



April 30, 2024

FID # 113450480
Dane County
SW/Correspondence

Mr. John Welch
Dane County Department of Waste & Renewables
1919 Alliant Energy Center Way
Madison, WI 53713

Subject: Incompleteness Determination for the Feasibility Report for the Proposed Dane County Landfill Site No. 3 (Monitoring No. 4911)

Dear Mr. Welch:

The Department of Natural Resources (department) has reviewed for completeness a report entitled "Feasibility Report, Dane County Landfill Site No. 3 (FID #113450480), 4402 Brandt Road, Madison, Wisconsin 53718" dated February 13, 2024. The feasibility report (report) was prepared by SCS Engineers on behalf of Dane County Department of Waste & Renewables. The department received the report on February 13, 2024. Based on the report review, the department has determined that the report does not contain the minimum information required by chs. NR 504 and NR 512, Wis. Adm. Code. Therefore, the report is not complete.

Part A below lists the items needed to determine the report is complete. Part B below provides comments and information the department wishes to share with you regarding the proposal. In your response, please include the information listed in part A as an addendum to the report. This information is intended for use by the public as well as the department in reviewing the proposed project. Be sure to provide a copy of all information submitted to the department to each recipient of the report as required by s. 289.23(4), Wis. Stats.

A. The following information must be provided or satisfactorily addressed for the department to issue a determination that the report is complete:

1. **Landfill Locational Criteria and Performance Standards [ss. NR 504.04(2)(a) and 504.04(3)(f), Wis. Adm. Code]:** Clarify the correct owner of water supply wells PW-B (aka PW-5), PW-C (aka PW-6), PW-D (aka PW-3), and PW-E (aka PW-4). Section 1.4.1.3 of the report states that the City of Madison owns the wells but Table 1-1 indicates that Dane County owns the wells.
2. **Landfill Locational Criteria and Performance Standards [s. NR 504.04(3)(d), Wis. Adm. Code]:**
 - a. Clarify that no waste would be visible from an outside vantage point when utilizing waste berms to screen, as discussed in section 7.1.4 of the report.
 - b. Provide additional discussion on the timing of tree planting before and after landfill construction to adequately screen waste. Provide discussion on the approximate height of trees once mature. Provide discussion on how seasonal change would affect the trees' ability to screen waste.

- c. Provide additional line of sight drawings:
 - i. From the perspective of traveling west on USH 12 & 18, near the USH 12 & 18 and CTH AB/Brandt Road interchange.
 - ii. From the west where the proposed 18-hole golf course would be near the limits of waste.
 - iii. From the southwest where the proposed 18-hole golf course would be near the limits of waste.
- d. Provide additional discussion on how waste would be screened on the south and west sides of the proposed landfill where the limits of the proposed 18-hole golf course would be near the limits of waste where there are currently no mature trees.

3. Landfill Locational Criteria and Performance Standards [s. NR 504.04(4)(a), Wis. Adm. Code]:

- a. Provide the following information regarding wetland W-1:
 - i. Clarify if wetland W-1 is still present or if it has been filled as part of the Wisconsin Department of Transportation (WisDOT) USH 12 & 18 and CTH AB interchange project.
 - ii. Clarify if any wetland functional values as provided in ch. NR 103, Wis. Adm. Code, for any portions of wetland W-1 (3.66 acres total) not included in the department's artificial wetland determination (0.61 acres of wetland W-1) would be impacted by the proposed landfill.
 - iii. Clarify if any protections are necessary for the remaining portions of wetland W-1 not included in the department's artificial wetland determination (0.61 acres of wetland W-1) during wetland filling in exempt areas or during landfill construction, operation and closure to minimize impacts to wetland functional values.
- b. Clarify if wetlands W-2 or W-3 would be impacted by the proposed landfill.

