

**Plan of Operation Completeness Checklist
Chapter NR 514, Wis. Adm. Code**



Revised December 2019

Instructions: This checklist is intended for use by department staff for the review of landfill plan of operation reports to determine completeness. This checklist is intended to be used in conjunction with the Design and Construction Criteria Completeness Checklist, Chapter NR 504, Wis. Adm. Code. The checklist may also be used by applicants and submitted with a landfill plan of operation report to facilitate department review. Refer to applicable statutes and codes for exact requirements.

General Information

Facility Name: _____ License/Monitoring # _____

Facility Type: _____ FID# _____

Initial Submittal: Date Received: ___/___/___ Completeness Due: ___/___/___ DNR Response: ___/___/___ (Complete: ___ yes ___ no)

Addendum # ___ Date Received: ___/___/___ Completeness Due: ___/___/___ DNR Response: ___/___/___ (Complete: ___ yes ___ no)

Addendum # ___ Date Received: ___/___/___ Completeness Due: ___/___/___ DNR Response: ___/___/___ (Complete: ___ yes ___ no)

Proposed Waste Types: _____

Proposed Total Design Capacity: _____ (including daily and intermediate covers)

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
NR 500.05 - GENERAL SUBMITTAL REQUIREMENTS.					
(1) Has the adequate review fee been submitted per NR 520.04?					
(2) Has a cover letter detailing the desired action been submitted?					
(3) Have the appropriate number of copies and one electronic copy been submitted?					
(4) Has P.E. and P.G. certification been provided?					
(5) Technical Procedures:					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
Were all technical procedures used to investigate the facility current standard procedures?					
Were all test procedures specified in the report?					
Are any deviations from a standard method explained in detail with reasons provided?					
(6) Do all maps, plan sheets, drawings, isometrics, cross-sections, figures, photographs and tables meet the following requirements?					
(a) No larger than 30 inches x 42 inches & no smaller than 8 ½ inches x 11 inches.					
(b) Appropriate scale to show required detail.					
(c) Do visuals meet the following requirements? ___ numbered ___ legends for all symbols ___ referenced in the narrative ___ horizontal & vertical scales ___ titled ___ drafting and origination dates					
(d) Are uniform scales used?					
(e) Are north arrows shown?					
(f) Is the mean sea level datum used as basis for all elevations?					
(g) Do visuals contain a survey grid based upon monuments established in the field?					
(h) Is the original topography and a grid system shown on the plan sheets that show construction, operation and closure topography?					
(i) Do cross-sections meet the following requirements? ___ Show survey grid locations ___ Reference major plan sheets ___ Include a reduced diagram of plan view showing cross-section location					
(7) Is a table of contents provided listing all sections of the submittal?					
(8) Is an appendix provided listing the following? ___ names of all references ___ all raw data ___ testing and sampling procedures ___ calculations					
NR 514.04 PROCEDURAL REQUIRMENTS					
(3) NONCOMPLIANCE WITH PLANS OR ORDERS					
Does the report include the following: ___ Identify all persons owning a 10% or greater interest in the applicant or assets of applicant ___ Identify other Wisconsin solid and hazardous waste facilities owned by applicants ___ Indicate whether all plan approvals and orders for facilities owned by applicants are being complied with					
(4) COMPLETENESS					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
Have the conditions of the feasibility approval been met?					
NR 514.05 ENGINEERING PLANS.					
Do all plan sheets utilize the existing conditions sheet as a base map (except for title, existing conditions, cross-sections and detail sheets)?					
(1) TITLE SHEET.					
Does title sheet include the following?					
<input type="checkbox"/> Project title <input type="checkbox"/> Engineer/designer <input type="checkbox"/> Date plans prepared <input type="checkbox"/> Applicant <input type="checkbox"/> Table of contents <input type="checkbox"/> Site location maps and area served					
(2) EXISTING CONDITIONS. Does the existing conditions plan sheet show the following?					
<input type="checkbox"/> Detailed topographic map of the site and area within 1,500 feet of waste limits <input type="checkbox"/> Minimum scale of 1" = 200' <input type="checkbox"/> Maximum contour interval of 2' <input type="checkbox"/> Elevations related to U.S.G.S. datum					
(a) Surface waters including intermittent and ephemeral streams and wetlands					
(b) <input type="checkbox"/> Property boundaries <input type="checkbox"/> Proposed limits of waste <input type="checkbox"/> Proposed facility boundary					
(c) <input type="checkbox"/> North arrow <input type="checkbox"/> Landfill survey grid <input type="checkbox"/> Formula for converting survey grid to state plane coordinate system <input type="checkbox"/> Location of all existing and proposed survey monuments					
(d) Residential and commercial structures and other buildings					
(e) Location of the following within 1000 feet of the landfill or 500 feet of any monitoring well: <input type="checkbox"/> All soil borings <input type="checkbox"/> Existing and abandoned groundwater monitoring wells <input type="checkbox"/> Public and private water supply wells <input type="checkbox"/> General locations of all known septic systems and drain fields					
(f) Locations of other landfills, demolition landfills, or other solid waste facilities for processing, storage or composting of solid waste					
(g) Locations of utility lines, underground pipelines, electrical lines, access control, and other constructed topographic and drainage features					
(3) SUB-BASE GRADES AND BASE GRADES. Do the sub-base and base grades plan sheets depict?					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
<input type="checkbox"/> Sub-base grades <input type="checkbox"/> Sub-base appurtenances such as lysimeters or drain pipes <input type="checkbox"/> Base grades					
(4) ENGINEERING DESIGN FEATURES. Do the engineering design features plan sheets include the following:					
<input type="checkbox"/> Separate plan sheet depicting total landfill area, limits of liner construction, and limits of filling <input type="checkbox"/> Plan sheet depicting layout and slopes of liner system <input type="checkbox"/> Plan sheet depicting layout and slopes of leachate collection system including: <input type="checkbox"/> Pipes <input type="checkbox"/> Riser pipes on interior sideslopes <input type="checkbox"/> Sumps <input type="checkbox"/> Manholes <input type="checkbox"/> Trenches <input type="checkbox"/> Berms <input type="checkbox"/> Lift stations <input type="checkbox"/> Permanent storm water control structures <input type="checkbox"/> Pipe cleanouts <input type="checkbox"/> Other pertinent structures <input type="checkbox"/> Plan sheet depicting invert elevations at change in grades for all leachate and groundwater collection and transfer systems					
(5) PHASING. Do phasing plan sheets include peripheral features such as:					
<input type="checkbox"/> Support buildings <input type="checkbox"/> Sedimentation basins <input type="checkbox"/> Access roads <input type="checkbox"/> Other storm water management features <input type="checkbox"/> Drainage ditches <input type="checkbox"/> Screening berms					
<input type="checkbox"/> Do phasing plan sheets include separate plan sheets for initial facility construction and each subsequent phase of construction or new area where construction will be performed including: <input type="checkbox"/> Final filling surfaces in the previous phases <input type="checkbox"/> Limits of clearing, grubbing and topsoil removal <input type="checkbox"/> Base grades of new phase of filling <input type="checkbox"/> Anticipated contours of soil stockpiles at the time depicted <input type="checkbox"/> Storm water management features <input type="checkbox"/> List of construction items and quantities necessary to prepare each phase					
