Wastewater Treatment Operations

Environmental and Ecological Planning Advisory Committee

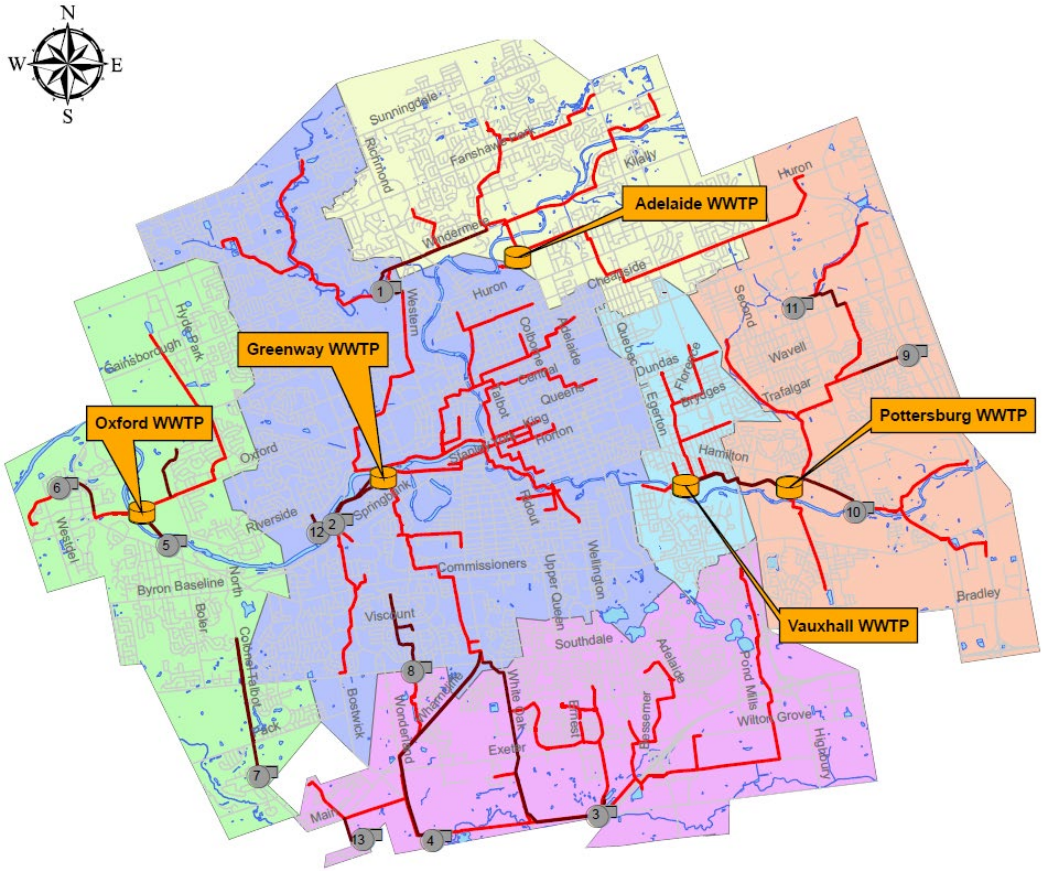
October 21, 2021

Projects

- Wastewater Treatment Operations Master Plan
- Greenway Wastewater Treatment Plant Climate Change Resiliency Class Environmental Assessment
- Adelaide Wastewater Treatment Plant Climate Change Resiliency Class Environmental Assessment
- Biosolids Management Master Plan

Wastewater Treatment Operations Master Plan

to develop an informed, long-term plan for our wastewater infrastructure to address growth servicing, environmental protection and asset management



getinvolved.london.ca/wastewater-master-plan

Wastewater Treatment Operations Master Plan cont'd

- Do Nothing
- Limit Growth
- New Wastewater Treatment Plant(s) at new locations
- Optimize, upgrade and/or expand existing system
- Inflow and Infiltration reduction
- Peak flow management

Servicing Strategy Alternatives

A combination of managing flows and building on our existing systems

Evaluation Criteria for Servicing Strategy Alternatives

Technical
Can it be implemented/ constructed?

Environmental
Is it environmentally sustainable?

Financial
Is it financially sustainable?

Jurisdictional/ Regulatory
Can it easily adapt to changing regulations?

Social/Cultural
How does it impact local communities?

Recommended servicing solution/strategy

Wastewater Treatment Operations Master Plan cont'd

Short-listed Alternatives:

- Optimize, expand and/or upgrade existing system
  - Wastewater Treatment Plants
    - Strategy A: East London Sanitary Servicing
    - Strategy B: Plant upgrade or expansion
    - Strategy C: Plant re-rating
  - Wastewater Pumping Stations
    - Strategy D: Expand and/or enhance flexibility
    - Strategy E: Upgrade/improve operation
    - Strategy F: Decommission
- Inflow and Infiltration Reduction
- Peak Flow Management

