

Sole Source Justification Form

1. **Department Information:**

Name: Charlie Kuhn

Department: Solid Waste Division

Date: 3/13/2026

2. **Vendor Information:**

Vendor Name: Burns & McDonnell Engineering

Vendor Address: 6909 S Lyncrest Pl. Sioux Falls, SD 57108

Vendor Contact Name: Luke Rodig

Email Address: larodig@bursmcd.com

Phone Number: 605-940-3569

3. **Item Information:**

Item Name: Permitting of North LF

Item Description: Burns and McDonnell will be going through the process of getting the north area at the Brookings Regional Landfill permitted for future use.

Item Quantity: 1

Estimated Cost: \$398,000

4. **Justification for Sole Source: (see attached)**

Provide justification including but not limited to the following factors:

- 1. Unique features
- 2. Market research
- 3. Project impact
- 4. Previous experience

5. **Supporting Documentation:**

See Attachments

Department Head or Designee Signature: John Thompson Date 3/19/2026
City Manager Signature Paul Briseno Date 3/22/2026
Finance Director Signature [Signature] Date 3/20/2026

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Brookings Landfill Expansion Permit Engineering Services

Burns & McDonnell has served as the City of Brookings' landfill engineering consultant since the original siting, planning, permitting, and design of the facility in the early 1990s and has provided continuous solid waste engineering support for over 30 years. This long-standing relationship includes preparation of prior solid waste permit renewals and modifications, including previous permit renewals and a 50-foot vertical expansion that extended landfill capacity by more than 20 years. As the engineer of record for these efforts, Burns & McDonnell maintains detailed institutional knowledge of the landfill's historical development, subsurface conditions, design assumptions, operational practices, environmental monitoring systems, and regulatory commitments. The proposed northern expansion is a major permit modification that builds directly upon this historical framework. Maintaining the same consulting engineer provides technical continuity, preserves design intent, and reduces the risk of inconsistencies that could delay regulatory review or require re-evaluation of previously approved analyses.

In addition, the scope of services for the expansion includes hydrogeologic investigation support, environmental review and field surveys, preparation of updated permit drawings and calculations, and coordination with the South Dakota Department of Agriculture and Natural Resources (DANR). These tasks require a comprehensive understanding of the landfill's existing conditions, leachate infrastructure, settlement characteristics, airspace utilization, and financial assurance calculations. These are components that Burns & McDonnell has helped design, analyze, and update for decades. Maintaining continuity in this work avoids the cost and schedule impacts associated with onboarding a new consultant, recreating historical records, and re-establishing regulatory relationships. Continuing with Burns & McDonnell provides efficiency, protects the City's prior investments, supports timely permit approval, and positions the landfill expansion for seamless integration with existing permitted operations and long-term planning objectives.

Charlie Kuhn

Solid Waste Manager

City of Brookings

4101 30th Street

Brookings, SD 57006

Office: (605) 693-3667

Cell: (605) 531-3060

E-mail: ckuhn@cityofbrookings-sd.gov

QUALIFICATION STATEMENT

Our team is comprised of engineers, geologists, scientists, and planners with experience in (but not limited to) landfill and solid waste facility siting, permitting, design, and construction, landfill gas collection and energy recovery, leachate collection and treatment, hydrogeology, regulatory reporting and compliance, recycling, groundwater monitoring and reporting, stormwater permitting, air permitting, waste-to-energy conversion, operations efficiency, and financial analysis. To convey Burns & McDonnell's understanding of the objectives and scope of requested services of Request for Qualifications (RFQ), we have compiled the following sections to summarize how Burns & McDonnell can support the City with these requested services.

FIRM DESCRIPTION

At Burns & McDonnell, our engineers, construction professionals, architects, planners, technologists, and scientists do more than plan, design, and construct. With a mission unchanged since 1898—to make our clients successful—our more than 13,500 professionals partner with you to solve your toughest challenges efficiently and safely. As a 100-percent employee-owned company, we bring an ownership mentality and work as an extension of your staff because we are not successful unless and until you are.

We form long-term partnerships with publicly owned solid waste systems, some for over 30 years. We develop relationships at each stakeholder level from City council to City engineering and public works management, solid waste managers, to facility operators, developing cost-effective and easily maintainable landfill solutions. Our team understands the needs of publicly owned and operated facilities and the communities they serve. We value our role as a dependable partner and provide recommendations based on our comprehensive understanding of solid waste management and your system.

We are committed to your success, long-term.

