BEFORE THE
STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

DETERMINATION OF SITE FEASIBILITY
ORCHARD RIDGE RECYCLING AND DISPOSAL FACILITY (RDF) - EASTERN EXPANSION, SOUTHERN UNIT
VILLAGE OF MENOMONEE FALLS, WAUKESHA COUNTY, WISCONSIN
License #4491 FID #268262940

FINDINGS OF FACT

The Department of Natural Resources (department) finds that:

1. Waste Management of Wisconsin, Inc. (WMWI) has proposed the Orchard Ridge RDF - Eastern Expansion, Southern Unit (Southern Unit) as a contiguous expansion (horizontal and vertical) to the existing Orchard Ridge RDF – East Expansion Landfill (License #4491). WMWI changed the name of the existing landfill from Orchard Ridge RDF - East Expansion Landfill to Orchard Ridge RDF - Eastern Expansion (Eastern Expansion). As part of its construction, the proposed Southern Unit would involve exhumation of the Boundary Road Landfill (BRL) (License #0011), currently located in a majority of the proposed expansion footprint. The proposed expansion is located in the South ½ of the Northeast ¼ and Southeast ¼ of Section 1, Township 8 North, Range 20 East, in the Village of Menomonee Falls, Waukesha County, Wisconsin.

2. The proposed Southern Unit is a contiguous landfill expansion that would include a 17.0-acre vertical expansion over the existing Eastern Expansion and a 59.6-acre horizontal expansion for a total of 76.6 acres. The proposed expansion would be located in the northeast corner of Waukesha County within a 725-acre property owned by WMWI that is bound by Boundary Road (124th St.) to the east, Main Street (State Highway 100) to the south, Highway 145 to the west, and extends north across County Line Road to include the Omega Hills Landfill.

3. On July 24, 2020, TRC, on behalf of WMWI, submitted to the department a feasibility report for the proposed Southern Unit. The department received the review fee of $28,000 for the review of the feasibility report and of three exemptions initially requested on August 10, 2020. On December 21, 2020, TRC, on behalf of WMWI, submitted to the department its first addendum to the feasibility report, and requested a fourth exemption. The department received the fee of $2,000 for the review of the additional exemption request on January 28, 2021.

4. The information submitted as part of the feasibility report includes the following:

    a. A report titled “Feasibility Report, Orchard RDF Eastern Expansion, Southern Unit, Village of Menomonee Falls, Waukesha County, Wisconsin”, dated July 23, 2020 (Feasibility Report). This submittal was received by the department on July 24, 2020.

b. A report titled "Waste Management of Wisconsin, Inc. - Orchard Ridge Recycling and Disposal Facility, Proposed Eastern Expansion, Southern Unit, Feasibility Report – Addendum 1, Village of Menomonee Falls, Waukesha County, Wisconsin, License No. 4491", dated December 18, 2020 (Addendum 1). This submittal was received by the department on December 21, 2020.

c. A report titled "Waste Management of Wisconsin, Inc. - Orchard Ridge Recycling and Disposal Facility, Proposed Eastern Expansion, Southern Unit, Feasibility Report – Addendum 2, Village of Menomonee Falls, Waukesha County, Wisconsin, License No. 4491", dated April 1, 2021 (Addendum 2). This submittal was received by the department on April 2, 2021.

5. Additional documents considered in the review of the feasibility report include the following:

a. A report titled "Request for Alternative Geotechnical Program, Proposed Eastern Expansion, Southern Unit – Orchard Ridge Recycling and Disposal Facility", dated May 22, 2019, and prepared by TRC on behalf of WMWI.

b. A letter titled "Proposed Alternative Geotechnical Investigation Program (AGIP) Acceptance, Proposed Eastern Expansion, Southern Unit, Orchard Ridge Recycling and Disposal Facility, Village of Menomonee Falls, Waukesha County, Wisconsin, WDNR License No. 4491", dated September 17, 2019, and prepared by TRC on behalf of WMWI.

c. The department's incompleteness letter for the feasibility report, dated September 22, 2020.

d. An email from TRC to the department dated October 29, 2020 and the department's reply email dated November 4, 2020 regarding draft submittal information for the Feasibility Report - Addendum No. 1.

e. An email from the department to WMWI dated January 22, 2021 regarding department concerns with the proposed design for the Triangle Area, proposed base grades on the east side of the landfill, and significant bends in the leachate pipes that exceed 1,200-feet.

f. An email from TRC to the department, dated July 27, 2021, that provided clarification on proposed waterway impacts and included corrections to information previously submitted to the department's Wetlands & Waterways (WW) Program on July 14, 2021.

g. A two-volume report titled, "Construction Documentation Report East Expansion Area Phase 2 Composite Liner" and set of 26 accompanying plan sheets, submitted by CQM, dated September 20, 2019; two addenda to the report submitted by CQM and dated October 1 and October 14, 2019; and three emails with attachments submitted by CQM and dated October 7, 11 and 17, 2019.

h. The department's feasibility determination for the Eastern Expansion, dated March 26, 2018.

i. The department's conditional plan of operation approval for the Eastern Expansion, dated February 27, 2019.

j. A report titled "Waste Characterization Investigation Report, WMWI Boundary Road Landfill/Lauer I, Menomonee Falls, Wisconsin", dated May 28, 2020 and prepared by SCS Engineers on behalf of WMWI.

k. A report titled "Draft Property Redevelopment Plan, Boundary Road Landfill/Lauer I, Menomonee Falls Wisconsin", dated April 16, 2021 and prepared by SCS Engineers on behalf of WMWI. The department's comment on the draft submittal included in an email with attachments to WMWI dated July 6, 2021.

l. Wetland and waterway permit applications submitted to the department under the following permit application numbers:
   i. IP-SE-2020-68-02757 (IP- Culvert)
   ii. IP-SE-2020-68-02759 (IP- Pond - Storm water pond)
   iii. IP-SE-2020-68-02760 (IP- Stream realignment)
   iv. IP-SE-2020-68-02761 (IP- Wetland disturbance)

m. A letter titled, "Response to Wetland and Waterway Individual Permit Request for Information, Orchard Ridge RDF Eastern Expansion, Southern Unit, Regulatory File No.: 2019-00452-AJK", dated September 4, 2020 and prepared by TRC on behalf of WMWI.

n. A letter titled, "Response to Wetland and Waterway Individual Permit Request for Information, Orchard Ridge RDF Eastern Expansion, Southern Unit, Regulatory File No.: IP-SE-2020-68-02757, 02758, 02759, 02760, 02761", dated September 11, 2020 and prepared by TRC on behalf of WMWI.

o. A letter titled "Waste Management of Wisconsin, Inc., Orchard Ridge Recycling Disposal Facility, Proposed Eastern Expansion, Southern Unit, Response to Public Comments, Village of Menomonee Falls, Waukesha County, Wisconsin, Regulatory File: 20019-00452-AJK", dated October 28, 2020 and prepared by WMWI.

p. A report titled, "Alternatives 7, 8, and 9 – Supplement to July 2020 Practicable Alternatives Analysis, Orchard Ridge RDF Eastern Expansion, Southern Unit, WDNR Regulatory File No.: IP-SE-2020-68-02757, 02758, 02759, 02760, 02761, USACE Regulatory File No.: 2019-00452-AJK", dated November 25, 2020 and prepared by TRC on behalf of WMWI.

q. A report titled, "Supplement No. 2 to July 2020 Practicable Alternatives Analysis, Orchard Ridge RDF Eastern Expansion, Southern Unit, WDNR Regulatory File No.: IP-SE-2020-68-02757, 02758, 02759, 02760, 02761, USACE Regulatory File No.: 2019-00452-AJK", dated June 21, 2021 and prepared by TRC on behalf of WMWI.

r. A report titled "Fourth Five-Year Review Report for Lauer 1 Sanitary Landfill Superfund Site (A.K.A. Boundary Road Landfill), Waukesha County, Wisconsin,

dated September 19, 2017 and prepared by the department for U.S. Environmental Protection Agency, Region 5, Chicago, Illinois.

s. A draft document titled, "Landfill Needs and Site Life – A Guide for Applicants, DNR Staff and the Public", dated September 27, 2004 (revised 2007).

t. Groundwater monitoring data for the proposed facility submitted to the department in its Groundwater and Environmental Monitoring System (GEMS).

u. The department's file for Glacier Ridge Landfill in Horicon, Wisconsin, License #3068.

v. The following documents from department staff:

i. A memorandum, dated August 24, 2020, from Pete Duerkop, Natural Heritage Conservation (NH) Program Ecologist, to David Buser, Waste Program Hydrogeologist, related to local habitat and potential wildlife at the proposed expansion.

ii. A memorandum, dated August 25, 2020, from Nathan Holoubek, Wildlife Management (WM) Program Biologist, to David Buser, Waste Program Hydrogeologist, related to local habitat and potential wildlife at the proposed expansion.

iii. A memorandum, dated August 26, 2020, from Pete Wood, Watershed Management (WT) Program Engineer, to David Buser, Waste Program Hydrogeologist, regarding storm water discharges and erosion control.

iv. A memorandum, dated August 27, 2020, from George Volpentesta, Air Management (AM) Program Engineer, to David Buser, Waste Program Hydrogeologist, related to air permitting and other emissions monitoring requirements.

