Protecting London's Wastewater Treatment Plants from Flooding

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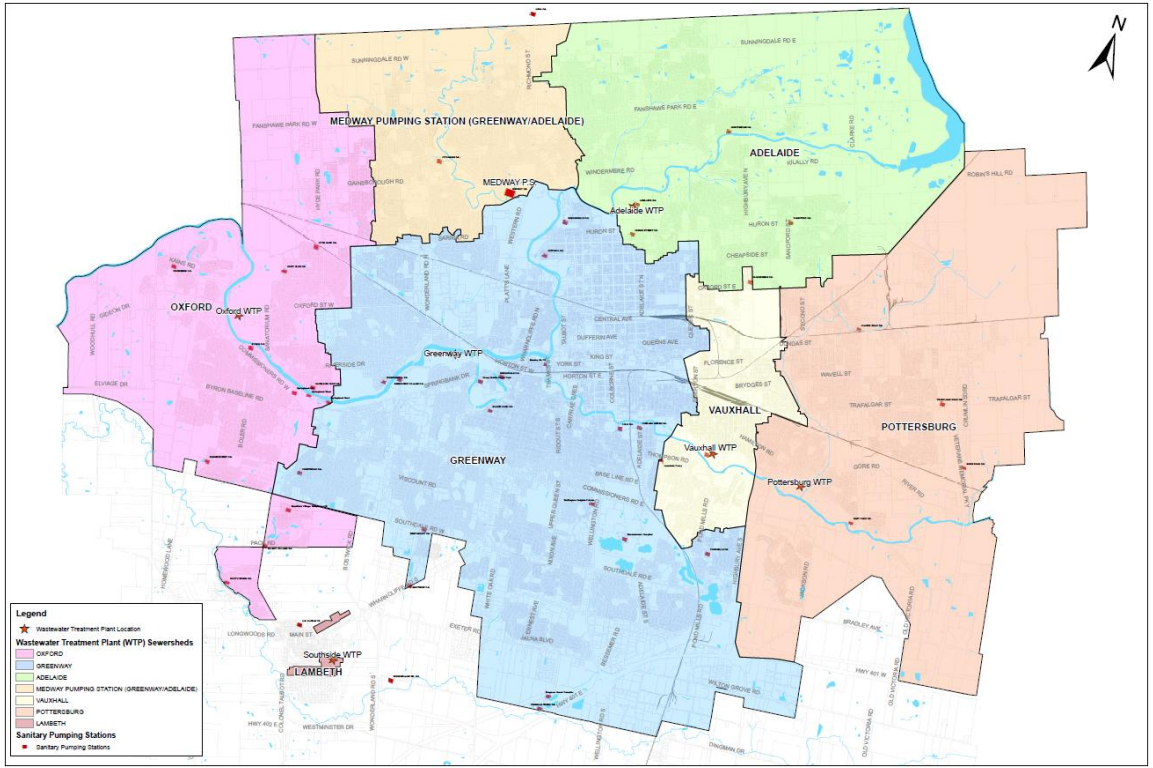
Protecting London's Wastewater Treatment Plants from Flooding

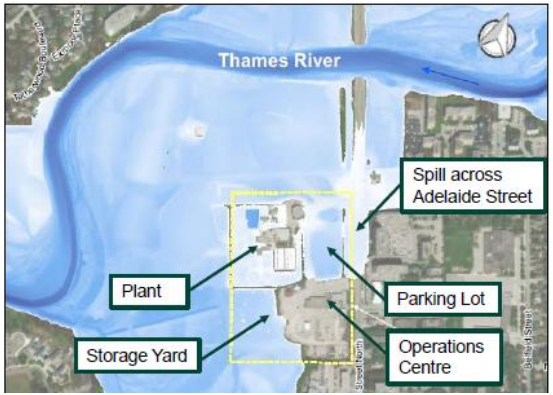
- Project Overview
- Federal Funding
- Public Consultation
- Design Features
- Construction Challenges

London's Wastewater System

- 5 Treatment Plants
- 36 Pumping Stations
- 1,500 km gravity sewers
- 73 billion litres treated annually
- Solids incineration at Greenway



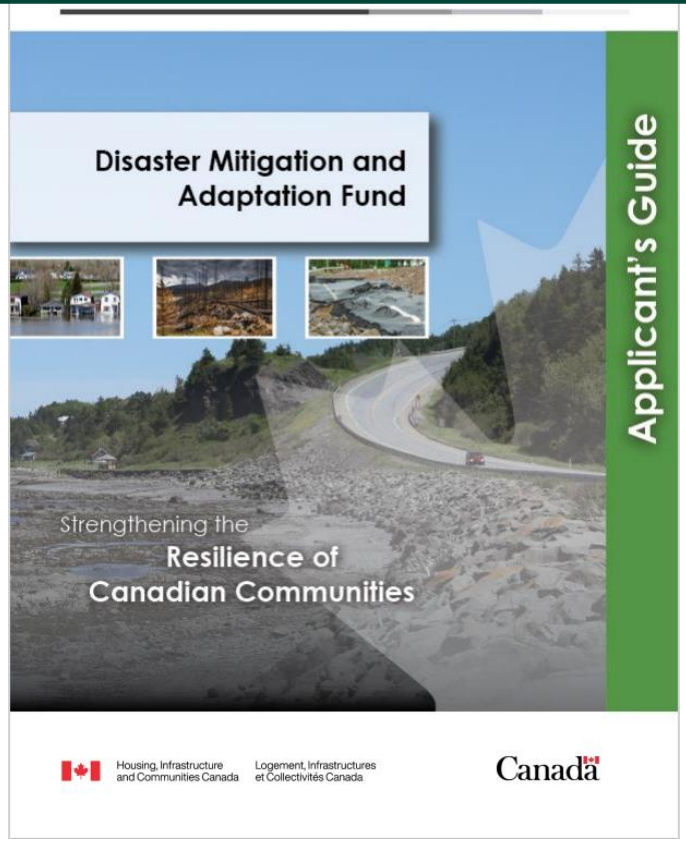
Why Protect our Plants?



