a pad for the upper surface of the 4 foot clay component of a composite liner for a municipal solid waste landfill. The GCL and soil barrier layer components of a barrier system shall meet all of the following requirements:

(a) The hydraulic performance of the GCL shall be assessed by the use of compatibility testing. The testing protocol shall be provided to the department for review and concurrence prior to the initiation of compatibility testing. The compatibility testing shall utilize percolation fluids that simulate the leachate that will be produced by the landfill.

(b) The GCL shall meet the specifications of s. NR 504.07(4)(a)1. to 11.

(c) The GCL shall be underlain by a soil barrier layer that is a minimum of 2 feet thick and that meets the specifications of s. NR 504.07(4)(a)12. to 17.

SECTION 53. NR 504.07(4) is repealed and recreated to read:

NR 504.07(4) CLAY CAPPING LAYER. A minimum 2 foot thick clay cap shall be designed to provide a low hydraulic conductivity barrier to percolation. Clay used for this layer shall meet the specifications in s. NR 504.06(2)(a). The clay capping layer shall be constructed according to s. NR 504.06(2)(f). Final cover systems that are required to include a geomembrane layer may be designed with the following alternatives to the clay component of the composite capping layer:

(a) The clay component of the capping layer may be replaced by a GCL overlying a minimum of 2 feet of soil barrier layer. This GCL layer and the soil barrier layer shall meet the following material and construction specifications:

1. The GCL shall consist of a layer of sodium bentonite clay encapsulated between 2 geotextiles.

2. The GCL shall be covered with a geomembrane the same day that it is unpacked and placed in position. The GCL may not be installed in standing water or during rain. The GCL shall be dry when installed and covered. A GCL exhibiting unconfined swelling shall be removed and replaced.

3. The GCL shall be installed in a relaxed condition and shall be free of tension or stress upon completion of the installation. The GCL may not be stretched to fit.

4. Adjoining panels of a GCL shall be laid with a minimum of 6 inches of overlap on the longitudinal seams and a minimum 20 inches of overlap on the panel end seams.

5. Irregular shapes, cuts or tears in the installed GCL shall be covered with a GCL patch that provides a minimum 12 inch overlap onto adjacent GCL surfaces.

6. A seal of loose bentonite granules shall be placed in seam overlaps at a minimum rate of one quarter pound per linear foot of seam for all panel end seams and longitudinal seams. The seal of loose bentonite may be deleted, with concurrence by the department, for longitudinal seams where the manufacturer has processed the overlap area to enhance sealing. The seal may not be deleted for any longitudinal seams that are transitions between construction phases.

7. Loose bentonite or bentonite amended soil shall be placed at all patches and penetrations.

8. GCL panels shall be certified needle-free through magnetic and metal detection tests.

9. The GCL shall be placed in direct contact with a soil barrier layer.

10. Vehicle traffic on the subgrade of the GCL and on the GCL shall be restricted to the minimum weight and number of machines needed to deploy the GCL and geomembrane. Vehicles shall be operated to minimize the formation of ruts and surface deformations and to prevent damage to the GCL and geomembrane. Deployment methods shall be selected to prevent any tearing or combing out of fibers of the GCL.

11. Soil cover placement over the geosynthetics shall be completed in the same construction season as the geosynthetic construction.

12. The soil barrier layer shall consist of fine-grained soil or a well graded sandy soil with fines, meeting the USCS soil types ML, CL, CH, SM, or SC or dual-symbol classifications of these soils, with at least 25% by weight passing the P200 sieve size. The upper one foot shall have a maximum particle size of 2 inches or less. The lower one foot shall have a maximum particle size of 4 inches or less.

13. The soil barrier layer shall be compacted in lift heights of no greater than 12 inches after compaction using footed compaction equipment with feet at least 6 inches long. Each lift shall be disked or otherwise mechanically processed prior to compaction to break up clods and allow for moisture content adjustment. Clod size shall be no greater than 4 inches.

14. A sufficient number of passes of the compaction equipment shall be made over each lift to ensure complete remolding of the soil. All compaction equipment utilized shall have a minimum static weight of 30,000 pounds. Compaction equipment with static weight that exceeds 15,000 pounds may be utilized where it utilizes vibration to achieve dynamic compaction that exceeds 30,000 pounds of compaction energy. Lighter equipment may be used in small areas where it is not possible to use full size equipment. Alternative procedures or equipment may be proposed for approval by the department.

15. All soil shall be compacted to 90% modified or 95% standard Proctor density or greater at a moisture content at or wet of optimum. As soil placement proceeds, the minimum density and moisture content targets shall be adjusted as necessary.

16. Each lift shall be keyed into clay or soil barrier layer soils in adjacent phases to form a continuous seal. This shall be accomplished by excavating steps with a minimum width of 2 feet along

the edge of the existing phase and overlapping them with lifts being placed for the new phase. A minimum of 2 steps shall be included.

17. The surface of the top lift shall be graded or compacted to be smooth and firm and shall be inspected for removal of coarse gravel, cobbles and debris prior to placement of a GCL.

(b) For industrial solid waste landfills that predominantly accept compressible wastes or wastes with high water contents and low strength, the clay layer may be replaced by a GCL overlying a minimum of a one foot sand layer. The gradation of the sand layer shall be a uniform sand selected to vent gas, drain leachate and provide hydration water to the GCL.

(c) For industrial solid waste landfills that predominantly accept ash, the clay layer may be replaced by a GCL overlying a minimum of 2 feet of soil barrier layer. The soil barrier layer shall meet the requirements of par. (a)13. to 17. The upper foot of soil barrier layer shall also meet the requirements of par. (a)12. The lower foot shall be designed to provide a capillary break between the ash and the upper one foot of soil barrier layer.

(d) The lower one foot of the clay layer may be replaced with a minimum of one foot of foundry green sand system sand with a bentonite content of greater than 6%, a liquid limit of greater than 20, a plasticity index of greater than 6, and a hydraulic conductivity of less than $1x10^{-7}$ cm/sec. The green sand system sand shall be compacted to 90% modified or 95% standard Proctor density or greater at a moisture content at or wet of optimum.

SECTION 54. NR 504.075 is created to read:

NR 504.075 Soil borrow sources. (1) GENERAL. This section applies to all soil borrow sources developed for the purpose of constructing, operating or closing landfills. Written approval from the department shall be obtained prior to initiating soil borrow activities at any borrow source subject to these requirements.

(2) EXEMPTIONS. (a) The following activities are exempt from the requirements of this section:

1. Production of processed aggregate products.

2. Excavation of soils from construction projects off of the landfill property, provided the soils will be used for purposes other than a compacted clay liner or capping layer, soil barrier layer, leachate collection layer or final cover drain layer.

(b) Soil borrow sources which are exclusively within the proposed or approved limits of filling for a landfill or areas where soils are obtained from excavation projects developed primarily for purposes other than construction, operation or closure of a landfill are not subject to the requirements of subs. (3) and (4)(b).

(3) INITIAL SITE INSPECTION. An initial site inspection shall be conducted in accordance with s. NR 509.04 for each proposed soil borrow source.

(4) LOCATIONAL INFORMATION. (a) Submittals for soil borrow sources shall include a description of total acreage, ownership, location by quarter – quarter section and by parcel corner using a coordinate system and datum acceptable to the department, present land uses, transportation routes, any access restrictions and travel distance to and from the landfill.

(b) Submittals for soil borrow sources shall include site–specific surface water drainage patterns and significant hydrologic features such as surface waters, springs, drainage divides and wetlands; areas of special natural resource interest; and historical or archaeological areas within and adjacent to the proposed limits of excavation.

(5) FIELD AND LABORATORY INVESTIGATIONS FOR CLAY BORROW SOURCES AND SOIL BARRIER LAYER SOURCES. Submittals for soil borrow sources shall include field and laboratory investigations to define the physical characteristics of any clay borrow source or soil barrier layer source designated to be used for a liner or final cover for the landfill. An alternative geotechnical investigation program may be used if it is approved by the department in writing prior to performing the field and laboratory investigations. An alternative geotechnical investigation program may be submitted in cases where previous information exists regarding the proposed soil borrow source. Submittals for soil borrow sources shall include justification for any reduction in sampling or testing frequency required by this section or by an approved alternative geotechnical investigation.

(a) A minimum of 10 test pits or borings for the first 5 or less acres and one test pit or boring for each additional 3 or less acres shall be excavated or drilled on a uniform grid pattern across each proposed borrow source to document the depth, lateral extent and uniformity of the clay or soil barrier layer. The department recommends using test pits as the method of borrow source investigation. Logs identifying the geologic origin, testing results, USCS classification and a visual description of each major soil unit encountered shall be included with the submittals for soil borrow sources.

(b) A minimum of 2 representative samples from each test pit or boring shall be analyzed by a soils laboratory for Atterberg limits and grain size distribution to the 0.002 millimeter particle size using mechanical and hydrometer methods. Each sample shall be classified according to the USCS.

(c) A minimum of one representative sample from each major soil unit shall be tested for the relationship of water content to dry density using either the modified or standard Proctor method. For uniform clay deposits or uniform soil barrier layer source deposits, no fewer than 3 samples shall be tested. Each Proctor curve shall be developed with a minimum of 5 points. If the line of optimums method is anticipated to be used in construction, both the standard and modified Proctor curves shall be developed for each representative sample.

(d) A minimum of one laboratory hydraulic conductivity test shall be conducted on each sample used to develop the Proctor curves. The samples tested shall be at or above the optimum moisture content. This requirement does not apply if the soil borrow source is contiguous with a previously approved borrow source for clay or soil barrier layer soils and all field observations and laboratory test results support an interpretation that the soil borrow source occupies the same soil horizon and has the same genesis as the previously approved borrow source. Support for such a conclusion shall be provided in the submittals for soil borrow sources.

(6) STOCKPILING Stockpiling of soils obtained from clay borrow sources and soil barrier layer sources for landfill liner or final cover construction shall be conducted in an organized manner that minimizes mixing of dissimilar soil types. Soils shall be segregated into stockpiles based on similar USCS soil type, soil gradation, Atterberg limits and compaction specifications. Soils from differing sources may not be commingled unless soil properties are similar.

(7) DATA PRESENTATION FOR ALL CLAY BORROW SOURCES AND SOIL BARRIER LAYER SOURCES. Submittals for soil borrow sources for clay and soil barrier layers shall include all of the following:

(a) The calculated volume of soil needed and the volume of acceptable soil available.

(b) Property boundaries and any test pit or boring locations, shown on a topographic map with a scale of 1 inch = 500 feet and provided in a digital format acceptable to the department. The mapped area shall extend a minimum of 500 feet beyond the proposed borrow source.

(c) An isopach map showing the thickness of acceptable soil.

(d) A description of the methods to be used for separating the acceptable soil from any unacceptable soil.

(e) A proposal for maintaining drainage and sedimentation control.

(f) All data obtained from the testing program.

(8) DATA PRESENTATION FOR OTHER BORROW SOURCES. Submittals for soil borrow sources other than those used for clay and soil barrier layers shall include all of the following:

(a) Property boundaries shown on a topographic map with a scale of 1 inch = 500 feet and provided in a digital format acceptable to the department. The mapped area shall extend a minimum of 500 feet beyond the proposed borrow source.

(b) A proposal for maintaining drainage and sedimentation control.

(9) STORMWATER MANAGEMENT. Submittals for soil borrow sources shall include a stormwater management plan that complies with the requirements of s. NR 504.09(1)(a) to (f) and (h) to (j), unless the borrow source is subject to other permits with equivalent authority and requirements, such as a stormwater discharge permit or non-metallic mining reclamation permit.

(10) RECLAMATION OF BORROW SITES. Submittals for soil borrow sources shall include a reclamation plan detailing the actions to be taken to achieve successful reclamation of the borrow source.

(a) Reclamation plans for borrow sources on the property where the landfill is located shall specify a post-mining land use that is integrated with the existing and proposed drainage, surface water discharge requirements, grades and final use of the landfill. The reclamation plan shall be prepared consistent with the applicable standards in ss. NR 135.06 to 135.12.

(b) Soil borrow areas that are not on the landfill property are subject to the provisions of ch. NR 135 and, if required, shall submit a reclamation plan and obtain a nonmetallic mining reclamation permit from the appropriate regulatory authority.

(11) OTHER REQUIREMENTS. (a) Clay borrow sources and soil barrier layer sources proposed for a liner or final cover that have less than a 5 foot but greater than 2 foot uniform thickness may be approved if the applicant demonstrates an excavation methodology and a documentation procedure to ensure that all soil used meets soil index properties required by this chapter.

(b) Submittals for soil borrow sources shall include a description of any necessary measures to be taken to comply with wetlands protection requirements, runoff and sediment controls and surface water discharge permit requirements and to minimize effects on areas of special natural resource interest and historical or archaeological areas within and adjacent to the proposed limits of excavation.

Note: It may be necessary to obtain federal, state or local permits prior to excavating soil from a borrow source near surface waters or wetlands. For example, s. 30.19 (1) (c), Stats., requires a permit for grading or removing top soil from the bank of any navigable stream, lake or body of navigable water where the area exposed by such grading or removal will exceed 10,000 square feet. It is the responsibility of the applicant or property owner to obtain any federal, state or local permits that are required and to provide reference to those other permit applications in the submittals for soil borrow sources.

SECTION 55. NR 504.07(8) is amended to read:

NR 504.07(8) REVEGETATION. The seed type and amount of fertilizer applied shall be proposed depending on the type and quality of topsoil and compatibility with both native vegetation and the final use. Unless otherwise approved by the department in writing, seed mixtures and ~~application~~ sowing rates shall be ~~in accordance with~~ those specified for right–of–ways according to section 630, 2003 edition of the Wisconsin department of transportation standard specifications for ~~road~~ highway and ~~bridge~~ structure construction and the 2004 supplemental specifications. Application rates for fertilizer and mulch shall also be specified.

Note: ~~Copies of~~ The 2003 edition of the Wisconsin department of transportation standard specifications for ~~road~~ highway and ~~bridge~~ structure construction and any annual supplemental specifications are available at www.dot.wisconsin.gov/business/engrserv/construction-library.htm or can be obtained from the department of natural resources, bureau of waste management, 101 S. Webster Street, P.O. Box 7921, Madison, ~~Wisconsin, 53707~~ WI 53707-7921, (608) 266-2111, waste.management@dnr.state.wi.us. Copies are also available for inspection at the offices of the revisor of statutes and the secretary of state.

SECTION 56. NR 504.08(2)(e) is amended to read:

NR 504.08(2)(e) The backfill around the slotted or perforated pipe in the borehole shall be one to one and 1/2 inch washed stone. The top 10 feet of the borehole shall be sealed.

SECTION 57. NR 504.09(2)(e) is repealed.

SECTION 58. NR 506.07(2)(a)(intro.) and 5.(Note) are amended to read:

NR 506.07(2)(a)(intro.) All areas of the landfill property, including areas of temporary disturbance, with the potential for off-site migration of sediment shall be designed, constructed and maintained in accordance with the applicable requirements of s. NR 504.09(1), and ~~best management practices~~ technical standards developed under subch. V of ch. NR 151, which include the following:

5. **Note:** ~~Best management practice is detailed in "Wisconsin Construction Site Best Management Practice Handbook" published~~ The technical standards developed by the Wisconsin department of natural resources, ~~management nonpoint source and land~~ runoff management ~~practices section~~ program are available at www.dnr.state.wi.us/org/water/wm/nps/stormwater/techstds.htm or can be obtained from the department of natural resources, bureau of waste management, 101 S. Webster Street, P.O. Box 7921, Madison, WI 53707-7921, (608) 266-2111, waste.management@dnr.state.wi.us. Copies are also available for inspection at the offices of the revisor of statutes and the secretary of state.

SECTION 59. NR 506.07(6) is repealed.

SECTION 60. NR 506.08(4) is amended to read:

NR 506.08(4) ESTABLISHMENT OF VEGETATION. Within 180 days after ceasing to accept solid waste, or if solid waste termination is after September 15, by June 15 of the following year, the owner or operator shall complete seeding, fertilizing and mulching of the finished surface. The seed type and amount of fertilizer applied shall be selected depending on the type and quality of topsoil and compatibility with both native vegetation and the final use. Unless otherwise approved by the department in writing, seed mixtures and ~~applications~~ sowing rates shall be those specified for right–of–ways in accordance with section 630, Wisconsin department of transportation standard specifications for ~~road~~ highway and ~~bridge~~ structure construction.

Note: ~~Copies of~~ The Wisconsin department of transportation standard specifications for ~~road~~ highway and ~~bridge~~ structure construction is available at www.dot.wisconsin.gov/business/engrserv/construction-library.htm or can be obtained from the department of natural resources, bureau of waste management, 101 s. webster street, P.O. Box 7921, Madison, ~~Wisconsin 53707~~ WI 53707-7921, (608) 266-2111, waste.management@dnr.state.wi.us. Copies are also available for inspection at the offices of the revisor of statutes and the secretary of state.

SECTION 61. NR 506.09(2)(f)(Note) is amended to read:

NR 506.09(2)(f) **Note:** Landfill operators who wish to accept hazardous waste from very small quantity generators subject to s. NR 610.07(1) ~~must~~ shall obtain approval from the department under s. NR ~~181.13(7) 1987 Wis. Adm. Code~~ 506.155.

SECTION 62. NR 506.105(4)(c) is amended to read:

NR 506.105(4)(c) The tonnage records of untreated petroleum contaminated soil accepted annually shall be summarized and submitted with the annual tonnage certification report ~~as~~ required by s. ~~NR 520.14(4)~~ NR 520.14(3)(a).

SECTION 63. NR 506.15(2)(c) and (3)(g) are amended to read:

NR 506.15(2)(c) The landfill area used for disposal shall be designed and constructed, at a minimum, as a composite lined monofill meeting the requirements of s. NR 504.11(2)(a). Operators of medical waste combustors with a design capacity of less than 10 tons per day may apply to the department for a written exemption to this requirement. All municipal solid waste combustor residue that meets or exceeds the test limits specified in s. NR 502.13(6)(g) or subsequent confirmation testing as specified in s. NR 502.13(6)(h), and is not subsequently treated to below those limits, may not be disposed of in a municipal solid waste landfill and shall be managed in accordance with chs. NR 600 to ~~690~~ 685.

(3)(g) Only residue that has been tested in accordance with ~~s. NR 502.14 (8)~~ s. NR 502.13(5) or (6) may be accepted.

SECTION 64. NR 507.05(2)(Note) is amended to read:

(2) **Note:** Wisconsin geological and natural history survey, 3817 ~~mineral point road~~ Mineral Point Road, Madison, ~~Wisconsin~~ WI 53705-5100, ~~Phone (608) 263-7387~~ (608) 262-1705, www.uwex.edu/wgnhs.

SECTION 65. NR 507.14(5)(a), (b), (e) and (f)(Note) are amended to read:

NR 507.14(5)(a) Groundwater monitoring well information form ~~4400-89~~ 4400–089, for use whenever monitoring points are added or removed from the monitoring system, including water supply wells. Within 6 months following July 1, 1996, all owners and operators of solid waste landfills where

monitoring is required shall submit a completed form which includes the current condition of all existing and former monitoring points and whether the well is a Subtitle D well. Following this submittal of the form, future submittals may contain only the changes to the monitoring network being documented.

(b) Groundwater monitoring inventory form ~~3300-67~~ 3300–067 for all water supply wells.

(e) Well/drillhole/borehole abandonment form ~~3300-5B~~ 3300–005.

(f) **Note:** The forms and software for submitting the forms electronically are available at http://dnr.wi.gov/org/aw/wm/monitor. The forms and the software may also be obtained from the department of natural resources, bureau of waste management, 101 S. Webster Street, P.O. Box 7921, Madison, WI 53707-7921, (608) 266-2111, waste.management@dnr.state.wi.us.

SECTION 66. NR 507.14(6)(Note) is repealed.

SECTION 67. NR 507.16(intro.)(Note) is amended to read:

NR 507.16(intro.) **Note:** The department ~~intends to periodically issue technical guidance relating to groundwater sampling procedures and methodologies~~ developed the Groundwater Sampling Desk Reference, PUBL-DG-037 96, document sales stock no. 1728D, September 1996, and Groundwater Sampling Field Manual, PUBL-DG-038 96, document sales stock no. 1729D, September 1996. ~~The guidelines~~ These publications are available at http://dnr.wi.gov/org/water/dwg/gw/pubdnld.htm. They may also be obtained from the department of ~~natural resources~~ administration, ~~bureau of waste management~~ document sales & distribution, ~~101 south webster street~~ 202 S. Thornton Ave., ~~natural resources building, p.o. box~~ P. O. Box ~~7921~~ 7840, Madison, ~~Wisconsin~~ WI ~~53707-7921~~ 53707-7840, (800) 362-7253, http://doa.wi.gov/dsas. The reference and manual are available for inspection at the offices of the department of natural resources, the revisor of statutes and the secretary of state.

SECTION 68. NR 507.17(4) is amended to read:

NR 507.17(4) ANALYTICAL METHODS. Groundwater, lysimeter and leachate samples shall be handled and analyzed in accordance with the requirements of methods listed in ~~Appendices II, III and IV corresponding to the listed analytical parameters~~"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW 846, third edition, November 1986, as amended by Updates I in July 1992, II in September 1994, IIA in August 1993, IIB in January 1995, III in December 1996 and IIIA in April 1998. The methods used shall be suitable for the matrix, type of analyte, expected level of analyte, regulatory limit, and potential interferences in the samples to be tested. Screening methods may not be used unless approved in writing by the department. Water supply samples shall be handled in accordance with s. NR 507.20. The department may approve alternative analytical methods under s. NR 149.12.

Note: The test methods are available at no cost at www.epa.gov/epaoswer/hazwaste/test/main.htm. Copies of the test methods are available for inspection at the offices of the department of natural resources, the secretary of state and the revisor of statutes. Copies may be obtained from the superintendent of documents, U.S. government printing office, P.O. Box 371954, Pittsburgh, PA 15250-7954, (866) 512-1800, www.gpoaccess.gov. Copies may also be obtained from the national technical information service, U.S. department of commerce, 5285 Port Royal Road, Springfield, VA 22161, (800) 553-6847, www.ntis.gov.

SECTION 69. NR 507.17(5) and (7)(m)(Note) are amended to read:

NR 507.17(5) LABORATORY REQUIREMENTS. All chemical analyses shall be conducted by a laboratory certified under s. 299.11, Stats., and ch. NR 149 for that test category. The limit of detection and the limit of quantitation shall be determined ~~in accordance with~~ according to s. NR 149.11(5). The analytical laboratory shall meet the requirements of the analytical method and ch. NR 149. Section NR 140.16(4) applies to analytical results that do not meet the requirements of this ~~paragraph~~ subsection.

(7)(m) **Note:** ASTM International publishes methods for these tests. Copies of ASTM methods ~~are available~~ may be obtained from: ASTM International, ~~1916 race street~~ 100 Barr Harbor Drive, ~~Philadelphia, Pennsylvania,~~ West Conshohocken, PA ~~19103~~ 19428-2959, (610) 832-9585, www.astm.org.