v. A memorandum, dated August 27, 2020, from Andrea Keller, Waste Program's Hazardous Waste (HW) Section Chief, to David Buser, Waste Program Hydrogeologist, related to the potential for hazardous waste at the BRL site.

vi. A memorandum, dated August 31, 2020, from Jared Niewoehner, DG Program Hydrogeologist, to David Buser, Waste Program Hydrogeologist, related to ch. NR 812, Wis. Adm. Code, variance request for existing private water supply wells within 1,200 feet of the proposed filling.

vii. A memorandum, dated August 31, 2020, from Mike Sieger, Regional Forestry (FG) Program Specialist David Buser, Waste Program Hydrogeologist, regarding tree management and forest habitat at the proposed expansion.

viii. A memorandum, dated August 31, 2020, from Benjamin Heussner, Fisheries Management (FH) Program Biologist, to David Buser, Waste Program Hydrogeologist, related to fish populations and aquatic habitat.

ix. A memorandum, dated August 31, 2020, from Erin Endsley, Remediation & Redevelopment (RR) Program Hydrogeologist, to David Buser, Waste Program Hydrogeologist, regarding administration of the Superfund (BRL) site.

x. Two memoranda, dated August 31, 2020, from Marty Dillenburg, WW Program Specialist, to David Buser, Waste Program Hydrogeologist, regarding impacts to wetlands and waterways.

xi. A memorandum, dated August 31, 2020, from Jacob Wedesky, Water Quality (WY) Program Wastewater Engineer, to David Buser, Waste Program Hydrogeologist, related to treatment and discharges of leachate and other collected groundwater.

xii. An email from Sharon Fandel, NH Program Conservation Biologist, to David Buser, Waste Program, on May 26, 2021, regarding a reported bald eagle nest within the buffer zone of the proposed expansion.

xiii. A memorandum, dated July 20, 2021, from Bill Phelps, Drinking and Groundwater (DG) Program Hydrogeologist, to David Buser, Waste and Materials Management (Waste) Program Hydrogeologist, related to ch. NR 140, Wis. Adm. Code, groundwater quality standard exemptions as the proposed expansion. An updated list of requested exemptions was provided in Addendum 1 of the feasibility report.

w. An administrative document titled "EPA Superfund Record of Decision: Lauer 1 Sanitary Landfill, (Boundary Road), Menomonee Falls, WI, 3/11/1996", prepared by the department on behalf of U.S. EPA and signed on March 21, 1996.

x. The department files for (BRL (License #0011), the Orchard Ridge Recycling and Disposal Facility (RDF) (License #3360), and the Eastern Expansion (License #4491).

6. Additional facts relevant to the review of the proposed expansion include the following:

a. The proposed expansion is located on a 725-acre parcel owned by WMWI. Current land use on the site of the proposed expansion includes existing landfills, landfill support facilities, open space and setbacks, wetlands, and agricultural uses. The existing landfills include Omega Hills Landfill, Parkview RDF, Orchard Ridge RDF, Eastern Expansion, and BRL.

b. The expansion as proposed by WMWI includes a design capacity of approximately 10,571,145 cubic yards and as estimated operational life of 7.7 years. This estimate assumes some waste and soils from the BRL will be placed in the proposed expansion. It is estimated that 1,300,000 cubic yards of historical BRL refuse, up to 298,000 cubic yards of impacted soil, and up to 305,000 cubic yards of biosoils will be placed in the Orchard Ridge RDF, Eastern Expansion, or Southern Unit Landfills.

c. The proposed expansion is intended to serve the residential, commercial, and nonhazardous industrial waste disposal needs of southeastern Wisconsin, including Milwaukee, Waukesha, Ozaukee, and Washington counties.

d. The department conducted an initial site inspection for the proposed expansion on July 17, 2018, in accordance with the requirements of s. NR 509.04, Wis. Adm. Code. On August 17, 2018, the department sent a letter to WMWI identifying the department's findings during the initial site inspection. A copy of the department's letter is included in Appendix A of the feasibility report.

e. On July 23, 2019, the department issued an opinion, based on the initial site inspection and its review of the initial site report (ISR), that the proposed site has limited potential for development as a municipal solid waste disposal facility. A copy of the department's letter is included in Appendix A of the Feasibility Report. The feasibility report addressed the potential constraints to site development listed in the department's ISR opinion letter.

f. The affected municipalities as defined in s. 289.01 (1), Wis. Stats., are the Village of Menomonee Falls, Waukesha County, the City of Milwaukee and Milwaukee County. In accordance with s. 289.22, Wis. Stats., the facility owner is required to submit a written request for the specification of all applicable local approvals to each affected municipality at least 120 days before submitting the feasibility report to the department. Appendix G of the feasibility report submitted by WMWI includes a copy of the written requests sent to the affected municipalities on May 4, 2011.

g. On August 21, 2019, the department issued its acceptance of the proposed alternative geotechnical investigation proposal (AGIP) submitted by TRC on behalf of WMWI, dated May 22, 2019. On November 4, 2019, the department issued its acceptance of Addendum #1 of the AGIP, dated September 17, 2019.

h. The following facts are relevant to the existing BRL located within the footprint of the proposed expansion:

i. The BRL is also known as the Lauer I Sanitary Landfill Superfund Site and is regulated pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and has been listed on the U.S. EPA's National Priorities List since September 13, 1984. A Record of Decision (ROD) for the BRL site was issued on March 21, 1996. WMWI has owned BRL since 1971.

ii. The BRL site covers an estimated 58 acres. According to the ROD, the fill volume is about 1.3 million cubic yards, with an average depth of 30 feet.

iii. WMWI has been monitoring and maintaining the site since its closure in 1972. Environmental post-construction monitoring data for the BRL site have been collected since 1999.

iv. Contaminants found in the groundwater at the BRL site during the remedial investigation include: volatile organic compounds (VOCs), semi-volatile

organic compounds (SVOCs), pesticides, and polychlorinated biphenyls (PCBs).

v. Groundwater monitoring data suggests the BRL may be influencing arsenic and sulfate concentrations, resulting in some NR 140 groundwater standard exceedances reported in samples collected from monitoring wells. Therefore, continued monitoring for arsenic and sulfate is warranted at this time.

vi. The remedy for the Superfund site has been implemented and includes final cover, leachate extraction and conveyance, landfill gas extraction, continued operation and maintenance of a slurry cut-off wall and leachate collection, institutional and other controls, and environmental monitoring. According to the most recent five-year report for the Superfund site, the ROD for the site requires an inward gradient be maintained at the BRL. The remedy is considered to be functioning as intended; however, removing BRL waste from direct contact with groundwater will provide improved long-term protection to groundwater quality.

i. The proposed landfill expansion would not be located within the following locational criteria per s. NR 504.04(3) Wis. Adm. Code (Reference: Section 7.1 to the feasibility report):

i. a floodplain;

ii. 1,000 feet of any navigable lake, pond, or flowage;

iii. 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;

iv. 10,000 feet of any airport runway used or planned to be used by turbojet aircraft or within 5,000 feet of any airport runway used only by piston type aircraft or within an area where a substantial bird hazard to aircraft would be created;

v. 200 feet of a fault that has had displacement in Holocene time, as defined in s. NR 500.03 (80), Wis. Adm. Code;

vi. a seismic impact zone as defined in s. NR 500.03 (208), Wis. Adm. Code; and,

vii. an unstable area as defined in NR 500.03 (246), Wis. Adm. Code.

j. The proposed expansion would be located within 1,200 feet of a public or private water supply well (locational criterion, s. NR 504.04(3)(f), Wis. Adm. Code. However, WMWI has submitted an exemption request for the six private water supply wells located within 1,200 feet (see Finding of Fact 7.b. below). Former water supply well PWE-10 at W124 N9391 Boundary Road was located within 1,200 feet of the proposed limits of waste; however, the well was filled and sealed per Filling and Sealing report dated May 25, 2012 and updated by the well driller per an October 20, 2017 email from Dan Otzelberger at WMWI. An exemption from the locational setback for water supply well PWE-10 is not necessary because

the well has been filled and sealed in accordance with s. NR 812.26, Wis. Adm. Code on May 25, 2012. The current property owner of the former well is WMWI (original owner Ron Sanders).

k. The proposed expansion would be located within 300 feet of a navigable river or stream (locational criterion s. NR 504.04(3)(b), Wis. Adm. Code. However, WMWI has submitted stream realignment individual permit application (IP-SE-2020-68-02760 - Stream realignment) to the department. WMWI has submitted an exemption request to the 300-foot setback (see Finding of Fact 7.a. below).

l. The proposed landfill expansion would meet the performance criterion of s. NR 504.04(4), Wis. Adm. Code and there is a reasonable probability that the facility would not cause (Reference: Section 7.2 of the Feasibility Report):

i. a significant adverse impact on wetlands as provided in ch. NR 103, Wis. Adm. Code if the facility is designed, constructed, and operated in accordance with the feasibility report and the conditions set forth below, including paragraph m;

ii. a significant adverse impact on critical habitat areas;

iii. a detrimental effect on any surface water if the facility is designed, constructed, and operated in accordance with the feasibility report and the conditions set forth below;

iv. a detrimental effect on groundwater quality, if the facility is designed, constructed, and operated in accordance with the NR 500 series, Wis. Adm. Code, the feasibility report, and the conditions set forth below;

v. the migration of explosive concentrations of gases in any facility structure or in the soil or air beyond the facility boundary, if the facility is designed, constructed, and operated in accordance with the ch. NR 500, Wis. Adm. Code, the feasibility report, and the conditions set forth below, or;

vi. the emission of any hazardous air contaminant in excess of standards contained in s. NR 445.03, Wis. Adm. Code, if the facility is designed, constructed, and operated in accordance with the ch. NR 500, Wis. Adm. Code, the feasibility report, and the conditions set forth below.