Wastewater Treatment Operations Master Plan cont'd

Recommended Implementation Plan

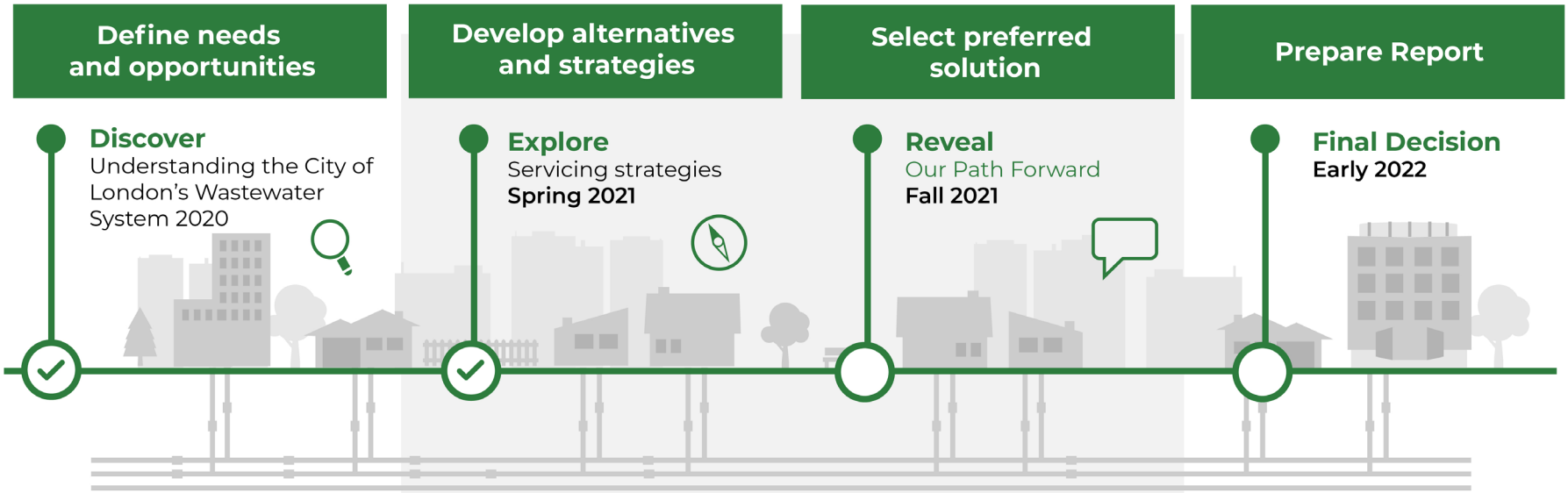
	Wastewater Treatment Plant Projects	Capital Cost	Class EA Schedule
Short-Term (1-3 years)	A1 - Interconnection of Pottersburg and Vauxhall plants B2 - Vauxhall plant upgrade (flow equalization, Section 1 concrete repairs, and replacement of secondary clarifier mechanisms and disinfection system) C1 - Vauxhall plant re-rating and Pottersburg plant de-rating	$ 16 M	B *Completed* A A
	B1 - Adelaide plant upgrade: - primary and secondary clarifier mechanism replacement, return/waste sludge pumping, and aeration system upgrade - Flood berm/barrier and effluent pumping station	$ 17 M	A B- *in progress*
	B3 - Greenway plant upgrade: - Disinfection system replacement and sludge thickening improvements - Flood berm/barrier and effluent pumping station	$ 40 M	A B – *in progress*
	C2 - Greenway plant re-rating (Section 3)		A
Medium-Term (4-10 years)	B4 - Oxford plant upgrade	$ 3 M	A
Long-Term (10-20 years)	B5 - Adelaide plant expansion	$ 60 M	C
	B6 – Oxford plant expansion	$ 11 M	C
	B7 - Greenway plant expansion	$330 M	C
	A2 - New/expanded Pottersburg plant	$330 M	C

Wastewater Treatment Operations Master Plan cont'd

Recommended Implementation Plan

Wastewater Pumping Station Projects		Capital Cost	Class EA Schedule
Short-Term (1-3 years)	D1 – Dingman Pumping Station Expansion	$ 21 M	B *Completed*
	E1 – Victoria Street Pumping Station Replacement	$ 0.8M	B *Completed*
	D2 – East Park Pumping Station Expansion	$ 4 M	B *Completed*
	D3 – Byron Pumping Station Expansion	$ 4 M	A+
	E2 – Broughdale Pumping Station Upgrade	$ 2 M	A+
	F1 – Paardeberg Pumping Station Decommissioning	$ 0.1M	A+
Medium-Term (4-10 years)	D4 – Westmount Pumping Station Enhancements	$ 0.5M	A+
	D5 – Berkshire Pumping Station Enhancements	$2–5 M	B
	E3 – Colonel Talbot Pumping Station Upgrade	$ 0.5M	A+