(6) STORM WATER MANAGEMENT. Do the storm water management plan sheets depict the following:					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
___ Storm water management features to be constructed at the time of: ___ Initial construction ___ During phased development ___ After landfill closure ___ Location of sediment basins ___ Drainage ditches ___ Auxiliary sediment traps ___ Extent of cleared ground and stockpiles during each major phase of construction ___ List of anticipated actions and materials needed for sediment and erosion control					
(7) WASTE FINAL GRADES AND FINAL TOPOGRAPHY. Do plans include a final topography plan sheet to indicate final waste grades, including daily and intermediate cover? Does the final topography plan sheet show the appearance of the entire facility following closure including:					
___ Storm water drainage features ___ Location of gas extraction wells ___ All other penetrations of the final cover					
(8) MONITORING. Does the monitoring plan sheet show the following:					
___ Location of design management zone as determined under s. NR 140.22 ___ All the devices for monitoring of: ___ Leachate quality and quantity ___ Unsaturated zone water quality and flow rate ___ Groundwater quality ___ Storm water quality ___ Gas production ___ Gas migration ___ Gas condensate ___ Surface settlement					
(9) LONG-TERM CARE. Does the long-term care plan sheet show the following:					
___ Topography of the landfill following closure ___ Proposed schedule for monitoring and maintenance					
(10) CROSS-SECTIONS AND DETAILED PLAN REVIEW SHEETS. Do plans include a minimum of 2 cross-sections both parallel and perpendicular to the facility baseline through the major dimensions of the landfill?					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
<p>(a) Is the location of the cross-section illustrated by a reduced scale plan view on each cross-section?</p> <p>Does each combined engineering and geological cross-sections include:</p> <p><input type="checkbox"/> Existing grades</p> <p><input type="checkbox"/> Sub-base, base, top of the leachate collection blanket grades and final grades</p> <p><input type="checkbox"/> Soil borings and monitoring wells the section passes through or is adjacent to</p> <p><input type="checkbox"/> Soil & bedrock types</p> <p><input type="checkbox"/> Stabilized water table contours</p> <p><input type="checkbox"/> Leachate collection and monitoring systems</p> <p><input type="checkbox"/> Gas venting or extraction and monitoring systems</p> <p><input type="checkbox"/> Limits of refuse filling</p> <p><input type="checkbox"/> Erosion, storm water and sediment control structures</p> <p><input type="checkbox"/> Access roads and ramps on the perimeter of disposal area and within active fill area</p> <p><input type="checkbox"/> The filling sequence or phasing interfaces and other facility features</p>					
<p>(b) Are cross-sections included which illustrate all important construction features of the following:</p> <p><input type="checkbox"/> Liner</p> <p><input type="checkbox"/> Final cover</p> <p><input type="checkbox"/> Lysimeters</p> <p><input type="checkbox"/> Leachate collection trenches and sumps</p> <p><input type="checkbox"/> Liner penetrations</p> <p><input type="checkbox"/> Sideslope risers</p> <p><input type="checkbox"/> Piping systems for gas and gas condensate lines</p> <p><input type="checkbox"/> Storm water drainage systems</p>					
<p>(c) Are detailed plan views included for piping outside the limits of filling for leachate header and drain lines, gas and condensate lines, and leachate force mains?</p>					
<p><input type="checkbox"/> Does the plan view contain notations for pipe slopes and intersection elevations with manholes, lift stations, collection tanks and gas blower stations?</p>					
<p>(11) DETAILS. Do drawings include details for the following:</p>					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
<ul style="list-style-type: none"> <input type="checkbox"/> Storm water control structures <input type="checkbox"/> Access roads <input type="checkbox"/> Fencing <input type="checkbox"/> Final cover and base liner systems <input type="checkbox"/> Leachate and gas control systems such as: <ul style="list-style-type: none"> <input type="checkbox"/> Pipe bedding <input type="checkbox"/> Manholes <input type="checkbox"/> Transfer lines <input type="checkbox"/> Forcemain and storage tanks <input type="checkbox"/> Leachate transfer lines which extend through the liner <input type="checkbox"/> Groundwater and unsaturated zone monitoring devices <input type="checkbox"/> Buildings <input type="checkbox"/> Leachate and refuse containment berms between subsequent phases of development 					
NR 514.06 OPERATIONS MANUAL AND DESIGN REPORT. Does the plan of operation contain the following minimum information?					
(1) TABLE OF CONTENTS. Does the operations manual and design report contain a Table of Contents with section titles and page numbers?					
(2) GENERAL INFORMATION. Does the operations manual and design report contain General Information? Does the General Information identify the following:					
<ul style="list-style-type: none"> <input type="checkbox"/> Name of the landfill <input type="checkbox"/> Registered professional engineer who prepared the plans <input type="checkbox"/> Landfill owner, licensee and operator <input type="checkbox"/> Location by quarter-quarter section <input type="checkbox"/> Proposed limits of filling <input type="checkbox"/> Anticipated life and closure date <input type="checkbox"/> Disposal capacity <input type="checkbox"/> Waste tonnage and corresponding volume <input type="checkbox"/> Percent municipal vs. industrial waste <input type="checkbox"/> Anticipated geographic service area <input type="checkbox"/> Anticipated industrial waste type <input type="checkbox"/> Waste types and quantities to be disposed <input type="checkbox"/> Any exemptions requested from the Department <input type="checkbox"/> A list of conditions of facility development as stated in the feasibility determination and measures incorporated to in the plan of operation to address those conditions 					
(3) DESIGN RATIONALE. Does the Design Rationale discuss proposed designs not explicitly required by state or federal rules or conditions of feasibility determination for design of engineering features including the following:					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
<ul style="list-style-type: none"> <input type="checkbox"/> Base grade configuration and relationship to subsurface conditions <input type="checkbox"/> Liner design <input type="checkbox"/> Phases of landfill development and closure <input type="checkbox"/> Traffic routing <input type="checkbox"/> Storm water management <input type="checkbox"/> Erosion and sediment control measures <input type="checkbox"/> Gas extraction and treatment systems <input type="checkbox"/> Final cover systems <input type="checkbox"/> Monitoring systems <input type="checkbox"/> Sidewall penetrations <input type="checkbox"/> Sideslope risers and sump area volumes and construction <input type="checkbox"/> Piping located outside of the limits of construction 					
(4) INITIAL CONSTRUCTION. Does the Initial Construction discuss initial preparation and construction relating to:					
<ul style="list-style-type: none"> <input type="checkbox"/> Clearing and grubbing <input type="checkbox"/> Topsoil stripping and other excavations <input type="checkbox"/> Soil storage and visual screening <input type="checkbox"/> Storm water control features <input type="checkbox"/> Base liner and granular drainage layers <input type="checkbox"/> Leachate collection and gas venting systems <input type="checkbox"/> Access roads and entrance area screening and fencing <input type="checkbox"/> Environmental monitoring device installation <input type="checkbox"/> Other special design features <input type="checkbox"/> A proposed schedule of: <ul style="list-style-type: none"> <input type="checkbox"/> Field measurements <input type="checkbox"/> Photographs to be taken <input type="checkbox"/> Sampling and testing to verify infield conditions reported in the feasibility report 					