m. The proposed expansion would result in direct impacts to approximately 3.72 acres of wetlands (3.6 acres to wetland W-1 and 0.12 acre to W-6). (Reference: November 25, 2020 Wetland Alternatives 7, 8 and 9 – Supplement to July 2020 Practicable Alternatives Analysis.) The department considered the following information while reviewing those direct impacts to wetlands:

i. The proposed project is not wetland dependent as defined in s. NR 103.07 (3), Wis. Adm. Code.

ii. Pursuant to s. 281.36, Wis. Stats., a Wisconsin wetland permit would be needed prior to any disturbance in the area of the delineated wetland. The

issuance of a Wetland Permit and Water Quality Certification would demonstrate that the loss of 3.72 wetland acres will not result in a significant adverse impact on wetland functional values, water quality, or other significant adverse environmental consequences and demonstrate compliance with ch. NR 103, Wis. Adm. Code. This takes into consideration the wetland functional values of the present wetlands that would be impacted, and any mitigation requirements of a wetland permit to offset impacts to wetland functional values.

iii. WMWI has submitted an individual wetland permit application (IP-SE-2020-68-02761- Wetland disturbance) to directly impact 3.72 acres of wetland.

iv. Pursuant to sections 401 and 404 of the federal Clean Water Act, a jurisdictional determination must be made by the U.S. Army Corps of Engineers (U.S. ACE) to determine if any direct wetland impacts are regulated by the U.S. federal government. If the jurisdictional determination indicates that any wetland that would be directly impacted is federally regulated, then a federal wetland permit would be needed prior to any wetland disturbance.

v. If the required wetland permits are not obtained, then the limits of waste and all associated soil disturbance or earth movement would need to avoid all direct impacts to wetlands in order to maintain compliance with s. NR 504.04 (4) (a), Wis. Adm. Code.

n. The proposed expansion may result in some indirect impacts to surrounding wetlands. The department considered that those indirect impacts may be minimized through the use of best management practices that would be provided in the plan of operation report to protect the wetlands during landfill construction, operation, and closure activities.

o. Four wetlands named W-2, W-3, W-4 and W-5 (Revised 2019) have been determined to meet the artificial wetland exemption in accordance with the department letter dated July 5, 2019 from Amanda Minks, Wetland Exemption Specialist. The U.S. ACE determined that these wetlands are non-jurisdictional in a March 4, 2020 letter. Wetlands 2, 3 and 5 are all located on or at the toe of the final cover slope of BRL.

p. The department considered the following information while reviewing potential impacts to waterways:

i. A man-made pond is located on the southwest corner adjacent to the Boundary Road Landfill (named Stormwater Basin 3) and is partially within the footprint of the proposed expansion. The pond has been determined not to be a navigable public waterway because of its artificial origin, in accordance with department e-mail dated June 21, 2019 from Ryan Pappas, Water Management Specialist. The U.S. ACE determined that the pond is non-jurisdictional in March 4, 2020 letter.

ii. Two storm water sedimentation control basins are located within 1,000 of the proposed limits of waste. These are identified as Storm water Basin 1, which

is the Orchard Ridge RDF South Expansion sedimentation basin, located to the west of the proposed limits of waste; and Storm water Basin 2, located to the southeast of the proposed limits of waste. The U.S. ACE determined these sedimentation basins to be non-jurisdictional in a March 4, 2020 letter. Landfill storm water sedimentation control structures are not subject to the 1,000-foot setback requirement of s. NR 504.04 (3) (a), Wis. Adm. Code.

iii. Two unnamed, navigable streams have been identified as being either directly impacted or potentially affected by the proposed expansion. The streams have been designated as Unnamed Stream 18350 and Unnamed Stream 5034151. Both of these streams are small drainages that begin on site or within a mile of the project area.

iv. The Unnamed Stream 5034151 (also identified as Waterway S-1) runs along the western and southern perimeter of the project area and is within 300 feet of the western side of the proposed limits of waste.

v. Unnamed Stream 18350 is located off of the landfill property and is oriented northeast-southwest and comes in from the east before continuing south parallel with 124th Street (Boundary Road). Surface water from the expansion site drains to this tributary of the Little Menomonee River. The confluence of the on-property stream, Waterway S-1, and Unnamed Stream 18350 is located downstream and off-site.

vi. WMWI has submitted an individual culvert permit application (IP-SE-2020-68-02757 - Culvert) to connect the proposed realigned waterway to the Eastern Expansion realigned waterway under an access road. The installation of the culvert would allow surface water to continue flow southward until reconnecting to the remaining portion of Waterway S-1.

vii. WMWI has submitted an individual permit to construct a storm water management pond (IP-SE-2020-68-02759 – Pond) on the south side of the proposed limits of waste within 500 feet of a navigable waterway to control sediment runoff.

q. The following facts are relevant to the proposed conceptual design of the landfill:

i. The preliminary design for the proposed expansion and the existing Eastern Expansion utilizes ‘extended collection lines’ which are defined as leachate pipes with lengths that exceed 1,200-ft from cleanout to toe of opposite slope. Section NR 504.06(6), Wis. Adm. Code, includes additional design requirements for landfills with extended collection lines.

ii. The preliminary design for the proposed expansion includes an overlay onto the southern half of the existing Eastern Expansion. The proposed design impacts existing landfill infrastructure in the southwestern corner of the Eastern Expansion. This area (located between the Southern Unit and the Eastern Expansion limits of waste) has been referred to as the ‘Triangle Area’.

iii. The design for the Triangle Area requires the extension of an Eastern Expansion leachate collection riser pipe, CO1EA. CO1EA is approximately 1,500 feet from cleanout to toe of opposite slope making it an extended collection line. The CO1EA riser pipe was constructed with 3 vertical changes in alignment and 1 horizontal change in alignment. The proposed extension would add 2 vertical changes in alignment and requires a bend at an abrupt change in alignment at the top of the existing slope (proposed tie-in). Waste has already been disposed of over CO1EA and changes to the existing pipe are not practicable.

iv. Section NR 504.06(6)(f), Wis. Adm. Code requires landfills with extended collection lines to incorporate sweep bends at all changes of alignment and pipe alignments that minimize horizontal and vertical alignment changes (pipe bends) for the entire leachate collection pipe length.

v. The department finds that changes to the preliminary design are necessary to meet the code requirements, which are important for the long-term function and cleaning of the line. (Refer to condition 17)

vi. The design of the Triangle Area requires a liner and drainage blanket tie-in. The existing liner and drainage stone have not been protected in preparation for a future tie-in. A 5-foot compacted clay wedge has been constructed over the existing leachate drainage blanket at the tie-in and waste has been disposed of at the clay wedge.

vii. Section NR 504.06(5)(tm), Wis. Adm. Code, requires leachate collection blankets to have a minimum hydraulic conductivity of 1 centimeter per second (cm/sec) for any site that accepts any amount of municipal solid waste. The existing compacted clay wedge and waste would impact the ability to achieve this minimum hydraulic conductivity and to tie-in to the existing liner, because of the lack of protection. A well-constructed liner and drainage blanket is necessary to prevent groundwater contamination or seeps and ensure leachate flow through the drainage blanket. (Refer to condition 20)

viii. Facilities have experienced pipe blockages at locations where bends are present; therefore, minimizing pipe bends reduces the risk of blockages and increases the overall potential for significant long-term functionality of the leachate collection pipes. Efficient removal of leachate from the composite liner is critical to landfill integrity and protecting groundwater quality.

ix. The proposed extension of the existing leachate sump riser pipe and manhole would require temporarily halting leachate pumping from the sump. Section NR 506.07(5), Wis. Adm. Code states that leachate shall be removed from all sumps used for leachate storage as often as necessary to allow for gravity drainage of leachate from the facility at all times or as it is produced. The department finds that it is necessary to limit the downtime during the construction of the proposed extension. (Refer to condition 21)

7. The department considered the following information while reviewing the need and justification for exemptions for the proposed landfill expansion:

   a. The following information was considered in review of the exemption request for the proposed limits of waste to be located within 300 feet of a navigable stream specified in s. NR 504.04(3)(b), Wis. Adm. Code:

      i. Unnamed Stream 5034151 (also identified as Waterway S-1) runs along the western and southern perimeter of the project area. Approximately 2,578 linear feet of stream would be permanently impacted and approximately 190 linear feet would be temporarily impacted. The entire linear footage of the realigned waterway would be approximately 1,996 linear feet, with. approximately 237 linear feet enclosed in a road culvert. In addition, approximately 190 linear feet of the stream would be temporarily impacted. WMWI has submitted a stream realignment individual permit application (IP-SE-2020-68-02760 - Stream realignment).

