



5-YEAR MASTER PLAN

CITY OF ROSWELL

ROSWELL MUNICIPAL LANDFILL

Roswell, New Mexico

September 3, 2025

Mr. Abraham Chaparro
Solid Waste Director
City of Roswell
3006 W. Brasher Rd.
Roswell, NM 88203

Re: 46284.25 Roswell Municipal Landfill Five Year Plan

Dear Mr. Chaparro:

Parkhill is pleased to submit the Roswell Municipal Landfill Five-Year Master Plan. This document provides a high-level roadmap to guide the City's solid waste operations through the next five years ensuring continued compliance, operational efficiency, and environmental stewardship.

The plan addresses the following key elements:

- *Regulatory Compliance:* Renewal requirements for the New Mexico Environment Department Solid Waste Facility Permit and Title V Operating Permit.
- *Operations and Infrastructure:* Projections of waste acceptance rates, critical equipment replacement schedules, and the planned construction of Unit 5B.
- *Capital Planning:* Detailed five-year schedule of improvements with an estimated total investment of \$27.7 million.
- *Future Projects:* Recommended upgrades including a landfill gas collection system, roadway paving, administration and maintenance building improvements, groundwater supply well, scale house plaza upgrades, and litter fencing.

Together, these efforts will allow the City of Roswell to safeguard landfill capacity, enhance operational resilience, and meet the evolving needs of the community while maintaining strong environmental protections.

We appreciate the opportunity to support the City in this important planning effort and look forward to assisting with implementation in the years ahead. Please do not hesitate to reach out with any questions or requests for further detail to 505.504.7764.

Sincerely,

PARKHILL

By 
Tyler Zack, PE
Civil Engineer | Associate

TZ/pp

cc: Ms. Debbie Ryer, Solid Waste Administrative Analyst, City of Roswell Solid Waste Department
Ms. Norma Archuleta, Environmental Compliance Officer, City of Roswell Solid Waste Department

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1.0 EXECUTIVE SUMMARY

The City of Roswell (the City) Solid Waste Department (the Department) owns and operates the Roswell Municipal Landfill (RML) located at 3006 W Brasher Road in Roswell, NM, approximately 2 miles southwest of the city. The facility lies within Township 11 South, Range 23 East, Section 24 and occupies roughly 340 fenced acres. RML has been in operation since 1980 under NMED Permit No. SWM-040334 as a municipal solid waste landfill, serving Roswell, Chaves County, and limited adjacent areas. The landfill operates Monday through Friday, from 7:30 am to 4:00 pm, 8:30 am to 3:00 pm on Saturdays, and is closed on Sundays.

To support projected growth and continued compliance, the City has requested a Five-Year Master Plan (Plan). This Plan outlines regulatory requirements, expected service changes, associated infrastructure needs, projected timelines, and estimated costs. While this Plan is intended to be a roadmap for the next five years, it is intended to be a flexible framework recognizing operational and regulatory variabilities, and will serve as the basis for more detailed design and planning efforts. The following sections describe the need for each of the foreseen expenditures and Table 1 and Figure 1 provide a summary of the associated costs with each item.

2.0 REGULATORY PERMITTING

The City is required to maintain multiple regulatory permits to ensure the continued compliance and safe operation of the Landfill. These permits govern facility design, waste acceptance, operational practices, environmental monitoring, and emissions management. Maintaining current and valid permits is essential to demonstrate compliance with state and federal regulatory requirements, avoid operational interruptions, and provide assurance of environmental protection.

At present, RML operates under the following primary permits.

2.1 NMED Solid Waste Facility Permit

RML is currently authorized to operate under Municipal Solid Waste (MSW) Landfill Permit SWM-040334. MSW Landfill permits are valid for a 20-year period and RML was issued their permit in 2007. In accordance with 20.9.3.25 NMAC, the application for permit renewal must be submitted no later than 12 months prior to permit expiration. The application for permit renewal must be submitted to NMED on or before October 29, 2026 to maintain compliance with its current permit and the New Mexico Solid Waste Rules.

2.2 Title V Operating Permitting

Municipal solid waste landfills that meet major source thresholds for air emissions, such as RML, are required to obtain a Title V Operating Permit under the federal Clean Air Act and the New Mexico Environment Department (NMED) Air Quality Bureau. The RML Title V permit was last submitted on October 12, 2022. In accordance with 20.2.70 NMAC, the application for permit renewal must be submitted no later than 12 months prior to permit expiration. This timeline requires that the application for renewal must be submitted no later than October 12, 2026. Obtaining and maintaining a Title V permit is essential for regulatory compliance, operational accountability, and supporting the landfill's long-term expansion and sustainability objectives.

3.0 SITE OPERATIONS AND CRITICAL PROJECTS

3.1 Facility Waste Acceptance Rates

RML currently accepts approximately 80,000 tons of solid waste per year. Based on industry standard waste compaction rates and site-specific operational practices, this volume equates to an estimated 125,000 to 145,000 cubic yards of annual airspace utilization under existing waste acceptance and compaction efficiency conditions. These calculations incorporate a range of typical compaction densities achieved by municipal landfills utilizing heavy compaction equipment (generally 1,100 – 1,300 pounds per cubic yard, depending on waste stream and operational efficiency).

Looking ahead, it is reasonable to anticipate that waste volumes will increase as a result of per capita waste generation increases associated with regional economic development. For planning purposes, a 3% per annum growth factor has been applied to the baseline waste acceptance rate. Under this projection, the annual consumption of permitted airspace is expected to increase to as much as 180,000 cubic yards per year (Figure 2) by Fiscal Year 2031 (FY 31).

This projected increase in airspace consumption has direct implications for the long-term operational life of the facility. At current compaction efficiencies and projected growth rates, the landfill will experience accelerated airspace depletion compared to static demand scenarios. Accordingly, ongoing monitoring of incoming tonnage, waste density, and compaction effectiveness will be critical in refining life-of-site calculations and ensuring adequate planning for future cell development, liner system construction, and closure sequencing.

Additionally, it is recommended that the Department consider implementing regular airspace utilization aerial surveys and compaction performance reviews. These efforts will verify assumptions used in the master planning process, identify opportunities for operational efficiency improvements, and ensure that projections remain aligned with actual field performance.

