



# Waste & Recycling Services 10-Year Capital Infrastructure Needs Assessment

*March 2026*

## 1. Service Overview

Waste & Recycling Services (WRS) is focused on enabling Calgarians to reduce and manage their waste responsibly, now and into the future. We deliver residential cart-based waste and commercial waste container collection programs, recycling and diversion opportunities, as well as household hazardous waste collection and waste disposal in our approved landfills at our Waste Management Facilities, education, information and bylaws that enable customers to waste less and conserve more, while providing access to waste management facilities and managing processes, infrastructure and technologies that protect Calgary's environment and reduce emissions.

Key infrastructure includes three active Waste Management Facilities, five closed landfills, a composting facility, infrastructure for leachate and landfill gas collection, material-specific collection depots, monitoring wells, and technology supporting collections, diversion and landfill operations. WRS is responsible for planning, delivering and maintaining these assets to meet current and future service needs.

WRS is responding to increasing service demand, financial sustainability and infrastructure risks. Trends affecting operating and capital costs include growing demand and operational pressures at our landfills and composting facility, capital project and contract cost escalation, increasing regulatory requirements, aging assets, and operational pressures at the Calgary Composting Facility.

## 2. Strategic Alignment

Waste & Recycling Services' (WRS) capital infrastructure needs are directly influenced by several Council-approved and corporate strategies that guide infrastructure planning, service delivery and sustainability across Calgary:

- **Municipal Development Plan** provides strategic direction for growth and development. This can influence infrastructure planning by identifying requirements for waste diversion facilities and supporting sustainable community design.
- **The New Community Planning Guidebook:** Section 3.3.5 Municipal Facilities, Recycling/Waste Diversion recommends that one Community Recycling/Waste Diversion depot should be provided in each community. This direction informs capital planning for depot locations and supports accessibility for waste diversion.
- **Calgary Climate Strategy – Pathways to 2025** includes the Consumption and Waste Mitigation theme and two program pathways (Waste Reduction and Waste Diversion). An example of a Waste Diversion pathway investment is the Composting Facility which processes materials from the Green Cart Program and some biosolids from wastewater treatment plants. Strategic direction on climate change also led to the development of the Landfill Gas (LFG) Management Program and the Business Unit – Greenhouse Gas Reduction Implementation Plan (BU-GRIP), both of which influence investments.

There are a variety of planning activities and measurements which provide capital planning direction for the service, which include:

- **WRS Strategic Direction / Strategic Plan** guides overall service priorities and investments.
- **Landfill Gas Management Program** and **Food & Organic Waste Strategy** link to specific capital investments such as landfill gas capture, landfill gas energy production, investments in composting infrastructure.
- **Environmental Management Plans** for Closed Landfill Sites, which are not captured by landfill regulations or Approvals to Operate, as they were closed before those regulations came into effect. These plans can include capital requirements.

### 3. Service Risks

Waste & Recycling Services' (WRS) capital infrastructure needs are targeted to address key service risks:

- **Increased demand and capacity constraints:** Higher-than-forecasted city growth and operational pressures at facilities that are at or over capacity create a need for additional infrastructure (e.g., landfill cells, composting facility expansion).
- **Regulatory compliance risks:** Evolving requirements for landfill gas, leachate, stormwater, and new reporting regulations (e.g., methane monitoring, PFAS) may not be mitigated without targeted infrastructure investments.
- **Climate resilience:** Infrastructure must withstand more extreme weather conditions (e.g., floods, drought), requiring resilience measures in facility and landfill upgrades which will be required over the long term.

In addition to service risks, high-risk assets which are addressed through targeted capital investments include:

- **Composting facility buildings:** Operating 30% over capacity since 2017 has accelerated building degradation and threatens operations. To mitigate this, facility condition assessments are conducted to identify maintenance, repair or replacement needs. Capital infrastructure needs also include expanding curing, storage, and receiving buildings to meet capacity requirements and maintain reliable service.
- **Composting facility equipment:** Overcapacity has increased equipment wear and risk of service disruptions. Capital infrastructure needs include additional equipment such as contamination removal and screening systems to process expected feedstock and maintain operational efficiency.
- **Landfill capacity and regulatory compliance:** Higher-than-forecasted growth increases demand for landfill airspace and environmental infrastructure. Capital infrastructure needs include new landfill cells, capping, leachate systems, and landfill gas collection to ensure compliance and service continuity.