- 4. Exemption request from the 10 foot separation requirement to Groundwater [s. NR 504.06 (2) (b), Wis. Adm. Code] and exemption request from the 10 foot separation to bedrock [s. NR 504.06 (2) (c), Wis. Adm. Code]:** Section 1.4.2 of the report requests an exemption under s. NR 500.08 (4), Wis. Adm. Code, from the requirement for the bottom of the clay component of the composite liner to be at least 10 feet above the seasonal high groundwater table elevation and proposes to construct a groundwater gradient control system under the subbase of the liner to route groundwater away from the liner, under gravity drained conditions. The report also requests an exemption from the requirement for the separation distance between the top of the bedrock surface and the bottom of the clay component of a composite liner or a clay liner to be at least 10 feet.

The department may grant an exemption to the requirements of chs. NR 500 to 538 in special cases where the proposal will not cause environmental pollution as defined under s. 299.01 (4), Stats. In considering a proposal for an exemption under s. NR 500.08 (4), Wis. Adm. Code, the department shall take into account such factors as the population of the area being served, the amount of waste being generated, the geologic and hydrogeologic conditions at the facility, the design of the facility, the operational history of the facility, the physical and chemical characteristics of the waste, and any other information that may be appropriate.

The report identifies various other landfills in the state where the department has granted an exemption to these separation distances in the past. Those past exemptions were justified based on site-specific conditions. The department evaluates exemption requests on a case-by-case basis and the report does not explain how site-specific conditions for those landfills are relevant to the site-specific conditions at the proposed landfill.

The gradient control layer proposal provides technical information for the purpose of demonstrating how the requested exemption would not cause environmental pollution and the report discusses the plan for further evaluating bedrock surface and adjusting subbase grades accordingly so that the appropriate grading and slopes can be achieved. **Please provide an explanation of how the proposed landfill is a special case for the requested exemptions, considering the factors the department must take into account.**

In addition, the exemption request states that water table elevations are anticipated to decrease in the immediate vicinity of the proposed landfill following construction and local recharge would be reduced due to the landfill liner and final cover. However, it's not clear how groundwater flow would be managed during excavation, grading and construction of low areas of the proposed landfill, located on the northern side of the property. **Based on the proposed landfill's design, phasing plan, the groundwater table and the groundwater flow direction, please explain if there would be groundwater movement and the potential for saturated soils and ponding into the northern area of the property as those northern phases are being constructed. Please explain how this may affect the constructability of those phases and how this would be addressed.** Plan sheet 28 for the proposed subbase grades and section 8.4 of the report shows and discusses a gravity drained system, with the ability to pump if needed. **Please discuss if pumping would be needed during landfill construction and if the gentle slopes from the underdrain manhole shown on Plan Sheet 28 may affect the ability to effectively discharge water from the underdrain under gravity conditions.**

5. **Active Gas Extraction and Treatment [ss. NR 504.08(2)(d) through (g), Wis. Adm. Code]:** Provide discussion on the items listed in ss. NR 504.08(2)(d) through (g), Wis. Adm. Code, regarding active gas extraction and treatment.
6. **Miscellaneous Design and Construction Criteria for Landfills [ss. NR 504.09(2)(c), (d) and (g), Wis. Adm. Code]:** Provide discussion on all-weather access roads, access road percent grade, and reaching final waste grades as soon as possible.
7. **Miscellaneous Design and Construction Criteria for Landfills [s. NR 504.09(2)(f), Wis. Adm. Code]:** The berm on the east side of the proposed landfill does not maintain a minimum distance of 50 feet from the adjacent property line. Provide a revised landfill design that maintains a minimum distance of 50 feet between any permanent berms or excavations associated with the proposed landfill and the adjacent property line.
8. **General Submittal Requirements [s. NR 512.05, Wis. Adm. Code]:**
 - a. Provide one of the following items regarding the two private water supply wells located within 1,200-feet of the proposed landfill waste limits that are not owned by Dane County (Table 1-1 of the report):