(5) STORM WATER MANAGEMENT. Does the Storm Water Management section include the following:					
<ul style="list-style-type: none"> <input type="checkbox"/> Description of storm water management <ul style="list-style-type: none"> <input type="checkbox"/> At the time of initial construction <input type="checkbox"/> During phased development <input type="checkbox"/> After landfill closure 					
(a) Narrative demonstrating compliance with s. NR 504.09					
(b) Temporary and permanent erosion and sediment control to meet s. NR 504.09(1)(b)					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(c) Specifications for design of: <input type="checkbox"/> Sediment basins <input type="checkbox"/> Culverts <input type="checkbox"/> Drainage ditches <input type="checkbox"/> Auxiliary sediment traps <input type="checkbox"/> Anticipated extent of cleared ground and stockpile during each major phase					
(d) A list of anticipated actions and materials needed for sediment and erosion control					
(e) A maintenance and follow-up program designed to meet s. NR 504.09(1)(b)					
(f) Schedule for the following activities: <input type="checkbox"/> Cleaning sediment basins and ditches <input type="checkbox"/> Seeding and stabilization of stockpiles and drainage channels <input type="checkbox"/> Topsoiling, seeding and stabilization of disturbed areas and areas of erosion					
(6) SOIL REQUIREMENTS. Does the Soil Requirements section include the following:					
(a) <input type="checkbox"/> A proposed testing schedule to document the placement of all general soil fill and backfill, base liner, final cover layers, venting and drainage layers <input type="checkbox"/> An explicit statement, description and justification of test methods if construction and documentation are proposed to be performed other than in accordance with ch. NR 516					
(b) <input type="checkbox"/> A specification of the proposed soil gradations and the proposed size of perforations in the leachate collection piping and final cover drainage layer <input type="checkbox"/> An analysis of the pipe and soil materials to demonstrate whether the gradation of sand and gravel and pipe opening sizes are stable and self-filtering <input type="checkbox"/> A description of the use of filter layers or other mechanisms used to maintain the porosity in the leachate collection blanket, collection trenches and sumps					
(c) Documentation per s. NR 504.075 for any soil borrow source not included in feasibility report					
(7) MONITORING. Does the monitoring section include the following:					
(a) A proposed monitoring program developed in accordance with NR 507 and the feasibility approval for: <input type="checkbox"/> Groundwater <input type="checkbox"/> Surface water <input type="checkbox"/> Volumes and quality of gas and gas condensate <input type="checkbox"/> Unsaturated zone <input type="checkbox"/> Leachate volume and quality <input type="checkbox"/> Surface settlement					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
___ A table identifying: ___ Frequencies of sampling ___ Parameters to be analyzed ___ A schedule of anticipated installation and abandonment of sampling points ___ Existing and proposed sampling points and devices ___ Anticipated periods of monitoring before landfill development, during a major phase of development, and during the long-term care period					
(b) Does the report include a listing of all groundwater elevation data collected from all groundwater sampling points subsequent to preparation of the feasibility report?					
(8) OPERATIONS. Does the Daily Operations section contain the following:					
___ The timetable for the construction of each phase of liner and final cover ___ Waste type accepted or excluded ___ Typical waste handling techniques and methods of handling unusual waste types ___ Hours of operation ___ Traffic routing ___ Storm water management ___ Sediment and erosion control ___ Windy, wet and cold weather disposal operations ___ Fire protection equipment ___ Anticipated staffing requirements ___ Methods for vector, dust and odor control ___ Daily cleanup ___ Leachate removal during hours of operation as well as nights, weekends and holidays ___ Direction of filling ___ Salvaging ___ Record keeping ___ Parking for visitors, users and employees ___ A description of limitations or operational practices necessary due to the presence of other open or closed landfills, demolition landfills, processing facilities, storage facilities, composting facilities and other solid waste facilities on the same property					
(9) PHASED DEVELOPMENT. Does the Phased Development section describe the following:					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
___ Landfill operations and development of subsequent phases ___ A definition of the critical stage of disposal relative to start of construction in subsequent phases ___ The anticipated construction in each phase for storm water management, monitoring, abandonment of fill areas and installation and maintenance of gas and leachate control structures Note: The purpose of this planning is to ensure that the scheduling of future construction takes into account the length of the construction season, limitations imposed by weather and season, and the capacity remaining in existing phases such that an orderly transition is maintained.					
(10) PHASED CLOSURE					
Does the Phased Closure section describe the following: ___ The actions taken when landfill phases reach waste final grades closure of phases at waste final grades ___ Anticipated sequence of required events for landfill closure ___ Actions necessary to prepare the landfill for long-term care and final use					
(11) LONG-TERM CARE. Does the Long-Term Care schedule describe procedures for inspection and maintenance of:					
___ Cover vegetation ___ Storm water control structures ___ Refuse or ground surface settlement or siltation ___ Erosion damage ___ Gas and leachate control features ___ Gas, leachate and groundwater monitoring ___ Other long-term care needs ___ Final use plan for the landfill					
(12) WRITTEN AGREEMENTS. Does the operations manual and design report include the following written agreements:					
(a) A draft leachate treatment agreement					
(b) A signed clay procurement agreement or option for acquisition of borrow property for volumes necessary to construct and close the first major phase of the landfill					
(c) Any miscellaneous agreements such as easements					
(13) SPECIFICATIONS. Does the operations manual and design report include specifications for construction operation and closure of the landfill? Do the specifications include the following:					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
<ul style="list-style-type: none"> <input type="checkbox"/> Detailed instructions to operator and contractor for all aspects of construction & operation <input type="checkbox"/> References to specifications on the plan sheets such as: <ul style="list-style-type: none"> <input type="checkbox"/> Geosynthetic material installation instructions <input type="checkbox"/> Tank manufacturer installation instructions <input type="checkbox"/> Pump performance criteria <input type="checkbox"/> Materials and construction methods for sideslope risers, sidewall penetrations, sump areas, and all piping located outside the limits of filling 					
(14) DESIGN CALCULATIONS. Do the Design Calculations include the following:					
<ul style="list-style-type: none"> <input type="checkbox"/> Information on financial responsibility for closure and long-term care of the landfill <input type="checkbox"/> Discussion of all calculations such as: <ul style="list-style-type: none"> <input type="checkbox"/> Refuse to cover balance computations <input type="checkbox"/> Base liner and final cover soil needs relative to available borrow soil volumes <input type="checkbox"/> Stockpile estimates <input type="checkbox"/> Required shear strength for upper and lower interfaces for all geosynthetic materials and soils <input type="checkbox"/> Storm water management systems <input type="checkbox"/> Infiltration and leachate collection and leakage volumes <input type="checkbox"/> A summary of the calculations with detailed equations appended to the report <input type="checkbox"/> References to the plan sheets from which variables for the calculations are obtained 					
