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SUPPORTING LAW ENFORCEMENT LANDFILL EVIDENCE SEARCHES

Enhancing investigations through effective landfill
search methods

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PURPOSE AND CONFERENCE CONTEXT

Operational Coordination

Landfill evidence searches require collaboration among law enforcement, municipal teams, safety, and environmental regulators.

Risk and Safety Management

These searches are high-risk and require careful safety planning to protect workers, the public, and environment.

Purpose of Presentation

The presentation provides landfill operators with practical insights into governance, logistics, safety, and worker wellness.





CPS EVIDENCE SEARCHES

- The City of Calgary has not conducted an evidence search at any of our landfills for 12 years
- 2011 A piece of metal came off a downtown high rise under construction during high winds striking a child that was inadvertently thrown out a couple years later. The search was at the Shepard Landfill, lasted for 2 months, and the large piece of metal was not found.
- 2014 CPS requested to look at the Spyhill & East Calgary Landfills for evidence due to missing persons. The search lasted 2 months and some items were located and sent for further analysis





PUBLIC REQUESTS TO SEARCH

- WRS receives numerous requests to search the landfills from residents that have inadvertently throw away items by family members or cleaning services. These requests cannot be approved as the items will be buried under many tonnes of waste and the costs and impact to operations unfortunately make these requests are unfeasible to consider

Success story!

- Different circumstance. A diamond ring was accidentally discarded by cleaning staff and collected with household waste. After the resident contacted 311, it was confirmed that the collection vehicle had not yet offloaded its contents. Crews isolated the truck's load and conducted a systematic search of all black garbage bags. The ring was successfully recovered from inside an onion soup mix box



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GOVERNANCE AND AUTHORIZATION

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POLICE REQUEST AND CITY OVERSIGHT

Formal Police Requests

Police initiate landfill evidence searches through formal written requests, retaining investigation control and evidence custody.

City's Supportive Role

The City provides operational support ensuring safety and regulatory compliance during the evidence search process.

Multi-department Coordination

Coordination involves Waste Services, Security, Environmental and Legal teams plus leadership for approvals and oversight.

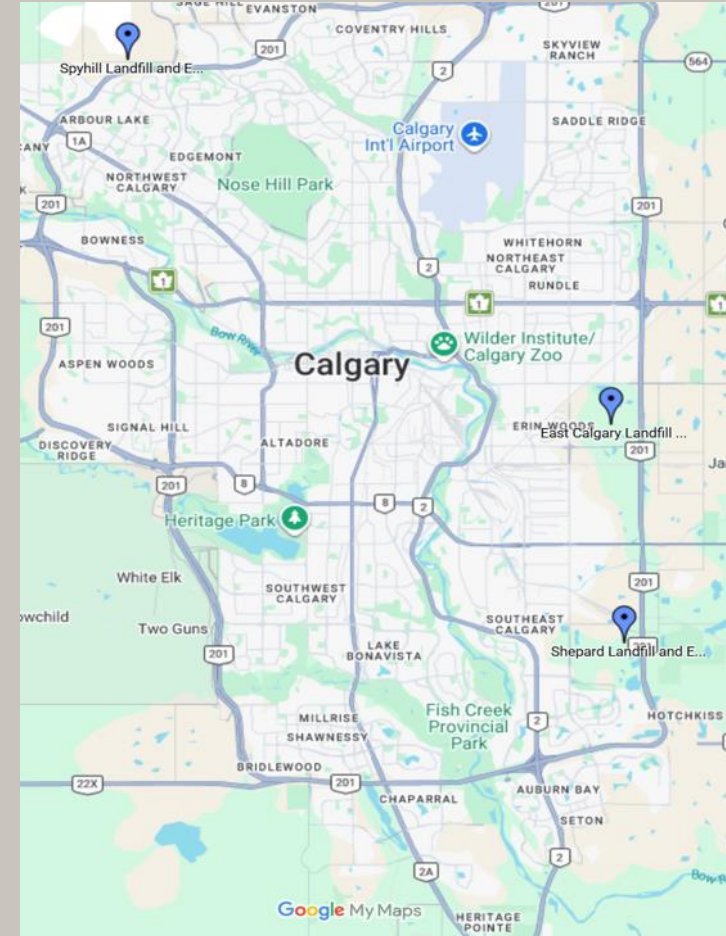
Governance and Legal Protection

Clear governance prevents confusion, protects legally, and ensures informed decisions on operational impacts.



