State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
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April 11, 2018

Ms. Brenda Quinnell
Director Adams County Solid Waste Department
1420 State Road 21
Friendship, WI 53934

FID# 701040560
Adams County
SW/Feas.

SUBJECT: Determination of Site Feasibility, Horizontal Expansion, Adams County Sanitary Landfill, License # 3150

Dear Ms. Quinnell:

We have determined that the proposed, Adams County Sanitary Landfill Horizontal Expansion is feasible, subject to certain conditions, and should provide for satisfactory solid waste disposal. We have also determined that an Environmental Impact Statement is not needed for this facility.

Please read carefully the attached determination which includes the conditions of the feasibility approval.

You may now submit your plan of operation in accordance with chs. NR 500 through 538, Wis. Adm. Code, the feasibility report and the conditions of feasibility listed in the attached determination. This determination of feasibility does not guarantee that we will approve your plan of operation.

We would like to remind you that this determination is not an exemption from other federal, state and local permits or approvals required before landfill construction and operation. This includes but is not necessarily limited to a WDNR air pollution control construction permit, WDNR storm water permit, local negotiation agreement, local storm water requirements, and local zoning approvals.

Condition #2 limits the design capacity of the expansion to 551,000 yd^3. It appears that the combined remaining capacity of the existing landfill plus the contiguous expansion will provide an estimated site-life of approximately 15 years, by the time the facility receives plan of operation approval.

Condition #19 contains requirements for properly abandoning monitoring wells located in future waste fill areas. These wells need to have the casing overdrilled prior to filling and sealing.

Please consider the following as you develop your plan of operation based on the information presented in the feasibility report.

1. Storm water permits for the proposed clay borrow area and the landfill expansion are needed before excavation begins on either site.

2. The department recommends that additional hydraulic conductivity testing be done on clay from the proposed clay borrow source expansion in accordance with s. NR 504.075 (5) (d), Wis. Adm. Code.

3. The plan of operation should detail a methodology to place the first lift of clay liner on the subbase that may require extra conditioning or effort given the natural soils in the subbase there (e.g., sugar sand, or soft or yielding soils). The department is concerned that the in-situ subbase condition may not have the geotechnical properties (e.g., gradation and density) to provide a firm foundation to compact the clay adequately.

4. Adams County Landfill currently operates under Air Pollution Control Operation Permit No. 701040560-S02. Adams County Landfill will need to apply for and be issued an air pollution control construction permit before commencing construction of their proposed landfill expansion. That air construction permit will likely require Adams County Landfill to continue to operate a landfill gas collection system and to route collected gas to an open flare as the means to control hazardous air pollutants.

Please send three paper copies and one electronic copy of the plan of operation report and drawings to Cynthia Moore, Waste Program Supervisor, South Central Region headquarters, 3911 Fish Hatchery Road, Fitchburg, WI 53711. Please send one paper copy to Valerie Joosten, DNR – Waste & Materials Management at 2984 Shawano Ave. Green Bay, WI, 54313, and one paper copy to Joe Lourigan, DNR – Waste and Materials Management, at 101 S. Webster Street, Madison, WI 53707. All paper copies of engineering drawings should be full size in accordance with ss. NR 500.05 and NR 514.05, Wis. Adm. Code.

The site location was incorrect in various documents until a November 8, 2017 email from Ryan Shimko at Ayres corrected the location of the Proposed Expansion. I reviewed the feasibility process prior to that date and updated the Endangered Resources Review, the Archeological and Historical Review, and contacted various program experts who had used the incorrect location for their reviews. The program reviews were all done with the corrected location and done for the area of the Adams County Landfill, the Proposed Expansion, and the Proposed Clay Borrow Site. The issue of an incorrect site location has been fully corrected as part of the feasibility review process. This is documented in finding of fact 7 of the feasibility determination.

The 120-day or 135-day waiting period before submitting the feasibility report, in accordance with s. NR 512.06 (1), Wis. Adm. Code, was not done. Normally in such a case, the department would suspend review of the feasibility report and notify the applicant. Based on the information provided in the feasibility report, we believe the feasibility report was submitted to the department 42 days early. However, due to unrelated circumstances on the department's end, the department's review was delayed 147 days. Therefore, we do not believe the 42-day early submittal remains an issue. This is documented in findings of fact 13 and 14 of the feasibility determination.

If you have any questions regarding this determination, please contact Adam Hogan, DNR Hydrogeologist, at 608-275-3292, or Eric Syftestad, DNR Engineer, at 608-275-3211.

Sincerely,

Cynthia Moore
Waste and Materials Management Supervisor
South Central Region

cc:
Ryan Shimko, P.E., Ayres Associates Inc., 3433 Oakwood Hills Parkway, Eau Claire, WI 54701
Town of Strongs Prairie, Town Clerk, PO Box 69, Arkdale, WI 54613
Scott Sorensen Clerk, Town of Preston, 1739 11th Ave., Friendship, WI 53934
Adams County Clerk, 400 Main Street, PO Box 278, Friendship, WI 53934
Adams County Public Library, 569 North Cedar, Suite 1, Adams, WI 53910
Levi Eastlick, Airspace Manager/Chief Pilot, WisDOT/DTIM/Bureau of Aeronautics
4802 Sheboygan Ave, Rm 701, Madison, WI 53705

Birke Rhodes, Branch Manager, Great Lakes Region – Safety and Standards (AGL-620), Federal Aviation Administration, 2300 East Devon Avenue, Des Plaines, IL 60018
Brian Hayes, Executive Director, WI Waste Facility Siting Board, 5005 University Ave., Suite 201 Madison, WI 53705-5400
John R. Miller, Miller and Miller Law Firm, 311 DeWitt Street, PO Box 200, Portage, WI 53901

Department of Natural Resources cc:
Adam Hogan – SCR
Joe Lourigan – WA/5 (electronic copy)
Eric Syftestad – SCR (electronic copy)
Valerie Joosten, P.E. – NER (electronic copy)

PROJECT SUMMARY AND ENVIRONMENTAL ANALYSIS FOR THE
ADAMS COUNTY LANDFILL
PROPOSED PHASES 5 & 6
VERTICAL AND HORIZONTAL
EXPANSION

Proposed Facility: This proposed project consists of a vertical and horizontal expansion of the existing Adams County Landfill, License # 3150, Facility Identification # 701040560.

Authorized Contacts:

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Licensee/Property Owner: Adams County Solid Waste Department

Site Location, Acreage, Capacity, Site Life and Access

Adams County has submitted a feasibility report for a proposed 551,000 cubic yard landfill expansion at the Adams County Landfill (Landfill). The proposed Adams County Landfill Phases 5&6 Vertical and Horizontal Landfill Expansion (Proposed Expansion) if approved would be located in the NE ¼ of Section 13, Town 18 North, Range 5 East in Adams County, Wisconsin, on land presently owned by Adams County. The address for the expansion is 1420 State Highway 21, Friendship, WI 53934. An approximately 10-acre clay and soil borrow site to supply clay and other soils for the Proposed Expansion is proposed and located in the NW ¼ of the SW ¼ of Section 12, T18N, R5E in Adams County WI and extends into the SW ¼ of the NE ¼ of the SW ¼ of Section 12, T18N, R5E (Proposed Clay Borrow). In addition, additional clay and other soils would be removed from an already approved clay borrow site in the NE ¼ of the SW ¼ of Section 12, T18N, R5E in Adams County (Existing Clay Borrow).

The Proposed Expansion would consist of a vertical overlay on phase 4 of the existing landfill and an 8.1-acre horizontal expansion consisting of new phases 5 and 6. The approved maximum height of the Proposed Expansion final grade would be 1,032 feet above mean sea level (MSL). The combined area of the Proposed Expansion and the existing approved limits of waste is approximately 21.9 acres. An additional approximately 4 to 7 acres contiguous with the expansion area and the existing landfill would be disturbed to install ditching, storm water infiltration ponds, and soil storage. The Proposed Expansion would be located on approximately 433 acres of land owned by Adams County where they have owned and operated the existing landfill since 1989. The existing landfill has 4 phases and is currently filling in phase 4. The proposed total design capacity of the Proposed Expansion, including daily and intermediate cover, is 551,000 cubic yards (cys), and is estimated to provide a site life of

approximately 15 years. The existing landfill capacity of 700,000 cubic yards combined with the proposed capacity of the Proposed Expansion is 1,251,000 cubic yards.

The proposed final waste grades maximum height is currently designed to be 1032 feet MSL. The base grades near the middle of the landfill are approximately 964 feet MSL. This would result in a maximum waste fill and final cover depth of approximately 68 feet.

Waste to be disposed of in the vertical expansion would be delivered to the site via the existing waste hauling routes using State Highway 21. The facility is 1.5 miles northwest of the intersection of State Highway 21 and State Highway 13. Interstate Highway 39 is approximately 16 miles east of the Adams County Landfill. The landfill entrance is located on the south end of the property. No appreciable increase in traffic volume to the site is expected.

The property also contains a 50,000-cubic yard construction and demolition landfill that was full in 2002 and closed in 2004; and an active materials recovery facility (MRF) and composting facility.

Primary Service Area

The primary service area is expected to be the same as it is currently and would include the entire geographical boundary of Adams County and the municipalities located within it; and the village of Oxford in Marquette County. Additional waste may originate from areas outside Adams County including, but not limited to, the surrounding counties of Columbia, Juneau, Marquette, Sauk, Waushara, and Wood.

Proposed Waste Types and Leachate Characteristics

Currently the Landfill accepts municipal solid waste (MSW), construction & demolition (C&D) waste, materials recovery facility (MRF) residuals, and special wastes. The Proposed Expansion would receive the same waste streams as the existing landfill. A breakdown of anticipated annual waste acceptance is:

- Municipal Solid Waste: 80-90% (20,000-27,000 tons)
- Construction & Demolition Waste: 10-15% (2,000-3,000 tons)
- MRF Residuals: 1-2% (100-500 tons)
- Special wastes: <1% (<100 tons)

Special wastes are non-MSW type wastes that are not disposed of on a recurring basis at the Landfill, but occasionally requests are received for disposal of these materials. In order to accept special waste, the Landfill developed and implements a Special Waste Acceptance Plan as a screening procedure to determine if the waste is suitable for disposal. The landfill would continue utilizing the Special Waste Acceptance Plan during the Proposed Expansion.

The chemical characteristics of the leachate produced within the site are expected to be the same as the existing landfill's current leachate. Adams County currently has leachate treatment agreements with the City of Adams and the Village of Plover. The ability for the Adams Wastewater Treatment Plant (WWTP) and the Plover WWTP to treat the leachate from the Landfill and the Proposed Expansion has been evaluated. The Adams WWTP is not capable of treating the entire maximum calculated daily average volume of leachate (approximately 6,186 gallons/day, table 6-1 of the feasibility report, future table references are also from the feasibility report) from the Landfill and the Proposed Expansion. However, the Village of Plover WWTP has enough capacity to treat the entire calculated daily average

volume of leachate from the Landfill and the Proposed Expansion. Adams County is currently negotiating an agreement with the City of Elroy Waste Water Treatment WWTP as an additional facility for leachate treatment.

Local Approvals

Affected municipalities, as defined under §. 289.01(1)Wis. Stats., in the area of the Proposed Expansion, include the Town of Strongs Prairie, Town of Preston, and Adams County. Notifications to the affected municipalities regarding the Proposed Expansion were sent out on March 7, 2016. A copy of the notification letter and responses from the affected municipalities are included in Appendix C of the feasibility report. Certified mail receipts of the notification letter sent to each affected municipality are also included in Appendix C of the feasibility report. Responses from affected municipalities did not specify any required applications for local approvals pertaining to the Proposed Expansion.

Feasibility Determination

Before landfill construction the Department of Natural Resources (department) must first determine if the proposed landfill is feasible. Adams County has submitted a feasibility report and addenda to the feasibility report for the Proposed Expansion. The feasibility report and addenda contain the information required in ch. NR 512, Wis. Adm. Code. The department will issue a feasibility determination, based on the information contained in the feasibility report, the department's files, comments received, knowledge of the site through inspections and the requirements of chs. NR 500-538, Wis. Adm. Code.