3.2 Equipment Maintenance and Replacement

Compactors, and other equipment, require routine maintenance to maintain efficiency; routine maintenance should include planned rebuilds or replacement at the following approximate intervals based on 302 eight-hour workdays per year:

- Compactors: 15,000 – 20,000 hours (approximately every six to eight years).
- Bulldozers: 12,000 – 18,000 hours (approximately every five to seven years).
- Scrapers: 12,000 – 18,000 hours (approximately every five to seven years).
- Rolloff Trucks: 200,000 – 300,000 miles (approximately every seven to ten years).
- Sideloader Trucks: 200,000 – 300,000 miles (approximately every seven to ten years).
- Rear/Front Loader Trucks: 200,000 – 300,000 miles (approximately every seven to ten years).
- Grapppler Trucks: 200,000 – 300,000 miles (approximately every seven to ten years).
- Supervisor/Support Trucks: 150,000 – 200,000 miles (approximately every ten to fifteen years).

The existing compactor on site is foreseen to be replaced in the next five years. The replacement cost is included in this Plan and is scheduled for FY 27 and has an estimated cost of \$1.6M. This will allow the City to maintain efficient waste compaction at the RML with the potential for both compactors to

operate concurrently. Several support vehicles are also scheduled for replacement over the next five years to strengthen and sustain landfill operations.

3.3 Collection Services

The Department currently utilizes 300-gallon plastic containers for residential waste collection with each bin being shared between multiple dwellings. While these units provide semi-adequate capacity, they present challenges with respect to equipment handling in tight spaces, lack volume during peak waste generating times, and lack compatibility with newer collection technologies. To improve system efficiency, enhance service consistency, and align with industry best practices, the Department proposes a phased transition to 96-gallon roll-out carts for residential customers.

The transition will be structured to achieve an 80% conversion rate within five years, allowing for budgetary planning, procurement, and community adjustment to the new system. Roll-out carts will be compatible with automated or semi-automated collection vehicles, reducing manual handling personnel safety risks, improving collection speed, and providing a more uniform service offering. To support this transition, the Department will implement a vehicle procurement program targeting the acquisition of two new sideload trash trucks per year dedicated to curbside collection services. These sideload vehicles are designed for automated cart pickup, which maximizes the efficiency gains of the roll-out cart system. The phased addition of trucks will ensure that the fleet is modernized gradually, spreading capital costs over multiple fiscal years while ensuring that operational capacity keeps pace with service expansion.

In conjunction with the cart conversion and vehicle acquisition, the Department intends to adjust residential collection frequency from two days per week to one day per week. The increased container capacity per household will provide adequate storage volume to accommodate the reduced collection frequency, while simultaneously lowering operational costs through reduced vehicle mileage, labor hours, and fuel consumption. This change is also expected to reduce greenhouse gas emissions and minimize traffic congestion associated with collection operations.

For commercial collection services, the Department plans to expand capacity and improve efficiency through the procurement of front-loading collection vehicles and standardized commercial containers. Front-load systems are widely recognized for their ability to streamline collection of variable waste streams, particularly for high-volume generators such as retail, institutional, and industrial customers. Implementation will increase route efficiency, provide improved service accessibility for a range of business sizes, and create scalability as demand evolves. While efforts will likely be focused on the development of the sideload curbside collection program, frontload operation are still a priority however, may fall outside of the five year window.

3.4 Unit 5B Cell Construction

To avoid any lapse in available disposal capacity, the Department must initiate construction of Cell 5B prior to reaching one year of remaining airspace in the current active cell (Cell 5A). It is considered a best practice in landfill management to always maintain a minimum of twelve months of permitted and constructed disposal airspace. This buffer is critical because construction of new landfill cells is subject to a number of uncertainties including construction approvals, contractor availability, weather-related delays, supply chain disruptions for geosynthetic materials, and unforeseen subsurface conditions. Without adequate contingency airspace, any delay in construction could result in service interruptions, forced waste hauling to distant facilities, increased operational costs, or potential regulatory noncompliance.

The proposed Cell 5B (Exhibit C) encompasses approximately 23.3 acres located directly south of the current active disposal area. The sizing analysis accounts for both current disposal volumes and the projected 3% annual growth in tonnage, ensuring that Cell 5B will provide sufficient capacity to meet regional disposal needs for multiple years after completion.

Construction of Cell 5B is scheduled for FY 28 to ensure adequate overlap with the final utilization of Cell 5A. This sequencing provides operational flexibility and eliminates the risk of reaching the end of Cell 5A's capacity before the next disposal area is available. The Department may also consider constructing Unit 5B sooner to maintain a lower elevation disposal area to minimize the potential for windblown litter on days with high sustained and/or gusty winds.

Planned construction activities will include:

- Site preparation and grading to establish subgrade elevations and ensure appropriate drainage.
- Excavation and soil balance operations, including stockpiling and management of cover soils.
- Installation of engineered liner systems, consisting of a geosynthetic clay liner, 60-mil High-Density Polyethylene, and a two foot thick protective soil and drainage layer to provide environmental protection in accordance with NMED permit requirements.
- Leachate collection system installation, including drainage aggregate, perforated collection piping, three new collection sumps, risers, and headwalls to manage leachate efficiently.
- Stormwater management controls, including perimeter berms, temporary erosion controls, and integration with the site's overall drainage plan.
- Quality assurance and testing, including third-party Construction Quality Assurance (CQA) to verify compliance with design specifications and regulatory requirements.

The timely construction of Cell 5B is essential to maintaining uninterrupted disposal operations and regulatory compliance. By initiating development well in advance of Cell 5A's depletion, the Department ensures continued capacity, operational flexibility, and resilience against construction uncertainties. The planned design and construction measures not only safeguard environmental performance but also position the landfill to reliably serve the region's disposal needs for years to come.

3.5 Unit 3 Erosion Repairs and Site Drainage Improvements

Unit 3 at the Roswell Municipal Landfill has experienced significant stormwater-induced erosion, necessitating corrective action to restore the integrity of the Final Cover System and associated drainage controls. The scope of work (Exhibit A) will include engineering design and construction phase services focused on targeted reconstruction of the vegetative support layer, restoration of the low-permeability barrier layer, and regrading of protective earthen berms. All activities will be executed in accordance with the facility's current permit and NMED closure standards to ensure continued compliance with regulatory performance criteria for infiltration control and slope stability. In parallel with cover system rehabilitation, the project includes the design and construction of a new Stormwater Detention Pond located at the southeast corner of the property. This facility will be engineered to attenuate peak flows and capture runoff generated from the southeastern drainage basin of the landfill. The pond will incorporate erosion-resistant inlet structures, energy dissipation features, and engineered grading to control velocities, minimize sediment transport, and extend the operational reliability of the overall stormwater management system.