13,500
PROFESSIONALS
.....
100%
EMPLOYEE-OWNED
.....
FOUNDED IN
1898
.....
MORE THAN 70
OFFICES



We absolutely made the right decision in selecting Burns & McDonnell for our landfill engineering services... The team worked with efficiency, met project deadlines with ease, and provided a solution that doubled our disposal airspace.

-Suhail Kanwar, Formerly
McKenzie County, North Dakota

Full Service Solid Waste Solutions

Since 1970, the Burns & McDonnell Solid Waste and Resource Recovery Practice has successfully completed hundreds of planning, siting, permitting, design, construction, economic and operational projects on a wide range of solid waste and resource recovery issues. We have a history of working with local, state, and federal governmental entities to successfully develop integrated solid waste facilities. Solid waste management and resource recovery requires progressive and innovative approaches in the context of sustainable development. With Burns & McDonnell, you get a full spectrum of services, combining our solid waste and recycling planning and engineering experience, along with our business focused consulting.

REGIONAL SOLID WASTE EXPERIENCE

Burns & McDonnell offers the knowledge and experience the City needs for Landfill Engineering Services. Below highlights our team’s project experience with solid waste clients in the Upper Midwest.

CLIENT	PROJECT EXPERIENCE										
	Solid Waste Planning Services	Solid Waste Engineering Services	Regulatory Experience	Landfill Permit Modification & Renewals	Design and Construction Administration Services	Hydrogeologic Evaluation	Collections & Recycling	Financial Evaluations	Site & Remedial Investigations	Landfill Gas/Air Permitting	Site Infrastructure
South Dakota											
City of Brookings	•	•	•	•	•	•		•	•	•	•
City of Rapid City	•	•	•	•	•	•	•	•		•	•
City of Sioux Falls	•	•	•	•	•	•	•	•	•	•	•
City of Vermillion	•	•	•	•	•	•	•	•	•	•	•
Tri-County Landfill	•	•	•		•	•		•			
City of Huron	•	•	•		•			•			•
Cheyenne River Sioux Tribe	•	•	•	•	•	•			•		•
North Dakota											
City of Dickinson	•	•	•				•	•			•
City of Grand Forks	•	•	•	•	•	•	•	•	•	•	•
City of Minot	•		•				•	•			
City of Williston	•	•	•	•	•	•	•	•	•	•	
McKenzie County	•	•	•	•	•	•		•	•	•	•
Nebraska											
Beatrice Area Solid Waste Agency	•	•	•	•	•	•		•	•	•	•
Northeast Nebraska Solid Waste Coalition	•	•	•	•	•	•		•	•	•	
Minnesota											
City of Cloquet	•	•	•					•			
City of Minneapolis	•		•				•	•			•
Clay County	•	•	•		•			•		•	•
Crow Wing County	•	•	•	•	•	•	•	•	•	•	•
Koochiching County	•	•	•	•				•	•		•
Lyon County	•	•	•	•	•	•	•	•	•	•	•
Morrison County	•	•	•	•	•	•		•		•	
Olmsted County	•										
Western Lakes Superior Sanitary District	•		•				•	•			•

PROJECT EXAMPLES

Landfill Engineering Services

Sioux Falls, SD



CLIENT: City of Sioux Falls

YEARS: 2013 - Present

SERVICES:

Design and Construction Administration Services:
Cells, Leachate Ponds, Leachate Recirculation and
Force main Systems, Landfill Gas Collection and
Control Systems, Scale House, Public Drop-off Area

General Solid Waste Engineering Services

The City of Sioux Falls Regional Sanitary Landfill is the largest landfill in South Dakota and receives approximately 230,000 tons of MSW and 100,000 tons of C&D waste per year. The Landfill includes MSW and C&D waste disposal areas, a public drop-off area, yard waste composting, leachate storage and treatment ponds, and a landfill gas collection and control system with flare and conditioning system for beneficial re-use project. Since 2003 (2013 with Burns & McDonnell), members of our project team have provided the City of Sioux Falls with comprehensive solid waste engineering services. These services include the following:

[Solid Waste Permitting](#)

[Cell 4 Design & Construction Administration \(2021 – 2023\):](#)

- ▶ Cell 4 construction design completed in 2021, construction commenced in 2022 with substantial completion in June 2023
 - 15-acre cell, recompacted low-permeability subgrade with geomembrane liner and geocomposite + geogrid for east side slope
 - 2 leachate sump and riser pipes (primary/back-up), 1 inward gradient system (IGS) sump below liner for groundwater extraction
 - Pumps are transducer controlled with VFDs and full SCADA integration
 - Leachate forcemain from cell to leachate ponds, with dual cleanouts for maintenance

