



Environmental Impact Assessment

Emily Murphy Park Renewal Project
11904 Emily Murphy Park Road NW
Edmonton, Alberta

November 18, 2020
Trace Project No. 200-3007-01

Prepared for:

IBI Group Inc.
Suite 300, 10830 Jasper Avenue
Edmonton, Alberta T5J 2B3

and

City of Edmonton
Integrated Infrastructure Services
Building Great Neighborhoods
Open Space Planning & Design

Project No.: CP-8747

Prepared by:

Trace Associates Inc.
Trace 385 Centre, 385 Carleton Drive
St. Albert, Alberta T8N 7L1
traceassociates.ca



DOCUMENT CONTROL

Revision	Description	Project Manager	File Location	Date Issued
Draft	Issued for client review	Nick Swanlund	P: Drive (Secretary)	October 30, 2020
0	Issued for client use	Nick Swanlund	P: Drive (Secretary)	November 17, 2020
1	Minor edits to Table A	Nick Swanlund	P: Drive (Secretary)	November 18, 2020



EXECUTIVE SUMMARY

This Environmental Impact Assessment (EIA) has been prepared by Trace Associates Inc. on behalf of IBI Group Inc. (IBI Group) in support of the proposed Emily Murphy Park Renewal Project (“Project”), within Edmonton, Alberta. Emily Murphy Park is located at 11904 Emily Murphy Park Road NW (“the Park”). The Project occurs in a portion of the Park, which consists of the main recreation area (“the Project area”). This EIA was prepared to fulfill the City of Edmonton’s requirements for environmental reporting and was conducted in accordance with the North Saskatchewan River Valley Area Redevelopment Plan and project-specific Terms of Reference, developed by the City of Edmonton.

The Park is located on the North Saskatchewan River and provides the public with amenities, including 29 picnic sites, playground, hand/carry boat launch, and walking and cycling trails. The purpose of the Project is to renew the existing park roads, parking areas, signage, water line, and water fountain at the Park. During the planning process, IBI Group and the City of Edmonton identified an opportunity to improve trail connectivity and are considering the construction of two additional walkway connectors in the northwest and southeast portions of the Park. The two additional pedestrian walkways will create new disturbances since they will occur outside of the existing disturbance footprint. Therefore, this change in scope triggered the requirement for the preparation of an EIA and Site Location Study (report in progress).

This EIA considers the potential for environmental impacts related to the Project. The key elements that were evaluated include surface water, groundwater, fish habitat, geology/geomorphology, soils, vegetation, wildlife, and historical resources. The identification of sensitive environmental features and potential impacts to those features resulting from the proposed development of the Site were used to identify mitigation strategies designed to avoid, eliminate, or reduce potential environmental impacts. If any residual adverse impacts were identified after the implementation of the proposed mitigation measure, their significance was assessed, as well as their potential to contribute to cumulative impacts.

Based upon a desktop assessment and a site visit on October 9, 2020, the Project area consists of maintained grass areas, with well-spaced trees present in some areas, and natural deciduous forested areas, with access roads and parking lots. There are no rare vascular plants or rare ecological communities previously observed in the Park and the site visit was conducted past the survey window to detect any that may be present. Weed Control Regulation listed weed species noted during the site visit were creeping (Canada) thistle (*Cirsium arvense*) and perennial sow-thistle (*Sonchus arvense*). Common caragana was also noted, however, the species is not listed under the Regulation.

The habitat of the Project area and much of the Park is suitable for many bird and wildlife species, and birds utilize the Park as a wildlife corridor or stopover during spring and fall migrations, and year-round movement of resident species. There are no watercourses, waterbodies, or wetlands within the area of the Project, and the nearest fish habitat is within the North Saskatchewan River. Surface drainage flows to the northeast following the dominant slope, through the riparian area and into the North Saskatchewan River. The soils within the Project area are likely disturbed from past construction and reworking of the Groat Road Bridge and Emily Murphy Road.

The proposed Project will result in minimal impacts to soils, vegetation and wildlife as the proposed upgrades are located on previously disturbed areas (e.g., roads and parking lots) and the proposed new walkways are located in the maintained grass areas. As such, no trees, native vegetation or wildlife habitat are being removed as part of the Project. The potential impacts may be fully mitigated through the implementation of mitigation measures described in this EIA. As such, no residual or cumulative adverse impacts are expected.



