

APPENDIX L1: REVISED SECTION 11 TEXT & TABLES

Revised Section 11 (Determination of Need) Report Text and Revised Tables 11-1 to 11-9 – to replace originally submitted Section 11 in the February 2023 FR from the Ayres Associates-authored section.

11.0 DETERMINATION OF NEED

11.1 INTRODUCTION

This evaluation of the need for the proposed Vertical Expansion of the Adams County Sanitary Landfill has been prepared as part of the Feasibility Report Addendum No. 1 and replaces the needs evaluation provided in the February 2023 Feasibility Report prepared by Ayres Associates. An assessment, utilizing the most recent data available regarding solid waste management practices in Central Wisconsin, is included for the Adams County Sanitary Landfill and the anticipated service area for the facility. NR 512.17 requires that a feasibility report contain an evaluation to justify the need for the facility, in accordance with Wisconsin Statute s. 289.28, which states an expansion must not provide more than 15 years of waste capacity at any given time at that landfill. In assessing the need for the facility, the Wisconsin Department of Natural Resources (WDNR) will consider the following issues:

- The approximate service area for the facility, which takes into account the economics of waste collection, transportation, and disposal;
- The volume of waste suitable for disposal at the facility and generated within the anticipated service area;
- The design capacity of the following facilities located within the anticipated service area of the facility:
 - Approved facilities, as defined under s. 289.01, including the potential for the expansion of those facilities on contiguous properties already owned or controlled by the applicant;
 - Nonapproved facilities, as defined under s. 289.01, which are environmentally sound—the assumption being that a nonapproved facility is not environmentally sound unless evidence to the contrary is produced;
 - Other facilities for which Feasibility Reports have been submitted and determined to be complete by the WDNR;
 - Facilities for the recycling of solid waste or for the recovery of resources from solid waste that have been licensed by the WDNR;
 - Proposed facilities for the recycling of solid waste or for the recovery of resources from solid waste for which plan of operations have been approved by the WDNR;
 - Solid waste incinerators licensed by the WDNR; and
 - Proposed solid waste incinerators, for which plans of operation have been approved by the WDNR.

Additional items to consider for this evaluation include the following from the Adams County Code of Ordinances, Part II, Chapter 306, Article II, Statute 306–26:

- All permitted private and commercial haulers, as well as Adams County residents, must deliver garbage, trash, refuse, and recyclable materials to the County landfill unless a "like tonnage" agreement with Adams County exists.
- Haulers must travel along designated routes established by agreement between Adams County and the Town of Strong Prairie, especially for customers within Strong Prairie.
- Private haulers delivering waste to the Adams County landfill from outside Strong Prairie are also required to use the designated routes.

The remainder of this analysis addresses these issues and provides information to evaluate the need and the expected site life for the proposed Vertical Expansion of Adams County Sanitary Landfill. This evaluation is based

on the WDNR's draft guidance document "Landfill Needs and Site Life - A Guide for Applicants, DNR Staff and the Public," dated September 2004 (WDNR, 2004).

11.2 NEEDS ANALYSIS BASED ON THE WASTE INTAKE FOR THE SERVICE AREA

11.2.1 Service Area

For the purposes of this evaluation, the service area is defined on a county-by-county basis and includes the area from which Adams County Sanitary Landfill currently receives the majority of its waste. The Adams County Sanitary Landfill service area for the proposed Vertical Expansion is shown in Figure 6 and includes all or part of the following Wisconsin counties: Adams, Columbia, Juneau, Marquette, Sauk, Waushara, and Wood. A copy of Figure 6 is provided in Appendix D1 of the Addendum No. 1 submittal.

The proposed Vertical Expansion will be a publicly owned facility, owned and operated by Adams County. The service area that will support the proposed Vertical Expansion may change over time and will be determined by economic, political, social, and geographic conditions. The availability of waste for disposal at Adams County Sanitary Landfill is dependent on a complex set of variables, including the availability of disposal capacity at other landfills, the cost of waste disposal, the type and quantity of wastes, waste transportation costs, the value associated with a waste disposal service, the rate of waste disposal, economic development, recycling economics, and governmental regulations. A change in one or several of these variables will result in landfill operators, such as Adams County Sanitary Landfill, receiving waste from a continually varying service area. Furthermore, multiple factors contribute to the movement of waste, and the service area of landfills. These factors are subject to an ever-evolving economic landscape that is influenced by but not limited to: regulatory measures, fuel prices, industry best practices, corporate/company policies, regional economics and industry growth or decline. This is especially true of areas that are on the outer limits of a service area. It should be noted that the service area for Adams County Sanitary Landfill and other landfills can, and do, change over the life of the facility due to the many factors that influence waste generation flows, and where and how solid waste is managed.

11.2.1.1 Economics of Waste Collection, Transportation and Disposal

A component of determining the feasibility of the needed vertical expansion is analyzing the economics of waste collection, transportation, and disposal. The Adams County Sanitary Landfill is a full-service waste facility that provides waste collection and hauling, recycling at their Material Recovery Facility (MRF), and disposal via the existing Landfill. These services allow Adams County to provide low-cost waste services to its county residents versus contracting through a private entity. Additionally, since the Adams County Sanitary Landfill service area includes adjacent counties, Adams County can compete with private haulers to extend their waste hauling services.