[Multiple Landfill Gas & Leachate System Improvement Projects \(2016 – Present\):](#)

- ▶ Leachate recirculation forcemains, laterals, and mobile spray connections
 - Recirculation laterals are designed to pump leachate into the waste to reduce the amount of leachate disposal off-site (i.e., POTW)
 - Mobile spray connections have been installed at the perimeter of the cells to apply leachate at the working face or areas of daily/intermediate cover for dust suppression and evaporation
- ▶ Landfill gas wellfield expansion
 - Annual expansions of the landfill gas wellfield including dual extraction landfill gas and leachate vertical wells.
 - Landfill gas header system expansions including condensate lift stations and forcemain installations

[Permit Renewals and Modifications:](#)

- ▶ 2025: Landfill expansion permit. Prepared permit application for an approximate [120-acre horizontal landfill expansion](#) north of the existing MSW landfill. The expansion will provide an additional 10 Million cubic yards of airspace and extend the life of the landfill for an additional 50 years.
- ▶ 2020: Permit renewal and modification. Revised base grades of Cells 4-5 to provide another 220,000 cubic yards of landfill airspace capacity as well as improve leachate management and conveyence.
- ▶ 2014: Permit renewal and modification. Increased landfill sideslopes from 4:1 to 3:1 slopes which accounted for significant increase in airspace, permitted a new MSW Cell 10 to piggyback over the old landfill

Greenfield Landfill Site Development

Eagle Butte, SD

The Cheyenne River Economic Development Corporation (CREDCO) retained the services of Burns & McDonnell for the site assessment, permitting, and design of a new Sanitary Landfill for the Cheyenne River Sioux Tribe located in north central South Dakota. As part of the site assessment, Burns & McDonnell evaluated the solid waste program's existing site conditions and operations, completed a location restrictions desktop review, conducted environmental and cultural desktop reviews, and performed environmental field surveys of the proposed land. Findings from the site assessment were used to develop conceptual design options of the new landfill and were incorporated into grant applications for final development of the sanitary landfill. Burns & McDonnell is assisting CREDCO with the development of these grant applications. Permitting design and application preparation has been completed in 2024, and design efforts are currently on-going for the proposed sanitary landfill development. Construction on the new landfill is anticipated to begin in 2025 with estimated construction costs of \$10M.

CLIENT: Cheyenne River Sioux Tribe

YEARS: 2023 - Ongoing

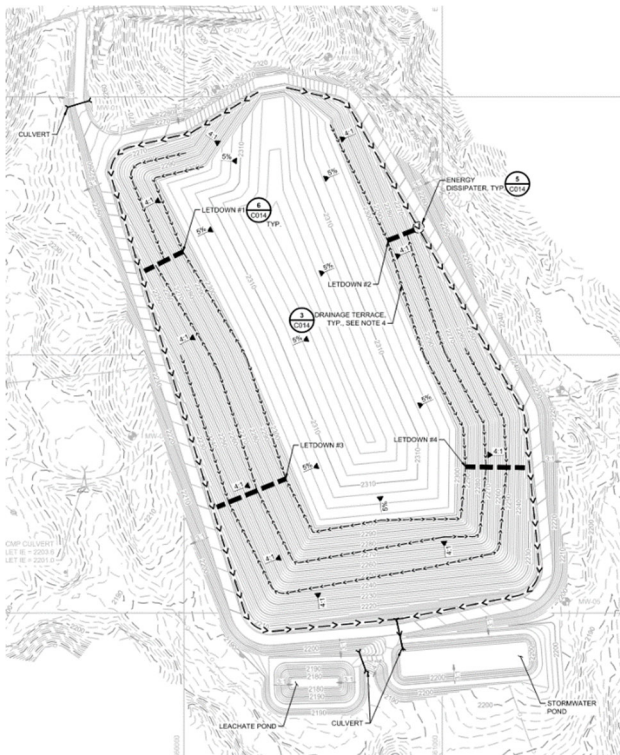
CLIENT CONTACT:

JD Williams, CEO, CREDCO
(605) 964-8909 |
credcojd@gmail.com

SERVICES:

Site Planning
Environmental Assessment
Hydrogeologic Investigation

USDA Rural Development Funding
Landfill Permitting
Phase 1 Development Design



Landfill Engineering Services

Brookings, SD



CLIENT: City of Brookings

YEARS: 1990 - Present

SERVICES:

Design and Construction Administration Services

General Solid Waste Engineering Services

Solid Waste Permitting

Air Quality Permitting and Reporting

We have been providing solid waste consulting services to the City of Brookings for over 30 years including the original siting, planning, permitting, and design of the Landfill. Recent services provided have included general solid waste engineering support services, design and construction administration for the Area 3W cell construction and Area 1 closure, and other planning and technical support services.