TABLE OF CONTENTS

Executive Summary	ii
Table of Contents	iii
1.0 Introduction	1
1.1 Objectives	1
2.0 The Property	1
3.0 Environmental Context	2
3.1 Surface Water, Groundwater, and Fish Habitat	3
3.1.1 Surface Water	3
3.1.2 Groundwater	3
3.1.3 Fish Habitat	3
3.2 Geology/Geomorphology and Soils	3
3.3 Vegetation	4
3.3.1 Vegetation and Vegetation Communities	4
3.3.2 Weed Species	4
3.3.3 Rare Plants and Rare Ecological Communities	4
3.4 Wildlife	5
3.4.1 Desktop Review	5
3.4.2 Wildlife Habitat	6
3.5 Historical Resources	6
3.6 Environmental Sensitivities	6
4.0 The Project	7
5.0 Project Impacts and Mitigation Measures	7
5.1 Potential Impacts	7
5.1.1 Surface Water, Groundwater, and Fish Habitat	8
5.1.2 Geology/Geomorphology and Soils	8
5.1.3 Vegetation	8
5.1.4 Wildlife	9
5.1.5 Historical Resources	9
5.2 Mitigation Measures	9
5.2.1 Surface Water, Groundwater, and Fish Habitat	10
5.2.2 Geology/Geomorphology and Soils	10
5.2.3 Vegetation	10
5.2.4 Wildlife	11
5.2.5 Historical Resources	12
5.3 Residual Impacts and Significance	12



5.3.1	Methods.....	12
5.3.2	Residual Adverse Impacts Evaluation.....	12
5.4	Cumulative Impacts.....	13
6.0	Environmental Monitoring.....	13
7.0	Public Consultation.....	14
8.0	Conclusions and Supporting Information.....	14
9.0	Limitations of Report.....	14
10.0	Closure and Quality Management.....	15
11.0	References.....	16



FIGURES

Figure 1 Site Location Map
Figure 2 Site Plan - Existing Conditions

APPENDICES

Appendix A Trace Associates Inc. Environmental Report – General Conditions
Appendix B Historical Aerial Photographs
Appendix C Site Photographs
Appendix D FWIMS and LAT Report
Appendix E ACIMS Report
Appendix F Historical Resources Act Approval
Appendix G IBI Group Drawing Set



1.0 INTRODUCTION

IBI Group Inc. (IBI Group) retained Trace Associates Inc. (Trace) to conduct an Environmental Impact Assessment (EIA) for the Emily Murphy Park Renewal Project (“the Project”). Emily Murphy Park (“the Park”) is located at 11904 Emily Murphy Park Road NW, in Edmonton, Alberta (Figure 1). The Park is located on the south bank of North Saskatchewan River (“the River”) and provides the public with year-around recreation amenities. The Renewal Project occurs in a portion of the Park, which consists of the main recreation area (“the Project area”).

The purpose of the Project is to renew the existing park roads, parking areas, signage, water line, and water fountain at the Park (described in detail in Section 4.0). During the planning process, IBI Group and the City of Edmonton identified an opportunity to improve trail connectivity and are considering the construction of two additional walkways in the northwest and southeast portions of the Park. The two additional granular walkways will create new disturbances since they will occur outside of the existing disturbance footprint. Therefore, this change in scope triggered the requirement for the preparation of an EIA and Site Location Study (report in progress). The Site Location Study examines the financial, social, environmental, and institutional opportunities and constraints associated with the Project and provides background for the City of Edmonton during the determination of whether the Project is considered essential to occur at the proposed location.

Trace conducted the work under the Subconsulting Services Agreement between IBI Group and Trace, and in accordance with Trace’s Environmental Report – General Conditions (Appendix A).

1.1 Objectives

This EIA is prepared in accordance with the North Saskatchewan River Valley Area Redevelopment Plan (COE, 2018) and project-specific Terms of Reference, developed by the City of Edmonton (2020). The objectives of this EIA are to:

- Describe the proposed project.
- Describe the existing environment of the Park, based on desktop and field assessments.
- Identify the potential impacts to the existing environment as a result of the Project.
- Recommend mitigation measures to reduce or eliminate the potential impacts.
- Identify any residual adverse effects, and assess their significance.
- Assess the cumulative effects.

