



# Waste Management Update

May 2, 2022

# Overview

- ▶ Waste Management – Responsibilities
- ▶ Landfill Development
- ▶ Innovation and Initiatives

# Shared Responsibilities

## ▶ RDCO

- ▶ Manage the Regional Solid Waste Management Plan
  - ▶ Consultation
  - ▶ Chair Solid Waste Technical Advisory Committee (SWTAC)
  - ▶ Implementation – Regional Studies
    - ▶ Biomass Volumes (2021)
    - ▶ Waste Characterization Study(2021)
    - ▶ Expanding Organic Diversion (2022)
- ▶ Waste Reduction Office
- ▶ Administer Region Programs
  - ▶ RecycleBC
  - ▶ Curbside Collection Programs/Contracts

# Shared Responsibilities

- ▶ City of Kelowna
  - ▶ Own and operate the Landfill servicing the RDCO
  - ▶ Fund our portion of Waste Reduction Office
  - ▶ Individual contracts with Recycle BC & Curbside Collection Contractor
  - ▶ Assist in Waste Diversion
  - ▶ Green waste composting
  - ▶ Participate in Solid Waste Technical Advisory Committee (SWTAC)

# Glenmore Landfill Volumes

| Year | Waste Disposed (Tonnes) | Organics & Recyclables (Tonnes) | Waste Diverted From Disposal (%) |
|------|-------------------------|---------------------------------|----------------------------------|
| 2017 | 151,456                 | 67,983                          | 31.0                             |
| 2018 | 166,916                 | 73,542                          | 30.6                             |
| 2019 | 156,566                 | 79,880                          | 33.8                             |
| 2020 | 145,704                 | 70,767                          | 32.7                             |
| 2021 | 154,079                 | 69,935                          | 31.2                             |