Wastewater Treatment Operations Master Plan cont'd



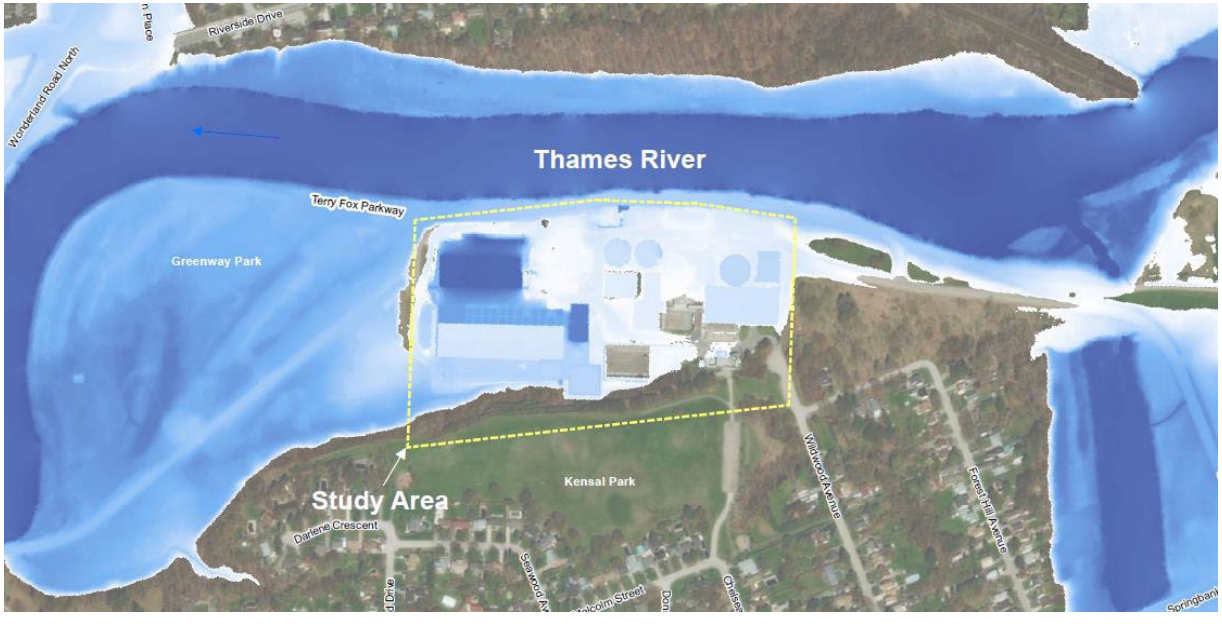
Phase One
- Identify opportunities
- Public Information Centre #1

Phase Two
- Identify alternatives and strategies
- Evaluate alternatives and strategies
- Identify a preliminary preferred solution
- Public Information Centre #2

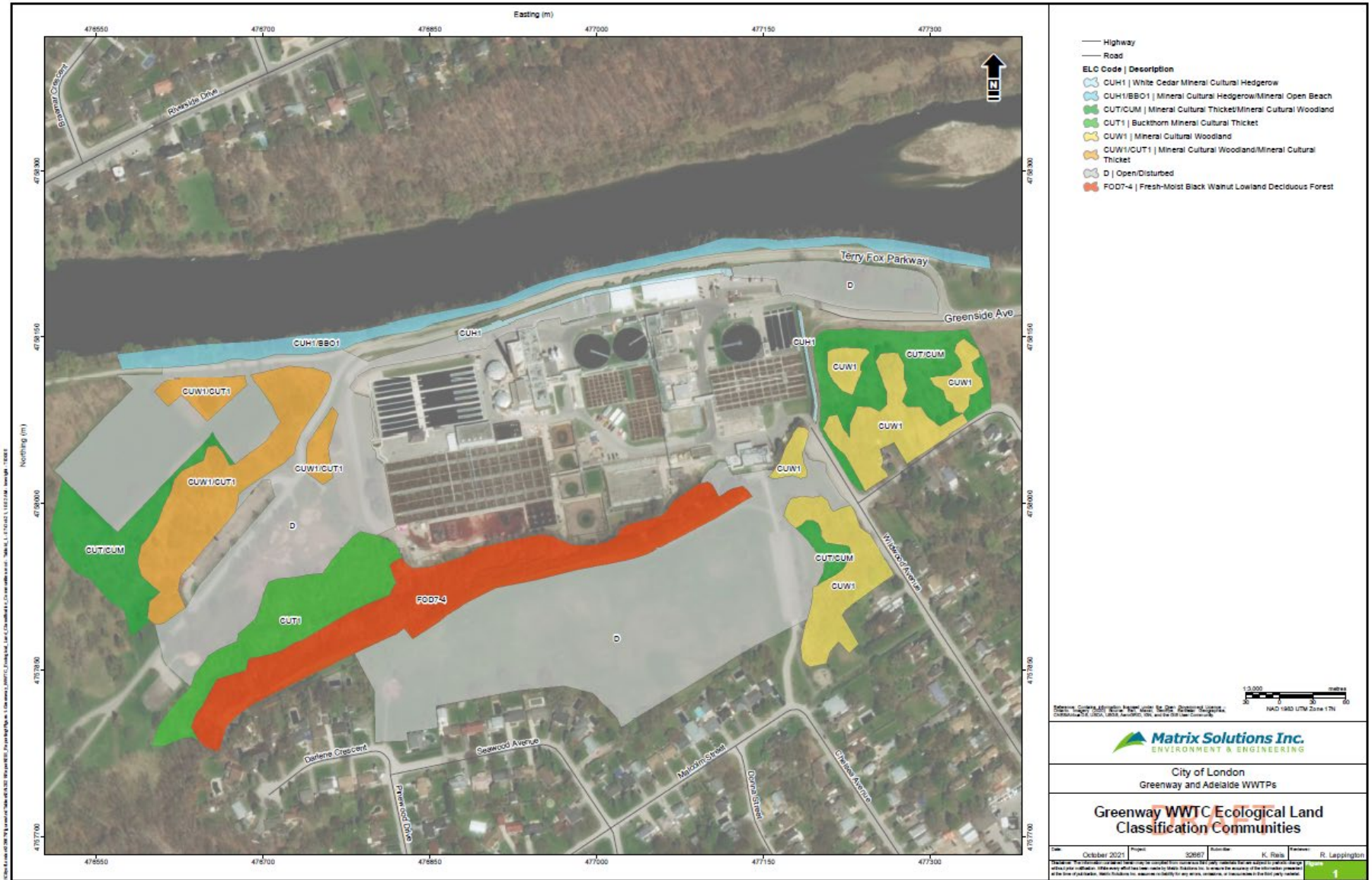
Civic Works Committee and City of London Council will make the final decision to adopt the Master Plan. There will be a 30-day review period for comment.