- **Deferred maintenance and aging facilities:** Urgent capital needs have deprioritized lifecycle maintenance, impacting staff morale and operational reliability. Capital infrastructure needs include mid-life facility upgrades and redevelopment of aging sites to maintain safe, efficient operations.
- **Technology modernization gap:** Outdated technology limits operational efficiency and customer service. Capital infrastructure needs include IT lifecycle planning and modernization projects to close this gap and support future service delivery.
- **Community Recycling Depots (CRDs):** Current depots are on private land, creating risk of site removal and reduced accessibility. Capital infrastructure needs include relocating CRDs to City-owned land for long-term stability and improved service delivery.
- **Service access gaps:** Insufficient options for drop-off services in Calgary's west and southwest limits residential diversion and disposal access, requiring investment in new facilities such as Eco Centres.

## 4. Service Objectives

Waste & Recycling Services' (WRS) service objectives and, in turn, capital investments respond to strategic direction outlined in section 2 and service risks identified in section 3. WRS is committed to delivering safe, reliable and efficient waste management services that protect public health, safeguard the environment, and enable Calgarians to reduce and manage waste responsibly. Capital investments are targeted at infrastructure and technology that ensure compliance with regulatory standards, maintain operational continuity and support service delivery for a growing city.

Waste & Recycling service objectives include:

- **Delivering safe, reliable and efficient collection, processing and disposal services** by maintaining uninterrupted service for Calgarians by investing in infrastructure and technology that supports operational reliability. Capital investments include landfill cells and capping systems, facilities that enable residential and commercial collection services, and technology upgrades that improve efficiency and modernize operations. These investments ensure compliance with the Waste Bylaw and maintain service levels for a growing city. Planning decisions consider city growth, economic forecasts, customer needs and safety, as well as evolving service models such as Extended Producer Responsibility. Performance is monitored through key indicators, including customer satisfaction and waste collection interruptions per 10,000 scheduled stops, to ensure services remain dependable and responsive.
- **Maintaining a resilient, sustainable and compliant waste management infrastructure** through proactive lifecycle renewals and strategic upgrades. Waste & Recycling Services continuously monitors asset condition and criticality across its portfolio, including landfill cells, leachate and gas systems, composting facilities and diversion infrastructure, to prioritize investments where risk is highest. This approach ensures regulatory compliance, protects public health and the environment, and maintains operational reliability for a growing city. Capital investments focus on rehabilitating aging assets, expanding capacity at high-demand facilities

and replacing systems nearing end-of-life to prevent service disruptions and reduce long-term costs.

- Protecting the environment and reducing emissions** by investing in infrastructure that minimizes environmental impact and ensures compliance with provincial Approvals to Operate and associated Master Plans. Capital investments include landfill gas collection systems, leachate management systems, stormwater drainage infrastructure and environmental monitoring technology. These upgrades reduce methane emissions, protect water quality and support The City’s environmental goals. Performance is tracked through measures such as greenhouse gas emission reductions from landfill gas management, with future investments focused on expanding gas collection, destruction and conversion systems to renewable energy. This approach safeguards Calgary’s environment while maintaining sustainable waste management for a growing city.
- Enabling Calgarians to reduce and divert waste responsibly** advances our internal Waste Hierarchy Goal, which supports progress towards zero waste and a circular economy while also extending the useful life of our landfills. Capital investments focusing on infrastructure that increases diversion include: the Calgary Composting Facility, Eco Centres and Community Recycling Depots. Planned expansions will increase processing capacity and improve accessibility, ensuring diversion programs remain convenient and effective for Calgary’s growing population. Performance is monitored through measures such as residential waste generated through Black, Blue and Green Cart programs, which help track the impact of waste reduction policies and forecast tonnage managed at Waste Management Facilities and the composting facility.

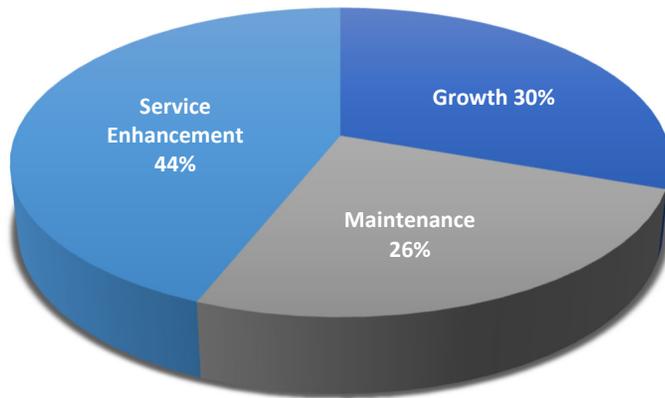
## 5. Previously Approved and Capital Infrastructure Needs

**Table 1: Previously Approved and Capital Infrastructure Needs (\$ millions)**

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031-2035	Total
<b>Previously Approved</b>	27	24	27	53	56	67	27	-	-	-	-	-	<b>281</b>
<b>Capital Infrastructure Needs</b>	-	-	-	-	-	-	-	122	106	75	119	405	<b>827</b>

A listing of previously approved investments has been provided in **Appendix A** for 2026+. A listing of capital infrastructure needs has been provided in **Appendix B**. Note that programs have been broken down into projects where possible.