As part of the engineering design phase construction documents will be developed that consist of detailed plan sheets, technical specifications, and contract requirements that meet NMED requirements, industry standards, and City procurement code. Quality assurance/quality control (QA/QC) measures will be implemented under the direction of a Resident Project Representative (RPR), who will monitor soil placement, compaction operations, liner and barrier integrity, and seeding performance. Field and laboratory testing results will be documented and certified within an Engineering Certification Report, serving as the formal record of regulatory compliance.

Collectively, these improvements are intended to reestablish the long-term protective function of the Unit 3 final cover system, provide robust stormwater management capacity, and safeguard the landfill's closure performance, thereby reducing maintenance demands and extending the functional service life of the facility.

4.0 POTENTIAL PROJECTS

4.1 Landfill Gas Collection System Design and Construction

Based on current waste-in-place estimates and projected filling rates, RML is anticipated to exceed 34 megagrams (Mg) of methane generation annually by FY2030. This threshold is a regulatory trigger under the US EPA New Source Performance Standards (NSPS) and requires installation of a compliant Landfill Gas Collection and Control System (GCCS). Exceeding this limit underscores the need to proactively plan for gas management infrastructure to mitigate greenhouse gas emissions, control odors, and reduce potential safety hazards from subsurface gas migration. A properly designed GCCS will not only ensure regulatory compliance but also enhance environmental stewardship by capturing methane and routing it to an appropriate control device.

Implementation of the GCCS (Exhibit G) will include several key steps. First, preparation of a GCCS Design Plan will establish the technical basis for wellfield layout, header piping, condensate management, and gas control equipment in accordance with U.S. EPA and New Mexico Environment Department requirements. A Title V air permit modification will be required to incorporate the system into RML's existing permit framework and formally account for emissions control. Following regulatory approval, construction of the GCCS will involve installation of vertical extraction wells, horizontal collectors, blower/flare systems, and associated monitoring infrastructure. Together, these measures will provide a robust, long-term solution for landfill gas management, supporting both compliance obligations and the landfill's operational sustainability.

In addition to compliance benefits, the captured landfill gas may represent a resource for beneficial use. Depending on gas quality and flow rates, future opportunities could include energy recovery projects such as on-site power generation, pipeline-quality gas upgrading, or renewable natural gas partnerships. Evaluating these options alongside the planned GCCS could provide long-term economic and environmental value for RML.

4.2 Access Infrastructure

RML maintains on-site access roads that were recently rehabilitated with an approximate six-inch layer of compacted basecourse. While this treatment has improved drivability and surface stability, it remains a short to mid-term solution. Unpaved basecourse surfaces are prone to degradation from heavy traffic, precipitation, and wind, which contributes to fugitive dust emissions, increased maintenance, and potential air quality compliance concerns.

To enhance long-term performance, the Department is evaluating the feasibility of paving the landfill's primary access road with asphalt. An asphalt surface would provide a durable, low-maintenance roadway capable of withstanding repetitive heavy loads while significantly reducing dust generation. Additional benefits include improved safety through consistent traction, better stormwater drainage, and reduced rutting and washouts.

While asphalt paving represents a higher initial investment, it is expected to reduce lifecycle costs by minimizing the need for routine grading, watering, and reapplication of basecourse. It would also decrease wear on landfill vehicles and improve operational efficiency, supporting the Department's objective to extend the service life of critical infrastructure while reducing environmental impacts.

4.3 On-Site Infrastructure Upgrades

At the time of this plan, the RML support facilities are fully functional but are not operating at optimal efficiency. These Departmental considerations are intended to serve as recommended improvements that would be largely beneficial to landfill and landfill support operations in the coming five-years. As such, the City has sufficient time to plan and initiate the construction of the following on-site infrastructure:

- Administration Building Improvements and Construction.
- Maintenance Building Construction.
- Ground Water Supply Well Installation.
- Scalehouse Plaza Upgrades.
- Litter Fencing Upgrades.

4.3.1 Administration Building Improvements and Construction

The existing administration building, originally constructed in 1998, has functioned as the central operations hub for Department personnel through the present day. While the building and its associated systems continue to meet baseline operational requirements, several infrastructure upgrades have been identified as necessary to support long-term functionality. These improvements (Exhibit H) are driven by considerations of structural stability, operational efficiency in the context of projected increases in waste volumes, and the overarching goal of maintaining a safe and sustainable work environment.

A key area of concern lies in the building's surrounding terrain, which is insufficiently equipped to manage high-volume precipitation events. With the increasing frequency and variability of extreme weather patterns, the installation of a modernized drainage system has become critical. Additionally, replacement and reinforcement of existing concrete surfaces are recommended to ensure load-bearing capacity, reduce deterioration, and mitigate risks of surface failure. The replacement of old and damaged driveways and parking areas will also minimize excessive wear and tear that facility vehicles are exposed to. Proactive investment in these improvements will enhance site resiliency, reduce long-term maintenance liabilities, and safeguard the continuity of facility operations.

4.3.2 Maintenance Building Improvements and Construction

The City additionally foresees short-term expansion and long term replacement operations to the facility's current maintenance building in the next five years. A landfill maintenance center is a critical component in sustaining safe and efficient landfill operations. Its primary role is to

support the continuous functionality of heavy equipment, site infrastructure, and regulatory systems that collectively ensure compliance and operational stability.

Currently, the City's maintenance facility faces limitations in its ability to fully support the breadth of required function. Expanding or replacing the current facility would improve workflow efficiency, increase repair and maintenance capacity, and better safeguard critical infrastructure (Exhibit F). Most importantly, it would ensure the landfill remains capable of handling projected increases in waste volumes while maintaining compliance with environmental and safety standards.

4.3.3 Ground Water Supply Well Construction

As RML continues to expand, operational activities will extend further to the south and east of the current footprint. The existing groundwater supply infrastructure was originally sited to support the now-closed units, resulting in increased pumping and hauling distances and reduced efficiency for ongoing operations. To better align with the projected development of active and future disposal areas, it is recommended that the Department install a new groundwater supply well in the southeastern portion of the facility (Exhibit D).

