

Table 2: Summary of the Advantages and Disadvantages for the YDSS Modifications Alternative Routes

+ Denotes an advantage for an alternative route relative to another alternative route - Denotes a disadvantage for an alternative route relative to another alternative route

Category	Alternative Route A	Alternative Route B	Alternative Route C
Technical	Most Preferredⁱ + Carbon Dioxide (CO ₂) Equivalent Footprint estimated at 207 tonnes CO ₂ e /year	Moderately Preferred + Carbon Dioxide (CO ₂) Equivalent Footprint estimated at 235 tonnes CO ₂ e /year	Least Preferred - Carbon Dioxide (CO ₂) Equivalent Footprint estimated at 241 tonnes CO ₂ e /year
Natural Environment	Least Preferred - Highest volume of temporary groundwater dewatering - Temporary and long-term ⁱⁱ disturbance to an estimated 3.4 ha of moderate quality meadow, thicket, plantation, forest, marsh and swamp communities - Temporary and long-term disturbance to terrestrial habitat and wildlife species in natural heritage areas including Wesley Brooks Conservation Area, the Mable Davis (Fairly Lake) Conservation Area, the Bailey Ecological Park and within the flood plain of Tannery Creek	Moderately Preferred - Higher volume of temporary groundwater dewatering - Temporary and long-term disturbance to an estimated 2.8 ha of moderate quality meadow, thicket, plantation, forest, marsh and swamp communities - Temporary and long-term disturbance to terrestrial habitat and wildlife species in natural heritage areas including Bailey Ecological Park and within the flood plain of Tannery Creek	Most Preferred + Lowest volume of temporary groundwater dewatering + No temporary or long-term disturbance to vegetation communities + No temporary disturbance to terrestrial habitat or wildlife species
Built Environment	Most Preferred + Temporary disruption to accesses for approximately 43 residences, 17 businesses and 10 roadways - Temporary disruption to accesses for approximately 15 community, institutional and recreational facilities + Temporary disruption to 4 major utilities/service providers including York Region Water and Wastewater Bayview Operations Centre, CN Corridor, Hydro Corridor, and Bogart Pumping Station + Temporary increase in vibration levels at approximately 118 adjacent buildings, including 87 residences, 16 businesses and 15 community, institutional, and recreation facilities	Least Preferred - Temporary disruption to accesses for approximately 154 residences, 118 businesses and 7 roadways - Temporary disruption to accesses for approximately 13 community, institutional and recreational facilities - Temporary disruption to 6 major utilities/service providers including York Region Water and Wastewater Bayview Operations Centre, CN Rail Corridor, Hydro One transformer station, Newmarket Hydro, Hydro Corridor and Bogart Pumping Station - Temporary increase in vibration levels at approximately 313 adjacent buildings, including 203 residences, 93 businesses and 17 community, institutional, and recreational facilities	Moderately Preferred - Temporary disruption accesses for approximately 1,381 residences, 117 businesses and 9 roadways + Temporary disruption to accesses for approximately 11 community, institutional and recreational facilities + Temporary disruption to 4 major utilities/service providers including York Region Water and Wastewater Bayview Operations Centre, Bayview Pumping Station, Hydro Corridor and Bogart Pumping Station - Temporary increase in vibration levels at approximately 487 adjacent buildings, including 345 residences, 124 businesses and 18 community, institutional, and recreational facilities
Social Environment	Most Preferred + Temporary increase in noise and vibration levels at approximately 87 sensitive receptors (i.e., residences)	Moderately Preferred - Temporary increase in noise and vibration levels at approximately 203 sensitive receptors (i.e., residences)	Least Preferred - Temporary increase in noise and vibration at approximately 345 sensitive receptors (i.e., residences)
Economic Environment	Most Preferred (Tied) No difference between the 3 alternative routes based on the application of the 2 Economic Category Evaluation Criteria (no potential negative environmental effects were identified)	Most Preferred (Tied) No difference between the 3 alternative routes based on the application of the 2 Economic Category Evaluation Criteria (no potential negative environmental effects were identified)	Most Preferred (Tied) No difference between the 3 alternative routes based on the application of the 2 Economic Category Evaluation Criteria (no potential negative environmental effects were identified)
Cultural Environment	Least Preferred - Disturbance to an estimated 1.6 ha with archaeological potential - Disruption to approximately 6 cultural heritage resources - Displacement of 1 cultural heritage resource	Moderately Preferred + Disturbance to an estimated 1.0 ha with archaeological potential + Disruption to approximately 4 cultural heritage resources + No displacement of cultural heritage resources	Most Preferred + Disturbance to an estimated 0.7ha with archaeological potential + Disruption to approximately 2 cultural heritage resources + No displacement of cultural heritage resources
Financial	Most Preferred + 50-year Net Present Worth Costs ⁱⁱⁱ estimated at \$ 89.2M	Moderately Preferred + 50-year Net Present Worth Costs estimated at \$ 90.8M	Least Preferred - 50-year Net Present Worth Costs estimated at \$ 96.2M

i. In situations, where the application of an evaluation criterion resulted in no difference in potential effects between the three alternative routes, then the comparative results associated with that criterion were excluded from this summary table.

ii. Temporary or short-term effects are considered to occur only during construction of the proposed forcemain along the YDSS Modifications Alternative Route; long-term or permanent effects are considered to occur only during operation of the proposed forcemain along the YDSS Modifications Alternative Route. Mitigation measures would be applied to minimize effects.

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OVERALL	<p>Recommended</p> <ul style="list-style-type: none"> + Lower Carbon Dioxide (CO₂) Equivalent Footprint / year + Lower number of accesses to residences and businesses temporarily affected + Lower number of major utilities/service providers temporarily affected than Alternative Route B + Lower number of adjacent buildings affected by a temporary increase in noise and vibration levels + Lower 50-year Net Present Worth Costs 	<p>Not Recommended</p> <ul style="list-style-type: none"> - Higher Carbon Dioxide (CO₂) Equivalent Footprint / year - Higher number of accesses to residences and businesses temporarily affected - Higher number of major utilities/service providers temporarily affected - Higher number of adjacent buildings affected by a temporary increase in noise and vibration levels - Higher 50-year Net Present Worth Costs 	<p>Not Recommended</p> <ul style="list-style-type: none"> - Higher Carbon Dioxide (CO₂) Equivalent Footprint / year - Higher number of accesses to residences and businesses temporarily affected - Higher number of adjacent buildings affected by a temporary increase in noise and vibration levels - Higher 50-year Net Present Worth Costs

iii. 50-year Net Present Worth Costs associated with the capital investment, land acquisition, and operating and maintenance of the infrastructure, systems and equipment.