(14m) ASSESSMENT. Does the operations manual and design report include assessment of shear strength and slope stability of soils and waste in following scenarios:					
<ul style="list-style-type: none"> (a) Interim and final waste slopes incorporating: <ul style="list-style-type: none"> <input type="checkbox"/> In-field waste densities <input type="checkbox"/> Settlement <input type="checkbox"/> Leachate recirculation <input type="checkbox"/> Precipitation <input type="checkbox"/> Other factors that affect strength of waste or final cover <input type="checkbox"/> Analyses of interior slopes between filling phases <input type="checkbox"/> Analyses of exterior slopes at waste final grades 					
<ul style="list-style-type: none"> (b) Haul roads and access ramps: <ul style="list-style-type: none"> <input type="checkbox"/> On interim slopes <input type="checkbox"/> On waste final grades <input type="checkbox"/> On final cover <input type="checkbox"/> Passive load of cover soils <input type="checkbox"/> Dynamic loads due to construction, hauling and maintenance vehicles 					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(15) FINANCIAL RESPONSIBILITY ANALYSIS. Does the Financial Responsibility Analysis include the following:					
<input type="checkbox"/> Costs associated with the closure of the landfill <input type="checkbox"/> Costs associated with performing each year of long-term care <input type="checkbox"/> All assumptions used, including the sources and rationale for the selected cost factors <input type="checkbox"/> Anticipated operating life and replacement schedules of engineering features reflected in the cost estimates <input type="checkbox"/> Proposed methods of establishing proof of financial responsibility for closure and long-term care					
(16) APPENDIX. Does the Appendix include the following:					
<input type="checkbox"/> A list of references used <input type="checkbox"/> Additional data not previously presented <input type="checkbox"/> Supplemental design calculations <input type="checkbox"/> Material specifications <input type="checkbox"/> Operating agreements such as leachate treatment and soil borrow <input type="checkbox"/> Documents relating to long-term care funding <input type="checkbox"/> Documents relating to notification on deed of properties with wells within 1200-ft setback <input type="checkbox"/> Other appropriate information					
NR 514.07 MISCELLANEOUS REQUIREMENTS FOR PLANS OF OPERATION.					
(1) GEOSYNTHETICS REQUIREMENTS. Does the landfill design include a composite liner, composite cap, utilize geomembrane for liner, or a geomembrane or geomembrane-GCL for capping layer? If so, are the following design details and specifications for the geosynthetic components included:					
(a) A description of the geomembrane, GCL, and other geosynthetics including resins and additives, physical properties, bentonite characteristics, chemical resistance properties, and potential suppliers. For GCLs, 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					
Have potential failure surfaces such as the interfaces both below and above the geomembrane in the liner and final cover been considered?					
Have potential failure scenarios been considered which include both saturated and unsaturated conditions?					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(c) Construction methods and supervisory controls for preparing the surface of the topmost lift of compacted clay prior to geomembrane installation or soil barrier layer prior to GCL installation and inspection methods and removal of coarse gravel or cobbles after rolling the clay or soil barrier layer					
(d) A description of measures to be taken to store and protect geomembrane, GCL and geocomposite drains transport geomembrane, GCL and geocomposite drain panels from storage to the working area and construction methods to place geomembrane, GCL and geocomposite drain panels					
(e) The proposed orientation of all geomembrane and GCL panels for the liner and cap in relation to slope, collection trenches, penetrations, anchor trenches 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, and installation in corners and leachate collection trenches					
A description of 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 geomembrane and GCL installation					
(g) Proposed methods for testing welds or other geomembrane 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.					
Measures to preserve geomembrane and GCL edges for future welding					
Describe measures to repair all geomembrane, GCL and geocomposite drain defects, unacceptable wrinkles and seams					
(h) Construction methods for placing: ___ Leachate collection system, sump backfill, and sideslope riser over the composite liner ___ First 10 feet of waste over the leachate collection system ___ Subsurface drain layer and rooting zone soils over the composite cap ___ Measures to assure that geomembrane and GCL are not damaged by construction of soils, placement or compaction of waste, or waste consolidation or mass movement or puncturing.					
(i) Is a Construction Quality Control plan to be followed by all contractors included?					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
<p>Does the CQC plan include means for determining and documenting the following:</p> <ul style="list-style-type: none"> ___ 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 ___ Sealing of geomembrane penetrations ___ A description of how progress in construction and variations from the approved plans will be recorded and reported 					
<p>(j) Is a Construction Quality Assurance plan to be followed by the registered professional engineer and qualified technician performing the documentation included?</p>					
<p>Does the CQA plan include the following:</p> <ul style="list-style-type: none"> ___ Continuous observation of all aspects of geomembrane, GCL and geocomposite drain installation ___ Use of non-destructive and destructive testing of seams and samples ___ Proposed schedule of tests and frequencies per ch. NR 516 ___ Proposed methods of verifying the acceptability of subgrade, repairs, patches, seams, penetrations and adaptations to unforeseen conditions 					
<p>(k) Is an outline of the contents of the preconstruction submittal included which complies with s. NR 516.04(5)?</p>					
<p>(L) Does the construction quality assurance plan for conducting leak location survey include:</p> <ul style="list-style-type: none"> ___ Conduct survey after placing the leachate collection layer ___ Continuous observation of the leak location survey by QA ___ Nondestructive methods to detect, locate and verify repairs of defects in geomembrane ___ Electrical resistivity test or other test method acceptable to the Department 					
<p>(2) CODISPOSAL OF INDUSTRIAL SOLID WASTES.</p>					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
<p>Is this an industrial landfill, which accepts municipal waste? ___ If yes, does the plan describe measures to be taken for the disposal of waste from the following: ___ Industrial sources ___ Clean up of spills and contaminated sites ___ Other commercial sources ___ Does the plan of operation propose the following: ___ List of waste categories ___ Testing protocols and schedules ___ Disposal protocols ___ Is there a description of the format for transmitting summary information to the department</p>					
<p>(3) CLOSURE OF LANDFILLS WITH COMPOSITE LINERS AND COMPOSITE CAPS. Does the plan of operation for municipal solid waste landfill propose delaying final cover placement for one or more years after attaining final waste grades in each phase of closure? If yes, does plan of operation provide for the following requirements:</p>					