Area 3W Cell Construction and Area 1 Closure:

- ▶ Key components: Area 3W cell expansion, Area 1 closure, and Citizen Campus construction
- ▶ Design completed ahead of schedule in December 2019
- ▶ Presented at City Council Study Session meeting in January 2020 to inform council of the construction project
- ▶ Project was awarded in February 2020
- ▶ Construction was completed in September 2020 on budget and with **ZERO** change orders



General Solid Waste Engineering Services:

- ▶ Evaluation of leachate force main and gravity sewer from landfill to sanitary sewer connection
- ▶ Industrial discharge permitting with Brookings Municipal Utilities for leachate discharge
- ▶ Remaining life calculations and airspace utilization analysis
- ▶ Preparation of annual landfill capacity and closure post-closure report
- ▶ Financial assurance calculation updates
- ▶ Prepared industrial wastewater permit application through BMU
- ▶ Annual DANR air emissions operations and compliance certification reporting
- ▶ Waste filling guidance and special waste acceptance reviews

Landfill Permitting Services:

- ▶ Recently completed renewal of the Title V Air Operating Permit, application was prepared and submitted to DANR in less than 1 month of contract authorization
- ▶ Solid waste permit renewal application completed and approved by DANR in 2020
- ▶ Permit modification for a 50-foot vertical expansion was prepared by Burns & McDonnell providing the Landfill with an additional 20+ years of capacity at no additional capital cost

Landfill Engineering Services

Vermillion, SD



YEARS: 2014 - Present

SERVICES:

Design and Construction Administration Services: landfill cells, closures, leachate pond and force main routing, recycling center

General Solid Waste Engineering Services

Solid Waste Permitting

Air Quality Permitting and Reporting

We have been providing solid waste consulting services to the City of Vermillion since 2014. Recent services provided include:

Leachate Pond 2 (2023):

Leachate Pond 2 Construction: 1.5-million gallon leachate collection and treatment pond, liner profile consisted of prepared subgrade, secondary geomembrane liner, geocomposite with leak detection sump and riser, and primary geomembrane liner. Aerators, liquid level transducers, and leak detection pump were also installed.



Cell 6 Construction & Cell 2-3 Closure (2021):

- ▶ Design Plans and Specifications for the project were issued for bid in May 2021 with no change orders to the design contract. Key design components:
 - Cell 6 excavation, in-situ clay liner, 2-foot compacted clay liner, leachate collection system
 - 5.6-acre partial closure of Cells 2-3, intermediate cover, compacted clay liner, topsoil placement, seeding
- ▶ Design completed in May 2021 with no changes to the design contract.
- ▶ Project was awarded in June 2021
- ▶ Construction was completed in November 2021 on budget and with ZERO change orders.

General Solid Waste Engineering Services:

- ▶ Solid Waste Permit Renewals
- ▶ Remaining life calculations and soil management analysis
- ▶ Financial assurance calculation updates
- ▶ Annual DANR air emissions operations and compliance certification reporting
- ▶ Greenhouse gas emissions reporting
- ▶ Waste filling guidance and special waste acceptance reviews

Solid Waste Master Plan

Rapid City, SD



The Rapid City Landfill receives approximately 140k tons annually, and operations include landfill disposal, scalehouse, citizen’s campus, and yard waste composting. Another 40k tons of material is diverted for reuse or recycled through the MRF. The MRF includes co-mingled recycling sorting and processing. The City’s collection program includes curbside refuse, recycling, and yard waste collection for over 21,000 households. Burns & McDonnell supported the development of a Solid Waste Program Master Plan consisting of:

- ▶ **Stakeholder Engagement:** Coordination with council, sustainability and commercial hauling representatives to provide input and direction on key program initiatives
- ▶ **Landfill Evaluation:** Operations and condition assessment, airspace utilization studies, conceptual expansion layouts, fill progression planning, cell construction/closure phasing, capital improvement and equipment replacement plans, scalehouse operations and traffic flow evaluation, yard waste composting assessment, citizen campus operations
- ▶ **MRF Assessment:** facility operations and condition assessment, evaluation of alternative operational scenarios and facility improvements, capital improvement and equipment replacement schedules, and recycling program review
- ▶ **Collection Review:** collection program review and analysis, route recommendations, and fleet replacement schedule
- ▶ **Cost of Service Analysis and Rate Model:** identify appropriate cost centers and customer classifications, allocate operations and maintenance, capital, and equipment costs to respective categories, forecast various operational scenarios, and develop rate model with proposed rate adjustments to meet program needs