Plan of Operation Approval, Proof of Owner Financial Responsibility and a License

If the department determines that the Proposed Expansion is feasible, then Adams County would submit a plan of operation report to the department for review. If the department approves the plan of operation report, then Adams County may submit an application for a solid waste disposal license and proof of owner financial responsibility for landfill closure and long-term care. Adams County must provide proof of owner financial responsibility for long-term care as specified in ch. NR 520, Wis. Adm. Code for at least 40 years after site closure. Even though financial assurance is required for 40 years after closure, Adams County would be responsible for the long-term care and any negative environmental impact the landfill may cause in perpetuity.

Construction Documentation Approval

Before waste placement in each new area of liner and following final cover construction, Adams County would need to obtain construction documentation approval from the department under ch. NR 516, Wis. Adm. Code.

Groundwater Standard Exemptions Requested

Adams County has requested exemptions from the following Wisconsin groundwater quality standards at select groundwater monitoring wells as discussed below:

- An exemption is requested in accordance with s. NR 500.08(4) Wis. Adm. Code under s. NR 140.28(4)(b), Wis. Adm. Code, for lead at well MW-31. MW-31 is located southeast and side gradient of the Proposed Expansion area. Lead exceeded the enforcement standard (ES) during the first of eight sampling events at MW-31. Only one lead detect has been noted at MW-31. This detect (97.9 µg/l) exceeds the ES (15 µg/l). Subsequent sampling at this location has

resulted in no detect for lead. The exceedance at MW-31 appears to be an anomaly as confirmed by the last seven sampling rounds. This well meets the criteria for an exemption for lead under s. NR 140.28(4)(b), Wis. Adm. Code; however, since the single ES exceedance of lead appears to be an anomaly and does not represent groundwater quality the department would not grant the exemption based on it not being justified or needed.

- Sections NR 140.28(3)(a and b), Wis. Adm. Code, for manganese, vanadium, and lead at select wells which have background concentrations greater than their respective preventive action limits (PALs). The wells and compounds that exceeded the PAL are listed in Table 1-1 and discussed below.

  Manganese: The PAL for manganese (0.025 mg/l) was exceeded (0.0292 mg/l) at MW-30P during the December 17, 2015, sampling event. Concentrations of manganese during the feasibility monitoring are within the historic range of detection at the site prior to waste filling. This indicates the manganese detects are likely naturally occurring and represent background water quality. Manganese is a public welfare parameter under s. NR 140.12, Wis. Adm. Code and the concentrations detected during feasibility monitoring are not a threat to public health. The manganese PAL was only exceeded once at MW-30P; therefore, it does not meet the criteria for an exemption and an exemption is not needed.

  Vanadium: The PAL for vanadium (6 ug/l) was exceeded (7.6 ug/l) at monitoring well MW-30 during the December 17, 2015 sampling event. It is a one-time PAL exceedance of four sampling events and does not represent any pattern of detects indicative of contamination. Subsequent monitoring events at this location resulted in only one additional detect of vanadium (1.7 mg/l), which is below the PAL. The detect does not appear to be landfill related and is located up gradient of the Proposed Expansion. Vanadium is a public health parameter under s. NR 140.10, Wis. Adm. Code. The vanadium PAL was only exceeded once at MW-30; therefore, it does not meet the criteria for an exemption and no exemption is needed at this well.

  Lead: The PAL for lead (1.5 ug/l) was exceeded at four monitoring wells (MW-3, MW-3P, MW-17P, and MW-30); Wells MW-3, MW-3P, and MW-17P each only had one PAL exceedance for lead, failing to meet the minimum of two PAL exceedances to potentially qualify for a groundwater standard exemption. Well MW-30 had three PAL exceedances from eight sampling events. The PAL exceedances do not appear to be landfill related and well MW-30 is located upgradient of the Proposed Expansion. The exemption for lead at well MW-30 is justified under s. NR 140.28(3)(b), Wis. Adm. Code.

Surface Waters and Wetlands

No surface water discharges would be associated with the Proposed Expansion; there are no navigable lakes, ponds, or flowages within 1,000 feet of the Proposed Expansion. Surface water runoff would be directed to infiltration basins where it can infiltrate into the soil. The infiltration basins are designed to hold rainfall from a 100 year 24-hour storm. In the event of a major storm event, there is a high-water level structure with an orifice in the existing infiltration basin which discharges to the northwest to prevent overtopping and eroding of the existing infiltration basin walls. Two new infiltration basins, one to the north of phase 4 of the existing landfill and one to the southeast of phase 6 of the Proposed Expansion, would supplement the existing infiltration basin.

United States Geological Survey (USGS) topographic maps and the Wisconsin Department of Natural Resources Surface Water Data Viewer database indicate no wetlands are present within the Proposed Expansion area and the adjacent 4-7 acres that would be disturbed to construct and operate the Proposed Expansion. Therefore, neither a wetland individual permit under s. 281.36, Wis. Stats, or a United States Army Corps of Engineers (ACOE) wetland impact permit under Sections 401 & 404 of the Clean Water Act are needed. Should wetlands become evident during the initial development stages of the Proposed Expansion, proper delineations and protective measures would be required.

The Proposed Clay Borrow area is in proximity to Big Roche A Cri Creek. The western most portion of the Proposed Clay Borrow area appears to encompass or be adjacent to mapped wetlands in the Wisconsin Wetland Inventory (WWI). Adams County intends to delineate these wetlands in the spring of 2018 and avoid these wetlands if clay or other soils would be mined from the site. Chapter 30 pond permitting may be necessary if a pond is created within 500 feet of Roche A Cri Creek (a navigable waterway). In addition, an Army Corps Permit may be necessary if a pond is constructed within 500 feet of a navigable waterway or is constructed in a wetland. An estimated total of 123,500 cubic yard (cy) of clay is present within the Proposed Clay Borrow. The Existing Clay Borrow has an estimated 44,331 cy of clay. The total amount of available clay is approximately 167,831 cy. Approximately 106,000 cy of clay is needed for the Proposed Expansion and for final cover of existing Phases 3 and 4. Based on these estimates only about half of the clay in the Proposed Clay Borrow is needed to complete all existing and currently proposed landfill construction. Wetland avoidance could be accomplished by leaving the western half of the Proposed Clay Borrow unmined. Another alternative is to delineate and avoid the wetlands, using a setback and storm water controls to prevent any discharge of sediment to the wetlands.

Storm Water Discharge Permit

In accordance with s. NR 216.21(2)(b)7, Wis. Adm. Code, of Subchapter II-Industrial Storm Water Discharge Permits, Adams County would need to maintain a Tier II industrial general storm water discharge permit during construction and operation of the landfill and for ancillary construction activities such as clay borrow, soil berm, support facility and road construction. Adams County has already obtained coverage under the Wisconsin Pollutant Discharge Elimination System (WPDES) Tier II Industrial Storm Water General Permit (FIN57845) and has developed a storm water pollution prevention plan (SWPPP) for the facility. The permit SWPPP would need to be amended to address the Proposed Expansion and Proposed Clay Borrow to have them covered under the existing permit. A separate construction permit would not be needed.

The SWPPP amendment would contain a description of the new activities that contribute to the increased pollutant loading, planned source control activities that would be used to control pollutant loads, an estimate of the new or increased discharge of pollutants following treatment, and when appropriate, a description of the effect of the new or increased discharge on existing storm water treatment facilities.

Monitoring requirements are specified in s. NR 216.28, Wis. Adm. Code, and section 4 of the Tier II Industrial Storm Water permit. The SWPPP would include a checklist of inspections to be made during the annual facility site inspection required by s. NR 216.28(2), Wis. Adm. Code. The SWPPP would also identify for each outfall the type of monitoring that would be conducted, such as non-storm discharge monitoring and storm water discharge quality inspections.

Section NR 506.07 (2), Wis. Adm. Code, requires that landfills be designed, constructed and maintained in accordance with the applicable requirements of s. NR 504.09 (1), Wis. Adm. Code, and the technical standards developed under sub. Ch. V of ch. NR 151, Wis. Adm. Code, to control sediment movement offsite. The Technical Standards 1001 and 1064 for construction sites require an 80% reduction in sediment load, based on the dominant soil type used at the site, which is clay for landfill liner and final cover.

Air Pollution Control Permits

Adams County Landfill currently operates under Air Pollution Control Operation Permit No. 701040560-S02. To control emissions of volatile organic compounds (VOCs) and certain hazardous air pollutants (e.g. – bromodichloromethane, perchloroethylene, and vinyl chloride), that permit requires Adams County Landfill to operate a landfill gas collection system and to route that collected gas to an open flare as per the requirements of ch. NR 445, Wis. Adm. Code (Wisconsin's Air Toxics Rule).

Before beginning construction on the expansion, Adams County would be required to apply for and be issued an Air Pollution Control Construction Permit from the department, in accordance with s. 285.60(1) (a), Wis. Stats. That construction permit application would also act as an application for a revision to its Air Pollution Control Operational Permit. The facility would need to control its air emissions in accordance with applicable state and federal regulations.

Federal New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) for Municipal Solid Waste Landfills would be included in the construction permit and operation permit revision as applicable. State hazardous air pollution regulations in ch. NR 445, Wis. Adm. Code, may apply to emissions from equipment not covered under the NSPS and NESHAP.

Present Land Use and Zoning

Adams County currently owns approximately 581 acres of land at the Landfill location and within the surrounding area (i.e. within 1 mile of the Landfill). The existing Landfill resides on 433 acres of contiguous property owned by Adams County. The remaining acreage owned by Adams County is noncontiguous property located west and north of the Landfill. The area to the west consists of 69 acres currently used as cultivated agricultural lands. The area to the north consists of 79 acres, 39 acres of which are currently used as the Landfill's approved clay borrow source. The remaining 40 acres on this property consists of cultivated agricultural land and a wooded area containing a portion of Big Roche A Cri Creek. Refer to Figure 2 for general project location and property owned by Adams County. No prime farmland would be impacted by the Proposed Expansion or the Proposed Clay Borrow and an agricultural impact statement is not necessary for the project.

Other than the Landfill itself, the property on which the Landfill resides is also used for the County's waste hauling services, MRF, organics composting, and various operational support features (i.e. access roads, storm water control features, etc.). The County Highway Department uses a portion of the property to store road de-icing material (salt). Beyond these uses, the property consists primarily of woodlands.

The Proposed Expansion would occur on land currently owned by Adams County including areas comprised of the existing perimeter support areas containing the Landfill's perimeter access road and environmental monitoring components, with undeveloped woodlands beyond the Landfill's support

areas. Present land uses immediately adjacent to and within a 1-mile radius of Adams County property consist of private woodlands, and cultivated agricultural lands.

In accordance with Wisconsin Law, Adams County established zoning rules to regulate land use associated with shoreland, wetland, and floodplain areas in the County. The Landfill parcels that include the existing Landfill and the Proposed Expansion do not include these regulated features. The Adams County property is located within the Township of Strongs Prairie and, therefore, the township regulates development through its zoning ordinance. The 433-acre contiguous county owned property on which the Landfill resides is zoned industrial by Strongs Prairie and the Landfill is an approved use. According to the Town of Strongs Prairie Comprehensive Use Plan (2006) the anticipated future use of the Landfill property and adjacent properties is identified as industrial. The area around the county parcels include lands that are zoned as industrial, commercial, agricultural, with some scattered single-family homes present on smaller land parcels zoned single family residential. There are no residences located within 1,200 feet of the existing Landfill or Proposed Expansion waste limits.

Land use of the Landfill property would not be changed by the Proposed Expansion as it would be located on property that is already zoned industrial and includes the existing Landfill. Both Adams County and the Town of Strongs Prairie recognize the Landfill as a continued land use in their respective comprehensive plans. Adjacent land uses previously described are not anticipated to be impacted by the Proposed Expansion as continued present use would not be disturbed. Additionally, no future changes to adjacent land use are identified in either of the comprehensive plans for Adams County or Strongs Prairie. Conversely, current land use of adjacent properties would not impact the Proposed Expansion as continued operation of the Landfill would be able to occur independently.

