Human Health and Solid Waste Disposal

Beyond the Bin Event

Nov 4, 2026

Community and Environmental Public Health Considerations

What is Environmental Public Health?

- Environmental health addresses all the **physical**, **chemical**, and **biological** factors external to a person, and all the related factors impacting behaviours.
- It encompasses the **assessment** and **control** of those environmental factors that can potentially affect health.
- It is targeted towards **preventing disease** and creating health-supportive environments

Mandate of Environmental Public Health Services (EPHS)

- EPHS works to identify and prevent environmental public health risks that could adversely impact the health of a community and its citizens.

- Programming includes: public health inspections, environmental monitoring (e.g. drinking water quality), delivering training / building capacity and raising awareness about potential environmental public health risks and providing information to people in order to protect themselves and their families from EPH risks.

- Prevention is a key principle of environmental public health.

Environmental Public Health Officer (EPHO) Functions and Service Areas

EPHO Functions

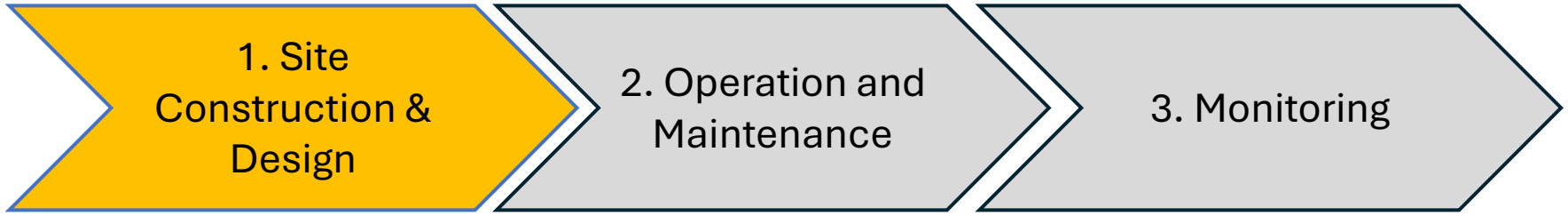


Core Suite of Services

- Drinking Water
- Communicable Disease
- Housing
- Food Safety
- Solid Waste
- Wastewater
- Facility Inspections
- Emergency Response

Environmental Public Health and Solid Waste Management

- Inspections are Guided by Public Health Legislation
  - Public Health Act - Nuisance and General Sanitation Regulation
    - Utilize more technical documents such as the Alberta Code of Practice for Landfills, Transfer Station Technical Guidance Manual
- Observations Are Grouped into 3 Main Categories
  - Construction and Design
  - Operations and Maintenance
  - Monitoring
- Observations are made using a public health lens and address key public health concerns such as security, sanitation, air quality, groundwater quality and vector control.



Public Health Observations -

1. Site Construction and Design

The site was adequately secured to prevent unauthorized access

- *Artificial or natural barriers to control public access to the landfill and prevent unauthorized vehicular traffic and illegal dumping of wastes.*
- *Fences and gates to provide site security and litter control.*

Adequate signage was present and visible



- *Signs are useful to provide users with directions, on site rules and procedures and to direct traffic through the site. A typical sign includes:*
  - *The name of the person responsible;*
  - *An entrance sign with site name, and emergency contact numbers;*
  - *A sign listing prohibited wastes;*
  - *Signs that direct traffic through the site;*
  - *Signs posting site rules and procedures.*

The access road was suitable

- *Considerations for access roads include:*
  - *All weather road surfaces;*
  - *Widths that are designed to accommodate intended vehicle traffic;*
  - *Turning radii designed for largest vehicles;*
  - *Ditches incorporated into overall site drainage systems.*



The solid waste facility was equipped with specific areas and/or containers for accepting wastes.