CLIENT: City of Rapid City

YEARS: 2020 – 2022

CLIENT CONTACT:

Jeff Barber, Solid Waste Superintendent
(605) 355-3496 |
Jeff.Barber@rcgov.org

SERVICES:

Stakeholder Engagement

Landfill Evaluation

MRF Assessment

Collection Review

Co-Compost Facility Evaluation

Yard Waste Operations Review

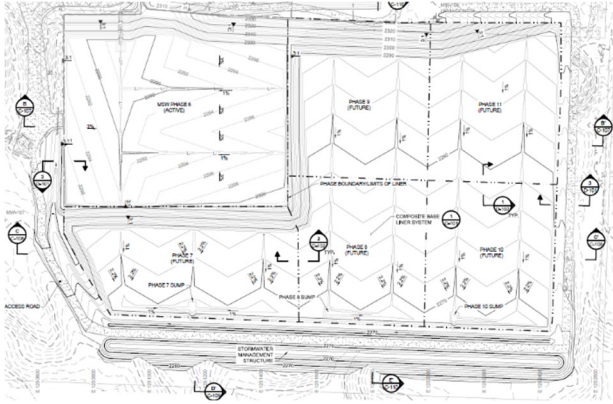
Cost of Service Analysis and Rate Model Development

PROJECT SUCCESS:

Proposed rate adjustments developed through the cost of service analysis were presented to and approved by City Council in July 2021. The rate adjustments established rates through 2025 for collection services and landfill tipping fees, and provide for a necessary increase in revenue to support the needs of the solid waste division including: additional staffing, increasing annual equipment replacement allowance, and establishing capital improvement funding.

Solid Waste Services

McKenzie County, North Dakota



CLIENT: McKenzie County, ND

YEARS: 2014 - Ongoing

CLIENT CONTACT:

Rick Schreiber, Solid Waste Director

701-586-3445 | rschreiber@co.mckenzie.nd.us

SERVICES:

Permit Applications for MSW and Inert Disposal
Expansion Master Plan

Landfill Cell and Leachate Pond Design

Construction Quality Assurance

Capital and Tipping Fee Analysis

Scale House and Shop Facility Design

Facility Planning, Siting and Permitting

The existing solid waste permit modification application on file with the North Dakota Department of Health (NDDH) was revised to address deficiencies identified by NDDH. Modifications to the permit documents included revisions to the proposed permitted disposal footprint and changes to landfill base grade elevations to comply with the NDDH General Location Standards. Burns & McDonnell worked efficiently to address NDDH concerns and incorporate design enhancements in the spring of 2014 for Phase 6 cell construction activities to proceed in the summer of 2014 (less than two months after being retained by McKenzie County). In 2018, Burns & McDonnell completed a facility master plan to identify areas of expansion on the facility for the Landfill, and in 2019 a permit application for the landfill expansion for cells 7 through 11 was submitted and approved by NDDH.

Design, Construction Management and General Engineering Services

Burns & McDonnell has provided comprehensive design and construction administration services including submittal review, construction quality assurance (CQA), and regular project coordination activities for the following projects:

- ▶ Scalehouse, outbound scale, and entrance road improvements (2020-2021): \$1.9M construction costs
- ▶ Landfill equipment maintenance building (2019-2020): \$1.96M construction costs
- ▶ Phase 6 cell redesign and construction: \$4.6M construction costs
- ▶ Phase 3 through 5 partial closure design and construction
- ▶ Leachate Pond 2 design and construction: \$800k costs
- ▶ Public drop-off area design and construction.

In addition to facility design and construction, Burns & McDonnell provides general engineering services to the County on an annual basis, which includes: waste fill guidance, operational and technical assistance, leachate treatment hauling coordination, miscellaneous site upgrades, surveying coordination, environmental monitoring coordination, annual reporting, pipe cleaning coordination, airspace calculations for waste filling, budgeting assistance, financial assurance estimates, regulatory communications, and other assistance as requested by the County.