**Figure 1: Summary of Capital Infrastructure Needs by Investment Driver**



**Table 2: Summary of Operating Cost of Capital for Capital Infrastructure Needs by Year**

	2027 (\$)	2028 (\$)	2029 (\$)	2030 (\$)	2031-2035 (\$)	Total 2027-2035 (\$)
<b>Total</b>	<b>To be determined</b>					

*Note: Operating impacts of capital investments will be assessed as a part of the phase where finalized prioritization, financial affordability and delivery strategies are considered to further refine the proposed capital investment list. It is anticipated that increases in investment levels for existing Annual Investment Programs as well as new projects will result in one-time and/or base operating budget needs.*

Legend (% of capital \$ per opportunity item)

1% ~ 10%	
11% ~ 25%	
25% +	

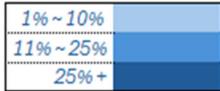
## Appendix A: Previously Approved Capital

The values presented reflects planned investments in the last year of the approved 4-year business cycle, as well as pre-approved budget for the 2027-2030 business cycle. These values have been rounded to the nearest million for presentation purposes. Variations between the planned investments and approved budget in a given year will be reconciled as part of the annual budget adjustment process to align budget needs and updated cash flows and timing.

Appendix A: Previously Approved Capital (\$millions)	Total	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035+
	2026-2035+										
<b>Maintenance - Primary Driver</b>											
<b>Buildings, Roads and Related Assets</b>	<b>2</b>										
Spyhill - Scale House Rewiring	0										
Waste & Recycling Building Condition Assessments	0										
Waste & Recycling Building Maintenance	0										
Waste & Recycling Fencing Upgrade & Maintenance	0										
Waste Management Facilities - Required Growth Improvements	1										
Waste Management Facilities - Road & Pad Maintenance	0										
<b>Landfill Maintenance</b>	<b>1</b>										
Caps & Drainage System Maintenance	0										
Landfill Gas System Maintenance	0										
Landfill Infrastructure Maintenance	0										
Soil Management Program	0										
Waste & Recycling Records Maintenance	0										
<b>Service Enhancement - Primary Driver</b>											
<b>Buildings, Roads and Related Assets</b>	<b>1</b>										
East Calgary - West Boundary Fencing	1										
Roads Alterations & Signage	0										
East Calgary - Cell Capping (Cells 8-9, 10-12S)	0										
<b>Household Hazardous Waste (HHW)</b>	<b>0</b>										
Depots Surveillance	0										
Transfer Station	0										
<b>Landfill Gas Management</b>	<b>1</b>										
East Calgary - Expansion Phase 6 (Cells 7/8)	0										
East Calgary - Expansion Phase 2	0										
Horizontal Landfill Gas Collection Upgrades	1										
Nose Creek - Vapour Management System Expansion	0										
Spyhill - Expansion Phase 2 (Cells 15-20)	0										
Spyhill - Soil Vapour Extraction System Expansion	0										
Leachate Collection Upgrades	0										
Leachate Management Review	0										

<b>Master Plan Updates</b>	<b>0</b>	
East Calgary - Staged Master Drainage Plan	0	
Shepard - Waste Management Facility Master Plan	0	
Shepard - Odour Monitoring	0	
Spy Hill - Dam Safety Improvements	1	
<b>Growth - Primary Driver</b>		
<b>Capping, Remediation and Cell Construction</b>	<b>8</b>	
East Calgary - Phase 7 Cell 10 North	0	
Shepard - Asbestos Cell	0	
Shepard - Cell 13/14 West	0	
Spyhill - Cell 8	7	
Compost Facility Expansion	10	
Shepard - Landfill Gas Wells Ring Header	0	
<b>Transformative - Primary Driver</b>		
<b>Total Previously Approved Capital - Waste &amp; Recycling Services</b>	<b>25</b>	

Legend (% of capital \$ per opportunity item)



## Appendix B: Capital Infrastructure Needs

The values presented reflect identified capital needs and have been rounded to the nearest million for presentation purposes. These capital needs have not received approved budget and will be considered for future business cycles. In some cases, an investment may appear more than once, as high-priority and medium-priority components and have been presented separately.