<p>(a) Intermediate cover consisting of a minimum one foot of soil placed and seeded as portions of a phase reach waste final grades.</p>					
<p>(b) No additional waste placement in areas, which have reached final grades and received intermediate cover</p>					
<p>(c) For landfills designed with active gas extraction systems: ___ Installation and operation of active gas extraction system following attainment of final grades within each phase ___ Installation of blower, flare, driplegs, controls, condensate handling, and appurtenances of the gas extraction system prior to or as part of attainment of final grades in the first phase</p>					
<p>(4) CLOSURE OF PAPERMILL SLUDGE LANDFILLS.</p>					
<p>___ If the landfill is proposed as a pulp and paper mill sludge or other low strength waste landfill, does the plan of operation propose a delay in the placing of final cover? If yes, is the delay limited to 2 years? ___ Does the plan of operation justify delay in placement of final cover?</p>					
<p>(5) MUNICIPAL SOLID WASTE COMBUSTOR RESIDUE MANAGEMENT PLANS. If municipal solid waste combustor residue is proposed to be accepted, does the plan of operation include a combustor residue management plan?</p>					
<p>If municipal solid waste combustor residue is proposed to be accepted, does the facility have approved plans which substantially meets NR 514.04 to 514.08?</p>					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(a) Does residue management plan contain: ___ The name and location of the proposed sources ___ Expected volume from each source of municipal solid waste combustor residue to be accepted?					
(b) Does the residue management plan establish: ___ A timetable for evaluating the results of the testing requirements of NR 502.13(8) ___ Trends in results from previous testing to determine changes to the proposed landfill design and operation					
(c) Does the residue management plan include plan sheets which include the following: ___ Design requirements of s. NR 504.11 ___ Plan views ___ Cross-sections ___ Details necessary to illustrate the applicable design features of the landfill ___ Phasing plan sheets to show development of the landfill portion through time					
(d) Does residue management plan include an operations manual and design report which addresses the following: ___ Daily operations for the landfill portion utilized for disposal of combustor residue ___ Discussion of time table for phased development ___ Waste types accepted or excluded ___ Typical waste handling techniques and methods for handling unusual waste types ___ Hours of operation ___ Traffic routing ___ Drainage and erosion control ___ Windy, wet and cold weather operations ___ Methods of dust control ___ Direction of filling ___ Methods to maintain compliance with s. NR 506.15					
(e) Does the residue management plan propose modifications to the groundwater, unsaturated zone, and leachate monitoring program necessary to comply with the requirements of NR 507?					
(6) OTHER REQUIREMENTS. Does the plan of operation provide the following details and specifications, where applicable?					
(a) Description of alternative cover materials to be used for daily or intermediate cover Note: A landfill seeking approval from the department to use an alternate daily cover material needs to submit the information required by NR 506.055. If this is a contiguous expansion, the landfill may identify currently approved alternate daily cover materials for the landfill.					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(b) If the design includes a geomembrane component of lysimeters and sumps for sideslope risers, the following must be included: ___ Description of 24 hour leak detection test for the geomembrane component of lysimeter and sidewall riser sumps ___ Description of a proposal for an alternate leak detection test such as electrical resistivity testing					
(c) Does the design for the sideslope riser and sump pump indicate: ___ Strength of resin, diameter and wall thickness of the sideslope riser with regard to maximum overburden weight over sump at field capacity ___ Description of physical and hydraulic specification of pump ___ Pump able to traverse any bend or elbow in the riser pipe for placement and removal ___ Pump selection based on highest leachate flow rate including leachate recirculation					
Does the cross-section of the sideslope riser include the following: ___ Pipe bends ___ Pump with wheels ___ Pump connectors, hoses, and electrical leads ___ Head level controls					
(6M) CONTIGUOUS EXPANSION. Is the plan of operation for a vertical or horizontal overlay to an existing approved facility? If yes does the plan include a list of approval conditions or orders that includes:					
(a) Chronological list of Department approvals, orders and expedited plan modifications.					
(b) A list of approval conditions or order conditions that are active and subject to compliance.					
(c) Status of each condition listed as remain active, comparable code or alternative proposed					
(d) Justification to support status for each condition Note: The department must provide a summary of the facility's active approval conditions as an informational attachment to the plan of operation determination. Refer to NR 514.07(6m)(e). This summary shall consider the applicant's <u>recommended</u> status in par. (c) and any applicable department issued conditions in the plan of operation determination.					
(7) LEACHATE RECIRCULATION PLANS. If a facility is proposing to recirculate leachate does the plan include a leachate recirculation plan including the following:					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(a) A narrative that explains design rationale including: <input type="checkbox"/> Leachate loading rate <input type="checkbox"/> Distribution frequency <input type="checkbox"/> Well or pipe spacing and placement <input type="checkbox"/> Well or pipe length <input type="checkbox"/> Screened interval <input type="checkbox"/> Sealing and bedding materials <input type="checkbox"/> Anticipated flow characteristics <input type="checkbox"/> Areas where leachate will not be recirculated <input type="checkbox"/> Incorporate s. NR 504.095 requirements as appropriate					
(b) Plan sheets showing conceptual layout of leachate recirculation system and design details					
(c) Calculations for proposed loading rates for leachate recirculation for each leachate drainage basin that include: <input type="checkbox"/> Leachate volume recirculated <input type="checkbox"/> Precipitation <input type="checkbox"/> Field capacity of the waste <input type="checkbox"/> Absorptive capacity of the waste <input type="checkbox"/> Waste filling rates <input type="checkbox"/> Separation distance and elevation of distribution piping and wells <input type="checkbox"/> Loss of water by waste decomposition and water vapor in gas					
(d) Calculation of effects on flow rate in leachate collection system and maximum leachate head on liner of less than 12-inches?					
(e) Daily operational plan that addresses: <input type="checkbox"/> Prevention of leachate seeps and build-up <input type="checkbox"/> Prevention of odors <input type="checkbox"/> Actions if nuisance conditions occur <input type="checkbox"/> Management of enhanced methane production <input type="checkbox"/> Care and maintenance of tanks, pumps and distribution systems					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(f) Identification of warning symptoms and failure thresholds including: <input type="checkbox"/> Elevated leachate heads <input type="checkbox"/> Significant and persistent odors <input type="checkbox"/> Excessively acidic leachate <input type="checkbox"/> Other data indicating poor waste decomposition conditions <input type="checkbox"/> Seeps <input type="checkbox"/> Excessive pressures within the waste mass <input type="checkbox"/> Saturated conditions <input type="checkbox"/> Reduced shear strength of the waste mass <input type="checkbox"/> Other warning symptom conditions Note: Warning systems shall result in a suspension of leachate recirculation, investigation and changes to be implemented before resuming leachate recirculation. Failure thresholds shall result in termination of leachate recirculation, investigation and changes that will be submitted to the department for review and approval in writing prior to resumption of leachate recirculation.					
