

APPENDIX D

**EVALUATION OF ALTERNATIVES
AND EFFECTS ASSESSMENT TABLES**

Table D-1 Evaluation of Alternatives - Detailed Evaluation Table (including indicators deemed equal for all alternatives)

Objective	Criteria	Indicator(s)	Rationale	Revetment	Headland	Island A	Island B	Island C
Naturalization	Change in shoreline character	Change in diversity of shoreline types	These specific measures will be used to compare how much beach is created or lost; how much revetment is created or lost; and the relative amount of change of beach to shoreline habitat between alternatives and the existing conditions. Alternatives that provide a larger total and relative increase in beach habitat will be scored higher	This alternative results in a uniform revetment shoreline with no diversity. No beach is created and there is a loss of 363 m of existing beach. This results in an overall loss of shoreline diversity	A total of 449 m of beach is created however a similar length of beach is lost. The remaining shoreline is revetments. This results in no change in shoreline diversity	A total of 847 m of beach, 402 m of lee island shoreline, and 1656 m of revetment is created. There is a 28% increase in the amount of beach versus hardened shoreline and a 2% increase in beach overall. Increased diversity is also created by the addition of the lee island shoreline.	A total of 935 m of beach, 518 m of lee island shoreline, and 1724 m of revetment is created. There is a 29% increase in the amount of beach versus hardened shoreline and a 3% increase in beach overall. Increased diversity is also created by the addition of the lee island shoreline.	A total of 1307 m of beach, 515 m of lee island shoreline, and 1413 m of revetment is created. There is a 40% increase in the amount of beach versus hardened shoreline and a 5% increase in beach overall. Increased diversity is also created by the addition of the lee island shoreline.
		Irregularity of shoreline to provide nearshore forage fish habitat	This ratio describes the irregularity of a shoreline. The more irregular a shoreline the more nearshore forage fish habitat is available. The higher the number the more preferred the alternative.	1.3 times more irregular than existing shoreline	1.7 times more irregular than existing shoreline	2.3 times more irregular than existing shoreline	2.4 times more irregular than existing shoreline	2.1 times more irregular than existing shoreline
		Ease of access to water for wildlife	Some wildlife require easy and safe access to the water for different aspects of their lifecycle. Different shoreline treatments create or discourage easy access.	No easy access for wildlife due to revetments	Yes, easier access provided for wildlife at beaches	Yes, easier access provided for wildlife at beaches	Yes, easier access provided for wildlife at beaches	Yes, easier access provided for wildlife at beaches
	SUMMARY			LEAST PREFERRED	MODERATELY PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED
	Ability to create functional habitat blocks	Ability to meet minimum habitat area guidelines; 7-8 ha of wetland; 4-ha of forest; and 10-ha of meadow.	Using ecological function principles, minimum habitat sizes have been provided as a guideline to ensure appropriate levels of function within the LWC Project Study Area. More of each is preferred.	Forest:6.7 Wetland:8.0 Meadow:16.0	Forest:6.4 Wetland:7.7 Meadow:17.0	Forest:6.7 Wetland:7.8 Meadow:18.2	Forest:7.2 Wetland:7.7 Meadow:18.5	Forest:6.7 Wetland:7.8 Meadow:18.2

Table D-1 Evaluation of Alternatives - Detailed Evaluation Table (including indicators deemed equal for all alternatives) (Cont'd)

Objective	Criteria	Indicator(s)	Rationale	Revetment	Headland	Island A	Island B	Island C
		Qualitative assessment of habitat created	Ecological function is related to the relative quality of the new habitat created. Habitat patch size, shape, potential for human disturbance through trails and infrastructure dictate future ecological function. Options deemed to have higher quality habitat will be scored higher.	Terrestrial habitat created is of similar quality for all alternatives. Differences relate to ability to isolate areas from public access (wildlife refuges) and provision of diverse and sheltered shoreline habitats. The revetment option does not provide isolated wildlife refuge areas nor does it provide sheltered diverse shoreline habitats	Terrestrial habitat created is of similar quality for all alternatives. Differences relate to ability to isolate areas from public access (wildlife refuges) and provision of diverse and sheltered shoreline habitats. The headland option does not provide isolated wildlife refuge areas but does provide moderately sheltered and diverse shoreline habitats	Terrestrial habitat created is of similar quality for all alternatives. Differences relate to ability to isolate areas from public access (wildlife refuges) and provision of diverse and sheltered shoreline habitats. The Island A option provides some isolated wildlife refuge areas on the islands and moderately sheltered and diverse shoreline habitats. While not providing the most opportunities for habitat isolation (as compared to Island C) it does provide more diverse and sheltered habitat than Island C.	Terrestrial habitat created is of similar quality for all alternatives. Differences relate to ability to isolate areas from public access (wildlife refuges) and provision of diverse and sheltered shoreline habitats. The Island B option does provide some isolated wildlife refuge areas on the islands and well sheltered and diverse shoreline habitats. While not providing the most opportunities for habitat isolation (as compared to Island C) it does provide most diverse and sheltered habitat.	Terrestrial habitat created is of similar quality for all alternatives. Differences relate to ability to isolate areas from public access (wildlife refuges) and provision of diverse and sheltered shoreline habitats. The Island C option provides the most isolated wildlife refuge areas and moderately sheltered and diverse shoreline habitats. Provides most opportunities for habitat isolation but does not provide most sheltered or diverse habitat (as compared to Island B).
	SUMMARY			All alternatives meet minimum habitat size guidelines but differ in potential quality of habitat created. This alternative is LEAST PREFERRED based on the potential quality of habitat created.	All alternatives meet minimum habitat size guidelines but differ in potential quality of habitat created. This alternative is MODERATELY PREFERRED based on the potential quality of habitat created.	All alternatives meet minimum habitat size guidelines but differ in potential quality of habitat created. This alternative is MOST PREFERRED based on the potential quality of habitat created.	All alternatives meet minimum habitat size guidelines but differ in potential quality of habitat created. This alternative is MOST PREFERRED based on the potential quality of habitat created.	All alternatives meet minimum habitat size guidelines but differ in potential quality of habitat created. This alternative is MOST PREFERRED based on the potential quality of habitat created.
	Ability of alternative to be self-compensating with respect to fish habitat	Area of aquatic habitat lost or changed (ha)	Land creation activities will create a loss of aquatic habitat and the area of loss is a key consideration in the ability of the LWC Project to self-compensate for this loss. The lowest value is most preferred.	Area lost to land creation is 30.7 ha	Area lost to land creation is 32.0 ha	Area lost to land creation is 34.2 ha	Area lost to land creation is 34.8 ha	Area lost to land creation is 34.7 ha