- i. A documented agreement between Dane County and the water supply well owners to allow abandonment of the water supply wells and installation of replacement water supply wells greater than 1,200-feet from the proposed landfill waste limits.
 - ii. An exemption request from the locational criteria in s. NR 504.04(3)(f), Wis. Adm. Code, and supporting information.
 - iii. A modified landfill footprint that meets the locational criteria in s. NR 504.04(3)(f), Wis. Adm. Code.
- b. Provide additional discussion on the groundwater gradient position of PW-B relative to the proposed landfill. Section 1.4.1.3 of the report states that PW-B is upgradient or sidegradient relative to the proposed landfill, at both the water table and piezometer level. The boring log for PW-B in Appendix C of the report indicates the well is cased to 66 feet below ground surface (bgs) and is an open borehole in limestone, shale, and sandstone. However, historical information in the Dane County Landfill Site No. 2 vertical expansion feasibility report indicated that bedrock groundwater flow at that landfill's location is generally toward the southwest, meaning that PW-B would be located in the downgradient position from the proposed landfill.
- c. Clarify if PW-B provides potable drinking water to the Yahara Hills Golf Course.

9. Site Specific Geotechnical Information [s. NR 512.09, Wis. Adm. Code]:

- a. Section NR 512.09(1)(c), Wis. Adm. Code - Provide a list of borings that were extended at least 5 feet into bedrock.
- b. Section NR 512.09(1)(e), Wis. Adm. Code – Provide discussion on abandonment plans and procedures to completely remove the well casing left in place at boring B-112B, in accordance with s. NR 141.25(2)(c), Wis. Adm. Code. Boring B-112B is located within the proposed waste limits, therefore the well casing should be removed by overdrilling if attempts to pull the casing were unsuccessful.

10. Subsurface Data Analysis – Hydrogeologic Properties [s. NR 512.10(3), Wis. Adm. Code]:

- a. Provide the following information regarding water table observation wells with submerged screens:
 - i. A discussion on sampling procedures,
 - ii. A discussion on the validity or the potential effects and concerns of groundwater data (i.e., elevations, gradients, groundwater quality) collected from these wells.
- b. Provide discussion regarding the validity or the potential effects and concerns of groundwater data (i.e., elevations, gradients, groundwater quality) collected from water table observation wells and/or piezometers screened across multiple formations.
- c. Provide additional discussion on the items listed in ss. NR 512.10(3)(a) through (h), Wis. Adm. Code, for each saturated soil unit or rock formation and its function in the groundwater flow system.
- d. Provide discussion on how abandoning/installing replacements of water supply wells PW-C, D, and E, and leaving PW-B in place, may potentially affect groundwater flow horizontally and vertically in the proposed landfill area. Clarify if the groundwater elevation data used to construct the groundwater flow

maps on Plan Sheets 3, 4, and 5 was collected while the water supply wells were active. The logs in Appendix C of the report identify these water supply wells as high-capacity wells.

- e. Clarify how the assumed effective porosities used in the groundwater velocity calculations in Appendix O were determined.

11. Data Presentation – Existing Conditions [s. NR 512.11(1), Wis. Adm. Code]: Provide a revised ‘existing conditions’ plan sheet that includes the following items:

- a. Section NR 512.11(1)(a), Wis. Adm. Code - A depiction of 100-year floodplain areas within 1,500 feet of the proposed limits of filling.
- b. Section NR 512.11(1)(b), Wis. Adm. Code - A colored edge-of-surface water boundary within the WisDOT Pond B to denote the pond’s limits.

12. Data Presentation - Flow net [s. NR 512.11(5), Wis. Adm. Code]: Provide two additional flow nets, one constructed on cross-section G-G’ and one constructed on cross-section O-O’.

13. Proposed Preliminary Design [s. NR 512.14, Wis. Adm. Code]:

- a. Provide a discussion of how the WisDOT Pond B would be modified due to the proposed landfill and landfill support structures. Provide correspondence with WisDOT regarding the proposed modifications. Revise relevant portions of sections 10.2 (Proposed Physical Changes) and 10.4 (Environmental Consequences) of the report as necessary.
- b. Provide discussion on how the underdrain system would be constructed in areas of high bedrock. Some cross-sections depict bedrock at or near subbase grades.
- c. Provide discussion on abandonment/replacement plans for groundwater monitoring wells MW-1, MW-108, MW-111, MW-122, and the MW-123 well nest. These wells appear to be in future construction areas.
- d. Provide discussion on the following items regarding groundwater monitoring along the northeast and east boundary of the proposed landfill, given the location constraints of road berms, the WisDOT Pond B, and the edge of property:
 - i. The ability to monitor groundwater quality at these locations,
 - ii. The ability to abandon and replace a groundwater monitoring well at these locations if damaged, and
 - iii. The ability to install new groundwater monitoring wells in the event of a groundwater investigation, if ever needed.
- e. Provide discussion on a proposed air monitoring program. The report does not discuss an air monitoring program.
- f. Provide a revised sampling plan that includes [s. NR 507.16, Wis. Adm. Code]:

- i. A procedure for determining the volume of water to be removed from each well.
- ii. The rate of flow while purging, when applicable.
- iii. Groundwater sampling procedures when minimal draw-down techniques are utilized.
- iv. Surface water sampling procedures when using pre-preserved bottles.
- v. A discussion on how leachate fluid levels would be measured at various devices, such as leachate head wells and gas extraction wells.
- vi. A discussion on sampling procedures at gas extraction devices, such as gas extraction wells and a gas blower.

14. **Constraints on Landfill Development – Geotechnical Information [s. NR 512.13(2), Wis. Adm. Code]:** The county is coordinating with the department’s Remediation and Redevelopment (RR) Program regarding the potential cause and any necessary follow-up work regarding 1,2-dichloroethane (1,2-DCA) reported in baseline sample data from monitoring wells installed as part of the geotechnical investigation. Provide information on the findings of the potential cause and any follow-up work that is required to be reported to the RR Program. Please also provide a discussion regarding the potential cause and significance of those metals with reported intermittent groundwater standard exceedances in baseline data collected at monitoring well MW-122.

15. **Constraints on Landfill Development – Construction and Operation [s. NR 512.13(3), Wis. Adm. Code]:** Provide discussion on what the county would do if Madison Metropolitan Sewerage District (MMSD) cannot accept all leachate generated by the proposed landfill. The conditional leachate acceptance letter from MMSD in Appendix K2 indicates they may not have sufficient capacity to accept all wastewater from the proposed landfill during wet weather events.

16. **Proposed Physical Changes [s. NR 512.16(2), Wis. Adm. Code]:**

- a. Section NR 512.16(2)(a), Wis. Adm. Code – Provide additional discussion on clearing and grubbing of the golf course and construction of access roads. Provide discussion on how the existing 36-hole golf course would be reduced to the 27-hole golf course (the limits of which are on the proposed waste limits), and then to the proposed 18-hole golf course, as depicted on Plan Sheet 2.
- b. Section NR 512.16(2)(a), Wis. Adm. Code – Provide discussion on how and when utilities such as water mains and underground electric lines would be removed from the proposed landfill footprint and perimeter areas.
- c. Section NR 512.16(2)(c), Wis. Adm. Code – Provide discussion on the size of facilities to be constructed and the number of miles of road to be constructed.
- d. Section NR 512.16(2)(d), Wis. Adm. Code – Provide discussion on emissions and discharges associated with landfill preparation, construction, and closure.
- e. Section NR 512.16(2)(f), Wis. Adm. Code – Provide a soils map of the proposed landfill area.

17. Existing Environment [s. NR 512.16(3), Wis. Adm. Code]:

- a. Section NR 512.16(3)(a), Wis. Adm. Code – Provide discussion on existing air quality and wetlands in the proposed landfill area.
- b. Section NR 512.16(3)(b), Wis. Adm. Code – Provide discussion on the amount, type, and hydraulic value of wetlands found in the proposed landfill area.
- c. Section NR 512.16(3)(d), Wis. Adm. Code – Discuss whether any ethnic or cultural groups are located in the proposed landfill area and revise section 10.4.4 (Socioeconomic Impacts) of the report as necessary. Clarify whether the 66-foot-wide easement described in section 10.3.4 (Socioeconomic Conditions) of the report is located on Plan Sheet 2 and, if not, provide a revised Plan Sheet 2.
- d. Section NR 512.16(3)(e), Wis. Adm. Code – Clarify if any prime agricultural lands are located in the proposed landfill area. Based on a search of the Natural Resources Conservation Service web soil survey, it appears a portion of the proposed landfill footprint is mapped as Dodge silt loam, 2 to 6 percent slopes, which is classified as prime farmland. Other soil units may also be classified as prime farmland. Revise section 10.4.5 (Physical Impacts – Other Special Resources) and section 10.4.6 (Probable Adverse Impacts That Cannot be Avoided) of the report as necessary.