Disposal costs, or tip fees, must be considered for feasibility of a proposed expansion. As of January 1, 2025, the tip fee for Adams County Sanitary Landfill is \$80 per ton ([Adams County, WI - Solid Waste & Recycling](#)). Tip fees listed on the Posted Gate Landfill Tip Fees for Municipal Solid Waste (MSW) in Wisconsin and Surrounding Counties, published by the WDNR in 2019 (<https://dnr.wisconsin.gov/sites/default/files/topic/Landfills/ftipfees.pdf>), ranged between \$38 to \$107 per ton for landfill in Wisconsin. At that time, the Adams County Sanitary Landfill was charging \$60 per ton. The Glacier Ridge Landfill in Dodge County, which competes in a portion of the same service area, charged \$52.16 per ton in 2019. It should be noted that not all landfills with an overlapping service area were included in the WDNR's Posted Gate Landfill Tip Fees for Municipal Solid Waste (MSW) in Wisconsin and Surrounding Counties, 2019 Update. Haul distances of 40 miles or more are economically feasible. This is supported with current operations where waste is routinely transported over 40 miles for disposal at this facility.

11.2.2 Waste Disposal Rates

11.2.2.1 Wisconsin

In order to estimate the future waste disposal rates for the service area, the state-wide waste disposal rate on a tons/capita/year and pounds (lbs)/capita/day basis were calculated first using the annual Landfill Tonnage Reports published by the WDNR and State population data. To date, the WDNR has only published Landfill Tonnage Reports through 2024 and this evaluation uses published data to the greatest extent practicable. Table 11-1 summarizes the data used to calculate the Wisconsin waste disposal rate. State-wide population data from 2010 – 2024, published by the Wisconsin Department of Administration, were used to determine the state-wide waste disposal rate on a per capita basis. The ratio of municipal to commercial/industrial (non-municipal) waste disposal for the State was determined from the WDNR Landfill Tonnage Reports (2010 – 2024), which show that the MSW landfills located in Wisconsin received waste in various ratios from MSW and Non-MSW materials. The ratio ranged from 1.0:1 (MSW to Non-MSW) in 2010, steadily decreased to an estimated 0.8:1 by 2012, then increased again to approximately 1.0:1 in 2013 and has been near 1.0:1 through 2024. Recycled or Land Ban items were not included in the disposal rate since they were banned from landfill disposal. Since tipping fee and economics changed within the last five years, the 5-year average of Wisconsin waste disposal was used in this analysis. The 5-year average waste disposal rate at MSW landfills in Wisconsin from 2020-2024 was calculated to be 0.75 tons/capita/year for municipal waste and 0.65 tons/capita/year for industrial/commercial waste, for a combined waste disposal rate of 1.40 tons/capita/year. This converts to 4.10 lb/capita/day for municipal waste and 3.55 lb/capita/day for industrial/commercial waste, for a combined disposal rate of 7.65 lb/capita/day.

As the population increases in the State, the volume of solid waste generated and disposed is expected to also increase. The state-wide annual population growth rate, calculated over a ten-year period (2015 – 2024) was determined to be 0.40 percent, as shown on Table 11-1.

Recycling efforts have impacted waste disposal rates in Wisconsin. Wisconsin Act 335 (Recycling Law) established prohibitions on the landfilling of certain types of waste. The prohibitions took effect in 1991, 1993, and 1995. The prohibitions for 1991 and 1993 were for white goods, car batteries, waste oil, and yard waste. The most significant prohibition (s. 159.07), which took effect in January 1995, involved cardboard containers and packages, magazines, glass, plastics, newspaper, office paper, and tires. In 2009, Wisconsin implemented mandatory recycling of electronic devices that was made effective in 2010. Table 11-1 excluded items because of the implemented recycling laws. Since these recycling laws have been in effect for an extended period, they are not expected to have further impacts on waste disposal rates.

11.2.2.2 Service Area

An estimated waste disposal rate for the service area (defined in Section 11.2.1 above) in 2025 was calculated in Table 11-2. Population data by County, published by the Wisconsin Department of Administration, for counties included in the service area were used to determine the service area waste disposal rate on a cubic yards per year (cy/yr) basis. The service area estimated waste disposal in 2025 (404,627 tons/year) was calculated by multiplying the total service area population in 2025 (289,019 people) by the state-wide average disposal rate (1.40 tons/capita/year, provided on Table 11-1). This converts to an estimated waste disposal rate in 2025 of 539,502 cy/year, using an assumed in-place waste density of 1,500 lb/cy.

The use of the WDNR Landfill Tonnage Reports for determining the waste disposal rate at MSW landfills for the Adams County Sanitary Landfill service area assumed the following:

- Future solid waste disposal practices will remain similar to recent trends.
- The Adams County Sanitary Landfill service area is represented by the state's average waste disposal rates.

- Changes in recycling rates due to changes in China and other foreign countries rejecting contaminated unprocessed recycled materials from the United States are not included. Recent trends indicate this will increase landfill waste disposal rates in the United States.

As the population increases in the service area after the year 2025, the volume of solid waste generated and disposed is expected to also increase. On the basis of the 2020 Census, the State of Wisconsin Department of Administration population estimates, and recycling efforts, waste disposal rates are expected to increase at a Service Area population-weighted average of approximately 0.21 percent per year for the counties within the Adams County Sanitary Landfill service area. Table 11-2 provides the calculated annual growth rate for the service area. This is a slower growth rate than the state-wide annual population growth rate of 0.40 percent (calculated in Table 11-1).

11.2.2.3 Site Specific

Projected waste disposal rates at Adams County Sanitary Landfill can be estimated using the average annual percent change (growth) year over year when evaluating the need for the proposed Vertical Expansion. Annual waste disposal (tons) records obtained from the WDNR Landfill Tonnage Reports for the Adams County Landfill are summarized on Table 11-3. The estimated airspace volume (cy) consumed for each year was calculated by converting tons to pounds and applying an in-place waste density of 1,500 lb/cy. An annual percent change in volume consumed was then calculated for each year. The annual percent change ranged between -25 percent to 39 percent. An average annual percent change for the last five years (2020 – 2024), which exhibited somewhat stabilized growth rates, was calculated to be approximately 5 percent. Table 11-3 summarizes these percent change calculations.