The majority of the 10-year capital investments are foundational in nature and have been prioritized as High, reflecting the essential funding required to sustain current service levels, meet regulatory and safety obligations, and manage core operational risks. These investments establish the baseline level of service and define the essential capital required to maintain system reliability over time. A smaller number of investments are prioritized as Medium, representing instances where opportunities existed to scale back, defer, or modify scope while still maintaining acceptable service and risk outcomes. All values are presented in 2025 dollars, with estimates prepared as of January 2026. Further refinements and adjustments are expected through the development of the 2027–2030 Budget and the 10-Year Capital Infrastructure Plan.

Appendix B: Capital Infrastructure Needs (\$millions)	Priority (H / M / L)	Total 2027-2035+	2027	2028	2029	2030	2031	2032	2033	2034	2035+
<b>Maintenance - Primary Driver</b>											
<b>Buildings, Roads and Related Assets</b>	<b>H</b>	<b>12</b>									
Waste & Recycling Building Condition Assessments		1									
Waste & Recycling Building Maintenance		4									
Waste & Recycling Fencing Upgrade & Maintenance		2									
Waste Management Facilities - Road & Pad Maintenance		5									
Compost Facility Maintenance	H	21									
<b>Landfill Maintenance</b>	<b>H</b>	<b>18</b>									
Caps & Drainage System Maintenance		5									
Landfill Gas System Maintenance		7									
Landfill Infrastructure Maintenance		6									
Shepard - Cell 10-12 Vertical Landfill Gas Expansion	H	5									
Soil Management Program	H	1									
Spyhill - Stormwater Master Drainage Plan	H	0									
<b>Stormwater Improvements</b>	<b>H</b>	<b>11</b>									
East Calgary - Stormwater Improvements		2									
Shepard - Stormwater Improvements		2									
Spyhill - Stormwater Improvements		2									
Waste & Recycling - Stormwater Pond Sediment Maintenance		5									
<b>Medium Priority Investments</b>	<b>M</b>	<b>31</b>									
Blackfoot - Stormwater Improvements		2									
Blackfoot - Stormwater Master Drainage Plan		0									
Caps & Drainage System Maintenance		5									
East Calgary - Multi Service Facility Regional Pathway		2									
East Calgary - Vertical Well Remediation		2									
Shepard - Stormwater Master Drainage Plan		0									
Shepard - Vertical Well Remediation		2									

Spyhill - Stormwater Master Drainage Plan	0
Waste & Recycling Building Condition Assessments	1
Waste & Recycling Building Maintenance	4
Waste & Recycling Fencing Upgrade & Maintenance	2
Waste & Recycling - Stormwater Pond Sediment Maintenance	5
Waste Management Facilities - Road & Pad Maintenance	5



**Service Enhancement - Primary Driver**

<b>Buildings, Roads and Related Assets</b>	<b>H</b>	<b>17</b>
East Calgary - Perimeter Road Paving		4
Shepard - Surface Water/Compost Pad		3
Southwest Eco Centre - Building Upgrades		2
Spyhill - West Access Road to Active Lift		1
Spyhill- Perimeter Road Paving		2
Waste & Recycling - Roads Alterations & Signage		1
Waste Management Facilities- Road Upgrades		5
<b>Capping, Remediation and Cell Construction</b>	<b>H</b>	<b>68</b>
Cell Capping - Landfill Gas Control		1
East Calgary - Cap Remediation (Phase 3-5)		7
East Calgary - Capping (Cells 8-9, 10-12S)		8
East Calgary - Phase 7 Cell 10-11NS Capping		7
Shepard - Cap Restoration (Phase 4-5)		3
Shepard - Capping Cell 9		2
Shepard - Cell 13-14W Closure		4
Shepard - Cell 14W Slope Closure		4
Shepard - Cell 25		16
Shepard - Cells 10-14E Slope Closure		6
Spyhill - Cell 4 Closure		2
Spyhill - Cells 5-7 N Slope Closure		6
Spyhill - Temporary Capping		3
Composting Facility - Environmental Upgrades	H	17
Composting Facility - Operational Improvements	H	30
Composting Facility - Storage upgrades	H	25
IT Project Implementation	H	4
<b>Landfill Gas Management</b>	<b>H</b>	<b>26</b>
East Calgary - Landfill Gas Expansion Phase 6-Cells 7/8		2
East Calgary - Landfill Gas Flare Replacement		1
East Calgary - Vertical Landfill Gas		6
Shepard - Landfill Gas Expansion Phase 5 (Cells 10-12)		2
Shepard - Landfill Gas Flare		1
Spyhill - Landfill Gas Phase 1 to Soil Vapour Extraction Facility		2