Table D-1 Evaluation of Alternatives - Detailed Evaluation Table (including indicators deemed equal for all alternatives) (Cont'd)

Objective	Criteria	Indicator(s)	Rationale	Revetment	Headland	Island A	Island B	Island C
		HAAT model estimates of area requiring compensation lost (ha)	Different shoreline types and their resulting footprints have intrinsic differences in ecological features and functions and thus, their ability to be self-compensating from a fish habitat perspective. This measure will determine which alternatives are better able to be self-compensating by minimizing the net loss of habitat. The least value is most preferred	HAAT analysis indicates the following amount of like habitat is required to compensate for lakefilling: 7.2ha	HAAT analysis indicates the following amount of like habitat is required to compensate for lakefilling: 6.1 ha	HAAT analysis indicates the following amount of like habitat is required to compensate for lakefilling: 6.7 ha	HAAT analysis indicates the following amount of like habitat is required to compensate for lakefilling: 4.7 ha	HAAT analysis indicates the following amount of like habitat is required to compensate for lakefilling: 6.7 ha
		Area of aquatic Habitat Lost compared to HAAT Model estimate of area requiring compensation.	Indicator measures the amount of fill that would occur for each alternative before 1 ha of habitat compensation is required. Thus, the two indicators listed above are standardized and the greater the fill area, the higher intrinsic habitat quality provided; as such, the greatest value is most preferred.	4.3 ha of fill / 1ha of compensation	5.2 ha of fill / 1 ha of compensation	5.1 ha of fill / 1 ha of compensation	7.4 ha of fill / 1 ha of compensation.	5.1 ha of fill / 1 ha of compensation
	SUMMARY			This alternative has the least area of aquatic habitat lost however, it is least able to compensate for that loss therefore, it is LEAST PREFERRED.	This alternative has the second least area of aquatic habitat lost however, it is moderately able to compensate for that loss therefore, it is MODERATELY PREFERRED.	This alternative has the mid-value area of aquatic habitat lost however, it is least able to compensate for that loss therefore, it is MODERATELY PREFERRED.	This alternative has the greatest area of aquatic habitat lost however, it is best able to compensate for that loss therefore, it is MOST PREFERRED.	This alternative has the second greatest area of aquatic habitat lost however, it is least able to compensate for that loss therefore, it is MODERATELY PREFERRED.
Access	Potential for lookout areas	Number of opportunities for lookout areas	Lookout areas (providing views along the shoreline) are an important feature in enhancing public enjoyment of the waterfront. The size and the character of the shoreline created will create differences in opportunity. Most preferred are varied and raised lookout areas with unobstructed views of the lake	Continuous lookout opportunities along shoreline; all lookout opportunities are uniform and are perched above water on revetment; excellent opportunities to create raised viewing platform; all views to lake unobstructed	Varied lookout opportunities along shoreline; some lookouts perched on revetment; some lookouts at water's edge; opportunity to create raised viewing platform; views to lake from beaches obstructed by headlands	Varied lookout opportunities along shoreline; some lookouts perched on revetment; some lookouts at water's edge; opportunity to create raised viewing platform; additional lookout opportunities created by hooked peninsula; some views to lake from beaches partially obstructed by peninsula	Varied lookout opportunities along shoreline; some lookouts perched on revetment; some lookouts at water's edge; opportunity to create raised viewing platform; additional lookout opportunities created by hooked peninsula; many views to lake from beaches obstructed by peninsula	Varied lookout opportunities along shoreline; some lookouts perched on revetment; some lookouts at water's edge; opportunity to create raised viewing platform; all views to lake unobstructed
	SUMMARY			MODERATELY PREFERRED	LEAST PREFERRED	MOST PREFERRED	MODERATELY PREFERRED	MOST PREFERRED
	Potential for changes to use of waterfront for recreation	Potential for use of area for new activities such as fishing, birding, etc.	The size and character of the land and shoreline created will create differences in opportunity.	New opportunities created for recreational activities such as fishing, birding, picnicking, resting nodes, open play, interpretive nodes, etc.	New opportunities created for recreational activities such as fishing, birding, picnicking, resting nodes, open play, interpretive nodes, etc.	New opportunities created for recreational activities such as fishing, birding, picnicking, resting nodes, open	New opportunities created for recreational activities such as fishing, birding, picnicking, resting nodes, open play, interpretive nodes, etc.	New opportunities created for recreational activities such as fishing, birding, picnicking, resting nodes, open play, interpretive nodes, etc.