# Landfill Site - 2017

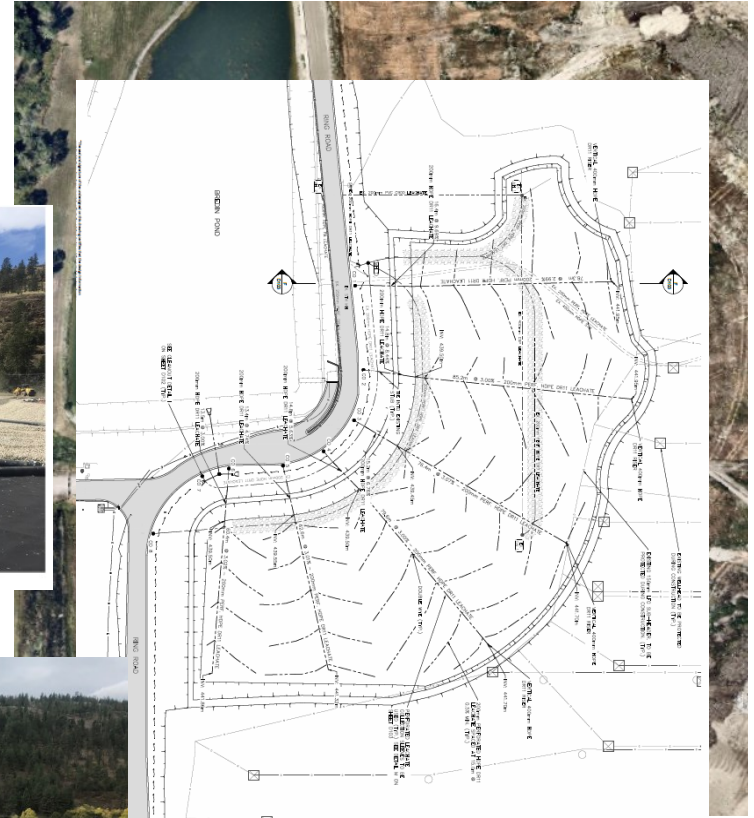




# Landfill Liner Installation Area 1 - 2019



Photo #2: Angular drain rock being placed





# Landfill Liner Installation

## Area 2 - 2020

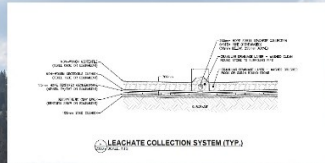


Photo #2: Area 2 leachate pipe being installed - Sep 17, 2020 12:00 AM



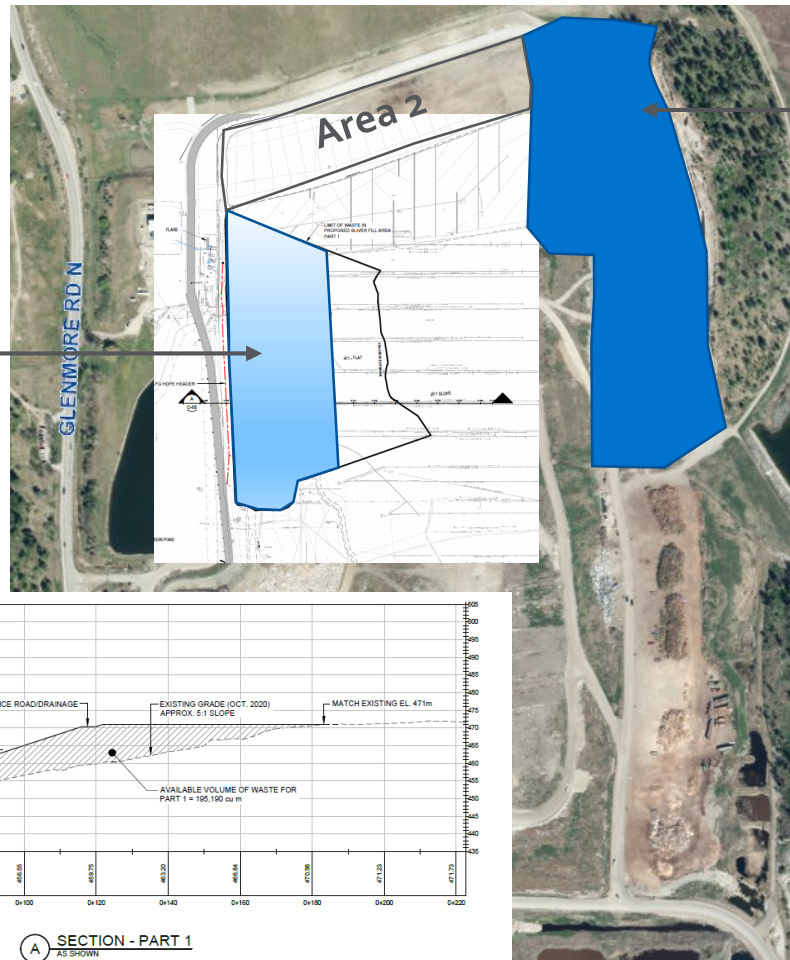
Photo #4: Aug 8, 2020 - Liner in place @ 12PM



# Next Steps -Sliver Fill and Area 3

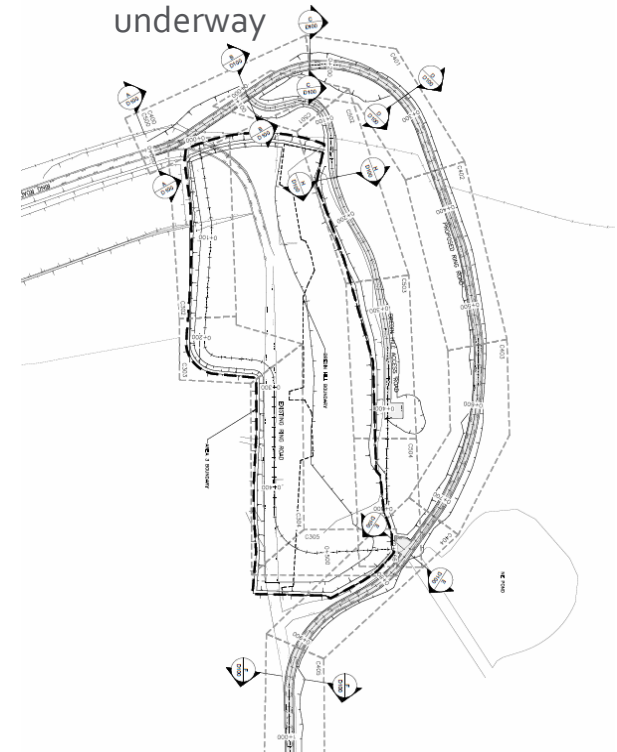
## Sliver Fill

- Construction\Filling scheduled for 2023
- 195,000 m<sup>3</sup> Waste to current elevations
- No Liner required
- Design underway
- Beginning of Progressive Closure