Greenway WWTP Climate Change Resiliency Class EA

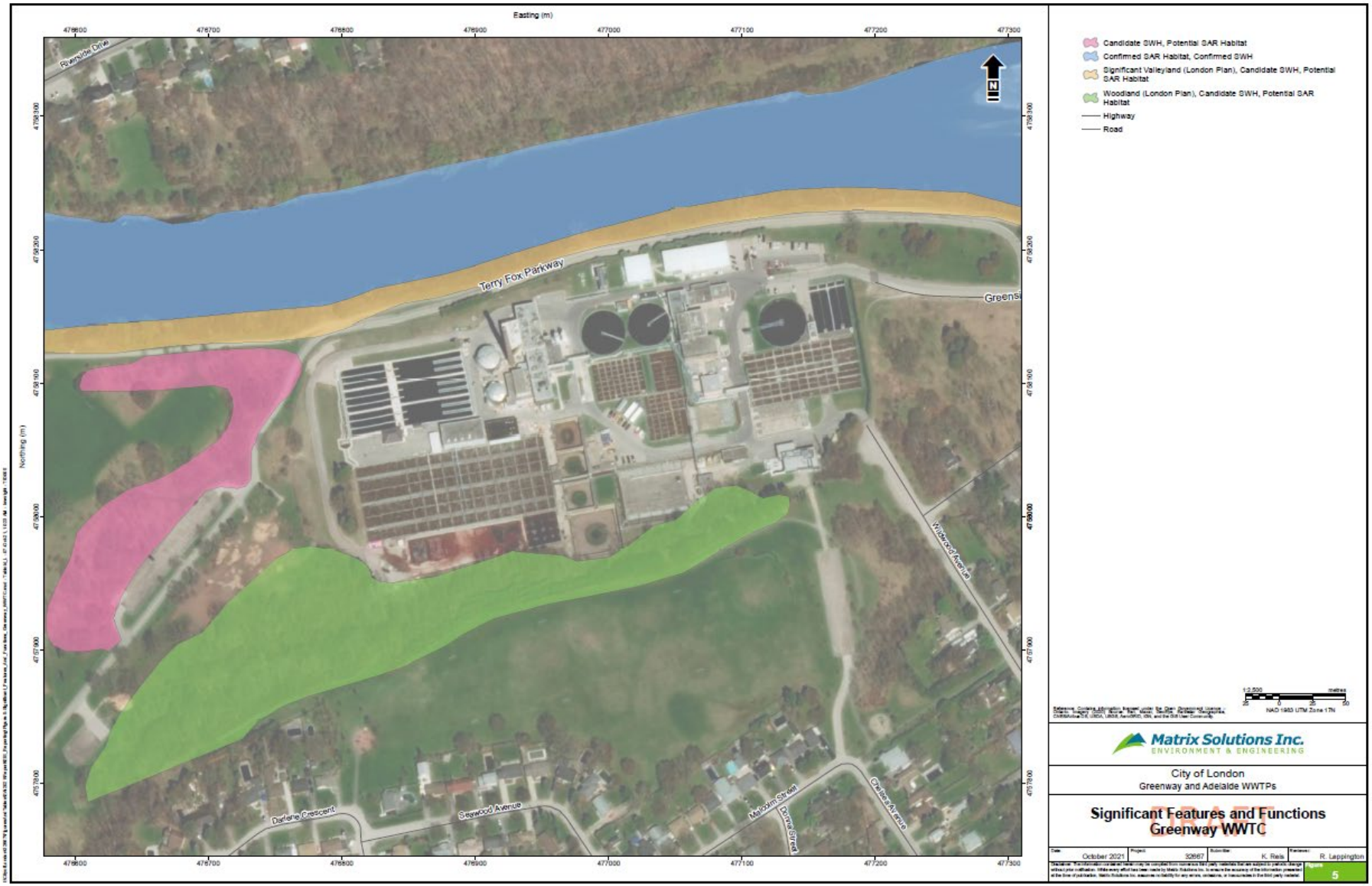
- Federal funding secured through the Disaster Mitigation and Adaption Fund
- Class EA to identify preferred flood protection measures for the Greenway WWTP to:
  - improve asset resilience
  - enhance treatment capabilities and safety of plant staff during extreme weather



