

# EDMONTON SKI CLUB RIVER VALLEY OUTDOOR ACTIVITY CENTER - SITE LOCATION STUDY

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Prepared for:

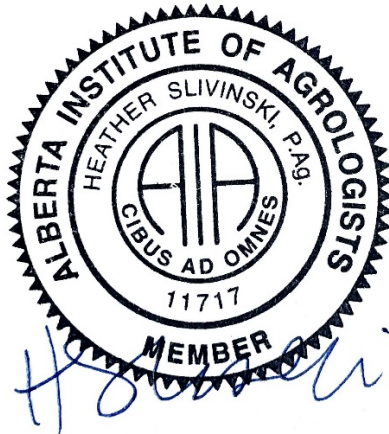
**Edmonton Ski Club**

Attention: Sandy Fleming  
Edmonton Ski Club, Board Chair  
9613 96 Ave NW  
Edmonton AB T6C 2B3 Canada

## SIGNATURES

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*Prepared by:*



Heather Slivinski, B.Sc., P.Ag.  
Senior Ecologist

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# 1. INTRODUCTION

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## 1.1. PROJECT DESCRIPTION

Solstice Canada Corp. (Solstice) was retained by WSP Projects on behalf of Edmonton Ski Club to prepare a Site Location Study (SLS) for the Edmonton Ski Club's (ESC) proposed new River Valley Outdoor Activity Centre (RVOAC) (the project).

ESC has managed a ski centre in central Edmonton since 1911. ESC's original lodge, located at the base of Gallagher Park was built in the 1940's. Due to safety concerns and the building reaching end of life despite many modifications since the 1940's, it was demolished in the fall of 2022, with operations continuing out of modular trailers. The RVOAC is planned to begin construction to replace the temporary trailers and provide a year-round facility for the ESC to operate from. The RVOAC will include redevelopment of the main facility, parking and access upgrades, and site drainage upgrades. The main facility building will include various indoor facilities including a multi-purpose room, commercial kitchen, main hall, offices, rental facilities, and outdoor gathering spaces.

As Gallagher Park falls within the North Saskatchewan River Valley Area Redevelopment Plan (NSRV ARP) it is subject to Bylaw 7188. As such, the City of Edmonton has requested that an SLS and an Environmental Impact Assessment (EIA) be completed for the project. The scope of the SLS includes an assessment of financial, social, environmental and institutional constraints and opportunities to provide justification and rationale for any projects being undertaken in the NSRV ARP and considerations for alternative locations, if applicable. This report presents the results of the SLS, which has been developed in conjunction with the RVOAC EIA that was prepared by Solstice and has been submitted under a separate cover. Additional design details and alternatives associated with the project are discussed in the accompanying EIA and design plan documents.

As part of the process of developing the preferred design, multiple public engagement opportunities were initiated to solicit public feedback and suggestions, which will be incorporated into the final design. The preparation of the final design was an iterative approach that took into consideration summer and winter use of the site, stakeholder objectives and site opportunities and constraints, as well as public input.

The development of the new RVOAC also falls under the guidance of the 20-year Concept Plan for Gallagher Park, which was approved to guide the development, preservation, and appreciation of Gallagher Park. The Gallagher Park 20-year Concept Plan, which guides the development, preservation, and appreciation of Gallagher Park through facilitating enhanced access to the park by providing facilities and infrastructure to support existing recreation, while enhancing the ecological values of the park. The Gallagher Park 20-year Concept Plan focuses on improving park amenities (i.e., improving trails and access points, signage, lighting and washroom facilities) with minimal change to the surrounding landscape and current uses of the park. The ESC RVOAC aligns with goals under the Gallagher Park 20-year Concept Plan.

## 1.2. SITE DESCRIPTION

The project falls mainly within ESC's lease area (7.45 ha) as defined in the License Agreement dated September 14, 2022, with the City of Edmonton. A small portion of the proposed bioswale is located outside of the ESC lease area but within Gallagher Park. The project footprint is anticipated to cover 0.51 ha, and includes a new carbon neutral and high energy efficiency main lodge facility, which will include solar and geothermal infrastructure, space to facilitate ski hill use, meeting facilities, event space, and administration space. The project will also include upgrading surface water drainage, installation of an asphalt and gravel parking lot, and bioswale infrastructure.