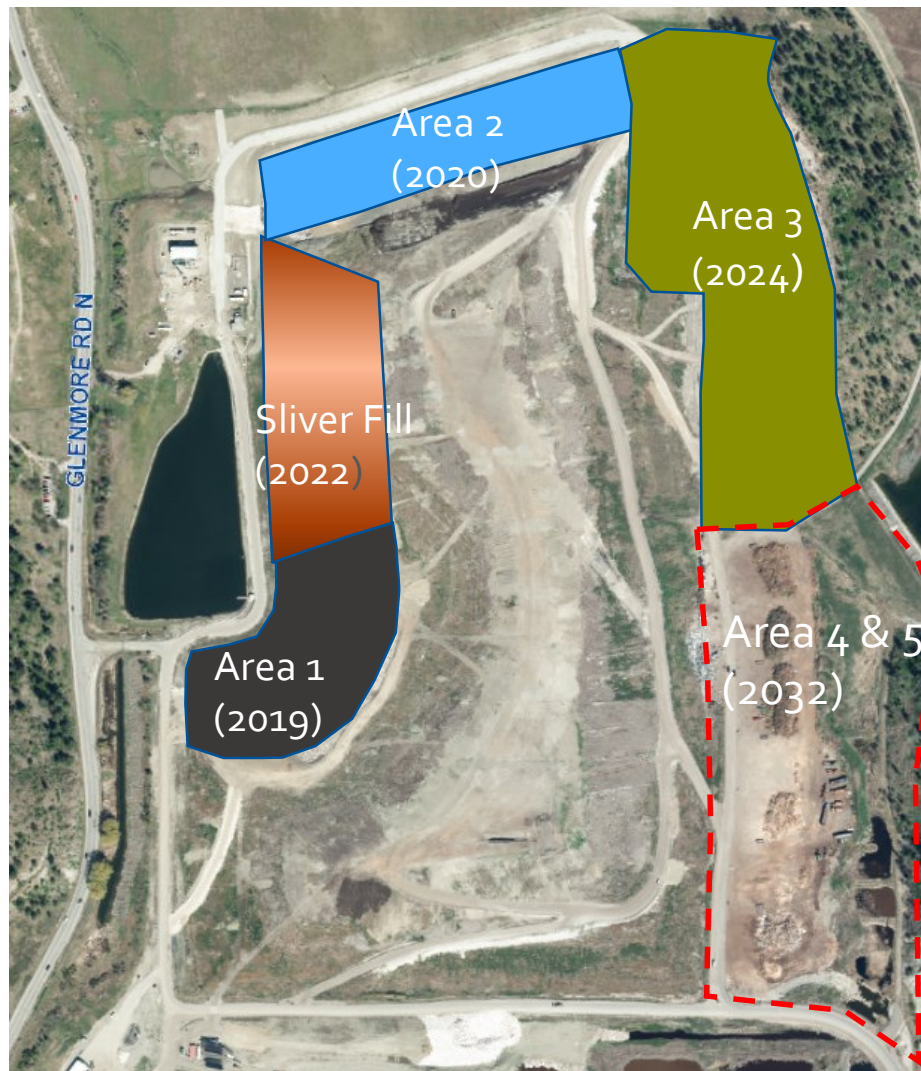
## Area 3

- Liner construction scheduled for 2024
- Design and site preparation underway



# Landfill Site Development Phasing

- Consistent with the Design Operations and Closure Plan approved by the Province