Locating a well strategically in this area will improve overall system efficiency by minimizing conveyance requirements, reducing haul distances, and ensuring a consistent water supply near future work zones. The well will provide a reliable source of water to support critical operational needs, including dust suppression for regulatory compliance and worker safety, soil conditioning during daily cover and cell construction, and vector control to minimize nuisance conditions. In addition, the new supply well will enhance operational resilience by distributing groundwater demand across multiple sources, reducing strain on the existing supply system and extending its service life.

4.3.4 Scalehouse Plaza Upgrades

The operating scale house at RML has relied on the current scale system for the past 25 to 30 years. Given the system's age, the Department strongly believes that upgrading to a modern scale system would significantly enhance operational efficiency while reducing the risk of equipment failure that could interrupt tipping operations. To achieve this, the Department proposes the installation of a pit-less scale system in place of the existing below-ground scale, providing a more durable and reliable platform for weighing incoming and outgoing loads (Exhibit B). In addition, to further streamline operations and minimize vehicle queue times, the construction of a dedicated "fast lane" for frequent users, such as city trucks and other regular haulers, would be highly recommended. Together, these improvements are expected to optimize productivity, reduce delays, and support a safer, more efficient, and future-ready landfill operation.

4.3.5 Litter Fencing Upgrades

Currently, RML does not utilize permanent litter fencing around the facility and relies on portable bull fencing strategically located at the active fill face. In accordance with NMED regulations (20.9.5.8 NMAC and 20.9.5.9 NMAC), the Department is responsible for implementing measures to mitigate litter and other potential nuisances, including odors and vectors. To better align with these regulatory requirements, the Department is considering the installation of a permanent perimeter litter fence along strategic sections of the landfill property boundary, approximately 7,500 linear feet, to capture windblown debris, reduce off-

site litter, and improve overall site aesthetics and safety (Exhibit E). Together with the current portable bull fences, these measures will enhance environmental compliance, reduce community impacts, and support a safer, more visually contained landfill operation.

5.0 CONCLUSIONS

The Roswell Municipal Landfill is a critical regional asset, and this Five-Year Master Plan provides a structured roadmap to guide its continued safe, compliant, and efficient operation. The projects outlined, ranging from essential regulatory renewals and unit construction to infrastructure upgrades, erosion control, and landfill gas management represent targeted investments that will protect the environment, extend facility life, and ensure uninterrupted service to the City of Roswell and surrounding communities.

Moving forward, the success of this plan will depend on consistent monitoring, phased implementation, and proactive adaptation to operational, financial, and regulatory conditions. Annual internal reviews, coupled with periodic third-party evaluations, will ensure that priorities remain aligned with emerging needs and regulatory requirements. By committing to these actions, the City will preserve disposal capacity, enhance environmental stewardship, and position the landfill to meet community growth and sustainability goals well into the future.

TABLES

TABLE 1: FIVE YEAR PROJECTION – ENGINEER’S ESTIMATE OF PROBABLE COST

**Table 1: Five Capital Expenditures
Engineer's Opinion of Probable Costs**

Exhibit	Associated Report Section	Capital Expenditure	Scheduled	Cost Estimate
--	2.1.1	NMED Solid Waste Facility Permit Renewal	FY 26	\$ 250,000
--	3.3	Two Sideload Trash Trucks	FY 26	\$ 1,100,000
--	3.3	96 Gallon Roll-out Carts (2,865)	FY 26	\$ 500,000
A	3.5	Unit 3 Erosion Repairs and Site Drainage Improvements	FY 26	\$ 1,244,500
--	3.2	Rolloff Truck	FY 26	\$ 275,000
--	3.2	Supervisor Truck	FY 26	\$ 66,000
--	3.2	Grappler Truck	FY 26	\$ 275,000
--	3.2	Landfill Compactor Replacement	FY 27	\$ 1,600,000
--	2.1.2	Title V Operating Permit Renewal	FY 27	\$ 80,000
--	3.3	Two Sideload Trash Trucks	FY 27	\$ 1,100,000
--	3.3	96 Gallon Roll-out Carts (2,865)	FY 27	\$ 500,000
--	3.2	Rolloff Truck	FY 27	\$ 275,000
--	3.2	Rear or Front Loader Truck	FY 27	\$ 600,000
--	3.2	Supervisor Truck	FY 27	\$ 66,000
B	4.3.4	Scalehouse Plaza Upgrades	FY 27	\$ 568,473
--	4.2	Landfill Access Road	FY 27	\$ 425,000
--	3.2	Grappler Truck	FY 27	\$ 275,000
C	3.4	Unit 5B Cell Construction	FY 28	\$ 5,557,129
--	3.3	Two Sideload Trash Trucks	FY 28	\$ 1,100,000
--	3.3	96 Gallon Roll-out Carts (2,865)	FY 28	\$ 500,000
--	3.2	Landfill UTV	FY 28	\$ 32,500
--	3.2	Grappler Truck	FY 28	\$ 275,000
--	3.2	Rolloff Truck	FY 28	\$ 275,000
D	4.3.3	Ground Water Supply Well Construction	FY 29	\$ 84,722
E	4.3.5	Litter Fencing Upgrades	FY 29	\$ 1,300,000
--	3.3	Two Sideload Trash Trucks	FY 29	\$ 1,100,000
--	3.3	96 Gallon Roll-out Carts (2,865)	FY 29	\$ 500,000
F	4.3.2	Maintenance Building Improvements and Construction	FY 29	\$ 1,431,606
--	3.2	Grappler Truck	FY 29	\$ 275,000
G	4.1	Landfill Gas Collection System Design and Construction	FY 30	\$ 3,516,217
--	3.3	Two Sideload Trash Trucks	FY 30	\$ 1,100,000
--	3.3	96 Gallon Roll-out Carts (2,865)	FY 30	\$ 500,000
H	4.3.1	Administration Building Improvements and Construction	FY30	\$ 948,350
Total 5-year Estimate:				\$ 27,695,497

Notes:

- All estimates in FY 26 dollars

FIGURES

FIGURE 1: FIVE YEAR CAPITAL EXPENDATURES

FIGURE 2: PROJECTED RML WASTE AND AIRSPACE UTILIZATION

Figure 1: Five Year Capital Expenditures

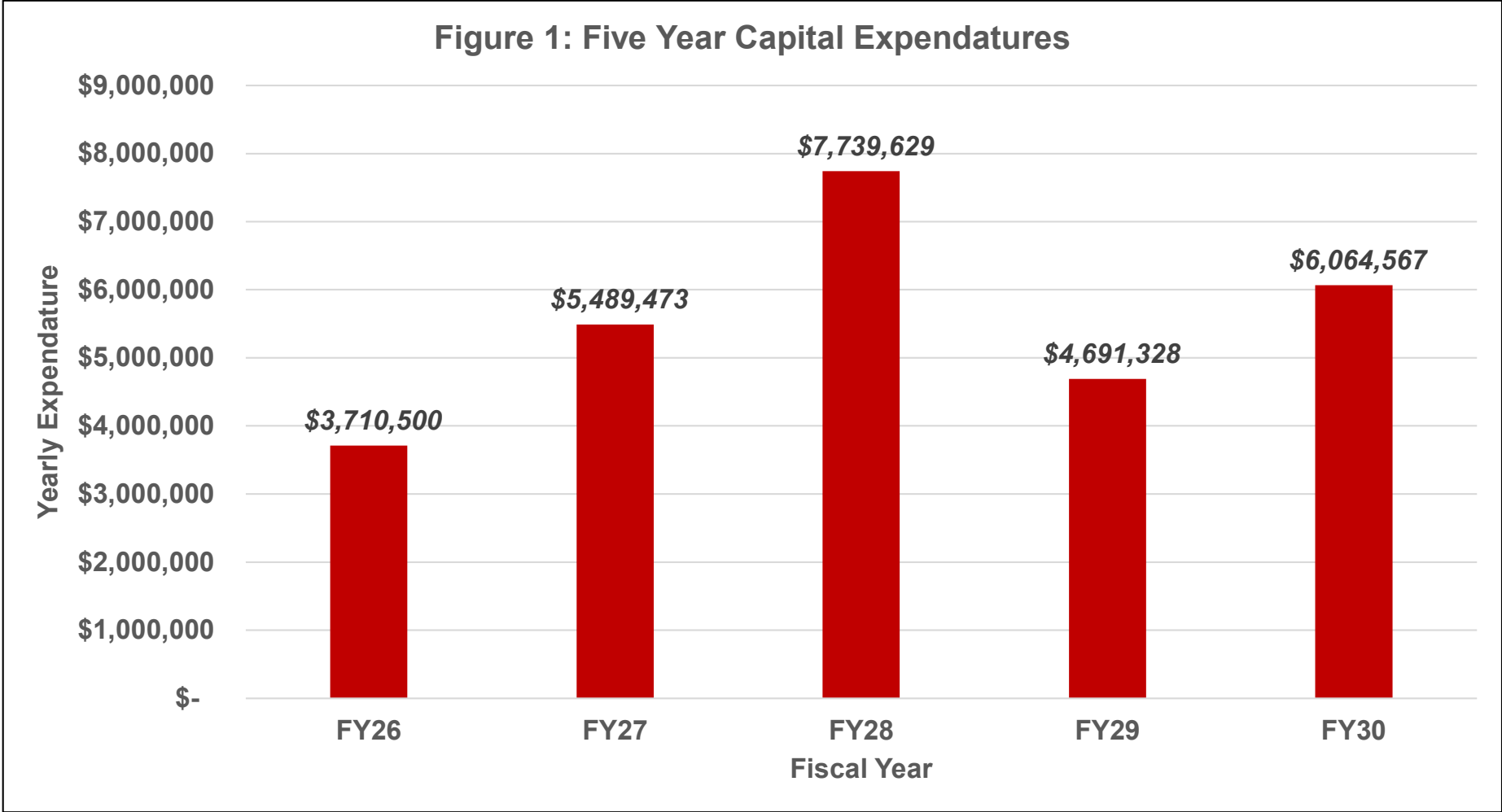


FIGURE 2

Projected RML Waste and Airspace Utilization (FY2025-FY2031)