Comprehensive Solid Waste Services | City of Grand Forks

Grand Forks, North Dakota

New Greenfield Landfill Master Planning and Permitting

Burns & McDonnell was retained by the City of Grand Forks to provide assistance during the selection of a site for a new municipal solid waste (MSW) landfill. The City's existing landfill was required to be closed in September 2009 due to a Grand Forks International Airport runway expansion, so the siting, master planning, permitting and construction of a new landfill required an aggressive timeline. The Proposed Landfill Preapplication to the NDDH was submitted in December of 2007 (Approved February 2008), hydrogeologic investigations took place in the spring / summer of 2008, and the Landfill Permit Application was submitted to the NDDH in October of 2008. The Air Permit and Solid Waste Permit were issued by the NDDH in April and July of 2009, respectively. Construction commenced in July of 2009 and waste disposal activities at the new MSW Landfill were approved by the NDDH in October of 2009.

Comprehensive Solid Waste Engineering Services

Since permitting of the new Grand Forks Landfill, Burns & McDonnell has provided comprehensive landfill engineering services including: landfill cell design and construction phase services; air emissions sampling, testing, and reporting; cost-of-service evaluation, baling study, and other technical landfill operations support.

Baling Facility Master Plan

The City commissioned Burns & McDonnell to assess potential improvements to the City's Baling Facility. The Baling Facility was constructed approximately 20 years ago. Over the last 20 years, the City's solid waste and recycling programs have evolved, and upgrades to the Baling Facility are necessary to meet needs of the Community.

One of the main objectives of the Plan was to develop a site layout that would separate residential waste customers from commercial waste customers, while improving traffic circulation and safety. The proposed residential customer convenience area traffic circulation configuration was designed to minimize the potential for cross traffic, separate commercial and residential customers, and reduce the potential for vehicle backing (driving in reverse) by making the customer convenience area a one-way drive-through layout. These features will serve to improve customer service, enhance staff visibility, and reduce potential for traffic related accidents.

Project goals included identifying necessary improvements to the City's baling facility, preparation of an opinion of probable construction costs for the improvements, and development of a project implementation schedule in concert with the cost opinions to assist the City with their capital planning process. The project scope included:

- ▶ Layout of new offices/scale/scalehouse at the baling facility
- ▶ Development facility layout concepts to accommodate increased level of service for residential disposal, recycling, and yard waste management
- ▶ Increased automation at scale - hardware and software upgrades (ticketing, billing, and tracking)
- ▶ Facility access and traffic circulation design
- ▶ Construction cost estimating



CLIENT: City of Grand Forks, Nd

YEARS: 1995 - Ongoing

CLIENT CONTACT:

Sharon Lipsh, Public Works Director
701-738-8891 | SLipsh@grandforksgov.com

SERVICES:

Cell design and construction administration
Greenfield Landfill permitting
Financial cost of service modeling

Landfill Engineering Services

Beatrice, Nebraska



Through a competitive RFP process, Burns & McDonnell was retained by BASWA in 2015 to provide solid waste consulting and engineering services. Since 2015, services have included landfill planning, siting, permitting, design, construction phase services, and operational technical assistance. Recent projects include:

- ▶ Design of Phase 1 development of a new greenfield landfill including: Cell 1S, 2-mile-long leachate forcemain from landfill to sanitary sewer tie-in, and site entrance facilities (scales, scalehouse, equipment building, and office space), 2023-2024
- ▶ New greenfield MSW landfill planning and permitting, 2022-2023
- ▶ Landfill expansion permitting, design, and construction quality assurance for Phase 5, completed in 1 year from start of permitting work through construction, 2017
- ▶ NDEE 5-year solid waste permit renewal applications for MSW and C&D landfills
- ▶ Baling evaluation and conversion to area fill operation
- ▶ Capital improvement planning and cost evaluation
- ▶ Landfill fill progression assistance
- ▶ Airspace utilization and volume analysis
- ▶ Leachate and stormwater management support
- ▶ Groundwater monitoring well installs/abandonments
- ▶ NDEE approval for alternative daily cover systems

CLIENT: Beatrice Area Solid Waste Agency

YEARS: 2015-Present

CLIENT CONTACT:

Jason Moore
402-223-2267 |
jmoore@beatrice.ne.gov

SERVICES:

Cell design and construction administration

Greenfield landfill planning, permitting, and design

Cell construction and closure sequencing

Financial modeling

PROJECT SUCCESS:

Provided a quick turnaround for permitting, designing, and constructing a landfill cell expansion for their existing MSW Landfill in 2017. The site was reaching the end of their life in their current permitted cells, and we proposed a solution to expand in the area between the lined Subtitle D landfill and piggy-back over the closed, unlined landfill to provide an additional 9 years of capacity before developing a new landfill off-site.