2.0 THE PROPERTY

Currently, the Park is intensively used for year-round recreation as part of the North Saskatchewan River Valley (NSRV) parks system within the City of Edmonton. Amenities at the Park include (COE, n.d.):

- Building with washrooms;
- Blue emergency telephone;



- Parking;
- Sheltered and non-sheltered picnic sites;
- Playground;
- Small craft boat launch (summer season);
- Toboggan hill; and
- Walking and cycling trails.

The Park is connected to Emily Murphy Road and Groat Road by an interior road, to the Kinsmen Park by the Forest Capital Trail, and to Saskatchewan Drive by staircases. The surrounding land use includes natural (forested), recreational, and residential areas. The Royal Mayfair Golf Club is to the west; and a protected natural area (forested) is between the Park and the University of Alberta to the southeast, residential to the south, and Kinsmen Park West to the east. Groat Road wraps around the west and southwest portions of the Park, while Emily Murphy Road runs along the south end and connects to Saskatchewan Drive. The River borders the north-northeast boundary of the Park (refer to Figures 1 and 2).

Starting in the 1920s, portions of the Park (this area overlaps with the Project) was part of the Royal Mayfair Golf Course. In the 1950s, Groat Road Bridge construction was complete, segregating the land that is now the Park from the golf course. In the 1960s, the transformation of the lands to a city park was underway, with the construction of roads and buildings within the Park.

3.0 ENVIRONMENTAL CONTEXT

Trace reviewed historical aerial photographs, contour data, publicly-available information, such as provincial databases, to identify and describe environmental considerations related to the Park. Trace personnel conducted a site visit on October 9, 2020, to confirm the desktop results as well as to identify significant natural features on or adjacent to the Park. Historical aerial photographs are presented in Appendix B and current site photographs are presented in Appendix C.

At a regional level, the Park is located within the Central Parkland Natural Subregion of the Parkland Natural Region (GOA, 2006). The regional topography consists of undulating till plains and hummocky uplands. The majority of this Subregion is cultivated with a mosaic of aspen and prairie vegetation on permanent native areas. Temperature and precipitation characteristics are an intermediate between the cooler moist boreal forest, and dry, warm grasslands to the south. Plains rough fescue grasslands with clumps of aspen are the dominant native vegetation in the southern part of the Subregion, while aspen forest dominates toward the north and west.

The Park is a City of Edmonton Protected Natural Area, and is part of the NSRV park system, which includes 20 major parks along the River. The River and the associated valley are considered the most unique natural feature in Edmonton, and large portions are considered to be sensitive to development due to their importance to the vegetation present and the availability of significant wildlife habitat. The intent of the NSRV park system, including Emily Murphy Park, is to conserve the natural features, wildlife, vegetation, and cultural heritage for present and future generations (COE, 1992).

Figure 2 presents the existing conditions and environmental sensitivities of the Project area, which are described in detail below.



3.1 Surface Water, Groundwater, and Fish Habitat

3.1.1 Surface Water

Based on the review of historical aerial photographs (Appendix B), contour data, publicly-available information and the site visit, there are no watercourses, waterbodies, or wetlands within the area of the Project. Surface drainage flows to the northeast, through the riparian area and into the River. Based on the site visit, no stormwater drainage from the surrounding roads, golf course, and developed areas flow through any surface conveyance infrastructure, such as culverts or swales.

Portions of the Park and Project area are within the floodway and flood fringe of the River (GOA, n.d.) (Figure 1). If the River experiences high water levels, portions of the Project area may be flooded, and therefore, may be prone to possible slope instability and erosion (COE, 1992).

3.1.2 Groundwater

No publicly available information currently exists stating groundwater levels within the Park.

3.1.3 Fish Habitat

No fish habitat occurs within the Park or the Project Area based on the site visit observations, as no watercourses or waterbodies are present. The River along the north boundary of the Park provides habitat to a diversity of fish species, including a number of sport fishes and forage fishes (Appendix D).