The higher annual percent change calculated for years 2018 and 2019 was a product of policy changes taking effect. Out of county waste, previously capped at 10,000 tons per year, beginning in year 2014 was increased to 15,000 tons per year. Additionally, a contract with a third-party hauler increased the disposal rate alone by 59% for years 2019 through 2021.

The published annual waste acceptance rates at Adams County Sanitary Landfill have increased at a greater rate than the observed population growth rates for both the State and service area discussed above.

Construction and demolition (C&D) waste is a relatively large waste stream for Adams County Sanitary Landfill. Historically, the intake for C&D waste has varied quite considerably over the last five years. In 2020, 0 tons of C&D waste were accepted. Then, in 2021 the total tonnage of C&D was 2,396 tons. The next three years (2022-2024) were 19,612, 24,494 and 23,862 tons, respectively. In the last five years (2020 - 2024), the landfill has received an average of approximately 14,073 tons of C&D waste. This average intake has ranged from 0% to 49.7% of the total waste tonnage intake into the Adams County Sanitary Landfill.

The percent increase from 2021 to 2022 was 718% and approximately 25% from 2022 to 2023. In 2023, Adams County Sanitary Landfill received 24,494 tons of C&D waste which is approximately 50% of their overall intake for that year. C&D waste received in 2024 was only slightly less, at 48.4% of the overall waste intake.

11.2.3 Available Waste Capacity

The design capacities of facilities located within or near the service area of the Adams County Sanitary Landfill, including approved and proposed disposal, recycling, and recovery facilities, and solid waste incinerators, are discussed in the following subsections. The available waste disposal capacity available state-wide, at a service area level and at the Adams County Sanitary Landfill were evaluated as part of the needs analysis.

11.2.3.1 Wisconsin

There is an estimated 124,460,829 cy of available waste disposal capacity in the State of Wisconsin in 2025. This state-wide capacity is based on the WDNR 2024 Landfill Tonnage Report which lists the available waste capacity as of January 1, 2025. However, a handful of landfills did not have the 2025 available capacity listed in the 2024 Landfill Tonnage Report. For landfills without an available capacity listed on the report, an available capacity was calculated using the total tons for waste categories 1 – 33 and multiplying it by the assumed in-place waste density of 1,500 lb/cy then subtracted from the “Capacity as of January 2024” provided in the 2024 report or even the 2023 report in some instances. In some cases, the information was provided from the landfill staff for those landfills, rather than a calculation.

11.2.3.2 Service Area

To estimate the volume of waste likely to be disposed of at the Adams County Sanitary Landfill in the future, it was necessary to gauge the competitive effect of other landfills vying for available waste within the Adams County Sanitary Landfill service area. This required an analysis of the degree to which the service areas of competing landfills overlap that of Adams County Sanitary Landfill, giving weight to haul costs, tipping fees, population, and other competitive factors. County boundaries were used for defining service area overlap. To utilize service area boundaries other than the county boundaries would require an analysis of individual communities, rural residences, industries, and commercial establishments served by each landfill competing for waste from that area. This information changes constantly and is not readily available, since it is found only in customer lists of haulers, usually controlled by competing landfills and unavailable for this analysis.

Table 11-4 lists the landfills with available waste disposal capacity that overlap with the service area for the Adams County Sanitary Landfill. The service area for landfills within or near the Adams County Sanitary Landfill was determined by reviewing other available Feasibility Reports and conversing with Adams County Solid Waste Department staff that indicated where market conditions allowed for competing landfills to overlap service areas. The percentage of overlap for different landfills estimated in Table 11-4 was determined by the current service area (by county) weighted for current population of shared counties. The estimated waste disposal capacity for each landfill listed on Table 11-4 was provided from the WDNR 2024 Landfill Tonnage Report and indicates the available volume at each landfill as of January 1, 2025. The percent overlap for each landfill was multiplied by the available site capacity to calculate the landfill capacity available for the Adams County Sanitary Landfill service area. The sum of these provides the total waste capacity available for the Adams County Sanitary Landfill service area, which is 2,446,720 cy.

11.2.3.2.1 Approved Facilities

An “approved facility” is defined under s. 289.01 as “a solid or hazardous waste disposal facility with an approved Plan of Operation (PO) under s. 289.30, or a solid waste disposal facility initially licensed within three years prior to May 21, 1978, the owner of which successfully applies within two years after May 21, 1978, for a determination by the WDNR that the facility’s design and PO comply substantially with the requirements necessary for plan approval under s. 289.30.” This subsection discusses approved facilities within or near the Adams County Sanitary Landfill service area in Wisconsin and facilities providing disposal capacity in Wisconsin, in the areas of overlap.

The following facilities were evaluated in the analysis of need using conditions as they are known to currently exist and receive waste from the Adams County Sanitary Landfill service area. Information provided on Wisconsin waste disposal facilities within or near the service area is from the WDNR Landfill Tonnage Report for 2024. The actual disposal capacity may vary, depending on changes in site-specific disposal rates. The 2024 fill rates for each landfill listed below were assumed to be the same as the reported Categories 1-33 total in 2024. The counties identifying the approximate service area for each site are listed. The counties listed are those areas in which the majority of waste to each site originates. Tons from the WDNR Landfill Tonnage Reports were

converted to cubic yards using an assume 1,500 lb/cy in-place waste density. Counties underlined for other disposal facilities indicate county service areas that coincide with those included in the Adams County Sanitary Landfill service area. For the other landfills in the service area, the percent of waste from the Adams County Sanitary Landfill service area was calculated by weighted population estimates of counties that coincided with Adams County Sanitary Landfill in Wisconsin.

