

Preliminary Evaluation Criteria for Assessing the Short List of Potential Water Reclamation Centre Sites and Alternative York Durham Sewage System Forcemain Routes

Category	Evaluation Criteria <i>(Used to determine the potential effects associated with each Alternative)</i>	Indicators <i>(How the potential effects in the criterion are characterized/measured)</i>
Technical	<ul style="list-style-type: none"> ▪ Carbon Dioxide (CO₂) Equivalent Footprint 	<ul style="list-style-type: none"> ▪ Equivalent CO₂ (CO₂e) generated in tonnes CO₂e/year¹
Natural Environment	<ul style="list-style-type: none"> ▪ Effect on groundwater ▪ Effect on surface water ▪ Effect on aquatic habitat or functions ▪ Effect on stream geomorphology ▪ Effect on aquatic species including species at risk, species of local concern, native and invasive species ▪ Effect on groundwater recharge and discharge areas in relation to aquatic/wetland habitat ▪ Effect on terrestrial habitat or functions ▪ Effect on terrestrial species including species at risk, species of local concern, native and invasive species, and area-sensitive species ▪ Effect on groundwater recharge and discharge areas in relation to terrestrial habitat 	<ul style="list-style-type: none"> ▪ Temporary and/or long-term change in groundwater quality ▪ Temporary and/or long-term change in groundwater quantity ▪ Temporary and/or long-term change in surface water quality ▪ Temporary and/or long-term change in surface water quantity ▪ Area (m²) of temporary or permanent loss of aquatic features or categorical loss of functions by type – including Provincially Significant Wetland, Locally Significant Wetland, watercourses by sensitivity type, and others. ▪ Change in geomorphic form/function/stability in affected channels ▪ Number and type of aquatic species potentially affected temporarily or permanently ▪ Area (m²) of temporary or permanent loss of recharge and discharge areas. ▪ Area (m²) of temporary and/or permanent loss of natural heritage features by type – including ESAs, ANSIs, wildlife corridors, and others ▪ Number and type of terrestrial species potentially affected temporarily and/or permanently ▪ Area (m²) of temporary and/or permanent loss of recharge and discharge areas
Built Environment	<ul style="list-style-type: none"> ▪ Effect on agricultural operations and capital investment related to agriculture ▪ Effect on existing residences, businesses, and/or community, institutional, and recreational facilities ▪ Effect of vibration on existing buildings ▪ Effect on property ▪ Effect on existing roadway/utility infrastructure 	<ul style="list-style-type: none"> ▪ Approximate area (ha) of active agricultural operations affected ▪ Extent of disruption of active agricultural operations such as: <ul style="list-style-type: none"> – Fragmentation of agricultural fields – Disturbance to artificial drainage systems and agricultural drains – Removal and/or disturbance of farm fences, entrances and paddocks – Disruption of agricultural-related businesses – Disruption of normal external haul routes for farm machinery movements ▪ Number and type of residences displaced ▪ Number and type of residences temporarily or permanently disrupted ▪ Number and characteristics of businesses displaced ▪ Number and characteristics of businesses temporarily or permanently disrupted ▪ Number and characteristics of community, institutional, and recreational facilities displaced ▪ Number and characteristics of community, institutional, and recreational facilities temporarily or permanently disrupted ▪ Number of existing buildings affected and extent and duration of adverse effects ▪ Number and extent of properties affected and ownership ▪ Total area of property acquisition required (ha) ▪ Number of roadways and type affected and extent and duration of adverse effects ▪ Number and type of utilities affected and extent and duration of adverse effects
Social Environment	<ul style="list-style-type: none"> ▪ Effect on wells ▪ Effect of noise on sensitive receptors ▪ Effect of perceptible vibration levels on sensitive receptors ▪ Effect of odours on sensitive receptors from current conditions 	<ul style="list-style-type: none"> ▪ Number of wells and type affected, extent and duration and nature (water quality/quantity) of adverse effects. ▪ Number of sensitive receptors affected and extent and duration of adverse effects ▪ MOE noise limits in Environmental and Land Use Planning Guidelines ▪ Region and municipal noise limits in by-laws ▪ Number of sensitive receptors affected and extent and duration of adverse effects ▪ MOE vibration limits in NPC-207 ▪ Number of sensitive receptors impacted and extent and duration of impacts
Economic Environment	<ul style="list-style-type: none"> ▪ Effect on approved/planned land uses ▪ Effect on agricultural soil resources 	<ul style="list-style-type: none"> ▪ Number, extent, and type of approved/planned land uses affected ▪ Approximate area (ha) of Class 1, Class 2, and Class 3 soils removed (priority in that order). ▪ Approximate area (ha) of Specialty Cropland removed, and/or area of agricultural soils disturbed, and/or area of active agricultural land removed
Cultural Environment	<ul style="list-style-type: none"> ▪ Effects on known or potential significant archaeological resources ▪ Effects on built heritage resources and cultural heritage landscapes. 	<ul style="list-style-type: none"> ▪ Number and type of potentially significant, known archaeological sites affected. ▪ Area (ha) of archaeological potential (i.e., lands with potential for the presence of significant archaeological resources) affected. ▪ Number and type of built heritage resources and cultural heritage landscapes displaced or disrupted
Financial	<ul style="list-style-type: none"> ▪ 50-year Net Present Worth Costs 	<ul style="list-style-type: none"> ▪ 50-year present net worth costs associated with the capital investment, land acquisition, and operating and maintenance of the infrastructure, systems and equipment

¹ Equivalent CO₂ is a viable technical comparison tool for evaluating Alternatives. CO₂e will be estimated using international standards such as those developed by the International Panel on Climate Change and will include CO₂e generated from process direct emissions, indirect emissions, and electrical energy use.