3.2 Geology/Geomorphology and Soils

Based on a review of contour data and observations made during the site visit, portions of the Project area and the Park are steep, including the slope along the south boundary of the Park and the proposed southeast walkway adjacent to the access road. The banks from the Park to the River are short (5 to 6 metres [m]) with moderate to hazardous slopes (7.5 to >15%) (COE, 1992). Other portions of the Project areas are relatively flat, including the proposed northwest walkway and majority of the manicured Park area.

The available Agricultural Regions of Alberta Soil Inventory Database (AGRASID) information does not specify details for soils and describes the soils as, "Miscellaneous Undifferentiated"; these soils are highly disturbed and variable in urban areas (AAF, 2020). The NSRV has well documented soil studies (COE, 1993, 1999; Ealey, 1986); however, no data collection occurred at the Park, including the area of the Project. Soil data from the Ribbon of Green Master Plan (COE, 1992) indicates the Park is within moderate to high constraints for soil and geology. Soils in these areas are moderately to highly susceptible to erosion. In the area of the Project, the soils are likely disturbed from past construction and reworking of the Groat Road Bridge and Emily Murphy Road.

Trace personnel dug a soil pit during the site visit and found approximately 10 centimetres of sandy loam over a disturbed subsoil, containing 30% gravel (pea to <pea). The subsoil was found to be very compacted, and sandy clay loam to sandy clay texture.

Therefore, because of the steeper slopes and soil conditions, there is the potential for slope instability, erosion, and or sedimentation of the River following a heavy rainfall event.



3.3 Vegetation

3.3.1 Vegetation and Vegetation Communities

Based on the uPLVI Features data (COE, 2016), aerial photograph review, and the site visit, the Project area is predominately maintained grass with widely-spaced trees bordered by more intact forest; the vegetation site types are shown on Figure 2 and listed below:

- Maintained grass and deciduous/coniferous trees (white spruce [*Picea glauca*] leading forests)
- Maintained grass areas
- Deciduous (balsam poplar [*Populus balsamifera*]) leading forests)
- Deciduous (trembling aspen [*Populus tremuloides*] leading forests)

The vegetation species identified during the site visit are considered common and widespread within Alberta (GOA, 2017a). Maintained grass areas include mowed Kentucky bluegrass (*Poa pratensis*) lawn, well-spaced balsam poplar and spruce trees, and planted shrub beds. These maintained grass areas are used in part for picnicking and picnic tables are present throughout the area close to the River.

The intact forested area is present within the northeast portion of the Project area. The intact forest has a shrub dominated understory, including pin cherry (*Prunus pensylvanica*), chokecherry (*Prunus virginiana*), ground juniper (*Juniperus communis*), red-osier dogwood (*Cornus stolonifera*), snowberry (*Symphoricarpos albus*), rose species (*Rosa sp.*) and willow species (*Salix sp.*). Smooth brome (*Bromus inermis*) and star-flowered Soloman's seal (*Maianthemum stellatum*) are also present.

3.3.2 Weed Species

Canada thistle and perennial sow-thistle were observed during the site visit in the planted shrub beds, and appeared to have been controlled this year based on poor plant health. Both are listed as Noxious in the Alberta Weed Control Act Regulations (GOA, 2016). A row of common caragana (*Caragana arborescens*) is present along the east side of the Park access road, north of the Park welcome sign (Figure 2). While not a listed weed in the Alberta Weed Control Act Regulations (GOA, 2016), common caragana can invade natural areas, outcompeting native species and forming a monoculture.

3.3.3 Rare Plants and Rare Ecological Communities

No previous observations of rare plants or rare plant communities are noted in the Alberta Conservation Information System (ACIMS) database for the Park or Project Area (AEP, 2019) (Appendix E). The uPLVI Features data corresponds with the biophysical information in the Ribbon of Green Master Plan (COE, 1992, 2016), with a mix of low (Class 1) and high sensitivity (Class 3) areas. Class 1 areas are maintained by City of Edmonton Parks and have a low likelihood of rare plants occurring, whereas Class 3 areas have a high likelihood of rare plants or rare ecological communities occurring.

No rare plants were observed by Trace personnel during the site visit; however, this does not preclude the possibility of occurrence within the forested areas of the Park. Vegetation management, such as grass mowing, are not occurring in these areas, and therefore, rare plants may be present. The site visit occurred after the end of the growing season, which limited Trace personnel's ability to detect rare plants as they would not be in flower and would be in the process of going dormant for the winter.