      ii. The wetted width across the bottom of the waterway ranged from 23 to 36 feet and water depths ranged from 0.3 to 1.0 foot. The stream is comprised of two distinct sections: (1) the upgradient segment is approximately 2,578 feet, oriented north-south, and characterized by its ephemeral nature; and (2) the downgradient segment is roughly 1,000 feet, oriented east-west, and has more consistent flow. The upgradient portion that runs along the west side of the proposed expansion is referred to as the north-south intermittent waterway. The downgradient part running along the south side of the project area is referred to as the west-east perennial waterway. The stream morphology is largely confined between two artificial berms and no defined bed and bank typical of channelized flow; furthermore, it lacks riffle/pool sequences and other patterns characteristic of small streams. In places, the stream is in direct contact with wetlands. The stream realignment includes replacing the current waterway with functional improvements (e.g., added sinuosity).

      iii. Based on the information provided by WMWI or its consultants and field visits by department staff, the department has determined that 2,578 linear feet that would be directly impacted by the proposed construction. WMWI has requested an exemption from the 300-foot separation requirement of s. NR 504.04 (3) (b), Wis. Adm. Code since the stream course would have to be re-routed to accommodate the proposed expansion. The department finds that the exemption is warranted contingent upon receiving an individual stream realignment permit from the department under the provisions of s. 30.195, Wis. Stats. WMWI is proposing to use construction methods described in the feasibility report to realign the stream, construct landfill support berms and the perimeter road to minimize impacts to the realigned stream and wetlands. Granting the 300 set-back exemption would allow existing buried waste in the BRL to be relocated to a lined landfill with an active leachate collection system.

   b. The following information was considered in review of the exemption request for the proposed limits of waste to be located within 1,200 feet of six water supply wells:

i. The water supply wells that are located within 1,200 feet of the proposed limits of waste have been identified as listed below:

1. PWE-07 at 9050 N. 124th St., current owner Flint Matuszcak (past owner: Anton Matuszcak);

2. PWE-08 at 9060 N. 124th St., current owner Stoney Creek, LLC (past owner: Laverne Liebherr);

3. PWE-09 at 9100 N. 124th St., current owner is Dale Liebherr and Gary Liebherr (past owner: Harvey Liebherr);

4. PWE-11 at 9400 N. 124th St., current owner is 17H, LLC (past owner: LPT Properties, LLC – Industrial Recyclers);

5. PWE-12 at 9300 N. 124th St., current owner is LPT Properties, LLC (Industrial Recyclers) (past owner: Praeger Revocable Trust; Patricia Knight); and,

6. PWE-13 at 9168 N. 124th St., current owner is Shoreline Support Corporation.

ii. The applicant has requested exemptions from s. NR 504.04(3)(f), Wis. Adm. Code to allow the landfill to be constructed within 1,200 feet of water supply wells PWE-07, PWE-08, PWE-09, PWE-11, PWE-12 and PWE-13. (Refer to Section 1.5 and Plan sheets 3 and 26 of the Feasibility Report). The department finds that the requested exemptions are warranted because:

1. The wells are located on the up or side-gradient side of the landfill expansion with respect to groundwater flow.

2. The well construction reports show the wells are cased into bedrock, which is below the shallow aquifer in the unconsolidated material, to protect them from potential groundwater impacts.

3. Wells PWE-07 and PWE-08 are currently located within 1,200 feet of the existing BRL, which has waste located below the water table and does not have a liner.

4. The department granted exemptions from the 1,200-foot setback to wells PWE-09, PWE-11, PWE-12 and PWE-13 in the department's March 26, 2018 feasibility determination for the East (Eastern) Expansion Landfill. The limits of waste of the Southern Unit would not be located closer to these wells than the currently approved limits of waste for the Eastern Expansion Landfill.

5. Relocating the existing BRL waste into a landfill with composite liner and final cover system and an active leachate collection system will likely

provide greater long-term protection to the water supply wells than current conditions.

iii. On April 13, 2010, the department issued a variance from the requirement of s. NR 812.08 (4) (g) (1), Wis. Adm. Code, under the provisions of s. NR 812.43, Wis. Adm. Code to allow use of the four water supply wells (PWE-9, PWE-11, PWE-12 and PWE-13) within 1,200 feet of the edge of a disposal site. On April 15, 2021 WMWI submitted complete ch. NR 812, Wis. Adm. Code, well variance applications to the department for wells PWE-07 and PWE-08.

iv. Monitoring groundwater quality at the locations served by the water supply wells covered in the s. NR 504.04 (3) (f), Wis. Adm. code exemption is warranted to confirm that the landfill is not impacting the water quality serving these wells.

c. The following information was considered in review of the exemption request for the clay component of the composite liner to be within 10 feet of the seasonal high groundwater table elevation, specified in s. NR 504.06(4)(a), Wis. Adm. Code:

i. WMWI requested an exemption from s. NR 504.06(2)(6), Wis. Adm. Code to allow the clay component of the composite liner to be within 10-feet of the seasonal high groundwater table elevation. WMWI is proposing to construct the composite liner for the proposed expansion below the water table, because the existing waste in the BRL is currently located below the seasonal high water table and excavation of the waste is necessary to establish a geotechnically suitable subbase on which to build new landfill cells. The conceptual design includes additional measures to be protective of groundwater.

ii. The exemption was requested because the site-specific geotechnical information does not sufficiently demonstrate that the site meets the definition of a “fine-grained soil environment” under s. NR 500.03 (86), Wis. Adm. code. (Refer to Findings of Fact 5.c., 5.x., 6.e., and 6.g.)

iii. The landfill would be constructed in accordance with s. NR 504.06(4)(d), Wis. Adm. Code for zone of saturation landfills. Borings, backhoe pits, or other means of exposing subsoils would be performed on a 100-foot grid to a minimum depth of 5 feet below the gradient control (underdrain) layer. If granular or silty soils are detected within this 5-foot depth, those soils will be removed and replaced with compacted, fine-grained soils.

iv. Condition 12 of this approval further requires that the plan of operation incorporate the use of backhoe pits for the investigation of subsoils. Backhoe pits would provide a greater ability to evaluate soil characteristics than soil borings because they expose a greater volume of soil to be examined.

v. WMWI is proposing to construct a groundwater gradient control layer under the clay component of the liner to collect and remove groundwater from below the base and side slopes of the landfill. The underdrain would lower the hydraulic head below the footprint of the landfill and the direction of the

hydraulic gradients near the expansion should be toward the expansion once the underdrain system is operational.

vi. Groundwater gradient control layers have been effective at other landfills in Wisconsin that do not meet the separation to groundwater requirement in helping ensure groundwater levels remain below the bottom of a liner and to minimize vertical downward gradients directly underneath the liner.

vii. An active leachate collection system would also maintain inward groundwater flow gradients into the landfill as long as the liquid level on the inside of the landfill is lower than the water table level on the outside.

viii. The department finds that the requested exemption is warranted because the existing waste in the BRL is currently located below the seasonal high water table and excavation of the waste is necessary to establish a geotechnically suitable subbase on which to build new landfill cells. Relocating the waste into a landfill with an engineered composite liner and final cover system, a groundwater gradient control layer under the liner, an active leachate collection system and an active gas extraction system will likely provide greater long-term protection to groundwater quality than current conditions.

ix. Although the exemption is warranted, the department finds that it is necessary to limit the depth of the proposed subbase grades on the East half of the landfill to minimize the extent of the proposed expansion below the water table and BRL waste grades. The feasibility report proposed subbase grades for the east half of the landfill that are well below BRL waste, up to approximately 28 feet in depth near the northeast corner of BRL and along the eastern edge of the base grades for the proposed expansion. Raising base grades in the east half of the proposed expansion to tie into the proposed high point for the west half of the landfill would minimize the depth that the proposed expansion extends below BRL waste. The maximum slope of 1.5% on the leachate collection pipe should allow for adequate leachate drainage. The conceptual design proposed a leachate collection pipe slope of 1.0%.

x. The department also finds that minimizing the depth of waste below the water table is protective to the groundwater quality and water supply wells located within 1,200 feet of the proposed limits of waste.

d. The department considered the following information while considering the need for requested exemptions to the geotechnical investigation under ss. NR 512.09 and NR 512.10, Wis. Adm. Code:

i. An Alternative Geotechnical Investigation Program (AGIP), as outlined in s. NR 512.085, Wis. Adm. Code, was requested by WMWI for the proposed expansion. The AGIP proposed to use information from previously installed soil borings and groundwater monitoring wells at the site to meet the minimum geotechnical information requirements of s. NR 512.09, Wis. Adm. Code. The AGIP was accepted by the department in letters dated August 21, 2019 and November 4, 2019. Deviations from specific code requirements that were specified in the accepted AGIP are approved under the AGIP approval of this

feasibility determination and separate exemptions are not necessary for these items.

ii. WMWI has requested an exemption from s. NR 512.09(2)(d), Wis. Adm. Code to use three monitoring wells (MW-107, P-107 and MW116), which are located more than 300 feet from the proposed limits of waste and to allow for less than half of the wells to be located within 150 feet of the proposed limits of waste. These wells are located approximately 50 feet from the existing BRL limits of waste and therefore would still provide meaningful baseline groundwater monitoring data.