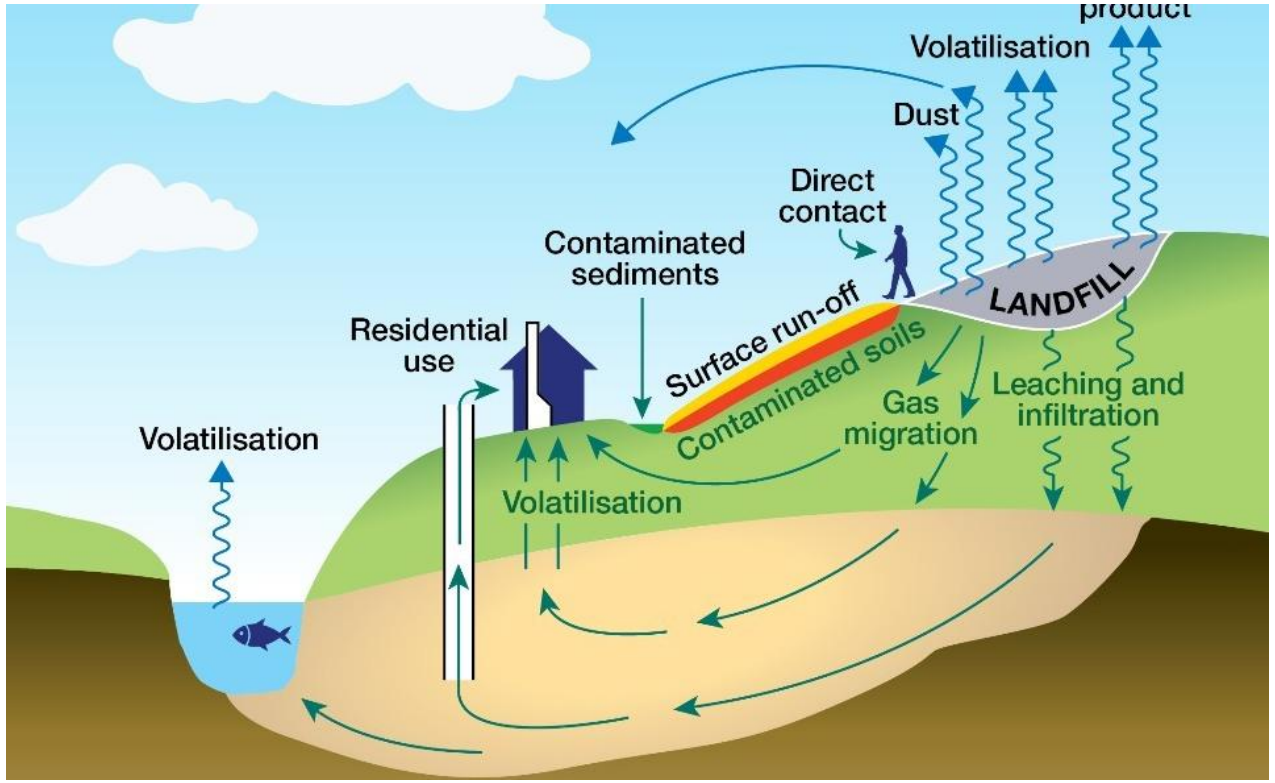


- *Specific areas for the sorting, recovery, conditioning or storage of any accepted wastes.*





The solid waste facility appeared to meet applicable set-back distances



- *Public Health Act indicates that an area where waste is or may be disposed of cannot be located within 450 metres of a water well that supplies water that is intended or used for human consumption.*

The solid waste facility was equipped with the appropriate engineered features

- *LEACHATE COLLECTION*
  - *Where applicable, the landfill design for construction or lateral expansion should include a liner and leachate collection system that provides for containment of the waste constituents and allows gathering and collection of leachate.*

- *GROUNDWATER MONITORING SYSTEM*
  - *Where applicable, the landfill design for construction or lateral expansion should include a groundwater monitoring system.*

The solid waste facility was only accepting waste that it was intended to receive

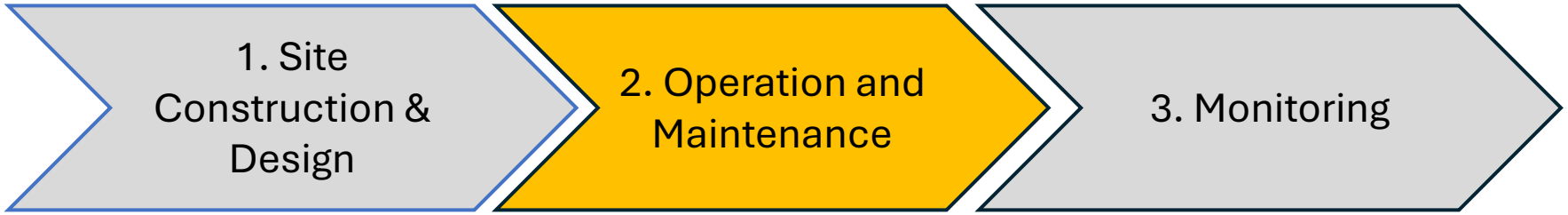


- *HAZARDOUS WASTE*
  - *No person should dispose of hazardous waste into a solid waste facility.*



