



November 29, 2022

File Ref: FID 701040560  
Adams County  
SW/CORR

Mr. Charlie Kuhn  
Adams County Landfill  
1420 State Highway 21  
Friendship, Wisconsin 53934

Subject: Initial Site Report Opinion Letter for the Proposed Vertical Expansion to Adams County Landfill, Adams County, Wisconsin - License #3150

Dear Mr. Kuhn:

The Department of Natural Resources (department) has completed a review of the initial site report (ISR) for the proposed vertical expansion of the Adams County Landfill. The report titled *Initial Site Report -Vertical Landfill Expansion, Adams County, Wisconsin* and dated August 10, 2022, was prepared by Ayres Associates, Inc. (Ayres) on behalf of Adams County (county) and received by the department on August 10, 2022. Additional information was provided by Ayres on behalf of the county in a September 15, 2022, addendum titled *Incompleteness Letter – Requested Information, Vertical Landfill Expansion – Addendum #1, Adams County Sanitary Landfill*. The department sent a letter to the county on September 30, 2022, indicating that the department determined the ISR to be complete.

It is the department's opinion, based on the information presented in the ISR, that the proposed expansion has potential for development as a solid waste disposal facility. A summary of the proposal and specific comments regarding the ISR are outlined below.

#### PROPOSAL DESCRIPTION

##### Site Location and Land Use

The proposed expansion would be a vertical expansion over Phases 2 through 5 of the existing municipal solid waste (MSW) landfill located in the SW ¼ and the SE ¼ of the NE ¼ of Section 13, Township 18N, Range 5E, Town of Strong Prairie, Adams County, Wisconsin. The landfill is located at 1420 State Highway (STH) 21, Friendship, Wisconsin. The landfill is in a rural area of west-central Adams County, approximately five miles north-northwest of the municipalities of Adams and Friendship.

The proposed expanded landfill, including the existing MSW landfill and vertical expansion, would occupy approximately 21.9 acres of the 581-acre parcel owned by the county. Land areas immediately south of the landfill include the county's waste hauling services operation and the recycling center. Present land uses immediately adjacent to and within a one-mile radius of the site consist of private woodlands and agricultural fields. Within two miles of the landfill, there are also single-family and agricultural residences. No residences are located within 1,200 feet of the anticipated limits of waste of the landfill.

According to the ISR, no special applications or variances will be required to facilitate the proposed expansion. The landfill property is zoned industrial by Strong Prairie, with landfilling as an approved use. The area surrounding the county parcels includes lands zoned as industrial and agricultural and some scattered single-family homes on smaller parcels. The proposed project would be conducted entirely on property owned by the county, none of which is currently rented or utilized for agricultural use. No additional farmland outside of county property is currently planned for acquisition to facilitate the vertical landfill expansion. Preparation of an Agricultural Impact Statement is not required for the proposed expansion.

#### Proposed Design Capacity, Service Area, and Anticipated Site Life

The proposed landfill expansion would have a design capacity of approximately 224,000 cubic yards. The proposed expansion is a vertical expansion over the existing active landfill and would share the design features already approved for the existing facility. The proposed expansion would result in a peak elevation of 1,073.5 feet above mean sea level (ft-msl). An analysis of perimeter infrastructure, including stormwater detention features, would be conducted to determine whether modifications or additional features would be needed to support the proposed expansion.

The anticipated service area includes all of Adams County, including three municipalities (Village of Friendship, City of Adams and a portion of the City of Wisconsin Dells) and 17 townships. Additional waste may originate from areas outside the county, including the surrounding counties of Columbia, Juneau, Marquette, Sauk, Waushara and Wood. In 2021, approximately 44,000 tons of waste were placed in the MSW landfill. The amount of waste received fluctuates as a result of seasonal construction and outdoor work activities. The months of July through September typically have the greatest tonnage intake, while December through March see a 25% to 50% reduction in tonnages. The proposed expansion is estimated to have a site life of approximately four years, and the anticipated tonnage accepted during that timeframe would increase from about 44,000 tons to 46,000 tons. The anticipated feasibility report that will follow the ISR must describe the annual waste volume increase that is used to estimate future waste disposal demand over the course of the site's lifetime.

#### Transportation and Access

Access to the site is via STH 21, which runs east-west near the landfill property. A gated facility access road extends north from STH 21 into the county property and landfill area. The facility entrance is approximately 1.5 miles west of the STH 13 intersection. Access to U.S. Interstate Highway 39 (I-39) is approximately 16 miles east of the site entrance. STH 21 and 13 are not typically included in the seasonal posted roads restrictions imposed by the Wisconsin Department of Transportation, and the county has no local weight restrictions applied to county highways.

#### Waste Types and Characteristics

According to the ISR, the general waste types and characteristics anticipated at the proposed expansion would be similar to the wastes currently being landfilled at the facility. The landfill primarily accepts MSW from residential and commercial sources. The landfill expansion would potentially accept other approved waste types, which may include construction and demolition debris, industrial wastes and special wastes. Each of these other waste types would be anticipated to comprise less than 5% of the overall design capacity of the proposed landfill expansion.

#### Initial Site Inspection

On June 29, 2022, the department conducted an initial site inspection (ISI) in accordance with s. 509.04, Wis. Adm. Code. The department's ISI preliminary opinion letter dated July 27, 2022, identified that the site location has potential for development of a landfill expansion.