iii. WMWI has demonstrated that an exemption from this code requirement is warranted because drilling within 150 feet of the proposed limits of waste in some locations is limited by the presence of the BRL waste and the presence of surface water features. The monitoring well network used in the AGIP is satisfactory to identify potential geotechnical constraints to site feasibility.

e. WMWI has requested an exemption from s. NR 500.05 (6) (i), Wis. Adm. Code, which requires survey grid locations shown on all cross-sections. The cross-sections are mapped through individual borings and not along the survey grid; therefore, it is not practicable to show grid locations on the cross-sections.

f. WMWI has requested an exemption from s. NR 507.16 (1) (a), Wis. Adm. Code, which requires detail including sampling points depicted on an 8 ½ x 11-inch or 11 x 17-inch map. The maps provided are 30-inch by 42-inch plan sheets which provides greater clarity than on an 11-inch by 17-inch map.

g. WMWI has requested an exemption from s. NR 512.11 and s. NR 512.14 (2), Wis. Adm. Code, which specify 24-inch by 36-inch plan sheets. The plan sheet size provided is 30-inch by 42-inch which provides greater clarity. A grant of exemption is not necessary, because the requirements specify the department may approve an alternate size.

h. WMWI has requested an exemption from s. NR 512.11 (1), Wis. Adm. Code, which specifies a minimum scale size of 1-inch equals 200 feet. for the Existing Conditions Map. The scale size used is 1-inch equals 300 feet. Given the size of the facility and the utilization of adjacent expansions' soil boring and monitoring well information, using the minimum scale to display the existing features to the required distance is not practical.

i. The department considered the following information while reviewing the need for exemptions to groundwater standards at the proposed Southern Unit (References: Sec. 1.5, 5.3, Tables 5-8 and 5-11 and Appendix J of the feasibility report and Addendum 2):

i. baseline groundwater monitoring data provided in the feasibility report and the department's Groundwater and Environmental Monitoring System (GEMS) referenced in the feasibility report for the expansion;

ii. groundwater sample data collected from around the BRL that is available in GEMS dates back to the early 1980s;

iii. exemptions previously granted in the department's March 26, 2018 feasibility determination for the Eastern Expansion Landfill; and,

iv. well construction details and boring logs, well location plan sheets and water table maps, and the landfill design specifications as conditioned herein.

v. The department finds the following related to the design of the landfill and substances associated with the proposed expansion that exceed ch. NR 140, Wis. Adm. Code, groundwater quality standards, including ammonia (as N), antimony, arsenic, barium, boron, chloride, fluoride manganese, nickel, sulfate and tetrahydrofuran.

1. To minimize any incremental increase in contamination from the proposed expansion the facility will be designed to contain and collect leachate. The approved design will include, a 4-foot thick compacted clay liner overlain by a 60-mil geomembrane, a leachate collection system, an active gas extraction system, and a composite final cover system. These design features will limit increases of contaminants in the groundwater.

2. In accordance with s. NR 504.05(1), Wis. Adm. Code, the department considers landfills designed in substantial conformance with these design criteria to be designed to achieve the lowest possible concentration of these substances in the groundwater which is technically and economically feasible.

3. The proposed facility will not cause the concentrations of the substances with baseline concentrations between the PAL and the ES to attain or exceed the ES for these substances at a point of standards application because of the facility design.

4. The anticipated increase in the concentrations of these substances does not present a threat to public health or welfare because of the landfill design.

5. The anticipated incremental increase in the concentrations of the substances with baseline concentrations above the ES will not attain or exceed the PAL because of the landfill design.

vi. Based on an examination of the groundwater quality data for the proposed expansion and the information in finding of fact 7. i. above, the department finds the requested groundwater quality exemptions to be warranted for the following wells and substances:

1. **Preventative Action Limit (PAL)** exemptions for substances of **public welfare concern and nitrate plus nitrite (as N)** in accordance with s. NR 140.28(3)(a), Wis. Adm. Code:

Substance:	**Monitoring Wells:**
Chloride	MW107, MW110, MW116
Sulfate	MW110, MW116, S218

- Reported baseline concentrations attain or exceed the **PAL** but are below the ES in **two or more** sample rounds at the monitoring wells.
- PALs for substances of public welfare concern are established in s. NR 140.12, Wis. Adm. Code, and for Nitrate + Nitrite (as N) in NR 140.10, Wis. Adm. Code.

2. **PAL** exemptions for substances of **public health concern (other than nitrate plus nitrite (as N)** in accordance with s. NR 140.28(3)(b), Wis. Adm. Code:

Substance:	**Monitoring Wells:**
Ammonia (as N)	P103R, P107
Antimony	S403B
Arsenic	MW107, MW110, MW111, MW116, P102, P117, S224, S224A, S229, S402B, S404A, S404B, S406A, TW24R
Barium	P103R, P107, TW24R
Boron	S402B, S403B, S404A, S404B, S405A, S406A
Fluoride	P117, S404A, S404B, S405A, S406A
Manganese	MW107, MW111, MW116, S224, TW16R
Nickel	MW117, P103R, TW24R
Tetrahydrofuran	MW111, P103R

- Reported baseline concentrations attain or exceed the **PAL** but are below the ES in **two or more** sample rounds at the monitoring wells.
- PALs for substances of public health concern are established in s. NR 140.10, Wis. Adm. Code.

3. **Enforcement Standard (ES)** exemptions for substances of **public welfare concern and nitrate plus nitrite (as N)** in accordance with s. NR 140.28(4)(a), Wis. Adm. Code:

Substance:	**Monitoring Wells:**
Chloride	MW111, MW117, P103R, TW24R, P117
Manganese	MW107, MW111, MW116, S224, TW16R

- Reported baseline concentrations attain or exceed the **ES** in at least **one or more** sample rounds at the monitoring wells.
- ESs for substances of public welfare concern are established in s. NR 140.12, Wis. Adm. Code, and for nitrate + nitrite (as N) in s. NR 140.10, Wis. Adm. Code.

4. **ES** exemptions for substances of **public health concern (other than nitrate plus nitrite (as N))** in accordance with s. NR 140.28(4)(b), Wis. Adm. Code:

Substance:	**Monitoring Wells:**
Ammonia (as N)	MW111, TW24R
Arsenic	P103R, S403B, S405A
Boron	MW111, TW24R, P103R, P107
Manganese	S218

- Reported baseline concentrations attain or exceed the **ES** in at least **one or more** sample rounds at the monitoring wells.
- ESs for substances of public health concern are established in s. NR 140.10, Wis. Adm. Code.

vii. Chapter NR 140, Wis. Adm. Code, groundwater quality standard exemptions requested in the feasibility report were modified from the original request in accordance with Addendum #2 of the feasibility report, dated April 1, 2021.

viii. Based on an examination of the groundwater quality data for the proposed expansion, the department finds that there are insufficient data to warrant granting the requested groundwater quality standard exemptions at this time for the following substances and wells:

- Ammonia (as N), arsenic, boron, di(2-ethylhexyl)phthalate, and manganese at well TW02R
- Manganese and sulfate at well TW22
- Fluoride at wells P103R, P104R
- Boron at wells MW107, P104R, and P117
- Nitrate + Nitrite (as N) at well TW24R
- Di(2-ethylhexyl)phthalate at well S224
- Sulfate at wells S402B and S403B

ix. Granting the exemptions that are set forth herein will not inhibit compliance with Wisconsin solid waste management standards in chs. NR 500 through 538, Wis. Adm. Code.

8. The procedural requirements for the notification of feasibility report and preliminary environmental impact statement decision pursuant to s. 289.25(3), Wis. Stats. were performed as follows:

   a. On February 19, 2021 the department issued a completeness determination on the feasibility report titled, "Feasibility Report, Orchard Ridge Recycling and Disposal Facility (RDF) Eastern Expansion, Southern Unit, Village of Menomonee Falls, Waukesha County, Wisconsin" dated July 23, 2020, and received by the department on July 24, 2020. The completeness determination also included the report titled "Feasibility Report – Addendum 1", dated December 18, 2020, and received by the department on December 21, 2020. The addendum was submitted in response to the department's September 22, 2020 incompleteness determination. Both the feasibility report and addendum were prepared by TRC on behalf of WMWI.

   b. On February 19, 2021 the department completed a project summary which includes an environmental analysis of the proposal for Wisconsin Environmental Policy Act (WEPA) compliance under s. 1.11, Wis. Stats. and s. NR 150.35, Wis. Adm. Code. The department determined that the landfill feasibility review and public input process for a proposed landfill expansion is an integrated analysis action under the provision of s. NR 150.20 (2) (a) 7, Wis. Adm. Code. On February 19, 2021 the department made the preliminary determination that an environmental impact statement is not needed under section 1.11, Wis. Stats.

   c. A public notice under s. 289.25(3), Wis. Stats., was published in the *Wisconsin State Journal,* the *Waukesha Freeman* and in the *Milwaukee Journal Sentinel* as a class 1 public notice on March 3, 2021. In addition, the feasibility report, the public notice, project summary/environmental analysis, and the feasibility report addendum 1 were posted on the department's internet site at https://dnr.wi.gov/topic/Waste/comment.html , 2021 The 30-day public comment period was from March 3, 2021 to April 2, 2021. The following responses were received:

      i. The department received 43 emails providing written comments or responses to the public notice during the public comment period.

      ii. On March 23, 2021 and on April 1, 2021, the department's Office of the Secretary received written requests for a public information hearing.

   d. The department held a public informational hearing on May 18, 2021 at the village hall building in the Village of Menomonee Falls and by using a ZOOM Remote Platform for the public to connect through the internet. A public notice for the hearing was posted on the department's internet web site at https://dnr.wi.gov/topic/Waste/comment.html and published in the *Milwaukee Journal Sentinel* as a class 1 public notice on May 5, 2021. It was also published in the *Wisconsin State Journal* and the *Waukesha Freeman* as a class 1 public notice on May 7, 2021. The hearing was held in accordance with the procedures established in s. NR 2.135, Wis. Adm. Code. The department received a total of 90 sets of public comments provided by oral testimony or submitted to the department in writing during the hearing and hearing comment period.

e. The department considered all comments for the public informational hearing and during the 30-day public comment period. The decision that an environmental impact statement would not be required for the proposed project is made final with this feasibility determination and is determined to be in compliance with the WEPA.

f. The department has complied with the requirements of ch. NR 150, Wis. Adm. Code, and s. 1.11, Wis. Stats., and has adopted all practical means to avoid or minimize environmental harm consistent with social, economic, and other essential considerations.