(g) Monitoring plan that tracks: <input type="checkbox"/> Leachate volume extracted for each drainage basin <input type="checkbox"/> Leachate volume recirculated for each drainage basin <input type="checkbox"/> Precipitation volume for each drainage basin <input type="checkbox"/> Leachate heads <input type="checkbox"/> Gas volumes <input type="checkbox"/> Leachate characteristics <input type="checkbox"/> Does the monitoring plan incorporate other appropriate requirements of s. NR 507.215?					
(h) Specify documentation and record-keeping of: <input type="checkbox"/> construction <input type="checkbox"/> operation <input type="checkbox"/> monitoring <input type="checkbox"/> Specify information to be sent to Department and frequency of submittals					
(i) Diagram and narrative of devices used to extract gas produced by leachate recirculation including: <input type="checkbox"/> Gas extraction equipment <input type="checkbox"/> Fittings <input type="checkbox"/> Devices <input type="checkbox"/> Schedule of operation of gas extraction system in cells with leachate recirculation					
(j) Description of circumstances under which leachate recirculation would be halted?					
(8) ADDITIONAL REQUIREMENTS FOR LANDFILLS WITH EXTENDED COLLECTION LINES.					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(a) Does the landfill meet the requirements of pars. (b) to (i) and accept municipal solid waste and contain leachate collection lines that exceed 1,200 feet from the end of each cleanout to the toe of the opposite slope?					
(b) Are design calculations provided that assess landfill foundation for stability and settlement using parameters determined from samples taken from borings in subgrade below the proposed fill area?					
(c) Does the report describe the design rationale for leachate collection system layout and alignment including:					
1. Discussion of pipe strength calculation that consider: <input type="checkbox"/> Design overburden weight <input type="checkbox"/> Pipe materials <input type="checkbox"/> Wet unit weights <input type="checkbox"/> Densified waste after consolidation and decomposition <input type="checkbox"/> Potential use of leachate recirculation					
2. Demonstration that the design minimizes changes in alignment of leachate collection trenches and pipes?					
3. Hydraulic capacity analysis that demonstrate ability of leachate collection system to contain design flows within the collection trench and sump system that includes:					
a. Design specifications for: <input type="checkbox"/> Leachate collection blanket <input type="checkbox"/> Leachate collection trench dimensions <input type="checkbox"/> Leachate collection trench backfill <input type="checkbox"/> Slope of landfill base and sideslopes <input type="checkbox"/> Slopes of pipe and trenches <input type="checkbox"/> Liner area draining to each sump					
b. Active filling life assessment based on precipitation rate of two inches per month with and without leachate recirculation					
c. Post-closure assessment based on hydraulic conductivities of 10% or less of design hydraulic conductivities for the leachate collection blanket and trench backfill and an annual leachate collection rate of one inch per year					
d. Sump dimensions and pump specifications to confine leachate accumulation in the sumps and intersecting leachate collection trenches. Examples of commercially available pumps					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(d) Does the report include calculations for maximum overburden loads calculated under s. NR 504.06(6)(e) that demonstrate: ___ Leachate collection pipe and bedding material as placed possess structural strength to support maximum loads imposed by overlying materials and equipment ___ Leachate pipe is designed to maintain its wall integrity under expected maximum loads					
(e) Does the report include specifications and construction methods for bedding leachate collection pipes that: ___ Maximize competent support of pipes ___ Eliminate bridging ___ Maintain design slope of the pipe					
(f) Does the report include specifications for: ___ Use of sweep bends at all changes of alignment of leachate collection pipes ___ Construction methods to provide support for pipe and sweep bends ___ Measures to be taken to minimize obstructions to or friction with pipe cleaning equipment					
(g) Does the report include a construction quality assurance plan for evaluating construction of the leachate collection trench and piping to ensure fabrication and installation meet design specifications that includes: ___ Continuous observation of trench and pipe construction by qualified engineer or technician ___ Observation, survey measurements and testing frequency in accordance with NR 516 ___ Methods for verifying acceptability of trench and pipe alignment, materials, and sweep bends ___ Adaptation by owner and contractors to unforeseen conditions					
(h) Does the report include a description of equipment and methods capable of inserting cleanout devices through all leachate collection pipes from each access point to the toe of the opposite sideslope?					
(i) Does the report include procedures for soil borings and laboratory consolidation testing to verify settlement analyses?					
(9) ORGANIC STABILITY PLAN.					
(a) Does the plan of operation contain a plan to significantly reduce the amount of degradable organic material remaining after site closing?					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(b) Does the organic stability plan include: <input type="checkbox"/> Overview of the plan <input type="checkbox"/> Composition and quantity of material accepted by landfill, include classification of organic materials and percentage of organically inert material and description of how analysis performed <input type="checkbox"/> Description of measures to be taken that will significantly reduce amount of degradable organic material remaining after site closure and shorten time to achieve landfill organic stability <input type="checkbox"/> Schedule for implementing the plan <input type="checkbox"/> Outcome of plan relative to goals in (c) and definition of landfill organic stability in NR 500.03(120g) <input type="checkbox"/> Methods used to monitor and evaluate the progress of facility in implementing the plan and measurements or milestones used in evaluating progress toward goals <input type="checkbox"/> Contingency plan with measure to be taken if evaluation indicates landfill is unlikely to achieve goals					
(c) Does the organic stability plan include achievement of the following measurable goals 40 years or less after site closure: <input type="checkbox"/> Monthly average total methane plus carbon dioxide gas production rate less than or equal to 5% of maximum monthly average total gas production rate during the life of the facility or less than 7.5 cubic feet of total gas per year per cubic yard of waste <input type="checkbox"/> Steady downward trend in rate of total methane plus carbon dioxide gas production <input type="checkbox"/> Production of total methane plus carbon dioxide gas cumulatively representing 75% or greater of the projected total gas production of the landfilled waste <input type="checkbox"/> Reduction of time to reach organic stability to 40 years or less after site closure					
(d) Does the organic stability plan include continual evaluation of the plan with annual reports to the Department that include: <input type="checkbox"/> Changes needed to the plan to correct problems <input type="checkbox"/> Changes needed to the plan to improve results <input type="checkbox"/> Updates to the contingency plan if appropriate					