Landfill Engineering Services

Clarkson, Nebraska



The Burns & McDonnell team has provided the Northeast Nebraska Solid Waste Coalition with comprehensive solid waste consulting services for nearly 30 years since the original landfill siting and permitting was completed in 1993. Our team has provided design and construction services for *six landfill cell expansions*, permit modification applications to increase airspace capacity and incorporate value engineering options for cost savings, and recently completed a landfill master plan which identifies cell expansion alternatives both on-site and on adjacent properties.

Landfill Expansion Permitting (2023-2024):

- ▶ 20-acre horizontal and up to 60-foot vertical expansion for the Landfill. Anticipated to provide an additional 30 years of life.

Area 6-1 Cell Design & Construction Administration (2022 – 2023):

- ▶ Cell design was completed in 2022 ahead of milestone dates and with ZERO change orders to the design contract. Key cell design components:
 - 10-acre cell, 2-ft compacted clay liner, geomembrane liner, geocomposite drainage layer
 - Leachate collection system improvements and perimeter leachate gravity sewer system expansion
- ▶ Area 6-1 construction was completed by September 2023 and under the initial construction contract amount.

Landfill Master Plan (2020 – 2022):

- ▶ Conceptual landfill expansion options both on existing landfill property as well as adjacent properties
- ▶ Cell construction and closure sequencing, soil management planning, facility and infrastructure planning
- ▶ Financial modeling for various operational scenarios including private vs. Coalition operations and increasing or decreasing Coalition member communities.

Area 5 Cell Design & Construction Administration (2015 – 2016):

- ▶ Cell design was completed in 2015 with key cell design components:
 - 10-acre cell, 2-ft compacted clay liner, geomembrane liner, geocomposite drainage layer
 - Permit modification incorporated for reducing depth of perimeter leachate gravity sewer system and eliminating a manhole for construction cost savings of over \$50,000

CLIENT: Northeast Nebraska Solid Waste Coalition

YEARS: 1993-Present

CLIENT CONTACT:

Rob Mercer
402-844-2220 |
rmerc@norfolkne.gov

SERVICES:

Cell design and construction administration (6 cells)

Landfill master plan

Cell construction and closure sequencing

Financial modeling

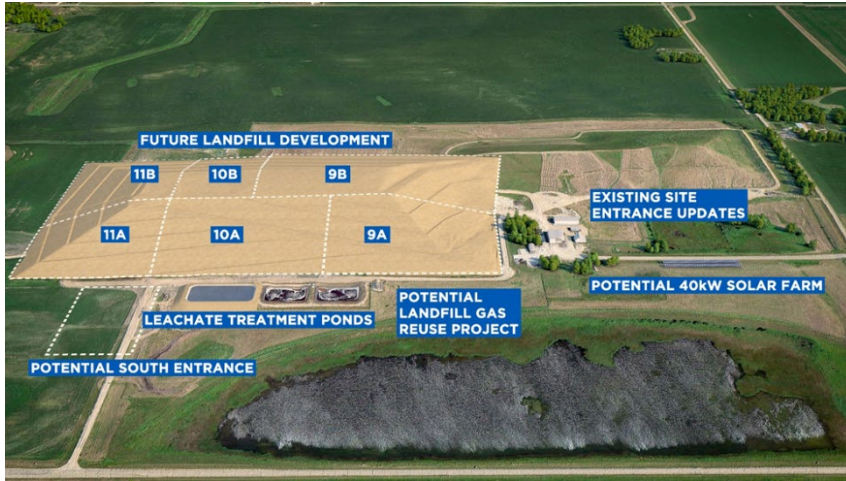
PROJECT SUCCESS:

Identified both horizontal and vertical expansion options to increase the disposal capacity on the existing landfill property extending the life of the landfill for an additional 25+ years.

Performed financial evaluations of multiple operational scenarios and based on the proposed operational improvements and landfill expansion options, the Coalition will not need to increase tipping rates for at least the next 10 years.