SECTION 70. NR 507.20(1)(a) and (b) and (3)(b) are amended to read:

NR 507.20(1)(a)Water supply well samples shall be collected~~,~~ and handled ~~and analyzed~~ in accordance with the procedures specified in ch. NR 809.

(b)Water supply well samples shall be analyzed ~~in accordance with plans approved by the department~~ by methods equivalent to, or at least as stringent as, methods specified in ch. NR 809. If VOCs are required for analysis, results for all VOCs listed in Appendix III shall be reported to the department.

(3)(b) Submit to the department along with the sampling results all the information on the groundwater monitoring inventory form ~~3300-67 in Appendix V~~ 3300–067 for each well.

Note: ~~Copies of this~~ The form is available at http://dnr.wi.gov/org/aw/wm/monitor. It may also be obtained from the department of natural resources, bureau of ~~drinking water and groundwater~~ waste management, 101 ~~south webster street~~ South Webster Street, ~~natural resources building,~~ p.o. box 7921, Madison, ~~Wisconsin 53707~~ WI 53707-7921, (608) 266-2111, waste.management@dnr.state.wi.us.

SECTION 71. NR 507.21(3) is created to read:

NR 507.21(3) LEACHATE HEAD MONITORING. Owners or operators of solid waste disposal facilities shall sample all leachate head wells for leachate head levels on a quarterly basis, at a minimum, unless otherwise approved by the department, and report the data to the department semi-annually and in accordance with s. NR 507.26 (3).

SECTION 72. NR 507.22 is amended to read:

NR 507.22 Gas monitoring. **(1)** GAS MIGRATION. The department may require the owner or operator to install gas monitoring devices, to prepare and submit gas sampling and analysis programs, and to monitor for gas migration~~, and to determine the effectiveness of any gas extraction systems~~. If explosive gases are detected in any gas monitoring well located outside of the limits of filling, the department may require any or all of the following: more frequent monitoring, monitoring for pressure or other parameters, and the installation of additional gas monitoring wells which may include nests of wells screened over shorter vertical intervals. Where monitoring is required, the owner or operator shall comply with all of the following:

~~**(1)**~~(a) ~~SAMPLING PARAMETERS~~*Sampling parameters*. The owner or operator shall sample gas monitoring wells quarterly for percent methane and percent oxygen. Each time a well is sampled, the following shall be recorded: temperature, ground condition, barometric pressure, information as to whether the barometric pressure is rising or falling, and initial and stabilized methane levels. Initial

readings are not required to be reported unless the stabilized reading for a particular monitoring point drops to zero.

~~**(2)**~~(b) ~~SAMPLING~~*Sampling*. Sampling shall be performed with properly calibrated instruments. When a gas monitoring well is being sampled, the gas monitoring instrument shall be attached to the well prior to opening the valve on the gas monitoring well.

~~**(3)** REPORTING. Unless otherwise approved by the department, the owner or operator shall report gas monitoring sampling results in accordance with s. NR 507.26 (3).~~

~~**(4)**~~(c) ~~NOTIFICATION AND REMEDIATION~~*Notification and remediation*. The owner or operator shall immediately notify the department and take all necessary steps to protect public health and welfare if a stabilized reading exceeds the lower explosive limit of any explosive gas generated by the waste fill in the soils outside of the limits of filling or air within 200 feet of the landfill property boundary or beyond the landfill property boundary, or 25% of the lower explosive limit in any facility structure, excluding gas control or recovery system components. Within 30 days of determining that the applicable gas level was exceeded, the owner or operator shall submit a remediation plan to the department describing the degree and extent of the problem and the proposed remedy. Within 60 days of determining that the applicable gas level was exceeded, the owner or operator shall implement the remediation plan. As additional requirements for owners or operators of landfills meeting the requirements of s. NR 507.15 (2), within 7 days of determining that the applicable gas level was exceeded, the operating record shall be updated to indicate the level detected and the steps taken to protect public health. The proposed remediation plan and notification of its implementation shall also be placed in the operating record. The department may upon written request, approve alternate schedules for submittal and implementation of the remediation plan.

SECTION 72m. NR 507.22(2) and (3) are created to read:

NR 507.22(2) GAS EXTRACTION. The department may require the owner or operator to install monitoring ports and conduct monitoring activities to determine the effectiveness of any gas extraction or venting system.

(3) REPORTING. Unless otherwise approved by the department, the owner or operator shall report gas monitoring results to the department no less frequently than semi-annually and in accordance with s. NR 507.26(3).

SECTION 73. NR 507.26(2) and (3)(a)1. and (Note) are amended to read:

NR 507.26(2) WATER SUPPLY WELL SAMPLING RESULTS. (a) The owner or operator shall report to the department the results of all water supply well sampling required by the department within 10 days after receipt in accordance with ch. 160, Stats. The results shall be accompanied by 2 copies of a cover letter which highlights values that attain or exceed enforcement standards in s. NR 140.10 Table 1. The owner or operator shall report to the department the results of all water supply well sampling required by the department in accordance with sub. (3).

(3)(a) *Data submittal format.* ~~1. Except as provided in subd. 2., the~~The owner or operator shall submit results of all environmental monitoring in an electronic format specified by the department.

Note: The specific data formats for electronic monitoring result submittals ~~may~~ can be obtained from the department of natural resources, bureau of waste management, ~~wa/3,~~ 101 S. Webster Street, p.o. box 7921, Madison, ~~Wisconsin 53707~~ WI 53707-7921, (608) 266-2111, waste.management@dnr.state.wi.us.

SECTION 74. NR 507.26(3)(a)2. is repealed.

SECTION 75. NR 507.26(3)(b)1., 4.b. and (Note) are amended to read:

NR 507.26(3)(b)1. The limit of detection and the limit of quantitation for each parameter with a public health related groundwater standard. The limit of detection and the limit of quantitation shall be determined in accordance with a method specified by the department as required in s. NR 149.11 (5).

4.b. All parameters from samples which fail to meet preservation and holding times specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 , third edition, November 1986, as amended by Updates I in July 1992, II in September 1994, IIA in August 1993, IIB in January 1995, III in December 1996 and IIIA in April 1998 ~~;~~ .

Note: The test methods are available at no cost at www.epa.gov/epaoswer/hazwaste/test/main.htm. Copies of ~~EPA SW-846~~ the test methods are available for inspection at the offices of the department of natural resources, the secretary of state and the revisor of statutes. Copies may be obtained from the superintendent of documents, U.S. government printing office, P.O. Box 371954, Pittsburgh, PA 15250-7954, (866) 512-1800, www.gpoaccess.gov. Copies may also be obtained from the national technical information service, 5285 ~~port royal road~~Port Royal Road, Springfield, ~~Virginia~~ VA 22161 ~~. Phone (703) 487-4600~~ , (800) 553-6847, www.ntis.gov.

SECTION 76. NR 507.27(2)(Note) is amended to read:

Note: Guidance for calculations is available from the department of natural resources, ~~technical support section of the~~ bureau of waste management, 101 south webster street, p.o. box 7921, Madison, ~~Wisconsin~~ WI 53707-7921, (608) 266-2111, waste.management@dnr.state.wi.us.

SECTION 76m. NR 507.30(3) is amended to read:

NR 507.30(3) GAS MONITORING WELLS. When a stabilized gas reading exceeds the lower explosive limit at locations specified in s. NR 507.22 ~~(4)~~(1)(c), the owner or operator shall immediately notify the department and respond in accordance with s. NR 507.22 ~~(4)~~(1)(c).

SECTION 77. NR 507 Appendix I Table 1, footnote 1 and (Notes) are amended to read:

APPENDIX I
BASELINE AND DETECTION MONITORING REQUIREMENTS

Table 1

DETECTION GROUNDWATER MONITORING
FOR LANDFILLS ACCEPTING
MUNICIPAL SOLID WASTE

Waste Type	Detection Parameters[1]	Frequency for All Wells	Frequency for Subtitle D Wells
Municipal solid waste	Alkalinity Chloride ~~COD~~ Field conductivity (at 25°C) Field pH Field temperature Groundwater elevation	Semi-annual	Semi-annual

	Hardness		
	VOC scan[2]	Annual	Semi-annual
Municipal solid waste combustor residue	Alkalinity Boron Cadmium Chloride ~~COD~~ Field conductivity (at 25°C) Field pH Field temperature Groundwater elevation Hardness Lead Selenium Sulfate	Semi-annual	Semi-annual

1 Additional parameters are required if other waste types are accepted at the landfill. See Table 2.

~~**Note:**~~ 2 Refer to Appendix III for a list of ~~VOCs, parameter numbers, CAS numbers, synonyms and analytical methods required to run VOC analyses.~~ the individual volatile organic compounds required for a VOC Scan.

~~**Note:** Refer to Appendix IV for a list of metals and indicator parameters , the parameter numbers and the analytical methods required to run the analyses.~~

SECTION 78. NR 507 Appendix I Table 2 and (Note) are amended to read:

Table 2

DETECTION GROUNDWATER MONITORING

FOR LANDFILLS ACCEPTING

WASTE TYPES OTHER THAN MUNICIPAL SOLID WASTE

Waste Type	Detection Parameters	Frequency for All Wells
Paper mill sludge	Ammonia nitrogen Alkalinity Chloride COD Field conductivity (at 25°C) Field pH Field temperature Groundwater elevation Hardness Nitrate + Nitrite ~~as N~~ (as N) Sulfate	Semi-annual
Fly or bottom ash	Alkalinity Boron COD Field conductivity (at 25°C) Field pH Field temperature Groundwater elevation Hardness Sulfate	Semi-annual
Foundry waste	Alkalinity COD Field conductivity (at 25°C) Field pH Field temperature Fluoride Groundwater elevation	Semi-annual

	Hardness Sodium	
Demolition ~~Waste~~ waste	Demolition monitoring requirements are listed in ch. NR 503	
Other solid waste	As specified in writing by the department	

~~**Note:** Refer to Appendix IV for a list of metals and indicator parameters, the parameter numbers and the analytical methods required to run the analyses.~~

SECTION 79. NR 507 Appendix I Table 3 and (Note) are amended to read:

Table 3

BASELINE GROUNDWATER MONITORING
PUBLIC HEALTH AND WELFARE PARAMETERS
NOT INCLUDED AS DETECTION MONITORING PARAMETERS

PUBLIC WELFARE STANDARDS	PUBLIC HEALTH STANDARDS	
Copper Manganese Sulfate Zinc	Arsenic Barium Cadmium Chromium Fluoride Lead Mercury Nitrate + Nitrite (as N) Selenium Silver	Antimony* Beryllium* Cobalt* Nickel* Thallium* Vanadium*
	*Only required for background at Subtitle D wells	

~~**Note:** Refer to Appendix IV for parameter numbers and required analytical methods~~.

SECTION 80. NR 507 Appendix I Table 4 and (Note) are amended to read:

Table 4

DETECTION LEACHATE MONITORING
FOR ALL LANDFILLS[1,2]

Municipal Solid Waste and Municipal Solid Waste Combustor Residue	Paper Mill Sludge	Fly or Bottom Ash	Foundry Waste
The volume of the leachate removed shall be recorded at least monthly and reported to the department semi-annually.			
Semi-Annual Monitoring Parameters			
BOD_5 Field Conductivity (at 25°C) Field pH Alkalinity Cadmium Chloride COD Hardness Iron Lead Manganese Mercury Ammonia nitrogen Total Kjeldahl nitrogen Sodium Sulfate Total suspended solids VOC scan[3] Other parameters specified by waste type in this table if accepted at the landfill	BOD_5 Field Conductivity (at 25°C) Field pH Alkalinity Cadmium Chloride COD Hardness Iron Lead Manganese Mercury Ammonia nitrogen Total Kjeldahl nitrogen Sodium Sulfate Total suspended solids VOC scan[3]	BOD_5 Field Conductivity (at 25°C) Field pH Alkalinity Boron Cadmium Chloride COD Hardness Iron Lead Manganese Mercury Selenium Sulfate Total suspended solids	BOD_5 Field Conductivity (at 25°C) Field pH Alkalinity Cadmium Chloride COD Fluoride Hardness Iron Lead Manganese Mercury Sodium Sulfate Total suspended solids VOC scan[3]
Annual Monitoring Parameters			
~~Base/Neutral Extractable Compounds~~ ~~Acid Extractable Compounds~~ Semivolatile organic compound scan[4]	~~Base/Neutral Extractable Compounds~~ ~~Acid Extractable Compounds~~ Semivolatile organic compound scan[4]	~~Base/Neutral Extractable Compounds~~ ~~Acid Extractable Compounds~~ Semivolatile organic compound scan[4]	~~Base/Neutral Extractable Compounds~~ ~~Acid Extractable Compounds~~ Semivolatile organic compound scan[4]

1 Leachate monitoring for other solid waste not included in this table may be done as specified by the department in writing.

~~Note:~~ 2 Leachate samples ~~shall~~ may not be filtered. The color, odor and turbidity shall also be noted for all samples.

~~Note:~~ 3 Refer to Appendix III for a list of ~~VOCs, parameter numbers, CAS numbers, synonyms and analytical methods required to run VOC analyses.~~ the individual volatile organic compounds required for a VOC Scan.

~~Note:~~ ~~Refer to Appendix IV for a list of metals and indicator parameters, the parameter numbers and the analytical methods required to run the analyses.~~

4 Refer to Appendix IV for a list of the individual Semivolatile organic compounds required for a Semivolatile organic compound scan.

SECTION 81. NR 507 Appendix I Table 5 and (Note) are amended to read:

Table 5

DETECTION LYSIMETER MONITORING
FOR ALL LANDFILLS[1,2]

Municipal Solid Waste	Municipal Solid Waste Combustor Residue	Paper Mill Sludge	Fly or Bottom Ash	Foundry Waste
The volumes of lysimeter fluid removed shall be recorded and be reported to the department semi-annually.				
Semi-annual Monitoring Parameters				
Field conductivity (at 25°C) Field pH Alkalinity Hardness Chloride COD Total Kjeldahl nitrogen Sodium Sulfate Other parameters specified by waste type in this table if accepted at the landfill	Field conductivity (at 25°C) Field pH Alkalinity Cadmium Hardness Chloride COD Lead Total Kjeldahl nitrogen Sodium Sulfate	Field conductivity (at 25°C) Field pH Alkalinity Hardness Chloride COD Total Kjeldahl nitrogen Sodium Sulfate	Field conductivity (at 25°C) Field pH Alkalinity Boron Hardness Chloride COD Total Kjeldahl nitrogen Sulfate	Field conductivity (at 25°C) Field pH Alkalinity Hardness Chloride COD Fluoride Total Kjeldahl nitrogen Sulfate
Annual Monitoring Parameters				
VOC ~~Scan~~ scan[3]	VOC ~~Scan~~ scan[3]	VOC ~~Scan~~scan[3]		VOC ~~Scan~~ scan[3]

1 Lysimeter monitoring for landfills accepting waste not included in this table shall be done as specified by the department in writing.
2 Lysimeter samples may not be filtered. When only small sampling volumes are obtained, the VOC scan shall take precedence. The color, odor and turbidity shall also be noted for all samples.

~~Note:~~ 3 Refer to Appendix III for a list of ~~VOCs, parameter numbers, CAS numbers, synonyms and analytical methods required to run VOC analyses.~~ the individual volatile organic compounds required for a VOC Scan.

~~**Note:** Refer to Appendix IV for a list of metals and indicator parameters, the parameter numbers and the analytical methods required to run the analyses~~.

SECTION 82. NR 507 Appendix II and (Note) are amended to read:

APPENDIX II
SUBSTANCES FOR ASSESSMENT MONITORING[1]
AT MUNICIPAL SOLID WASTE LANDFILLS

Common name[2]	~~Parameter No.[3]~~	CAS RN[4]	Synonyms	~~Analytical methods[5]~~
Acenaphthene	~~34205~~	83-32-9	1,2-Dihydroacenaphthylene	~~8100, 8270, 8310~~
Acenaphthylene	~~34200~~	208-96-8		~~8100, 8270, 8310~~
Acetone	~~81552~~	67-64-1	2-Propanone	~~8260~~
Acetonitrile	~~76997~~	75-05-8	Methyl cyanide	~~8015,8260~~
Acetophenone	~~81553~~	98-86-2	1-Phenylethanone	~~8270~~
2-Acetylaminofluorene	~~73501~~	53-96-3	N-9H-fluoren-2-yl-Acetamide; 2-AAF	
Acrolein	~~34210~~	107-02-8	2-Propenal	~~8015,8030, 8260~~
Acrylonitrile	~~34215~~	107-13-1	2-Propenenitrile	~~8015,8030, 8260~~
Aldrin	~~39330~~	309-00-2	1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro- 1,4,4a,5,8,8a-hexahydro- (1a,4a,4ab,5a,8a-,8ab)-	~~8081, 8080, 8270~~
Allyl chloride	~~78109~~	107-05-1	3-Chloro-1-propene	~~8021, 8260~~
4-Aminobiphenyl	~~77581~~	92-67-1	[1,1'-Biphenyl]-4-amine	~~8270~~
Anthracene	~~34220~~	120-12-7		~~8100*, 8270~~
Antimony	~~01097~~	7440-36-0		~~6010, 7040*, 7041~~
Arsenic	~~01002~~	7440-38-2		~~6010, 7060, 7061~~
Barium	~~01007~~	7440-39-3		~~6010, 7080*~~
Benzene	~~34030~~	71-43-2		~~8021,8260~~
Benzo[a]anthracene	~~34526~~	56-55-3	Benzanthracene	~~8100, 8270, 8310~~
Benzo[b]fluoranthene	~~34230~~	205-99-2	Benz[e]acephenanthrylene	~~8100, 8270, 8310~~
Benzo[k]fluoranthene	~~34242~~	207-08-9		~~8100, 8270, 8310~~
Benzo[ghi]perylene	~~34521~~	191-24-2		~~8100, 8270, 8310~~
Benzo[a]pyrene	~~34247~~	50-32-8		~~8100, 8270, 8310~~
Benzyl alcohol	~~77147~~	100-51-6	Benzenemethanol	~~8270~~
Beryllium	~~01012~~	7440-41-7		~~6010, 7090, 7091~~
alpha-BHC	~~39076~~	319-84-6	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1a,2a,3b,4a,5b, 6b)	~~8081, 8270, 8080, 8250*~~
beta-BHC	~~39338~~	319-85-7	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1a,2b,3a,4b,5a,6b)-	~~8081, 8270, 8080, 8250*~~

delta-BHC	~~34259~~	319-86-8	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1a,2a,3a,4b,5a,6b)-	~~8081, 8270, 8080, 8250*~~
gamma-BHC; Lindane	~~39340~~	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1a,2a,3b,4a,5a,6b)-	~~8081, 8270, 8080, 8250*~~
Bis(2-chloroethoxy)methane	~~34278~~	111-91-1	Ethane, 1,1'-[methylenebis(oxy)]bis-[2-chloro-	~~8270~~
Bis(2-chloroethyl)ether	~~34273~~	111-44-4	Ethane, 1,1'-oxybis[2-chloro-	~~8270~~
Bis(2-chloro-1-methylethyl) ether [see note ~~6~~ 4]	~~73522~~	108-60-1	2,2'-Dichlorodiisopropylether	~~8021, 8270~~
Bis(2-ethylhexyl) phthalate	~~39100~~	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl)ester	~~8061, 8060*, 8270~~
Bromochloromethane	~~77297~~	74-97-5	Chlorobromomethane	~~8021, 8260~~
Bromodichloromethane	~~32101~~	75-27-4	Dichlorobromomethane	~~8021, 8260~~
Bromoform	~~32104~~	75-25-2	Tribromomethane	~~8021, 8260~~
4-Bromophenyl phenyl ether	~~34636~~	101-55-3	Benzene, 1-bromo-4-phenoxy-	~~8270~~
Butyl benzyl phthalate	~~34292~~	85-68-7	Benzyl butyl phthalate	~~8060*, 8061, 8270~~
Cadmium	~~01027~~	7440-43-9		~~6010, 7130*, 7131~~
Carbon disulfide	~~77041~~	75-15-0		~~8260~~
Carbon tetrachloride	~~32102~~	56-23-5	Tetrachloromethane	~~8021, 8260~~
Chlordane [see note ~~7~~ 5]	~~39350~~	57-74-9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a- hexahydro	~~8081, 8080, 8250*~~
p-Chloroaniline	~~73529~~	106-47-8	Benzenamine, 4-chloro-	~~8270~~
Chlorobenzene	~~34301~~	108-90-7	Monochlorobenzene	~~8021, 8260~~
Chlorobenzilate	~~39460~~	510-15-6	Benzeneacetic acid, 4-chloro-a-(4-chlorophenyl)-a-hydroxy-, ethyl ester	~~8270~~
p-Chloro-m-cresol	~~34452~~	59-50-7	Phenol, 4-chloro-3-methyl-	~~8040*, 8041, 8270~~
Chloroethane	~~34311~~	75-00-3	Ethyl chloride	~~8021, 8260~~
Chloroform	~~32106~~	67-66-3	Trichloromethane	~~8021, 8260~~
2-Chloronaphthalene	~~34581~~	91-58-7		~~8120, 8270~~
2-Chlorophenol	~~34586~~	95-57-8		~~8040*, 8041, 8270~~
4-Chlorophenyl phenyl ether	~~34641~~	7005-72-3	Benzene, 1-chloro-4-phenoxy-	~~8270~~
Chloroprene	~~81520~~	126-99-8	1,3-Butadiene, 2-chloro-	~~8021, 8260~~
Chromium	~~01034~~	7440-47-3		~~6010, 7190*, 7191~~
Chrysene	~~34320~~	218-01-9		~~8100, 8270, 8310~~
Cobalt	~~01037~~	7440-48-3		~~6010, 7200*, 7201~~
Copper	~~01042~~	7440-50-8		~~6010, 7210, 7211~~
m-Cresol	~~77151~~	108-39-4	3-Methylphenol	~~8270~~
o-Cresol	~~77152~~	95-48-7	2-Methylphenol	~~8270~~
p-Cresol	~~77146~~	106-44-5	4-Methylphenol	~~8270~~