Adams County Landfill, Adams County (Lic. 3150)

January 2025 disposal capacity:	250,320 cy
Fill rate (2024):	65,703 cy/yr
Percent of waste from Adams County Landfill service area:	100%
Service area included:	<u>Adams, Columbia, Juneau, Marquette, Sauk, Waushara, Wood</u>

Cranberry Creek Landfill, Wood County (Lic. 2967)

January 2025 disposal capacity:	5,503,190 cy (includes expansion)
Fill rate (2024):	273,312 cy/yr
Percent of waste from Adams County Landfill service area:	27%
Service area included:	<u>Clark, Jackson, Juneau, Lincoln, Marathon, Marquette, Portage, Price, Taylor, Waupaca, Waushara, Wood</u>

Valley Trail Recycling & Disposal, Green Lake County (Lic. 3066)

January 2025 disposal capacity:	3,380,189 cy
Fill rate (2024):	242,080 cy/yr
Percent of waste from Adams County Landfill service area:	16%
Service area included:	<u>Adams, Calumet, Columbia, Dodge, Fond Du Lac, Marathon, Outagamie, Portage, Sauk, Waupaca, Waushara, Wood</u>

Deer Track Park Landfill, Jefferson County (Lic. 3230)

January 2025 disposal capacity:	2,448,945 cy
Fill rate (2024):	385,361 cy/yr
Percent of waste from Adams County Landfill service area:	4%
Service area included:	<u>Columbia, Crawford, Dane, Dodge, Grant, Green, Iowa, Jefferson, Lafayette, Richland, Rock, Vernon, Walworth</u>

Glacier Ridge Landfill, Dodge County (Lic. 3068)

January 2025 disposal capacity:	3,587,545 cy
Fill rate (2024):	851,435 cy/yr
Percent of waste from Adams County Landfill service area:	2%
Service area included:	<u>Columbia</u> , Dane, Dodge, Fond Du Lac, Green Lake, Jefferson, Milwaukee, Ozaukee, Sheboygan, Washington, Waukesha, Winnebago

11.2.3.2.2 Proposed Facilities

It is necessary to discuss the proposed facilities for which Feasibility Reports have been submitted and determined to be complete by the WDNR when assessing the need for a proposed facility. Presently, there is one Feasibility Report that was deemed complete on February 15, 2024 for an additional 4,500,000 cy of waste disposal capacity at the Cranberry Creek Landfill. This additional waste disposal capacity that is pending PO approval has been included on Table 11-4.

The proposed Vertical Expansion at Adams County Landfill is expected to add approximately 247,450 cy of airspace in 2026, pending WDNR approval of the plan of operation following a feasibility determination for the expansion.

11.2.3.2.3 Non-Approved Facilities

Non-approved facilities are defined in s. 289.01(24) as a licensed solid or hazardous waste disposal facility that is not an approved facility. No unapproved facilities are currently operating in the service area, nor are any expected to operate in the service area during the life of the proposed Vertical Expansion.

11.2.3.2.4 Existing and Proposed Recycling and Resource Recovery Facilities

The Wisconsin Recycling Law, Act 335, was followed by NR 544 (WDNR, January 1987), which came into effect on January 1, 1995. The promulgation of Act 335 has reduced waste volumes disposed at landfills within Wisconsin. NR 544, the "Effective Recycling Programs" Code, provides detailed guidance to responsible units on how to develop and maintain an effective recycling program.

These efforts have banned items from landfill disposal that include electronics, lead acid batteries, major appliances, used oil, yard waste, aluminum containers, corrugated paper and other container board, foam polystyrene packaging, glass containers, magazines, newspapers, office paper, plastic containers (#1 and #2), steel containers, tires, and bi-metal steel/aluminum containers. Some local ordinances require other items to be recycled. Due to the landfill ban, the Wisconsin per capita solid waste disposal rates in Table 11-1 do not include recyclable material and do not need to be adjusted to account for these materials.

Many ongoing waste recovery and recycling programs are currently operating in the Adams County Sanitary Landfill service area. These programs have been in place for the past several years as a result of recycling laws, county solid waste plans, economic incentives, and voluntary programs. Future recycling efforts are expected to fluctuate with the prices paid for recycled materials and with the reduction in waste suitable for recovery.

A local unit of government identified as the "responsible unit" generally oversees recycling efforts in the State of Wisconsin. In many cases, the responsible unit is the county; however, smaller units of local government often maintain responsible unit status for their own community within the county. For example, Milwaukee County is the responsible unit for all of Milwaukee County and all communities within the county participate in the program. On the other end of the spectrum, Clark County has 44 individual responsible units within the county.

Due to the large number of responsible units within the service area, it is difficult to identify representative recycling rates and the effectiveness of recycling programs. Recycling plans vary and the responsible unit has

little or no control over where private residents take their recyclable materials. As a result, the amount of recycled material listed in a responsible unit's annual report is not all inclusive for the program area.

11.2.3.2.5 Solid Waste Incinerators

No licensed solid waste incinerators are currently operating in the Adams County Sanitary Landfill service area. Incineration accounts for approximately 2% of the total statewide MSW disposal in Wisconsin.