The study area is located near downtown Edmonton, just south of the Cloverdale neighborhood. The project falls within Legal Subdivisions 7 and 10, 33-52-24 W4M. The ESC is located at 9613- 96 Avenue

NW at the base of Gallagher Park hill. Gallagher Park is bordered by 98<sup>th</sup> Avenue to the north, Connors Road to the south, and Cloverdale Hill Road to the east (Figure 1). The neighborhood of Cloverdale lies on the northern edge of the park.

The following municipal facility lies within the study area:

- Gallagher Park – 9505 96 Avenue NW

The Legal Subdivision that is captured partially within this area is Lot 1, Block 7 of Plan 152 2550.

The project is situated within Gallagher Park, which encompasses a large open tract of maintained grass along its southern slopes, with occasional pockets of planted and natural tree stands. The largest tract of undisturbed native tree stands are located outside the project boundary in Strathearn Park beginning about 350 m to the east, along the northwesterly facing slope that forms a natural study boundary on the east side of Gallagher Park. Given the proximity to the North Saskatchewan River and Mill Creek Ravine and presence of undisturbed treed stands, wildlife use and movement through the Gallagher Park, including the project area, is considered high. Several environmental studies have been completed in the Gallagher Park area over the past number of years which have characterized the ecological conditions of this area, and this information is described in detail in the accompanying EIA.





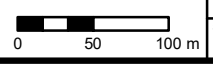
- LEGEND**
- Project Footprint (0.94 ha)
  - EIA Study Area (8.5 ha)
  - Boundary of Licensed Premises (7.5 ha)
  - LSD Boundary

SOURCES:  
 ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRIID, IGN, AND THE GIS USER COMMUNITY.



**EDMONTON SKI CLUB  
 EIA STUDY AREA LOCATION**

DATE: OCTOBER 19, 2023	PROJECTION: 3TM 114	DATUM: NAD83
PROJECT CODE: 22-13630-25		<b>FIGURE 1</b>
SCALE: 1:5,000		



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## 2. OPPORTUNITIES AND CONSTRAINTS ANALYSIS

Table 1 summarized the financial, social, environmental, and institutional opportunities and constraints of the proposed Edmonton Ski Club design and alternatives that were considered. The table is structured to allow for comparisons between the options associated with each type of proposed design. Primary constraints impacting the design and approach were social and environmental, relating to funding parameters and end goals for the use of the new facility. City of Edmonton institutional policies and bylaws that regulate and guide development activities North Saskatchewan River Valley system, which have been instituted to protect Edmonton's natural features from increasing development pressures, were also a key consideration. These are discussed in detail in the accompanying EIA, and within Table 1. Although various design options were considered, the final design opted for the following options:

- **Site Location** - The ESC has been operating at the current location since 1911. Given the existing lease, ski hill infrastructure and physical requirements within the existing location, an alternative location outside of the North Saskatchewan River Valley was not considered.
- **Building Design** – Several building designs were evaluated; however the design is restricted by the grant funding parameters, requiring a net zero building. As such, conventional building designs were dismissed early in the planning process. Designs advanced for further consideration all included geothermal heating, solar panels on the building roof, and high performing building envelope to meet the net zero requirements. The final design was selected over other footprint options as it was the smallest overall footprint, minimizing the requirements for new disturbances compared to the historic infrastructure.
- **Surface Water Management**– The current site grading frequently causes flooding and ponded surface water within the project area and surrounding neighborhood. As identified in the Gallagher Park 20-year Concept Plan, upgrades to address drainage issues within the project area are required. Surface water management solutions are required as there are no underground utility connections available in the project area to tie the site drainage into municipal stormwater management infrastructure. Several strategies were evaluated to address surface water management requirements. The final surface water management strategy will include site regrading to promote the movement of surface water across the site, and installation of bioswale infrastructure to facilitate surface water infiltration and minimize off-site drainage. Adheres to the City of Edmonton institutional policies and bylaws that regulate and guide development activities within the North Saskatchewan River Valley system.
- **Parking Construction Approach** – The selected parking construction method for the project is gravel surfacing, in alignment with the current parking at the site. Gravel surfacing is the preferred approach within the North Saskatchewan River as it allows for surface water infiltration. Gravel surfacing also reduces the overall area of bioswale retention required which reduces the overall disturbance to existing trees. Other permeable options were considered, like permeable paving; however, they were not found to be feasible because they would require under-drainage construction at extensive cost and requirement for municipal tie-in, and would not be suitable for heavy traffic. Asphalt surfacing was an option considered, which would have assisted with accessibility, slope stability, and lower ongoing maintenance costs, however, was ultimately dismissed in favour of the preferred option.
- **Landscaping** – Landscaping in and around the new ESC RVOAC facility will be replaced and upgraded during the project construction. Various landscaping design strategies and features were evaluated, including the use of landscaping versus native species, habitat enhancement features, and integration of vegetation within surface water management features (i.e., bioswales). The preferred option selected includes a combination of native and landscaping species, with landscaping species selected due to their compatibility with site conditions and longevity. Native species have been incorporated to provide habitat diversity, including pollinator friendly species. Overall, the final landscaped area will be larger than the extent currently within

the project footprint. The landscaping option selected aligns with the City of Edmonton institutional policies and bylaws that regulate and guide development activities of the North Saskatchewan River Valley system.

### 3. CONCLUSIONS

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This SLS was conducted pursuant to the NSRV ARP (Bylaw 7188) to evaluate the project impacts, as outlined in the project EIA and design drawings. As the ESC RVOAC project has been primarily driven through the need for upgrading the existing ski lodge facility, along with the desire to expand the recreational and gathering facilities at the site. Public and stakeholder engagement was gathered and incorporated into the design. The end result is a design that is focused on multi-use and year round functionality, including various indoor facilities including a multi-purpose room, commercial kitchen, main hall, offices, rental facilities, and outdoor gathering spaces. The design is sited to occur primarily within areas of existing disturbance from the historical infrastructure, or within the Maintained Grass vegetation community, with localized impacts to native communities to facilitate bioswale construction. Site regrading and bioswale construction will improve overall site drainage, and mitigate long term drainage issues on the site. The project is expected to have localized and short-term impacts to the natural environment during construction, including vegetation and soil disturbance, however these will be generally limited to the construction period and restoration period. As such, the project is expected to have a minimal effect on environmental resources and is expected to result in a net positive impact to both vegetation and wildlife components through the expanded landscaped areas in the bioswale to the north of the lodge, and new landscaped area west of the geothermal field. In that regard, the recommendation of this SLS is that the proposed preferred Concept Plan design proceed as planned.



**TABLE 1. Opportunities and Constraints Analysis – Edmonton Ski Club Design Alternatives**

<b>Option 1: Location Siting</b>		
<b>1a: Current Location</b>		<b>1b: Alternative Location</b>
Financial	The current location allows the ESC to leverage the existing lease, which is favorable compared to purchase of land elsewhere within the North Saskatchewan River Valley. The current location also allows for re-use of existing infrastructure (e.g., pump house, maintenance shop, equipment, lifts etc.).	N/A
Social	The current project location will allow for the enhancement of the most urban downtown ski hill location in the City. The ESC provides access to lower income schools and low-cost programming, with the project expanding current capacity to include year-round facilities.	N/A
Environmental	Low environmental impact. Although some temporary environmental impacts will occur as a result of the project construction (e.g., removal of small areas of existing trees for the bioswale construction), detailed under other option, the project will fall primarily within the current disturbance footprint, minimizing environmental impacts.	Low to moderate environmental impact. Although not pursued for financial and social reason, the site requirements for the ESC (i.e., hill that is large enough to allow downhill skiing) would by necessity be located within the North Saskatchewan River Valley. Alternative locations would also be considered environmentally sensitive, and may have required higher levels of environmental disturbance, depending on the current land use.
Institutional	Satisfies City recreation objectives. Aligns with objectives under the Gallagher Park Concept Plan, including enhancements to support festivals and events, enhanced landscape and amenities.	N/A