Greenway WWTP Climate Change Resiliency Class EA cont'd



Greenway WWTP Climate Change Resiliency Class EA cont'd

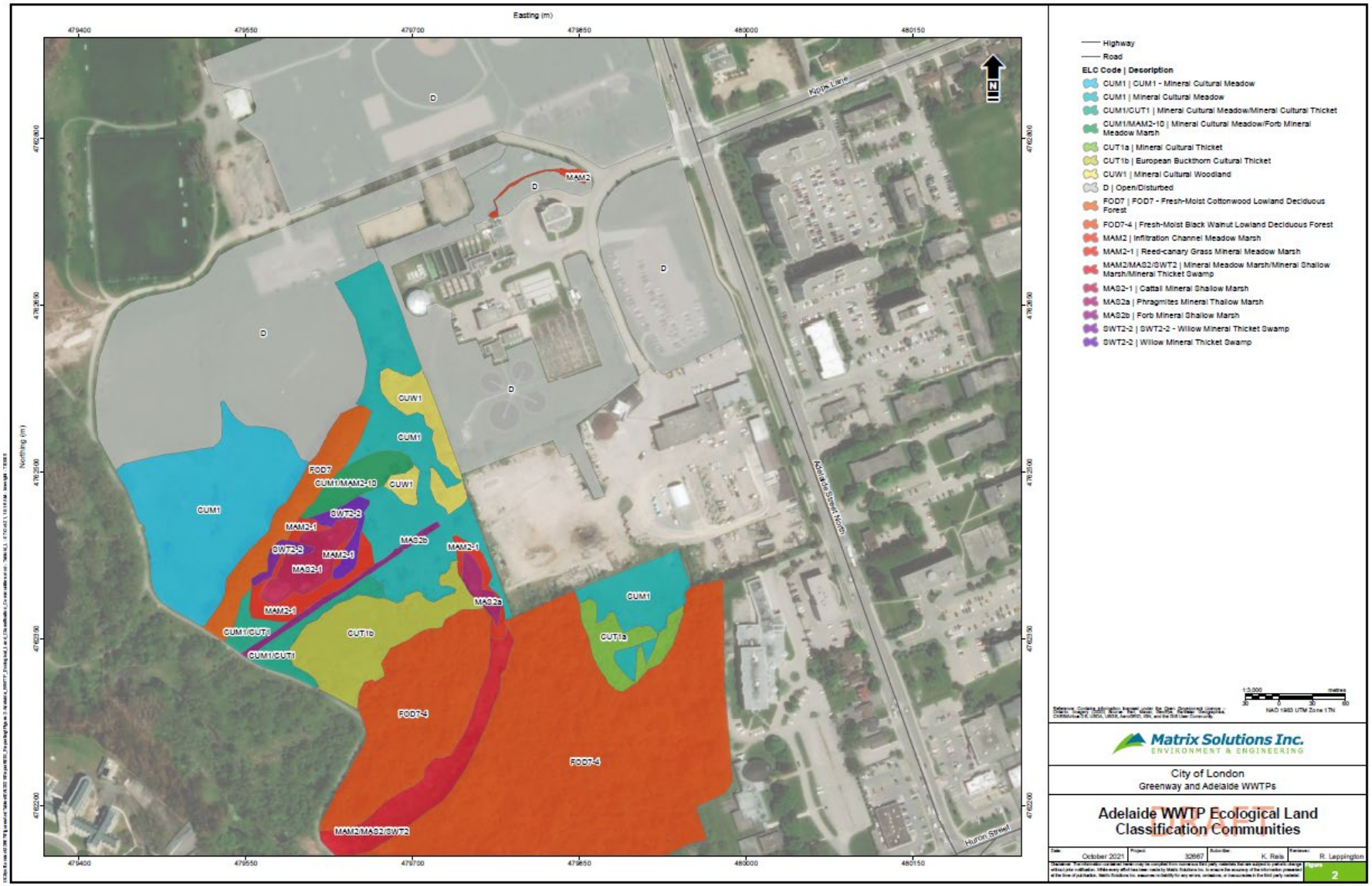


Adelaide WWTP Climate Change Resiliency Class EA

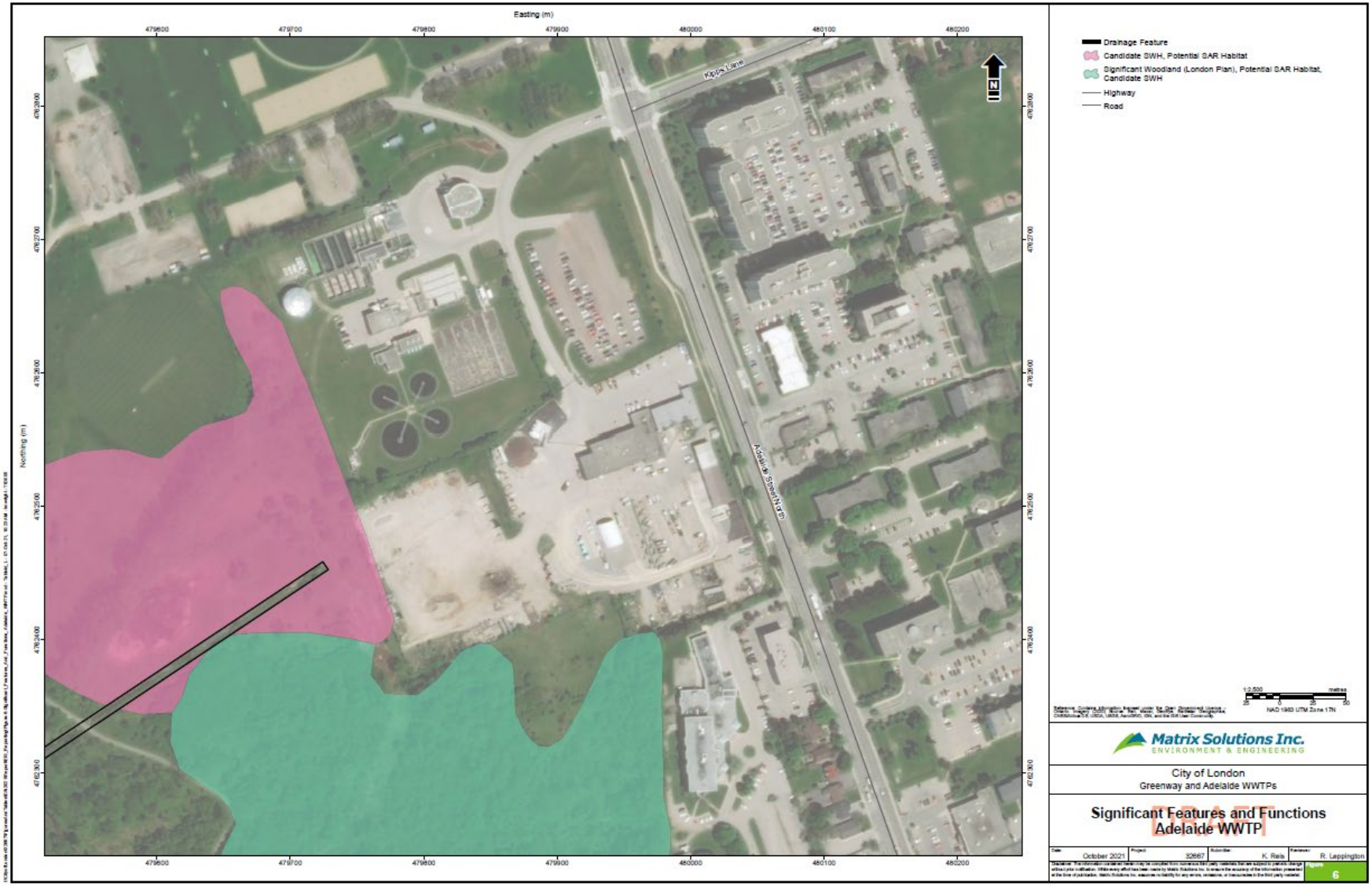
- Federal funding secured through the Disaster Mitigation and Adaption Fund
- Class EA to identify preferred flood protection measures for the Adelaide WWTP to:
  - Improve asset resilience
  - Enhance treatment capabilities and safety of plant staff during extreme weather