18. Environmental Consequences [s. NR 512.16(4), Wis. Adm. Code]:

- a. Section NR 512.16(4)(a), Wis. Adm. Code – Provide additional discussion on the physical impacts associated with the proposed landfill design, construction, and operation, including: air quality, windblown paper and dust, birds and visual impacts.
- b. Section NR 512.16(4)(d), Wis. Adm. Code – Provide additional discussion on the social and economic impacts to local residents and cultural groups and the communities and industries served by the proposed landfill such as effects on traffic, roads, noise, aesthetics, recreation in the area and any potential effects on surrounding property values.
- c. Section NR 512.16(4)(e), Wis. Adm. Code – Provide additional discussion on potential biological impacts, including destruction of habitat and alteration of the physical environment. Revise section 10.4.6 (Probable Adverse Impacts That Cannot be Avoided) of the report as necessary.
- d. Section NR 512.16(4)(f), Wis. Adm. Code – Provide additional discussion on the probable adverse impacts for people around the proposed landfill.

19. Need and Design Capacity [s. NR 512.17, Wis. Adm. Code]:

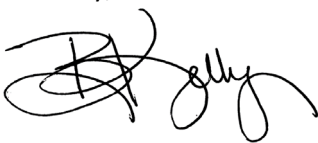
- a. Clarify which landfill tonnage report years were utilized in determining the solid waste disposal rates in Tables 11-3 and 11-4. Section 11.2.1 of the report indicates that data from 2018 to 2022 were utilized, but table 11-4 indicates that data from 2020 to 2022 were utilized.
- b. Identify which municipal solid waste (MSW) landfills were included in determining the industrial/commercial/institutional waste tonnage and total disposal rate for 2020, 2021, and 2022, as calculated in Table 11-4.

- c. Clarify how the daily cover ratio of 1-part daily cover to 7-parts waste is applied to the projected 2024 service area waste generation volume to determine the projected 2024 service area waste generation volume that includes daily cover in Table 11-3.
20. Provide clarification on whether information is missing from section 10.3.1.4 of the report regarding wetlands. Section 10.2.4 of the report refers to section 10.3.1.4 for additional information regarding wetlands however, section 10.3.1.4 does not mention wetlands.
 21. Provide copies of the dust, odor and litter control plans for the Dane County Landfill Site No. 2 that are discussed in section 10.4.1.4 of the report.
- B. The department noted the following additional issues with the proposal during our review. Some of the items may affect the department's feasibility determination or plan of operation decision which Dane County may choose to address. Should the department issue decisions favorable to the proposal, these items may result in conditions of either the feasibility determination or plan of operation approval if not addressed.
1. Please be aware, a storm water permit would be required for construction of the proposed landfill. Please contact the appropriate staff in the Storm Water Management Program.
 2. Please be aware, an air permit would be required for construction of the proposed landfill. Please contact the appropriate staff in the Air Management Program.

This incompleteness determination is not a denial of your proposal, but merely indicates that additional information is needed to continue the review. Submittal of this information does not ensure a favorable feasibility determination, nor does it preclude the department from requiring additional information if continued review indicates it is needed. Upon receipt of the additional information, the department has 60 days to determine whether the report is complete. Please be aware if additional review indicates the report is twice incomplete, the department may require an additional plan review fee as specified in ch. NR 520, Wis. Adm. Code, Table 3 (Note 1).

Please do not hesitate to contact Tyler Sullivan, Hydrogeologist at 608-516-3962 or tyler.sullivan@wisconsin.gov or Colin Maus, Waste Management Engineer at 608-516-2462 or colin.maus@wisconsin.gov, if you have any questions about this letter.

Sincerely,



Bridget Kelly
Waste and Materials Management Supervisor
South Central Region

cc: Betsy Powers - BPowers@scsengineers.com
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