Cyanide	~~00720~~	57-12-5		~~9010~~
2,4-D; 2,4-Dichlorophenoxy-acetic acid	~~39730~~	94-75-7	Acetic acid, (2,4-dichlorophenoxy)-	~~8150, 8151~~
4,4'-DDD	~~39361~~	72-54-8	Benzene 1,1'-(2,2-dichloroethylidene)bis[4-chloro-	~~8081, 8080, 8270~~
4,4'-DDE	~~39366~~	72-55-9	Benzene, 1,1'-(dichloroethenylidene)bis[4-chloro	~~8081, 8080, 8270~~
4,4'-DDT	~~39371~~	50-29-3	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro	~~8081, 8080, 8270~~
Diallate	~~73540~~	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester	~~8270~~
Dibenzo[a,h]anthracene	~~34556~~	53-70-3	Dibenz[a,h]anthracene	~~8100, 8270, 8310~~
Dibenzofuran	~~81302~~	132-64-9		~~8270~~
Dibromochloromethane	~~32105~~	124-48-1	Chlorodibromomethane	~~8021, 8260~~
1,2-Dibromo-3-chloropropane	~~38437~~	96-12-8	DBCP	~~8021, 8260, 8270~~
1,2-Dibromoethane	~~77651~~	106-93-4	~~EDB,~~ Ethylene dibromide, EDB	~~8021, 8260~~
Di-n-butyl phthalate	~~39110~~	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester	~~8060*, 8270, 8061~~
o-Dichlorobenzene	~~34536~~	95-50-1	1,2-Dichlorobenzene	~~8021, 8120, 8270~~
m-Dichlorobenzene	~~34566~~	541-73-1	1,3-Dichlorobenzene	~~8021, 8120, 8270~~
p-Dichlorobenzene	~~34571~~	106-46-7	1,4-Dichlorobenzene	~~8021, 8120, 8270~~
3,3'-Dichlorobenzidine	~~34631~~	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-	~~8270~~
trans-1,4-Dichloro-2-butene	~~73547~~	110-57-6	2-Butene, 1,4-dichloro-, (E)-	~~8260~~
Dichlorodifluoromethane	~~34668~~	75-71-8	Freon 12, CFC-12	~~8021, 8260~~
1,1-Dichloroethane	~~34496~~	75-34-3	Ethyldidene chloride	~~8021, 8260~~
1,2-Dichloroethane	~~32103~~	107-06-2	Ethylene dichloride	~~8021, 8260~~
1,1-Dichloroethylene	~~34501~~	75-35-4	Vinylidene chloride; 1,1-Dichloroethene	~~8021, 8260~~
cis-1,2-Dichloroethylene	~~77093~~	156-59-2	cis-1,2-Dichloroethene	~~8021, 8260~~
trans-1,2-Dichloroethylene	~~34546~~	156-60-5	trans-1,2-Dichloroethene	~~8021, 8260~~
2,4-Dichlorophenol	~~34601~~	120-83-2		~~8040*, 8041, 8270~~
2,6-Dichlorophenol	~~77541~~	87-65-0		~~8270~~
1,2-Dichloropropane	~~34541~~	78-87-5	Propylene dichloride	~~8021, 8260~~
1,3-Dichloropropane	~~77173~~	142-28-9	Trimethylene chloride	~~8021, 8260~~
2,2-Dichloropropane	~~77170~~	594-20-7		~~8021, 8260~~
1,1-Dichloropropene	~~77168~~	563-58-6	1,1-dichloropropylene	~~8021, 8260~~
cis-1,3-Dichloropropene	~~34704~~	10061-01-5	1,3-dichloropropylene, (Z)	~~8021, 8260~~
trans-1,3-Dichloropropene	~~34699~~	10061-02-6	1,3-dichloropropylene, (E)	~~8021, 8260~~

Dieldrin	~~39380~~	60-57-1	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aa,2b,2aa,3b,6b,6aa,7b,7aa)-	~~8081, 8080, 8270~~
Diethyl phthalate	~~34336~~	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester	~~8081, 8060*, 8270~~
O,O-Diethyl O-2-pyrazinyl phosphorothioate	~~73553~~	297-97-2	Thionazin	~~8270~~
Dimethoate	~~46314~~	60-51-5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester	~~8270~~
p-(Dimethylamino)azobenzene	~~73558~~	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-	~~8270~~
7,12-Dimethylbenz[a]anthracene	~~73559~~	57-97-6	Benz[a]anthracene, 7,12-dimethyl-	~~8270~~
3,3'-Dimethylbenzidine	~~73560~~	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-	~~8270~~
2,4-Dimethylphenol	~~34606~~	105-67-9	2,4-Dimethylphenol	~~8040*, 8041, 8270~~
Dimethyl phthalate	~~34341~~	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester	~~8060*, 8270~~
m-Dinitrobenzene	~~45622~~	99-65-0	1,3-Dinitrobenzene	~~8270~~
4,6-Dinitro-o-cresol	~~79533~~	534-52-1	2-Methyl-4,6-dinitrophenol	~~8040*, 8041, 8270~~
2,4-Dinitrophenol	~~34616~~	51-28-5		~~8040*, 8041, 8270~~
2,4-Dinitrotoluene	~~34611~~	121-14-2	1-Methyl-2,4-dinitrobenzene	~~8090*, 8091, 8270~~
2,6-Dinitrotoluene	~~34626~~	606-20-2	2-Methyl-1,3-dinitrobenzene	~~8090*, 8091, 8270~~
Dinoseb	~~81287~~	88-85-7	DNBP; 2-sec-Butyl-4,6-dinitrophenol	~~8150, 8270~~
Di-n-octyl phthalate	~~34596~~	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester	~~8060*, 8061, 8270~~
Diphenylamine	~~77579~~	122-39-4	Benzenamine, N-phenyl-	~~8270~~
Disulfoton	~~81888~~	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl]ester	~~8041, 8140*, 8270~~
Endosulfan I	~~34361~~	959-98-8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a hexahydro-, 3-oxide, (3a,5ab,6a,9a,9ab)-	~~8081, 8270, 8080, 8250*~~
Endosulfan II	~~34356~~	33213-65-9	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro- 1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3a,5aa,6b,9b,9aa)-	~~8081, 8270, 8080~~
Endosulfan sulfate	~~34351~~	1031-07-8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro 1,5,5a,6,9,9a-hexahydro-, 3,3-dioxide	~~8081, 8080, 8270~~
Endrin	~~39390~~	72-20-8	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a7,7a-octahydro-, (1aa,2b,2ab,3a,6a,6ab,7b,7aa)-	~~8081, 8270, 8080, 8250*~~
Endrin aldehyde	~~34366~~	7421-93-4	1,2,4-Methenocyclopenta[cd]pentalene-5-carboxaldehyde, 2,2a,3,3,4,7-hexachlorodecahydro-, (1a,2b,2ab,4b,4ab,5b,6ab,6bb,7R*)-	~~8081, 8080, 8270~~
Ethylbenzene	~~78113~~	100-41-4		~~8021, 8260~~
Ethyl methacrylate	~~73570~~	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester	~~8015, 8260, 8270~~

Ethyl methanesulfonate	~~73571~~	62-50-0	Methanesulfonic acid, ethyl ester	~~8270~~
Famphur	~~38462~~	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl]-O,O-dimethyl ester	~~8270~~
Fluoranthene	~~34376~~	206-44-0		~~8100, 8270~~
Fluorene	~~34381~~	86-73-7	9H-Fluorene	~~8100, 8270~~
Heptachlor	~~39410~~	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	~~8081, 8080, 8270~~
Heptachlor epoxide	~~39420~~	1024-57-3	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a,-hexahydro,(1aa,1bb,2a,5a,5ab,6b,6aa)	~~8081, 8080, 8270~~
Hexachlorobenzene	~~39700~~	118-74-1		~~8120, 8270~~
Hexachlorobutadiene	~~34391~~	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	~~8120, 8270~~
Hexachlorocyclopentadiene	~~34386~~	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	~~8120, 8270~~
Hexachloroethane	~~34396~~	67-72-1		~~8120, 8270~~
~~Hexachlorophene~~	~~73575~~	~~70-30-4~~	~~Phenol,2,2' methylenebis[3,4,6 trichloro-~~	~~8270~~
Hexachloropropene	~~73576~~	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-	~~8270~~
2-Hexanone	~~77103~~	591-78-6	Methyl butyl ketone	~~8015, 8260~~
Indeno(1,2,3-cd)pyrene	~~34403~~	193-39-5	Indeno[1,2,3-cd]pyrene	~~8100, 8270~~
Isobutyl alcohol	~~77033~~	78-83-1	1-Propanol, 2-methyl-	~~8015, 8260~~
Isodrin	~~39430~~	465-73-6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a hexahydro-(1a,4a,4ab,5b,8b,8ab)-	~~8270~~
Isophorone	~~34408~~	78-59-1	2-Cyclohexen-1-one, 3,5,5-trimethyl-	~~8090*, 8270~~
Isosafrole	~~73582~~	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-	~~8270~~
Kepone	~~81281~~	143-50-0	1,3,4-Metheno-2H-cyclobuta- [cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachloro-octahydro-	~~8270~~
Lead	~~01051~~	7439-92-1		~~6010, 7420*, 7421~~
Mercury	~~71900~~	7439-97-6		~~7470~~
Methacrylonitrile	~~81593~~	126-98-7	2-Propenenitrile, 2-methyl-	~~8015, 8260~~
Methapyrilene	~~73589~~	91-80-5	1,2,Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-	~~8270~~
Methoxychlor	~~39480~~	72-43-5	Benzene, 1,1'-(2,2,2,trichloroethylidene)bis [4-methoxy-	~~8081, 8080, 8270~~
Methyl bromide	~~34413~~	74-83-9	Bromomethane	~~8021, 8260~~
Methyl chloride	~~34418~~	74-87-3	Chloromethane	~~8021, 8260~~
3-Methylcholanthrene	~~73591~~	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	~~8270~~
Methyl ethyl ketone	~~81595~~	78-93-3	2-Butanone; MEK	~~8015, 8260~~
Methyl iodide	~~77424~~	74-88-4	Iodomethane	~~8021, 8260~~

Methyl methacrylate	~~81597~~	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester	~~8015, 8260~~
Methyl methanesulfonate	~~73595~~	66-27-3	Methanesulfonic acid, methyl ester	~~8270~~
2-Methylnaphthalene	~~77416~~	91-57-6		~~8270~~
Methyl parathion	~~39600~~	298-00-0	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester	~~8141, 8140*, 8270~~
4-Methyl-2-pentanone	~~78133~~	108-10-1	Methyl isobutyl ketone	~~8015, 8260~~
Methyl tert-butyl ether	~~78032~~	1634-04-4	Methyl-t-butyl ether, MTBE	~~8021, 8260~~
Methylene bromide	~~77596~~	74-95-3	Dibromomethane	~~8021, 8260~~
Methylene chloride	~~34423~~	75-09-2	Dichloromethane	~~8021, 8260~~
Naphthalene	~~34696~~	91-20-3		~~8100, 8270~~
1,4-Naphthoquinone	~~73599~~	130-15-4	1,4-Naphthalenedione	~~8270~~
1-Naphthylamine	~~73600~~	134-32-7	1-Naphthalenamine	~~8270~~
2-Naphthylamine	~~73601~~	91-59-8	2-Naphthalenamine	~~8270~~
Nickel	~~01067~~	7440-02-0		~~6010, 7520*, 7521~~
o-Nitroaniline		88-74-4	2-Nitrobenzenamine	~~8270~~
m-Nitroaniline		99-09-2	3-Nitrobenzenamine	~~8270~~
p-Nitroaniline	~~73605~~	100-01-6	4-Nitrobenzenamine	~~8270~~
Nitrobenzene	~~34447~~	98-95-3		~~8090*, 8270~~
o-Nitrophenol	~~34591~~	88-75-5	2-Nitrophenol	~~8040*, 8041, 8270~~
p-Nitrophenol	~~34646~~	100-02-7	4-Nitrophenol	~~8040*, 8041, 8270~~
N-Nitrosodi-n-butylamine	~~78207~~	924-16-3	1-Butanamine, N-butyl-N-nitroso-	~~8270~~
N-Nitrosodiethylamine	~~78200~~	55-18-5	Ethanamine, N-ethyl-N-nitroso-	~~8270~~
N-Nitrosodimethylamine	~~34438~~	62-75-9	Methanamine, N-methyl-N-nitroso-	~~8270~~
N-Nitrosodiphenylamine	~~34433~~	86-30-6	Benzenamine, N-nitroso-N-phenyl-	~~8270~~
N-Nitrosodipropylamine	~~34428~~	621-64-7	Di-n-propylnitrosamine	~~8270~~
N-Nitrosomethylethylamine	~~73613~~	10595-95-6	Ethanamine, N-methyl-N-nitroso-	~~8270~~
N-Nitrosopiperidine	~~73619~~	100-75-4	Piperidine, 1-nitroso-	~~8270~~
N-Nitrosopyrrolidine	~~78206~~	930-55-2	Pyrrolidine, 1-nitroso-	~~8270~~
5-Nitro-o-toluidine	~~73622~~	99-55-8	Benzenamine, 2-methyl-5-nitro-	~~8270~~
Parathion	~~39540~~	56-38-2	Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester	~~8270~~
Pentachlorobenzene	~~77793~~	608-93-5		~~8270~~
Pentachloronitrobenzene	~~81316~~	82-68-8		~~8270~~
Pentachlorophenol	~~39032~~	87-86-5		~~8040*, 8041, 8270~~
Phenacetin	~~73626~~	62-44-2	Acetamide, N-(4-ethoxyphenyl)	~~8270~~
Phenanthrene	~~34461~~	85-01-8		~~8100, 8270~~

Phenol	~~34694~~	108-95-2		~~8040*, 8041, 8270~~
p-Phenylenediamine	~~73628~~	106-50-3	1,4-Benzenediamine	~~8270~~
Phorate	~~46313~~	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester	~~8041, 8140*, 8270~~
Polychlorinated biphenyls	~~See note 8~~	See ~~Note 8~~ note 6	PCBs; 1,1'-Biphenyl, chloro derivatives, Arochlors	~~8081, 8270, 8080, 8250*~~
Pronamide	~~39080~~	23950-58-5	Benzamide, 3,5-dichloro-N- (1,1-dimethyl-2-propynyl)-	~~8270~~
Propionitrile	~~77007~~	107-12-0	Ethyl cyanide; Propanenitrile	~~8015, 8260~~
Pyrene	~~34469~~	129-00-0		~~8100, 8270~~
Pyridine		110-86-1		
Safrole	~~77545~~	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-	~~8270~~
Selenium	~~01147~~	7782-49-2		~~6010, 7740, 7741~~
Silver	~~01077~~	7440-22-4		~~6010, 7760*, 7761~~
Silvex	~~39760~~	93-72-1	2,4,5-TP; Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	~~8150, 8151~~
Styrene	~~77128~~	100-42-5	Ethenylbenzene	~~8021, 8260~~
Sulfide	~~00745~~	18496-25-8		~~9030~~
2,4,5-T	~~39740~~	93-76-5	2,4,5-Trichlorophenoxyacetic acid	~~8150, 8151~~
1,2,4,5-Tetrachlorobenzene	~~77734~~	95-94-3		~~8270~~
1,1,1,2-Tetrachloroethane	~~77562~~	630-20-6		~~8021, 8260~~
1,1,2,2-Tetrachloroethane	~~34516~~	79-34-5		~~8021, 8260~~
Tetrachloroethylene	~~34475~~	127-18-4	Perchloroethylene; Tetrachloroethene; PCE	~~8021, 8260~~
2,3,4,6-Tetrachlorophenol	~~77770~~	58-90-2		~~8270~~
Tetrahydrofuran		109-99-9	THF	
Thallium	~~01059~~	7440-28-0		~~6010, 7840, 7841~~
Tin	~~01102~~	7440-31-5		~~6010, 7870~~
Toluene	~~78131~~	108-88-3	Methylbenzene	~~8021, 8260~~
o-Toluidine	~~77142~~	95-53-4	2-Methylbenzenamine	~~8270~~
Toxaphene	~~39400~~	See note ~~9~~ 7		~~8081,8270, 8080, 8250*~~
1,2,4-Trichlorobenzene	~~34551~~	120-82-1		~~8270~~
1,1,1-Trichloroethane	~~34506~~	71-55-6	Methylchloroform	~~8021, 8260~~
1,1,2-Trichloroethane	~~34511~~	79-00-5		~~8021, 8260~~
Trichloroethylene	~~39180~~	79-01-6	Trichloroethene; TCE	~~8021, 8260~~
Trichlorofluoromethane	~~34488~~	75-69-4	Freon 11, Fluorotrichloromethane, CFC-11	~~8021, 8260~~
2,4,5-Trichlorophenol	~~77687~~	95-95-4		~~8270~~
2,4,6-Trichlorophenol	~~34621~~	88-06-2		~~8040*, 8041, 8270~~

1,2,3-Trichloropropane	~~77443~~	96-18-4		~~8021, 8260~~
O,O,O-Triethyl phosphorothioate	~~73652~~	126-68-1	Phosphorothioic acid, O,O,O-triethyl ester	~~8270~~
sym-Trinitrobenzene	~~73653~~	99-35-4	Benzene, 1,3,5-trinitro-	~~8270~~
Vanadium	~~01087~~	7440-62-2		~~6010, 7910, 7911~~
Vinyl acetate	~~77057~~	108-05-4	Ethenyl ester acetic acid	~~8260~~
Vinyl chloride	~~39175~~	75-01-4	Chloroethene	~~8021, 8260~~
Xylene (total) ~~[see note 10]~~	~~81551~~	~~1330-20-7~~ See note 8	Dimethylbenzene	~~8021, 8260~~
Zinc	~~01092~~	7440-66-6		~~6010, 7950, 7951~~
~~Sulfide~~	~~00745~~	~~18496-25-8~~		~~9030~~
~~2,4,5-T~~	~~39740~~	~~93-76-5~~	~~2,4,5-Trichloro-phenoxyacetic acid~~	~~8150, 8151~~
~~1,2,4,5-Tetrachlorobenzene~~	~~77734~~	~~95-94-3~~		~~8270~~
~~1,1,1,2-Tetrachloroethane~~	~~77562~~	~~630-20-6~~		~~8021, 8260~~
~~1,1,2,2-Tetrachloroethane~~	~~34516~~	~~79-34-5~~		~~8021, 8260~~
~~Tetrachloroethylene~~	~~34475~~	~~127-18-4~~	~~Perchloroethylene; Tetrachloroethene; PCE~~	~~8021, 8260~~
~~2,3,4,6-Tetrachlorophenol~~	~~77770~~	~~58-90-2~~		~~8270~~
~~Thallium~~	~~01059~~	~~7440-28-0~~		~~6010, 7840, 7841~~
~~Tin~~	~~01102~~	~~7440-31-5~~		~~6010, 7870~~
~~Toluene~~	~~78131~~	~~108-88-3~~	~~Methylbenzene~~	~~8021, 8260~~
~~o-Toluidine~~	~~77142~~	~~95-53-4~~	~~2-Methylbenzenamine~~	~~8270~~
~~Toxaphene~~	~~39400~~	~~See note 9~~		~~8081,8270, 8080, 8250*~~
~~1,2,4-Trichlorobenzene~~	~~34551~~	~~120-82-1~~		~~8270~~
~~1,1,1-Trichloroethane~~	~~34506~~	~~71-55-6~~	~~Methylchloroform~~	~~8021, 8260~~
~~1,1,2-Trichloroethane~~	~~34511~~	~~79-00-5~~		~~8021, 8260~~
~~Trichloroethylene~~	~~39180~~	~~79-01-6~~	~~Trichloroethene; TCE~~	~~8021, 8260~~
~~Trichlorofluoromethane~~	~~34488~~	~~75-69-4~~	~~Freon 11, Fluorotrichloromethane, CFC-11~~	~~8021, 8260~~
~~2,4,5-Trichlorophenol~~	~~77687~~	~~95-95-4~~		~~8270~~
~~2,4,6-Trichlorophenol~~	~~34621~~	~~88-06-2~~		~~8040*, 8041, 8270~~
~~1,2,3-Trichloropropane~~	~~77443~~	~~96-18-4~~		~~8021, 8260~~
~~O,O,O-Triethyl phosphorothioate~~	~~73652~~	~~126-68-1~~	~~Phosphorothioic acid, O,O,O-triethyl ester~~	~~8270~~
~~sym-Trinitrobenzene~~	~~73653~~	~~99-35-4~~	~~Benzene, 1,3,5-trinitro-~~	~~8270~~
~~Vanadium~~	~~01087~~	~~7440-62-2~~		~~6010, 7910, 7911~~
~~Vinyl acetate~~	~~77057~~	~~108-05-4~~	~~Ethenyl ester acetic acid~~	~~8260~~
~~Vinyl chloride~~	~~39175~~	~~75-01-4~~	~~Chloroethene~~	~~8021, 8260~~

~~Xylene (total) [see note 10]~~	~~81551~~	~~1330-20-7~~	~~Dimethylbenzene~~	~~8021, 8260~~
~~Zinc~~	~~01092~~	~~7440-66-6~~		~~6010, 7950, 7951~~

1 This ~~list~~ table includes all the substances required for assessment monitoring under ~~EPA~~ RCRA Subtitle D (40 CFR Part 258 Appendix II). DNR GEMS parameter numbers for the substances in this table can be found at http://www.dnr.wi.gov/org/aw/wm/monitor/

2 Common names are those widely used in government regulations, scientific publications and commerce; synonyms exist for many chemicals.

~~3 Parameter No. refers to the Wisconsin identification number and the EPA Storet number for each parameter. The parameter code number refers to a specific parameter, the medium of concentration, and the units of concentration.~~

4 3 Chemical Abstracts Service registry number.

~~5 For Analytical Methods, refer to the analytical procedure numbers used in EPA Report SW-846 "Test Methods for Evaluating Solid Waste," third edition, Final Update 2B, January 1995. For the appropriate extraction procedure refer, in the same document, to Table 2-37 "Preparation Methods for Organic Analytes," and refer to Table 2-36 for the "Required Containers, Preservation Techniques, and Holding Times for Aqueous Matrices."~~

~~**Note:** Analytical details can be found in SW-846 and in documentation on file with EPA. CAUTION: The methods listed are representative SW-846 procedures and may not always be the most suitable methods for monitoring an analyte under the regulations. The publication SW-846 may be obtained from:~~

~~National Technical Information Service~~
~~5285 Port Royal Road~~
~~(703) 487-4650.~~
~~Springfield, VA 22161~~

~~6~~ 4 This substance is often called Bis(2-chloroisopropyl) ether, the name the Chemical Abstracts Service applies to its noncommercial isomer, Propane, 2,2'-oxybis[2-chloro-(CAS RN 39638-32-9).

~~7~~ 5 Chlordane: This entry includes alpha-chlordane (CAS RN 5103-71-9), beta-chlordane (CAS RN 5103-74-2), gamma-chlordane (CAS RN 5566-34-7), and constituents of chlordane (CAS RN 57-74-9 and CAS RN 12789-03-6).

~~8~~ 6 Polychlorinated biphenyls (CAS RN ~~0~~1336-36-3); this category contains congener chemicals, including constituents of Aroclor-1016 (CAS RN 12674-11-2), Aroclor-1221 (CAS RN 11104-28-2), Aroclor-1232 (CAS RN 11141-16-5), Aroclor-1242 (CAS RN 53469-21-9), Aroclor-1248 (CAS RN 12672-29-6), Aroclor-1254 (CAS RN 11097-69-1) and Aroclor-1260 (CAS RN 11096-82-5).