Incinerated waste was not included in the calculation of the per capita waste disposal rate for Wisconsin residents. As a result, the per capita disposal rates presented in Table 11-1 do not need to be adjusted to account for incineration rates.

11.2.4 Projected Waste Disposal Rates and Estimated Site Life

Per capita solid waste disposal rates and population estimates were used to determine the quantity of waste that is generated and disposed of within the State of Wisconsin (Table 11-1), the Adams County Sanitary Landfill service area (Table 11-2) and at the Adams County Sanitary Landfill (Table 11-3). These disposal rates were used to estimate future waste disposal rates to be applied within the existing and proposed available waste capacity statewide, within the service area and at Adams County Landfill, when the proposed Vertical Expansion is operational.

11.2.4.1 Wisconsin

There is an estimated 124,460,829 cy of available waste disposal capacity in the State of Wisconsin in 2025. Table 11-5 estimates the remaining years of waste disposal capacity in the State of Wisconsin based on available waste disposal capacity consumed at an estimated waste disposal rate. The estimated waste disposal rate was calculated by multiplying the State population in 2025 by the statewide population growth rate of 0.40% and statewide waste disposal rate of 1.40 tons/capita/yr. Based on calculations on Table 11-5, there is approximately 11 years of remaining waste disposal capacity starting in 2025 for the State of Wisconsin, if no existing landfills are expanded or new landfills are constructed.

Table 11-5 shows there is a need for additional waste capacity in the State. However, the statewide evaluation does not take into consideration where waste is generated and disposed. For example, waste generated in Milwaukee, Wisconsin will likely not be disposed at a landfill outside the 100-mile (or less) radius of the city or county as hauling costs would become cost prohibitive.

11.2.4.2 Service Area

Evaluating the need within the service area is a more accurate reflection on need when compared to statewide, since waste generated within the service area will likely be disposed of within the service area. The waste capacity available for the Adams County Sanitary Landfill service area is approximately 2,446,720 cy (Table 11-4) with a waste disposal rate estimated at 539,502 cy (Table 11-2) in 2025. Table 11-6 summarizes the projected waste disposal capacity and estimated disposal rate per year, starting in 2025, by applying the service area annual growth rate of 0.21 percent to each subsequent year. Based on the calculations in Table 11-6, waste capacity within the service area will be depleted by 2029 without the proposed Vertical Expansion of Adams County.

Table 11-7 summarizes the service area site life again but with the proposed Vertical Expansion included in the available disposal capacity in 2026. Based on the calculations in Table 11-7, waste capacity within the service area will be depleted by 2029 with the proposed Vertical Expansion of Adams County Sanitary Landfill.

Tables 11-6 and 11-7 show there is a need for additional waste capacity in the service area for Adams County Sanitary Landfill.

11.2.4.3 Site Specific

Remaining site life at the Adams County Sanitary Landfill was evaluated based on historical waste acceptance rates shown in Table 11-3 and an average waste acceptance growth rate of 5 percent. The available disposal capacity at Adams County Sanitary Landfill in 2025 was approximately 250,320 cy, as shown on Table 11-4. The estimated disposal rate at Adams County Sanitary Landfill in 2025 was calculated by multiplying the estimated 2024 waste volume consumed by the annual average waste acceptance growth rate of 5 percent. Table 11-8 summarizes the projected waste disposal capacity and estimated disposal rate per year, starting in 2025, by applying the average waste acceptance growth rate of 5 percent to each subsequent year. Based on the calculations in Table 11-8, waste capacity at the Adams County Sanitary Landfill will be depleted by 2028 without the proposed Vertical Expansion.

Table 11-9 summarizes the Adams County Sanitary Landfill site life again but with the proposed Vertical Expansion included in the available disposal capacity in 2026. Based on the calculations in Table 11-9, waste capacity at the Adams County Sanitary Landfill will be depleted by 2031 with the proposed Vertical Expansion.

Tables 11-8 and 11-9 show there is a need for additional waste capacity at the Adams County Sanitary Landfill.

11.3 CONCLUSION

The current site life for the Adams County Sanitary Landfill without the proposed Vertical Expansion is expected to be depleted by 2028 (Table 11-8). The proposed Vertical Expansion, if approved, is anticipated to begin receiving waste in the year 2026. The proposed Vertical Expansion will extend the life of the Adams County Sanitary Landfill approximately four years (2031), if waste consumption rates continue (Table 11-9). The current site life for the Adams County Sanitary Landfill service area without the proposed Vertical Expansion is expected to be depleted by 2029 (Table 11-6). The proposed Vertical Expansion will extend the life of the Adams County Sanitary Landfill service area by less than one year (2029), if waste consumption rates continue (Table 11-7). The State of Wisconsin waste capacity site life was calculated to be 11 years (Table 11-5). The remaining site life calculated for these scenarios were all below the 15-year threshold.

The need for the Adams County Sanitary Landfill Vertical Expansion is justified based on the projected site life of both the Adams County Sanitary Landfill and competing landfills that accept waste from the Adams County Sanitary Landfill service area. In addition to supplying solid waste disposal services, Adams County Sanitary Landfill also provides competition to other municipal solid waste landfills in central Wisconsin. Competition in a marketplace that has seen numerous mergers is needed to provide efficient, cost-effective waste disposal. Approval for the construction and operation of the proposed Vertical Expansion will provide environmentally sound solid waste disposal at competitive costs, which will be beneficial to the communities in the Adams County Sanitary Landfill service area. The approval of the proposed Vertical Expansion will allow for continued uninterrupted waste disposal services in central Wisconsin.