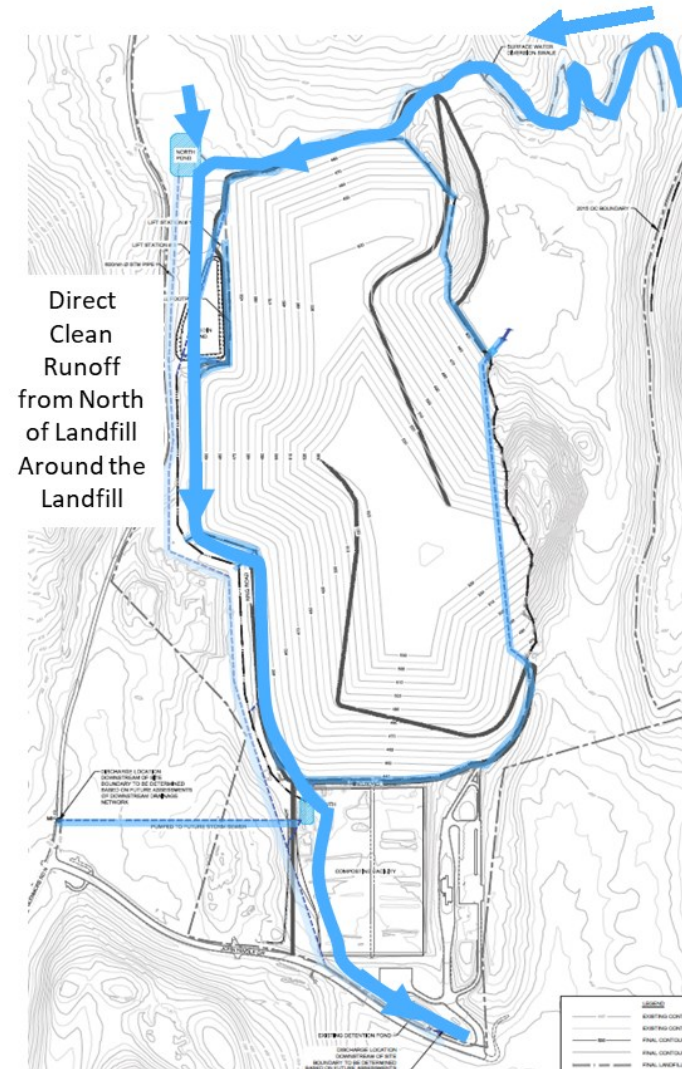
# Landfill Site Preparations





# Surface Water Management

- ▶ Manage future surface water runoff
- ▶ Divert clean surface water from north of the landfill past the site
- ▶ Store surge and control downstream flow
- ▶ Permitting to discharge to Brandt's Creek in process
- ▶ Need to find storage capacity

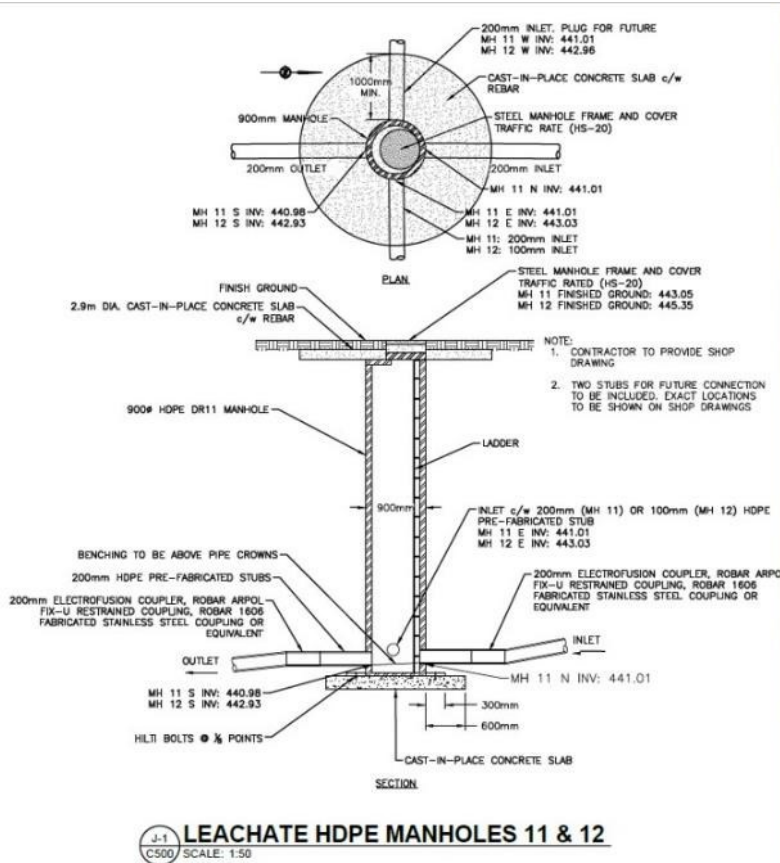


# Innovations - Smart meters

- ▶ Installed in key locations around site
- ▶ Measures flow rates of surface water
- ▶ Obtain real world flows to size storage ponds
- ▶ Assistance from Water Quality & Customer Care