In general, the surrounding area within 1 mile of the existing Landfill and Proposed Expansion consists primarily of woodlands, cultivated agricultural lands, and rural residences. Big Roche A Cri Creek is located approximately 1 mile to the north and west of the Landfill.

Review of the Adams County Comprehensive plan identified a geologic feature labeled as a "butte" or "mesa" known as "Cottonville Rocks" located on the adjacent property to the east. This feature is located approximately 1,200 feet from the proposed limits of waste. It is not identified as a state or local natural area and is located on privately owned land. The Proposed Expansion would not impact this feature due to its distance from the expansion.

Land use adjacent to the county-owned Landfill property generally includes private woodlands and agricultural lands, which are either in production or fallow. Within 2 miles of the Landfill there are single family and agricultural residences. There are no residences within 1,200 feet of the anticipated limits of waste of the existing Landfill or the Proposed Expansion. There are twelve (12) parcels with four (4) owners located within 1,200 feet of the limits of waste of the Landfill and Proposed Expansion. Eight of the 12 parcels are owned by Adams County and include the Landfill. Three land owners own the remaining four (4) parcels located within 1,200 feet of the limits of waste.

Regional and Site-Specific Geology

The Natural Resources Conservation Service (NRCS) mapping indicates the surficial soils onsite consist of Plainfield sands, which are formed on outwash plains, stream terraces and ground moraines and are present on 2-12% slopes. The Plainfield sands are described as excessively drained and are classified as low to very low for water runoff. Infiltration rates/soil permeability are high to very high at the site (mapping indicates 6 to 20 inches per hour). Generally, the soils have low natural fertility.

The subsoils of the Proposed Expansion consist mainly of glaciolacustrine deposits. Glaciolacustrine deposits consist of fine grained sediments such as fine sands, silt, and clay which were deposited in glacial lakes. These sediments can be deposited in small layers with little variation of grain size.

The geotechnical investigation for the site revealed that the unconsolidated material is at least up to 75 feet thick. Soil boring logs from the previous feasibility reveal that the unconsolidated material is at least 100 feet thick. Onsite soils were evaluated through auger cuttings and split barrel samples collected during subsurface investigations. Soil boring logs indicate that there are 0 to 8 inches of black topsoil (OL). The unconsolidated materials directly underlying the topsoil are described as light brown to dark brown and reddish yellow fine-medium grained silty sands (SM) interbedded with brown silt (ML) and brown clay (CL). Soils onsite were consistently classified as SM (silty sand mixtures), ML (inorganic silts with fine sand), CL (inorganic clay), and CL-ML (inorganic clay with silt) with a 10-foot thick layer of sand interbedded with clay (SP-SC) encountered in one boring. The clay units varied in thickness (2-5 feet) and were discontinuous at the site.

Regional and Site-Specific Hydrogeology

Regional groundwater flow is southwest to Big Roche A Cri Creek, with approximate groundwater surface elevations ranging 910-960 feet msl (Lippelt, 1981). The groundwater table surface occurs at approximately 940 feet msl in the vicinity of the Proposed Expansion. Infiltrating precipitation can be expected to travel vertically downward through the soils with slight lateral or diagonal movement along the upper surface of the silt and clay layers until it reaches the local groundwater aquifer. The regional water table is generally encountered in one of two aquifers: a glacial aquifer or a sandstone aquifer.

According to the U.S. Department of Agriculture (USDA), the glacial aquifer consists of outwash deposits with well yields as much as 1,000 gallons per minute (gpm) (USDA, 1980). The sand deposits are easily recharged due to their high permeability. Onsite, the deposits are classified as lacustrine. Due to the finer deposits associated with these types of deposits, well yields may be less locally.

The sandstone aquifer consists of fine to coarse grained Cambrian aged sandstone. Well yields from the sandstone aquifer range from 100 to 500 gpm (USDA, 1980). Groundwater in the basin is recharged by precipitation and by induced recharge from surface water bodies.

The water table contour maps included in the Feasibility Report indicate that the groundwater flows from the Proposed Expansion generally to the west and slightly northwest towards Big Roche A Cri Creek. Depending on surface elevation, groundwater is encountered at approximately 25-45 feet bgs (elevation approximately 930-940 feet msl) within the unconsolidated aquifer. The aquifer is characterized as fine sand of lacustrine origin and laterally extensive throughout the area. No confining layers were identified and the aquifer is also vertically continuous. Small, alternating lenses of sand/silt layers were noted and typical in a lacustrine environment.

Although there is some variation in the direction of groundwater flow between high and low conditions, the overall direction of a west/northwest flow is consistent. The local water table elevation has varied approximately 10 feet during the existing landfill's monitoring history and approximately 6.5 feet during monitoring for the Proposed Expansion. The Proposed Expansion area has a relatively stable groundwater flow system, with groundwater recharge occurring up gradient and across the area and discharge likely occurring at Big Roche A Cri Creek, the local groundwater discharge point.

Groundwater within the Proposed Expansion area travels generally westerly beneath Phases 1 through 4 of the existing Landfill and discharges west of the site. Table 5-4 presents the groundwater elevation data collected during feasibility monitoring. The high elevation for each well is designated in bold text in Table 5-4. Utilizing groundwater elevations measured on February 25, 2016, from monitoring wells MW-1, MW-3, MW-7, MW-16, MW-17, MW-19, and MW-30, the groundwater horizontal gradient beneath the entire site ranges from 0.004 to 0.006 feet/feet with only an approximate 9-foot groundwater elevation change across the site. Within the Proposed Expansion area, the groundwater horizontal gradient ranges from 0.002 feet/feet to 0.009 feet/feet with an approximate 4-foot groundwater elevation change. The average horizontal gradient is 0.005 feet/feet and the hydraulic conductivity values are 1.4x10-3 cm/sec to 2.1x10-2 cm/sec as determined by slug tests completed on the monitoring wells. Using Tables 4.4 and 4.11 of Fetter, 1994, the effective porosity range was determined as 0.02 to 0.15. The horizontal gradient coupled with the groundwater aquifer hydraulic conductivity values measured during the slug tests and effective porosity range equates to a groundwater flow seepage velocity range from 0.13 to 7.80 foot/day.

Vertical gradients were calculated using elevation measurements collected from the February 25, 2016, sampling event from observation well/single piezometer well nests associated with the Proposed Expansion. These included well nests MW-2/2P, MW-3/3P, MW-17/17P, MW-19/19P, and MW-30/30P. A review of the values calculated indicate that all five of the well nests show a downward gradient, with the largest gradient in MW-17/17P (0.2124 foot/foot) and an average gradient of 0.1297 foot/foot. These results generally confirm that the site is a groundwater recharge area.

Baseline/Background Groundwater Quality

Baseline groundwater quality samples were analyzed for applicable parameters listed in NR 507 Tables 1, 2, and 3. No baseline sampling is recorded on GEMS for MW-20, MW-21, and MW-22. These wells are associated with the C&D Landfill which was in operation from 1989-2004. These wells are being utilized in this feasibility report only for better site analysis of physical parameters, such as groundwater elevations and flow direction, and subsurface geology descriptions.

Volatile organic compounds (VOCs) were not detected as part of feasibility baseline monitoring. Sporadic detects of low level VOCs, primarily benzene, have been detected throughout routine landfill monitoring. Trends have never been established for benzene.

In general, the groundwater quality in the Proposed Expansion area ranges from soft to very hard water. The hardness results from the four newly installed monitoring wells generally ranges from 80 mg/L to 249 mg/L, with the highest concentrations noted in MW-31. Historic sampling of the previously installed wells indicates that hardness over the entire Proposed Expansion area ranges from as low as 37 mg/L (MW-17P sampled in December 1996) to as high as 835 mg/L (MW-3P sampled in June of 1994).

Values for pH and conductivity indicate relatively neutral groundwater and low total dissolved solids. Values for pH range from 6.06 to 9.5. These values are not indicative of any water quality issues. Conductivity, which is a relative measure of the dissolved ions present in the groundwater, was generally low, with values from the four newly installed wells ranging from approximately 110 to 417 µΩ/cm. Historic values from the previously installed wells indicate conductivity over the entire Proposed Expansion area ranges from as low as 22 µΩ/cm (MW-17 in June 1988) to a high of 1384 µΩ/cm (MW-19 in September 2007). Overall, these concentrations do not indicate groundwater quality issues.

Baseline monitoring detected elevated levels of lead, vanadium, and manganese. A brief discussion of each parameter exceeding a PAL or ES is provided in the previous Exemptions Requested section.

Biological Impacts

Significant impact to species or habitats of conservation concern is not expected. The Proposed Expansion area is entirely uplands and does not harbor species or habitat that would cause a concern in terms of biological impacts.

Floodplain forest habitat associated with Big Roche-A-Cri creek is located about 1 mile west of the site; no impact to that habitat is expected from this project. There are not any State Natural Areas within 1 mile of this site.

The site is located within Karner Blue Butterfly high potential range, but the site lacks the amount of lupine to be able to support a population. No impact to Karner Blue Butterfly habitat is expected. A bird species was identified in an NHI review but would not be impacted as there is not a population near the project site and there is not suitable habitat present.

No aquatic flora or fauna are near the proposed landfill. Big Roche A Cri Creek is a stream located approximately 1 mile from the landfill. The Big Roche A Cri Creek is located within 300 feet of the Proposed Clay Borrow. The stream is class 2 trout water with brook and brown trout. The Proposed Clay Borrow is located upstream of where a fish species of special concern has been surveyed in the stream. Special concern species are those species about which some problem of abundance or distribution is suspected but not yet proven. The main purpose of this category is to focus attention on certain species before they become threatened or endangered. (Wisconsin natural heritage working list; http://dnr.wi.gov/topic/nhi/wlist.html; November 2016). If activities (mining and remediation) at the Proposed Clay Borrow do not impact water quality or alter the aquatic habitat of Big Roche A Cri Creek the project would not significantly impact the flora and fauna. There are several options for protecting Big Roche A Cri Creek. Approximately half the clay in the Proposed Clay Borrow is needed for landfill construction. Therefore, it is possible to provide a significant setback (with a vegetated area) between the clay borrow area and Big Roche a Cri Creek. If Adams County chooses to mine clay and soil in closer proximity to Roche a Cri Creek, a delineation of wetlands combined with erosion control measures would be required. These measures are needed to prevent degradation of Big Roche a Cri Creek and associated wetlands.

No forestry concerns were identified in either the Proposed Expansion area or the proposed clay borrow area. The forest cover type is typical of Adams County. There are pockets of young aspen (less than 20 years old) and oak seedlings mixed with larger black oak. There are some white pines in the overstory. There are no old growth concerns. It appears the stand was cut approximately 20 years ago leaving some older oak trees. The forestry review of the site did not find evidence of declining, rare or threatened species.

Proposed Design

In general, the liner and cover components would consist of composite systems. The active gas system would continue to be implemented with the Proposed Expansion. The Proposed Expansion would extend east off existing Phase 4. A waste overlay with Phase 4 would occur to minimize the landfill footprint.

The liner system would consist of a composite liner designed in accordance with s. NR 504.06, Wis. Adm. Code. The composite liner would consist of a 4-foot thick compacted clay layer overlain by a 60

mil HDPE geomembrane and leachate collection system. The composite liner functions as the primary containment system.

Leachate would be controlled via the leachate collection system designed in accordance with s. NR 504.06(5), Wis. Adm. Code. The leachate collection system is designed to collect leachate off the liner and route it to a collection tank or recirculate it back into the waste mass. Leachate that is routed to the collection tank would be transported offsite to a wastewater treatment facility or recirculated.

The leachate collection system would be similar to the leachate collection systems of Phases 3 and 4 of the existing Landfill. The subbase and base of the composite liner system would be sloped approximately 2.4 percent to convey leachate to a centrally located collection trench within each proposed phase. A minimum 12-inch thick granular drainage layer over the liner system would be placed to allow leachate to permeate through to the leachate collection trenches. Leachate collection trenches would contain geotextile, gravel bedding, and a 6-inch diameter Schedule 80 PVC perforated pipe which would convey leachate to a collection sump. A sump would be constructed in each proposed phase to allow leachate to be removed from the Landfill.