Table D-1 Evaluation of Alternatives - Detailed Evaluation Table (including indicators deemed equal for all alternatives) (Cont'd)

Objective	Criteria	Indicator(s)	Rationale	Revetment	Headland	Island A	Island B	Island C
						play, interpretive nodes, etc.		
		Potential for changes to use for windsurfers and/or kiteboarders	The size and character of the land and shoreline created may change the way Marie Curtis Park beaches are used for these activities.	Will present new navigation hazards for windsurfers and/or kiteboarders with minimal encroachment into MCP West beach	Will present new navigation hazards for windsurfers and/or kiteboarders with minimal encroachment into MCP West beach	Will present new navigation hazards for windsurfers and/or kiteboarders with moderate encroachment into MCP West beach	Will present new navigation hazards for windsurfers and/or kiteboarders with moderate encroachment into MCP West beach	Will present new navigation hazards for windsurfers and/or kiteboarders with extensive encroachment into MCP West beach
	SUMMARY			MOST PREFERRED	MOST PREFERRED	MODERATELY PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED
Potential for public access to water's edge		Percent change in accessible water's edge	Ease of regular access to the water's edge will enhance public enjoyment of the waterfront, and facilitate a variety of uses. The greatest gains in water accessibility are preferred.	10%. Loss of accessible water's edge relative to existing conditions.	14%. Gain of accessible water's edge relative to existing conditions.	20%. Gain of accessible water's edge relative to existing conditions.	22%. Gain of accessible water's edge relative to existing conditions.	25%. Gain of accessible water's edge relative to existing conditions.
		Potential to create tiered trail system providing seasonal access	A key component of east-west public linkages along the waterfront is the Waterfront Trail, which is forced to bypass much of the actual waterfront within the LWC Project Study Area. Most preferred alternatives will provide opportunities to change the path of the Waterfront Trail to better connect with trails and parks to the east and west of the LWC Project Study Area and to provide connections back to Lakeshore Road and the adjacent communities.	Limited potential to create tiered trail system	Excellent potential to create tiered trail system	Excellent potential to create tiered trail system	Excellent potential to create tiered trail system	Moderate potential to create tiered trail system
		Potential to create multi-use trail connection across area of land creation		Excellent potential to create multi-use trail connection				
	SUMMARY			LEAST PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED
Potential for displacement of built heritage resources due to construction		Cultural heritage value of built heritage resources and cultural heritage landscapes within land creation area and area for potential realignment of Serson Creek.	It may be necessary to assess the areas to be affected to avoid or mitigate the effects to any identified resources of cultural heritage value or interest.	There are no cultural heritage resources nor built heritage elements in the land creation area or the area of the Serson Creek realignment. Therefore, no potential to affect these resources.	There are no cultural heritage resources nor built heritage elements in the land creation area or the area of the Serson Creek realignment. Therefore, no potential to affect these resources.	There are no cultural heritage resources nor built heritage elements in the land creation area or the area of the Serson Creek realignment. Therefore, no potential to affect these resources.	There are no cultural heritage resources nor built heritage elements in the land creation area or the area of the Serson Creek realignment. Therefore, no potential to affect these resources.	There are no cultural heritage resources nor built heritage elements in the land creation area or the area of the Serson Creek realignment. Therefore, no potential to affect these resources.
	SUMMARY			MOST PREFERRED				

Table D-1 Evaluation of Alternatives - Detailed Evaluation Table (including indicators deemed equal for all alternatives) (Cont'd)

Objective	Criteria	Indicator(s)	Rationale	Revetment	Headland	Island A	Island B	Island C
	Potential effects from construction on marine- and land-based archaeological resources	Significance of archaeological resources within footprint of land creation and area for potential realignment of Serson Creek.	It may be necessary to assess the areas to be affected to avoid or mitigate the effects to any identified resources of archaeological value or interest.	There are no archaeological resources in the land creation area. There is limited potential for archaeological resources in the area of the Serson Creek realignment.	There are no archaeological resources in the land creation area. There is limited potential for archaeological resources in the area of the Serson Creek realignment.	There are no archaeological resources in the land creation area. There is limited potential for archaeological resources in the area of the Serson Creek realignment.	There are no archaeological resources in the land creation area. There is limited potential for archaeological resources in the area of the Serson Creek realignment.	There are no archaeological resources in the land creation area. There is limited potential for archaeological resources in the area of the Serson Creek realignment.
	SUMMARY			MOST PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED
	Potential for effect from construction on traditional uses of lands by <i>First Nations</i> and <i>Métis</i>	Extent of traditional uses of lands within LWC Project Study Area	The new natural waterfront park must respect and wherever possible enhance traditional uses of lands by First Nations and Métis. The most preferred option will allow the greatest shoreline access potential for traditional use.	There are no traditional uses practiced in the LWC Project Study Area. However, the Mississaugas of the New Credit First Nation indicated a need to access the water. All options provide access to enhanced river and wetlands, however, the revetment option does not allow access to the shoreline.	There are no traditional uses practiced in the LWC Project Study Area. However, the Mississaugas of the New Credit First Nation indicated a need to access the water. All options provide access to enhanced river and wetlands. Headland option allows for shoreline access.	There are no traditional uses practiced in the LWC Project Study Area. However, the Mississaugas of the New Credit First Nation indicated a need to access the water. All options provide access to enhanced river and wetlands. Island A option allows for shoreline access.	There are no traditional uses practiced in the LWC Project Study Area. However, the Mississaugas of the New Credit First Nation indicated a need to access the water. All options provide access to enhanced river and wetlands. Island B option allows for shoreline access.	There are no traditional uses practiced in the LWC Project Study Area. However, the Mississaugas of the New Credit First Nation indicated a need to access the water. All options provide access to enhanced river and wetlands. Island C option allows for shoreline access.
	SUMMARY			LEAST PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED
Compatibility	Potential for effects to existing WWTF outfalls	Changes in access to outfall: # of access points covered	Access to the WWTF outfalls is required for maintenance purposes.	2 manholes covered	2 manholes covered	2 manholes covered	2 manholes covered	2 manholes covered
	SUMMARY			MOST PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED
	Changes to site security for WWTF	Ability to maintain/enhance site security for the WWTF	Land creation at the shoreline along the WWTF will provide public access to a previously restricted piece of critical infrastructure. Based on this, maintaining or enhancing security at the WWTF is an essential consideration for the alternatives.	Opportunity to maintain/enhance site security by establishing a treed swamp and forest between the WWTF and the trail to discourage public access to the WWTF	Opportunity to maintain/enhance site security by establishing a treed swamp and forest between the WWTF and the trail to discourage public access to the WWTF	Opportunity to maintain/enhance site security by establishing a treed swamp and forest between the WWTF and the trail to discourage public access to the WWTF	Opportunity to maintain/enhance site security by establishing a treed swamp and forest between the WWTF and the trail to discourage public access to the WWTF	Opportunity to maintain/enhance site security by establishing a treed swamp and forest between the WWTF and the trail to discourage public access to the WWTF