<b>Option 2: Building Design</b>		
<b>2a: Net Zero Building Design, Compact Footprint</b>		<b>2b: Net Zero Building Design, Single Floor</b>
Financial	The design has been restricted by the grant funding parameters. The grant required a net zero building. Designing the building to include geothermal heating, as this is a proven method of reducing carbon load within the Edmonton climate. Other design aspects such as solar panels on the building roof, and high performing building envelope (insulation, roof, LED light fixtures) were also selected to meet the net zero requirements.	Several design options and footprints were evaluated for use (e.g., a sprawling single floor design, or a standard building [e.g., conventional construction over net-zero). The evaluation of a conventional construction style was eliminated early in the evaluation process due to the funding dictated design constraints (i.e., requirement for net-zero construction).
Social	The selected design includes increased social functionality compared to the historic ESC building. The design includes gathering spaces and meeting rooms which can be rented out (e.g., to Edmonton Folk Fest, Indigenous groups, community groups). The inclusion of a kitchen space allows for new revenue sources, and increased functionality of the space.	Similar social function was included in the alternative designs evaluated. However, these alternatives were eliminated due to other factors (i.e., financial or environmental).
Environmental	<p>Low environmental impact. The selected design has the smallest footprint out of the potential designs evaluated, minimizing the need to disturb lands outside of the current disturbance footprint.</p> <p>The building footprint will be located within areas of historical disturbance. Temporary impacts to soil substrate may occur due to wind or water erosion of exposed soil, as well as through admixing of topsoil and subsoil during earthworks.</p> <p>Loss or alteration of plant communities will be limited to the Maintained Grass vegetation type. Landscaping surrounding the building site will offset any impacts to vegetation and will result in a neutral to positive impact by creating additional habitat. Minimal impacts to wildlife habitat are anticipated, as clearing of native vegetation is not required for the building construction.</p>	<p>Low environmental impact. The evaluation of a more sprawling single floor design was eliminated to maintain the smallest footprint possible while meeting social requirements. The sprawling design would have required a larger disturbance footprint, resulting in greater impacts to soil and vegetation communities. However, impacts would have been situated within the Maintained Grass community.</p> <p>The building footprint would be located within areas of historical disturbance. Temporary impacts to soil substrate may occur due to wind or water erosion of exposed soil, as well as through admixing of topsoil and subsoil during earthworks.</p> <p>Loss or alteration of plant communities would be limited to the Maintained Grass vegetation type. Landscaping surrounding the building site would offset any impacts to vegetation and will result in a neutral to positive impact by creating additional habitat.</p>

	<p>A project specific Phase I Environmental Site Assessment (ESA) and Phase I ESA addendum were completed for the project to evaluate potential project interactions with known contamination in the lands surrounding the site. The drilling of geothermal infrastructure has the potential for interaction with soil and groundwater contamination. The location of geothermal field siting is not located within any area of known contamination. The Addendum to the Phase I ESA conducted for the project area identified that based on groundwater depths within the project area provided in the 2023 geotechnical assessment conducted by Shelby (2023) (i.e. 8.0 mbgs), groundwater impacts are unlikely to cause impacts to surface receptors at the site. Additionally, based on soil sampling conducted during the 2023 geotechnical program, it was concluded that metal concentrations in soil samples taken within the project disturbance footprint were reported to be below guidelines (Shelby 2023). Trace PAH species were identified in samples within the Potential Physical Disturbance area. Within these samples the PAH levels recorded were below the guidelines applicable to the project, but exceed the more stringent Tier 1 guidelines for coarse grained soils. Remediation or onsite management is not expected to be of concern with the caveat that further sampling and management would be required if there are any plans for the export or reuse of the onsite soil. However, a limited scope Phase II ESA is recommended to evaluate potential PFA substances at the site. The results of the Phase II ESA will be used to design appropriate soil mitigations relating to impacts relating to interactions with potential soil contamination.</p>	<p>Minimal impacts to wildlife habitat would be anticipated, as no clearing of native vegetation would be required.</p>
Institutional	Satisfies City recreation objectives.	Satisfies City recreation objectives.