3.4 Wildlife

3.4.1 Desktop Review

Nine wildlife species were reported to the Fish and Wildlife Internet Mapping System (FWMIS) search within 2 kilometres (km) of the Project (Appendix D) (AEP, 2020), five of which are considered Sensitive in Alberta (AEP, 2015): barred owl (*Strix varia*), bay-breasted warbler (*Setophaga castanea*), cape may warbler (*Setophaga tigrina*), peregrine falcon (*Falco peregrinus*), and the short-eared owl (*Asio flammeus*). These species have the potential to occur within the Park and within the Project area.

eBird, an online database where the public can submit their bird observations for 'hotspot' locations, identifies 115 observed species within Emily Murphy Park between 1977 and 2020 (eBird, n.d.). Several of these species are considered of conservation concern in Alberta, based on their rating of Sensitive, May be at Risk or At Risk on the 2015 General Status of Alberta's Wild Species (AEP, 2015). These include American white pelican (*Pelecanus erythrorhynchos*), sandhill crane (*Grus canadensis*), peregrine falcon (*Falco peregrinus*), and northern goshawk (*Accipiter gentilis*).

The area of the Project and the Park is also located within several wildlife zones/areas (Appendix D), including:

- Sensitive Raptor Range:
 - Specifically, bald eagle (*Haliaeetus leucocephalus*) range.
 - Bald eagles, and potentially other sensitive and non-sensitive raptors, are common in the area and potentially are nesting or roosting within the immediate area of the Project area.
 - There are no known bald eagle nests within 1,000 m of the area of the Project.
- Sharp-Tailed Grouse Range:
 - Setbacks apply to disturbances near known lek sites; however, it is unlikely that an active lek site is located at or near the Project due to lack of suitable vegetation cover, and the high level of historical and current disturbances.
- Key Wildlife and Biodiversity Zone:
 - The River, from the south boundary of Edmonton and downstream to the Two Hills, area is identified as a Key Wildlife and Biodiversity Zone. Emily Murphy Park is within the identified boundaries.
 - These zones typically occur along major rivers, including the River, as these features contain terrain variation and site productivity conditions that provide increased levels of biodiversity, and good winter and spring browsing conditions.
 - To protect these areas, native vegetation, including forests, should not be cleared in order to conserve the associated wildlife habitat and prevent erosion.
 - Activity should be minimized in the winter to avoid displacing wildlife.



3.4.2 Wildlife Habitat

According to the City of Edmonton 2008 Biodiversity Report, the Park is part of a linkage area, providing natural connectivity for species, communities or ecological processes between core areas (COE, 2008). The Ribbon of Green Master Plan states the Park consists of low (Class 1) and high sensitivity (Class 3) areas for habitat potential (COE, 1992). Class 1 indicates mowed or cleared areas and Class 3 indicates that the area is a natural forested area.

Due to the popularity of the River valley for naturalist and birding groups, and general inventory reports for the Park, it is known that the habitat of the area of the Project and much of the Park is suitable for many bird and wildlife species (eBird, n.d.). Birds utilize the Park and portions of the area of the Project as a wildlife corridor or stopover during spring and fall migrations, and year-round movement of resident species. Additionally, portions of the Park are suitable nesting habitat for resident and migratory wildlife species, including owls. Large mammals, such as deer, may travel through the Park along the River.

Trace personnel observed several dead standing trees throughout the Park that may act as wildlife trees (Figure 2); however, no cavities were observed.

3.5 Historical Resources

Trace personnel reviewed the provincial Listing of Historical Resources to determine the historical rating of the Project area (ATC, 2020). The southern portion of the Project area is rated as 5a,p and the northern portion is rated as 4a.

A Statement of Justification for Historical Resources Act Requirements for project other than small-scale oil and gas was submitted by The Archaeology Group on April 3, 2020. Subsequently, an Historical Resources Act Approval was received for the Project on June 9, 2020, providing clearance for the Project to proceed (Appendix F).