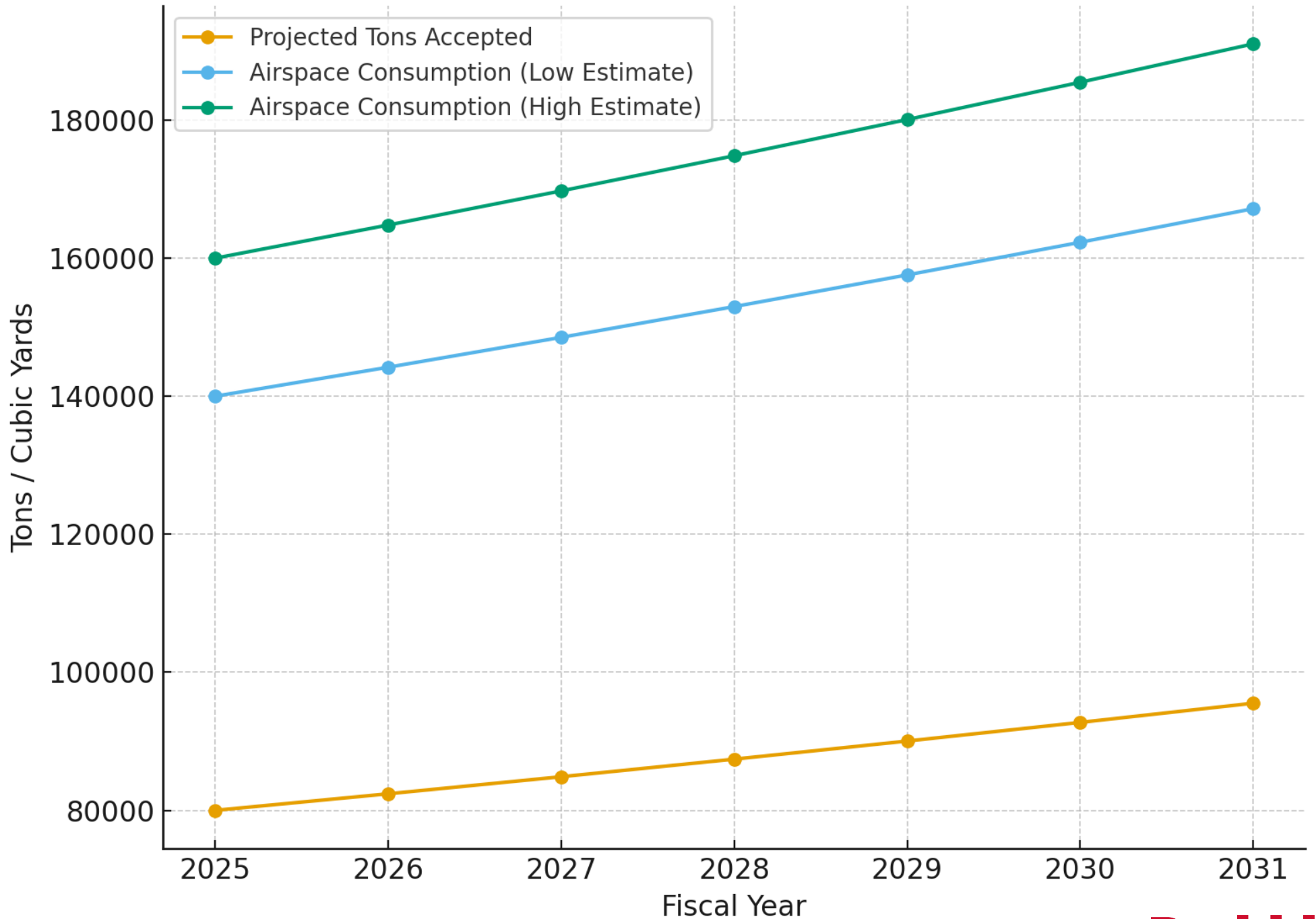


**EXHIBIT A: UNIT 3 EROSION REPAIRS AND SITE DRAINAGE
IMPROVEMENTS**

EXHIBIT A
ENGINEERING OPINION OF PROBABLE COST
ROSWELL MUNICIPAL LANDFILL
UNIT 3 EROSION REPAIRS AND SITE DRAINAGE IMPROVEMENTS
SEPTEMBER 2025

Item No.	Task Description	Estimated Quantities	Units	Unit Price	Cost Estimate
1.0	Construction				
1.1	Mobilization	1	LS	\$50,000.00	\$50,000.00
1.2	Performance Bond	1	LS	\$15,000.00	\$15,000.00
1.3	Payment Bond	1	LS	\$15,000.00	\$15,000.00
1.4	Excavation	74,190	CY	\$4.50	\$333,855.00
1.5	Fine Grading	45,200	SY	\$5.80	\$262,160.00
1.6	Unit 3 Vegetation Layer Repair	6,400	EA	\$8.00	\$51,200.00
1.7	Unit 3 Diversion Berm Repair	6,400	LF	\$35.00	\$224,000.00
1.8	Seeding	22	ACRE	\$3,700.00	\$82,510.00
	Construction Subtotal				\$1,033,725
2.0	Contingency				
2.1	Contingency (at 15% of Construction Subtotal)				\$155,059
	Contingency Subtotal				\$155,059
3.0	Engineering, Surveying, and CQA				
3.1	Engineering, Surveying, and CQA	1	LS	\$144,500	\$144,500
	Engineering, Surveying, and CQA Subtotal				\$144,500
3.0	NMGRТ				
3.1	NMGRТ @ 8.2708%				\$98,322
	NMGRТ Total				\$98,322
Total Engineering Estimate of Probable Cost					\$1,431,606

Notes:

1. Estimated quantities stipulated in the engineering opinion of probable cost are approximate and are to be used only as a basis for estimating the probable cost of the Work.
2. Estimates are conservative to address potential increases in the cost.
3. LS = Lump Sum
4. CY = Cubic Yard
5. SF = Square Feet
6. LF = Linear Feet

EXHIBIT B: SCALEHOUSE PLAZA UPGRADES

EXHIBIT B
ENGINEERING OPINION OF PROBABLE COST
ROSWELL MUNICIPAL LANDFILL
SCALEHOUSE PLAZA UPGRADES
SEPTEMBER 2025

Item No.	Task Description	Estimated Quantities	Units	Unit Price	Cost Estimate
1.0	Construction				
1.1	Mobilization	1	LS	\$40,000.00	\$40,000.00
1.2	Performance Bond	1	LS	\$15,000.00	\$15,000.00
1.3	Payment Bond	1	LS	\$15,000.00	\$15,000.00
1.4	Pitless Scales and Software (including Fastlane)	2	EA	\$160,000.00	\$320,000.00
1.5	Grading / Dirt Work	100	CY	\$55.00	\$5,500.00
1.6	Heavy Duty - Asphalt Paving	750	SY	\$60.00	\$45,000.00
	Construction Subtotal				\$440,500
2.0	Contingency				
2.1	Contingency (at 15% of Construction Subtotal)				\$66,075
	Contingency Subtotal				\$66,075
3.0	Engineering, Surveying, and CQA				
3.1	Engineering, Surveying, and CQA	1	LS	\$20,000	\$20,000
	Engineering, Surveying, and CQA Subtotal				\$20,000
3.0	NMGRT				
3.1	NMGRT @ 8.2708%				\$41,898
	NMGRT Total				\$41,898
Total Engineering Estimate of Probable Cost					\$568,473

Notes:

- Estimated quantities stipulated in the engineering opinion of probable cost are approximate and are to be used only as a basis for estimating the probable cost of the Work.
- Estimates are conservative to address potential increases in the cost.
- LS = Lump Sum
- CY = Cubic Yard
- SF = Square Feet
- LF = Linear Feet