Table D-1 Evaluation of Alternatives - Detailed Evaluation Table (including indicators deemed equal for all alternatives) (Cont'd)

Objective	Criteria	Indicator(s)	Rationale	Revetment	Headland	Island A	Island B	Island C	
	SUMMARY			MOST PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED	
Coordination	Consistency of alternative with Visioning for Inspiration Lakeview	The shoreline and Serson Creek within the LWC Project Study Area was identified as a “Green” area within the Inspiration Lakeview Vision Plan. This portion of shoreline was discussed as an area to establish a new continuous waterfront south of the WWTF. Alternatives will be ranked based on their consistency with this vision, to ensure that the LWC Project remains consistent with the larger development plans at OPG’s Lakeview site.	Consistent with Visioning for Inspiration Lakeview	Consistent with Visioning for Inspiration Lakeview	Consistent with Visioning for Inspiration Lakeview	Consistent with Visioning for Inspiration Lakeview	Consistent with Visioning for Inspiration Lakeview	Consistent with Visioning for Inspiration Lakeview	
		Ability to integrate alternative with potential plans for OPG’s Lakeview site	As a key area for establishing public linkages identified in the Inspiration Lakeview vision, the ability of alternatives to integrate with potential plans for OPG’s Lakeview site is important in the larger Inspiration Lakeview planning process.	Good potential to integrate with potential plans for OPG’s Lakeview site	Excellent potential to integrate with potential plans for OPG’s Lakeview site	Excellent potential to integrate with potential plans for OPG’s Lakeview site	Excellent potential to integrate with potential plans for OPG’s Lakeview site	Excellent potential to integrate with potential plans for OPG’s Lakeview site	
	SUMMARY			MODERATELY PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED	
	Consistency with City of Mississauga Waterfront Parks Strategy (2008)	Consistency of alternative with Waterfront Parks Strategy	Alternatives will be ranked based on their consistency with the key strategic goals outlined in the Strategy, to ensure that the LWC Project does not conflict with these goals. The goals include better integration and connectivity of Waterfront Parks; improved connections to the city at-large; the introduction of more sustainable elements into the parks; and promotion of a stronger relationship between the parks and the existing natural systems.	Consistent with Waterfront Parks Strategy	Consistent with Waterfront Parks Strategy	Consistent with Waterfront Parks Strategy	Consistent with Waterfront Parks Strategy	Consistent with Waterfront Parks Strategy	Consistent with Waterfront Parks Strategy
	SUMMARY			MOST PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED	
	Consistency of alternative with priorities identified	Consistency of alternative with priorities identified by LOISS	Alternatives will be ranked based on their consistency with the priorities identified in LOISS, to ensure that the LWC Project does	Alternative will provide for naturalization of this portion of the Mississauga waterfront. A	Alternative will provide for naturalization of this portion of the Mississauga	Alternative will provide for naturalization of this	Alternative will provide for naturalization of this portion of the	Alternative will provide for naturalization of this portion of the Mississauga waterfront. A	

Table D-1 Evaluation of Alternatives - Detailed Evaluation Table (including indicators deemed equal for all alternatives) (Cont'd)