CONFIRMATION OF LANDFILL LOCATION

- The City of Calgary has 3 landfills so it's extremely important for CPS to investigate and confirm which landfill the material is suspected to have been taken to. There are also private landfills around Calgary that waste is transported to by commercial haulers as well so it's critical that confirmation of disposal location is confirmed prior to any search beginning
- Searching an incorrect landfill can result in ineffective outcomes, unnecessary excavation, and increased safety risk.



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DATA AND SEARCH AREA IDENTIFICATION

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USING GPS AND SCALE RECORDS

GPS Tracking of Equipment

Daily GPS tracking of landfill equipment enables precise location data critical for defining search areas.

Scale Records Documentation

Scale records capture date, time, and tonnage of waste to provide detailed disposal information.

Enhanced Investigative Search

Aligning GPS and scale data with investigative timelines narrows search to specific disposal cells and footprints.



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SCOPE AND OPERATIONAL PLANNING

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WASTE VOLUME AND LANDFILL CONTINUITY

Estimating Waste Volume

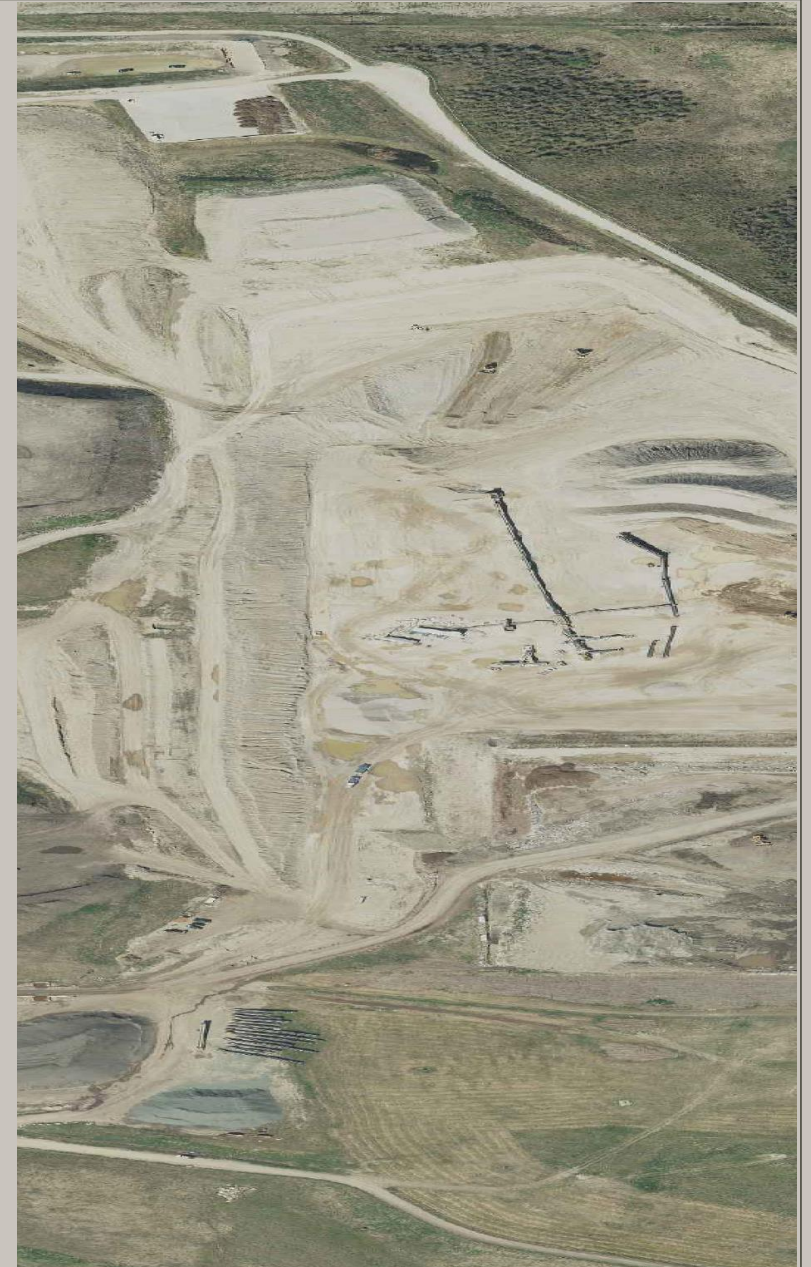
Waste volume is estimated using tonnage data and compaction rates to understand material quantities accurately.

