



Making a difference...together

0360-20  
Core Area Liquid Waste Management Plan –  
Technical and Community Advisory Committee (TCAC)  
Agendas

**TECHNICAL AND COMMUNITY ADVISORY COMMITTEE  
CORE AREA WASTEWATER TREATMENT**

Notice of Meeting on **Thursday March 14, 2024 at 1:00 pm**  
Online only through Microsoft Teams

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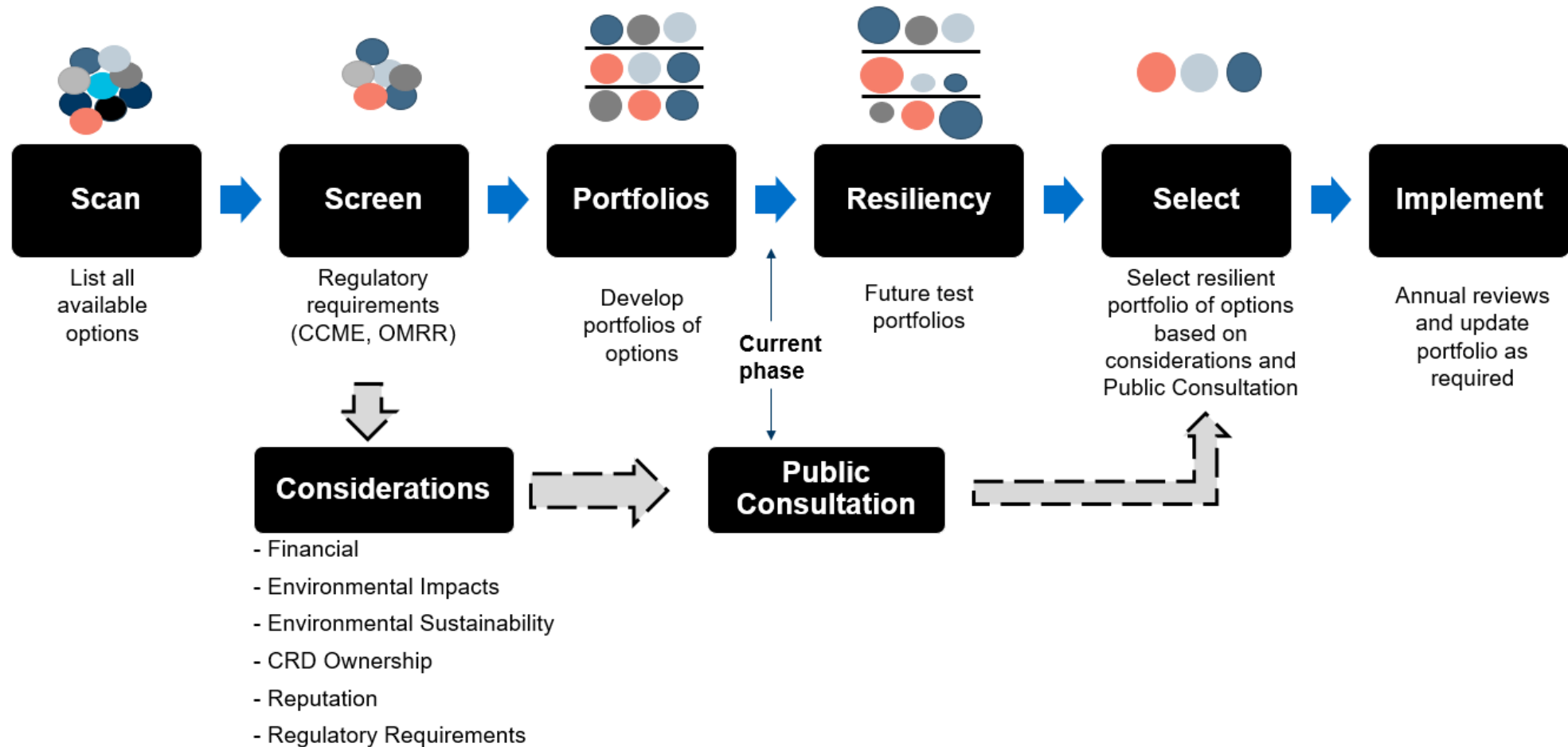
Brenda Donald	Don Monsour	Jas Paul	Katie Wilson	Steve Rennick
Caterina Valeo	Doug Kobayashi (Vice-Chair)	Jim McAloon (CRD)	Lesley Hatch	Winona Pugh
Christopher Coleman (Chair)	Glenn Harris (CRD)	Joel Clary	Lori Nickerson (CRD)	
Claire Remington	Greg Gillespie	John Roe	Michael Engelsjord	
Dale Green (CRD)	Ivan Leung	Josh Andrews	Peter Kickham (CRD)	