There was no burning at the solid waste facility

- *No person should burn or permit burning at a waste management facility.*



Public Health Observations -

2. Operations and Maintenance

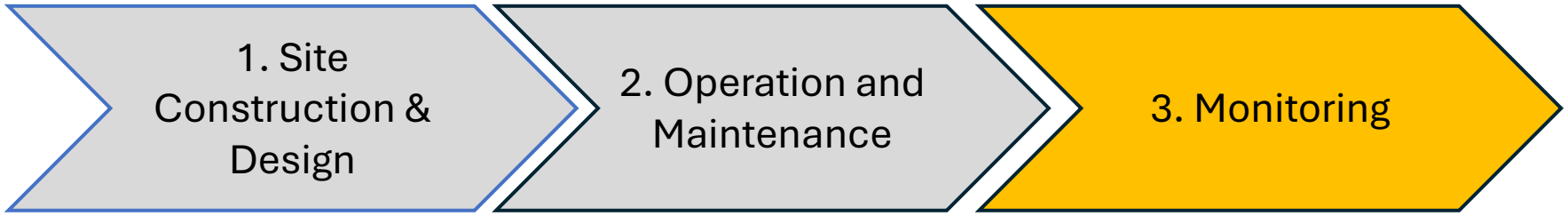
The solid waste facility was managed to minimize water accumulation

- *Accumulating water in a trench should be removed to avoid contact with the waste.*

Alberta Code of Practice for Landfills §7(12)

The solid waste facility was adequately maintained and managed

- *COVER*
  - *The person responsible for a landfill should cover wastes with 15 cm of soil or an approved alternative cover material to control litter, prevent spread of fires, minimize propagation of disease vectors, reduce odours, and minimize infiltration of moisture*. **Alberta Code of Practice for Landfills §7(8)**
- *LITTER CONTROL*
  - *The person responsible should establish and maintain litter controls to minimize the escape of waste from the solid waste facility and should retrieve waste that is washed or blown onto adjacent properties or accumulates on the site.* ***Alberta Transfer Station Technical Guidance Manual 11.8.i & Alberta Code of Practice for Landfills §7(17)***
- *NUISANCE*
  - *No person shall create, commit or maintain a nuisance that may become injurious or dangerous to public health, including any condition that may hinder in any way the prevention or suppression of disease.* **Nuisance and General Regulation (AR 243/2003) §2(1)**
- *OPERATOR*
  - *The solid waste facility should be supervised by a certified operator during its hours of operation*. **Waste Control Regulation (AR192/1996) §25(1)**



Public Health Observations -

3. Monitoring

Groundwater monitoring was being conducted as required

- *The person responsible should obtain and analyse representative samples from the groundwater monitoring system on an annual basis throughout the active life and post-closure period of the landfill.*

Alberta Code of Practice for Landfills §8(1)