~~9~~ 7 Toxaphene: This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001-35-2), i.e., chlorinated camphene.

~~10~~ 8 Xylene (total): This entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7).

~~* This method incorporates outdated analytical technology and is scheduled to be removed from EPA approved lists.~~

~~**Note:** Copies of the test procedures are available for inspection at the offices the department of natural resources, the secretary of state, and the revisor of statutes.~~

SECTION 83. NR 507 Appendix III and (Notes) are amended to read:

~~Appendix~~APPENDIX III
VOLATILE ORGANIC COMPOUNDS FOR DETECTION MONITORING[1] AT MUNICIPAL SOLID WASTE LANDFILLS

Common name[2]	~~Parameter No.[3]~~	CAS RN[4]	Synonyms	~~Analytical methods[5]~~
Acetone[1]	~~81552~~	67-64-1	2-Propanone	~~8260~~
Benzene	~~34030~~	71-43-2		~~8021, 8260~~
Bromodichloromethane	~~32101~~	75-27-4	Dichlorobromomethane	~~8021, 8260~~
Bromoform	~~32104~~	75-25-2	Tribromomethane	~~8021, 8260~~
Carbon disulfide[1]	~~77041~~	75-15-0		~~8260~~
Carbon tetrachloride	~~32102~~	56-23-5	Tetrachloromethane	~~8021, 8260~~
Chlorobenzene	~~34301~~	108-90-7	Monochlorobenzene	~~8021, 8260~~
Chloroethane	~~34311~~	75-00-3	Ethyl chloride	~~8021, 8260~~
Chloroform	~~32106~~	67-66-3	Trichloromethane	~~8021, 8260~~
Dibromochloromethane	~~32105~~	124-48-1	Chlorodibromomethane	~~8021, 8260~~
1,2-Dibromo-3-chloropropane	~~38437~~	96-12-8	DBCP	~~8021, 8260~~
1,2-Dibromoethane	~~77651~~	106-93-4	EDB; Ethylene dibromide	~~8021, 8260~~
o-Dichlorobenzene	~~34536~~	95-50-1	1,2-Dichlorobenzene	~~8021, 8260~~
m-Dichlorobenzene	~~34566~~	541-73-1	1,3-Dichlorobenzene	~~8021, 8260~~
p-Dichlorobenzene	~~34571~~	106-46-7	1,4-Dichlorobenzene	~~8021, 8260~~
Dichlorodifluoromethane	~~34668~~	75-71-8	Freon 12, Difluorodichloromethane	~~8021, 8260~~
1,1-Dichloroethane	~~34496~~	75-34-3		~~8021, 8260~~
1,2-Dichloroethane	~~32103~~	107-06-2	Ethylene dichloride	~~8021, 8260~~
1,1-Dichloroethylene	~~34501~~	75-35-4	Vinylidene chloride	~~8021, 8260~~
cis-1,2-Dichloroethylene	~~77093~~	156-59-2	cis-1,2-Dichloroethene	~~8021, 8260~~
trans-1,2-Dichloroethylene	~~34546~~	156-60-5	trans-1,2-Dichloroethene	~~8021, 8260~~
1,2-Dichloropropane	~~34541~~	78-87-5		~~8021, 8260~~
cis-1,3-Dichloropropylene	~~34704~~	10061-01-5	cis-1,3-Dichloropropene, Z-Dichloropropylene	~~8021, 8260~~
trans-1,3-Dichloropropylene	~~34699~~	10061-02-6	trans-1,3-Dichloropropene, E-Dichloropropylene	~~8021, 8260~~
Ethylbenzene	~~78113~~	100-41-4		~~8021, 8260~~
Methyl bromide	~~34413~~	74-83-9	Bromomethane	~~8021, 8260~~
Methyl chloride	~~34418~~	74-87-3	Chloromethane	~~8021, 8260~~
Methylene bromide	~~77596~~	74-95-3	Dibromomethane	~~8021, 8260~~
Methylene chloride	~~34423~~	75-09-2	Dichloromethane	~~8021, 8260~~

Methyl ethyl ketone[1]	~~81595~~	78-93-3	2-Butanone; MEK	~~8260~~
Methyl tert-butyl ether	~~78032~~	1634-04-4	MTBE	~~8021, 8260~~
Naphthalene	~~34696~~	91-20-3		~~8021, 8260~~
Styrene	~~77128~~	100-42-5	Ethenylbenzene	~~8021, 8260~~
Tetrachloroethylene	~~34475~~	127-18-4	Perchloroethylene; Tetrachloroethene; PCE	~~8021, 8260~~
Tetrahydrofuran[1]	~~81607~~	109-99-9	THF	~~8260~~
Toluene	~~78131~~	108-88-3	Methylbenzene	~~8021, 8260~~
1,1,1-Trichloroethane	~~34506~~	71-55-6	Methylchloroform	~~8021, 8260~~
1,1,2-Trichloroethane	~~34511~~	79-00-5		~~8021, 8260~~
Trichloroethylene	~~39180~~	79-01-6	Trichloroethene; TCE	~~8021, 8260~~
Trichlorofluoromethane	~~34488~~	75-69-4	Fluorotrichloromethane, Freon 11	~~8021, 8260~~
Vinyl chloride	~~39175~~	75-01-4	Chloroethene	~~8021, 8260~~
Xylene (total) [see note ~~6~~4]	~~81551~~	1330-20-7	Dimethylbenzene	~~8021, 8260~~

1 Includes the individual Volatile Organic Compounds (VOCs) necessary when a ~~"VOC Scan"~~ VOC scan is required under ch. NR 507 ~~Wis. Adm. Code Appendix I Table 1, Table 4 and Table 5~~. Acetone, Carbon disulfide, Methyl ethyl ketone, and Tetrahydrofuran are exempted if EPA Method 8021 is used for the analysis.

2 Common names are those widely used in government regulations, scientific publications and commerce; synonyms exist for many chemicals.

~~3 Parameter No. refers to the Wisconsin identification number and the EPA Storet number for each parameter. The parameter code number refers to a specific parameter, the medium of concentration, and the units of concentration.~~

4 3 Chemical Abstracts Service registry number.

~~5 For Analytical Methods, refer to the analytical procedure numbers used in EPA Report SW-846 "Test Methods for Evaluating Solid Waste," third edition, Final Update 2B, January 1995. For the appropriate extraction procedure refer, in the same document, to Table 2-37 "Preparation Methods for Organic Analytes," and refer to Table 2-36 for the "Required Containers, Preservation Techniques, and Holding Times for Aqueous Matrices."~~

~~**Note:** Analytical details can be found in SW-846 and in documentation on file with EPA. CAUTION: The methods listed are representative SW-846 procedures and may not always be the most suitable methods for monitoring an analyte under the regulations. The publication SW-846 may be obtained from:~~

~~National Technical Information Service~~
~~5285 Port Royal Road~~
~~Springfield, VA 22161~~
~~(703) 487-4650.~~

~~**Note:** Copies of the test procedures are available for inspection at the offices of the department of natural resources, the secretary of state, and the revisor of statutes.~~

~~6~~ 4 Xylene (total): This entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7).

Note: Wisconsin DNR GEMS parameter numbers for the substances listed in Appendix III can be found at http://www.dnr.wi.gov/org/aw/wm/monitor/

SECTION 84. NR 507 Appendix IV and (Notes) are repealed and recreated to read:

APPENDIX IV
SEMIVOLATILE ORGANIC COMPOUND (SVOC) ANALYTE[1] LIST

Analyte[2]	CAS[3] Number	Systematic Name[4]/Common Name
Acenaphthene	83-32-9	Acenaphthylene, 1,2-dihydro-
Acenaphthylene	208-96-8	Acenaphthylene
Acetophenone	98-86-2	Ethanone, 1-phenyl-
Anthracene	120-12-7	Anthracene
Benz(a)anthracene	56-55-3	Benz[a]anthracene Benzanthracene
Benzo(b) fluoroanthene	205-99-2	Benz[e]acephenanthrylene
Benzo(k)fluoroanthene	207-08-9	Benzo[k]fluoranthene
Benzo(g,h,i)perylene	191-24-2	Benzo[ghi]perylene
Benzo(a)pyrene	50-32-8	Benzo[a]pyrene
Benzyl alcohol	100-51-6	Benzenemethanol
Bis(2-chloroethoxy)methane	111-91-1	Ethane, 1,1'-[methylenebis (oxy)]bis[2-chloro-
Bis(2-chloroethyl)ether 111-44-4		Ethane, 1,1'-oxybis[2-chloro- Dichloroethyl ether
Bis(2-chloro-1-methylethyl)ether	108-60-1	Propane, 2,2'-oxybis[1-chloro- Bis(2-chloroisopropyl)ether
Bis(2-ethylhexyl)phthalate	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester
4-Bromophenyl phenyl ether	101-55-3	Benzene, 1-bromo-4-phenoxy-
Butyl benzyl phthalate	85-68-7	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester
p-Chloro-m-cresol	59-50-7	Phenol, 4-chloro-3-methyl- 4-Chloro-3-methylphenol
2-Chloronaphthalene	91-58-7	Naphthalene, 2-chloro-
2-Chlorophenol	95-57-8	Phenol, 2-chloro-
p-Chlorophenyl phenyl ether	7005-72-3	Benzene, 1-chloro-4-phenoxy- 4-Chlorophenyl phenyl ether
Chrysene	218-01-9	Chrysene
m-Cresol	108-39-4	Phenol, 3-methyl- 3-Methylphenol
o-Cresol	95-48-7	Phenol, 2-methyl- 2-Methylphenol
p-Cresol	106-44-5	Phenol, 4-methyl-

		4-Methylphenol
Dibenz(a,h)anthracene	53-70-3	Dibenz[a,h]anthracene
Dibenzofuran	132-64-9	Dibenzofuran
Di-n-butyl phthalate	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester
m-Dichlorobenzene	541-73-1	Benzene, 1,3-dichloro- 1,3-Dichlorobenzene
o-Dichlorobenzene	95-50-1	Benzene, 1,2-dichloro- 1,2-Dichlorobenzene
p-Dichlorobenzene	106-46-7	Benzene, 1,4-dichloro- 1,4-Dichlorobenzene
3,3'-Dichlorobenzidine	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-
2,4-Dichlorophenol	120-83-2	Phenol, 2,4-dichloro-
Diethyl phthalate	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester
2,4-Dimethylphenol	105-67-9	Phenol, 2,4-dimethyl- m-Xylenol
Dimethyl phthalate	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester
4,6-Dinitro-o-cresol	534-52-1	1,2-Benzenedicarboxylic acid, dimethyl ester 4,6-Dinitro-2-methylphenol
2,4-Dinitrophenol	51-28-5	Phenol, 2,4-dinitro-
2,4,-Dinitrotoluene	121-14-2	Benzene, 1-methyl-2,4-dinitro-
2,6-Dinitrotoluene	606-20-2	Benzene, 2-methyl-1,3-dinitro-
Di-n-octyl phthalate	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester
Diphenylamine	122-39-4	Benzeneamine, N-phenyl-
Fluoroanthene	206-44-0	Fluoranthene
Fluorene	86-73-7	9H-Fluorene
Hexachlorobenzene	118-74-1	Benzene, hexachloro-
Hexachlorobutadiene	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
Hexachlorocyclopentadiene	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
Hexachloroethane	67-72-1	Ethane, hexachloro-
Indeno(1,2,3-cd)pyrene	193-39-5	Indeno[1,2,3-cd]pyrene
Isophorone	78-59-1	2-Cyclohexen-1-one, 3,5,5-trimethyl-
1-Methylnaphthalene	90-12-0	Naphthalene, 1-methyl-
2-Methylnaphthalene	91-57-6	Naphthalene, 2-methyl-

Naphthalene	91-20-3	Naphthalene
m-Nitroaniline	99-09-2	Benzenamine, 3-nitro- 3-Nitroaniline
o-Nitroaniline	88-74-4	Benzenamine, 2-nitro- 2-Nitroaniline
p-Nitroaniline	100-01-6	Benzenamine, 4-nitro- 4-Nitroaniline
Nitrobenzene	98-95-3	Benzene, nitro-
o-Nitrophenol	88-75-5	Phenol, 2-nitro- 2-Nitrophenol
p-Nitrophenol	100-02-7	Phenol, 4-nitro- 4-Nitrophenol
N-Nitrosodimethylamine	62-75-9	Methanamine, N-methyl-N- nitroso-
N-Nitrosodipropylamine	621-64-7	1-Propanamine, N-nitroso-N- propyl- N-Nitroso-N-dipropylamine
Pentachlorophenol	87-86-5	Phenol, pentachloro-
Phenanthrene	85-01-8	Phenanthrene
Phenol	108-95-2	Phenol
Pyrene	129-00-0	Pyrene
Pyridine	110-86-1	Pyridine
2,3,4,6-Tetrachlorophenol	58-90-2	Phenol, 2,3,4,6-tetrachloro-
1,2,4-Trichlorobenzene	120-82-1	Benzene, 1,2,4-trichloro-
2,4,5-Trichlorophenol	95-95-4	Phenol, 2,4,5-trichloro-
2,4,6-Trichlorophenol	88-06-2	Phenol, 2,4,6-trichloro-

1 Current Wisconsin DNR GEMS parameter numbers for the substances in Appendix IV can be found at http://dnr.wi.gov/org/aw/wm/monitor/

2 Analyte names are EPA registry names see: http://epa.gov/srs

3 Chemical Abstracts Service registry number

4 Systematic names are EPA registry names see: http://epa.gov/srs

SECTION 85. NR 508.05(3m) is created to read:

NR 508.05(3m) The owner or operator may submit a written request to eliminate select parameters from the assessment monitoring program required under this section after 4 rounds of assessment monitoring have been collected and analyzed. The request shall demonstrate that these parameters were not detected in any of the 4 rounds. The department may approve eliminating any parameters that were not detected in the first 4 rounds or detected once but not confirmed in subsequent rounds.

SECTION 85m. NR 509.02(2)(b) is repealed.

SECTION 86. NR 509.04(4)(b) is repealed and recreated to read:

NR 509.04(4)(b) Identification of any known potential impacts to endangered and threatened species in accordance with s. 29.604(4), Stats., and the federal endangered species act or historical, scientific or archeological areas in accordance with s. 44.40, Stats., including any prior studies or surveys conducted at the proposed site.

SECTION 87. NR 509.04(4)(c) is repealed.

SECTION 87g. NR 509.04(5)(b) is amended to read:

NR 509.04(5)(b) A preliminary identification of all potential effects on wetlands, ~~critical habitat areas or~~ surface waters or areas that contain threatened or endangered species per s. 29.604, Stats., and per s. NR 27.01(8).

SECTION 87r. NR 509.06(3) is amended to read:

NR 509.06(3) DOCUMENTATION OF PRESENT LAND USES. A description of the current land uses, with particular emphasis on the discussion of known recreational, historical, archaeological~~, critical habitat~~ areas, areas that contain threatened or endangered species per s. 29.604, Stats., and per s. NR 27.01(8) and state or local natural areas; and county forest lands. If the landfill owner proposes to accept municipal solid waste or other putrescible waste, the initial response letter from the federal aviation administration concerning any airports whose runway end is located within 5 miles of the anticipated limits of filling shall be included in the report.

SECTION 88. NR 512.085 is created to read:

NR 512.085 Alternative geotechnical investigation program. The applicant may propose an alternative geotechnical investigation program to the department prior to initiating the geotechnical investigations required for a feasibility report that are identified in ss. NR 512.09 and 512.10. A proposal shall include a detailed description of the proposed alternative program, detailed explanations of the rationale for the proposed differences between the code requirements in s. NR 512.09 or 512.10 and the proposed alternative program, and the anticipated benefits of the proposed alternative program. The department shall respond in writing and may accept the program as submitted, identify deficiencies in the proposed alternative program that must be addressed, or may reject the program. The program may not be implemented prior to receipt of written review by the department. The feasibility report shall include documentation of any alternative geotechnical investigation accepted by the department and justification for any reductions to the requirements in ss. NR 512.09 and 512.10. Formal approval of an accepted alternative geotechnical program shall be made in the department's feasibility determination.

SECTION 89. NR 512.09(intro.) is amended to read:

NR 512.09 Site-specific geotechnical information. The applicant shall perform laboratory and field investigations to define the physical characteristics of the proposed landfill's location. At a minimum these investigations shall include the following specified requirements ~~specified below~~ unless an alternative geotechnical investigation program ~~is approved~~ under s. NR 512.085 specifically addressing these requirements, or a portion thereof, was accepted in writing by the department ~~in writing~~ before the geotechnical investigation program for the feasibility report ~~is~~was initiated. ~~Documentation of any alternative geotechnical investigation approved by the department and justification for any reductions to the requirements in this section shall be included in the feasibility report.~~ Should the applicant identify minor discrepancies between the following specified requirements and the content of the feasibility report prior to its submittal to the department, the applicant may choose to identify those minor discrepancies in a separate letter to the department, including an explanation for them, and either propose a time table for providing that information or justify why it is not necessary to submit that specific information and request the necessary exemptions. The department shall respond to a letter in writing either accepting the explanation and requested approach or indicating that the discrepancies need to be addressed prior to issuing feasibility completeness.

SECTION 90. NR 512.10(intro.), (1), (2) and (3) are renumbered to NR 512.10(1), (2), (3) and (4) and NR 512.10(1), as renumbered, is amended to read:

NR 512.10 Subsurface data analysis. (1) ~~Data~~ At a minimum, the data on subsurface investigations shall be presented in the narrative section of the report ~~as follows:~~ and shall include the following specified requirements unless an alternative geotechnical investigation program under s. NR 512.085 specifically addressing these requirements, or a portion thereof, was accepted in writing by the department before the geotechnical investigation program for the feasibility report was initiated. Should the applicant identify minor discrepancies between the following specified requirements and the content of the feasibility report prior to its submittal to the department, the applicant may choose to identify those minor discrepancies in a separate letter to the department, including an explanation for them, and either propose a time table for providing that information or justify why it is not necessary to submit that specific information and request the necessary exemptions. The department shall respond to a letter in writing either accepting the explanation and requested approach or indicating that the discrepancies need to be addressed prior to issuing feasibility completeness.

SECTION 91. NR 512.15 is repealed and recreated to read:

NR 512.15 Identification of soil borrow sources. (1) The feasibility report shall include a copy of the department's initial site inspection evaluation for the proposed soil borrow sources designated to be used in the construction, operation or closure of the first phase of the landfill.

(2) The feasibility report shall include the documentation for soil borrow sources as described in s. NR 504.075 for the proposed soil borrow sources designated to be used in the construction, operation or closure of the first phase of the landfill.

SECTION 92. NR 514.05(7) is amended to read:

NR 514.05(7)(title) WASTE FINAL GRADES AND FINAL TOPOGRAPHY. A final waste grades plan sheet shall be included to indicate waste final grades, including daily and intermediate cover. A final topography plan sheet shall be included to indicate the appearance of the entire facility following closure

including storm water drainage features and the location of gas extraction wells and all other penetrations of the final cover.

SECTION 93. NR 514.06(6)(c) is created to read:

NR 514.06(6)(c) The report shall include the documentation required by s. NR 504.075 for any soil borrow source that was not included in the approved feasibility report for the landfill.

SECTION 93m. NR 514.06(16) is amended to read:

NR 514.06(16) APPENDIX. An appendix shall be included which lists the references used and includes any additional data not previously presented, supplemental design calculations, material specifications, operating agreements such as draft leachate treatment agreements or signed soil borrow agreements, documents related to long-term care funding, documents related to placing a notification on the deed of properties with wells within the 1200-foot setback and other appropriate information.

SECTION 94. NR 514.07(1) is amended to read:

NR 514.07(1)(title) ~~GEOMEMBRANE~~GEOSYNTHETICS REQUIREMENTS. The plan of operation for any landfill which includes a composite liner, composite ~~cap~~capping layer or utilizes a geomembrane for a liner or utilizes a geomembrane or geomembrane-GCL for a capping layer shall provide the following design details and specifications for the ~~geomembrane component~~geosynthetic components. The department may specify additional requirements for other geosynthetic materials used in significant structural features of the landfill.

(a) A description of the proposed geomembranes, GCLs and other geosynthetics to be used in construction of the landfill, including resins and additives, physical properties, bentonite characteristics, chemical resistance properties and potential suppliers. For GCLs, this shall include identification of the geotextile properties and reinforcement.

(b) Design calculations that demonstrate the stability of the landfill and its components against failure along potential failure surfaces, such as the leachate collection system and final cover, during operations as well as after closure. Potential failure surfaces considered shall include the interfaces both below and above the geomembrane in the liner and final cover. Potential failure scenarios considered shall include both saturated and unsaturated conditions for the cover. The design calculations may use typical data or specifications from technical literature rather than values from testing of site specific materials if the sources of the typical data or specifications and the test methods used to generate them are cited with the calculations and ~~reasonable factors of safety are~~ a safety factor of at least 1.3 is used to assess stability.

(c) Construction methods and supervisory controls for preparing the surface of the topmost lift of compacted clay prior to the installation of a geomembrane or soil barrier layer prior to installation of a GCL. The plan of operation shall propose inspection methods and removal of coarse gravel or cobbles after rolling the topmost lift of compacted clay or soil barrier layer to achieve a smooth surface.

(d) A description of measures to be taken to store and protect all geomembranes, GCLs and geocomposite drains, transport geomembrane, GCL and geocomposite drain panels from storage to the working area, and construction methods to be used to place geomembrane, GCL and geocomposite drain panels.

(e) The proposed orientation of all geomembrane and GCL panels for the landfill liner and ~~cap~~ capping layer in relation to slope, collection trenches, penetrations, anchor trench and phase boundaries, seaming methods and phased construction.

(f) Typical design details of geomembrane and GCL seams and seaming methods, anchor trenches, patches, collars for all penetrations, installation in corners and leachate collection trenches. The plan of operation shall describe acceptable working conditions for geomembrane, GCL and geocomposite drain installation, installation instructions for working under weather variations and extremes, and criteria for halting or limiting GCL and geomembrane installation.

(g) Proposed methods for testing welds or other joining methods for geomembranes and other components or penetrations if geomembranes used in previously constructed phases are obtained from different manufacturers or are made from different resins. The plan of operation shall also include measures to preserve the edges of geomembranes and GCLs to be joined to future phases and describe measures to repair all geomembrane, GCL and geocomposite drain defects, unacceptable wrinkling, and unacceptable seams.

(h) Construction methods for placing the leachate collection system, sump backfill, and sideslope riser over the composite liner; the first 10 feet of wastes over the leachate collection system; and subsurface drain layer and rooting zone soils over the composite cap. The measures shall assure that the geomembrane ~~is~~ and GCLs are not damaged by construction of ~~soils~~ soil layers, placement or compaction of wastes, waste consolidation or mass movements or puncturing of the geomembrane.