Objective	Criteria	Indicator(s)	Rationale	Revetment	Headland	Island A	Island B	Island C
	by LOISS		not conflict with these priorities and helps to meet the goals of LOISS.	key element of LOISS is to improve the diversity and quantity of terrestrial and aquatic habitat of the shoreline. The revetment alternative offers the least opportunity for achieving desired improvements.	waterfront. A key element of LOISS is to improve the diversity and quantity of terrestrial and aquatic habitat of the shoreline. The headland alternative offers moderate opportunity for achieving the desired improvements	portion of the Mississauga waterfront. A key element of LOISS is to improve the diversity and quantity of terrestrial and aquatic habitat of the shoreline. The Islands An alternative offers moderate opportunities for achieving the desired improvements.	Mississauga waterfront. A key element of LOISS is to improve the diversity and quantity of terrestrial and aquatic habitat of the shoreline. The Islands B alternative offers moderate opportunities for achieving the desired improvements.	key element of LOISS is to improve the diversity and quantity of terrestrial and aquatic habitat of the shoreline. The Islands C alternative offers moderate opportunities for achieving the desired improvements.
	SUMMARY			LEAST PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED
	Consistency of alternative with priorities identified by the Lake Ontario Biodiversity Strategy	Consistency of alternative with priorities identified by the Lake Ontario Biodiversity Strategy	Alternatives will be ranked based on their consistency with the recommendations and targets identified in the Lake Ontario Biodiversity Strategy, to ensure that the LWC Project does not conflict with these elements and helps to meet the objectives of the Strategy.	All alternatives meet the First Goal for the Lake Ontario Biodiversity Strategy. Assuming flows in Serson Creek are realigned, the Revetment Alternative contributes to four of the Conservation Targets of the Strategy: Native Migratory Fish; Coastal Wetlands; Coastal Terrestrial System; and Rivers, Estuary and Connecting Channels	All alternatives meet the First Goal for the Lake Ontario Biodiversity Strategy. Assuming flows in Serson Creek are realigned, the Headland Alternative contributes to five of the Conservation Targets of the Strategy: Native Migratory Fish; Coastal Wetlands; Nearshore Zone; Coastal Terrestrial System; and Rivers, Estuary and Connecting Channels	All alternatives meet the First Goal for the Lake Ontario Biodiversity Strategy. Assuming flows in Serson Creek are realigned, the Island A Alternative contributes to six of the Conservation Targets of the Strategy: Native Migratory Fish; Coastal Wetlands; Nearshore Zone; Coastal Terrestrial System; Rivers, Estuary and Connecting Channels; and Islands	All alternatives meet the First Goal for the Lake Ontario Biodiversity Strategy. Assuming flows in Serson Creek are realigned, the Island B Alternative contributes to six of the Conservation Targets of the Strategy: Native Migratory Fish; Coastal Wetlands; Nearshore Zone; Coastal Terrestrial System; Rivers, Estuary and Connecting Channels; and Islands	All alternatives meet the First Goal for the Lake Ontario Biodiversity Strategy. Assuming flows in Serson Creek are realigned, the Island C Alternative contributes to six of the Conservation Targets of the Strategy: Native Migratory Fish; Coastal Wetlands; Nearshore Zone; Coastal Terrestrial System; Rivers, Estuary and Connecting Channels; and Islands
	SUMMARY			LEAST PREFERRED	MODERATELY PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED
	Consistency with Marie Curtis Park and Arsenal Lands Master Plan	Ability to integrate recreational opportunities and trails between the LWC, Arsenal Lands and Marie Curtis Park	The Master Plans for the Arsenal Lands and Marie Curtis Park identify a number of new and enhanced recreational opportunities. Alternatives will be ranked on their potential to create linkages between these amenities and the shoreline within the LWC Project Study Area, and thus meet the goals of these Master Plans.	All alternatives offer opportunities for connections to the existing trail networks through Marie Curtis Park and linkages to the Arsenal Lands.	All alternatives offer opportunities for connections to the existing trail networks through Marie Curtis Park and linkages to the Arsenal Lands.	All alternatives offer opportunities for connections to the existing trail networks through Marie Curtis Park and linkages to the Arsenal Lands	All alternatives offer opportunities for connections to the existing trail networks through Marie Curtis Park and linkages to the Arsenal Lands.	All alternatives offer opportunities for connections to the existing trail networks through Marie Curtis Park and linkages to the Arsenal Lands.

Table D-1 Evaluation of Alternatives - Detailed Evaluation Table (including indicators deemed equal for all alternatives) (Cont'd)

Objective	Criteria	Indicator(s)	Rationale	Revetment	Headland	Island A	Island B	Island C
	SUMMARY			MOST PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED	MOST PREFERRED
Fiscal Viability	Estimated Capital Cost	Volume of purchased material	All alternatives generally use the same volume of fill. Alternatives will be compared based on their estimated volumes of material required for different shoreline protection types with options requiring lower volumes of material being preferred.	552,000 tonnes	765,000 tonnes	852,000 tonnes	935,000 tonnes	794,000 tonnes
		Land Cost : Area of waterlot required	The only land cost associated with the project is the cost of waterlots. Less waterlot area is preferred.	40.6 ha of waterlot required	46.7 ha of waterlot required	55.8 ha of waterlot required	55.4 ha of waterlot required	56.9 ha of waterlot required
	SUMMARY			MOST PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED	LEAST PREFERRED	MODERATELY PREFERRED
	Annual maintenance costs for naturalized area	Debris management costs	Alternatives with lower potential to accumulate debris, particularly in the vicinity of Marie Curtis Park, are preferred.	Low potential for debris accumulation due to shoreline configuration	Higher potential for debris accumulation along beaches	Higher potential for debris accumulation within the embayment	Higher potential for debris accumulation within the eastern "hook" feature	Higher potential for debris accumulation along beaches
	SUMMARY			MOST PREFERRED	LEAST PREFERRED	LEAST PREFERRED	LEAST PREFERRED	LEAST PREFERRED

*Environmental Assessment
Lakeview Waterfront Connection*

Table D-2 Alternative Construction Site Access Routes - Detailed Evaluation Table (including indicators deemed equal for all alternatives)