Option 3: Surface Water Management		
3a: Site Regrading and Bioswale Installation (Final Configuration)		3a: Site Regrading and Alternative LID Features and Configurations
Financial	<p>Increase in up front costs higher with this design, however lower ongoing maintenance and management is anticipated.</p>	<p>Alternative LID feature types (i.e., soil cells) were evaluated, but are higher cost to the selected bioswale design. Additionally, soil cells require subsurface drainage. Permeable paving which would allow surface water infiltration within the parking lot was considered but found to not be feasible because needed under-drain and not suitable for heavy traffic.</p> <p>Underground tie-ins to utilities north of project site were considered, but would require an underground storage tank. This option was dismissed due to very high financial costs.</p> <p>More extensive bioswale features were also considered, but dismissed due in part to the high financial cost to remove the trees in the area.</p>
Social	<p>Regrading will amend the ongoing historical issue with pooling surface water, and will allow better usage of the land in summer and shoulder season. Drainage improvements will bring benefit to the entire neighborhood that has experienced frequent flooding issues associated with the site drainage.</p>	<p>Alternatives evaluated provide similar social benefits to the option selected. Regrading would amend the ongoing historical issue with pooling surface water, and would allow better usage of the land in summer and shoulder season. Drainage improvements would bring benefit to the entire neighborhood that has experienced frequent flooding issues associated with the site drainage.</p>
Environmental	<p>Site grading to facilitate drainage, and installation of bioswale infrastructure will improve current drainage conditions at the site. In turn, this will reduce flooding and sedimentation, which currently occurs within the ESC project area, and off-site to the north of the project.</p> <p>The bioswale incorporation, considered a Low Impact Development (LID) feature, was requested for inclusion by City to improve surface water infiltration. This feature type is also recommended and frequently used by EPCOR within the City limits. Some sedimentation is anticipated to accumulate in the</p>	<p>Low to Moderate environmental impact. All options considered required site reggrading, however various methods to address drainage infrastructure were evaluated which would result in different impacts relating to drainage installation. A more extensive bioswale system was evaluated, and ultimately reduced to minimize disturbance to the Mixed Deciduous Manitoba Maple vegetation community.</p> <p>In general, environmental impacts of alternative evaluated have similar, or slightly greater impacts to the environment compared to the option selected. All options required new construction to install bioswales or other LID feature, which would result in some disturbance to the existing landscape along the north side of the project area.</p>

	<p>bioswale, which may require adaptive management depending on potential impacts.</p> <p>Low to Moderate environmental impact. Requires new construction to install bioswale, which will result in some disturbance to the existing landscape along the north side of the project area.</p> <p>Minor grading and excavation will be required. Temporary impacts to soil substrate may occur due to wind or water erosion of exposed soil, as well as through admixing of topsoil and subsoil during earthworks.</p> <p>Loss or alteration of plant communities will primarily occur in the Maintained Grass vegetation type, with a small area of Mixed Deciduous Manitoba Maple vegetation community which will be removed for the construction of the bioswale. Revegetation of the Bioswale Garden will offset any impacts to vegetation and will result in a neutral to positive impact by creating additional habitat.</p> <p>Potential to impact rare plants as populations of high-bush cranberry (<i>Viburnum opulus</i>) were observed within the Mixed Deciduous Manitoba Maple vegetation community. This species is ranked as S3S4, have uncertainty regarding the status however, this species is not tracked provincially, and is known to occur commonly within appropriate habitat in the Edmonton region. As such, although impacts to this species should be minimized, the overall impact to the species distribution regionally is not anticipated to be impacted by project disturbances.</p> <p>Additionally, populations of yellow lady slipper (<i>Cypripedium parviflorum</i>) were identified in remnant aspen stands within Gallagher Park, however this species was not observed within the project footprint.</p>	<p>Minor grading and excavation would be required. Temporary impacts to soil substrate may occur due to wind or water erosion of exposed soil, as well as through admixing of topsoil and subsoil during earthworks.</p> <p>Loss or alteration of plant communities would primarily occur in the Maintained Grass vegetation type, with a small area of Mixed Deciduous Manitoba Maple vegetation community which will be removed for the construction of the bioswale. Revegetation of the Bioswale Garden will offset any impacts to vegetation and will result in a neutral to positive impact by creating additional habitat.</p> <p>Potential to impact rare plants as populations would be anticipated to be the same for the alternatives evaluated, as all alternatives had similar footprints.</p> <p>Minimal impacts to wildlife habitat are anticipated, as clearing of native vegetation would be short term as these areas would be revegetated.</p>
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	Minimal impacts to wildlife habitat are anticipated, as clearing of native vegetation will be short term as these areas will be revegetated.	
Institutional	Satisfies City accessibility objectives. Satisfies City bylaw requirements for redevelopment to adhere to approved drainage standards.	Satisfies City accessibility objectives. Satisfies City bylaw requirements for redevelopment to adhere to approved drainage standards.