### Regional Geotechnical Information

Regional land surface elevations range from approximately 930 ft-msl along Big Roche-a-Cri Creek to 1,050 ft-msl near the landfill. The landfill is located adjacent to a topographic high known as Cottonville Rocks. The on-site topography at the landfill is relatively flat, ranging from a maximum of approximately 980 ft-msl in the northwestern part of the site to a low of 960 ft-msl in the southwest. The landfill site lies within the Central Wisconsin watershed and is associated with the Big Roche-a-Cri Creek drainage. The Big Roche-a-Cri Creek flows through the region in a meandering pattern from northeast to southwest. The creek is approximately 4,000 feet west of the site. No other surface water features exist on or near the landfill site.

Cambrian aged sandstone is found approximately 0 to 100 feet below the ground surface (bgs) in Adams County. Approximately 280 feet of Cambrian aged sandstone, including the Elk Mound Group, which consists of the Mt. Simon, Eau Claire, and Wonewoc formations, overlies Precambrian basement rock. Cambrian sandstone outcrops in many areas of the county, including the Cottonville Rocks. A water supply well drilled near the site in 1988 encountered sandstone bedrock at 115 feet bgs.

Unconsolidated glacial material in Adams County consists of glacial, stream, lake and windblown sediment. Previous investigations at the site have encountered approximately 10 to 20 feet of fine silty sand or sandy silt over approximately 11 feet of laminated clay deposits with fine to silty sand. The landfill site is overlain by windblown sand over Pleistocene offshore sediments. During the majority of the last glaciation, the site was covered by Glacial Lake Wisconsin. The outlet to meltwater streams became clogged with debris and sediment near the Devils Lake area, blocking the drainage and allowing the lake to form. When the lake drained, the water cut and formed the sandstone outcrops near the Wisconsin Dells. As the lake sediment dried out, it became windblown sediment.

### Groundwater

The groundwater table is located approximately 23 to 37 feet bgs at the landfill site. Historically, groundwater has varied in depth from 16 feet bgs to 40 feet bgs and is at its highest in the spring. The landfill is located west of a topographic high area which has been identified as a recharge zone in the hydrogeologic system. In the immediate landfill area, groundwater flows west toward Big Roche-a-Cri Creek. The aquifer is located in the unconsolidated material. The deeper sandstone formation is also a suitable aquifer but is not typically utilized for private water supplies because of the greater depths.

The landfill site is located in the southern portion of the Central Wisconsin River basin. Hardness, iron and manganese concentrations in groundwater are low in the sand and gravel aquifer but increase in the deeper sandstone aquifer. Productivity in both aquifers is good, sometimes exceeding 1,000 gallons per minute (gpm).

The majority of the water supply wells in the vicinity of the landfill draw from the sand and gravel aquifer. The monitoring wells associated with the landfill are also terminated in the shallow sand and gravel aquifer; however, the landfill office well is terminated in sandstone at 115 feet bgs with groundwater at approximately 41 feet bgs. A groundwater monitoring program has been in place at the landfill site since 1986. The monitoring wells and piezometers are sampled semiannually for indicator parameters and volatile organic compounds (VOCs). Minimal VOCs have been detected on a sporadic basis.

### Federal Aviation Administration (FAA) Communications

The FAA's 2015 letter, included in the additional information provided in the September 15, 2022 addendum, indicates the Zanadu Airport, located approximately 0.93 miles west of the existing landfill, is no longer in operation. Another small, publicly-owned airport (Adams County Legion Field) is located approximately 5.1

miles south-southeast of the landfill, beyond the 5,000-foot separation distance required per FAA Advisory Circular 150/5200-33A.

#### ADDITIONAL COMMENTS REGARDING THE PROPOSED LANDFILL EXPANSION

Following the ISR, the County must prepare a feasibility report in order to continue with the siting process for a landfill expansion. In accordance with ss. 289.22 and 289.23, Wis. Stats., the applicant must notify all affected municipalities and apply for all specified local approvals at least 120 days before a feasibility report can be submitted to the department (the exact time period depends upon the municipal response). The Waste Facility Siting Board has specific requirements which apply to the municipal notification. For additional information on these requirements, please contact the Wisconsin Waste Facility Siting Board at (608) 267-7854. The feasibility report must contain documentation showing that all proper notifications and applications for all specified local approvals have been made, in accordance with s. NR 512.06, Wis. Adm. Code.

This opinion letter does not approve or deny the proposed expansion. If the county wishes to pursue the proposed expansion, the feasibility report must address the information required in ch. NR 512, Wis. Adm. Code. This includes the requirement to include a request for an exemption for all locational and performance criteria or other code requirements that the proposed landfill cannot meet. Each exemption request needs to include an explanation demonstrating why the exemption is warranted. Please also remember that the department may request additional information as it reviews the feasibility report.

Please contact Carolyn Cooper at 608-931-9387 or by email at [carolyn.cooper@wisconsin.gov](mailto:carolyn.cooper@wisconsin.gov) if you have questions or comments regarding this letter.

Sincerely,



Bridget Kelly  
Waste and Materials Management Program Supervisor  
South Central Region

cc:     Logan Seipel, Ayres (e-copy)  
          Lisa Fleming, Ayres (e-copy)  
          Carolyn Cooper, DNR-WA (e-copy)  
          Colin Maus, DNR-WA (e-copy)  
          Joe Lourigan, DNR-WA (e-copy)  
          Valerie Joosten, DNR-WA (e-copy)