9. Based upon an examination of the need and design capacity evaluation prepared by TRC pursuant to the requirements of s. NR 512.17, Wis. Adm. Code, the department finds the following (References: Sec. 14 and Table 14-1 through 14-7 of the feasibility report and June 27, 2021 Needs and Site Life Memo prepared by David Buser of the department which includes Needs and Site Life Tables):

a. The approximate service area for the proposed expansion, which takes into account the economics of waste collection, transportation, and disposal, has been reasonably identified by the applicant to include Milwaukee, Waukesha, Washington and Ozaukee counties in Wisconsin.

b. The aggregate disposal capacity of approved facilities, as defined under s. 289.01(3), Wis. Stats., located within the anticipated service area of the proposed expansion (including those for which a feasibility report has been deemed complete by the department), as of January 2021 is approximately 30,100,609 cubic yards. Of this capacity, approximately 21,865,765 cubic yards are estimated to be available for waste from the anticipated proposed expansion service area.

c. Approximately 2,525,600 cubic yards of solid waste suitable for disposal at the proposed facility is generated on an annual basis with an estimated annual waste volume growth rate of 0.34% based on population projections within the anticipated service area for the proposed expansion.

d. The following approved facilities, as defined under section 289.01(3), Wis. Stats., for the disposal of municipal solid waste are located within the anticipated service area of the proposed expansion:

Landfill Name	License #	% of facility's waste coming from within the service area
Republic Kestrel Hawk Landfill	0572	74%
GFL Mallard Ridge Landfill	3244	22%
GFL Emerald Park Landfill	3290	69%
GFL Glacier Ridge Landfill	3068	57%

WMWI Metro RDF	1099	87%
WMWI Orchard Ridge RDF	3360	100%

e. No feasibility reports have received a completeness determination or have been submitted to the department for the disposal of solid waste for any other landfills located within the anticipated service area, except for the GFL, Inc. Emerald Park Landfill.

f. The GFL, Inc – Emerald Park Landfill, which has an approximate 69% service area overlap with the proposed expansion, received a feasibility report completeness determination for a proposed 7,802,900 cubic yard expansion on April 1, 2014. The proposed Emerald Park Landfill expansion would require the direct loss of 12.9 acres of wetland. Based on this projected wetland loss, the department informed the landfill applicant that a Wetland Individual Permit would be needed for the department to make a favorable feasibility determination. In addition, the department's 2014 assessment was that the proposed additional capacity appears to create a site-life of the Emerald Park Landfill that would exceed the statutory maximum allowed of 15 years. Therefore, the department has considered the proposed capacity of the Emerald Park Landfill feasibility report, but the final approved capacity for the proposed expansion has not been determined due to constraints to site development that have been identified but not satisfied by the landfill applicant.

g. There are no existing or proposed licensed or approved recycling or resource recovery facilities or solid waste incinerators located within the anticipated service area of the proposed expansion.

h. There are approximately 8 years or less of solid waste disposal capacity available for the anticipated service area starting in the year 2021. It is possible that it could take as long as 5 to 7 years to obtain a license for a new solid waste disposal facility in the service area and approval of a plan of operation may not occur by the end of 2021. Therefore, there is a need for additional solid waste disposal capacity to service the anticipated service area.

i. The design capacity of the proposed expansion as specified in this feasibility determination is 10,571,145 cubic yards. According to department estimates, this capacity will provide an expected operating life for the proposed Southern Unit of about 7.7 years after accounting for approximately 1.3 million cy of BRL waste and 298,000 cy of impacted BRL soil.

10. The applicant has greater than 10% legal or equitable interest in the WMWI-Metro Recycling and Disposal Facility located in the city of Franklin, Wisconsin and is in noncompliance with the plan of operation approval for the facility issued by the department on July 31, 1981. WMWI has provided the department with proof of financial responsibility for the WMWI-Metro Recycling and Disposal Facility to ensure the availability of funds to comply with the plan using a method under s. 289.41, Wis. Stats.

11. With the exception of the Metro Recycling and Disposal Facility, pursuant to s. 289.34, Wis. Stats., neither the applicant, nor any person owning a 10 percent or greater legal or equitable interest in the applicant or in the assets of the applicant:

    a. Is in noncompliance with a plan approval or order issued by the department for a solid or hazardous waste facility in Wisconsin;

    b. Owns or previously owned a 10% or greater legal or equitable interest in a person, or in the assets of a person, who is not in compliance with a plan approval or order issued by the department for a solid or hazardous waste facility in Wisconsin.

12. The conditions of site feasibility set forth below are needed to ensure compliance with ch. NR 140 and chs. NR 500 through NR 538, Wis. Adm. Code and to ensure that the facility will not pose a substantial hazard to public health or welfare.

CONCLUSIONS OF LAW

1. The department has the authority under s. 289.29 (3), Wis. Stats., to determine a site is feasible and may condition the issuance of a feasibility determination upon special design, operational or other requirements to be submitted with the plan of operation if the conditions are needed to ensure compliance with applicable laws and regulations.

2. The procedural requirements of s. 1.11 and 289.21 through 289.29, Wis. Stats., have been met.

3. In accordance with s. 289.29 (1) (d), Wis. Stats., the department may not approve a feasibility report for a solid waste disposal facility if the proposed design capacity of that facility exceeds the expected waste to be disposed of at that facility within 15 years after that facility begins operation.

4. As provided for under s. 289.28 (1), Wis. Stats. the department may not approve a feasibility report for a solid waste disposal facility unless sufficient need for the proposed municipal solid waste landfill has been established under the applicable provisions of s. 289.28 (1), Wis. Stats.

5. The department has the authority under s. NR 140.28, Wis. Adm. Code, and ss. 160.19(8), (9) and (10), Wis. Stats., to grant exemptions to the Wisconsin groundwater standards listed in ch. NR 140, Wis. Adm. Code.

6. The department has the authority to determine that a site is feasible with special conditions if the conditions are needed to ensure compliance with ch. NR 140 and chs. NR 500 through 538, Wis. Adm. Code.

7. The department has the authority under s. NR 500.08 (4), Wis. Adm. Code, to grant exemptions from the requirements of chs. NR 500 to 538, Wis. Adm. Code.

8. The Department has the authority under s. NR 504.04 (2), Wis. Adm. Code, to grant exemptions to the location standard of s. NR 504.04(3)(b), Wis. Adm. Code, regarding the siting of a landfill within 300 feet of a navigable stream and to the location standard of s.

NR 504.04(3)(f), Wis. Adm. Code, regarding the siting of a landfill within 1,200 of any water supply well.

9. In accordance with the foregoing, the department has the authority under ch. 289, Wis. Stats., to issue the following grant of exemptions, determination of need and design capacity and conditional feasibility determination.

GRANTS OF EXEMPTION

Subject to compliance with the conditions of the feasibility determination, the department hereby grants the following exemptions:

1. WMWI has demonstrated circumstances which warrant an exemption from s. NR 500.05 (6) (i), Wis. Adm. Code, which requires survey grid locations shown on all cross-sections. Refer to finding of fact 7.e. for supporting information. In accordance with s. NR 500.08(4), Wis. Adm. Code, the exemption is hereby granted.

2. WMWI has demonstrated circumstances which warrant an exemption from s. NR 504.04(3) (b), Wis. Adm. Code, which establishes a 300-foot setback from the limits of waste to a navigable stream. The navigable stream identified as Unnamed Stream 5034151 (Waterway S-1) is located along the western side of the Southern Unit. Conditions of this feasibility determination require WMWI to obtain a stream realignment permit under s. 30.195, Wis. Stats. and a federal permit from the U.S. ACE or jurisdictional determination from the U.S. ACE that the stream is non-jurisdictional in order to construct the proposed landfill expansion. Compliance with other State and federal regulations are additional factors that were considered in accordance with s. NR 504.04(2)(b), Wis. Adm. Code. Refer to finding of fact 7.a. for supporting information. In accordance with s. NR 504.04(2), Wis. Adm. Code, the exemption is hereby granted to allow the landfill to be constructed within 300 feet of a navigable stream.