(i) A construction quality control plan that will be followed by all contractors preparing the surface of the compacted clay liner or soil barrier layer, constructing the geomembrane liner and placing drainage blanket. The construction quality control plan shall include means for determining and documenting: receipt of the proper geomembrane, GCL and geocomposite drain material; acceptable subgrade and weather conditions for work to occur; seamer qualifications and procedures for trial seams; acceptability of test welds and machine settings; acceptable seaming practices; achieved seam quality and procedures for dealing with failing tests; patching; and sealing of geomembrane penetrations. The construction quality control plan shall also describe how progress in construction, as well as any variations from the approved plans, will be recorded and reported.

(j) A construction quality assurance plan that will be followed by the registered professional engineer and qualified technician responsible for evaluating the construction and ensuring that the fabrication and installation meet design specifications. The construction quality assurance plan shall include continuous observation of all aspects of geomembrane, GCL and geocomposite drain installation activities by qualified engineers or technicians. The construction quality assurance plan shall include use of nondestructive and destructive testing of seams and samples and shall propose a schedule of tests and associated frequencies in accordance with those specified in ch. NR 516. The construction quality assurance plan shall include proposed methods of verifying the acceptability of the prepared subgrade, repairs, patches, penetrations, seams, and adaptations by the owner and contractors to unforeseen conditions.

(k) An outline of the contents of the anticipated preconstruction submittal which complies with the requirements of s. NR 516.04 (5) concerning geomembrane and GCL construction and which will be prepared and submitted prior to each construction event.

SECTION 95. NR 514.07(7) is created to read:

NR 514.07(7) CONTIGUOUS LANDFILL EXPANSIONS. The plan of operation for any proposed landfill which is either a vertical or horizontal overlay to an existing approved facility shall include a summary of all applicable conditions of department issued, chs. NR 500 to 538, approvals or orders that are active and subject to compliance at the time of the plan of operation report submittal. The summary shall be submitted on forms provided by the department and at a minimum shall contain all of the following:

(a) A chronological listing of all department issued chs. NR 500 to 538 approvals, orders and expedited plan modifications deemed as acceptable by the department under s. NR 514.09 for the existing landfill.

(b) A listing of all approval conditions or order conditions that are active and subject to compliance at the time of the plan of operation report submittal.

(c) The status of each condition listed in par.(b) shall be identified as:

1. "Remain active": The applicant intends to continue to meet the requirement of the condition in the proposed expansion.

2. "Comparable code": The applicant believes the requirement of the condition is addressed in chs. NR 500 to 538.

3. "Alternative proposed": The applicant believes the condition is no longer required due to changes in the proposed plan of operation report.

(d) Identification of specific applicable codes, plan of operation report sections or further justification to support the applicant's recommended status category in par. (c).

(e) The department shall provide a summary of the facility's active approval conditions or order conditions as an informational attachment to the plan of operation determination. This summary shall consider the applicant's recommended status in par. (c) and any applicable department issued conditions in the plan of operation determination. A department summary under this paragraph does not relieve the applicant of the compliance requirement of any condition prior to the issuance of the summary.

SECTION 96. NR 514.09 is repealed and recreated to read:

NR 514.09 Expedited plan modifications. (1) APPLICABILITY. (a) If an expedited plan modification is requested by an owner or operator, this section applies to all proposals that can be determined by the department to be low risk to modify provisions in approved plans of operation, except those identified in par. (b), that would not result in a violation of a statute or administrative rule, and would not require issuance of an exemption by the department. Modifications to which this section applies include, but are not limited to the following:

1. Revisions to surface water control systems.

2. Use of an alternate borrow source, other than for landfill liner material, following the department's performance of an initial site inspection of the borrow source.

3. Soil daily cover.

4. Use of foundry sand, bottom ash or papermill sludge for alternate daily cover material. Also, if soil daily cover will be placed at the end of each operating week, use of tarps, geotextiles, spray-on foams and similar alternate daily cover materials.

5. Access roads within a landfill.

6. Waste filling or closure sequence, if the unclosed area of the landfill would not be increased at any point in the landfill's remaining operational life relative to the existing approved plan.

7. Minor changes in design and material substitutions for gas extraction systems or leachate head wells, that do not include changes to the gas flare design, and do not include a reduced number of gas extraction wells or leachate head wells within a particular phase of the landfill. Also, replacement of damaged or nonfunctional features of gas extraction systems or leachate head wells that do not involve significant changes in design, location or materials of construction.

8. Installation, abandonment or sampling of groundwater, gas or leachate monitoring devices not required in the existing approved plan.

9. Environmental sampling methods.

10. Except as provided under par. (b), other modifications determined by the department to pose low potential risk of adverse impacts on public health or the environment.

Note: No approvals are necessary when a landfill owner initiates a contaminant investigation or assessment monitoring according to chs. NR 507 and 508. However, if an alternate assessment plan is proposed under s. NR 508.05(2), the landfill owner must request an approval under that section.

(b) This section does not apply to proposals to modify approved plans of operation that would result in any of the following:

1. Enlargement, relocation or expansion of a landfill.

2. A change in the design or construction of landfill liners, final cover or leachate collection, transfer, recirculation or storage systems.

3. Termination of groundwater monitoring at any landfill.

4. Reduction of groundwater monitoring at any landfill to less than the minimum required in chs. NR 503 and 507, according to the type of landfill and wastes disposed.

5. Reduction of groundwater monitoring at facilities that have written approval for groundwater monitoring less than the minimum required in chs. NR 503 and 507.

6. The need for an additional regulatory permit or review under legal authority other than chs. NR 500 to 538.

7. A change which would be less stringent than a federally-mandated requirement including those in 40 CFR, Subchapter I, Parts 257 and 258.

8. Violation of an existing written condition contained in a department approval document, except if the applicant provides a list of each condition in the cover letter and the applicant is also requesting to modify these conditions.

9. Expenditure of department technical review time in excess of 8 hours to determine whether the proposal is low risk and complete any other tasks necessary to review the request.

(2) PROCEDURE. A proposal to modify an approved plan of operation is deemed approved under s. 289.30(6), Stats., if all of the following occur:

(a) The owner or operator submits a written proposal to the department which describes the proposed plan modification. With the proposal, the owner or operator shall submit a cover letter that includes all of the following:

1. Identification of the applicable subdivision of sub. (1)(a) under which the proposal falls and a statement requesting review of the proposal under the expedited process outlined in this section.

2. A brief description of the proposal.

(b) Either the department does not object to the proposed modification within 30 days after receipt of the notice under par. (a), or the department withdraws its objection to the proposal. Notification by the department that it does not consider a proposed plan modification submitted under sub. (1)(a)10. to pose a low potential risk of adverse impacts on public health or the environment shall be considered to be an objection, and therefore, subject to the dispute resolution process of sub. (3).

(c) The department determines the proposal is low risk including, but not limited to the following criteria: improper design of the component or feature being modified could not result in leachate being released outside the limits of waste fill and would not require removal of waste to complete future replacement or repair of the component.

(d) The appropriate expedited plan modification review fee is paid in accordance with ch. NR 520, Table 3.

(3) DISPUTE RESOLUTION. (a) If the department objects to a proposed modification under sub. (2), the following procedures shall apply:

1. Within 20 days after the department objects to the proposed modification, the owner or operator may file a request with the secretary of the department for a conference to discuss the reasonableness of the department's objection to the proposed modification.

2. The secretary may designate appropriate department personnel to confer with the owner or operator regarding the reasonableness of the objection. The designated department personnel shall include supervisory personnel who did not participate in the objection to the proposed modification.

3. The department personnel designated by the secretary shall make arrangements to confer with the owner or operator at the earliest practical time. The department shall promptly notify the owner or operator in writing whether or not the objection to the proposed modification will be withdrawn.

(b)This section does not affect in any manner any other provision of law authorizing administrative or judicial review of a department objection under this section.

SECTION 97. NR 516.04(3)(d)1.d. and (5) (intro.), (b), and (c) are amended to read:

NR 516.04(3)(d)1.d. Preparation of the upper portions of the clay component or soil barrier layer component of a composite–lined or composite–capped landfill for installation of the geomembrane or GCL, including smoothness of the surface, removal of rocks and other foreign objects, and repair of the clay or soil barrier layer surface due to rain, rutting or other damage.

(5) PRECONSTRUCTION REPORTS.(intro.) A preconstruction report shall be prepared for construction of each phase of ~~construction of the~~a composite liner as well as each phase of ~~the~~ a composite ~~cap~~ capping layer. The department may also require a preconstruction report for each phase of construction which utilizes ~~a geocomposite clay liner (GCL) or~~ other geosynthetics, or when other geosynthetic materials are used in significant structural features of the landfill. The preconstruction report shall be submitted to the department no later than 15 days prior to each of the preconstruction meetings for the construction of the geomembrane component of ~~the~~ a composite liner or ~~the~~ a composite ~~cap~~ capping layer. Unless otherwise specified, ~~2 copies shall be provided to the bureau of waste management in Madison and one copy~~ 3 copies shall be provided to the appropriate department field office. The preconstruction report shall include, at a minimum, the following:

(b) Identification of the manufacturer of the geomembrane, GCL and other geosynthetics used in construction, manufacturer qualifications, technical specifications of the geomembrane resin and polymer selected, technical specifications for geotextile and reinforcement of the GCL, bentonite specifications used for manufacture of the GCL, and results of the manufacturer's quality control tests on the geomembranes and GCLs supplied to the project. Identification of the fabricator of geotextiles and other geosynthetics used in site construction, technical specifications of the products and materials to be used, methods used to bond the materials together and to connect panels together, installation contractor, contractor qualifications and on-site supervisory staff. Description of any contractor-specific storage and material handling procedures, deployment methods, attachment methods, panel overlaps, patching, procedures for minimizing bentonite loss in the GCL, and acceptable limits on sub-grade for geomembrane or GCL, including maximum rut depth, maximum stone size, removal of gravel cobbles and other debris and limits imposed by weather conditions. Description of methods to be used to assure the GCL does not become saturated prior to covering with soil and the procedure that will be followed if the GCL does become saturated, methods and equipment to be used to place the geomembrane over the GCL, and the maximum time between deployment of the GCL and placement of soil cover layers. Description of the selected materials and source of the sideslope riser pipe, methods proposed to assemble and place the sideslope riser pipe, and measures to be taken to prevent puncture of the geomembrane below the sideslope riser pipe and protective drainage material.

(c) The results of a shear test conducted, in accordance with ASTM method D5321, on the soils and geosynthetic materials selected for use in construction of the liner system and the final cover system. The test shall be conducted using wetted soil and geomembrane interfaces. The shear test results shall be used to evaluate the stability of the geomembrane component over the clay component and the drainage layers and overburden placed on the geomembrane component. For designs which utilize a GCL, the shear test results shall be used to evaluate the stability of the geomembrane component over the GCL component and the soil barrier layer and the drainage layers and overburden placed on the geomembrane component. Wet unit weights of soils shall be used in analyses. If ~~the~~ all soil and geosynthetic materials to be used are ~~the same as~~ identical to those that were tested for a previous construction event then the test need not be conducted again. The department may ~~also~~ waive testing of materials which are proposed exclusively for use on ~~flatter portions of~~ liners or final cover systems with slopes of less than 10%.

SECTION 98. NR 516.05(2)(f) is amended to read:

NR 516.05(2)(f) A series of properly labeled 35 millimeter color prints or prints from digital photographs documenting all major aspects of facility construction. This shall include close–up photographs of the construction process including clay liner and soil barrier layer placement and compaction equipment, ~~geomembrane placement~~ deployment of geomembrane and all other geosynthetics, deployment equipment, leachate pipe placement including all places where transfer piping exits the lined waste fill area or sideslope riser installation, drainage blanket placement and the installation of all manholes, sumps, sideslope risers, lift stations and storage tanks. Panoramic views shall be included showing the prepared sub–base and the completed liner before and after granular blanket placement.

SECTION 99. NR 516.06(1)(b) and (2)(a) are amended to read:

NR 516.06(1)(b) A plan view drawing for each one–foot thickness of clay or soil barrier layer placed showing the locations of the various soil testing completed and detailing the tests performed at each ~~test~~ location. Multiple plan views may be presented on a single engineering plan sheet if legibility is not compromised.

(2)(a) An analysis and discussion of all soil, ~~and~~ geomembrane and other geosynthetic testing work performed. All density and moisture content testing results shall clearly indicate which Proctor curve or line of optimums is applicable to the soil being compacted. Any changes in the referenced Proctor curve or line of optimums shall be identified as to when they occurred and why the change was made. All raw data from the soil, ~~and~~ geomembrane and other geosynthetic testing performed shall be included in an appendix to the closure documentation report unless other arrangements were previously approved by the department. The raw data shall be summarized using a tabulated format. Also included shall be the make, model, weight and foot length of each piece of equipment used to compact clay.

SECTION 100. NR 516.07(1m) is created to read:

NR 516.07(1m) SUBGRADE AND BERM COMPACTION. For all recompacted soil used in subgrade and berm construction, the following tests shall be performed:

(a) Dry density and as-placed moisture content shall be determined on an approximate 100 foot grid pattern for each one foot thickness of soil placed. The grid pattern shall be offset on each subsequent layer of tests. A minimum of 2 density and moisture content tests for each one foot thickness of soil placed shall be performed to fully define the degree of soil compaction obtained in confined areas where equipment movement is hindered or hand compaction is necessary.

(b) One moisture-density curve or line of optimums analysis shall be developed for every 5,000 cubic yards or less of soil placed and for each major soil type utilized. At least 5 points shall be established on each curve. If a line of optimums analysis is performed, at least 2 curves shall be included for each analysis. A representative sample for every 5,000 cubic yards or less of soil placed shall be analyzed for grain size distribution through the .002 millimeter particle size and for Atterberg limits. If apparent changes in soil quality are observed during soil placement, a one-point Proctor analysis shall be utilized to verify the applicability of previously analyzed moisture-density curves.

SECTION 101. NR 516.07(2)(b) is amended to read:

NR 516.07(2)(b) Pre–qualification tests for geomembrane fusion and extrusion welding machines shall be conducted by ~~a minimum of 2~~ pre–qualification seams run ~~per day per~~ on each welding machine

by each seaming technician performing geomembrane welding with that machine. At least one test shall be performed at the start of each work day~~, with tests~~ for each machine to be used and by each technician that will be using the machine. The test shall be repeated at intervals of no greater than 5 hours and with additional test runs following work interruptions, weather changes, changes to machine settings for temperature or speed or as directed by the quality assurance engineer or qualified technician. ~~At start up, extrusion welding machine performance shall be verified by a minimum of 2 test seams per day per machine with additional testing as directed by the quality assurance engineer or qualified technician.~~ A portion of each pre–qualification specimen shall be tested in the field for acceptable tensile strength. Test results shall be collated for documentation along with notes on date, ambient temperature, the technician and seaming machine used to make the seam, welding temperature, machine speed setting, and results of field tests. Testing of prequalification weld samples shall be conducted using the requirements of par. (c)4. Acceptable test results shall meet the requirements of par. (c)5.

SECTION 102. NR 516.07(2)(c)5. and (2m) are created to read:

NR 516.07(2)(c)5. Field and laboratory shear and peel testing of geomembrane seam samples shall include a minimum of 5 peel tests and 5 shear tests. Fusion welds shall be tested on both sides of the air channel track. Acceptable test results shall be defined by a minimum of 4 of the 5 samples for peel and shear testing meeting or exceeding minimum tensile strength and elongation requirements and 5 of the 5 samples exhibiting acceptable weld separation behavior.

(2m) GEOSYNTHETIC CLAY LINERS AND SOIL BARRRIER LAYERS. Testing shall be performed on the GCL and soil barrier layer. At a minimum, this testing shall include:

(a) Testing of the GCL material delivered to the site shall include the following, unless documentation is provided for testing performed by the GCL manufacturer prior to shipping panels to the landfill:

1. Clay mass per unit area shall be tested at a rate of one test per 40,000 ft^2 of GCL installed; results shall be reported at 0% moisture content.

2. Grab and peel tensile strength, expressed as machine direction and cross direction, shall be tested using ASTM-D6768-02 at a rate of one test per 100,000 ft^2 of GCL installed.

3. Index flux shall be tested using ASTM-D6496-99 at a rate of one test per 100,000 ft^2 of GCL installed.

4. Bentonite recovered from GCL sample shall be tested for free swell at a rate of one test per 100,000 ft^2 of GCL installed.

(b) Testing of the soil barrier layer shall be conducted as follows:

1. Dry density and as–placed moisture content shall be determined on an approximate 100–foot grid pattern for each one–foot thickness of soil placed. The grid pattern shall be offset on each subsequent layer of tests. A minimum of 2 density and moisture content tests for each one–foot thickness of soil placed shall be performed to fully define the degree of soil compaction obtained in confined areas where equipment movement is hindered or hand compaction is necessary.

2. One moisture–density curve or line of optimums analysis shall be developed for every 5,000 cubic yards or less of soil placed and for each major soil type utilized. At least 5 points shall be established on each curve. If a line of optimums analysis is performed, at least 2 curves shall be included for each

analysis. A representative sample for every 5,000 cubic yards or less of soil placed shall be analyzed for grain size distribution through the .002 millimeter particle size and for Atterberg limits. If apparent changes in soil quality are observed during soil placement, a one-point Proctor analysis shall be utilized to verify the applicability of previously analyzed moisture-density curves.

SECTION 103. NR 516.08 is created to read:

NR 516.08 Expedited construction documentation approval. (1) APPLICABILITY. (a) If requested by the owner or operator, this section applies to all proposals for approval of construction documentation, except those identified in par. (b), that would not result in a violation of a statute or administrative rule, and would not require issuance of an exemption by the department. Constructions to which this section applies include, but are not limited to the following:

1. Features located outside the limits of waste that do not provide primary or secondary containment for leachate or landfill gas.

2. Weigh stations, buildings or roads located outside the limits of waste, including building areas used to tip and inspect incoming waste loads.

3. Features that are temporary and will be removed within 2 years, including intermediate cover.

4. Leachate or gas well installation, or leachate recirculation systems.

5. Replacement of damaged or nonfunctional features of gas extraction systems or leachate head wells that do not involve significant changes in design, location or materials of construction.

6. Portions of the final capping system that would not result in a reduced amount of financial assurance.

7. Except as provided under par. (b), other features determined by the department to pose low potential risk of adverse impacts on public health or the environment in the event of improper construction or failure of the constructed feature.

(b) This section does not apply to approval of construction of any of the following:

1. Liners, leachate collection pipes within the landfill or any other component that would require removal of waste to complete future reconstruction of the component, because this is not considered low risk.

2. Any component for which improper construction or failure of the component could result in leachate being released outside the limits of waste fill, because this is not considered low risk, except that approval of construction documentation for the repair of existing components may be submitted under this section.

3. Any portion of the final capping system that would result in a reduced amount of financial assurance.

4. Any component or feature that would result in a violation of the approved plan of operation.

(2) PROCEDURE. A construction documentation report is deemed approved if all of the following occur:

(a) The owner or operator submits a written proposal to the department which describes the construction that has been completed. With the proposal, the owner or operator shall submit a cover letter that includes all of the following:

1. Identification of the applicable subdivision of sub. (1)(a) the construction falls under and a statement requesting review of the construction documentation under the expedited process outlined in this section.

2. A brief description of the proposal.

(b) Either the department does not object to the construction documentation within 30 days after receipt of the notice under par. (a), or the department withdraws its objection to the proposal. Notification by the department that it does not consider construction documentation submitted under sub. (1)(a)7. to pose a low potential risk of adverse impacts on public health or the environment in the event of improper construction or failure of the feature shall be considered to be an objection, and therefore subject to the dispute resolution process of sub. (3).

(c) The department's technical review time does not exceed 8 hours to determine whether the proposal is low risk and complete any other tasks necessary to review the request.

(d) The appropriate review fee is paid in accordance with ch. NR 520, Table 3.

(e) All of the following also occur:

1. The construction was completed in a manner consistent with the approved plan of operation, including all construction quality assurance measures.

2. The submittal includes all construction documentation specified by the plan of operation approval, including applicable rules in chs. NR 500 and 516, and specifications provided in the plan of operation report as approved by the department.

3. The applicant properly notified the department of the construction of any features for which a construction inspection is specified by plan approval condition, and for any inspections completed by the department, the appropriate construction inspection fee is paid in accordance with ch. NR 520, Table 3.

(3) DISPUTE RESOLUTION. (a) If the department objects to an expedited construction documentation approval under sub. (2), the following procedures apply:

1. Within 20 days after the department objects to the construction documentation, the owner or operator may file a request with the secretary of the department for a conference to discuss the reasonableness of the department's objection to the construction documentation.

2. The secretary may designate appropriate department personnel to confer with the owner or operator regarding the reasonableness of the objection. The designated department personnel shall include supervisory personnel who did not participate in the objection to the construction documentation.

3. The department personnel designated by the secretary shall make arrangements to confer with the owner or operator at the earliest practical time. The department shall promptly notify the owner or operator in writing whether or not the objection to the construction documentation will be withdrawn.

(b) This section does not affect in any manner any other provision of law authorizing administrative or judicial review of a department objection under this section.

SECTION 104. NR 518.05(4)(b) and (f) are amended to read:

NR 518.05(4)(b) ~~A significant adverse impact on critical habitat areas~~ A take of an endangered or threatened species or other activity prohibited under s. 29.604, Stats.

(f) The emission of any hazardous air contaminant exceeding the emission rate for that contaminant listed in ~~tables 1 to 5 of s. NR 445.04~~ ch. NR 445 or the total application rate of volatile organic compounds to exceed the limitation contained in s. NR 419.07(4)(e).

SECTION 105. NR 520.04(6) (e) and (f) are repealed.

SECTION 106. NR 520.04(7) is created to read:

NR 520.04(7) COMPLIANCE INSPECTION FEES FOR EXEMPT NON-LANDFILL FACILITIES. Compliance inspection fees as required under ss. NR 502.05(3)(k)8. and 502.07(2r)(g) shall be paid to the department by the applicant in the amount specified in ch. NR 520, Table 2.

SECTION 107. NR 520.07(1m) is created to read:

NR 520.07(1m) ADJUSTMENTS. The owner shall prepare and submit to the department a new cost estimate for closure and long-term care during the active life of the facility as follows:

(a) Once every 10 years using current dollars, unless the costs are revised within the 10 year period as required under par. (b); and

(b) Due to a change in site design or operation or both approved by the department in writing.

SECTION 108. NR 520.07(3) is amended to read:

NR 520.07(3) LONG-TERM CARE COSTS. At a minimum, long-term care costs shall include, where applicable, land surface care; gas removal, treatment and monitoring; unsaturated zone monitoring; leachate pumping, transportation, monitoring and treatment; groundwater monitoring including sample collection and analysis; leachate collection line cleaning on an annual basis; annual cost of electricity for maintaining the closed site; and a 10% contingency. For the purposes of preparing the long-term care cost estimates, all monitoring requirements specified in the plan of operation shall be assumed to apply over the entire long-term care period. Leachate quantity and strength shall be assumed to remain constant over time and the calculation of leachate generation volumes shall be performed assuming that the waste is at field capacity unless an alternative method is approved by the department in writing. Only detailed performance data will be considered when evaluating estimates for leachate strengths and leachate generation volumes. Leachate treatment costs shall be based on those available from a municipal wastewater treatment plant capable of accepting the leachate in accordance with the applicable requirements of its WPDES permit. The expected operating life of all pumps, manholes, blowers, extraction wells and other engineering design features shall be specified in the plan of operation. As each of these features reach the end of their anticipated operating life, the cost of their replacement shall be added to the estimate for the appropriate year of the long-term care proof period.