# Innovation - Leachate





# Innovation - Odour and Dust Monitoring



# Dust Monitoring Example

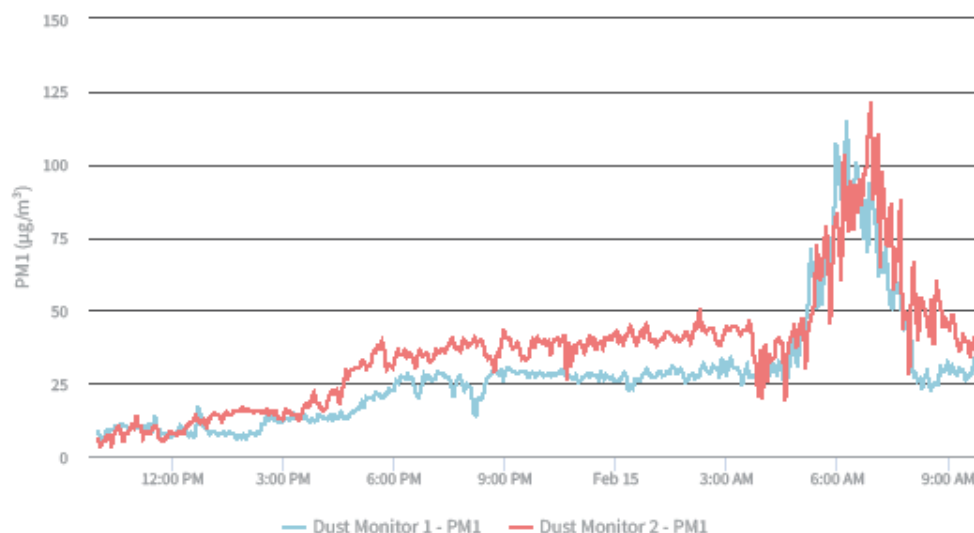


## Data Trend Report

Site: City of Kelowna - Glenmore Landfill

Report Issued: Feb 15, 2022 9:59 AM