Table 11-1
Wisconsin Waste Disposal Rates
Adams County Sanitary Landfill - Vertical Expansion Feasibility Report - Addendum No. 1
WDNR License No. 3150
Town of Strong Prairie, Adams County, WI

Year	Wisconsin Population ⁽¹⁾	Total Volume of Waste Disposed of in Wisconsin MSW Landfills		Wisconsin Disposal Rate ⁽⁴⁾					
		MSW ⁽²⁾	Non-MSW ⁽³⁾	MSW	Non-MSW	Total	MSW	Non-MSW	Total
		(tons)	(tons)	(tons/capita/year)			(lbs/capita/day)		
2010	5,686,986	4,153,036	4,116,909	0.73	0.72	1.45	4.00	3.97	7.97
2011	5,694,236	4,040,494	4,003,406	0.71	0.70	1.41	3.89	3.85	7.74
2012	5,703,525	3,930,734	4,779,108	0.69	0.84	1.53	3.78	4.59	8.37
2013	5,717,110	3,908,613	3,941,357	0.68	0.69	1.37	3.75	3.78	7.52
2014	5,732,981	3,977,291	4,187,778	0.69	0.73	1.42	3.80	4.00	7.80
2015	5,753,324	3,991,389	4,228,574	0.69	0.73	1.43	3.80	4.03	7.83
2016	5,775,120	4,070,860	4,470,469	0.70	0.77	1.48	3.86	4.24	8.10
2017	5,783,278	4,222,091	4,234,245	0.73	0.73	1.46	4.00	4.01	8.01
2018	5,816,231	4,286,143	4,473,260	0.74	0.77	1.51	4.04	4.21	8.25
2019	5,843,443	4,422,423	4,289,910	0.76	0.73	1.49	4.15	4.02	8.17
2020	5,854,594	4,350,249	3,603,943	0.74	0.62	1.36	4.07	3.37	7.44
2021	5,901,473	4,478,130	3,703,388	0.76	0.63	1.39	4.16	3.44	7.60
2022	5,949,155	4,398,873	4,051,449	0.74	0.68	1.42	4.05	3.73	7.78
2023	5,951,400	4,473,716	4,136,203	0.75	0.69	1.45	4.12	3.81	7.93
2024	5,989,256	4,500,656	3,728,739	0.75	0.62	1.37	4.12	3.41	7.53
AVERAGE (2020-2024 - last 5 years)				0.75	0.65	1.40	4.10	3.55	7.65

Prepared by: DJP Checked by: TD

Statewide Annual Population Growth Rate (2015-2024)	0.40%
---	-------

Footnotes:

(1) Population data from Wisconsin Department of Administration - Time Series Population Estimates (1970-2024) (Time_Series_Co_2024.xlsx)

(2) MSW (municipal solid waste) tons includes Category 1 Wastes from WDNR Landfill Tonnage Reports.

(3) Non-MSW tons includes Categories 2-6 and 19-27 from WDNR Landfill Tonnage Reports for the year 2010. Years 2011-2014 Non-MSW tons includes Categories 2-6 and 19-28. Years 2015-2020 Non-MSW tons includes Categories 2-6 and 19-31. The year 2021 Non-MSW tons includes Categories 2-6 and 19-32. Years 2022 - 2024 Non-MSW tons includes Categories 2-6 and 19-33.

(4) Per capita annual disposal rates are rounded numbers where specific MSW or Non-MSW rates may not equal the Total Rates.

Table 11-2
Service Area Population
Adams County Sanitary Landfill - Vertical Expansion Feasibility Report - Addendum No. 1
WDNR License No. 3150
Town of Strong's Prairie, Adams County, WI

County	2020 Census ⁽¹⁾	1/1/2025 Estimate ⁽¹⁾	Numeric Change	Percent Change	Annual Growth Rate
Adams	20,654	20,995	341	1.7%	0.33%
Columbia	58,490	58,888	398	0.7%	0.14%
Juneau	26,718	27,252	534	2.0%	0.40%
Marquette	15,592	15,589	-3	0.0%	0.00%
Sauk	65,763	67,775	2,012	3.1%	0.60%
Waushara	24,520	24,590	70	0.3%	0.06%
Wood	74,207	73,930	-277	-0.4%	-0.07%
TOTAL	285,944	289,019	n/a	n/a	0.21%

Prepared by: DJP Checked by: TD

Statewide Average Disposal Rate (2020-2024) ⁽²⁾	1.40	ton/capita/yr
Estimated Waste Disposal (2025) ⁽³⁾	404,627	tons/year
Average Waste Density ⁽⁴⁾	1,500	lbs/cubic yard
Estimated Waste Disposal (2025)	539,502	cubic yards/year

Footnote:

(1) Population data from Wisconsin Department of Administration, from 2020 Census and 1/1/2025 estimates; County Preliminary Population Estimates (https://doa.wi.gov/Pages/LocalGovtsGrants/Population_Estimates.aspx)

(2) Statewide Average Disposal Rate is calculated on Table 11-1.

(3) Estimated Waste Disposal (2025) is calculated by multiplying the Total 2025 Population Estimate by the Statewide Average Disposal Rate (2020-2024).

(4) Average In-Place Waste Density from Draft WDNR Landfill Needs and Site Life (WDNR, 2004).