SECTION 109. NR 520.10 is repealed and recreated to read:

NR 520.10 Adjustment of financial responsibility. The owner of a facility identified in Table 1 as being required to establish proof of financial responsibility shall submit to the department proof of the

adjustment of the amounts of the proof mechanisms for closure, long term care and remediation. Proof mechanisms shall be adjusted as follows:

(1) All proof mechanisms shall be adjusted annually to account for increases in cost estimates based on adjustments for inflation. The annual proof mechanism adjustments shall be submitted to the department by December 31.

(2) Adjusted proof mechanisms shall be within 60 days after a new cost estimate submitted in accordance with s. NR 520.07 is approved by the department. The adjusted proof mechanisms shall be in an amount adequate to cover the most recently approved cost estimate.

(3) For companies using the net worth test under s. NR 520.06(6), the updated net worth test information as required under s. 289.41(4)(d), Stats., shall be submitted annually to the department within 90 days after the close of the company's fiscal year.

(4) For facilities using trust accounts, escrow accounts or deposits with the department to demonstrate proof of financial responsibility, revised proof of financial responsibility calculations shall be performed in accordance with s. NR 520.08 and submitted to the department by March 1 of the year succeeding the calendar year in which any or all of the following activities occur:

(a) Waste acceptance rates have increased enough to lower the projected remaining operational life of the landfill by one year or more.

(b) The weighted average annual rate of return of any trust or escrow account has fallen by 1% or more.

SECTION 110. NR 520.12(1) and (3) are amended to read:

NR 520.12 Authorization to release funds. (1) CLOSURE. When an owner or operator has completed closure, the owner may apply to the department for release of the bond, insurance or the letter of credit or return of the money held on deposit, in escrow, or in trust for closure of the facility. The application shall be accompanied by ~~an itemized list of costs incurred and~~ a report under the seal of a registered professional engineer which documents that the facility has been closed in accordance with the plan of operation approval and ch. NR 514, and summarizes the actual closure costs incurred. Upon determination by the department that complete closure has been accomplished, the department shall authorize in writing the release and return of all funds accumulated in such accounts or give written permission for cancellation of the bond, insurance or letter of credit. Determinations shall be made within 90 days of the application.

(3) REMEDIAL ACTIONS. One year following the midpoint of the period of time that implementation of a remedial action is expected to take, and annually thereafter for the period of the remedial action, the owner who has carried out all required activities during the preceding year may make application to the department for reimbursement from an escrow account, trust account, deposit with the department, or other approved methods, or for reduction of the bond, insurance or letter of credit equal to the estimated costs of remedial activities for that year. The application shall be accompanied by ~~an itemized list of costs incurred~~ a report under the seal of a licensed professional engineer which documents the actual remedial activity costs incurred for that year. Upon determination that the expenditures incurred are in accordance with the approved remedial action requirements, the department may authorize in writing the release of the funds or approve a reduction in the bond, insurance or letter or credit. Prior to authorizing a release of the funds or a reduction of the bond, insurance or letter of credit, the department shall determine that adequate funds exist to complete the required remedial work over the remaining remedial action period.

Determinations shall be made within 90 days of the application. Any funds remaining in an escrow account, trust account, or on deposit with the department upon the successful completion of the approved remedial action shall be released to the owner.

SECTION 111. NR 520.14(3)(c)6.f. and (4) are repealed.

Facility Type	Initial Site & Construction Inspection Fees [1]	Plan Review Fee [2]	Plan Modification or Exemption Request	Construction Documentation Review Fee	Annual License Fee
Beneficial Use	$550	$550	$550	$550	N/A
Collection and Transportation	N/A	N/A	N/A	N/A	$110
Each Additional Truck	N/A	N/A	N/A	N/A	$33
Transfer Facility [3]					
Exempt (up to 50 tons/day)	$550	N/A	N/A	N/A	$165
Small (>50 to 100 tons/day)	$550	$660	$330	$330	$165
Large (>100 tons/day)	$550	$1,650	$550	$660	$550
Processing Facility [4]	$550	$3,300	$1,100	$1,100	$550
Storage Facility [3]					
Exempt (up to 50 tons/day)	$550	N/A	N/A	N/A	$550
Non-Exempt (>50 tons/day)	$550	$1,650	$550	$660	$550
Incineration Facility[4]	$550	$7,700	$1,650	$1,100	$7,700
Air Curtain Destructor	$550	$330	$330	$165	$165
Woodburning Facility	$550	$165	$165	N/A	$165
One-Time Disposal	$550	$660	$660	N/A	N/A
Municipal Waste Combustor					
Small	$550	$1,650	$550	$660	$660
Large (>10 tons/day)	$550	$7,700	$1,650	$1,100	$7,700
Landspreading Facility					
Exempt	$550	$660	$550	N/A	N/A
Non-Exempt	$550	$1,650	$550	N/A	N/A
Infectious Waste Transport	N/A	N/A	N/A	N/A	$275
Each Additional Truck	N/A	N/A	N/A	N/A	$22
Infect. Waste Annual Report	N/A	N/A	N/A	N/A	$55 [5]
Medical Waste Reduction Plan	N/A	$660 [6]	$550	N/A	N/A

SECTION 112. Table 2 following NR 520.15(3) is repealed and recreated to read:

TABLE 2
Fee Schedule – All Facilities Except Landfills And Surface Impoundments

(1) The initial site inspection fee doubles to $1,100 if preliminary screening prior to field inspection indicates the possible presence of endangered resources or sites of historical or archeological significance. This fee also applies to each compliance inspection performed per s. NR 502.05(3)(k)8. or 502.07(2r)(g).
(2) The plan review fees specified in Table 2 cover the department's review from initial submittal through approval or denial of the report or plan. An applicant may withdraw and revise or supplement a report or plan prior to it being deemed complete and resubmit it without paying an additional review fee. The applicant shall pay an additional plan review fee as specified in Table 2 for resubmittal of a plan which has been withdrawn after having been determined to be complete, or for review of a report that has twice been declared incomplete.

(3) A plan modification, as referred to in Table 2, is a submittal which proposes to modify a plan of operation or closure plan previously approved by the department.
(4) 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.
(5) This is an annual filing fee. A $25 late fee will be added for annual reports received after March 1 of the following calendar year.
(6) If the department requires a medical facility to submit its medical waste reduction plan under s. NR 526.22, the plan review fee shall also be submitted.

SECTION 113. Table 3 following NR 520.15(3) is repealed and recreated to read:

Table 3
Fee Schedule – Landfills And Surface Impoundments

	Plan Review and Inspection Fees (1)							**License Fees**		
Facility Type	**Pre.- Feas. or Initial Site Report (2) NR 509/510**	**Feas. Report NR 512**	**Plan of Oper. NR 503/514**	**Plan Mod. (3) (4)**	**Initial Site Inspections, Construction Inspections, and Exemption Requests(5) (6)**	**Constr. Doc. NR 503/516(7)**	**Closure Plan NR 514**	**0-12 Months**	**Closure & LTC Period (8)**	**Lic. Transfer**
Landfills & Surface Impound-ments	$3,300	$22,000 (9)	$7,700	$1,650 (10)	$550	$1,100	$5,500	$7,700 (11)	$6,600	$7,700
Small Construct. & Demo. Waste Landfills	N/A	N/A	$1,100	$550	$550	$220	N/A	$1,650 (12)	N/A	N/A
Intermed. Construct. & Demo. Waste Landfills	N/A	N/A	$7,700	$1,650	$550	$1,100	N/A	$3,850 (12)	$6,600	N/A

(1) The plan review fees specified in Table 3 cover the department's review from initial submittal through approval or denial of the report or plan. An applicant may withdraw and revise or supplement a report or plan prior to it being deemed complete and resubmit it without paying an additional review fee. The applicant shall pay an additional plan review fee as specified in Table 3 for resubmittal of a plan which has been withdrawn after having been determined to be complete, or for review of a report that has twice been declared incomplete.

(2) For an initial site report submittal which includes more than one location, the applicant shall pay a separate fee, as shown in Table 3, for each location.

(3) A plan modification, as referred to in Table 3, is a submittal which proposes to modify a feasibility report, plan of operation or closure plan previously approved by the department. This fee also applies to a submittal which proposes to change the design management zone (DMZ) or requests recalculation of indicator preventive action limits (PAL's) as defined in ch. NR 140. The review fee for expedited plan modification requests per s. NR 514.09 is $1,000.

(4) These fees also apply to proposed Alternate Geotechnical Programs, Initial Site Construction Approval Requests, all submittals related to investigation or remediation of environmental contamination, and all submittals requesting exemptions to the groundwater standards contained in ch. NR 140.

(5) This fee applies to each initial site inspection performed by the Department and to each phase of construction to a maximum of 10 inspections. The initial site inspection fee doubles to $1,100 if preliminary screening prior to field inspection indicates the possible presence of endangered resources or sites of historical or archeological significance.

(6) These fees apply to exemptions requested per s. NR 500.08(4) and (5).

(7) These fees apply to each facility construction documentation report submitted and to construction documentation reports for which a design capacity cannot be applied, such as sedimentation basins or remedial actions.

(8) This fee is a one-time payment only for the term of the licensee's long-term care responsibility.

(9) An additional $2,000 fee shall be paid for each requested exemption to the locational criteria specified in s. NR 504.04(3); for exemption requests to s. NR 504.06(2)(b) or (c); and if exemptions have been requested to ch. NR 140 groundwater standards. A separate $2,000 fee shall be paid for each paragraph of s. NR 504.04(3) under which exemptions have been requested. For requested exemptions to ch. NR 140 groundwater standards, a single $2,000 fee is owed.

(10) Submittals which propose to modify previously approved feasibility reports shall be assessed a fee of $5,000.

(11) Landfills initially licensed before 1/1/05 that have a total approved design capacity below 50,000 cubic yards shall pay an annual license fee of $1,650. Landfills initially licensed before 1/1/05 that have a total approved design capacity from 50,000 cubic yards to 500,000 cubic yards shall pay an annual license fee of $3,850.

(12) Operation inspection fee.

SECTION 114. NR 524.01 is amended to read:

NR 524.01 Purpose. The purpose of this chapter is to help ensure that efficient, nuisance-free and environmentally acceptable solid waste management procedures are practiced in Wisconsin by outlining the minimum requirements for ~~the training and~~ certification of persons participating in or responsible for the operation of solid waste disposal facilities. This chapter is adopted under ss. 289.06, 289.42 (1) and 227.11 (2), Stats.

SECTION 115. NR 524.03 is repealed and recreated to read:

NR 524.03 Definitions. The following definitions, as well as the definitions in s. NR 500.03, are applicable to terms used in this chapter unless the context requires otherwise.

(1) "Certified facility manager" means a person who holds a current solid waste facility manager certificate issued under this chapter.

(2) "Certified site operator" means a person who holds a current solid waste site operator's certificate issued under this chapter.

(3) "Hours of operation" means anytime when a solid waste disposal facility is open for accepting waste or any of the following activities are occurring:

(a) Waste placement and compaction.

(b) Surface water and leachate structure maintenance and repair, other than routine alarm response and equipment restarting.

(c) Daily and intermediate cover placement.

(d) Design repairs in major phases that have received waste but have not completed final closure.

(e) Access road construction within the site.

(f) Other activities that are determined by the department that are similar.

Note: Activities which do not constitute hours of operation include pumping leachate, gas extraction, environmental monitoring, new phase construction, remediation at a closed site or in a major phase that has received waste and has completed final closure, equipment maintenance, access road maintenance to the site, and other activities determined by the department that are similar.

SECTION 116. NR 524.05 (intro.) is amended to read:

NR 524.05 Municipal, mixed waste and intermediate size construction and demolition disposal facilities. (intro.) ~~Beginning October 1, 1995, the~~ The owner or operator of a solid waste disposal facility shall comply with one of the following:

SECTION 117. NR 524.05(1)(a) and (d) are amended to read:

NR 524.05(1)(a) Submit to the department with the submittal of the annual licensing application form, or if annual licensing is not required a submittal to the department by October 1 of each year, the name of at least one certified facility manager ~~who is certified under the appropriate division under s. NR 524.07 (1)~~. This person or persons shall be designated to perform the duties required in s. NR 524.06 (1) for the facility.

(d) Submit to the department with the list of certified facility managers required in par. (a), the name of any certified site operators ~~certified under the appropriate division in s. NR 524.07 (1) and~~ who are designated to fulfill the requirements in s. NR 524.06 (2) for the facility.

SECTION 118. NR 524.05(2)(a) is amended to read:

NR 524.05(2)(a) Submit to the department with the submittal of the annual licensing application form the name of at least one certified facility manager ~~who is certified under the appropriate division listed in s. NR 524.07 (1)~~. This person or persons shall be designated to perform the duties in s. NR 524.06 (1) for the facility.

SECTION 119. NR 524.05(2)(e)1. and 2. are amended to read:

NR 524.05(2)(e)1. A certified facility manager is present at the site to oversee operations a minimum of ~~twice~~ once a week and more often as necessary to assure the facility is being operated in a nuisance free and environmentally safe manner. A sign-in log shall be kept at the site attesting to the certified facility manager's ~~twice~~ weekly presence and shall be made available to the department upon request.

2. A site operator who ~~is trained in accordance with~~ possesses the knowledge specified in s. NR 524.07 ~~(3)~~ (2) but need not be certified performs the duties in s. NR 524.06 (2) at all times during the hours of operation other than when only waste delivery operations are occurring.

SECTION 120. NR 524.07 is repealed and recreated to read:

NR 524.07 Knowledge requirements. (1) Facility managers who wish to be certified shall have knowledge of all of the following subjects:

(a) *General landfill theory and design*. Basic design concepts for liners, leachate collection systems and capping and cover systems how these features protect groundwater, surface water and air quality; the reasoning for the types of soils that need to be used, and the construction and documentation requirements; the theory of active and passive gas systems.

(b) *General landfill operations*. Elements of a plan of operation, how the plan of operation is implemented and modified, and how the plan of operation is enforced; handling and reporting of special waste and out-of-state waste, daily filling sequence including slopes and grades, and at a minimum how this affects wind blown litter, odor, dust, tracking mud onto public roads; surface water control; site security and daily cover.

(c) *General landfill maintenance.* Regular maintenance of monitoring wells and leachate collection systems, cleaning and repair of the surface water control system, maintenance of the final cover system, and maintenance of the gas collection system.

(d) *Monitoring and reporting requirements.* Routine monitoring and reporting concerning groundwater wells, leachate head wells, lysimeter and gas wells; reporting of spills and releases and other similar occurrences, annual reporting regrading waste volumes and types, out-of-state waste and the fees associated with them.

(e) *Employees health and safety.* Hazardous substances, confined space entry and trench safety; health and safety plans and how the plans are developed for a particular site; precaution during screening of special wastes that cannot be brought into the facility and issues dealing with fire and explosion from landfill gas.

(f) *Employee training.* How to develop, implement and document training and training programs for all personnel at the facility. At a minimum this shall include programs for all persons using heavy machinery in or around the waste, scale operators, landfill maintenance personnel and environmental monitoring personnel. Where appropriate and relevant to the position, training programs shall include but not be limited to health and safety instructions, waste identification and handling, and procedures for gaining approval to accept new waste sources or types.

(g) *Heavy equipment management.* Handling and capabilities of landfill equipment and basic maintenance of this equipment.

(2) Site operators who wish to be certified shall have knowledge at least in all of the subjects in sub. (1) (a), (b), (c), (e) and (g).

(3) The department may require knowledge on additional subjects as the technology and regulations of solid waste disposal facility operations change.

SECTION 121. NR 524.08 is repealed and recreated to read:

NR 524.08 Initial certification and examination. (1) TERM S OF INITIAL CERTIFICATION. An initial certification shall terminate 2 years after issuance.

(2) INITIAL CERTIFICATION REQUIREMENTS. (a) *Facility manager and site operator certification requirements.* In order to be designated as a certified facility manager or certified site operator, an applicant shall meet all of the following requirements:

1. Achievement of a passing score on an examination under sub. (3).

2. Payment of the initial certification fee specified in s. NR 520.04 (6).

(b) *Additional requirements for facility managers.* In addition to meeting the requirements of par. (a), in order to be designated as a certified facility manager, the applicant shall satisfactorily demonstrate to the department that the applicant has at least 2 years experience operating or being directly responsible for the operation, design, regulation, construction or administration of a solid waste facility.

(3) EXAMINATIONS. (a) Written examinations to determine the knowledge and proficiency of those seeking certification as certified facility managers and certified site operators shall be administered by the department or its designated agent.

(b) A score of 70% or higher shall be a passing score for the written examination.

(c) Written examinations shall be conducted during business days at least 2 times annually at a location in the state determined by the department. Additional times and dates may be scheduled by the department.

(d) Persons who have not applied at least 30 days prior to the examination date, or who fail to pay the required fees, or fail to identify themselves on request at the examination site, are not eligible to take the written examination.

(e) Examination fees are not refundable.

(f) Examination papers may not be returned to an applicant.

SECTION 122. NR 524.09 is repealed and recreated to read:

NR 524.09 Recertification. (1) TERM OF RECERTIFICATION. Recertification for certified facility managers and operators shall terminate 2 years after issuance.

(2) RECERTIFICATION AS A CERTIFIED FACILITY MANAGER. In order to be recertified as a certified facility manager, a certified facility manager shall submit an application requesting recertification along with the fee specified in s. NR 520.04(6)(c). The application shall be accompanied by a statement signed by a certified manager or the landfill owner indicating that within the previous 2 years, the applicant has completed 8 hours of continuing education on solid or hazardous waste management related subjects.

(3) RECERTIFICATION AS A CERTIFIED SITE OPERATOR. In order to be recertified as a certified site operator, a certified site operator shall submit an application requesting recertification along with the fee specified in s. NR 520.04 (6) (d). The application shall be accompanied by a statement signed by a certified manager or the landfill owner indicating that within the previous 2 years, the applicant has completed 4 hours of continuing education on solid or hazardous waste management related subjects.

SECTION 123. NR 524.10 is repealed and recreated to read:

NR 524.10 Interim status. (1) If the designated certified facility manager becomes unable to perform the duties under s. NR 524.06(1), the facility owner or operator shall immediately notify the department and either suspend operations at the facility, or take any of the following actions:

(a) Designate another person having the required certification under this chapter as the certified facility manager as required in s. NR 524.05(1)(a) or (2)(a).

(b) Request the approval of the department of an interim facility manager having a site operator certification under s. NR 524.08.

(c) Request the approval of the department of an interim facility manager having an operator certification from another state.

(d) Request the approval of the department of an interim facility manager who has at least 2 years of experience operating or being directly responsible for operation, design, regulation, construction or administration of a solid waste facility.

(2) In the event that a facility owner or operator does not have a designated certified site operator who is available to perform the duties under s. NR 524.06 (2), the facility owner or operator may request the approval of the department of an interim site operator who has at least one year of experience operating, or being directly responsible for, operation of a solid waste facility or in earth work construction.

(3) An interim facility manager or interim site operator may be used as a replacement for a person already designated as a certified facility manager or site operator under s. NR 524.05 only under the following conditions:

(a) The owner or operator shall designate a person as an interim facility manager or interim site operator only once and for a maximum term of one year.

(b) The owner or operator may not request successive approvals for interim facility managers or interim site operators for a solid waste disposal facility.

(c) Persons who have had a certification under this chapter suspended or revoked within the previous 2 years may not be an interim facility manager or interim site operator.

(d) The owner or operator may designate an interim facility manager or interim site operator only as a temporary replacement for an existing designated certified facility manager or designated certified site operator under s. NR 524.05.

(e) The owner or operator pays the proper certification fee specified in s. NR 520.04(6) (g) or (h).

SECTION 124. NR 524.11 (intro.) is amended to read:

NR 524.11 Reciprocity. (intro.) There may be no reciprocity for certifications received from other states, except that the department may grant for a maximum term ~~that does not extend beyond 30days following the next scheduled approved training and certification test~~ of one year for an interim facility manager or interim site operator certification to a person who is certified in solid waste disposal facility operations in other states. To obtain approval as an interim facility manager or interim site operator, a person shall meet the requirements of ss. NR 524.10(3)(b), (c) and (d) and submit to the department and obtain approval of the following:

SECTION 125. NR 524.12 is repealed and recreated to read:

NR 524.12 Fees. (1) Fees for examination, initial certification, recertification and interim status approvals shall be as specified in s. NR 520.04(6).

(2) The appropriate fee shall accompany the completed application.

(3) A late processing fee specified in s. NR 520.04(6)(i) in addition to the fee under s. NR 520.04(6)(c) or (d) shall be paid by persons seeking recertification if their certification has expired for less than 6 months. If the certification has expired for more than 6 months, a person seeking certification shall apply for initial certification under s. NR 524.08.

SECTION 126. NR 524.14(1)(b) is amended to read:

NR 524.14(1)(b) Demonstrated incompetence to operate ~~the type of~~ a facility ~~for which the certification was issued~~,

SECTION 127. NR 526.02(8) is created to read:

NR 526.02(8) Any requirement of subch. II which deals with transportation of infectious waste does not apply to a person who is subject to a federal standard for the same activity established by the United States department of transportation in 49 CFR Parts 171, 172, 173, 177 and 178.

SECTION 128. NR 526.04(9) and (10) and (Note) are created to read:

NR 526.04(9) BLOOD COLLECTION VEHICLE EXEMPTIONS. Persons, including but not limited to the American Red Cross, who are transporting whole blood or blood components from temporary locations where blood is collected back to the collector's permanent location are exempt from the requirements of this chapter except the requirements under ss. NR 526.06 to 526.08, 526.09(4), 526.10(3) and 526.13.

(10) MASS VACCINATION WASTE EXEMPTIONS. Persons who are transporting infectious waste from emergency mass vaccinations, including but not limited to smallpox and excluding routine vaccinations, are exempt from the requirements of this chapter except the requirements under ss. NR 526.06 to 526.08, 526.09(4), 526.10(3), 526.11, 526.12(4), 526.13 and 526.14(1)(a). Persons transporting waste from emergency mass vaccinations may be required to file annual reports under s. NR 526.15.

Note: USDOT requirements may apply to hazardous materials transported by researchers, emergency response personnel and blood collection vehicles. For more information, contact the USDOT helpline at 1-800-467-4922.

SECTION 129. NR 526.05(1)(c) (Note) is created to read:

Note: A tooth containing mercury amalgam may be both an infectious waste and a hazardous waste. See s. NR 526.11(2)(f) for how to manage teeth containing mercury amalgam.

