

# Overview of Waste Management 2024 Capital Projects

Waste Management Planning Steering Committee

June 26, 2023

Peter Kryger, Project Manager

# 2024 Waste Management Capital Budget

- Budget = \$6.16M
- The funding is required for:
  - Infrastructure Planning (State of Good Repair)
  - Ensuring assets meet levels of service requirements
  - Regulatory Compliance
  - Improvements to Improve Health and Safety

# Humberstone Paving Upgrades

## Issue

- The asphalt within the Humberstone Landfill has deteriorated from everyday use by the public and on-site machinery.
- The current Pavement Condition Index (PCI) for Humberstone is estimated at 20.

## Purpose

- Create safe driving conditions for public users of the landfill. Asset lifespan has been exceeded as identified in WM asset management plan.

## Solution

- Repave and refresh the main stretch of the landfill's public access area from the entrance to the scales.
- Explore the inclusion of a turning lane into the Household Hazardous Waste Building to create a safer turning solution.

**Timeline** – Completion in 2024

**Budget** – Current Budget - \$450K, Additional 2024 Need - \$220K, Project Total - \$670K

# Glenridge Passive Gas Venting System (PGVS)

## Issue

- Elevated levels of methane gas were found in gas probes east of PGVS, indicating bypassing of PGVS.
- Higher gas concentrations have been identified in two gas probes along southern property boundary leading to concerns of migration.

## Purpose

- Reviewed pathways of gas migration and design infrastructure to remain compliant with Ministry of Environment, Conservation and Parks requirements.

## Solution

- Completed investigation to determine pathway of gas to facilitate design
- Designed PGVS/Sheet Pile Walls to reduce/eliminate gas concentrations.

**Timeline** –Tender 2024, Construction 2024

**Budget** – Current Budget \$2.33M, Additional 2024 Need - \$2.15M, Project Total - \$4.48M

# Mountain Road Leachate Collection System (LCS) Improvements

## Issue

- LCS capture is limited - gravity portion of the system is crushed.
- Removal of Buffering Tank Off-Site, addition of SCADA controls and Variable Frequency Drive on-site
- Elevated LCS flows during storm events

## Purpose

- Improve function of LCS by targeting perched leachate
- Reduce surface water contribution to LCS through improvements to the Stormwater Management System
- Twinning forcemain with W-WW Mewburn Road PS Upgrades

## Solution

- Completion of Municipal Class Environmental Assessment (EA)
- Design required improvements
- Construct approved upgrades
- Partnering with W-WW on Mewburn Rd PS Upgrades / Twinning of forcemain under Mewburn Rd

**Timeline** – Tender 2024, Construction 2024

**Budget** – Current Budget - \$3.00M, Additional 2024 Need - \$1.1M, Project Total - \$4.1M

# Quarry Road Landfill Leachate Treatment Upgrades

## Issue

- The current leachate treatment system (wetland) is not completely reducing the leachate impact on an adjacent stream down to acceptable levels.

## Purpose

- Upgrade the leachate treatment system to reduce leachate impact on the stream to meet or exceed Provincial regulatory standards.

## Solution

- Completed Municipal Class EA to investigate alternatives.
- Preferred solution is to process leachate impacted water with ozone to oxidize contaminants into solid particles and remove particles through a filter system prior to discharging treated water to stream.

**Timeline** - Design 2021-2, Approvals 2022-3, Construction 2024

**Budget** – Current Budget \$2.69M, Additional 2024 Need - \$700K, Project Total - \$3.39M

# Small Capital Projects

## Issue

- Extensive Monitoring Program, Lighting and Fencing Issues, Safety Concerns

## Purpose

- Reduction of monitoring program, lighting and fencing upgrades and safety grating design and improvements

## Solution

- Remove/decommission monitoring wells. Long term savings of \$2.9M over 40 year contaminating lifespan
- Enhanced lighting and fencing at sites to improve safety and reduce vandalism.
- Design and install of safety grating in leachate manholes to improve staff safety.

**Timeline** - Construction 2024

**Budget** – 2024 Need - \$1.36M

# Capital Budget – 2024

- Waste Management (WM) capital budget is fully funded from the Capital Reserve (Open Landfills) and Landfill Liability Reserve (Closed Sites)
- Capital Budget request for 2024 will take into account reserve funding / work load within division amongst other variables
- Capital projects across Corporation are run through Corporate Asset Management Resource Allocation Model (CAMRA)
- As long as reserve funds exist for WM capital projects, they will be self funded / prioritized within WM



# 10 Year Forecast Changes

## Issue

- Environment and Climate Change Canada (ECCC) will release regulations that will require installation of landfill gas collection and control systems (LGCCS) at landfill sites meeting certain criteria
- In 2020, it was estimated that emissions from Canadian landfills accounted for 24% of national methane emissions.
- Increased tendering pricing post-COVID

## Purpose

- Canada supports the Global Methane Pledge which aims to reduce global methane emissions by 30% below 2020 levels by 2030

## Solution

- Installation of LGCCS at landfill sites meeting ECCC regulatory criteria
- Staff participated throughout consultation period and provided comments which resulted in relaxation of some criteria thereby reducing number of sites subject to regulations from four to two (Bridge St. and Niagara Road 12)

**Timeline** – Estimated to be 2027 to 2029 with initial investigative work starting after the regulations are released in 2024

## Budget

- Based on 2023 pricing, staff estimates about \$9-10M for Bridge, \$4-5M for NR-12 and \$5M (previous estimate \$1.5M) for next phase at Humberstone (not part of new regulations)

# Thank you

# Questions?