Landfill Operational Planning

Planning includes identifying alternate landfill areas to ensure continuous waste acceptance without service interruptions.

Traffic and Regulatory Management

Reviewing traffic flow, haul routes, and regulatory approvals maintains safe and compliant landfill operations.





OPERATIONAL CONSIDERATIONS

- **LFG infrastructure**
 - Horizontal lines
 - Vertical wells
 - Isolate the area
 - Replace the damaged or removed infrastructure during the excavation
- **Odours**
 - Is there flexibility in the schedule can it be done in the winter months?
 - Our WMFs are in the middle of neighborhoods, and we are mindful of the impacts are operations have on our residential and commercial neighbors
- **Time of year winter is preferable**
 - Less programs offered
 - Less traffic





ADDITIONAL CONSIDERATIONS

The estimated length of the search

Also whether typical WMF operations will be impacted in any way

Whether final cover needs to be removed from the area to be searched

Whether the LFG system operation will be impacted

What steps will be taken to prevent landfill fires due to oxygen ingress

Whether the surface water management system will be impacted.

Where excavated waste will be taken / placed

What the “restoration” plan will be

What wind blown litter control measures will be implemented

What The City’s odour control measures are and

what steps are taken to inform the public regarding potential nuisance odours / the search.

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SEARCH METHODS



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Manual Searches and Use of Cadaver Dogs

Manual Search Methodology

Manual searches involve controlled excavation and visual inspection to maintain evidence integrity and ensure safety during waste sorting.

Use of Cadaver Dogs

Cadaver dogs help narrow search zones but have limitations like injury risks and uncertain detection in landfill environments.

Method Limitations and Safety

Understanding the strengths and limitations of each method is crucial for managing expectations and prioritizing safety

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SAFETY,
ENVIRONMENT,
AND
WELLNESS

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HEALTH, SAFETY, ENVIRONMENTAL, AND MENTAL WELLNESS CONTROLS

Hazard Identification and Control

Landfill searches involve hazards like gases, sharps, contaminants, heavy equipment, and unstable slopes requiring thorough hazard assessments and controls.

Environmental and Safety Procedures

Mandatory use of PPE, air quality monitoring, exclusion zones, and emergency response plans ensure environmental and personnel safety.

Mental Wellness Support

Mental health resources, task rotation, pre-task briefings, and debriefings help manage psychological challenges during landfill searches.

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TIME, COST, AND COMMUNICATIONS

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DURATION, BUDGET, MEDIA, AND OUTCOMES

Time and Safety Constraints

Landfill evidence searches often take days or weeks, influenced by volume, weather, and safety conditions.

High Operational Costs

Costs include labor, equipment, PPE, engineering, and security, potentially reaching millions of dollars.

Media and Communication Protocols

Intense media interest requires clear protocols with police managing messaging and City handling operational updates.

Uncertain Evidence Recovery

Despite best efforts, recovering evidence from landfills is never guaranteed as preservation varies.



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CONCLUSION

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KEY TAKEAWAYS FOR LANDFILL OPERATORS

Importance of Planning and Governance

Disciplined planning and strong governance are essential for successful landfill support during law enforcement evidence searches.

Accurate Records and Documentation

Maintaining accurate records ensures traceability and supports effective coordination during evidence searches.

Safety and Wellness Commitment

A strong focus on safety and wellness protects staff and enhances operational success in challenging landfill searches.

Sharing Lessons and Expectations

Sharing lessons learned and realistic expectations across jurisdictions improves preparedness for complex landfill evidence searches.



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THANK-YOU

Richard Anweiler