Image Source: Google Earth

Adelaide WWTP Climate Change Resiliency Class EA cont'd



Adelaide WWTP Climate Change Resiliency Class EA cont'd



Biosolids Management Master Plan

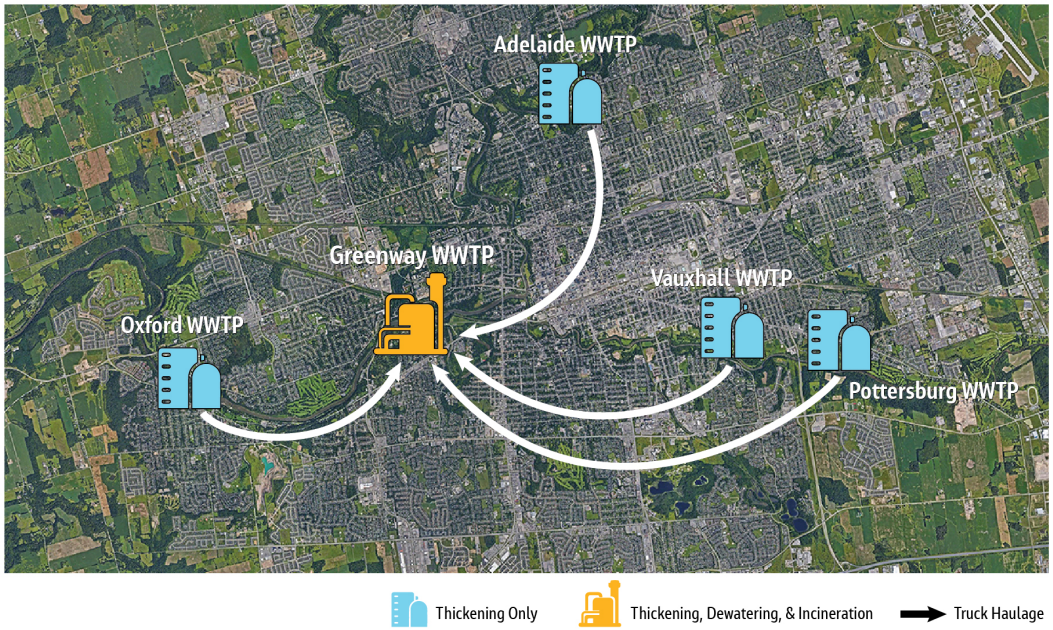
- Master Plan will look at how the City is currently managing wastewater solids at five WWTPs and guide how City can meet demands of our growing community over the next 30 years.

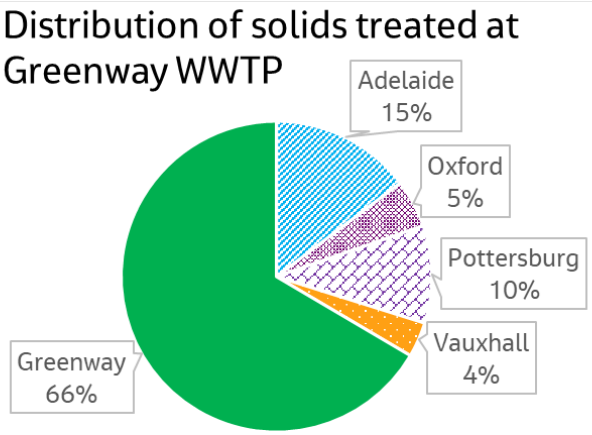
- Current Status (PIC #1):
  - Background conditions Evaluated
  - Solids projections for 30 year horizon
  - Developed evaluation criteria and process
  - PIC #1 is available for viewing online

BMMP – Background

Solids from the other four plants are thickened and transported via truck to Greenway on a daily basis for dewatering and incineration.