SECTION 129m. NR 526.05(3) and 526.055 are created to read:

NR 526.05(3) An item which is trace chemotherapy waste and is also considered to be infectious waste either by being included in the definition of infectious waste or by falling under one of the categories in sub. (1), is regulated only according to s. NR 526.055. However, if that item is mixed with bulk amounts of chemotherapy waste which is a hazardous waste, the item is regulated according to chs. NR 600 to 685.

NR 526.055 Trace chemotherapy waste. (1) SOURCE SEPARATION. (a) No person may mix trace chemotherapy waste in the same bag or waste receptacle with infectious waste or with non-hazardous solid waste, unless mixing the wastes is necessary to protect the health or safety of patients, employees or other persons.

(b) If infectious waste or non-hazardous solid waste is mixed with trace chemotherapy waste, the mixture shall be managed according to subs. (2) to (4).

(c) If trace chemotherapy waste is mixed with other chemotherapy waste, the mixture shall be managed according to chs. NR 600 to 685.

(2) CONTAINMENT. No person may transport trace chemotherapy waste from the property where the waste was generated unless the person puts the waste in a container which protects waste handlers and other persons from exposure to the trace chemotherapy waste and all of the following requirements are met:

(a) Hard trace chemotherapy waste, including but not limited to syringes, drug dispensing devices and broken or empty chemotherapy drug vials, shall be contained in rigid, puncture-resistant labeled plastic containers designed to prevent the loss of the contents and labeled with the visible words "Trace chemotherapy waste" and "Incinerate only".

(b) Soft chemotherapy waste, including but not limited to gloves, disposable gowns, towels, empty intravenous solution bags and empty tubing, may be contained in containers meeting the requirements of par. (a) or in a bag meeting the requirements of s. NR 526.07(2)(a) and (b).

Note: "Empty" has the meaning in s. NR 605.06.

(3) TREATMENT. Trace chemotherapy waste shall be treated by incineration or other method approved by the department. An incinerator used to treat trace chemotherapy waste may be one of the following:

(a) An incinerator regulated by the department under s. NR 502.09 or 502.13 or regulated by another state as an incinerator that burns medical waste.

(b) An incinerator regulated by the department under ch. NR 665 or regulated by another state as an incinerator that burns hazardous waste.

Note: The NIOSH "Hazardous Drug Alert" lists hazardous drugs, including chemotherapy drugs, by name and gives guidance on containment, labeling, handling, storage and disposal.

SECTION 130. NR 526.07(2)(a) and note and (2)(c) are amended to read:

NR 526.07(2)(a) The waste shall be placed in a single plastic bag that meets or exceeds 165 grams resistance by the ASTM method ~~D1709-91~~D1709-04 and is tear resistant using method ASTM method ~~D1922-89~~D1922-03a, or, if necessary, a double bag that meets the same standards, or a rigid reusable container.

Note: These testing methods are entitled "Standard Test Methods for Impact Resistance of Plastic Film by the Free-Falling Dart Method" and "Standard Test Method for Propagation Tear Resistance of Plastic Film and Thin Sheeting by Pendulum Method" respectively. Copies are available for inspection at the central office of the department of natural resources and the offices of the secretary of state and the revisor of statutes. Copies may be obtained from ~~the american society for testing and materials,1916 Race Street, Philadelphia, Pennsylvania 19103~~ ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959 USA, www.astm.org, phone number 610-832-9585.

NR 526.07(2)(c) Any bag containing infectious waste shall be placed in a rigid container, including but not limited to a corrugated cardboard container, a covered reusable container or a covered cart. The

rigid container shall be labeled with a visible bio-hazard emblem and the word "bio-hazard". Bulk containers shall be small enough to be handled by a single person.

SECTION 130g. NR 526.07(2)(d) is repealed.

SECTION 130r. NR 526.07(4) is created to read:

NR 526.07(4) All reusable containers shall be disinfected after being emptied. No person may open, empty or clean a reusable sharps container by hand.

SECTION 131. NR 526.10(2)(a) is amended to read:

NR 526.10(2)(a) Persons transporting infectious waste only on private roads on the same property where the infectious waste was generated and using vehicles or covered carts owned or leased by the infectious waste generator.

SECTION 132. NR 526.10(2)(am) and (3)(d)3. are created to read:

NR 526.10(2)(am) Persons transporting infectious waste only on private roads between the property where the infectious waste was generated and a contiguous property, and using vehicles or covered carts owned or leased by either the infectious waste generator and the owner of the contiguous property.

(3)(d)3. Facilities licensed or exempt by another state to store, incinerate or treat infectious waste.

SECTION 133. NR 526.10(3)(d)2.(Note) is amended to read:

Note: Other transportation regulations, such as ~~federal department of transportation~~ USDOT standards, may also apply. For more information, contact USDOT helpline at 1-800-467-4922.

SECTION 134. NR 526.11(2)(a)(intro.) is amended to read:

NR 526.11(2)(a) *Human tissue*. Human tissue, except teeth containing mercury amalgam treated according to par. (f), shall be treated by any of the following methods:

SECTION 135. NR 526.11(2)(f) and (note) are created to read:

NR 526.11(2)(f) *Teeth containing mercury amalgam.* Infectious waste generators shall disinfect a tooth containing mercury amalgam using procedures allowed under s. NR 526.11(1)(c), except bleach, which leaches mercury, and shall manage the disinfected tooth in one of the following ways:

1. Recycle the disinfected tooth containing mercury amalgam with other mercury-containing wastes.

2. Dispose of the disinfected tooth containing mercury amalgam as a hazardous waste.

3. Remove the mercury amalgam from the disinfected tooth and either recycle the mercury amalgam or dispose of the mercury amalgam as a hazardous waste. The disinfected tooth may be discarded as solid waste.

Note: See the American Dental Association's website at www.ada.org for recommended procedures for disinfecting teeth containing mercury amalgam.

SECTION 136. NR 526.12(1)(c), (4)(c)4., (4)(c)5., (4)(d)(Intro.) and (4)(d)2. are amended to read:

NR 526.12(1)(c) Submit the plan of operation to the department for approval, according to the requirements in s. NR 500.05. Upon receipt of the plan of operation, the department shall send an invoice for the plan review fee for solid waste processing facilities ~~and the additional fee for processing facilities which treat infectious waste~~, as specified in s. NR 520.04, Table 2.

(4)(c)4. Approximate amount of waste treated by weight, unless this information has already been recorded on an infectious waste manifest or USDOT shipping paper.

(4)(c)5. Generator of waste treated, if other than the owner or operator of the treatment facility, unless the waste is accompanied by an infectious waste manifest or USDOT shipping paper.

(4)(d) *Using manifests.*(intro.) ~~When~~ Unless USDOT regulations apply, when treating infectious waste which is accompanied by an infectious waste manifest, the operator of an infectious waste treatment facility shall certify that the infectious waste has been treated according to s. NR 526.11 by doing all of the following:

(4)(d)2. The operator shall send a copy of the signed infectious waste manifest form along with the treated infectious waste to the solid waste disposal facility where the waste is disposed. The department may approve alternative procedures for ~~verifying~~ certifying that waste has undergone infectious waste treatment before being disposed.

SECTION 137. NR 526.13 is amended to read:

NR 526.13 Disposal. No person may dispose of infectious waste in a solid waste disposal facility unless the infectious waste has undergone infectious waste treatment and is otherwise managed according to s. NR 526.11. Infectious waste generators shall ensure that infectious waste generated by them has undergone infectious waste treatment before disposal.

SECTION 138. NR 526.14(1)(a) and (b) and(Note) and (4) are amended to read:

NR 526.14 Records and infectious waste manifests. (1) ACTIVITIES. (a) *Records.* Except as provided in sub. (2), all infectious waste generators shall keep records of the amount of infectious waste sent off-site for treatment. Records shall include all the information listed under sub. (3) and retained as provided in sub. (4). Records may consist of any of the following: originals or copies of infectious waste manifests, USDOT shipping papers, invoices or records received from the infectious waste treatment facility, logs or other written documentation of the amount of infectious waste sent off-site for treatment. ~~These records shall be kept for at least 3 years after they were created. If the 3-year period expires during an unresolved enforcement action, the period is automatically extended until resolution of the pending enforcement action.~~If USDOT shipping papers are used as records, infectious waste generators shall keep separate records of information required under sub. (3) which is not written on their USDOT shipping papers.

(1)(b) *Manifests.* ~~Except~~ When USDOT regulations apply, the generator shall use a USDOT shipping paper instead of an infectious waste manifest prepared in accordance with this paragraph. Unless USDOT regulations apply or as provided in sub. (2), no person may store, transfer, transport or treat infectious waste beyond the property where the waste was generated unless the waste is accompanied by an infectious waste manifest. The infectious waste manifest may either be a Wisconsin infectious waste manifest form supplied by the department or an alternative manifest form which includes

all the information required in sub. (3). After an infectious waste manifest has been initiated, all persons who store, transfer, transport or treat the waste shall sign the infectious waste manifest form, even if the infectious waste generator is exempt from manifesting under ~~s. NR 526.14~~ sub. (2), and shall deliver the infectious waste manifest form to the next person who handles the waste. The infectious waste transporter shall leave a copy of the manifest with the infectious waste generator at the time that the waste is removed from the generator's facility.

(1)(b)**Note:** Wisconsin infectious waste manifest forms (DNR form 4400-176) may be obtained from the department of natural resources by writing to~~: DNR forms, 2421 Darwin Road~~ Wisconsin Department of Natural Resources, Bureau of Waste Management, P. O. Box 7921, Madison, Wisconsin, ~~53704~~53707-7921 or by calling 608-266-2111. ~~It is not possible to order forms by telephone.~~ For more information about USDOT regulations contact USDOT helpline at 1-800-467-4922.

(4) RETENTION. Infectious waste manifests and ~~related~~ records documenting the information required under sub. (3) shall be retained as follows:

(a) The infectious waste generator shall retain the ~~original~~ copy of the infectious waste manifest received when the waste was removed from the generator's facility and the ~~certification of infectious waste treatment~~ records that certify their infectious waste was treated, as required in s. NR 526.12(4)(d)3. The infectious waste generator shall retain these records for at least 3 years after the waste has been treated and provide the department copies of manifests and the records documenting the information required in sub. (3) upon request. If the 3-year period expires during an unresolved enforcement action, the period is automatically extended until resolution of the pending enforcement action.

Note: Hospitals, clinics and nursing homes should keep records for at least 5 years to comply with s. NR 526.19(9)(a) and (g).

(b) Each licensed infectious waste transporter and each owner or operator of a storage or transfer facility, combustor, incinerator or infectious waste treatment facility which handles or disinfects infectious waste shall retain a copy of each manifest, certification of infectious waste treatment according to s. NR 526.11 and records documenting the information required in sub. (3) for at least 3 years after delivering the waste to the next destination and shall provide the department copies of ~~the manifests~~ these documents upon request. If the 3-year period expires during an unresolved enforcement action, the period is automatically extended until resolution of the pending enforcement action.

(c) The owner or operator of a solid waste disposal facility which receives treated infectious waste shall retain a copy of the infectious waste manifest and certification of infectious waste treatment under s. NR 526.12(4)(d)2. for at least 3 years after disposal of the waste and shall provide the department copies of ~~the manifest~~ these documents upon request. If the 3-year period expires during an unresolved enforcement action, the period is automatically extended until resolution of the pending enforcement action.

SECTION 139. NR 526.15 is repealed and recreated to read:

NR 526.15 Infectious waste annual reports. An infectious waste generator which is either required to use manifests under s. NR 526.14 or to submit progress reports on medical waste reduction under s. NR 526.21 shall submit an annual report to the department on a form supplied by the department and the annual filing fee for the infectious waste annual report, as specified in s. NR 520.04, Table 2. An annual report form submitted by a medical facility shall be signed by the director of the facility. An annual

report form submitted by other infectious waste generators shall be signed by the administrator, chief executive officer or board of directors.

(1) GROUPS OF GENERATORS. Infectious waste generators who manifest infectious waste as a group may choose to submit a single annual report on behalf of the group and which is signed by the director of each generator in the group. Except as required under s. NR 526.21 (1), the annual report shall be submitted by March 1 for activities performed during the preceding calendar year.

(2) GENERATORS OF MASS VACCINATION WASTE. This subsection applies to persons generating infectious waste during emergency mass vaccinations, including but not limited to smallpox and excluding routine vaccinations. The filing status of these generators is based on their non-mass vaccination waste, that is, the total amount of waste generated in the year minus the amount of waste generated at mass vaccination clinic or clinics. These generators are required to file an annual report only if they are required to file an annual report under this section based on their non-mass vaccination waste. Their annual report shall include the amount of the infectious waste generated at the mass vaccination clinic or clinics. Conversely, if generators of infectious waste from emergency mass vaccinations are not required to file an annual report under this section, based on their non-mass vaccination waste, they do not need to file the annual report or report the amount of their mass vaccination waste.

Note: Infectious waste annual report forms (DNR form 4400-177) may be obtained from the Department of Natural Resources, Bureau of Waste Management, 101 S. Webster Street, P.O. Box 7921, Madison, WI 52707-7921. Phone number 608-266-2111. The forms are also available on DNR's website, www.dnr.wi.gov.

SECTION 140. NR 526.18(2) and (Note) are amended to read:

NR 526.18(2) WASTE TYPES. The waste audit shall identify the types of waste that are generated within each source area. It is not necessary to determine how much of each waste type is generated in each source area. The waste types are: medical waste, including infectious waste items listed in s. NR 526.05 and items which are either being mixed with infectious waste or handled as infectious waste; hazardous waste, including but not limited to hazardous chemotherapy waste; radioactive waste; ~~non-hazardous~~ trace chemotherapy waste; recyclable materials; wastes which may have to be managed separately because they are any combination of infectious, hazardous or radioactive waste; and other solid waste.

Note: ~~Hazardous~~ Infectious waste which is also ~~infectious waste is~~ hazardous may also be regulated by the department under hazardous waste rules. See chs. NR 600 to 685 and s. NR 526.11(2)(f). ~~Radioactive~~ Infectious waste which is also ~~infectious~~ radioactive is regulated by the department of health and family services under ch. HFS 157 and the federal government under Title 10 CFR until no longer regulated as radioactive material, as provided in s. NR 526.02(6).

SECTION 141. NR 526.21(1)(c)2. is amended to read:

NR 526.21(1)(c)2. For clinics, except free-standing dialysis clinics, in pounds per day per treatment area, according to the following formula, unless the department approves an alternative formula in writing:

$$\text{(Pounds/day)/area} = \frac{\text{(total pounds of medical waste generated in the year)/365 days}}{\text{(number of treatment areas)}}$$

SECTION 142. NR 526.21(1)(c)3. is created to read:

NR 526.21(1)(c)3. For free-standing dialysis clinics, in pounds per dialysis treatment, according to the following formula, unless the department approves an alternative formula in writing:

$$\text{Pounds/(dialysis treatment)} = \frac{\text{(total pounds of medical waste generated in the year)}}{\text{(total number of dialysis treatments in same year).}}$$

SECTION 143. Chapter NR 536 is repealed.

SECTION 144. NR 538.02(Note) is amended to read:

NR 538.02 **Note**: The landspreading of wastewater treatment sludges is regulated under chs. NR 206 and 214. The landspreading of solid wastes is regulated under ch. NR 518. Other state and local laws and codes, however, may apply to the beneficial use of industrial byproducts regulated under this chapter.

SECTION 145. NR 538.03(2) to (6) are renumbered NR 538.03(4), (6), (7), (8), and (9) and NR 538.03 (4) and (6), as renumbered, are amended to read:

NR 538.03(4) "Industrial byproduct" means papermill sludge, ash from energy recovery including coal ash ~~including~~ and slag, material captured in flue gas desulfurization systems, ferrous and steel foundry excess system sand~~, foundry~~ and slag, lime kiln dust or non-hazardous solid waste with similar characteristics as determined by the department.

(6) "Residential area" means properties that are zoned as residential, are in areas planned for residential zoning under a master plan approved or adopted by a local municipal authority or ~~those portions of properties on which there is a residence for human habitation that are within 200 feet of the residence~~ an area within 100 feet of a human residence.

SECTION 146. NR 538.03(2), (3), (5) and (10) are created to read:

NR 538.03(2) "Confined geotechnical fill" means a fill that is covered by an impervious surface such as concrete or asphalt.

(3) "Flue gas desulfurization" means the material recovered from air pollution control systems that capture sulfur dioxide emissions from energy recovery facilities.

(5) "Lime kiln dust" means the material recovered for air pollution control systems that capture emissions from lime kilns.

(10) "Unconfined geotechnical fill" means a fill that is covered by native soils.

SECTION 147. NR 538.04(2) is amended to read:

NR 538.04(2) A ~~significant adverse impact on critical habitat areas~~ take of an endangered or threatened species or other activity prohibited under s. 29.604, Stats.

SECTION 148. NR 538.06(3)(c) is amended to read:

NR 538.06(3)(c) All industrial byproducts which are characterized to determine eligibility for category 1 to 4 under s. NR 538.08 (1) to (4) shall be analyzed using ~~the most recent revision of the~~ ASTM ~~D3987~~ D3987-85 water leach test.

SECTION 149. NR 538.06(3) Notes are repealed and recreated to read:

NR 538.06(3)**Note:** Copies of EPA SW-846 test methods are available at no cost at www.epa.gov/epaoswer/hazwaste/test/main.htm. Copies of the test methods are available for inspection at the offices of the department of natural resources, the secretary of state and the revisor of statutes. Copies may be obtained from the superintendent of documents, U.S. government printing office, P.O. Box 371954, Pittsburgh, PA 15250-7954, (866) 512-1800, www.gpoaccess.gov. Copies may also be obtained from the national technical information service, U.S. department of commerce, 5285 Port Royal Road, Springfield, VA 22161, (800) 553-6847, www.ntis.gov.

Note: ASTM-D3987-85 is the American society for testing and materials "Test Method for Shake Extraction of Solid Wastes with Water." Copies of the ASTM standard may be obtained from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, (610) 832-9585, www.astm.org. Copies of the standard are available for inspection at the offices of the department of natural resources, the secretary of state and the revisor of statutes.

SECTION 150. NR 538.08(3) and (7) are amended to read:

NR 538.08(3) CATEGORY 3 INDUSTRIAL BYPRODUCTS. Industrial byproducts that have been determined to contain less than the concentration specified for the parameters listed in Appendix I, Table 2A, and are not category 1 or 2 industrial byproducts are category 3 industrial byproducts. Coal ashes are category 3 industrial byproducts if the concentration of boron is less than 3.4 mg/l and the concentration of all other parameters are less than those concentrations listed in Appendix I, Table 2A.

(7) CASE SPECIFIC. The department may review the characterization results for an industrial byproduct in response to a request from the generator of the industrial byproduct not defined in s. NR 538.03(4) and assign a category or categories for that material, or conditionally approve a beneficial use that does not meet the beneficial uses or standards specified in this chapter, on a case specific basis. The department may require additional information prior to a case specific approval. Any exemption or approval granted under this subsection shall be in accordance with the applicable requirements of s. 289.43 (4), (7) and (8), Stats.

SECTION 151. NR 538.10(5)(a), (b), (c), (d) and (f) are amended to read:

NR 538.10(5)(a) *Base course, subbase or subgrade fill for the construction of commercial, industrial or non-residential institutional buildings.* ~~The industrial byproducts shall be placed underneath the concrete floor slabs and within the frost walls for these buildings.~~ ~~This~~ The placement of the industrial byproduct may not extend more than 4 feet beyond the outside edge of the concrete slab or the frostwalls of the building. Placement of the concrete floor or frostwalls shall be completed as soon as practical after placement of the fill material. Any area where industrial byproducts are not directly beneath the building shall be sloped to prevent ponding of water, covered with 2 feet of native soil including topsoil and seeded as soon after placement as is practical. The use of industrial byproducts as base course, subbase and subgrade fill in the construction of residential buildings is specifically prohibited.

(b) *Base course, subbase or subgrade fill for the construction of a portland cement concrete or asphaltic concrete paved lot.* The placement of the industrial byproduct may not extend more than 4 feet beyond the paved area. Placement of the pavement shall be completed as soon as practical after placement of the fill material. Any area where industrial byproducts are not directly beneath the pavement structure shall be sloped to prevent ponding of water, covered with 2 feet of native soil including topsoil and seeded as soon after placement as is practical. The fill may not exceed 3000 cubic yards per half acre of the project area. The depth of fill may not exceed 4 feet below the natural ground surface. Prior written notification in accordance with s. NR 538.14 (4) and written concurrence by the department are needed for fills that do not meet the criteria in this subsection. Concurrence by the department will be based on specific site conditions and good engineering practice. If the department does not respond to the notification within 10 business days, concurrence is considered to be granted. The use of industrial byproducts as paved lot ~~subbase~~ fill is prohibited in residential areas.

(c) *Base course, subbase or subgrade fill for the construction of a paved federal, state or municipal roadway.* Industrial byproducts placed as part of construction of the paved federal, state or municipal roadway may not extend beyond the subgrade shoulder point and the depth of the fill may not exceed 4 feet except for incidental sections of the fill. Any area where industrial byproducts are not directly beneath the pavement structure shall be sloped to prevent ponding of water, covered with base course or native soil including topsoil and seeded as soon as practical after placement of the industrial byproduct. Placement of the pavement structure shall be completed as soon as practical after placement of the fill material. For fills greater than 4 feet in depth using category 4 industrial byproducts, the design criteria in sub. (6) shall be required. For fills greater than 4 feet in depth using category 3 or less industrial byproducts, the design criteria in sub. (7) shall be required. The use of industrial byproducts as paved roadway subbase or base fill is prohibited in residential areas, unless used in a roadway designed with a rural type cross-section.

(d) *Utility trench backfill.* The industrial byproducts placed as part of backfill of a trench constructed for the placement of sanitary or storm sewer, non-potable water line, gas main, telecommunications, electrical or other utility lines shall be beneath a paved roadway, parking lot or other portland cement concrete or asphaltic concrete paved structure. The industrial byproducts may not extend more than ~~6~~ 4 feet beyond the pavement structure. Any area where industrial byproducts are not directly beneath the pavement structure shall be sloped to prevent ponding of water, topsoiled and seeded as soon as practical after placement of the industrial byproduct.

(f) *Abandonment of tanks, vaults or tunnels that will provide total encapsulation of the industrial byproduct.* This use does not include the placement of an industrial byproduct in a location where environmental pollution has been identified unless it is specified in a plan approval by the department.

SECTION 152. NR 538.10(5)(h) and (i) are created to read:

NR 538.10(5)(h) *Soil and pavement stabilization.* Industrial byproducts used as soil and pavement base stabilization for structural improvements listed in pars. (a) to (c) shall be used in accordance with ASTM C618-03, or the Wisconsin department of transportation specifications for highway and structure construction, or other good engineering practices acceptable to the department. The use of industrial byproducts as soil and pavement base stabilization is allowed in residential areas for those beneficial uses specified in par. (c) if approved by the local unit of government with jurisdiction over the roadway.