Report Period: Feb 14, 2022 9:58 AM - Feb 15, 2022 9:58 AM



# Innovation - Compact E-Loader

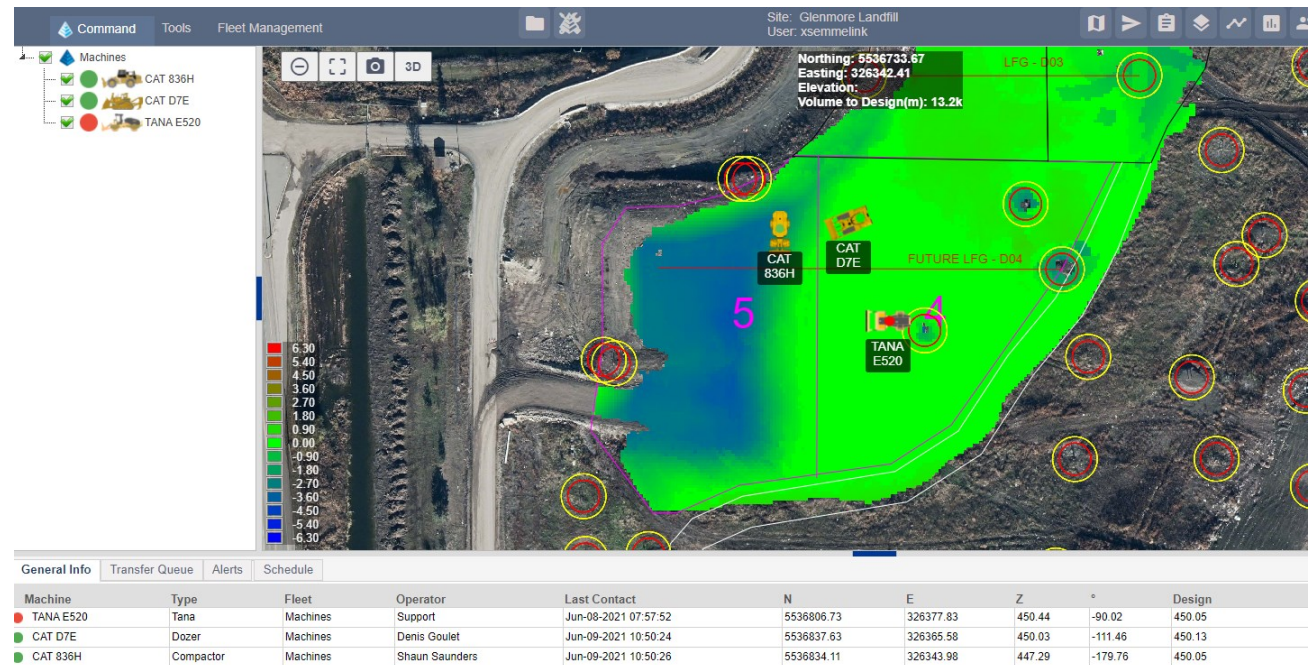




# Innovation – Carlson GPS System

## ► BENEFITS

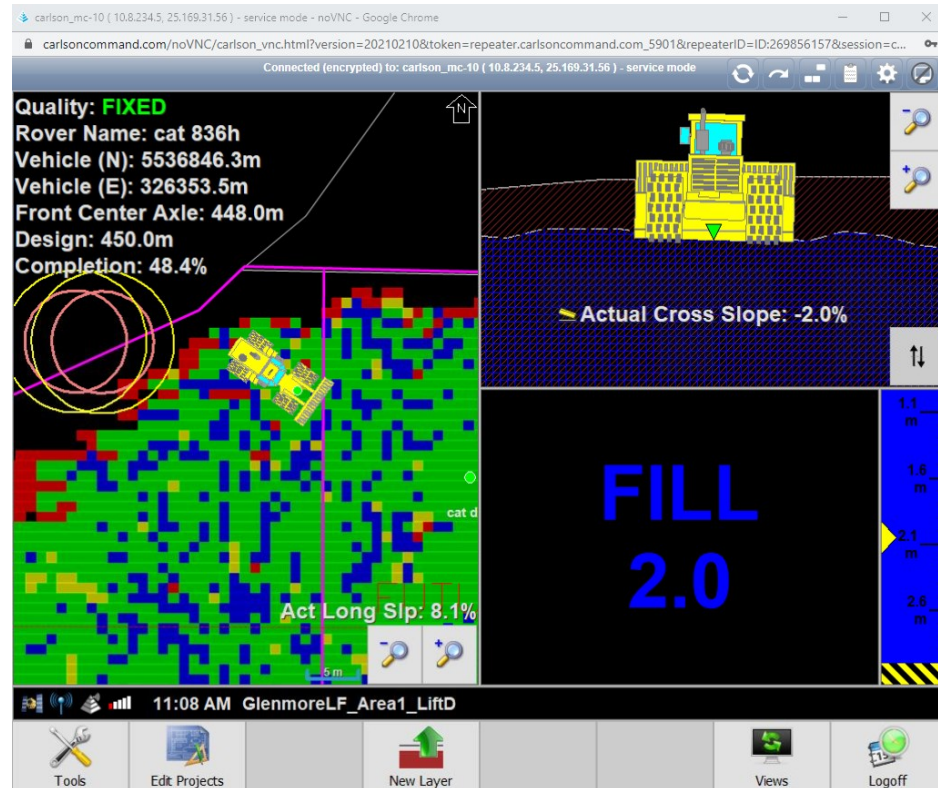
- Compliance with design
- Analytics - assist with advanced planning