Leachate removal from the Proposed Expansion would be completed by leachate extraction sumps, sideslope riser pipes, and submersible pumps. The sideslope riser provides access for a submersible pump that would transfer leachate from the sump to the leachate header system. The sideslope riser would extend to a leachate extraction manhole at the top of the berm, which would provide a maintenance/access point for the submersible pump and a discharge connection to the leachate header system. A valve connection would be located on the discharge line that would allow leachate to either be recirculated back into the waste mass or to the leachate header system. The leachate header system would transport leachate to a leachate collection tank where it would be contained and eventually taken offsite for treatment. All leachate collection features outside the composite lined area would have a form of secondary containment in the event the primary containment is compromised.

Leachate discharged to the leachate collection tank would be transported offsite to a wastewater treatment plant (WWTP). Currently, leachate is disposed at the City of Adams WWTP or the Village of Plover WWTP. Adams County is currently negotiating an agreement with the City of Elroy WWTP as a tertiary facility.

Leachate recirculation methods for the Proposed Expansion would be consistent with the existing recirculation plan. The leachate recirculation plan includes recirculation activities in the form of a series of drain fields and by surface application. Further design details of the leachate recirculation methods for the Proposed Expansion would be presented in the plan of operation if one is submitted.

Landfill gas produced by degradation of the waste mass would be extracted by a series of gas extraction wells. Currently, the Landfill has three of the nine planned gas extraction wells installed. Additional wells would be installed within the Proposed Expansion area and connected to the existing gas collection system. Landfill gas from the Proposed Expansion area would then be destroyed by the flare.

Landfill gas would be collected from the gas extraction wells via a network of pipe laterals and headers that route the landfill gas to the existing flare unit. Gas collection piping that resides outside the waste would incorporate an approved secondary containment method. Additionally, this pipe network would convey condensate that may develop in the pipes to the existing leachate tank.

Landfill gas containment would be achieved by the composite liner and composite cover systems in combination with the active gas system. The liner and cover systems would act as impermeable

barriers that would prevent the migration of landfill gas while the active gas system imposes a vacuum on the waste mass.

Landfill gas extracted from the waste mass would be treated via the existing active gas system. The active gas system consists of a blower and flare unit that draws landfill gas out of the Landfill and routes it to the flare where it can be combusted.

The final cover system would consist of a 5-foot thick composite cap that will be designed in accordance with s. NR 504.07, Wis. Adm. Code. Final cover grades are shown on Plan Sheet 26. The composite cover system, from top down, is proposed to consist of the following layers:

- 6 inches topsoil.
- 18 inches rooting layer.
- 12-inch granular drainage layer.
- 40 mil LLDPE geomembrane.
- 2 feet compacted clay soil layer
- 6-inch grading layer

A nonwoven geotextile may be installed, if warranted, to protect the geomembrane.

Proposed Soil Borrow Source

Clay and other soils for liner and cap construction would originate from the Landfill's existing approved clay borrow source and a contiguous expansion of the existing clay borrow source. The existing clay borrow source is in the NE ¼ of the SW ¼ of Section 12, T18N, R5E in Adams County. The Proposed Clay Borrow is in the NW ¼ of the SW ¼ of Section 12, T18N, R5E in Adams County WI and extends into the SW ¼ of the NE ¼ of the SW ¼ of Section 12, T8N, R5E.

An estimated 123,500 cy of clay soil is present within the Proposed Clay Borrow. An estimated 44,331 cy of clay is present in the Existing Clay Borrow. The total amount of available clay is approximately 167,831 cy. Approximately 106,000 cy of clay soil material is needed for the Proposed Expansion and for final cover of existing Phases 3 and 4. Based on these estimates only about half of the clay in the Proposed Clay Borrow would be needed to complete all existing and proposed landfill construction. Additionally, overburden (material above the clay deposit) may be utilized for cover soil during final cover construction of the Proposed Expansion.

Proposed Physical Changes

Development of the Proposed Expansion would involve filling waste within an area currently zoned for landfill use. Development of the expansion would occur in phases and result in alterations of approximately 12 to 15 acres of land east of the existing Landfill. Alterations include approximately 8.1 acres of additional landfill footprint, and an additional 4 to 7 acres to accommodate peripheral features including access roads, storm water control structures, ditches, and soil stockpile storage areas. Clearing and grubbing would be necessary for development.

Construction of the Proposed Expansion would result in the excavation of approximately 81,500 cy of soil to achieve proposed subbase grades. This material would be used as either general fill for berm construction, daily cover soils, or protective cover soil layers. Soil excavated during construction of the Proposed Expansion would be stockpiled for future use; stockpiles not in use would be seeded to minimize erosion. Proposed stockpile locations would be provided in the plan of operation.

Storm water collection ditches would be constructed around the perimeter of the Landfill and Proposed Expansion footprint to convey storm water runoff from the Landfill cover to the proposed and existing infiltration basins.

The report states that soil excavated during construction of the Proposed Expansion will be stockpiled for future use and that stockpiles that will not be used would be seeded. Proposed stockpile locations will be provided in the plan of operation.

Access roads would be constructed along the perimeter of the proposed Landfill expansion. The location and extent of access roads would be provided in the plan of operation.

The Proposed Expansion would use much of the existing infrastructure established for the existing Landfill, including the existing office and scale. The Proposed Expansion would include the construction of infiltration basins. Two additional infiltration basins are anticipated to be constructed as part of the Proposed Expansion (for a total of three). In addition, perimeter access and maintenance roads and ditches would be constructed along the boundary of the Proposed Expansion. No new buildings or modifications to the main site access road are anticipated as part of the Proposed Expansion.

Proposed Operations

Once the first phase of the expansion is built, the general sequence of waste placement would vary dependent on access to the new Phase. In general, waste would be placed by pushing waste out over the granular drainage blanket. For the initial lift of waste, a 4-foot thick layer of waste would be placed across the entire floor of the newly built cell and up the lower 10 feet of the sideslopes. This would add frost protection to the newly constructed clay soil layer. Select waste would be chosen for the initial 4-foot lift so as not to include any sharp objects or fines that might potentially puncture the geomembrane or clog the leachate collection system, respectively. Dozers would be primarily utilized to place this initial lift until it is safe to operate vehicles and compactors. Subsequent lifts of waste would continue until the next phase is needed. Intermediate cover would be utilized on areas that remain idle for longer than six months.

The working face would be kept to as small an area as practical. Daily cover in the form of native onsite sand, or approved alternate daily cover (ADC) would be used to cover the active disposal area.

The surrounding landscape of the Landfill is primarily wooded, which would naturally screen daily operations from State Highway 21 and neighboring residences. No additional features to screen the operation from sight are anticipated.

Nuisance issues, such as dust, odor, and noise would be minimized in accordance with generally accepted standard operating procedures. Dust would be controlled with a water truck as needed, odor would be controlled by use of daily cover and the active gas system, and noise would be minimized by incorporating noise reduction systems where appropriate. Paper and other wind-blown debris would be collected in a timely manner. If needed, portable wind screens would be placed around the active filling area to aid in control of wind-blown debris.

Emissions and Discharges

Landfill Gas and Odors: Landfill gas from the decomposition of waste would be expected to be generated within the landfill. Landfill gas would be collected in an active gas collection system. Horizontal migration of landfill gas would not be expected to occur due to the presence of the

composite liner system and active landfill gas extraction system. Gas monitoring probes would be installed around the Landfill to monitor for gas migration.

The control of odors would be achieved by cover soil placement and by active gas collection system.

Leachate: Leachate would be generated when precipitation infiltrates the Landfill and percolates through the waste mass. Leachate from the Proposed Expansion would be collected in a leachate collection system and recirculated back into the waste mass or hauled offsite for treatment.

Equipment Emissions, Dust and Windblown Waste: Emissions and discharges produced during the construction and operation of the Proposed Expansion would generally be consistent with the emissions and discharges from current landfill operations.

Engine exhaust from diesel and gasoline powered vehicles and equipment would be discharged to the atmosphere. The discharge would vary depending on the number of vehicles or pieces of equipment in operation at a given time. Dust could be generated from onsite gravel roads and earthwork activities. Dust quantities would vary depending on the number of vehicles or equipment in operation, weather conditions, and the amount of exposed soil. Dust control measures would include application of water on the access and site roads during dry weather conditions.

Litter, including windblown paper, would be minimized by operational procedures including compaction and placement of daily cover. If needed, portable wind screens would be placed around the active filling area to aid in control of windblown debris. Litter collection would occur as needed.

Surface Water Management and Erosion Control: Construction and operation of the Proposed Expansion would not be expected to impact surface water. Precipitation that encounters waste would be contained by the composite liner system and associated perimeter and phase delineation berms placed around active fill areas. Waste contact water would be treated as leachate. The leachate collection system would route leachate to a storage tank where it can be hauled offsite for treatment or back onto the Landfill for recirculation. When leachate is not recirculated, it would be taken offsite for treatment at the wastewater treatment facilities mentioned previously.

Erosion control features, or best management practices, would include, but not be limited to silt fence, sediment logs, surface water diversions, erosion mat, and tracking pads.

Groundwater: No groundwater would be collected other than during routine monitoring events. Impacts on groundwater would not be expected from the Proposed Expansion. Groundwater would be protected by the composite liner and final cover system after closure. During operation and following closure the landfill leachate would be removed for disposal. The Landfill would conduct routine monitoring of the groundwater around the Landfill during operation and after closure.

Noise: Noise would be generated from the operation of motorized equipment and vehicles. The intensity would vary based on the number of vehicles in operation and the activity. Noise would be controlled via maintenance of exhaust systems on landfill vehicles and equipment.

Accumulative effects: The primary accumulative effect of the expansion would be an increase in landfill gas and leachate generated on the property. If properly collected and treated, the gas and leachate should not have a significant impact on the surrounding environment; however, there could be times when there are landfill gas emissions and leachate releases to the environment. Gas collection systems are not 100% efficient and human error or mechanical/infrastructure failures can lead to both fugitive gas emissions and leachate releases. Upgrades and repairs can be made to the gas collection

and destruction (flare) systems and some leachate infrastructure can be repaired or upgraded if problems arise.

Environmental Monitoring

Groundwater Monitoring: The groundwater monitoring program is designed to comply with the requirements of the department approved May 17, 1995 plan modification for the existing Landfill. Groundwater monitoring would include water table observation wells and piezometers around the perimeter of the existing Landfill and the Proposed Expansion. Groundwater monitoring requirements would be established in a plan of operation approval issued by the department. In addition to the new monitoring wells, proposed changes to the existing Landfill groundwater monitoring program include the following:

- Abandonment of monitoring wells MW-3/3P and MW-17/17P due to their location in the Proposed Expansion footprint. These wells would be abandoned prior to construction of Phase 5 and will be monitored until they are abandoned.
- Discontinuation of COD analysis for groundwater sampling. In accordance with PUB-WA 1013, Reducing or Terminating Monitoring at Solid Waste Landfills, VOCs are already included in the routine monitoring plan to replace the need for COD.

Leachate Monitoring: Leachate monitoring would be performed at various monitoring points including the leachate collection tank, leachate headwells, and lysimeters. The number of leachate monitoring points would be further detailed in the plan of operation.

Surface Water Monitoring: Surface water monitoring in the form of obtaining samples, for laboratory analysis, of a surface water body and/or a storm water discharge outfall is not currently performed. There are no surface water bodies located immediately adjacent to the existing or proposed Landfill area. The existing sedimentation basin is the only location containing a typical "outfall" from which storm water could potentially be sampled. Since the start of Landfill operations, storm water has rarely accumulated in enough quantity to be discharged from the sedimentation basin outfall. Storm water readily infiltrates into the ground due to the permeable nature of the surficial soils.

Monitoring of storm water runoff is performed in accordance with the Facility's SWPPP and WPDES Tier 2 Industrial Storm Water General Permit. This includes conducting quarterly visual inspections at storm water outfalls, non-storm water discharge monitoring, and an Annual Facility Site Compliance Inspection (AFSCI). In general, storm water inspections and monitoring involve observing storm water outfalls for signs of storm water contamination and verifying compliance with the BMPs highlighted in the SWPPP. These routine inspections and monitoring events would continue to be conducted for the Proposed Expansion.