(e) Does the organic stability plan include an examination of progress against the approved plan every 5 years to evaluate and determine if the facility will reach the goals in (c) and whether the contingency plan will be implemented?					
NR 514.10 RESEARCH, DEVELOPMENT AND DEMONSTRATION PLAN.					
(1) GENERAL REQUIREMENTS FOR RESEARCH, DEVELOPMENT AND DEMONSTRATION (RDD) PLANS.					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
<p>(a) Has an RDD plan been submitted? If yes, which of the following does the plan propose:</p> <p>___ the addition of liquids in addition to leachate and gas condensate from the same landfill for accelerated decomposition of the waste mass,</p> <p>___ allowing run-on water to flow into the landfill waste mass,</p> <p>___ allowing testing of the construction and infiltration performance of alternative final covers systems</p> <p>___ other measures to enhance stabilization of the waste mass.</p> <p>Note: An RDD plan may be submitted with the plan of operation or separately. If submitted with the plan of operation, it should be a stand-alone plan in accordance with department guidance. Note that the approval for an RDD plan should be issued separate from the plan of operation approval; however, if submitted together a separate review fee will not apply in accordance with Table 5 of NR 520.</p>					
<p>(b) Does the plan indicate a renewal of the research, development and demonstration plan may be requested with justification based upon information in annual and final reports as well as research and findings in technical literature?</p>					
<p>(c) RDD plans are restricted to licensed solid waste landfills and the following:</p> <p>___ Is the landfill a licensed solid waste landfill?</p> <p>___ If the landfill is for the disposal of municipal solid waste is it designed with a composite liner and a composite capping layer?</p> <p>Is the effectiveness of the liner and leachate collection systems assessed or proposed as follows?</p> <p>___ For existing landfills, is the effectiveness of the liner system and leachate collection system demonstrated in the plan?</p> <p>___ For all landfills, is the effectiveness of the liner system and leachate collection system assessed at the end of the testing period, with comparison to the effectiveness of the systems at the start of the testing period?</p>					
<p>(d) RDD plans are limited to the following:</p> <p>___ a new landfill</p> <p>___ an expansion of existing landfill</p> <p>___ a closed landfill</p>					
<p>(e) Confirm the proposed RDD plans do not include changes to the following</p> <p>___ approved design and construction of subgrade preparation</p> <p>___ liner system</p> <p>___ leachate collection and removal systems</p> <p>___ final cover system</p> <p>___ gas and leachate systems outside limits of waste</p> <p>___ run-off controls</p> <p>___ run-on controls</p> <p>___ environmental monitoring systems exterior to the waste mass</p>					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
<p>(f) Will annual reports be prepared for each year of the test period and a final report prepared for the end of the testing period that include the following:</p> <ul style="list-style-type: none"> ___ assess the attainment of goals proposed for the process selected for testing ___ recommend changes ___ recommend further work ___ summarize problems and their resolution ___ summary of all monitoring data ___ summary of testing data ___ summary of observation of process or effects ___ recommendations for continuance or termination of the process selected for testing <p>Note: Annual reports and final reports must be submitted to the department within 3 months after the anniversary date of the written approval by the department. In practice, the final report should be submitted prior to the expiration date to accommodate renewal schedules.</p>					
<p>(g) Does the plan indicate that implementation of an approved RDD plan will comply with the specific conditions of approval for the initial testing period and any renewal.</p>					
<p>(h) Will structures and features exterior to the waste mass or waste final grades be removed at the end of the testing period (unless approved by the department in writing)?</p>					
<p>(2) OTHER REQUIRMENTS. Does the RDD plan include the following details and specifications:</p>					
<p>(a) Does the initial application specify the following:</p> <ul style="list-style-type: none"> ___ process that will be tested ___ describe preparation and operation of the process ___ describe waste types and characteristics that the process will affect ___ describe desired changes and end points that the process is intended to achieve ___ define testing methods and observation of the process or waste mass that are necessary to assess effectiveness of the process ___ include technical literature references and research with support use of the process ___ the time period for which the process will be tested ___ specify the additional information, operating experience, data generation or technical developments that the process to be tested is expected to generate 					
<p>(b) Is the test period for the initial application limited to a maximum of 3 years?</p>					
<p>(c) Note: Renewals of testing periods are limited to a maximum of 3 years each with a maximum number of renewals limited to 6.</p>					
<p>(d) Note: Renewals require department review and approval of reports of performance and progress on achievement of goals specified in the RDD Plan.</p>					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(e) For RDD plans that evaluate introduction of liquids, in addition to leachate or gas condensate from the same landfill, are measures proposed to integrate the plan with approved leachate recirculation plans and compliance with requirement for leachate recirculation?					
(f) Does the RDD plan include a description of warning symptoms and failure thresholds to be used to initiate investigation, stand-by, termination and changes to the process and any other landfill systems that might be affected by the process, such as gas extraction and leachate recirculation? Note: Warning symptoms shall result in a reduction or suspension of liquids addition, leachate recirculation, investigation and changes to be implemented before resuming the process being tested. Failure thresholds shall result in termination of the process being tested, investigation and changes that will be submitted to the department for review and approval in writing prior to resumption of the process being tested.					
(g) Does the RDD plan include an assessment of manner in which the process to be tested might alter the impact that the landfill may have on human health or environmental quality (beneficial and deleterious effects)?					
(h) Does the RDD plan include a geotechnical stability analysis of the waste mass and an assessment of the changes that implementation of the plan are expected to achieve? Note: The geotechnical stability analysis and assessment shall be repeated at the end of testing period, with alteration as needed to include parameters and parameter values derived from field measurements. The plan shall define relevant parameters and techniques for field measurement.					
(i) Does the RDD plan propose monitoring parameters, frequencies, test methods, instrumentation, record-keeping and reporting to the department for purposes of tracking and verifying goals of the process selected for testing?					
(j) Does the RDD plan propose monitoring techniques and instrumentation for potential movements of the mass and settlement of waste mass, including proposed time intervals and instrumentation pertinent to the process selected for testing?					
(k) Does the RDD plan propose construction documentation, construction quality control and construction quality assurance measures, and recordkeeping for construction and equipment installation that is part of the process selected for testing?					
(l) Does the RDD plan propose operating practices and controls, staffing, monitoring parameters and equipment needed to support operations of the process selected for testing?					