3. WMWI has demonstrated circumstances which warrant an exemption from s. NR 504.04 (3) (f), Wis. Adm. Code, which establishes a 1,200-foot setback form the limits of waste to a water supply well. Refer to finding of fact 7.b. for supporting information. The exemption is hereby granted to allow construction of a municipal solid waste landfill within 1,200 feet off the following water supply wells: PWE-07, PWE-08, PWE-09, PWE-11, PWE-12 and PWE-13, contingent upon the conditions of this feasibility determination.

4. WMWI has demonstrated circumstances which warrant an exemption from s. NR 504.06 (2) (b), Wis. Adm. Code, which requires that the separation distance between the seasonal high groundwater table and the landfill liner (subbase grades) be at least 10 feet, except for zone-of-saturation landfills. Refer to finding of fact 7.c. for supporting information. In accordance with s. NR 500.08(4), Wis. Adm. Code, the exemption is hereby granted to allow construction of the landfill liner within 10 feet of the seasonal high groundwater table, subject to conditions of this feasibility determination.

5. WMWI has demonstrated circumstances which warrant an exemption from s. NR 507.16 (1) (a), Wis. Adm. Code, which requires an 8 ½ x 11-inch or 11 x 17-inch site map showing the location of sampling points and devices. Refer to finding of fact 7.f. for supporting information. In accordance with s. NR 500.08(4), Wis. Adm. Code, the

exemption is hereby granted to allow a sampling plan map to be provided on a 30-inch by 42-inch plan sheets.

6. WMWI has demonstrated circumstances which warrant an exemption from s. NR 512.09 (2) (d), Wis. Adm. Code, which requires wells to be located no more than 300 feet from the proposed limits of filling and at least half of the wells to be located no more than 150 feet from the proposed limits of filling. Refer to finding of fact 7.d. for supporting information. In accordance with s. NR 500.08(4), Wis. Adm. Code, the exemption is hereby granted to allow three monitoring wells (MW-107, P-107 and MW-116) to be located more than 300 feet from the proposed limits of waste and to allow for fewer than half of the monitoring wells to be within 150 feet of the limits of waste.

7. WMWI has demonstrated circumstances which warrant an exemption from s. NR 512.11 (1), Wis. Adm. Code, which requires a minimum scale of 1" = 200' for the existing conditions map. Refer to finding of fact 7.h. for supporting information. In accordance with s. NR 500.08(4), Wis. Adm. Code, the exemption is hereby granted to allow a scale size of 1-inch equals 300 feet on the existing conditions map.

8. The department has determined that specific exemptions are warranted from the groundwater standards established in ch. NR 140, Wis. Adm. Code, as follows. Exemptions are granted from the groundwater quality standards in ch. NR 140, Wis. Adm. Code, as provided in s. NR 140.28, Wis. Adm. Code, for the substances and wells listed in finding of fact 7.vi. to allow construction of a municipal solid waste landfill expansion in an area where a preventive action limit or enforcement standard has been attained or exceeded, contingent upon the conditions of this feasibility determination. These exemptions are hereby granted and apply only to the existing Eastern Expansion and proposed expansion as a contiguous landfill and do not apply to any other present or past facility or activity, including the BRL as it currently exists or after waste excavation and relocation.

DETERMINATION OF NEED AND DESIGN CAPACITY

The department hereby determines as follows:

1. There is sufficient need within the anticipated service area for the proposed expansion of the Eastern Expansion.

2. A design capacity of 10,571,145 cubic yards for the proposed municipal solid waste landfill expansion will provide for an expected operational life of about 7.7 years.

ALTERNATIVE GEOTECHNICAL APPROVAL

WMWI has demonstrated circumstances that warrant the proposed AGIP, dated May 22, 2019 and addendum dated September 17, 2019. In accordance with s. NR 512.085, Wis. Adm. code, the department hereby approves the AGIP and the associated deviations from the code requirements contained in s. NR 512.09 and NR 512.10, Wis. Adm. Code.

DETERMINATION OF AN ENVIRONMENTAL IMPACT STATEMENT

In accordance with s. NR 150.35, Wis. Adm. Code, the department has completed an environmental analysis of the proposed action. The department review process of the proposed action is an integrated analysis action under s. NR 150.20 (2) (a) (7), Wis. Adm. Code and the department hereby determines that an impact statement for the proposed landfill is not needed.

CONDITIONAL FEASIBILITY DETERMINATION

The department hereby determines that the proposed Orchard Ridge RDF Eastern Expansion – Southern Unit in the Village of Menomonee Falls, Waukesha County, is environmentally feasible and has the potential for use as a solid waste disposal facility provided that the following conditions are complied with and the plan of operation is prepared in accordance with chs. NR 500 through NR 538, Wis. Adm. Code.

General

1. The maximum design capacity as defined in s. NR 500.03(58) Wis. Adm. Code, of the proposed expansion shall not exceed 10,571,145 cubic yards, minus the volume which may be lost in order to comply with conditions of this feasibility determination.

2. The plan of operation, at a minimum, shall comply with the requirements of chs. NR 500 through 538, Wis. Adm. Code, the proposed feasibility report, and the conditions of this approval. Supporting justification shall be provided if the plan differs from the provisions of the administrative code or any conditions of approval.

Wetland Permit for Wetlands W-1 and W-6

3. The plan of operation shall include one of two options below:

    a. Option 1: Wetland Permits

        i. A Wisconsin wetland permit provided in the plan of operation report in accordance with the requirements of s. 281.36, Wis. Stats. for the proposed direct impacts of up to 3.72 acres of wetland delineated within the proposed project area; and,

        ii. a federal wetland impact permit provided in the plan of operation report from the U.S. Army Corps of Engineers (U.S. ACE) under Sections 401 & 404 of the federal Clean Water Act or a jurisdictional determination letter from the U.S. ACE stating that the U.S. ACE does not have jurisdiction of the 3.72 acres of wetland that are proposed to be directly impacted.

    b. Option 2: A landfill footprint that avoids all direct wetland impacts - a revision to the landfill limits of waste, and all perimeter support berm, access road and drainage ditch boundaries as well as all other features that maintain a minimum 50-foot undisturbed separation from all delineated wetland boundaries regulated by Wisconsin or the U.S. ACE. Under this option, the limits of waste may not be extended out in other directions (vertically or horizontally) to make up for the loss in total landfill capacity.

Stream Realignment Permit for Unnamed Stream 5034151 (Waterway S-1)

4. The plan of operation shall include one of two options below:

    a. Option 1: Stream Realignment Permits

        i. A Wisconsin stream realignment permit provided in the plan of operation report in accordance with the requirements of s. 30.195, Wis. Stats. for the proposed realignment of Waterway S-1; and,

        ii. a federal waterway impact permit provided in the plan of operation report from the U.S. Army Corps of Engineers (U.S. ACE) under Sections 401 and 404 of the federal Clean Water Act or a jurisdictional determination letter from the U.S. ACE stating that the U.S. ACE does not have jurisdiction of the Waterway S-1.

    b. Option 2: A landfill footprint that maintains a 300-foot setback for the limits of waste to all identified navigable streams. Under this option, the limits of waste may not be extended out in other directions (vertically or horizontally) to make up for the loss in total landfill capacity.

Waste Excavation and Relocation from the BRL

5. The plan of operation shall propose a detailed waste relocation plan (WMWI's Property Redevelopment Plan) describing the timing and process that will be used to excavate and relocate the waste from the BRL. It shall contain a contingency plan for responding to emergency situations, including (but not necessarily limited to): fire, explosion, discovery of asbestos-containing material, discovery of potentially hazardous waste, and the release of potentially hazardous materials. The plan shall describe health-and-safety protocols as well as practices that will be used to minimize and control releases to the air, soil and water during the entire process. The plan shall include control measures for fugitive dust/odors and for protecting surface water.

6. The plan of operation shall propose the process and procedure for characterizing waste, including suspected hazardous waste, as well as the testing to be performed during waste removal. In addition, it shall include details on how contact water (i.e., leachate) will be handled.

7. The plan of operation shall propose a detailed plan for how the air and groundwater will be monitored during the waste excavation and relocation process.

8. The plan of operation shall include details for the existing Boundary Road pond (storm water basin #3) that include: existing base grades in the pond; depth of soil/sediment to be removed from pond, and testing and deposition of material excavated from the pond.

Facility Design and Construction

9. The plan of operation shall include a plan to evaluate for potential endangered or threatened wildlife species that may be impacted during construction events before each construction event and how any potential impacts would be addressed.

10. The plan of operation shall include a modified design on the portion of the landfill east of the liner high ridge running north-south down the center of the landfill such that the liner base grade elevations are not lower than the grades established by connecting (tying in) the top and bottom of the clay component of the liner with the liner on the western side of the ridge and extending at a maximum 1.5 % slope to the toe of the east slope.

11. The plan of operation shall include a subbase grades plan sheet that depicts the approximate locations of potential gravel, sand, and silt seams within 5-ft of the subbase grades at the base and the side slopes of the landfill.

12. The plan of operation shall include a plan for conducting a subsoil investigation in accordance with s. NR 504.06(4)(d), Wis. Adm. Code. The plan shall include the use of backhoe pits to the extent feasible. Borings or other means may also be proposed in combination with the backhoe pits.