Environmental Component	Criteria	Indicator	Rationale	Route 1	Route 1B	Route 2	Route 3	Route 3B
Natural Environment	Vegetation/habitat removed or disturbed during construction of site access road and laydown area	Area and significance of vegetation removed	Site preparation and the creation of roads require the removal of vegetation and therefore a reduction in the natural habitat within the subject area. This impacts biodiversity and the resilience of the remnant communities.	Involves the removal of the largest amount of vegetated habitat for both the road and the realignment of the river channel. Area of habitat removed includes communities of higher conservation concern. Least Preferred	Primarily follows existing pathways but requires removal of at least 25 mature trees close to the pathway. Area of habitat removed includes communities of lower conservation concern. Moderately Preferred	Primarily follows existing pathways. Limited vegetation removal required. Area of habitat removed includes communities of lower conservation concern. Most Preferred	Limited amount of vegetation removal. Area of habitat removed includes communities of higher conservation concern. Moderately Preferred	Primarily follows existing pathways. Limited vegetation removal required. Area of habitat removed includes communities of lower conservation concern. Most Preferred
		Potential for forest habitat fragmentation	The larger a habitat block, the more resilient the associated fauna and flora communities are to developments within the landscape. Although there are no 'interior' forest conditions present at Marie Curtis Park (TRCA mapping, 2012), generally speaking, the forest patches that exist currently are not bisected by roads and this condition should be maintained to the extent possible.	Requires the greatest amount of tree removal of all alternatives. Least Preferred	Primarily follows existing pathways and requires removal of approximately 25 mature trees. Limited increase in fragmentation. Moderately Preferred	Primarily follows existing pathways and would only require removal of a few trees. No increase in fragmentation. Most Preferred	Fragmentation caused by road bisecting the centre of the woodlot, however, limited tree removal is required due to existing canopy opening. Risk for extensive area of root protection works required through the woodlot and potential for mature tree die-off if roots are damaged. Least Preferred	Primarily follows existing pathways and would only require removal of a few trees. No increase in fragmentation. Most Preferred
	Disruption to Applewood or Serson Creek	Length and nature of disruption to Waterbodies (including Applewood, Serson and Etobicoke Creeks, and wetlands)	Disruption to creeks can result in alteration to fish habitat, changes to water quality and changes to riparian vegetation	Requires realignment of stream channel habitat (200 m). This results in the highest potential for changes to fish habitat, water quality and riparian vegetation. Least Preferred	Requires temporary road crossing over Applewood Creek. This will result in moderate potential for changes to water quality and riparian vegetation. May also cause impacts to fish habitat Moderately Preferred	Does not impact Applewood Creek Most Preferred	Does not impact Applewood Creek Most Preferred	Does not impact Applewood Creek Most Preferred
		Potential to impair water quality in off-line wetland areas.	Site preparation activities like grading and filling may increase the risk of erosion and sedimentation in nearby wetlands. Other contaminants (oil, dust, salt, sand and debris) may also impact the water quality.	No off-line wetland areas affected. Most Preferred	No off-line wetland areas affected. Most Preferred	Route 2 runs moderately close to a known amphibian breeding pond (~50m). There is increased potential for water quality to be degraded due to erosion, siltation and other contaminants. Moderately Preferred	Route 3 runs in close proximity to known amphibian breeding grounds and a marsh area (25m and 50m away). There is increased potential for water quality to be degraded due to erosion, siltation and other contaminants. Least Preferred	Route 3b runs moderately close to a known amphibian breeding pond (~50m). There is increased potential for water quality to be degraded due to erosion, siltation and other contaminants. Moderately Preferred
	Disruption related to natural hazards (floodplain, erosion)	Nature of change on flood capacity and exposure to natural hazards	Road construction has the potential to interfere with existing runoff flow patterns by creating barriers to overland flow thereby restricting inputs to nearby wetlands or watercourses, and by creating increased run off from paved areas.	Route 1 poses the greatest risk to surface water flow patterns. The steep slope going down into the valley of Applewood Creek needs close attention from a geotechnical perspective regarding slope stability Least Preferred	The temporary bridge crossing has the potential to cause backwaters upstream of the structure in Applewood Creek. This could affect flows under Lakeshore Boulevard. Moderately Preferred	Route 2 is located away from any water courses, significant slopes and is 50m from 1 wetland pond. Most Preferred	Route 3 runs in close proximity to two wetlands (25m and 50m). If not constructed properly, overland surface flows to these wetlands may be impacted. Must cross small ephemeral stream to the east of Applewood Creek. Moderately Preferred	Route 3b is located away from any water courses, significant slopes and is 50m from 1 wetland pond. Most Preferred

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Table D-2 Alternative Construction Site Access Routes - Detailed Evaluation Table (including indicators deemed equal for all alternatives)