Facility Name: _____

PLAN OF OPERATION REQUIREMENTS	COMPLETE?			LOCATION	COMMENTS
	Y	N	NA		
(m) For RDD plans that include aeration of the waste mass, do the plans include the following: ___ a temperature monitoring plan ___ a fire drill and safety program ___ instructions for use of liquids for control of temperature and fires in the waste mass ___ instructions for investigation and repair of damage to the liner and leachate collection system					
(n) For RDD plans for alternative final cover systems, does the plan include side-by-side test sections with approved final cover systems and a means to quantify exfiltration from the alternate final cover and approved final cover test sections?					
(3) TERMINATION. Note: The department may require modifications to or immediate termination of the process being tested if any of the following conditions occur: (a) Significant and persistent odors. (b) Significant leachate seeps or surface exposure of leachate. (c) Significant leachate heads on the liner. (d) Excessively acidic leachate chemistry or gas production rates or other monitoring data indicate poor waste decomposition conditions. (e) Instability in the waste mass. (f) Other persistent and deleterious effects.					
NR 507 ADDITIONAL PLAN OF OPERATION REQUIREMENTS.					
NR 507.16 Has the applicant provided a sampling plan, if applicable? Note: The sampling plan is required to be submitted at the time of feasibility, but is often submitted with the plan of operation as well.					
NR 507.18(2)(c) Has the applicant provided an additional four rounds of baseline monitoring results for any parameter listed in NR 507 Appendix 1, Table 3?					
NR 507.27(1) Has the applicant provided preventive action limit (PAL) calculations for inorganic detection monitoring parameters in accordance with s. NR 507.27(1), Wis. Adm. Code?					
NR 507.27(2), Has the applicant provided alternative concentration limit (ACL) calculations for inorganic public health or welfare parameters for which an exemption was granted in the feasibility determination?					

Legal Note: This document is intended solely as guidance, and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. This guidance does not establish or affect legal rights or obligations and is not finally determinative of any of the issues addressed. This guidance does not create any rights enforceable by any party in litigation with the State of Wisconsin or the Department of Natural Resources. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.