Landfill Gas Monitoring: Landfill gas monitoring would be performed at various monitoring points including gas probes, gas extraction wells, surface testing and the gas flare. The number of gas monitoring points would be further detailed in the plan of operation with monitoring requirements established in a plan of operation approval issued by the department.

Air Monitoring: Ambient air monitoring for particulates or other constituents is not proposed as part of the monitoring program. Ambient air monitoring requirements, if any, would be established through the air permitting process.

Unsaturated Zone Monitoring: The unsaturated zone (i.e. portion of the subsurface above the groundwater table) would be monitored via gas probes to check for the presence of subsurface landfill

gas migration. No lysimeters are proposed to be installed due to the proposed liner consisting of a composite system.

Fault Areas, Seismic Impact Zones and Unstable Areas

Based on a January 7, 1994, letter from the Wisconsin Geological and Natural History Survey (WGNHS), there are no identified faults of Holocene Age in the area. The Proposed Expansion is not located within 200 feet of a fault that has had displacement in Holocene time. The Proposed Expansion meets the locational criteria of s. NR 504.04(3)(g), Wis. Adm. Code.

No known seismic impact zones, as defined in s. NR 500.03(208), Wis. Admin. Code, exist in Wisconsin. The Proposed Expansion meets the locational criteria of s. NR 504(3)(h), Wis. Adm. Code.

Subbase excavation activities during previous liner construction events of the existing Landfill have encountered areas of poorly-graded or gap-graded sandy soils (often referred to as "sugar sand"). These soil types are typically undesirable subbase material and have been removed during previous construction events by excavating below planned subbase and replacing with a more suitable or stable subbase material. Subbase replacement material has been in the form of silty sand overburden from the clay borrow site and crushed glass. Both materials have worked effectively at providing stable subbase when these soil types have been encountered. Poor subbase soils are typically screened by visual inspection and proof rolling. This practice would continue during construction of the Proposed Expansion.

This potential for the need to remove and replace subbase material is not considered a significant constraint on landfill development and is common during earthwork construction. Subbase replacement material is readily available onsite and would not adversely affect landfill construction. No other unstable areas meeting the definition of s. NR 500.03(246), Wis. Adm. Code, are anticipated to be encountered resulting in the inability of the Proposed Expansion from meeting the locational criteria of s. NR 504.04(3)(i), Wis. Adm. Code.

Land Use Impacts

In accordance with Wisconsin Law, Adams County established zoning rules to regulate land use associated with shoreland, wetland, and floodplain areas in the county. The Landfill parcels that include the existing Landfill and the Proposed Expansion do not include these regulated features. The Adams County property is located within the Township of Strongs Prairie and, therefore, the Township regulates development through its zoning ordinance. The 433-acre contiguous county owned property on which the Landfill resides is zoned industrial by Strongs Prairie and the Landfill is an approved use. According to the Town of Strongs Prairie Comprehensive Use Plan (2006) the anticipated future use of the Landfill property and adjacent properties is identified as industrial. The area around the county parcels include lands that are zoned as industrial, commercial, agricultural, with some scattered single-family homes present on smaller land parcels zoned single family residential. There are no residences located within 1,200 feet of the existing Landfill or Proposed Expansion waste limits.

Land use of the Landfill property would not be changed by the Proposed Expansion as it would be located on property already zoned industrial and includes the existing Landfill. Both Adams County and the Town of Strongs Prairie recognize the Landfill as a continued land use in their respective comprehensive plans. Adjacent land uses previously described would not be anticipated to be impacted by the Proposed Expansion as continued present use would not be disturbed. Additionally, no future changes to adjacent land use are identified in either of the comprehensive plans for Adams

County or Strongs Prairie. Conversely, current land use of adjacent properties would not impact the Proposed Expansion as continued operation of the Landfill would be able to occur independently.

Socioeconomic Impacts

The Proposed Expansion is not expected to result in any significant adverse social or economic impacts. The operation of the Landfill would contribute to the local economy as a source of tax base and employment. Impacts from the Proposed Expansion on adjacent neighbors would be expected to be similar to those from the existing Landfill.

Waste disposal has occurred at this location since 1989. There are no residences within 1,200 feet of the anticipated limits of waste of the existing Landfill or the Proposed Expansion.

Archeological Impacts

There are no known archeological or historical sites located within the proposed project area.

Other Special Resources Impacts

The area west of the Landfill property consists of 69 acres currently used as cultivated agricultural lands, which is not likely to be affected by the Proposed Expansion. There are no public parks or state natural areas within 1,000 feet of the Proposed Expansion. A review of the Adams County Comprehensive plan identified a "butte" or "mesa" known as "Cottonville Rocks" located on the adjacent property to the east. This feature is not identified as a state or local natural area and is located on privately owned land. It is located approximately 1,200 feet from the proposed limits of waste and due to its distance from the Proposed Expansion would not be impacted.

Needs Analysis and Anticipated Site-life

The current site life for the Landfill without the Proposed Expansion is expected to be less than 4 years. At the current waste disposal rates, the Landfill will reach capacity near the end of 2021. It is anticipated that a 2019 plan of operation approval for the horizontal expansion would lead to construction of the first phase in 2020. This would result in the first waste acceptance in late 2020 or early 2021, less than 1 year before the existing site capacity is reached.

The available waste disposal capacity of the Landfill service area was calculated and compared to the projected per capita waste disposal rate in the service area. This comparison shows that the Landfill service area has about a 7-year waste disposal capacity without the proposed expansion, starting in 2018. However, the result would have been less time if wastes other than MSW were used in the calculation.

The department has generally held that 7 years of existing service area capacity or less suggests a new landfill is needed, because it could reasonably take up to 7 years to site an alternative new landfill. The service area capacity in this case is slightly less than 7 years.

In order to estimate site life, empirical data collected at the facility was used to calculate an anticipated future waste disposal rate and quantities, and ultimately to determine a site volume that would be consumed in a 15-year timespan. This method calculated the percentage increase in waste volumes during the most recent 3 and 5-year time periods. The result of that analysis is that waste volumes increased by approximately 4% a year over either the 3 or 5-year timeframe. To be conservative a 2%

increase in waste volume was applied to a starting waste volume equal to the average waste volume from the last 3 years (2013-2016, using an in-place waste density of 1,500 lb/cy). The result of these calculations was an estimated site life of 15 years for the Proposed Expansion capacity of 551,000 cubic yards. The department may not approve a solid waste disposal facility that would have an anticipated site-life of more than 15 years.

The department will make a determination of need and anticipated site-life as part of the feasibility determination.

Summary of Unavoidable Adverse Impacts

The following adverse impacts from the Proposed Expansion cannot be avoided:

- After the Landfill is closed, there would be limitations to the use of the site. For example, construction of buildings on the Landfill may be prohibited. The current projected use of the Landfill after final closure is green space.
- Truck traffic, dust, engine emissions, and noise associated with the Landfill would be extended for approximately 15 years. Individuals living around and near the Landfill would experience traffic, dust, noise, and emissions impacts similar to what they currently experience during operation of the existing Landfill.
- The appearance and the topography of the Landfill and the clay borrow areas would be altered from current conditions, although the surrounding landscape is primarily wooded, which would screen daily operations from State Highway 21 and neighboring residences.
- Odors can periodically occur, but with the use of daily cover, minimizing the active waste disposal area, and operation of an active gas collection system, these issues should be limited in duration and intensity.

Alternatives to Landfilling

No Action: This alternative assumes the Proposed Expansion would not be developed. This would avoid the adverse impacts of expanding the Landfill, but likely result in several negative consequences. The no action alternative could potentially adversely impact residents within the service area. The existing Landfill is expected to reach capacity in 2021. A transfer station and/or various drop off locations may need to be employed to continue to provide waste disposal services to residents within the service area. Transfer stations and drop off locations would temporarily collect waste where it would later be hauled off in greater quantities to a nearby facility/facilities. This could result in additional costs for waste transportation, as well as increased wear on roadways. There is no guarantee the replacement disposal volume could be approved of at another site where potential impacts could be minimized to the same extent.

Enlargement/ Reduction/ Modification: The Proposed Expansion has been designed to optimize available disposal volumes within the limitations of site boundaries, regulatory requirements, and environmental restrictions. The proposed design makes the best use of property currently owned by Adams County. Given past, current, and projected disposal rates, the projected site life, including the Proposed Expansion, would be extended until approximately 2035.

Moderation of potential significant adverse impacts was a primary consideration in the design of the Landfill expansion. Reducing the size of the Proposed Expansion potentially would decrease the operational period of the Landfill and thus lessen the potential for adverse impacts. However, if the life of the Landfill is reduced, an additional landfill or expansion would be necessary elsewhere,

sooner. An unlimited number of modifications to the design are possible, but the dimensions of the Proposed Expansion are planned to achieve the maximum volume of waste disposal capacity while limiting the total acreage used by the facility.

Other Landfills and Locations: Locating a different landfill site within the general area of the current Landfill that meets department locational and performance criteria and receives public approval would be difficult. The existing Landfill already has much of the necessary infrastructure, abundant land space, and would not require the initial capital costs typically involved with developing a new landfill facility. Additionally, the time required to site a new landfill location would likely take a minimum of 5 years. Therefore, the existing facility would be out of capacity before the new landfill could reasonably be permitted and constructed, leaving the service area without an active facility in the interim.

There are five neighboring landfills with service areas overlapping with the Adams County Landfill service area. These facilities include the Advanced Disposal Services Cranberry Creek Landfill, the Waste Management Valley Trail Landfill, the Monroe County Landfill, the Dane County Landfill, and the Advanced Disposal Services Glacier Ridge Landfill. The three closest facilities to the Adams County Landfill are the Cranberry Creek Landfill in Wood County (30 miles north), the Monroe County Landfill (49 miles west), and the Valley Trail Landfill in Green Lake County (54 miles east).

Using these facilities would likely increase waste disposal costs for residents within the Adams County Landfill service area due to increased hauling costs. Furthermore, the facility or facilities used for landfilling in place of the Proposed Expansion would see an increase in waste quantities. Therefore, these facilities would see a decrease in their expected site lives due to additional loading from the Adams County Landfill service area.

Other Waste Management Methods: Alternative technologies are available for the management of solid waste, including recycling, composting, incineration, and processing. Many of these waste reduction and recycling technologies are mandated or voluntarily utilized in Wisconsin and within the service area. The economics of some of these options make them impractical. These waste reduction and recycling technologies generate residual waste which must be landfilled.

Summary of Issue Identification Activities:

Information submitted to the department by Ayres Associates on behalf of Adams County to evaluate feasibility of the Proposed Expansion includes a "Feasibility Report" dated June 6, 2017, "Response to Completeness Determination of the Feasibility Report" dated September 14, 2017, and "Feasibility Report Addendum 1 – Additional Information Request" dated January 3, 2018. Copies of the complete feasibility report and the addenda have been sent to the affected municipalities which includes Adams County, the Town of Preston, and the Town of Strongs Prairie and to the Adams Public Library, 569 North Cedar, Suite 1, Adams, Wisconsin, 53910. The feasibility report and addenda are also available on the internet at http://dnr.wi.gov/topic/Waste/Comment.html and at the Wisconsin Department of Natural Resources, Fitchburg Service Center, 3911 Fish Hatchery Road, Fitchburg, Wisconsin, 53711 (contact Adam Hogan at 608-275-3292 or adam.hogan@wisconsin.gov).

On August 9, 2017, the department determined the feasibility report for the proposed landfill expansion to be complete. A public notice to that effect was published in the *Wisconsin State Journal* and posted on the department's web site on February 7, 2018. A 30-day public comment period will begin once the DNR posts the public notice on its internet site. This comment period will afford the

public the opportunity to request an informational or contested case hearing in the matter of this proposal. Upon the completion of any hearing or within 90 days of the issuance of this completeness determination, the department will then issue a feasibility determination.