EXHIBIT C: UNIT 5B

**CITY OF ROSWELL, NM
ROSWELL MUNICIPAL LANDFILL UNIT 5B
ENGINEER'S OPINION OF PROBABLE ESTIMATE
June 17, 2025**

				ENGINEER'S DRAFT ESTIMATE OF PROBABLE COST	
BID ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	ESTIMATED TOTAL COST
1	Mobilization/Demobilization (5%)	LS	1	\$200,861.80	\$200,861.80
2	Payment Bond (2%)	LS	1	\$84,361.96	\$84,361.96
3	Performance Bond (2%)	LS	1	\$84,361.96	\$84,361.96
4	SWPPP	LS	1	\$8,000.00	\$8,000.00
5	Contractor's Surveyor	LS	1	\$35,000.00	\$35,000.00
6	Dust Control	LS	1	\$55,000.00	\$55,000.00
7	GCL Storage Pad	LS	1	\$10,000.00	\$10,000.00
8	Mass Excavation (Including Clearing and Grubbing) ¹	CY	178,308	\$4.50	\$802,386.00
9	Compacted Soil Fill Placement (Base Grade) ²	CY	88,648	\$7.50	\$664,860.00
10	Fine Grading and Compaction of Subgrade ³	SF	1,014,400	\$0.25	\$253,600.00
11	Cell 5B Composite Liner Tie-in to Cells 4 and 5A ⁴	LF	1,490	\$20.00	\$29,800.00
12	Purchase and Install Geosynthetic Clay Liner	SF	944,000	\$0.65	\$613,600.00
13	Purchase and Install 60-mil HDPE Smooth Liner	SF	580,000	\$0.60	\$348,000.00
14	Purchase and Install 60-mil HDPE Textured Liner (2-sided)	SF	363,500	\$0.80	\$290,800.00
15	Purchase and Install 10 oz Geotextile ⁵	SF	54,000	\$0.85	\$45,900.00
16	Excavate, Backfill, and Compact Liner Anchor Trench ⁶	LF	2,670	\$15.00	\$40,050.00
17	Haul and Place On-Site Protective Soil Layer Material ⁷	CY	70,000	\$5.50	\$385,000.00
18	Purchase and Install 6" Solid Wall SDR 17 HDPE Leachate Collection Pipe and Associated Fittings	LF	840	\$60.00	\$50,400.00
19	Purchase and Install 6" Perforated SDR 17 HDPE Leachate Collection Pipe and Associated Fittings	LF	1,870	\$65.00	\$121,550.00
20	Purchase and Install 12" Solid Wall SDR 17 HDPE Leachate Collection Pipe and Associated Fittings	LF	570	\$95.00	\$54,150.00
21	Purchase and Install 12" Perforated SDR 17 HDPE Leachate Collection Pipe and Associated Fittings	LF	12	\$95.00	\$1,140.00
22	Purchase and Install Coarse Aggregate	CY	900	\$95.00	\$85,500.00
23	Supply and Install Concrete Extraction Headwall and Pipe Bollards	LS	3	\$15,000.00	\$45,000.00
24	Supply and Install Concrete Cleanout Headwall and Pipe Bollards	LS	2	\$10,000.00	\$20,000.00
25	Supply and Install 10" Concrete Pad	SF	2,300	\$25.00	\$57,500.00
26	Sump Pump, Control Panel and Wiring	LS	3	\$45,000.00	\$135,000.00
BASE BID SUBTOTAL					\$4,521,821.71
NMGRT @7.8958% City of Roswell					\$357,034.00
Contingency (15% of Base Bid Subtotal)					\$678,273.26
TOTAL BASE BID WITH NMGRT					\$5,557,128.97

Assumptions:

1. Mass Excavation of 23.3 acres with associated 2% slope on east side of landfill (Estimated from 02/2025 Topo).
2. Base Grade construction of cell to subgrade elevations.
3. Fine grading and compaction of subgrade on entire lined surface and grading of slope to east of slope.
4. Cell north and west edges
5. Wrap around Leachate Line in trenches and sumps
6. Along top of sideslopes
7. Over sideslopes and cell floor area 2-ft deep, PSL does not require screening

LS-Lump Sum
CY-Cubic Yard
SF-Square Foot
EA - Each

Note: EOPC represent engineer's best judgment but does not guarantee actual construction costs, as these can vary due to factors beyond the engineer's control, such as labor, materials, equipment costs, and market conditions

EXHIBIT D: GROUNDWATER SUPPLY WELL

EXHIBIT D
ENGINEERING OPINION OF PROBABLE COST
ROSWELL MUNICIPAL LANDFILL
GROUNDWATER SUPPLY WELL
SEPTEMBER 2025

Item No.	Task Description	Estimated Quantities	Units	Unit Price	Cost Estimate
1.0	Construction				
1.1	Mobilization	1	LS	\$10,000.00	\$10,000.00
1.2	Performance Bond	1	LS	\$2,000.00	\$2,000.00
1.3	Payment Bond	1	LS	\$2,000.00	\$2,000.00
1.4	Well Install	200	LF	\$185.00	\$37,000.00
1.5	Pump, Wire, and Piping	200	LF	\$20.00	\$4,000.00
	Construction Subtotal				\$55,000
2.0	Contingency				
2.1	Contingency (at 15% of Construction Subtotal)				\$8,250
	Contingency Subtotal				\$8,250
3.0	Engineering, Surveying, and CQA				
3.1	Engineering, Surveying, and CQA	1	LS	\$15,000	\$15,000
	Engineering, Surveying, and CQA Subtotal				\$15,000
3.0	NMGRT				
3.1	NMGRT @ 8.2708%				\$6,472
	NMGRT Total				\$6,472
Total Engineering Estimate of Probable Cost					\$84,722

Notes:

- Estimated quantities stipulated in the engineering opinion of probable cost are approximate and are to be used only as a basis for estimating the probable cost of the Work.
- Estimates are conservative to address potential increases in the cost.
- LS = Lump Sum
- CY = Cubic Yard
- SF = Square Feet
- LF = Linear Feet

EXHIBIT E: LANDFILL LITTER FENCE

EXHIBIT E
ENGINEERING OPINION OF PROBABLE COST
ROSWELL MUNICIPAL LANDFILL
LANDFILL LITTER FENCE
SEPTEMBER 2025

Item No.	Task Description	Estimated Quantities	Units	Unit Price	Cost Estimate
1.0	Construction				
1.1	Mobilization	1	LS	\$50,000.00	\$50,000.00
1.2	Performance Bond	1	LS	\$15,000.00	\$15,000.00
1.3	Payment Bond	1	LS	\$15,000.00	\$15,000.00
1.4	SWPPP	1	LS	\$5,000.00	\$5,000.00
1.5	Litter Fence Install	7,500	LF	\$185.00	\$1,387,500.00
	Construction Subtotal				\$1,472,500
2.0	Contingency				
2.1	Contingency (at 15% of Construction Subtotal)				\$220,875
	Contingency Subtotal				\$220,875
3.0	Engineering, Surveying, and CQA				
3.1	Engineering, Surveying, and CQA	1	LS	\$35,000	\$35,000
	Engineering, Surveying, and CQA Subtotal				\$35,000
3.0	NMGRT				
3.1	NMGRT @ 8.2708%				\$142,950
	NMGRT Total				\$142,950
Total Engineering Estimate of Probable Cost					\$1,871,325

Notes:

- Estimated quantities stipulated in the engineering opinion of probable cost are approximate and are to be used only as a basis for estimating the probable cost of the Work.
- Estimates are conservative to address potential increases in the cost.
- LS = Lump Sum
- CY = Cubic Yard
- SF = Square Feet
- LF = Linear Feet

**EXHIBIT F: MAINTENANCE BUILDING IMPROVEMENTS AND
CONSTRUCTION**

EXHIBIT F
ENGINEERING OPINION OF PROBABLE COST
ROSWELL MUNICIPAL LANDFILL
MAINTENANCE BUILDING IMPROVEMENTS AND CONSTRUCTION
SEPTEMBER 2025

Item No.	Task Description	Estimated Quantities	Units	Unit Price	Cost Estimate
1.0	Construction				
1.1	Mobilization	1	LS	\$50,000.00	\$50,000.00
1.2	Performance Bond	1	LS	\$30,000.00	\$30,000.00
1.3	Payment Bond	1	LS	\$30,000.00	\$30,000.00
1.4	Shop Expansion	1,300	SF	\$275.00	\$357,500.00
1.5	Building Pad Repair	6,000	SF	\$15.00	\$90,000.00
1.6	Grading / Dirt Work	100	CY	\$55.00	\$5,500.00
1.7	Site Utilities	1	CY	\$50,000.00	\$50,000.00
1.8	Heavy Duty - Asphalt Paving	3,850	SY	\$60.00	\$231,000.00
1.9	Erosion Control Measures	1	LS	\$55,000.00	\$55,000.00
	Construction Subtotal				\$899,000
2.0	Contingency				
2.1	Contingency (at 15% of Construction Subtotal)				\$134,850
	Contingency Subtotal				\$134,850
3.0	Engineering, Surveying, and CQA				
3.1	Engineering, Surveying, and CQA	1	LS	\$125,000	\$125,000
	Engineering, Surveying, and CQA Subtotal				\$125,000
3.0	NMGRT				
3.1	NMGRT @ 8.2708%				\$86,090
	NMGRT Total				\$86,090
Total Engineering Estimate of Probable Cost					\$1,244,940

Notes:

1. Estimated quantities stipulated in the engineering opinion of probable cost are approximate and are to be used only as a basis for estimating the probable cost of the Work.
2. Estimates are conservative to address potential increases in the cost.
3. LS = Lump Sum
4. CY = Cubic Yard
5. SF = Square Feet
6. LF = Linear Feet

**EXHIBIT G: LANDFILL GAS COLLECTION SYSTEM DESIGN AND
CONSTRUCTION**

EXHIBIT G
ENGINEERING OPINION OF PROBABLE COST
ROSWELL MUNICIPAL LANDFILL
Landfill Gas Collection System Design and Construction
SEPTEMBER 2025

Item No.	Task Description	Estimated Quantities	Units	Unit Price	Cost Estimate
1.0	Construction				
1.1	Mobilization	1	LS	\$200,000.00	\$200,000.00
1.2	Performance Bond	1	LS	\$50,000.00	\$50,000.00
1.3	Payment Bond	1	LS	\$50,000.00	\$50,000.00
1.4	GCCS Well Network Construction	55	Per Well	\$30,000.00	\$1,650,000.00
1.5	Flare Skid	1	LS	\$550,000.00	\$550,000.00
1.7	Site Utilities	1	LS	\$150,000.00	\$150,000.00
1.8	Concrete Pad	600	SF	\$20.00	\$12,000.00
	Construction Subtotal				\$2,662,000
2.0	Contingency				
2.1	Contingency (at 15% of Construction Subtotal)				\$399,300
	Contingency Subtotal				\$399,300
3.0	Engineering, Surveying, and CQA				
3.1	Engineering, Surveying, and CQA	1	LS	\$200,000	\$200,000
	Engineering, Surveying, and CQA Subtotal				\$200,000
3.0	NMGRT				
3.1	NMGRT @ 8.2708%				\$254,917
	NMGRT Total				\$254,917
Total Engineering Estimate of Probable Cost					\$3,516,217

Notes:

1. Estimated quantities stipulated in the engineering opinion of probable cost are approximate and are to be used only as a basis for estimating the probable cost of the Work.
2. Estimates are conservative to address potential increases in the cost.
3. LS = Lump Sum
4. CY = Cubic Yard
5. SF = Square Feet
6. LF = Linear Feet

**EXHIBIT H: ADMINISTRATION BUILDING IMPROVEMENTS AND
CONSTRUCTION**

EXHIBIT H
ENGINEERING OPINION OF PROBABLE COST
ROSWELL MUNICIPAL LANDFILL
ADMINISTRATION BUILDING IMPROVEMENTS AND CONSTRUCTION
SEPTEMBER 2025

Item No.	Task Description	Estimated Quantities	Units	Unit Price	Cost Estimate
1.0	Construction				
1.1	Mobilization	1	LS	\$50,000.00	\$50,000.00
1.2	Performance Bond	1	LS	\$30,000.00	\$15,000.00
1.3	Payment Bond	1	LS	\$30,000.00	\$15,000.00
1.4	Admin Building Repairs and Updates	4,000	SF	\$75.00	\$300,000.00
1.6	Grading / Dirt Work	100	CY	\$55.00	\$5,500.00
1.7	Site Utilities	1	CY	\$50,000.00	\$50,000.00
1.8	Heavy Duty - Asphalt Paving	3,850	SY	\$60.00	\$231,000.00
1.9	Erosion Control Measures	1	LS	\$55,000.00	\$55,000.00
	Construction Subtotal				\$721,500
2.0	Contingency				
2.1	Contingency (at 15% of Construction Subtotal)				\$108,225
	Contingency Subtotal				\$108,225
3.0	Engineering, Surveying, and CQA				
3.1	Engineering, Surveying, and CQA	1	LS	\$50,000	\$50,000
	Engineering, Surveying, and CQA Subtotal				\$50,000
3.0	NMGRT				
3.1	NMGRT @ 8.2708%				\$68,625
	NMGRT Total				\$68,625
Total Engineering Estimate of Probable Cost					\$948,350

Notes:

1. Estimated quantities stipulated in the engineering opinion of probable cost are approximate and are to be used only as a basis for estimating the probable cost of the Work.
2. Estimates are conservative to address potential increases in the cost.
3. LS = Lump Sum
4. CY = Cubic Yard
5. SF = Square Feet
6. LF = Linear Feet