Waste & Recycling - Horizontal Landfill Gas Collection		13	
Leachate Treatment - Annual Investment Program	H	8	
Leachate Treatment Upgrades	H	3	
<b>Master Plan Updates</b>	<b>H</b>	<b>2</b>	
East Calgary - Waste Management Facility Master Plan		1	
Shepard - Waste Management Facility Master Plan		1	
Spyhill - Waste Management Facility Master Plan		1	
<b>Stormwater Improvements</b>	<b>H</b>	<b>1</b>	
Spyhill - Pond C Catch Basin Improvement		0	
Spyhill - Pond D Inlet Oil, Grit, Separator Installation		0	
Waste & Recycling - Culvert & Ditches		1	
Waste & Recycling Records Maintenance	H	1	
Waste & Recycling - Technology Planning	H	2	
<b>Medium Priority Investments</b>	<b>M</b>	<b>62</b>	
Cell Capping - Landfill Gas Control		1	
East Calgary - Solar		3	
East Calgary Cap Remediation (Phase 3-5)		7	
East Calgary - Perimeter Road Paving		4	
East Calgary - Phase 1 Landfill Gas System		2	
Eco Centre - Feasibility Study T&G upgrade		0	
Landfill Gas Line (BF-SB)		2	
Leachate Collection SCADA Monitoring		1	
Nose Creek Vapour Management System Expansion		5	
Shepard - Solar		3	
Shepard - Cap Restoration Phase 4-5		3	
Shepard - Header Connection (LF to Comp)		2	
Shepard - Solid Waste Management Plan		1	
Shepard - Perimeter Road Paving		4	
Southwest Eco Centre - Building Upgrades		2	
Spyhill - Solar		3	
Spyhill - Vertical Landfill Gas		4	
Spyhill - Landfill Gas Expansion - Phase 3 - Cells 4&5		0	
Spyhill - Landfill Gas to Electricity Facility		7	
Spyhill - New Power Poles		1	
Spyhill - Perimeter Road Paving		2	
Spyhill Permanent Power Installation		1	
Waste & Recycling Records Maintenance		1	
Waste & Recycling Roads Alterations & Signage		1	
Waste Management Facilities - Road Upgrades		5	

**Growth - Primary Driver**

Category	Priority	Value	Timeline
<b>Buildings, Roads and Related Assets</b>	<b>H</b>	<b>205</b>	
East Calgary - Multi Service Facility Office and Site Service		24	
East Calgary - Multi Service Facility Vehicle Storage		41	
Spring Gardens - OWC (Building Upgrades)		2	
Spring Gardens - New Warehouse		12	
Spring Gardens - Site Improvements & Upgrades		3	
Spring Gardens - Building B Renovations		5	
Spyhill New Depot - Office		20	
Spyhill New Depot - Site Work		22	
Spyhill New Depot - Vehicle Storage		61	
Spyhill New Depot - Washbay		16	
<b>Capping, Remediation and Cell Construction</b>	<b>H</b>	<b>98</b>	
East Calgary - Phase 7 Cell 10 North		12	
East Calgary - Phase 7 Cell 11 North		12	
East Calgary - Phase 7 Cell 12 North		14	
Overburden Excavation		6	
Shepard - Cell 13/14 West		14	
Shepard - Asbestos Cell		9	
Shepard - Cell 11/12 Berm		0	
Shepard - Cell 12/13 Berm		0	
Spyhill - Phase 3 Cell 4 Berm		0	
Spyhill - Phase 3 Cell 8 East Phase 1		8	
Spyhill - Phase 3 Cell 8 East Phase 2		5	
Spyhill - Phase 3 Cell 8 West		8	
Spyhill - Phase 3 Cell 9 East		7	
<b>Landfill Gas Management</b>	<b>H</b>	<b>2</b>	
East Calgary - Landfill Ring Header		1	
Shepard - Landfill Gas Ring Header		1	
Shepard - Cell 10-12 Vertical Landfill Gas Expansion		0	
Waste & Recycling - Collections Growth Management	H	7	
Waste & Recycling - Existing Building CRD Expansions/Leases	H	2	
<b>Medium Priority Investments</b>	<b>M</b>	<b>149</b>	
Compost Facility Expansion		116	
Eco Centres (SW, W, NE)		31	
Spyhill - Cell 4&5 Vertical Landfill Gas Expansion		2	
Spyhill - Landfill Gas Ring Header		1	

**Transformative - Primary Driver**

<b>Total Capital Infrastructure Needs - Waste &amp; Recycling Services</b>	<b>827</b>
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