TETRA TECH

Table 11-3
Historical Waste Acceptance Volumes
Adams County Sanitary Landfill - Vertical Expansion Feasibility Report - Addendum No. 1
WDNR License No. 3150
Town of Strong Prairie, Adams County, WI

Year	Waste Accepted - All (Ton)	Estimated Volume Consumed (Cubic Yards)	Annual Percent Change (%)
2011	16,729	22,305	-
2012	15,689	20,919	-6%
2013	17,892	23,856	14%
2014	24,880	33,173	39%
2015	27,156	36,208	9%
2016	20,315	27,087	-25%
2017	21,740	28,987	7%
2018	28,003	37,337	29%
2019	39,024	52,032	39%
2020	40,666	54,221	4%
2021	44,115	58,820	8%
2022	47,981	63,975	9%
2023	49,270	65,693	3%
2024	49,277	65,703	0%
Mean:	31,624	42,165	-
Median:	27,580	36,773	-
Avg Last 5 Years	46,262	61,682	5%

Prepared by: DJP Checked by: TD

Notes:

1. Tonnage intake rates from WDNR Landfill Tonnage Reports (2011 - 2024). Includes out of state waste.
2. Volume consumed at 1,500 lbs/cy per Draft WDNR Landfill Needs and Site Life Guidance Doc. (WDNR, 2004).

Table 11-4
Solid Waste Disposal Capacity for Service Area
Adams County Sanitary Landfill - Vertical Expansion Feasibility Report - Addendum No. 1
WDNR License No. 3150
Town of Strong Prairie, Adams County, WI

Site Name	County	Estimated Site Capacity ⁽¹⁾ (Cubic Yards)	Recently added Expansion Capacity (Cubic Yards)	Waste Received from the Adams Co. Service Area ⁽²⁾ (percent overlap)	Site Capacity Available for the Adams Co. Service Area (Cubic Yards)
Adams County	Adams	250,320	0	100%	250,320
Cranberry Creek Landfill ⁽³⁾	Wood	1,003,190	4,500,000	27%	1,485,861
Valley Trail Recycling & Disposal	Green Lake	3,380,189	0	16%	540,830
Deer Track Park Landfill	Jefferson	2,448,945	0	4%	97,958
Glacier Ridge Landfill	Dodge	3,587,545	0	2%	71,751
TOTAL		10,670,189	4,500,000	-	2,446,720

Prepared by: DJP Checked by: TD

Footnotes:

(1) Estimated site capacity data was collected from WDNR 2024 Wisconsin Municipal and Industrial Waste Landfill Tonnage Report - Capacity as of January 1, 2025. (<http://dnr.wi.gov/topic/Landfills/Fees.html>)

(2) Percent Waste from anticipated service area is estimated based on the current service area (by county) weighted for current population of shared counties. This was based on information provided by Adams County staff on where market conditions show competition with the other service area landfills. Industrial waste monofills permitted to only receive industrial waste from an approved source do not compete for industrial waste potentially received by Adams Co.

(3) Estimated Site Capacity for the Cranberry Creek Landfill was provided by CCL site personnel, as it was not included in the WDNR 2024 Landfill Tonnage Report. An expansion of the Cranberry Creek Landfill received Feasibility Determination from the WDNR on February 15, 2024. The Plan of Operation for the expansion is currently under review by the WDNR.



TETRA TECH

Table 11-5
Average State Disposal Rate and Remaining Capacity without Expansion
Adams County Sanitary Landfill - Vertical Expansion Feasibility Report - Addendum No. 1
WDNR License No. 3150
Town of Strong Prairie, Adams County, WI

Statewide Waste Disposal Rate	1.40	tons/cap/yr
Statewide Population Growth Rate	0.40%	annually

Year	Available Waste Disposal Capacity (Cubic Yards)	Estimated Waste Disposal (Cubic Yards)	Remaining Years of Waste Disposal Capacity
2025	124,460,829	11,224,664	11
2026	113,236,165	11,269,563	10
2027	101,966,602	11,314,641	9
2028	90,651,960	11,359,900	8
2029	79,292,061	11,405,339	7
2030	67,886,721	11,450,961	6
2031	56,435,761	11,496,765	5
2032	44,938,996	11,542,752	4
2033	33,396,244	11,588,923	3
2034	21,807,322	11,635,278	2
2035	10,172,043	11,681,819	1
2036	0	11,728,547	0
2037	0	11,775,461	0
2038	0	11,822,563	0
2039	0	11,869,853	0
2040	0	11,917,332	0

Prepared by: DJP Checked by: TD

Notes:

1. Statewide waste disposal rate is average per-capita disposal rate in Wisconsin from 2020-2024 (Table 11-1).
2. Statewide population growth rate for years 2015 through 2024, calculated on Table 11-1.
3. Available Waste Disposal Capacity as of January 1, 2025 per WDNR 2024 Landfill Tonnage Report is the total waste disposal capacity for all Wisconsin landfills.
4. Estimated MSW disposal in 2025 is estimated state population in 2025 (Table 11-1) multiplied by the MSW statewide disposal rate, using the waste density of 1,500 lbs/cy.
5. Remaining years of disposal capacity as of January 1st of year shown.

Table 11-6
Service Area Disposal Rate and Remaining Capacity without Expansion
Adams County Sanitary Landfill - Vertical Expansion Feasibility Report - Addendum No. 1
WDNR License No. 3150
Town of Strong Prairie, Adams County, WI

<i>Statewide Disposal Rate</i>	1.40	<i>tons/cap/yr</i>
<i>Service Area Population Growth Rate</i>	0.21%	<i>annually</i>

Year	Available MSW Disposal Capacity (Cubic Yards)	Estimated MSW Disposal (Cubic Yards)	Remaining Years of MSW Disposal Capacity
2025	2,446,720	539,502	5
2026	1,907,218	540,635	4
2027	1,366,583	541,770	3
2028	824,813	542,908	2
2029	281,904	544,048	1
2030	0	545,191	0
2031	0	546,336	0
2032	0	547,483	0
2033	0	548,633	0
2034	0	549,785	0
2035	0	550,939	0

Prepared by: DJP Checked by: TD

Notes:

1. Statewide disposal rate is average per-capita disposal rate in Wisconsin from 2020-2024 (Table 11-1).
2. Population growth is estimated for service area only, as noted in Table 11-2
3. Available MSW service area disposal capacity for 2025 is calculated on Table 11-4.
4. Estimated MSW Disposal (cubic yards) in 2025 is calculated on Table 11-2.