<b>Option 4: Parking Construction Approach</b>		
<b>4a: Gravel Surfacing</b>		<b>4b: Alternative Parking Surfacing (Asphalt or Permeable Paving)</b>
Financial	The selected parking surfacing approach provides a cost-efficient approach for surfacing, however, is anticipated to have higher maintenance costs long term compared to alternative options evaluated. Heavy traffic use from events within Gallagher Park (e.g., Folk Fest) are anticipated to trigger annual regrading to correct deficiencies such as potholing and rutting.	Up front costs of alternatives evaluated (i.e., asphalt and permeable paving) were higher than the selected option. Permeable paving was determined to not be feasible due to requirement for under-drain infrastructure and unsuitable for heavy traffic. Asphalt paving was determined to be feasible, and would have required lower ongoing maintenance post-installation compared to the selected option, resulting in lower long term costs.
Social	The gravel surfacing option selected aligns with the current parking infrastructure. Social benefits are anticipated to remain similar to pre-construction.  Concrete sidewalks will be installed to increase connectivity throughout the site and will increase social benefit by providing hard surfacing at main entrance to increase accessibility.	Asphalt paving would have provided increased accessibility compared to the selected gravel option.
Environmental	Low environmental impact. The selected gravel surfacing approach aligns with the current parking configuration, as well City guidance within the North Saskatchewan River Valley. Gravel surfacing allows for higher surface water infiltration compared to non-permeable surfacing approaches, reducing potential runoff off-site, and other surface water management related issues, discussed under Option 4.  Overall, the environmental impact of the gravel surfacing is anticipated to be short term in duration, during construction minor grading and excavation will be required. Temporary impacts to soil substrate may occur due to wind or water erosion of exposed soil, as well as through admixing of topsoil and subsoil during earthworks.	Low to moderate environmental impact. Alternative surfacing approaches considered included asphalt and permeable paving. The environmental impacts related to permeable paving would have been similar to the selected option, however this option was dismissed due to the requirement for subsurface drainage infrastructure. Asphalt paving would have had a higher environmental impact related to reduced surface water infiltration capacity, which would have impacts to groundwater recharge, as well as increased surface water runoff from the site.  The impacts related to the physical footprint of alternatives evaluated was similar to the selected option, as alternatives would have primarily been restricted to areas of current disturbance. short term in duration, during construction minor grading and excavation would be required. Temporary impacts to soil substrate may occur due to wind or water erosion of exposed soil, as well as through admixing of topsoil and subsoil during earthworks.