13. The plan of operation shall include a plan sheet indicating the location of subbase test pits or soil borings in accordance with s. NR 504.06(4)(d), Wis. Adm. Code.

14. The plan of operation shall include a proposal for drainage of granular or silty soil encountered at subbase grades as necessary to allow removal of the granular or silty soils and replacement with compacted clay soils.

15. The plan of operation shall include calculations in accordance with s. NR 514.07(6)(c), Wis. Adm. Code, for over burden pressure for the vertical expansion area over the existing Eastern Expansion landfill.

16. The plan of operation shall include a detailed description, for the proposed landfill footprint located in areas where BRL waste is exhumed and the BRL pond exists, of how:

    a. soils unsuitable for construction of subbase grades will be identified and removed during site preparation,

    b. bearing capacity of soil will be confirmed,

    c. inflow of water will be controlled or prevented, and

    d. backfill will be placed and compacted to provide adequate bearing capacity and stability without excessive variation between backfilled areas and the surrounding undisturbed soils.

17. The plan of operation shall include a modified design for the Triangle Area to reduce the number of additional bends in leachate collection pipe, CO1EA. This may be accomplished by either reducing the area of the proposed expansion to exclude the leachate

collection pipe area or by raising the base grade of the Triangle Area so that there is only one additional gentle pipe bend at the top of the existing 3:1 slope.

18. The plan of operation shall include a detailed proposal with methods to continuously remove leachate from the existing leachate sump during the extension of sump riser pipe and manhole to be located in the Triangle Area.

19. The plan of operation shall include discussion and details for: removal of the compacted clay wedge directly over the gravel leachate drainage layer along the tie-in to the Eastern Expansion; the approximate width that waste will need to be pulled back from the existing edge of waste to allow tie-in to the clay liner, the geomembrane and overlying geotextile; and methods to avoid damage to existing geosynthetics.

20. The plan of operation shall propose a construction method to tie-in the gravel leachate drainage layer, in the tip of the Triangle Area of the expansion, where leachate is proposed to drain into the Eastern Expansion gravel drainage layer. The plan shall include documentation and testing procedures to confirm the hydraulic conductivity of the drainage layer is no greater than 1×10^{-1} cm/sec for the existing gravel along the tie-in. The proposal shall also include corrective actions to be taken if hydraulic conductivity results fail to meet this requirement.

21. The plan of operation shall include plan views and cross-section details of the existing conditions at the Triangle Area, including the compacted clay wedge and existing waste grades. Cross-section details shall be provided for each component that requires extension in the Triangle Area.

22. The plan of operation shall discuss construction methods and include a stability analysis for the perimeter clay wedge for the proposed expansion.

23. An updated storm water pollution prevention plan shall be provided within the plan of operation. The updated storm water pollution prevention plan shall address the proposed expansion and exhumation of BRL.

24. The plan of operation shall include a plan sheet that indicates the location of all stormwater outfalls for the entire Orchard Ridge complex.

25. The plan of operation shall include timeline for installation of all stormwater controls.

26. The plan of operation shall include an evaluation of the existing gas extraction system to determine if the additional landfill gas generated by the expansion will require changes to the current gas transfer piping, condensate removal system, blower, flare and gas to energy plant.

27. The plan of operation shall include abandonment procedures for gas extraction wells.

28. The plan of operation shall include an estimate of the volume of:

    a. clay soil required to attain subbase grades where waste exists below subbase grades;

b. clay soil to replace silt and sand seams that are present within 5-ft of subbase grades; and,

c. soils to backfill areas of BRL waste removal outside the footprint of the Southern Unit Expansion.

29. The plan of operation shall provide design details for the groundwater gradient control system (underdrain), which include the following:

a. A groundwater discharge design for the pumped discharge system including a description and plan sheet drawings showing how groundwater collected from the gradient control system will be routed to surface water discharge points and estimates the discharge flow rate;

b. An evaluation of potential effects or impacts the groundwater discharge may have on the storm water collection and management system with respect to quality, flow rates, and volume;

c. A design which allows for the collected water from the gradient control layer to be sampled; and,

d. A proposal for monitoring the performance of the groundwater gradient control system.

30. The plan of operation shall contain a detailed description of the phased development, filling, and closure sequencing that includes the existing Eastern Expansion landfill. A table shall be provided that includes the sequence and acreage of each construction event and an estimated schedule for construction. Phasing plan sheets shall include construction and closure phasing that considers the actual filling and closure sequences and provides for the following:

a. timely installation of gas extraction well field and other gas extraction system components;

b. timely installation of stormwater controls;

c. minimizing the time and area of outer side slopes under intermediate cover; and

d. actively filling so that final grades are reached as soon as possible.

Facility Operation

31. The plan of operation shall contain a detailed litter control plan. The plan shall include procedures for litter control and collection, procedures to be implemented during high-wind conditions and for receiving and responding to litter complaints.

32. The plan of operation shall contain a detailed odor control plan which includes measures to prevent and control odors and procedures for receiving and responding to odor complaints.

Maximum Interim Waste Grades

33. The plan of plan of operation shall include a plan sheet presenting the proposed maximum interim waste grades and a corresponding table. The table shall include coordinates and elevations for the top of the leachate collection layer, the proposed final waste grades, the proposed maximum interim waste elevations, and waste thickness on a maximum 100-foot grid pattern. The plan of operation shall also contain a provision for removal of waste from areas that do not settle to the approved final waste grades by the time final cover construction is scheduled to begin for that closure phase.

Wetland and Waterway Protections

34. The plan of operation shall include a plan for implementing protective measures and actions that will be put into place to protect the remaining wetlands and water bodies that are not directly impacted, in accordance with the requirements of the wetland and stream permits and s. NR 151.12 (5)(d)(1), Wis. Adm. Code.

35. The plan of operation shall include a detailed plan for how the navigable stream Waterway S-1 will be relocated to minimize impacts to surrounding wetlands if a stream realignment permit is issued.

Environmental Monitoring

36. The plan of operation shall include a proposed environmental monitoring program in accordance with the requirements of ch. NR 507, Wis. Adm. Code, in addition to a special monitoring plan for the waste excavation and relocation process from the BRL (see conditions 5 through 8 above). The proposed environmental monitoring program shall at a minimum include the following:

    a. A plan to monitor water supply wells for which an exemption from s. NR 504.04(3)(f), Wis. Adm. Code, has been granted and for which permission for sampling has been granted by the well owner for all ch. NR 507, Wis. Adm. Code, Appendix III VOCs using U.S. EPA SW Method 8260 or a Safe Drinking Water Act method.

    b. A plan to collect pre-BRL waste excavation baseline sample data from water supply wells which do not already have baseline data, and which include at least 4 baseline samples separated by at least 30-days. The baseline groundwater data shall be collected from all private water supply wells for which an exemption from the 1,200-foot setback distance requirement of s. NR 504.04(3)(f), Wis. Adm. Code, has been granted and permission for sampling is granted by the well owner. The baseline monitoring shall at a minimum include the following parameters:

Parameter	GEMS Parameter Code
Alkalinity, total as CaCO3 (mg/L)	00410
Arsenic, total (mg/L)	01002
Boron, total (mg/L)	01022
Chloride (mg/L)	00940
Fluoride, total (mg/L)	00951
Hardness, total (mg/L)	00900

Iron, total (mg/L)	74010
Manganese, total (mg/L)	01055
Molybdenum (µg/L)	01062
Nitrate + Nitrite (as N), total (mg/L)	00620
Nitrogen, Ammonia as N, total (mg/L)	00610
Sulfate, total (mg/L)	00945

All ch. NR 507, Wis. Adm. Code, Appendix III VOCs using U.S. EPA SW method 8260 or a Safe Drinking Water Act method.

c. A plan to collect additional baseline monitoring data at wells for those substances which an NR 140 standard exemption has been granted and a minimum of 8 satisfactory sample concentrations, separated by at least 30 days, are not available to calculate alternative concentration limits (ACLs).

d. A plan to collect additional data to evaluate potential NR 140 standard exceedances for the following substances and wells:

ii. Fluoride at wells P103R and P104R;

iii. Boron at wells MW107, P104R, P117; and,

iv. Nitrite plus Nitrate (as N) at well TW24R.

e. A plan to continue monitoring arsenic and sulfate concentrations in groundwater before, during and after the waste excavation and relocation project.

f. A monitoring plan for the groundwater gradient control layer (underdrain) to check water quality. Groundwater at the BRL has known impacts from substances that include VOCs.

This feasibility determination is based on the information available to the department as of the date of the determination. If additional information, project changes, or other circumstances indicate a possible need to modify this determination, the department may ask you to provide further information relating to this activity. A feasibility determination modification requires a public notice and a 30-day public comment period.

NOTICE OF APPEAL RIGHTS

If you believe you have a right to challenge this decision made by the department, you should know that Wisconsin statutes and administrative codes establish time periods and requirements for reviewing department decisions.

To seek judicial review of the department's decision, sections 227.52 and 227.53, Wis. Stats., establish criteria for filing a petition for judicial review. You have 30 days after the decision is mailed or otherwise served by the department to file your petition with the appropriate circuit court and serve the petition on the department. The petition shall name the department of Natural Resources as the respondent.

Dated: July 30, 2021

DEPARTMENT OF NATURAL RESOURCES
For the Secretary

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