Table 11-7

Service Area Disposal Rate and Remaining Capacity with Expansion
Adams County Sanitary Landfill - Vertical Expansion Feasibility Report - Addendum No. 1
WDNR License No. 3150
Town of Strong Prairie, Adams County, WI

Statewide Disposal Rate	1.40	tons/cap/yr
Service Area Population Growth Rate	0.21%	annually

Year	Available MSW Disposal Capacity (Cubic Yards)	Estimated MSW Disposal (Cubic Yards)	Remaining Years of MSW Disposal Capacity
2025	2,446,720	539,502	5
2026	2,154,668	540,635	4
2027	1,614,033	541,770	3
2028	1,072,263	542,908	2
2029	529,354	544,048	1
2030	0	545,191	0
2031	0	546,336	0
2032	0	547,483	0
2033	0	548,633	0
2034	0	549,785	0
2035	0	550,939	0

Prepared by: DJP Checked by: TD

Notes:

1. Statewide disposal rate is average per-capita disposal rate in Wisconsin from 2020-2024 (Table 11-1).
2. Population growth is estimated for service area only, as noted in Table 11-2.
3. Available MSW service area disposal capacity for 2025 is calculated on Table 11-4.
4. Estimated MSW Disposal (CY) in 2025 is calculated on Table 11-2.
5. Assumes that Adams Co. Vertical Expansion capacity of 247,450 CY extends the life of the landfill starting in 2026.

Table 11-8

Existing Adams Co. Disposal Rate and Remaining Capacity without Expansion
Adams County Sanitary Landfill - Vertical Expansion Feasibility Report - Addendum No. 1
WDNR License No. 3150
Town of Strong Prairie, Adams County, WI

<i>Statewide Disposal Rate</i>	1.40	tons/cap/yr
<i>Service Area Population Growth Rate</i>	0.21%	annually
<i>Average Waste Acceptance Rate Change</i>	5%	annually

Year	Available Disposal Capacity (Cubic Yards)	Estimated Disposal Rate (Cubic Yards)	Remaining Years of Disposal Capacity
2025	250,320	68,867	4
2026	181,453	72,193	3
2027	109,260	75,681	1
2028	33,579	79,337	0
2029	0	83,169	0
2030	0	87,187	0
2031	0	91,398	0
2032	0	95,813	0
2033	0	100,442	0
2034	0	105,294	0
2035	0	110,380	0

Prepared by: DJP Checked by: TD

Notes:

1. Statewide disposal rate is average per-capita disposal rate in Wisconsin from 2020-2024 (Table 11-1).
2. Service area population growth is estimated for service area only, as noted in Table 11-2.
3. Average waste acceptance rate change is based on historical waste acceptance rates (2020 - 2024), as noted in Table 11-3.
4. Available disposal capacity as of January 1, 2025 per 2024 tonnage report, as noted on Table 11-4.
5. Estimated disposal rate in 2025 is the 2024 estimated volume consumed (CY), calculated on Table 11-3, with the calculated average annual waste acceptance growth rate applied. Estimated disposal rate for subsequent years apply the average annual waste acceptance growth rate to the year prior.
6. Remaining years of disposal capacity as of January 1st of year shown.

Table 11-9
Existing Adams Co. Disposal Rate and Remaining Capacity with Expansion
Adams County Sanitary Landfill - Vertical Expansion Feasibility Report - Addendum No. 1
WDNR License No. 3150
Town of Strong Prairie, Adams County, WI

<i>Statewide Disposal Rate</i>	1.40	tons/cap/yr
<i>Service Area Population Growth Rate</i>	0.21%	annually
<i>Average Waste Acceptance Rate Change</i>	5%	annually

Year	Available Disposal Capacity (Cubic Yards)	Estimated Disposal Rate (Cubic Yards)	Remaining Years of Disposal Capacity
2025	250,320	68,867	4
2026	428,903	72,193	6
2027	356,710	75,681	5
2028	281,029	79,337	4
2029	201,692	83,169	2
2030	118,523	87,187	1
2031	31,337	91,398	0
2032	0	95,813	0
2033	0	100,442	0
2034	0	105,294	0
2035	0	110,380	0

Prepared by: DJP Checked by: TD

Notes:

1. Statewide disposal rate is average per-capita disposal rate in Wisconsin from 2020-2024 (Table 11-1).
2. Service area population growth is estimated for service area only, as noted in Table 11-2.
3. Average waste acceptance rate change is based on historical waste acceptance rates (2020 - 2024), as noted in Table 11-3.
4. Available disposal capacity as of January 1, 2025 per 2024 tonnage report, as noted on Table 11-4.
5. Estimated disposal rate in 2025 is the 2024 estimated volume consumed (CY), calculated on Table 11-3, with the calculated average annual waste acceptance growth rate applied. Estimated disposal rate for subsequent years apply the average annual waste acceptance growth rate to the year prior.
6. Remaining years of disposal capacity as of January 1st of year shown.
7. Assumes that Adams Co. Vertical Expansion capacity of 247,450 CY extends the life of the landfill starting in 2026.