For Wisconsin Environmental Policy Act (WEPA) compliance under s. 1.11, Wis. Stats. and s. NR 150.35, Wis. Adm. Code, the department has 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)7, Wis. Adm. Code. This Project summary contains an environmental analysis of the proposed landfill expansion. The department has made a preliminary determination that an environmental impact statement is not needed under section 1.11, Wis. Stats.

If a favorable feasibility determination were made and a plan of operation were to be approved, site construction documentation and department inspections would occur throughout various phases of construction. A license to operate the facility as a municipal solid waste landfill would be issued following the department's approval of the site construction documentation report and proof of financial assurance. Adams County would also be required to obtain all other applicable federal, state and local permits or approvals for construction and operation of the landfill.

February 1, 2018
Adam Hogan Date
Hydrogeologist
South Central Region

February 1, 2018
Cynthia Moore Date
Waste & Materials Management Program Supervisor
South Central Region

BEFORE THE STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

DETERMINATION OF SITE FEASIBILITY
ADAMS COUNTY LANDFILL
PROPOSED PHASES 5 & 6
VERTICAL AND HORIZONTAL EXPANSION
TOWN OF STRONGS PRAIRIE
ADAMS COUNTY, WISCONSIN
LICENSE NO. 3150

FINDINGS OF FACT

The department finds that:

1. Adams County has proposed to establish and operate an expansion of its existing municipal solid waste landfill. The existing landfill is located in the NE ¼ of Section 13, Town 18 North, Range 5 East in Adams County, Wisconsin. The gate entrance for the Adams County Landfill is located at 1420 State Highway 21 approximately 1.5 miles west of the intersection of State Highway 21 and State Highway 13. Interstate Highway 39 is approximately 16 miles east of the Adams County Landfill. The license number for the Adams County Landfill is 3150 and the facility identification number (FID) is 701040560.

2. Adams County has proposed a contiguous expansion of the Adams County Landfill with a vertical overlay on the existing landfill and a horizontal expansion to the east. Adams County has named the proposed expansion the Adams County Horizontal Expansion (Proposed Expansion). The Proposed Expansion is also in the NE ¼ of Section 13, Town 18 North, Range 5 East in Adams County, Wisconsin.

3. An approximately 10-acre clay and soil borrow site to supply clay and other soils for the Proposed Expansion is proposed and located in the NW ¼ of the SW ¼ of Section 12, T18N, R5E in Adams County and extends into the SW ¼ of the NE ¼ of the SW ¼ of Section 12, T18N, R5E (Proposed Clay Borrow). Additional clay and other soils would be removed from an already approved clay borrow site in the NE ¼ of the SW ¼ of Section 12, T18N, R5E in Adams County (Existing Clay Borrow).

4. The Proposed Expansion is located on a 433-acre parcel of land currently owned by Adams County. Adams County owns an additional non-contiguous 69 acres to the west of the landfill property and a non-contiguous 79-acre parcel to the north of the landfill that contains the Existing Clay Borrow and contains the Proposed Clay Borrow listed in finding of fact #3 above. Current land use on the site of the proposed expansion is a composting site, a materials recycling facility (MRF), and county waste hauling services. The Adams County Highway Department stores de-icing material at the landfill property. There are also various landfill operational and support features on the landfill property consisting of storm water control features, access roads, a scale and scale house with offices. The rest of the property consists primarily of woodlands.

5. The Proposed Expansion as proposed by Adams County includes a design capacity of approximately 551,000 cubic yards (yd^3) and an estimated operational life of 15 years.

This estimate assumes that in-place waste densities are 1,500 lb/yd^3, and that waste volumes increase at an estimated growth rate of 2% each year. The growth rate is based on the 4% increase in waste tonnage over the last 3 years at the landfill. This growth factor is adjusted down to 2% for the purpose of estimating waste tonnages over a longer time frame for the site life analysis.

6. The proposed municipal solid waste landfill expansion is intended to serve the residential, commercial and nonhazardous industrial waste disposal needs of Adams County, Wisconsin and the surrounding counties; Columbia, Juneau, Marquette, Sauk, Waushara, and Wood. There is also a contract with the Village of Oxford in Marquette County.

7. The Public Land Survey System (PLSS) locational description provided in the feasibility report for the Proposed Expansion was corrected in a November 8, 2017 email from Ryan Shimko at Ayres Associates to Adam Hogan, DNR Waste and Materials Management Hydrogeologist. As a result of the error, the following items were re-examined and corrected as necessary, for both the Proposed Expansion and the proposed Clay Soil Borrow Source:

   a. A November 30, 2017 letter from Melissa Tumbleson, DNR Conservation Biologist, regarding an endangered resources review;

      [A corrected endangered resources review letter from Melissa Tumbleson to Erik Lietz of Ayres Associates is dated December 4, 2017, summarizing an updated endangered resources review of the Proposed Expansion and Landfill areas. There were no required or recommended actions listed in the review letter (ERR Log # 14-521).]

   b. A September 13, 2017 email with attached memo from Darren M. Ladwig, DNR Wildlife Biologist;

      [A follow-up e-mail from Darren M. Ladwig to Adam Hogan, dated, December 1, 2017 states that Darren M. Ladwig had reviewed the Proposed Clay Borrow area for endangered resources, that there were no Bald Eagle nesting sites in the area of the Proposed Clay Borrow, and that his September 13, 2017 email with attached memo was valid for the corrected locations.]

   c. A November 30, 2017 letter from Melissa Tumbleson, DNR Conservation Biologist, to Nicole Bader of Ayres Associates summarizing an updated endangered resources review of the Proposed Clay Borrow area; and,

      [There were no required actions and three recommended actions listed in the review letter (ERR Log # 16-451).]

   d. An Archeological and Historical Resources review of the Landfill, the Proposed Expansion and the Proposed Clay Borrow Source.

[On November 20, 2017 Adam Hogan, DNR Waste and Materials Management Hydrogeologist conducted an updated archeological and historical resources review using the updated locational information and found no archeological or historical resources at the Landfill, the Proposed Expansion area, or the Proposed Clay Borrow area.]

8. The department conducted an initial site inspection (ISI) of the Proposed Expansion on October 16, 2014 in accordance with the requirements of s. NR 509.04, Wis. Adm. Code. On October 28, 2014, the department sent a letter to Adams County identifying the department's findings during the initial site inspection.

9. On January 20, 2015, the department received an initial site report (ISR) for the proposed landfill expansion, submitted on behalf of Adams County, by Ayres Associates.

10. On February 11, 2015, the department issued an incompleteness letter requesting additional information for the ISR.

11. On February 27, 2015, Ayres Associates replied to the ISR incompleteness letter and provided additional information.

12. On March 19, 2015, the department issued an opinion, based on the initial site inspection and its review of the ISR, and the February 27, 2015 additional information letter that the proposed site has potential for development as a municipal solid waste disposal facility. No potential constraints or limiting factors were identified.

13. The affected municipalities as defined in s. 289.01 (1), Wis. Stats., are the Town of Strongs Prairie, Town of Preston, and Adams County. In accordance with s. 289.22, Wis. Stats., Adams County was 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. If the municipality either fails to respond within 15 days after receipt of the written request from the applicant or indicates that there are no applicable local approval requirements, the applicant may submit the feasibility report 135 days after receipt by the municipality of the written request from the applicant or 120 days after receipt of the response from the municipality indicating that there are no local approval requirements, whichever comes first.

14. The feasibility report submitted by Adams County shows that the written requests were submitted to the affected municipalities approximately 93 days before the feasibility report was submitted to the department (appendix C of the feasibility report). Since the affected municipalities did not respond within 15 days, the feasibility report should not have been submitted until 135 days after notice to the affected municipalities. Although the feasibility report was submitted 42 days early, the department's public notice and start of the 30-day public comment period for the completeness determination was delayed by 147 days, relative to the 60-day completeness review time provided in s. NR 512.06 (3), Wis. Adm. Code. In other words, more than 42 days was added to the 60-day completeness determination time-line provided in code.

15. Adams County submitted the following documents as part of its Proposed Expansion:

    a. "Addendum No. 1 Additional Information Request, Horizontal Expansion, Adams County Sanitary Landfill, License No. 3150, FID No. 701040560," prepared by Ayres Associates, dated January 3, 2018, and received by the department on January 8, 2018.

    b. "Response to Completeness Determination of the Feasibility Report, Horizontal Expansion, Adams County Sanitary Landfill, License No. 3150, FID No. 701040560," prepared by Ayres Associates, dated September 14, 2017, and received by the department on September 14, 2017.

    c. "Feasibility Report, Horizontal Expansion, Adams County Sanitary Landfill," prepared by Ayres Associates, dated June 6, 2017, and received by the department on June 8, 2017.

    d. "Incompleteness Determination – Requested Information, Initial Site Report – Horizontal Expansion, Adams County Sanitary Landfill, Adams County Wisconsin, License No. 3150, FID No. 701040560," dated February 27, 2015 and received by the department on March 3, 2015.

    e. "Initial Site Report, Horizontal Landfill Expansion, Adams County Sanitary Landfill," prepared by Ayres Associates, dated January 2015 and received by the department on January 20, 2015.

    f. September 4, 2014, Initial Site Inspection Request prepared by Ayres Associates and received by the department on September 8, 2014.

16. The department also considered the following information in its review of the feasibility of the proposed landfill expansion:

    a. February 16, 2018 email from Levi Eastlick, Airspace Manager, Chief Pilot, Wisconsin Department of Transportation, Bureau of Aeronautics, to Adam Hogan, DNR Waste and Materials Management Hydrogeologist, stating, "Additionally, the FAA guidance on wildlife attractants on or near airports is FAA Advisory Circular 150/5200-33. Section 2-2 of this Advisory Circular specifically pertains to municipal solid waste landfills. For further wildlife coordination contact Chip Lovell, District Supervisor/Certified Wildlife Biologist for the USDA at charles.d.lovell@aphis.usda.gov or (920) 324-4514."

    b. January 25, 2018 email from Mike Ross, DNR Air Management Engineer, to Adam Hogan, DNR Waste and Materials Management Hydrogeologist, outlining changes he suggested for the project summary.

    c. December 21, 2017 letter from Wally Sedlar, Adams County Conservationist, to Neil E. Carney, P.E. at Ayres Associates stating that neither the Proposed Expansion nor the Proposed Clay Borrow would impact prime farmland as per NRCS Web Soil Survey.

d. December 21, 2017 email with attached memo from Peter Pfefferkorn, DNR Wastewater Engineer, summarizing his analysis of the treatability of the Adams County Landfill and Proposed Expansion leachate at both the City of Adams and Village of Plover Wastewater Treatment Plants.

e. December 8, 2017 email with attached memo from Terri Wilson, DNR Forester, to Adam Hogan, DNR Waste and Materials Management Hydrogeologist, summarizing her analysis of the forestry resources in the Proposed Expansion and Proposed Clay Borrow areas.

f. December 6, 2017 email from Adam Hogan, DNR Waste and Materials Management Hydrogeologist, to Ryan Shimko at Ayres Associates concerning the proper abandonment of monitoring wells located in areas within the proposed limits of filling.

g. December 4, 2017 letter from Melissa Tumbleson, DNR Conservation Biologist to Erik Lietz of Ayres Associates summarizing an updated endangered resources review of the Proposed Expansion area.

h. December 1, 2017 email from Darren M. Ladwig, DNR Wildlife Biologist, to Adam Hogan, DNR Waste and Materials Management Hydrogeologist, stating that there were no bald eagle nesting sites in the area of the Proposed Clay Borrow and that he had reviewed the Proposed Clay Borrow area for endangered resources.

i. December 1, 2017 email with attached memo from Teagan Seneczko, DNR Water Resources Engineer, to Adam Hogan, DNR Waste and Materials Management Hydrogeologist, addressing storm water issues at both the Proposed Expansion area and the Proposed Clay Borrow area.

j. November 30, 2017 letter from Melissa Tumbleson, DNR Conservation Biologist to Nicole Bader of Ayres Associates summarizing an updated endangered resources review of the Proposed Clay Borrow area.