Comprehensive Solid Waste Engineering Services

Lyon County, Minnesota



The Lyon County Landfill provides waste disposal and recycling services for Lyon County and the eight-county region. It accepts more than 60,000 tons of industrial and municipal solid waste annually and at a dedicated construction and demolition landfill, approximately 1,000 cubic yards of waste annually. Burns & McDonnell has been providing on-going solid waste engineering services for the Landfill since 2015. Services provided include:

- ▶ Landfill disposal area Phase 9-B design (2023)
- ▶ Landfill disposal area Phase 10A-2 design and construction oversight (2020)
- ▶ Leachate lift station, forcemain, and new load out station design and construction support
- ▶ Landfill permit modification for future Phase 9B construction profile
- ▶ LFG Feasibility Study
- ▶ Leachate recirculation lateral design and installation support
- ▶ Airspace calculations and volume analysis
- ▶ Phase 9A/10A fill planning
- ▶ Financial assurance calculations
- ▶ Survey coordination
- ▶ Operational assistance for leachate, landfill gas and recirculation systems
- ▶ Stormwater Pollution Prevention Plan (SWPPP) development and stormwater permitting assistance
- ▶ Environmental monitoring coordination and reporting
- ▶ Regulatory communication with MPCA
- ▶ Data collection to document GCCS demonstration project
- ▶ Greenhouse gas emissions reporting
- ▶ Capital planning and updates to program tipping fee model

Team Members also helped the County evaluate the conversion of waste to refuse derived fuel (RDF), develop the County's recycling contract, coordinate the geophysics analysis of your closed unlined landfill cover to support the recent permit modification, and identified the vendor for Phase 10A sump cleaning.

CLIENT: Lyon County

YEARS: 2015-Present

SERVICES:

Landfill design and construction administration services

Comprehensive solid waste engineering services

Landfill expansion permitting

Leachate management and LFG system support

Tip fee model, capital planning, and financial assurance

PROJECT SUCCESS:

Key Issue

Lyon County was faced with a \$75,500 change order request from the Contractor during Phase 10A-2 Construction in 2020.

Resolution

Comprehensive construction oversight services over a four-month period where our attention to detail and documentation provided the evidence to negotiate the change order to \$18,000, saving the County about \$57,500.

Lesson Learned

Thorough, well documented construction oversight services are necessary to both verify construction for regulatory approval, confirm that work is completed according to design plans, and in this case, to circumvent unfounded contractor change orders.

SOLID WASTE ENGINEERING SERVICES

Crow Wing County, Minnesota

Crow Wing County is in a cold weather climate and the MSW and C&D landfills receive about 55,000 tons/year and 8,500 cubic yards/year, respectively. Landfill operations include leachate recirculation and LFG recovery for building heating. Members of the Project Team have provided on-going solid waste engineering services supporting the management and operation of the Crow Wing County Landfill for the past 30 years. [During the past year, we completed a landfill master plan for the complete buildout of the municipal solid waste landfill that provides an additional 37.3 million cubic yards \(cy\) of capacity and a projected life of about 120 years.](#)

The expansion accounts for the logical progression cell construction and closure, leachate and LFG infrastructure, as well as stormwater controls. A landfill permit application and environmental assessment worksheet were completed as part of this effort. During the past five years, Burns & McDonnell completed the planning, design, and construction documentation for cell 5. This 5.5-acre cell began operation in 2021 and provides about 500,000 cy of capacity. Technical plans and specifications addressed liner profile, including an underlying leak detection system, leachate collection and pumping, and landfill gas and condensate collection systems.



Other services provided include:

- ▶ Landfill disposal area and leachate pre-treatment pond design, permitting, and construction.
- ▶ Regulatory negotiation for MSW and C&D permitted capacity.
- ▶ MSW landfill and demolition landfill closure design and construction.
- ▶ Hydrogeologic investigation and reporting.
- ▶ Annual reporting, data management, monitoring, regulatory communication, financial assurance calculations, survey preparation; environmental monitoring, and methane monitoring review.
- ▶ Airspace calculations, volume analysis and filling assistance.
- ▶ Report development for the 20-year post-closure period termination for unlined landfill.
- ▶ Drafting of ordinance with setback restrictions.
- ▶ Construction/operational assistance for leachate, LFG, recirculation, and land application systems.
- ▶ Leachate PFAS treatment research and demonstration projects to review reverse osmosis, electric coagulation, evaporation, ion exchange, ammonia stripping, and biodegradation.
- ▶ Development of capital costs for future development.
- ▶ Industrial waste management plan with review of waste generator applications.
- ▶ Recycling feasibility study.
- ▶ LFG-to-energy feasibility research.
- ▶ Stormwater permitting, sampling coordination and reporting, and stormwater pollution prevention plan updates.
- ▶ Pipe cleaning, surveying, and environmental monitoring Requests for Proposals.