	<p>Loss or alteration of plant communities related to gravel surfacing will primarily occur in the Maintained Grass vegetation type.</p> <p>Minimal impacts to wildlife habitat are anticipated, as clearing of native vegetation will be short term as these areas will be revegetated.</p>	<p>Loss or alteration of plant communities related to gravel surfacing will primarily occur in the Maintained Grass vegetation type.</p> <p>Minimal impacts to wildlife habitat would be anticipated, as clearing of native vegetation would be short term as these areas would be revegetated.</p>
Institutional	<p>Satisfies City bylaw requirements for redevelopment to adhere to approved drainage standards. Aligns with the North Saskatchewan River Valley Area Redevelopment Plan.</p>	<p>Satisfies City bylaw requirements for redevelopment to adhere to approved drainage standards.</p>

Option 5: Landscaping		
4a: Native Species and Landscaping Species, Increased Landscaping Area		4b: Alternative Landscaping Designs (e.g., Maintain Landscaping Extent, Naturalized Approach)
Financial	<p>The preferred landscaping design selected represents higher up-front costs compared to alternative designs evaluated, primarily related to the inclusion of a new landscaped area to the west of the geotechnical borehole field.</p> <p>The species selection options evaluated represented similar construction costs to alternatives, however, are anticipated to have lower maintenance costs longer term through the selection of landscaping trees which are long lived and are suitable for establishment within the site conditions, especially in the bioswale.</p>	<p>Alternative landscaping designs evaluated primarily included similar approach, with different configurations. An approach which omitted the new landscaped area to the west of the geotechnical borehole field was evaluated, which represented savings to project costs, as well as reduced ongoing maintenance costs. However, this was dismissed in favour of the preferred landscape design option. The species selection options evaluated represented similar construction costs, however, would be anticipated to be higher maintenance costs longer term, in particular when evaluating the replacement of native tree species within the bioswale location. The existing tree species in the Mixed Deciduous Manitoba Maple vegetation community were dominated by short lived native deciduous tree species, which are not compatible with the conditions within the proposed bioswale.</p>
Social	<p>The proposed landscaping design incorporates a more extensive landscaped area, in particular to the west of the geothermal field where a new landscaped area is planned. The landscape design also incorporates a diverse structure of species, encouraging wildlife and pollinator use of the area. The landscaping design will provide a social benefit through the visual enjoyment of the vegetation features and enhancement of the park amenities and outdoor spaces.</p>	<p>Alternative landscaping designs evaluated primarily included similar approaches to the selected design option. The alternatives would have similar social benefits.</p>
Environmental	<p>Low environmental impact in relation to selected landscaping plan, discussion of other environmental impacts related to surface water management (e.g., construction of bioswales and vegetation clearing for site regrading) is discussed earlier.</p> <p>The landscaping design will replace existing vegetation communities and landscaping which is required to be removed for project construction Short term loss of habitat will occur during the construction</p>	<p>Low environmental impact in relation to selected landscaping plan, discussion of other environmental impacts related to surface water management (e.g., construction of bioswales and vegetation clearing for site regrading) is discussed earlier.</p> <p>Alternative landscape design options evaluated included the use of native tree species, however, were dismissed in favour of selecting longer lived species. In general, the alternatives</p>



	<p>and landscaping establishment periods. In particular, a patch of Mixed Deciduous Manitoba Maple vegetation community will be removed for the construction of the bioswale, and replaced with a landscaped comprised of mixed planting, hydroseeded berm planting, and bioswale planting including tree planting. The existing Mixed Deciduous Manitoba Maple vegetation community has established within a previously disturbed area, and includes a variety of landscaping and exotic species, intermixed with native vegetation species. This area has also been observed to have black knot fungus, requiring the removal of several of the exiting trees within this area. Although the construction of the bioswale requires the removal of this native vegetation community, the resulting landscaped design is anticipated to improve overall ecological function of the area.</p> <p>The landscaping design will include combination of native and landscaping species, with landscaping species selected due to their compatibility with site conditions and longevity. Native species have been incorporated to provide habitat diversity, including pollinator friendly species. Overall, final landscaped area will be larger than the extent currently within the project footprint, and is expected to provide similar or slightly improved habitat function compared to current landscaping and vegetation communities present, and an overall increase in the extent of landscaped areas. The increase in landscaped areas will occur primarily within the Maintained Grass community, which represents an improvement to habitat function overall.</p>	<p>evaluated provided similar ecological function to the selected design option.</p>
Institutional	Satisfies City objectives for tree canopy coverage.	Satisfies City objectives for tree canopy coverage.