k. November 28, 2017 email with attached memo from Jennifer M. Bergman, DNR Fisheries Biologist, to Adam Hogan, DNR Waste and Materials Management Hydrogeologist, addressing fisheries biological communities in both the Proposed Expansion area and Proposed Clay Borrow area.

l. November 21, 2017 memo from Bruce Rheineck, Chief of the DNR's Groundwater Section of the Drinking and Groundwater Program, to Adam Hogan, DNR Waste and Materials Management Hydrogeologist, indicating concurrence with an exemption request for lead at well MW-30.

m. November 20, 2017 map used for a check of Adams County Archeological and Historical Resources at the Proposed Expansion area and the Proposed Clay Borrow area conducted by Adam Hogan, DNR Waste and Materials Management Hydrogeologist.

n. November 8, 2017 email from Ryan Shimko at Ayres Associates to Adam Hogan DNR Waste and Materials Management Hydrogeologist, correcting the location of the Adams County Landfill and the location of the Proposed Expansion.

o. November 6, 2017 email from Adam Hogan, DNR Waste and Materials Management Hydrogeologist, to Randell Clark, Drinking Water and Groundwater Hydrogeologist, confirming that the closest water supply well to the existing Adams County Landfill and Proposed Expansion was the water supply well for the scale house and offices at the landfill located approximately 1,395 feet from the landfill.

p. September 20, 2017 email from Ryan Shimko at Ayres Associates to Eric Syftestad, DNR Waste and Materials Management Engineer, showing the volume of clay needed for the liner and cap for phase 5 of the Proposed Expansion.

q. September 13, 2017 email with attached memo from Darren Ladwig, DNR Wildlife Biologist, to Mike Zillmer, DNR Waste and Materials Management Hydrogeologist, addressing potential impacts to wildlife.

r. September 1, 2017 email with attached memo from Bradley Betthauser, DNR Water Regulation and Zoning Specialist, to Mike Zillmer, DNR Waste and Materials Management Hydrogeologist, addressing potential wetland and surface water impacts of the Proposed Expansion area and the Proposed Clay Borrow area.

s. September 1, 2017 email from Michael Ross, DNR Air Management Engineer, to Erik Lietz at Ayres Associates stating that the Landfill currently operates under Air Pollution Control Construction Permit # 701040560-S01 and would be required to apply for and be issued a construction permit from the air program before commencing construction of the Proposed Expansion.

t. September 1, 2017 email with attached memo from Michael Ross, DNR Air Management Engineer, to Mike Zillmer, DNR Waste and Materials Management Hydrogeologist, that included comments and recommendations regarding air pollution control and potential air impacts from the Proposed Expansion.

u. August 15, 2017 email from Eric Syftestad, DNR Waste and Materials Management Engineer, to Mike Zillmer, DNR Waste and Materials Management Hydrogeologist, containing air pollution control permit information from Mike Ross, DNR Air Management Engineer.

v. July 14, 2017 letter from Levi Eastlick, Wisconsin Department of Transportation Airspace Safety Program Manager, to Cynthia Moore, DNR Waste Team Supervisor, South Central Region, indicating there were no conflicts between the Proposed Expansion and nearby airports. The letter also stated, "Since portions of the project are in the vicinity of the Zanadu Airport and Adams County Legion Field, the 'Notice of Criteria Tool' on the FAA's Obstruction Evaluation and

Airport Airspace Analysis (OE/AAA) website should be used to see if any temporary equipment or permanent structures will require study."

w. September 8, 2016 Initial Site Inspection letter from Marty Herrick, DNR Waste and Materials Management Engineer, to Brenda Quinnell, Director of the Adams County Solid Waste Department, stating that the proposed clay and soil borrow sites (areas 1 and 2) could meet the requirements of s. NR 504.04, Wis. Adm. Code (area 1 is not considered in this feasibility determination because there was no suitable clay found in the test pits and Adams County is not pursuing that area as a borrow site at this time).

x. August 18, 2016 Initial Site Inspection Request, Proposed Non-Commercial Clay Borrow Source Expansion, Adams County, Wisconsin (areas 1 and 2) submitted by Ayres Associates on behalf of Adams County containing,

1. August 4, 2016 Wisconsin Karner Blue Butterfly Habitat Conservation Plan, Monitoring Report Form, Level 1: Lupine Presence Absence Survey, conducted by Jen Jacobson of Ayres Associates for the Proposed Clay Borrow Areas 1 and 2.

2. July 7, 2016 Letter with attached map, from Wendy K. Holtz-Leith, Research Archeologist at the Mississippi Valley Archeology Center to Lori Rosemore, PG, at Ayres Associates.

3. June 17, 2008 National Flood Insurance Program, Flood Insurance Rate Map, panel 175 of 500.

y. March 19, 2015 Initial Site Inspection Report Opinion Letter, from Jill Schoen, Waste and Materials Management Program Supervisor, to Brenda Quinell, Director of the Adams County Solid Waste Department, stating the that site has potential for landfill expansion development.

z. February 26, 2015, letter from Wally Sedlar, Adams County Conservationist, to Neil E. Carney, P.E., Ayres Associates, stating that the Proposed Expansion would not impact agricultural land.

aa. February 11, 2015 Incompleteness determination and request for additional information for the proposed horizontal expansion of the Adams County Landfill, Initial Site Report, Lic. # 3150, containing 7 incompleteness items and 4 additional comments or questions.

bb. January 21, 2015 letter from Jack Gilbertsen, REM, Federal Aviation Administration (FAA), Environmental Protection Specialist, Chicago Airports District Office, to Dean R. Free, PE, Ayres Associates, stating that the FAA had no objections to the Proposed Expansion and that the Zanadu Airport was no longer in operation.

cc. The department's files related to the Adams County Landfill, Facility Identification Number (FID) 701040560.

17. The department received the feasibility report review fee of $24,000 on July 3, 2017.

18. On August 9, 2017, the department issued a completeness determination on the feasibility report entitled "Feasibility Report, Horizontal Expansion, Adams County Sanitary Landfill," prepared for Adams County by Ayres Associates, dated June 6, 2017, and received by the department on June 8, 2017. The department's completeness determination included a request for six additional information items.

19. On February 1, 2018, the department completed a project summary 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) 7, Wis. Adm. Code. The project summary dated February 1, 2018 contains an environmental analysis (EA) of the proposed landfill expansion. The department has made a preliminary determination that an environmental impact statement is not needed under section 1.11, Wis. Stats.

20. A public notice under s. 289.25 (3), Wis. Stats., was published in the *Wisconsin State Journal* newspaper on February 5, 2018. In addition, the feasibility report, the public notice, a response to the completeness determination of the feasibility report, addendum number 1 of the feasibility report, and a project summary were posted on the department's internet site at http://dnr.wi.gov/topic/waste/comment.html. The public comment period ran from February 5, 2018 to March 7, 2018 at 4:30 PM. No comments were received during the 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 Wisconsin Environmental Policy Act.

21. The proposed landfill expansion would not be located within:

    a. 1,000 feet of any navigable lake, pond or flowage not including landfill drainage or sedimentation control structures;

    b. 300 feet of any navigable river or stream;

    c. a floodplain;

    d. 1,000 feet of the nearest edge of the right-of-way of any state trunk highway, interstate or federal aid primary highway or the boundary of any public park or state natural area;

    e. 10,000 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 (A portion of the existing landfill footprint is located within 4,910 feet of the Zanadu private airport that has been used by piston type of aircraft, in the past. The area of the expansion footprint is beyond 5,000 feet from the Zanadu airport.);

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

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

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

22. The proposed landfill expansion would be located greater than 1,200 feet from any known water supply wells.

23. The proposed landfill expansion would not be within an area where there is a reasonable probability that the facility would cause:

a. 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;

b. a significant adverse impact on critical habitat areas;

c. 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;

d. a detrimental effect on groundwater quality, if the facility is designed, constructed, and operated in accordance with chs. NR 500 through NR 538, Wis. Adm. Code, the feasibility report, and the conditions set forth below;

e. 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 chs. NR 500 through 538, Wis. Adm. Code, the feasibility report, and the conditions set forth below, or;

f. 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 chs. NR 500 through 538, Wis. Adm. Code, the feasibility report, and the conditions set forth below.

24. Adams County has demonstrated the existence of sufficient clay in the Existing Clay Borrow and the Proposed Clay Borrow that meets all specifications of s. NR 504.06 (2) (a), Wis. Adm. Code, to construct and close the first phase (phase 5) of the proposed landfill expansion.

25. The department considered the following information while reviewing the need for exemptions to groundwater standards at this facility:

a. baseline groundwater monitoring data provided in the feasibility report;

b. well construction details, boring logs, well location plan sheets, and water table maps provided in the feasibility report;

c. the landfill design specifications provided in the feasibility report and addenda, as conditioned herein;

d. information in the department's files relating to groundwater conditions at the site of the proposed landfill; and

e. the department's guidance documents entitled "Granting Exemptions and Setting ACLs at Groundwater Monitoring Wells at Expansion Sites" (RD0005), "Guidance for Review of NR 140 Requirements at Landfill Expansions" (Pub. WA 1010-2001) and "How to Calculate Preventative Action Limits (PALs) and Alternative Concentrations Limits (ACLs) For Solid Waste Facilities (Pub. WA 1105-2007).

f. Based on department guidance, the department generally considers granting groundwater standard exemptions when baseline groundwater sample results exhibit one or more of the following characteristics:

1. an enforcement standard is exceeded in at least one sample, out of the 8 rounds of baseline sampling;

2. the average of the sample concentrations exceeds the PAL; or,

3. any two samples out of the 8 rounds of baseline sampling exceed the PAL.

g. the November 21, 2017 memo from Bruce Rheineck, Chief of the DNR's Groundwater Section of the Drinking and Groundwater Program's Groundwater Section, containing a monitoring well that the Groundwater Section would concur with allowing exemptions to be granted;

26. Based on an examination of site conditions, the department finds the following:

a. Groundwater concentrations of lead in the site area found at concentrations exceeding the ch. NR 140, Wis. Adm. Code, groundwater standards are due to background groundwater quality associated with natural hydrogeologic conditions and human activities including previous landfilling activities at or near the site.

b. To minimize any incremental increase in contamination from the proposed landfill expansion, the facility has been designed to contain and collect leachate. The design of the lateral expansion includes a 4-foot thick compacted clay liner overlain by a 60-mil geomembrane, and leachate collection system, as well as a composite cover consisting of 2 feet of compacted clay and a 40-mil geomembrane, cover drain, soil, and vegetation. These design features will limit increases of contaminants in the groundwater, including the substances listed in paragraph a., above. Therefore, the department believes the proposed landfill is designed to achieve the lowest possible concentrations of these substances in the groundwater that are technically and economically feasible.

27. Based on an examination of the groundwater quality data for the proposed facility for substances of public health concern other than nitrate and nitrite (as nitrogen), and the

information listed in Findings of Fact 25 and 26, above, the department finds the following:

a. Baseline concentrations above the preventive action limit but below the enforcement standard established for the following substance of public health concern, other than nitrate, were observed in two or more sample rounds at the monitoring wells listed below:

Substance	Wells
Lead	MW-30

b. Because of its design, the proposed facility should not cause the groundwater concentrations of the substance in paragraph a., above, to exceed its respective enforcement standard at a point of standards application.

d. The proposed facility is designed to achieve the lowest possible groundwater concentrations of the substances in paragraph a. above, that are technically and economically feasible.

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

29. 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.