3.6 Environmental Sensitivities

As part of the North Saskatchewan River Valley Area Redevelopment Plan, the City of Edmonton mapped and assigned an Environmental Sensitivity Score based on multiple datasets. The result is a general rating system that is based on significant ecological value (assets), physical and cultural constraints to development, and threats to valued resources. The values of the Environmental Sensitivity Scores are Low (<0), Moderate (0 to 2), High (3 to 4), Very High (5 to 6), and Extremely High (7 to 12). The areas of the Park and the Project have Environmental Sensitivity Scores of Moderate to Extremely High (COE, 2018).

Trace personnel reviewed the provincial 2014 Environmentally Significant Areas (ESA) mapping to determine if any of the Site has been identified as an ESA. ESAs are areas that are important for the long-term maintenance of biological diversity, physical landscape features, and other natural processes at multiple-spatial scales (Fiera, 2014). An ESA contains rare or unique elements, or elements that may require special management consideration due to their conservation needs. The purpose of ESAs is to assist in identifying environmentally important areas for land use planning processes. They can assist in identifying areas with higher environmental values for planning processes, but do not replace specific surveys of indicators (e.g., species occurrences, habitat mapping) (Fiera, 2014). No provincial ESAs are identified within the Project area.



4.0 THE PROJECT

Appendix G presents the drawing set for the proposed Project, developed by IBI Group. Briefly, the work consists of improvements and upgrades to:

- Granular walkways:
 - Approximately 180 m of new 1.8 m wide granular walkway construction, in two sections (west and east).
- Portions of roadways:
 - Approximately 200 m of grading and resurfacing to the 9 m wide access road into the Park from Emily Murphy Road.
 - Approximately 800 m of grading and resurfacing to the 6 m wide roads connecting Parking Lots 1, 2, 3, and 4.
- Parking Lots:
 - Approximately 2,400 square metres of grading and resurfacing to Parking Lots 1, 2, 3, and 4.
- The water fountain:
 - Demolition of the water fountain (including landscape remediation) and future installation of a water bottle fill station at the maintenance building.
- Signage:
 - Replacement of 3 existing park signs, installation of additional 5 new park signs (ID, directional, information) and 1 pedestrian counter. The existing parking signage may require temporary removal due to proximity of construction depending on contractor methodology (approximately 56 posts).

Existing parking lots are expected to be used for laydown and staging, and equipment and construction workers are expected to remain on previously disturbed areas, except for the new walkway construction.

5.0 PROJECT IMPACTS AND MITIGATION MEASURES

5.1 Potential Impacts

The impact analysis considers the potential interactions between the project and the above-described environmental considerations. Project interactions with the environmental considerations may occur directly as a result of a project activity or component affecting a feature, or indirectly as a result of a change to another feature. The direction of impacts may be considered as positive (i.e., there is a net benefit), adverse (i.e., the impact is undesirable) or neutral (i.e., a change occurs, but the effect is neither positive nor adverse).



5.1.1 Surface Water, Groundwater, and Fish Habitat

No impacts to surface water, groundwater, or fish habitat are expected to occur as a result of the Project. There are no watercourses, wetlands, or springs within the Project area, and no activities are proposed within the River, which is the closest fish habitat present to the Project. The proposed walkways will have a pervious gravel surface and are proposed to follow the existing contours; therefore, no increased runoff is expected, and the walkways are not expected to alter drainage patterns within the area. The excavation for the walkway subgrade is not expected to be deep enough to encounter groundwater, and therefore, no changes to groundwater level or flow are expected. The new walkway construction will result in temporary bare soil areas; however, there are densely vegetated areas between the construction and the River, and no sedimentation is expected to reach the River as a result of the Project.

5.1.2 Geology/Geomorphology and Soils

No impacts to geology/geomorphology are expected to occur as a result of the Project. The majority of the proposed work is upgrading existing features and the proposed new walkways are expected to follow the existing contours.

The following impacts to soil may occur as a result of the Project:

- **Loss of soil:** Loss of soil may occur due to water and wind erosion if soil handling from either stripping or replacement occurs during dry, windy conditions, or if precipitation occurs when bare soils are present. Soil that is excavated for the walkway footings is expected to be removed from the Park and disposed of at an appropriate facility or used elsewhere. Soil loss has the potential to negatively impact vegetation cover and the health of vegetation; however, the areas where soil loss will occur are gravel walkways that will remain non-vegetated. Therefore, this impact is considered neutral.
- **Potential alteration of soil quality:** Soil quality may be impacted due to admixing as a result of improper stripping or stockpiling, compaction as a result of heavy equipment, especially on wet soil, potential contamination as a result of leaky equipment or storage containers, and accidental spills during refueling. These impacts may occur in areas to be restored after construction, or affect adjacent areas; therefore, changes in soil quality are considered adverse.