Environmental Component	Criteria	Indicator	Rationale	Route 1	Route 1B	Route 2	Route 3	Route 3B
Social Environment	Disruption to use and enjoyment of Waterfront Trail	Length of trail disrupted	Access road construction has the potential to disrupt the use and enjoyment of the Waterfront Trail in areas where the road is in proximity to or directly on the trail. Some sections of trail could be completely closed to users while construction is occurring.	Route avoids use of Waterfront trail other than one crossing near Lakeshore that will not likely require flagging for user safety Most Preferred	Route follows considerable portion of trail necessitating the closure of the trail through the Arsenal lands and the dead-ending of the trail within Marie Curtis Park. Temporary trail will need to be constructed along the south side of Lakeshore during construction. This will not likely require flagging at the one point of crossing for user safety. Least Preferred	Route follows considerable portion of trail necessitating the closure of the trail through the Arsenal lands and the dead-ending of the trail within Marie Curtis Park. Temporary trail will need to be constructed along the south side of Lakeshore during construction. This will not likely require flagging at the one point of crossing for user safety. Least Preferred	Route avoids use of Waterfront trail other than one crossing near beach volleyball courts in Marie Curtis Park which will require some form of flagging or signalization for user safety in the Park. Moderately Preferred	Route follows considerable portion of trail necessitating the closure of the trail through the Arsenal lands and the dead-ending of the trail within Marie Curtis Park. Temporary trail will need to be constructed along the south side of Lakeshore during construction. This will not likely require flagging at the one point of crossing for user safety. Least Preferred
	Disruption to use and enjoyment of Marie Curtis Park	Area of Marie Curtis Park disrupted	Access road construction has the potential to disrupt the use and enjoyment of Marie Curtis Park in areas where the road is in proximity to or directly within high use areas of the park. Some sections of the park could be closed to users while construction is occurring.	There are no direct impacts to users of Marie Curtis Park with this route Most Preferred	There are no direct impacts to users of Marie Curtis Park with this route Most Preferred	There are no direct impacts to users of Marie Curtis Park with this route Most Preferred	Woodlot south of Arsenal Lands disrupted. Use of southwestern most parts of Marie Curtis Park will be disrupted for duration of project, possibly including the beach volleyball courts. Least Preferred	There are no direct impacts to users of Marie Curtis Park with this route Most Preferred
	Disruption to redevelopment of Arsenal Lands and Marie Curtis Park	Nature of disruption to redevelopment activities	A number of works are proposed in the Arsenal Lands Master Plan and reforestation work is proposed for parts of Marie Curtis Park. The placement of site access routes has the potential to disrupt some of these plans over the course of LWC Project construction.	Allows Implementation of Arsenal Lands Master Plan to proceed. Allows Marie Curtis Park reforestation works to proceed in 2013. Most Preferred	Allows much of the Arsenal Lands Master Plan to be implemented, as impacts limited to trails adjacent to rifle baffles. Allows Marie Curtis Park reforestation works to proceed in 2013. Moderately Preferred	Allows much of the Arsenal Lands Master Plan to be implemented, as impacts limited to the Small Arms Building area and trails adjacent to rifle baffles. Allows Marie Curtis Park reforestation works to proceed in 2013. Moderately Preferred	Delay in implementation of the Arsenal Lands as route occupies majority of site. Prevents Marie Curtis Park reforestation works to proceed in 2013. Least Preferred	Delay in implementation of Arsenal Lands Master Plan as route occupies majority of the site. Allows Marie Curtis Park reforestation works to proceed in 2013. Least Preferred
	Potential to disrupt traffic on Lakeshore Boulevard	Potential for truck traffic to affect the flow of traffic on Lakeshore Boulevard	Trucks entering the LWC Project site from Lakeshore Boulevard could disrupt traffic on Lakeshore Boulevard due to the volume of daily construction traffic anticipated for the project.	May require a new temporary signal light off of Lakeshore Boulevard. Extra signals on Lakeshore may cause minor delays in traffic along the road. Access route to WWTF and along the 12m wide access road provides extensive areas for trucks to idle if necessary, prior to accessing waterfront – causing limited impacts on Lakeshore. Trucks delivering fill generated by Hanlan water main site at Small Arms Building will need to enter back onto Lakeshore to access Route 1. Least Preferred	May require a new temporary signal light off of Lakeshore Boulevard. Extra signals on Lakeshore may cause minor delays in traffic along the road. Access route to WWTF and along the 12m wide access road provides extensive areas for trucks to idle if necessary, prior to accessing waterfront – causing limited impacts on Lakeshore. Trucks delivering fill generated by Hanlan water main site at Small Arms Building will need to enter back onto Lakeshore to access Route 1B. Least Preferred	Has an existing signal light at Lakeshore Boulevard. Access route will be 12m wide providing extensive areas for trucks to idle if necessary, prior to accessing waterfront – causing limited impacts on Lakeshore. Shared access with RoP Hanlan water main construction site at Small Arms Building removes some trucks from Lakeshore. Most Preferred	May require a new temporary signal light off of Lakeshore Boulevard. Extra signals on Lakeshore may cause minor delays in traffic along the road. Access route will be 12m wide providing extensive areas for trucks to idle if necessary, prior to accessing waterfront – causing limited impacts on Lakeshore. Trucks delivering fill generated by Hanlan water main site at Small Arms Building will need to enter back onto Lakeshore to access Route 3 Least Preferred	May require a new temporary signal light off of Lakeshore Boulevard. Extra signals on Lakeshore may cause minor delays in traffic along the road. Access route will be 12m wide providing extensive areas for trucks to idle if necessary, prior to accessing waterfront – causing limited impacts on Lakeshore. Trucks delivering fill generated by Hanlan water main site at Small Arms Building will need to enter back onto Lakeshore to access Route 3b Least Preferred

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Table D-2 Alternative Construction Site Access Routes - Detailed Evaluation Table (including indicators deemed equal for all alternatives)