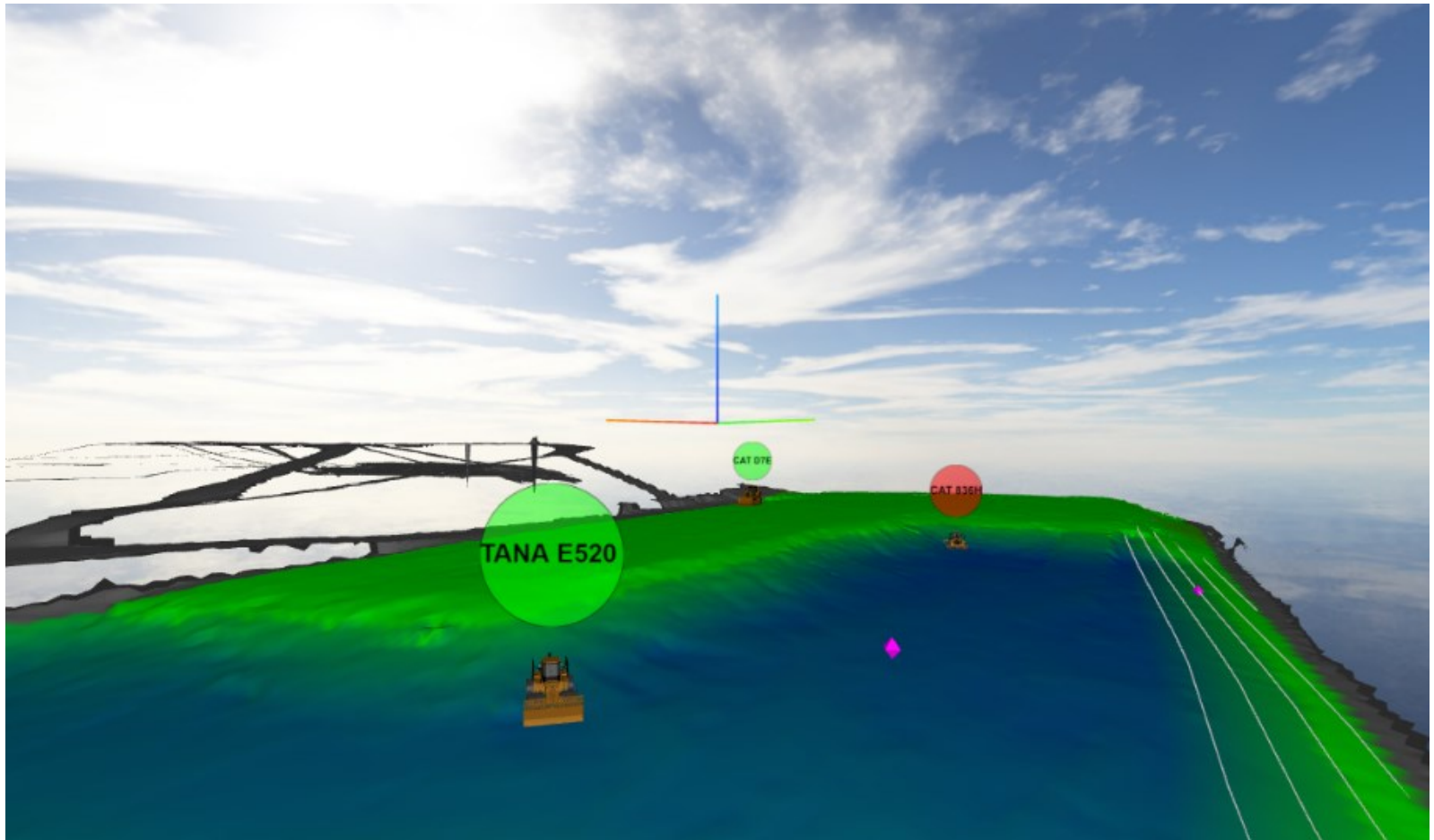
# Innovation - Carlson GPS System

## ▶ BENEFITS

- ▶ Operator has a visual guide on what areas need additional compaction
- ▶ Minimizes number of passes with equipment
- ▶ More efficient compaction



# Innovation – Carlson GPS System





# Innovation - Glengrow

- ▶ Build receiving pads
- ▶ Increase Site Electrical Capacity
- ▶ Splits traffic (safety and nuisance)
- ▶ Increased efficiency for receiving and grinding



# Innovation - Compost ASP

- ▶ Uses fans instead of heavy equipment to aerate compost
- ▶ Shortens Composting time
- ▶ Minimizes heavy equipment
- ▶ Similar design to Biosolids composting operation





# Innovation - Air Separator

- ▶ Removes contamination
- ▶ Allows for reuse as biomass fuel
- ▶ Pilot program to use in parks as mulch





# Waste Management Initiatives

- ▶ Express Return It Depot
- ▶ Pallet Recycling – pilot program
- ▶ Log and Stump Re-use – pilot program



# Waste Management Initiatives

- ▶ Supporting UBCO Research Programs
- ▶ Major Appliances Recycling Roundtable (MARR)
- ▶ Biosolids Diversion (Mine reclamation/redundancy)



# Building Deconstruction Pilot

- ▶ Deconstruction of City owned property at 2130 KLO Road
- ▶ Unbuilders/Habitat For Humanity managed selected materials (windows, etc.)
- ▶ Existing Mandatory Recyclables recovered (Brick, concrete, scrap metal, drywall)
- ▶ Joists and framing recovered



# Waste Management Initiatives

## ► 2022 Building Deconstruction (RDCO / OSLC)





*Questions?*

For more information, visit [kelowna.ca](http://kelowna.ca).