5.1.3 Vegetation

Native vegetation is not expected to be removed as part of the Project, as the new walkways are proposed in maintained grass areas and the walkways have been aligned so that no trees need to be removed. The Project will result in the removal of maintained grass areas; however, these areas are dominated by agronomic species and once construction is completed, any bare soil areas will be seeded with an appropriate grass seed mix.

The following impacts to vegetation may occur as a result of the Project:

- **Potential damage or trampling to retained native vegetation in surrounding area:** The branches or roots of adjacent trees may need to be pruned to allow for safe clearance during construction and for the safety of the future users of the walkways. Construction equipment or workers have the potential to accidentally damage adjacent vegetation if the equipment or workers leave the project footprint. The above-ground or root systems of adjacent vegetation may be damaged if care is not taken during subgrade excavation. Improper management of slash from removed vegetation may affect retained



vegetation or negatively affect restoration efforts. As the potential damage or trampling may negatively impact the health of the vegetation, this impact is considered adverse.

- **Introduction of non-native species:** There are non-native species in the area of the Project, including Canada thistle and perennial sow-thistle. Weed seeds may be brought into the Park by construction equipment and workers, introducing additional weed populations to the Park and Project area. The bare soil created by the project has the potential to provide a suitable seedbed for weed species in the area and an increase in weed abundance may occur, which will negatively affect the native vegetation within the Park. This impact is considered adverse and not permitted under the Weed Control Act (GOA, 2017b).

5.1.4 Wildlife

As there is no loss of native vegetation, no loss of wildlife habitat is expected to occur; however, the following impacts may occur as a result of the Project:

- **Temporary sensory disturbance during construction:** The sensory disturbance (e.g., noise, odours, lighting) created by the construction equipment and workers may result in avoidance of the Project by wildlife species. This impact is expected to be temporary, occurring during construction only, and wildlife usage of the Park and Project area is expected to resume at previous levels once construction is finished. Considering the potential for future sensory disturbance, the Park is heavily used by the public for picnicking and other recreational uses, and the Project is not expected to increase the number of public users. Therefore, wildlife is expected to be tolerant of this level of sensory disturbance. The temporary disturbance during construction is considered to be adverse.
- **Potential damage or destruction of nests:** Tree branches may be pruned during construction and if the pruning occurs during the migratory bird nesting period (generally from April 15 to August 31 (GOC, 2018), active nests may be damaged or destroyed. As well, as owls nest in late winter to early spring, their active nests may be damaged or destroyed. Sensory disturbance from the construction may cause adults to abandon their nest. This impact is considered adverse.

5.1.5 Historical Resources

As the areas to be excavated are previously disturbed, there is a low likelihood that historical resources will be impacted during the construction. Although there is a low likelihood, there is still the potential the historical resources may be present.

5.2 Mitigation Measures

Mitigation measures are identified to control, reduce, or eliminate potential direct or indirect adverse impacts. As the analysis of cumulative impacts is contingent upon identifying if residual impacts exist (e.g., impacts that persist after the implementation of mitigation measures), the order laid out in the Terms of Reference was modified slightly for the purpose of reporting; mitigation measures are presented in Section 5.2 to demonstrate the rationale for determining residual impact, presented in Section 5.3 and cumulative effects, presented in Section 5.4. In this EIA, consideration has been given for mitigation measures that are technically and economically feasible to implement and have previously shown success in controlling these identified impacts.



5.2.1 Surface Water, Groundwater, and Fish Habitat

The Project has limited potential to impact surface water, groundwater, or fish habitat within the Project area or the Park. As such, no impacts are predicted to occur; therefore, no specific mitigation measures are identified. Erosion and sediment control (ESC) measures are discussed in other sections.