Environmental Component	Criteria	Indicator	Rationale	Route 1	Route 1B	Route 2	Route 3	Route 3B
					Least Preferred			
Cultural Environment	Removal of designated heritage features	Number and character of features removed	The site contains a number of designated cultural heritage features. Routes requiring removal of these features would be less preferred.	None Most Preferred	None Most Preferred	None Most Preferred	None Most Preferred	None Most Preferred
	Disruption of designated heritage features	Number and character of features disrupted	The site contains a number of designated cultural heritage features. Routes disrupting these features would be less preferred.	None Most Preferred	None Most Preferred	None Most Preferred	None Most Preferred	None Most Preferred
	Proximity to heritage features	Distance between road and heritage features	The site contains a number of designated cultural heritage features. Routes that are closer to these features may create negative effects to the feature. A route further away from features are more preferred than routes in close proximity	Closest heritage feature the route comes within is ~70m (the southern limit of rifle baffles) Most Preferred	Closest heritage features the route comes within is ~5m (the rifle baffles) Moderately Preferred	Two heritage features are in proximity of the route: the access driveway is within 20m of the Small Arms Building and approximately ~5m from rifle baffles Moderately Preferred	Closest heritage feature is ~115m away (water tower). The woodlot bisected by the route was deemed to have cultural heritage value however, the effects would be limited to the removal of 2 young Butternut Trees (that could be relocated) and 1 mature tree Butternut relocation/removal requires separate approvals process. Least Preferred	Closest heritage features the route comes within is ~5m (the rifle baffles) Moderately Preferred
Potential for Archaeology Resources	Potential for unearthing archaeological resources as part of access road construction.	The Stage 1 Archaeological Study has indicated all routes cross areas identified as having archaeological potential. Depending on the route selected the extent of the Stage 2 investigation and possible implications on access road construction may vary.	Route 1 requires the relocation of 200m of channel and the creation an entirely new road (~475m). Stage 2 archaeological assessments would be recommended for the area. Moderately Preferred	Route 1b follows the existing 4 m wide Waterfront Trail (~700m); however, additional Stage 2 studies would be recommended on either side of the trail likely for the entire length. In addition, Route 1b requires a new temporary trail along the south side of Lakeshore (~420m) requiring a Stage 2 study Least Preferred	Route 2 follows the existing 4 m wide Waterfront Trail (~500m) plus an extra ~265m of new road through greenspace east and south of the Small Arms Building. Stage 2 studies would be recommended on either side of the trail and the new road section. In addition, Route 2 requires a new temporary trail along the south side of Lakeshore (~420m) requiring a Stage 2 study Least Preferred	Route 3 requires the least amount of Stage 2 Archaeological Assessment since ~410 m of this route is considered deeply disturbed. ~140 m of archaeological potential exists through the woodlot, and ~265m over municipal landfill with deeper archaeological potential. Stage 2 archaeological assessments would be recommended for the area. Most Preferred	Route 2 follows the existing 4 m wide Waterfront Trail (~500 m) plus an extra ~340 m of new road through west end of the meadow of the Arsenal Lands. Stage 2 studies would be recommended on either side of the trail and the new road section. In addition, Route 3b requires a new temporary trail along the south side of Lakeshore (~420 m) requiring a Stage 2 study Least Preferred	
Technical/Engineering	Ease of construction	Issues which will complicate construction	Each of the various routes offer technical challenges. These challenges are associated with risk to implementation.	This route has a number of significant technical challenges involved with construction: 90% of the trees along the west bank of Applewood Creek require removal; a narrow work area with steep slopes bordered by a watercourse is challenging requiring multiple agency sign off, relocation of the watercourse, and stabilization of the valley wall from a geotechnical perspective. Least Preferred	A bridge is required to cross the stream which must not impact flooding. At least 25 full mature trees (not significant species) must be removed to accommodate the road; longest section of road to create. Must create new asphalt trail along south side of Lakeshore for construction period. Least Preferred	Must ensure separation between construction access for Waterfront and Hanlan's water main sites at Small Arms Building, will require removal of 1 or 2 mature trees along the Waterfront Trail, moderate length of Waterfront Trail will be destroyed. Must create new asphalt trail along south side of Lakeshore for construction period. Moderately Preferred	Requires relocation of 2 young butternuts and removal of 1 mature tree. Requires root protection for section through the forest (not currently added). Short section of the Waterfront Trail will be destroyed. Most Preferred	Will require removal of 1 or 2 mature trees along the Waterfront Trail, moderate length of Waterfront Trail will be destroyed. Must create new asphalt trail along south side of Lakeshore for construction period. Moderately Preferred

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Table D-2 Alternative Construction Site Access Routes - Detailed Evaluation Table (including indicators deemed equal for all alternatives)

Environmental Component	Criteria	Indicator	Rationale	Route 1	Route 1B	Route 2	Route 3	Route 3B
	Ease of decommissioning	List of issues which will complicate decommissioning	Re-establishment of the Waterfront Trail and restoration of disturbed natural features are the main factors that will complicate decommissioning.	Longest section of floodplain and forest to restore following road decommissioning. Least Preferred	Longest section of Waterfront Trail to rebuild. Loss of canopied character along the Waterfront Trail for years to come near Applewood Creek crossing Least Preferred	Moderate length of waterfront trail requires reestablishment Moderately Preferred	Least complex decommissioning and restoration. Most Preferred	Moderate length of waterfront trail requires reestablishment Moderately Preferred
	Potential to disturb contaminated soils	Area of contaminated soils crossed	Estimated costs do not take into account potential soil contamination issues. Routes with higher potential to disturb contaminated soils will require additional remediation and costs associated with them.	Portions of this route are located behind the rifle range baffles. There is the potential for contamination from spent bullets. Some testing would be required. Most Preferred	Portions of this route are located immediately to the east of the rifle range baffles. There is limited potential for contamination from spent bullets. Some testing would be required. Most Preferred	A small section of this route would pass near a land fill area behind the Small Arms Building but outside fenced area, so soil contamination will not be an issue. There is limited potential for contamination from spent bullets. Some testing would be required. Most Preferred	Lower portions of this route would overlie an old municipal landfill. Additional protective measures may be required to prevent disturbance of the underlying soils. Least Preferred	Portions of this route are located immediately to the east of the rifle range baffles. There is limited potential for contamination from spent bullets Some testing would be required. Most Preferred
Cost	Cost of construction, operations and decommissioning	Order of magnitude costs	Routes involving higher costs are deemed less preferred than routes with lower associated costs.	Base Cost - \$341,000 Contingencies - \$89,000 Total - \$430,000 Moderately Preferred	Base Cost - \$380,000 Contingencies - \$99,000 Total - \$479,000 Least Preferred	Base Cost - \$317,000 Contingencies - \$82,000 Total - \$399,000 Moderately Preferred	Base Cost - \$221,000 Contingencies - \$57,000 Total - \$278,000 Most Preferred	Base Cost - \$319,000 Contingencies - \$83,000 Total - \$402,000 Moderately Preferred