- High value assets ($100M's-$1B's)
- Interruptions have public health and environmental consequences
- Gravity collection systems put them in harm's way
- They're all tough to move

Federal Funding - DMAF

- Federal funding program
- Objective: Strengthen resilience of infrastructure against failure resulting from climate change
- Over $3B total funding
- 40% funding on minimum spend of $1M
- Relatively simple 2-stage application (2018-2022)
- London received approval on a total of $49.5M to protect two wastewater treatment plants



DMAF – Consolidated Project

- Two plants = opportunities and challenges
- Consultation simpler: One Class EA to cover both sites
- RFP to award both designs to same consultant
- Separate tenders with the same pre-qualified contractors

Design Features - Functionality

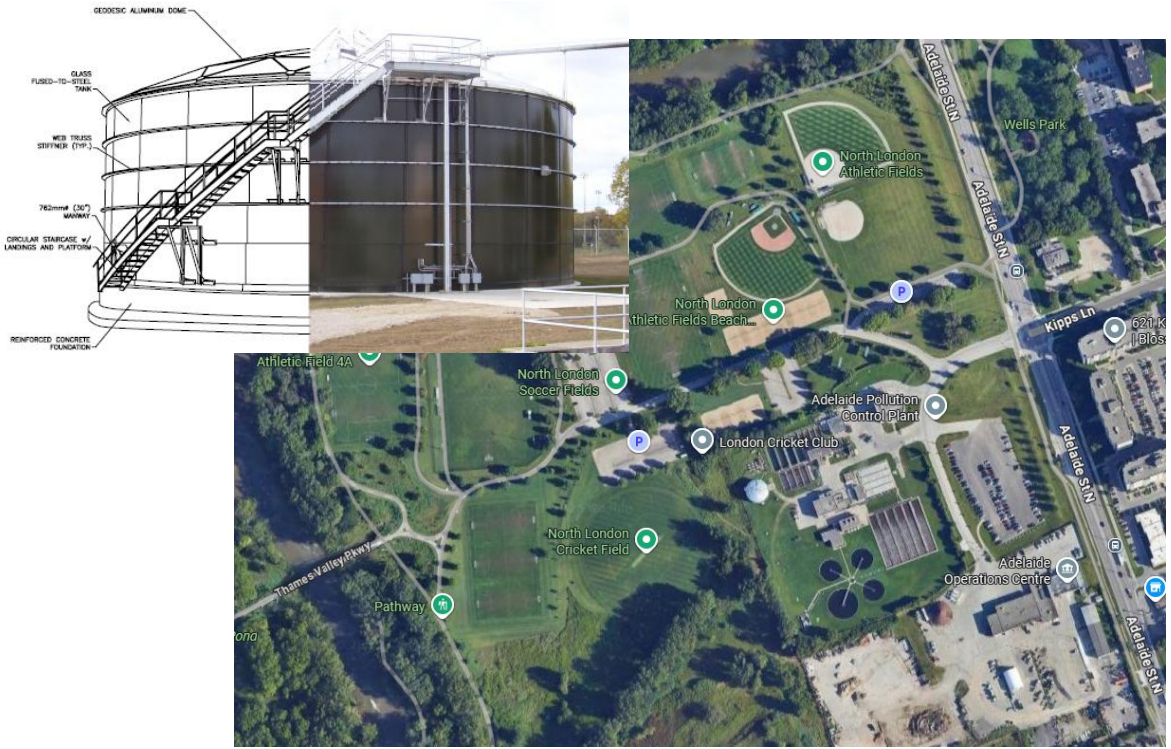
- Keep flood waters out
  - Protect equipment
  - Protect process
  - Protect access

- Get other waters out
  - Treated plant effluent
  - Wet weather flows
  - Stormwater

Design Features – Greenway WWTP

- Tighter space constraints
  - Sheet Pile = risk and cost
- Busier plant
  - 135 MLD average flows
  - Solids disposal for entire City
- Adjacent multi-use pathway
  - Recreation and Commuters
  - Incentive to minimize impact

Design Features – Adelaide WWTP



- Simpler flood protection
  - Earthen berm full perimeter
  - More room for effluent PS/UV Upgrades
  - Flow Equalization
- Includes upgrades to Section 1
  - Same tender, split costs
  - Efficiencies that benefit both sources of funding

Flood Protection 101 – Mid-terms

- SUE/Locates – Definitely worth it, but are they worth it?
- Never underestimate importance of berm material source
  - Synergies with excess soils
- Maintain Operations / Traffic flow
  - Only shut down when it's needed
- Overflow path
- Equipment pre-purchase
- It always takes longer

Will it ever be enough?

- Climate Change = Rules Change
- Floods expected to increase in frequency and intensity
- Government funding essential
- There is life after the rain!

Questions?