30. Based upon an examination of the need and design capacity evaluation prepared by Adams County pursuant to the requirements of s. NR 512.17, Wis. Adm. Code, the department finds the following:

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 Adams County, and the surrounding counties of Columbia, Juneau, Marquette, Sauk, Waushara, and Wood. There is also a contractual relationship between the Landfill and the Village of Oxford in Marquette County.

b. The aggregate disposal capacity of approved facilities, as defined under s. 289.01(3), Wis. Stats., accepting waste from the service area of the Proposed Expansion (including those for which a feasibility report has been deemed complete by the department, as of June 6, 2017) is approximately 18,844,567 yd^3 (total capacity of Adams County and all competing landfills, inclusive of the Adams County Landfill, at 1,500 lb/yd^3 compaction rate, see pages 71 and 72 of feasibility report and Table 11-1). Of this capacity, approximately 2,167,342 yd^3 (Tables 11-1 and 11-6) are estimated to be available for municipal solid waste from the anticipated Adams County Landfill expansion service area.

c. Approximately 255,554 yd^3 (Table 11-4) of solid waste suitable for disposal is generated on an annual basis within the anticipated service area for the Proposed Expansion. That annual waste volume is expected to grow at a population growth rate of 0.05% (an aggregate growth rate of the combined service area).

d. The following approved facilities, as defined under section 289.01(3), Wis. Stats., for the disposal of municipal solid waste, receive waste from the anticipated service area of the Proposed Expansion:

Landfill Name	License #	% of facility's waste coming from within the service area
Adams County Landfill	3150	100
Advanced Disposal Services Cranberry Creek	2967	25
Monroe County Landfill	3660	22
WMWI Valley Trail	3066	21
Advanced Disposal Glacier Ridge	3068	2
Dane County	3018	1*

* adjusted based on the Dane County Landfill only allowing 10% of the landfill's capacity for out of county waste

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 than those noted above located within the anticipated service area or that serve the Adams County Service Area.

f. There is an onsite self-certified materials recovery facility (MRF) serving the counties identified in the anticipated service area of the Proposed Expansion including facilities to handle recycling. There is also the Portage County MRF located outside of the service area, that currently serves areas overlapping the service area of the Proposed Expansion. Since effective recycling is already established in the projected service area, these facilities are not expected to significantly increase the amount of solid waste recycled in the future and therefore should not reduce the amount of waste needing to be landfilled.

g. There are no active non-approved facilities, as defined under section 289.01 (24), Wis. Stats., located within the anticipated service area.

h. There are approximately 7 years or less of solid waste disposal capacity available for the anticipated service area starting in the year 2018. 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. Therefore, there is a need for additional solid waste disposal capacity to service the anticipated service area (see Table 11-6 of the feasibility report).

i. The design capacity of the Proposed Expansion as specified in this feasibility determination is 551,000 yd^3. According to department estimates, this capacity will provide an expected operating life for the proposed expansion of about 15 years or less.

31. 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 percent 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.

32. The conditions of site feasibility set forth below are needed to ensure compliance with ch. NR 140 and chs. NR 500 through 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 applicant has established that the proposal will comply with the applicable requirements of chs. NR 500 through 538, Wis. Adm. Code, provided that the conditions of the feasibility determination set forth below are met.

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

3. In accordance with s. NR 150.20 (2) (a) 7, Wis. Adm. Code, the landfill feasibility review process under ch. NR 512, Wis. Adm. Code, is an "integrated analysis action" because a detailed environmental analysis and public disclosure are conducted as part of the department programmatic procedure. Therefore, an additional environmental analysis is not required for the proposal.

4. The department has the authority under s. 289.29(3), Wis. Stats., 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.

5. The department has the authority under ss. NR 140.20 and NR 507.18, Wis. Adm. Code, to require sampling for baseline water quality and to specify parameters for such sampling.

6. 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.

7. Exemptions to groundwater standards in ch. NR 140 Wis. Adm. Code can be granted only when the criteria in s. NR 140.28, Wis. Adm. Code are satisfied.

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

9. Section 289.29 (3), Wis. Stats., requires the department to specify the design capacity of the proposed facility in the feasibility determination.

10. 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.

11. The department has the authority under s. NR 504.04 (2), Wis. Adm., Code, to grant exemptions from certain locational requirements and performance standards as specified in s. NR 504.04 (2), Wis. Adm. Code.

12. As provided for under s. 289.28 (1), Wis. Stats., the anticipated service area for the proposed municipal solid waste landfill includes Adams, Columbia, Juneau, Marquette, Sauk, Waushara, and Wood Counties in Wisconsin. Sufficient need for the proposed municipal solid waste landfill has been established under the applicable provisions of s. 289.28 (1), Wis. Stats.

13. 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 exemptions as follows:

1. Adams County has demonstrated circumstances that warrant exemptions from some groundwater standards in ch. NR 140 Wis. Adm. Code. Exemptions are granted from the groundwater standards in ch. NR 140, Wis. Adm. Code, as provided in s. NR 140.28, Wis. Adm. Code, for the wells and substances listed in finding of fact 27, above, 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. The department may establish alternative concentration limits for the inorganic substances listed when sufficient rounds of baseline water quality samples have been collected and analyzed as required in condition 17 of this approval.

2. Adams County has demonstrated circumstances that warrant an exemption from s. NR 512.09(1)(b), Wis. Adm. Code, which requires borings to extend a minimum of 25 feet below the anticipated subbase grade. The known geology from the previous feasibility geotechnical investigation as well as the relatively consistent geology at the site, including the deep depth to bedrock, justify an exemption to this requirement. An exemption from s.

NR 512.09 (1) (b), Wis. Adm. Code, is granted for minimum boring depth requirements at B-101 and B-104 which are 21.72 feet and 20.96 feet in depth, respectively.

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 Adams County municipal solid waste landfill.

2. A design capacity of 551,000 cubic yards for the proposed municipal solid waste landfill expansion will provide for an expected operational life of less than 15 years.

DETERMINATION OF ENVIRIONMENTAL IMPACT STATEMENT

In accordance with s. NR 150.35, Wis., Adm. Code, the department has completed an environmental analysis of the proposed action and hereby determines that an environmental impact statement for the proposed landfill is not needed.

CONDITIONAL FEASIBILITY DETERMINATION

The department hereby determines that the proposed Horizontal Expansion of the Adams County Sanitary Landfill in the Town of Strongs Prairie, Wisconsin, 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 Compliance

1. 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.

Capacity and Limits of Waste

2. The maximum design capacity as defined in s. NR 500.03 (58) Wis. Adm. Code, of the proposed municipal solid waste landfill shall not exceed 551,000 cubic yards.

General Facility Design and Construction

3. The plan of operation drawings and report shall incorporate a specific closure phasing plan that provides for closure at final approved waste elevations of each phase of the landfill within a specified timeframe. The plan of operation may propose to delay final cover placement for one or more years in accordance with s. NR 514.07 (3), Wis. Adm. Code.

4. The plan of operation shall contain descriptive text and diagrams showing a detailed construction and closure phasing plan that considers the actual filling sequence and provides for the following in each phase:

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

   b. timely tie-in of base phases;

   c. timely installation and tie-ins of multi-layered final cover following intermediate cover placement, taking into consideration settlement;

   d. minimizing length of interim outer sideslopes; and

   e. coordination of downslope flume, diversion berm and drainage swale installation.

   f. Any seasonal interruptions that influence completion of the final cover system in each phase.

5. The plan of operation shall include an evaluation of the existing gas extraction system to determine if the landfill gas generated by the proposed landfill (when recirculating leachate) will require changes to the current gas transfer piping, condensate removal system, blower, and flare, in accordance with ss. NR 504.08 and NR 504.095(1)(c), and ch. NR 445, Wis. Adm. Code. The evaluation shall include the condition of each gas extraction well and whether the well needs to be repaired or replaced.

6. The plan of operation shall contain a sideslope riser (SSR) and leachate cleanout pipe design that does not include any pipe fittings between the top and toe of the same slope.

7. The plan of operation shall include an evaluation of the existing leachate collection tanks to determine the integrity of the tanks and to determine when they will need to be replaced.

8. The plan of operation shall include an evaluation of the existing leachate collection tank storage capabilities and the proposed location, size, design, and specifications of additional tanks if needed.

Soil Borrow Source

9. The plan of operation shall contain hydraulic conductivity testing results for the Proposed Clay Borrow area to meet the requirements of s. NR 504.075 (5), Wis. Adm. Code.

10. The plan of operation shall contain a reclamation plan and non-metallic mining permit for the Proposed Clay Borrow or verify that there is extended coverage of the existing reclamation plan and non-metallic mining permit to the Proposed Clay Borrow area.

11. The plan of operation shall describe and include on plan sheet drawings how and where excavated soil and other soil brought on-site for landfill construction purposes will be managed throughout of the operation of the landfill.

Locational Set Backs

Proximity to Wetlands

12. The plan of operation shall contain a wetland protection and erosion and sediment control plan for the Proposed Clay Borrow which shall include at a minimum the following elements:

a. All constructed features shall be located outside of delineated wetland boundaries.

b. Wherever possible, the plan of operation shall maintain an undisturbed buffer area of at least 50 feet between the edge of construction activities and the delineated wetland boundaries. In areas where constructed features and wetland boundaries do not afford a 50-foot buffer, the plan of operation shall establish as much buffer as possible.

c. The plan of operation shall propose physical barriers (e.g. stone buttressed against silt fence, large boulders etc.) between all construction activities and the undisturbed edges of wetlands or undisturbed buffers to prevent machinery from entering wetland areas.

d. The use of signs that mark the areas not to be disturbed.

e. Procedures for informing contractors and landfill employees to stay out of wetland or buffer areas that are not to be disturbed.

f. The timing of placement of wetland barriers and markings prior to initiation of construction.

g. Procedures for ensuring the durability of sedimentation control devices and preventing the operation of construction equipment or other disturbances within the undisturbed areas.

h. No temporary or permanent stockpiling of excavated material or fill material within wetlands or close enough to impair wetlands.

i. Establishment of erosion and sediment control measures prior to construction and their maintenance throughout the project.

j. Inspection of erosion and sediment control measures after every rainfall event exceeding ½ inch and at least once per week regardless of precipitation. Any necessary repairs or maintenance shall be promptly performed.

Facility Operations

Bird Control

13. The plan of operation shall include confirmation that wildlife attractants near airports have been reviewed and addressed. The FAA provides guidance on wildlife attractants on or near airports in FAA Advisory Circular 150/5200-33. Section 2-2 of this Advisory Circular specifically pertains to municipal solid waste landfills. For further wildlife coordination contact Chip Lovell, District Supervisor/Certified Wildlife Biologist for the USDA at charles.d.lovell@aphis.usda.gov or (920) 324-4514.

Storm water Runoff Management

14. The plan of operation shall include a storm water runoff management plan, with calculations and plan sheet drawings to show storm water management structures and to show that the requirements of s. NR 504.09, Wis. Adm. Code and the applicable technical standards of ch. NR 151, Wis. Adm. Code will be met.

15. The plan of operation shall include a storm water pollution prevention plan (SWPPP) that was prepared and is followed in accordance with the facility's Tier 2 industrial storm water permit and s. NR 216.27, Wis. Adm. Code.

Environmental Monitoring

16. The plan of operation shall include an environmental monitoring program in accordance with ch. NR 507, Wis. Adm. Code.

17. The plan of operation shall include baseline groundwater quality data for all monitoring wells outside the limits of filling as required under s. NR 507.18, Wis. Adm. Code. A minimum of 8 rounds of baseline groundwater data shall be provided for the inorganic substances and wells requiring an exemption from the groundwater standards under s. NR 140.28, Wis. Adm. Code. Adams County shall submit the results of any additional baseline monitoring required to meet the minimum 8 rounds with the plan of operation.

18. All new or replacement groundwater monitoring wells shall be constructed and developed in accordance with ch. NR 507, Wis. Adm. Code. Baseline sampling shall be conducted for all new or replacement wells as described in ch. NR 507, Wis. Adm. Code.

19. The plan of operation shall include a proposal for the phased abandonment of all groundwater monitoring wells within the proposed limits of filling. Abandonment shall include overdrilling and removal of the casings, conducted and documented in accordance with the requirements of ch. NR 141, Wis. Adm. Code. Copies of well abandonment reports shall also be included in the respective liner construction documentation report for the phases where the monitoring wells are located.

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, 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 April 11, 2018

DEPARTMENT OF NATURAL RESOURCES
For the Secretary

Cynthia Moore
Waste Management Team Supervisor, South Central Region

Adam Hogan, R.S.
Waste Management Hydrogeologist, South Central Region

Cynthia Moore for Eric Syftestad
Eric Syftestad, P.E., CHMM
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