Solids Trucking to Greenway WWTP





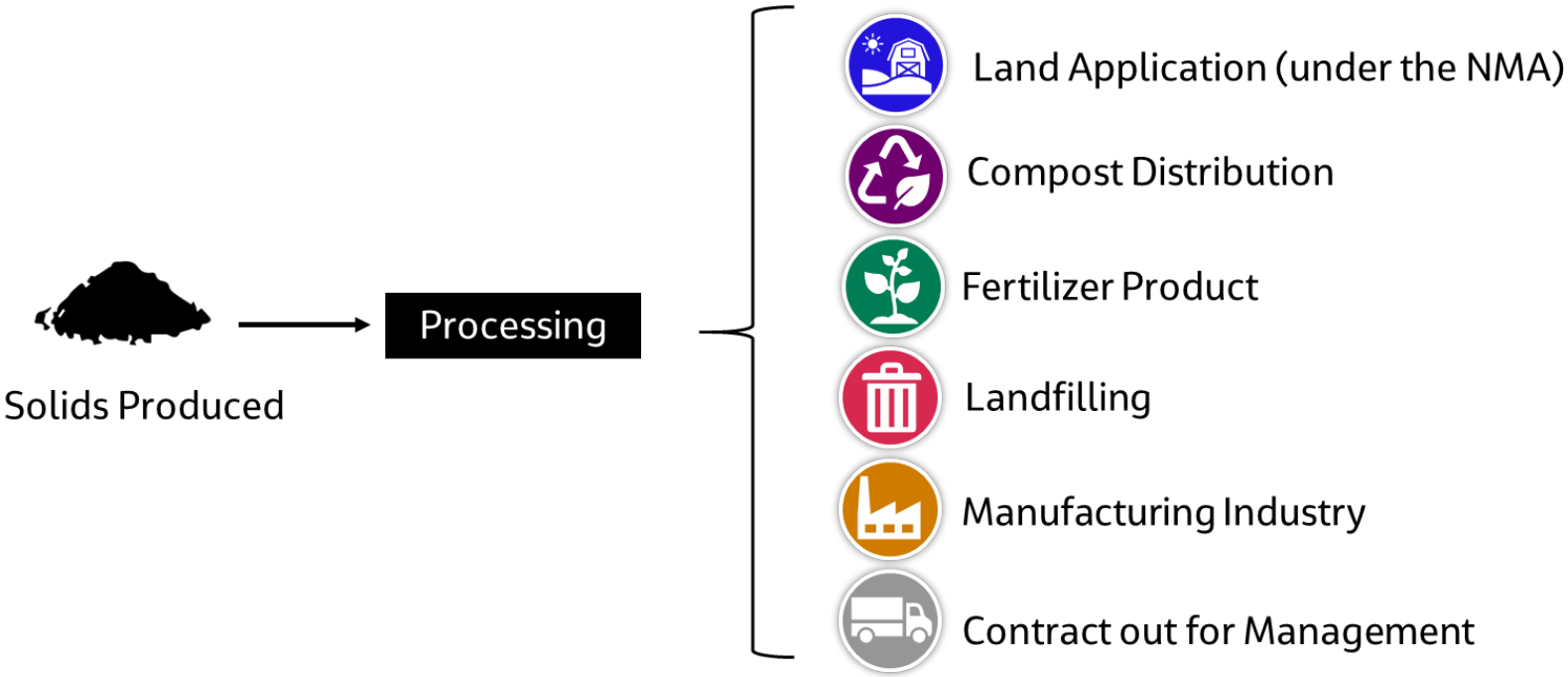
Photos of wastewater solids

Thickened

Dewatered

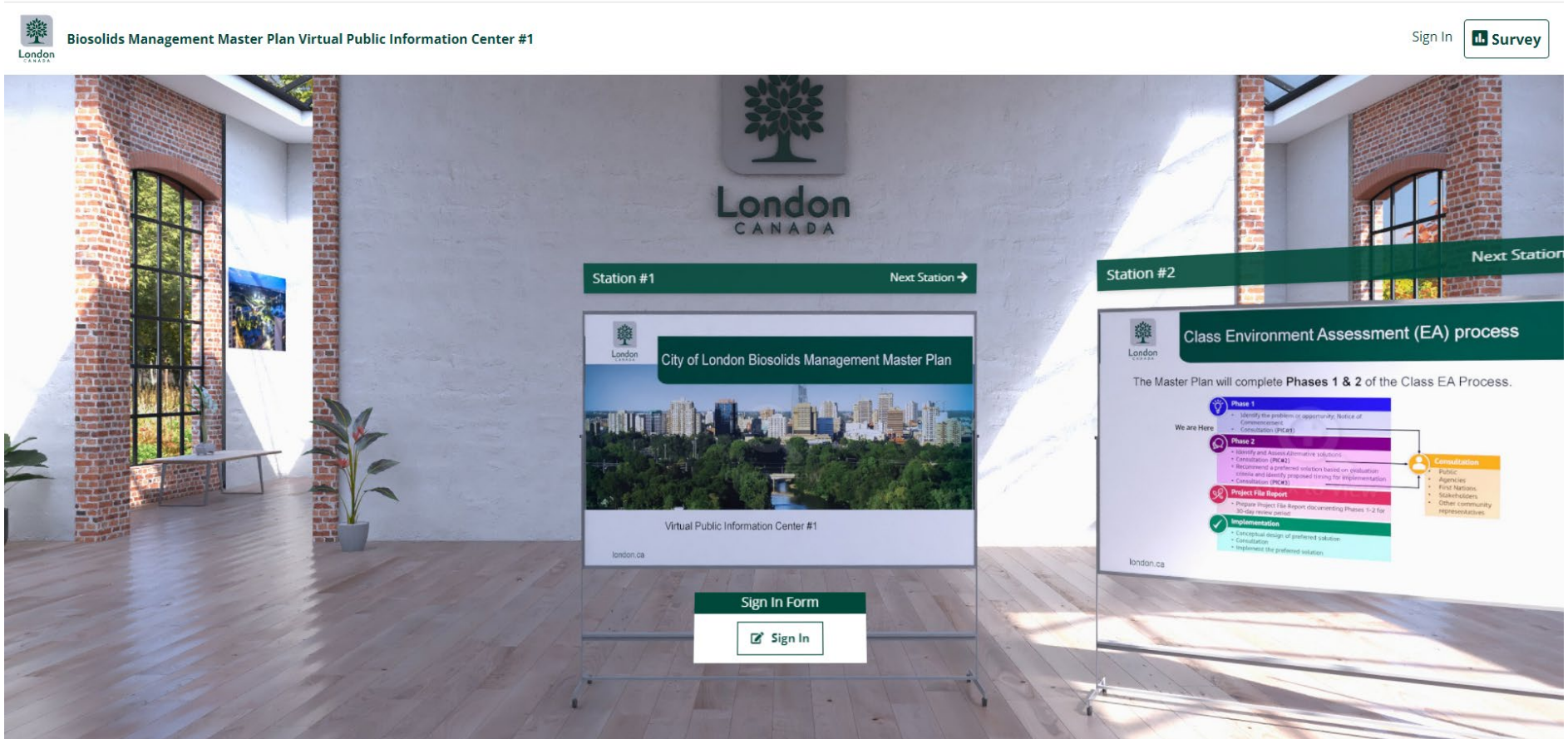
BMMP – Possible End Uses

Examples of processing technologies would include incineration (current practice), digestion, composting, pelletization



BMMP – PIC #1

- PIC #1 is currently available for viewing online at https://bmmplondon.com/



Next Steps and Q&A