Occupational Health Considerations

Dr. Deena Hinshaw

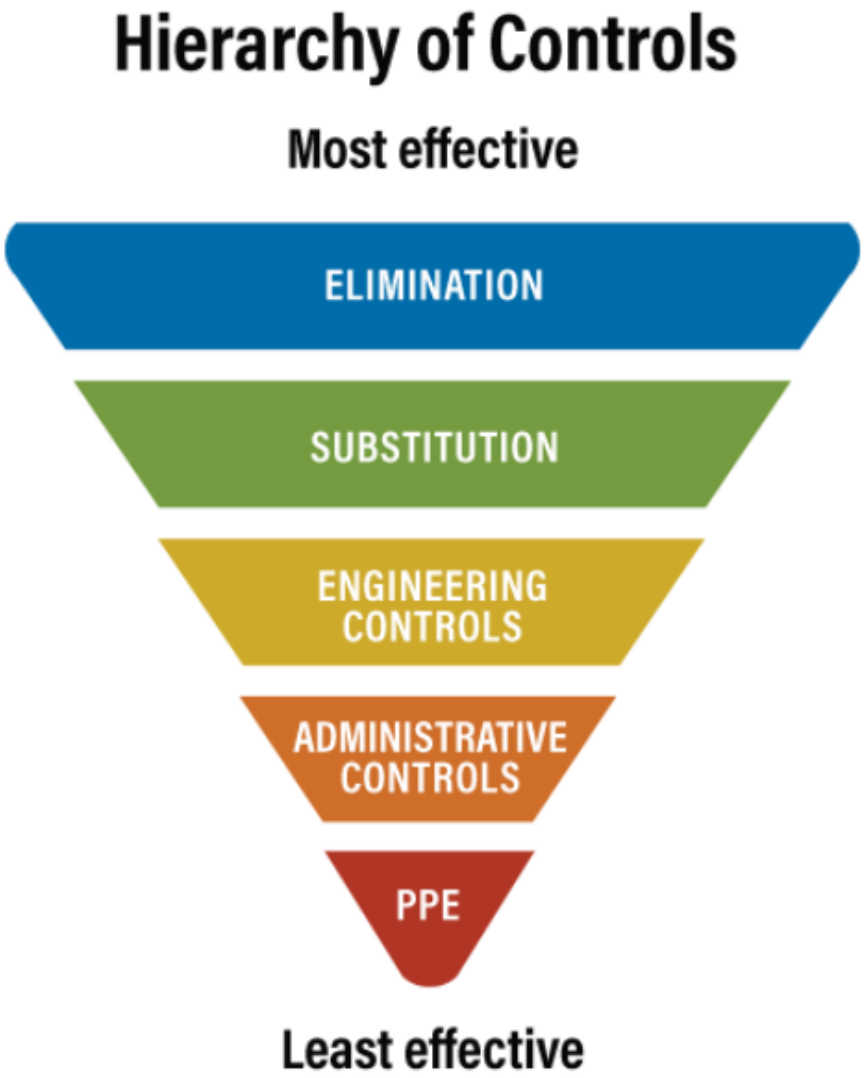
Types of Hazards

- Biological
- Chemical
- Ergonomic
- Physical
- Psychological
- Safety



Picture borrowed from https://tsag.net/index.php/2026/09/14/transfer-station-basics-course/

Types of Prevention



Graphic from: https://www.ccohs.ca/oshanswers/hsprograms/hazard/hierarchy_controls.html

BIOLOGICAL HAZARDS



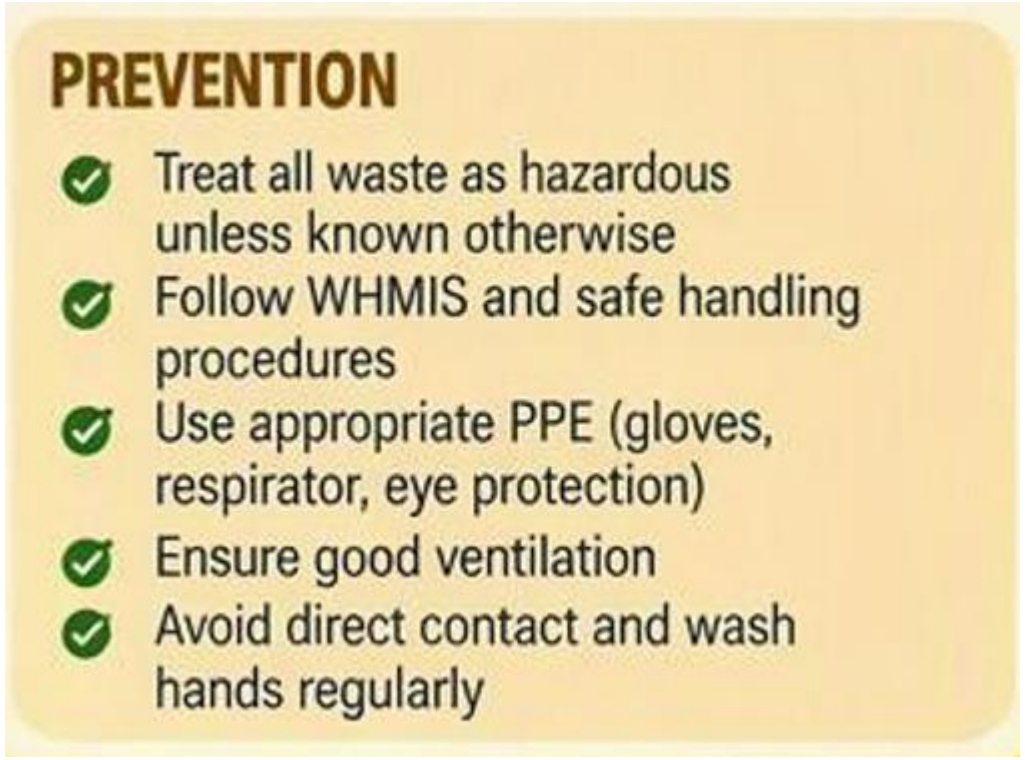
- Stinging insects
- Bacteria, fungi and other micro-organisms
- Needlestick and sharp injuries
- Animal attacks (e.g., dogs)
- Bird or rodent droppings (e.g., histoplasmosis, psittacosis, hantavirus)