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**AGENDA**

1. Territorial Acknowledgement
2. Approval of Agenda
3. Adoption of [Minutes of February 13, 2024](#)
4. Chair's Remarks
5. Biosolids Management Options Discussion
  - a. Thermal, Advanced Thermal and Land Application
  - b. Portfolio Approach
6. Biosolids Management Options Ranking
7. Update on Public Engagement – Katie Hamilton
8. Other Business
9. Next meeting - to be discussed
10. Closing Comments
11. Adjournment

Risks of interruption may be mitigated through **redundancy of options**, achieved by **portfolios** composed of **multiple contingent options**.



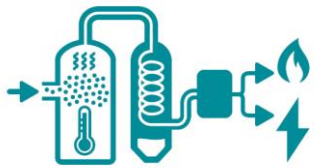
# Considerations

	<b>Thermal Processing</b> 	<b>Land Application</b> 
Financial	<ul style="list-style-type: none"> <li>– High initial capital cost, low economies of scale</li> <li>– Potential for revenue to partially offset processing costs</li> </ul>	<ul style="list-style-type: none"> <li>– Comparatively low capital cost. Additional investment into storage/transport infrastructure may be required.</li> <li>– No potential for revenue generation</li> </ul>
Environmental Impacts	<ul style="list-style-type: none"> <li>– Facility will have nuisance emission abatement systems (odour, noise, air/dust)</li> </ul>	<ul style="list-style-type: none"> <li>– Potential for nuisance odour, noise, air/dust emissions at application sites (far from population centers)</li> </ul>
Environmental Sustainability	<ul style="list-style-type: none"> <li>– Potential to recover energy from waste product</li> <li>– GHG emissions from transport (off-site combustion)</li> </ul>	<ul style="list-style-type: none"> <li>– Reduction of need for synthetic fertilizer</li> <li>– Potential for soil/groundwater impacts if OMRR not followed</li> <li>– GHG emissions from transport</li> </ul>
Experience and Reputational	<ul style="list-style-type: none"> <li>– Advanced thermal technology is emerging</li> <li>– No advanced thermal plants using biosolids feedstock operating in North America</li> </ul>	<ul style="list-style-type: none"> <li>– Demonstrated commercial implementation</li> </ul>
CRD Ownership	<ul style="list-style-type: none"> <li>– CRD would own advanced thermal facility or send biosolids to third-party for off-site combustion</li> </ul>	<ul style="list-style-type: none"> <li>– Biosolids would be sent to third-parties or be bagged by the CRD and sold commercially</li> </ul>
Regulatory	<ul style="list-style-type: none"> <li>– Facility permits required</li> </ul>	<ul style="list-style-type: none"> <li>– Land application plan required per OMRR</li> </ul>
Potential Risks of Interruption	<ul style="list-style-type: none"> <li>– Multiple years required to implement advanced thermal facility</li> <li>– Unknown market for biochar</li> <li>– Unscheduled shutdowns for operational maintenance/commissioning</li> <li>– Limited commercially operational biosolids thermal facilities in North America</li> </ul>	<ul style="list-style-type: none"> <li>– Fluctuations in need for biosolids (typically project-based, seasonal)</li> <li>– Unclear if market exists for bagged biosolids product</li> </ul>

# Available Options

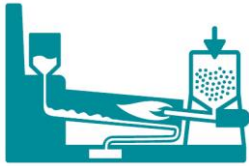
Available options can be broadly categorized as various forms of thermal processing or land application.

## Pyrolysis or Gasification



- Heating with little to no oxygen
- 300-800 °C (pyrolysis)
- 600-1000 °C (gasification)
- Produces syngas, biochar, steam, ash
- \$500 - \$4,500/tonne

## Incineration or Combustion



- Heating with excess oxygen
- 800-1200 °C cement kilns, pulp mills
- Converts to energy (steam, electricity, heat)
- >\$500/tonne

## Forest Fertilization



- Supplementing nutrients in forest soil
- >\$400/tonne

## Industrial Land Reclamation



- Reclaiming barren soils damaged from mining
- >\$250/tonne

## Wholesale Fertilizer for Landscaping



- Blending with soil, compost, or wood chips
- Wholesale distribution (e.g., golf courses)
- >\$500/tonne

## Bagged Fertilizer for Residential Use



- Blending with soil, compost, or wood chips
- Residential distribution (e.g., gardens)
- >\$500/tonne

## Fertilizer for Agriculture



- Fertilizer for crops
- >\$500/tonne

Questions?