Note: ASTM C618-03 is the American society for testing and materials "Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete." Copies of this test procedure can be obtained from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, (610)

832-9585, www.astm.org. Copies of the standard are also available for inspection at the offices of the department of natural resources, the secretary of state and the revisor of statutes.

(i) *Controlled low strength material (flowable fill).* Industrial byproducts incorporated into controlled low strength material for structural improvements listed in pars. (a), (d), (e) and (f). shall be used in accordance with ACI 229R-99 or the Wisconsin department of transportation specifications for highway and structure construction, or other good engineering practices acceptable to the department.

Note: ACI 229R-99 is the American Concrete Institute report "Controlled Low Strength Materials." Copies of this report can be obtained from the American Concrete Institute, P.O. Box 9094, Farmington Hills, MI 48333, (248) 848-3800, www.concrete.org. Copies of this report are also available for inspection at the offices of the Department of Natural Resources, Bureau of Waste Management, 101 S. Webster Street, P.O. Box 7921, Madison, Wisconsin 53707-7921. Copies are available for inspection at the offices of the revisor of statutes and the secretary of state.

SECTION 153. NR 538.10(6)(b)6. Note is amended to read:

Note: ASTM-D4318-95 is the American society for testing and materials "Test Method for Liquid Limit, Plastic Limit and Plasticity Index for Soils." Copies of this test procedure can be obtained from ~~the American society for testing and materials (ASTM), 1916 race street, Philadelphia, Pennsylvania, 19103-1187, (215) 299-5400~~ ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, (610) 832-9585, www.astm.org. Copies of ~~these test methods~~ the standard are also available for inspection at the offices of the department of natural resources, the secretary of state and the revisor of statutes.

SECTION 154. NR 538.10(6)(d)4. Note is amended to read:

Note: ASTM-D698-91 is the American society for testing and materials "Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort." Copies of this test procedure can be obtained from ~~the American society for testing and materials (ASTM), 1916 race street, Philadelphia, Pennsylvania 19103-1187, (215) 299-54005400~~ ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, (610) 832-9585, www.astm.org. Copies of ~~these test methods~~ the standard are also available for inspection at the offices of the department of natural resources, the secretary of state and the revisor of statutes.

SECTION 155. NR 538.10(7)(b), (8), (9), and (10) are amended to read:

NR 538.10(7)(b) The embankment shall be covered on the top and sidewalls by 2 feet of recompacted clay compacted to a minimum of 95% standard dry Proctor density at a moisture content wet of optimum, based on the characteristics of the appropriate Proctor curve for the clay being placed. The sidewalls and top cover shall be a minimum of 2 feet thick. No liner is required.

(8) Unconfined geotechnical fill material used as ~~part of the construction of a building, parking area, utility trench or other structural improvement, where the industrial byproduct is not structurally confined and meets the criteria in this subsection. If more than 200 cubic yards of industrial byproducts are to be beneficially used in an individual project, prior written notification in accordance with s. NR 538.14 (4) and concurrence by the department are needed. If the individual project uses less than 600 cubic yards of industrial byproduct and the department does not respond to the notification within 10 business days, concurrence is considered to be granted. Any area where industrial byproducts are beneficially used as unconfined geotechnical fill shall be sloped to prevent ponding of water, covered with at least 2 feet of native soils including topsoil within 15 business days of placement and seeded as soon after topsoil placement as is practical~~ fill material for sight, sound and structural berms, reclamation of nonmetallic

mines, public recreational trails, construction of sporting venues, limited use parking areas, access lanes, utility trenches or other beneficial uses demonstrated to be acceptable by the department. Any area where industrial byproducts are beneficially used as unconfined geotechnical fill shall be sloped to prevent ponding of water, covered with 2 feet of native soils including topsoil, or other cover approved by the department, and seeded as soon as practical after placement of the industrial byproducts. Prior written notification in accordance with s. NR 538.14 (4) and concurrence by the department are needed for all unconfined geotechnical fills. Concurrence by the department will be based on specific site conditions and good engineering practice. If the department does not respond to the notification within 10 business days, concurrence is considered to be granted. The beneficial use of industrial byproducts as an unconfined geotechnical fill is prohibited in residential areas.

(9) Unbonded surface course material used in accordance with the criteria of this subsection. This includes the use of industrial byproducts as a surface course material in unpaved driveways, parking areas and recreation or exercise trails. Industrial byproducts used as surface course shall conform to the requirements of ~~s. 304.2~~, Wisconsin department of transportation standard specifications for ~~road~~ highway and ~~bridge~~ structure construction applicable to base materials, and may be placed at a cumulative thickness of ~~3~~ 6 inches or less and in areas separated by at least a 25 foot vegetated buffer to a navigable surface water. The use of industrial byproducts as unbonded surface course is prohibited in residential areas. If more than ~~10,000~~ 1000 cubic yards of industrial byproducts or more than 6 inches are to be used in an individual surface course application, prior written notification in accordance with s. NR 538.14 (4) and concurrence by the department are needed. If the department does not respond to the notification within 10 business days, concurrence is considered to be granted.

(10) Bonded surface course material used in accordance with the criteria of this subsection. This use includes placement of industrial byproducts as a bonded surface course material such as seal coats in roads, driveways, parking areas and recreational or exercise trails. Industrial byproducts used as a bonded surface course shall conform to the ~~requirements of s. 401~~, Wisconsin department of transportation standard specifications for ~~road~~ highway and ~~bridge~~ structure construction~~, and may not exceed 30 pounds per square yard placed over an asphaltic mastic~~ applicable to asphaltic pavements. Within 48 hours of application of the industrial byproduct, the surface shall be rolled to thoroughly embed these materials into the asphaltic mastic. If more than 10,000 cubic yards of industrial byproducts are to be used in an individual bonded surface course application, prior written notification in accordance with s. NR 538.14 (4) and concurrence by the department are needed. If the department does not respond to the notification within 10 business days, concurrence is considered to be granted.

SECTION 156. NR 538.10(11), (12) and (Note) are renumbered to NR 538.10 (12) and (13) and amended to read:

NR 538.10(12) Decorative stone ~~with particle size greater than or equal to 3/4 inches, and with less than 5% silt and clay sized particles, including those adhering to the larger particles. Industrial byproducts used as decorative stone~~ applications using industrial byproducts shall conform to ~~the wear and soundness requirements for crushed aggregate base course in s. 304.2.3 and 304.2.4,~~ Wisconsin department of transportation ~~standard~~ specifications for ~~road~~ highway and ~~bridge~~ structure construction applicable to base aggregates.

(13) ~~Cold~~ Winter weather road abrasive on roadways with a rural cross-section, including areas with incidental sections of curb and gutter. The winter road abrasives using industrial byproducts, wholly or as part of a mixture of abrasives, shall meet Wisconsin department of transportation gradation and application rate recommendations for winter highway maintenance. ~~All particles shall be smaller than 1/4 inch, and the material shall contain no more than 5% silt or clay size particles. The application rate of industrial byproducts used as a winter road abrasive may not exceed 0.4 tons per lane mile per~~

~~application. These materials may be mixed with sand or other abrasives to achieve this application rate or the Wisconsin department of transportation gradation recommendations.~~ contained in the state highway maintenance manual~~., policy 32.30, effective date January 1, 1991~~.

Note: Copies of Wisconsin department of transportation specifications for ~~road~~ highway and ~~bridge~~ structure construction, and state highway maintenance manual~~, policy 32.30~~ can be obtained from the department of natural resources, bureau of waste management, 101 South Webster Street, Natural Resources Building, P.O. Box 7921, Madison, Wisconsin 53707-7921. Copies are also available for inspection at the offices of the revisor of statutes and the secretary of state.

Note: Under s. ~~30.12(4)~~30.2022, Stats., highway and bridge projects affecting the waters of the state that are carried out under the direction and supervision of the department of transportation are exempt from department permit or approval requirements if accomplished in accordance with interdepartmental liaison procedures established by the department of natural resources and the department of transportation.

SECTION 157. NR 538.10(11) is created to read:

NR 538.10(11) Bonded surface course material used in accordance with the criteria of this subsection. This use includes placement of industrial byproducts as a bonded surface course material such as seal coats in paved federal, state or municipal roadways specified in sub. (5)(c). Industrial byproducts used as a bonded surface course shall conform to the Wisconsin department of transportation standard specifications for highway and structure construction applicable to asphaltic pavements. Within 48 hours of application of the industrial byproduct, the surface shall be rolled to thoroughly embed these materials into the asphaltic mastic. If more than 10,000 cubic yards of industrial byproducts are to be used in an individual bonded surface course application, prior written notification in accordance with s. NR 538.14 (4) and concurrence by the department are needed. If the department does not respond to the notification within 10 business days, concurrence is considered to be granted. The use of industrial byproducts as seal coats is prohibited in residential areas, unless used in a roadway designed with a rural type cross-section.

SECTION 158. NR 538.12(2)(b) is amended to read:

NR 538.12(2)(b) Materials that are not category 1 industrial byproducts and that are utilized for any of the uses under s. NR 538.10(5) to ~~(12)~~(13) may not be placed below the water table, into permanent standing water or areas that need to be dewatered prior to placement. For those beneficial uses listed in s. NR 538.10(5)(a) and (b) that exceed 5000 cubic yards, there shall be a minimum separation distance of 3 feet between the industrial byproducts and the groundwater table at the time the material is placed. Prior written notification in accordance with s. NR 538.14(4) and concurrence by the department are needed for separation distances less than 5 feet. Concurrence by the department will be based on specific site conditions and good engineering practice. If the department does not respond to the notification within 10 business days, concurrence is considered to be granted.

SECTION 159. NR 538.12(2)(d) is repealed.

SECTION 160. NR 538.12(2)(br) is created to read:

NR 538.12(2)(br) Materials that are not category 1 industrial byproducts and used for the beneficial uses listed in s. NR 538.10(5)(a) and (b) and exceed 5000 cubic yards shall be placed no closer than 200 feet from a private or public water well without the written consent of the property owners located within this separation distance. A consent form shall be provided by the department.

SECTION 161. NR 538.14(4)(intro.) is amended to read:

NR 538.14(4) NOTIFICATION.(intro.) Each industrial byproduct generator or a person designated by the generator, such as a broker, shall submit written notification to the department prior to initiating a project, where required in s. NR 538.10(5), (8), (9), ~~or~~ (10) or (11). The following information shall be included in the notification:

SECTION 162. NR 538.14(4)(f) is created to read:

NR 538.14(4)(f) For those beneficial uses listed in s. NR 538.10(5)(a) and (b) that exceed 5000 cubic yards, the method and the data used to determine the groundwater separation distance.

SECTION 163. NR 538.16(1)(a)4. is amended to read:

NR 538.16(1)(a)4. Facilities for the storage of category 2 or 3 industrial byproducts that are used for industrial byproduct storage for less than 2 years. These facilities shall provide to the department notice of the storage location, the date on which the storage of materials began, and the total volume stored.

SECTION 164. NR 538.22(1) is amended to read:

NR 538.22(1) Written notice shall be provided to the owners of property on which industrial byproducts are utilized under this chapter for one or more of the beneficial uses described under s. NR 538.10(5) to ~~(8)~~ (9). ~~Category 1 industrial byproducts are exempt from the requirements of this section.~~ This notice shall be provided to the owner of property prior to its use. The generator of the industrial byproduct, or a person designated by the generator, shall provide the notice in accordance with this section, unless the department approves an alternative notice procedure. This notice shall be on a form provided by the department or in a format approved by the department. Any property owner receiving this notice shall retain this information and provide this information to the next purchaser of the property. Category 1 industrial byproducts are exempt from the requirements of this section. Category 2 industrial byproducts are exempt from the requirements listed in this section for beneficial use projects of less than 2500 cubic yards provided that the owner of the property is informed in writing that industrial byproducts are being utilized.

SECTION 165. Chapter NR 538 Appendix I Table 1A is amended to read:

APPENDIX I

Table 1A

Category 1 ASTM Water Leach Test

Standard (mg/l)	Parameter	Ferrous Foundry Excess System Sand	Ferrous Foundry Slag	Coal Ash	Other[1]
1.5	Aluminum (Al)	X	X	X	X
0.0012	Antimony (Sb)	X	X	X	X
0.005	Arsenic (As)	X	X	X	X
0.4	Barium (Ba)	X	X	X	X
0.0004	Beryllium (Be)	X	X	X	X
0.19	Boron (B)			X	X
0.0005	Cadmium (Cd)	X	X	X	X
125	Chloride (Cl)			X	X
0.010	Chromium, Tot. (Cr)	X	X	X	X
0.130	Copper (Cu)	X	X	X	X
0.040	Total Cyanide	X	X		X
0.8	Fluoride (F)	X	X		X
0.15	Iron (Fe)	X	X	X	X
0.0015	Lead (Pb)	X	X	X	X
.025	Manganese (Mn)	X	X	X	X
0.0002	Mercury (Hg)	X	X	X	X
0.05	Molybdenum (Mo)			X	X
0.020	Nickel (Ni)	X	X	X	X
2.0	Nitrite & Nitrate (NO_2+NO_3-N)			X	X
1.2	Phenol	X			X
0.010	Selenium (Se)	X	X	X	X
0.010	Silver (Ag)			X	X
125	Sulfate	X	X	X	X
0.0004	Thallium (Tl)	X	X	X	X
2.5	Zinc (Zn)	X	X	X	X

[1] As provided under s. NR 538.06 (1), the testing program for materials other than ferrous foundry system sand, ferrous foundry slag and coal ash must be approved by the department prior to characterization. For other materials the department may modify the list of parameters required to be analyzed for and may establish standards on a material specific basis for additional parameters.

Note: All testing is to be conducted on a representative sample of a single industrial byproduct prior to commingling with other materials, unless otherwise approved by the department.

SECTION 166. Chapter NR 538 Appendix I Table 2A is amended to read:

Table 2A

Category 2 and 3 ASTM Water Leach Test

Standard (mg/l)	Parameter	Ferrous Foundry Excess System Sand	Ferrous Foundry Slag	Coal Ash	Other[1]
~~15~~	~~Aluminum (Al)~~	~~X~~	~~X~~	~~X~~	~~X~~
0.012	Antimony (Sb)	X	X	X	X
0.05	Arsenic (As)	X	X	X	X
4.0	Barium (Ba)	X	X	X	X
0.004	Beryllium (Be)	X	X	X	X
1.9	Boron (B)			X	X
0.005	Cadmium (Cd)	X	X	X	X
1250	Chloride (Cl)				X
0.10	Chromium, Tot. (Cr)	X	X	X	X
1.30	Copper (Cu)				X
0.40	Total Cyanide				X
8.0	Fluoride (F)	X			X
1.5	Iron (Fe)	X	X		X
0.015	Lead (Pb)	X	X	X	X
.25	Manganese (Mn)	X	X	X	X
0.002	Mercury (Hg)	X	X	X	X
0.20	Nickel (Ni)				X
20	Nitrite & Nitrate (NO_2+NO_3-N)				X
12	Phenol	X			X
0.10	Selenium (Se)	X	X	X	X
0.10	Silver (Ag)			X	X
1250	Sulfate			X	X
0.004	Thallium (Tl)			X	X
25	Zinc (Zn)				X

1 As provided under s. NR 538.06 (1), the testing program for materials other than ferrous foundry system sand, ferrous foundry slag and coal ash must be approved by the department prior to characterization. For other materials the department may modify the list of parameters required to be analyzed for and may establish standards on a material specific basis for additional parameters.
Note: All testing is to be conducted on a representative sample of a single industrial byproduct prior to commingling with other materials, unless otherwise approved by the department.

SECTION 167. Chapter NR 538 Appendix I Table 3 is amended to read:

Table 3

Category 4 ASTM Water Leach Test

Standard (mg/l)	Parameter	Ferrous Foundry Excess System Sand	Ferrous Foundry Slag	Coal Ash	Other[1]
0.03	Antimony (Sb)				X
0.25	Arsenic (As)				X
10	Barium (Ba)	X			X
0.02	Beryllium (Be)				X
4.8	Boron (B)			X	X
0.025	Cadmium (Cd)	X	X	X	X
2500	Chloride (Cl)				X
0.5	Chromium, Total (Cr)			X	X
6.5	Copper (Cu)				X
1	Total Cyanide				X
20	Fluoride (F)				X
3	Iron (Fe)	X	X		X
0.075	Lead (Pb)	X	X		X
0.5	Manganese (Mn)				X
0.01	Mercury (Hg)	X	X		X
0.5	Nickel (Ni)				X
50	Nitrite & Nitrate (NO_2+NO_3-N)				X
30	Phenol				X
0.25	Selenium (Se)			X	X
0.25	Silver (Ag)			X	X
2500	Sulfate			X	X
0.01	Thallium (Tl)				X
50	Zinc (Zn)				X

1 As provided under s. NR 538.06 (1), the testing program for materials other than ferrous foundry system sand, ferrous foundry slag and coal ash must be approved by the department prior to characterization. For other materials the department may modify the list of parameters required to be analyzed for and may establish standards on a material specific basis for additional parameters.
Note: All testing is to be conducted on a representative sample of a single industrial byproduct prior to commingling with other materials, unless otherwise approved by the department.

SECTION 168. Chapter NR 538 Appendix I Table 4 is amended to read:

Table 4

Beneficial Use Methods

	Industrial Byproduct Category				
	5	4	3	2	1
(1) Raw Material for Manufacturing a Product	X	X	X	X	X
(2) Waste Stabilization / Solidification	X	X	X	X	X
(3) Supplemental Fuel Source / Energy Recovery	X	X	X	X	X
(4) Landfill Daily Cover / Internal Structures	X	X	X	X	X
(5) Confined Geotechnical Fill (a) commercial, industrial or institutional building subbase (b) paved lot base, subbase & subgrade fill (c) paved roadway base, subbase & subgrade fill (d) utility trench backfill (e) bridge abutment backfill (f) tank, vault or tunnel abandonment (g) slabjacking material (h) soil and pavement base stabilization (i) controlled low strength material (flowable fill)		X	X	X	X
(6) Encapsulated Transportation Facility Embankment		X	X	X	X
(7) Capped Transportation Facility Embankment			X	X	X
(8) Unconfined Geotechnical Fill			X	X	X
(9) Unbonded Surface Course				X	X
(10) Bonded Surface Course				X	X
(11) Bonded Surface Course (Federal, state or municipal roadways)			X	X	X
~~(11)~~ (12) Decorative Stone				X	X
~~(12)~~ (13) Cold Weather Road Abrasive				X	X
Note: General beneficial use in accordance with s. NR 538.12 (3)					X

Note: Refer to s. NR 538.10 for description of each beneficial use

SECTION 169. NR 540.04(1) is amended to read:

NR 540.04 Location requirements. (1) GENERAL. No person may establish, construct, operate or maintain a waste separation and recycling collection facility in a ~~critical habitat area, a~~ floodplain or a wetland or that causes a take of an endangered or threatened species or other activity prohibited under s. 29.604, Stats.

SECTION 170. NR 812.07(24m) and (57w) are created to read:

NR 812.07(24m) "Comparable protection" means to substitute alternative protective measures to provide similar or equal sanitary protection to that provided by this chapter including the well location requirements of s. NR 812.08.

(57w) "Limits of filling", for a landfill, means the outermost limit at which waste at a landfill facility has been disposed of, or approved, or proposed for disposal.

SECTION 171. NR 812.08(4)(g)1. is amended to read:

NR 812.08(4)(g)1. The nearest edge of the limits of filling of an existing, proposed or abandoned landfill, measured to the nearest fill area of abandoned landfills, if known~~,otherwise~~. Otherwise measured to the nearest property line where the landfill is located. The department may require, as part of a variance request, a land survey map, a scaled diagram of the landfill and the well location, or another accurate measurement method to determine and demonstrate the distance between the landfill and the well;

SECTION 172. NR 812.43(1) is amended to read:

NR 812.43 Variances. (1) When strict compliance with the requirements of this chapter is not feasible, a variance may be requested. All variance requests shall be in writing, except ~~that~~ for situations that may require an immediate response, in which case a variance may be requested verbally from the owner, or the owner's agent, and a verbal variance may be granted by the department ~~and~~ to be followed up with a written confirmation. If the verbal request is made by the owner's agent, the agent shall provide confirmation of the owner's concurrence with the request. A variance request shall include the names of the owner or owners and, if known, the well driller, well constructor or pump installer. The reason or reasons compliance with the requirements for this chapter is not feasible shall also be provided. The department may ~~request that~~ require the owner or the owner's agent to submit additional information ~~be submitted by an owner or an owner's agent~~ necessary for the department to determine if a variance is justified. The owner or owners shall sign the variance request. The department may condition the issuance of a variance by requiring additional construction or installation features to safeguard the groundwater and water supplied by the installation from contamination. Failure to comply with the conditions of a variance or the applicable requirements of this chapter voids the variance approval.

SECTION 173. NR 812.43(1)(a), (b), (c) and (d) are created to read:

NR 812.43(1)(a) A variance request to s. NR 812.08(4)(g)1., for an existing water supply well within 1,200 feet of a proposed landfill or landfill expansion, shall be signed and submitted to the department by the owner of the well or by the owner of the landfill. Both parties shall have the right to appeal the variance approval, pursuant to ch. 227, Stats.

1. In cases where the application for a variance has been submitted by the landfill owner, the application shall include documentation that written notification of the variance request has been provided to any well owner meeting conditions under s. NR 812.08(4)(g)1.

2. In cases where the application for a variance has been submitted by the well owner, the application shall include documentation that written notification of the variance request has been provided to the landfill owner.

(b) A variance request to s. NR 812.08(4)(g)1. for an existing water supply well within 1,200 feet of a landfill may be granted by the department where conditions warrant, using the concept of comparable protection. Comparable protection may be provided by appropriate measures including, but not limited to a deeper well casing depth setting, specific grouting materials or methods, specific drilling methodology or additional well water sampling results. These measures will be determined by the department for the purpose of safeguarding the groundwater and the water supply from potential sources of contamination.

(c) A variance request to s. NR 812.08(4)(g)1. for a well to be constructed within 1,200 feet of a landfill not subject to expansion shall be signed and submitted to the department by the owner of the well. If a variance is granted, the department shall notify the landfill owner. If the landfill owner is unknown, the department shall notify the municipality where the landfill is located.

(d) Any variance granted by the department to s. NR 812.08(4)(g)1. shall be filed by the requester with the register of deeds to ensure future owners of the property where the well is located are given notice that a valid variance was granted.

SECTION 174. EFFECTIVE DATE. This rule shall take effect the first day of the month following publication in the Wisconsin administrative register as provided in s. 227.22(2)(intro.), Stats.

SECTION 175. BOARD ADOPTION. This rule was approved and adopted by the State of Wisconsin Natural Resources Board on August 17, 2005.

Dated in Madison, Wisconsin _____.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By _____.
Scott Hassett, Secretary

(SEAL)