PREVENTION

- Wear gloves and protective clothing
- Handle sharps with care
- Use proper waste handling procedures
- Be aware of animals and insects
- Maintain up-to-date vaccinations (e.g., tetanus)

- Content from: https://www.ccohs.ca/oshanswers/occup_workplace/waste-collection-workers.html
(visuals created with Microsoft Co-Pilot)





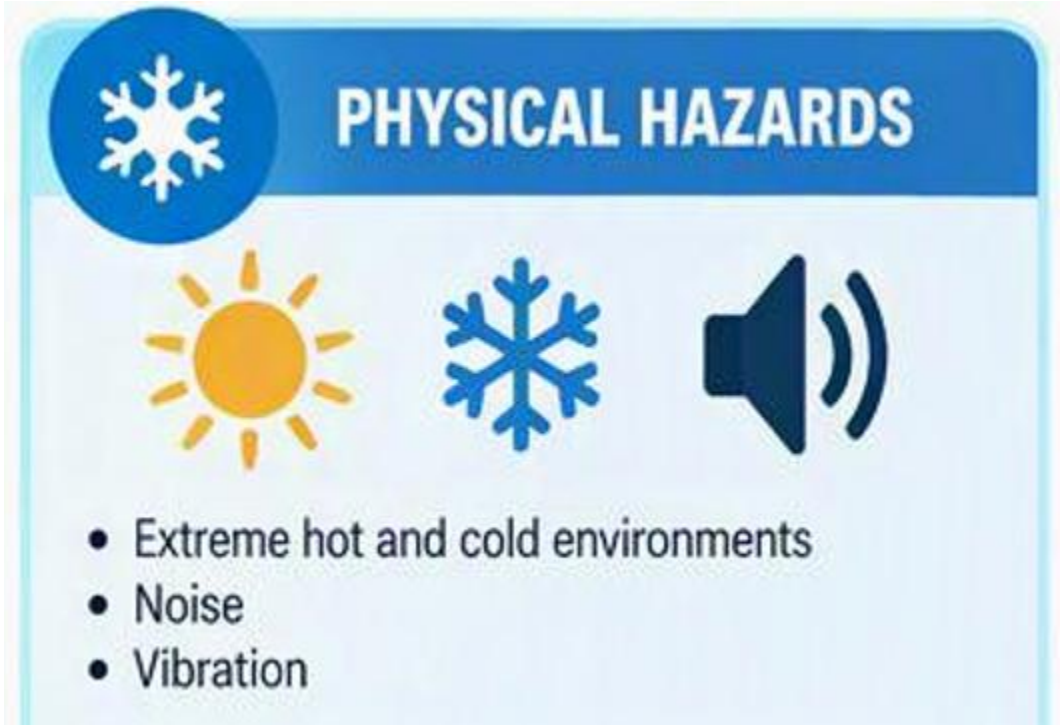
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PREVENTION

- Dress for the weather and use sun protection
- Take breaks, hydrate and monitor for signs of heat stress or frostbite
- Use hearing protection
- Reduce exposure to vibration (e.g., well-maintained equipment)

- Content from: https://www.ccohs.ca/oshanswers/occup_workplace/waste-collection-workers.html
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Who has a role in waste management occupational health and safety?