5.2.2 Geology/Geomorphology and Soils

The following mitigation measures will be implemented during and after construction:

- Soil loss:
 - Develop an ESC Plan that meets the City of Edmonton's requirements (COE, 2005). The ESC Plan should be prepared by a qualified professional.
 - Install ESC measures before construction starts and maintain them during construction to ensure that they are performing as specified, and remove and dispose of appropriately once soil is stabilized.
 - Restrict heavy equipment if wet soils conditions occur from excessive precipitation.
 - Minimize soil disturbance as much as possible to allow walkway construction and upgrades to occur and to allow for equipment access.
 - Strip topsoil under dry conditions.
 - Strip soil in two lifts (top and subsoil) and keep the parent material separate and at least 1 m apart and covered.
 - Store the soil within the limits of disturbance for the Project, such as directly adjacent to the new walkways or in the laydown area.
 - Return the soil in the same order as excavated and avoid admixing between topsoil and subsoil. After soils are placed back within the excavations, check for compaction and decompact as required.
- Soil quality:
 - Maintain equipment and inspect for leaks.
 - Spill kits will be present on site during construction, and refueling stations will be at least 100 m away from any watercourses or sensitive soils. If spills occur, spill response and reporting measures shall be implemented immediately.

5.2.3 Vegetation

Implement the following mitigation measures during and after construction:

- Potential damage or trampling to retained native vegetation in surrounding area:
 - Identify the limits of disturbance prior to construction beginning with visible markings, such as flagging, snow fence, or construction fence. Construction equipment and workers must stay within those limits.



- Implement the tree protection measures described in the Tree Protection Plan (in development), including retaining an ISA Certified Arborist to carry out any required pruning of branches and to be on site while excavation is occurring for the new walkway construction to supervise the pruning of any roots.
- Introduction of weeds:
 - Document any additional weed occurrences prior to surface soil disturbance.
 - Ensure equipment, vehicles, trailers, and stationary fuel storage is clean and free of soil and weed seeds before the equipment arrives at the Park to prevent the introduction of weed species from other areas. Clean the equipment after leaving the Park (before using on another site) to prevent transporting weed seeds to other areas.
 - Park equipment and vehicles within the Park boundaries at designated areas and away from known weed infestations (existing shrub beds).
 - Conduct weed inspections during construction and restoration phases of the Project to assess if weeds are a problem, identify issues, and implement appropriate weed control.
 - Conduct post-construction monitoring to assess post-construction conditions and the success of the grass seeding.

5.2.4 Wildlife

Implement the following mitigation measures during construction:

- Temporary sensory disturbance during construction:
 - Shut off vehicles and equipment while not in use.
 - Avoid unnecessary travel on and to and from the Site.
 - Follow posted speed limits.
- Potential damage or destruction of nests:
 - Plan construction outside of the migratory bird nesting period, which is generally from April 15 to August 31 (GOC, 2018).
 - If this period (April 15 to August 31) cannot be avoided for some or all the work, then implement the following measures:
 - Prune branches before April 15 if possible and after conducting a pre-construction sweep for owls.
 - Conduct a pre-construction bird nest sweep to identify any active nests within and adjacent to the Project area and a species-specific buffer must be put into place while construction is occurring. No construction equipment or workers can enter this buffer until a qualified biologist has identified that nest is no longer active.
 - Do not disturb or destroy identified nests or other wildlife features (dens, houses, mineral licks, etc.) during construction.



- If the construction occurs between January 1 and April 15, conduct a wildlife sweep to identify active owl nests present on branches to be pruned and nearby trees. Owls lay their eggs in late winter to early spring, and their nests are active through to August 31 as they raise the fledgling owls. As the Park has large, mature trees, there is suitable nesting habitat for owls present. If a potential or active owl stick nest is found, a species-specific buffer must be put into place while construction is occurring.
- Outside of the above times, conduct a wildlife sweep to identify stick nests present on branches to be pruned and nearby trees. These stick nests may be used annually by raptors or owls, and the City of Edmonton should be consulted with prior to any work continuing.

5.2.5 Historical Resources

There are no known cultural or historical resources within the area of the Project. If accidental finds are observed while working, the following will be implemented.

- Stop work in the immediate area and inform the construction supervisor.
- As per Section 31 of the Historical Resources Act, if an accidental find is made, it is to be reported to the contacts identified within Standard Requirements under the Historical Resources Act: Reporting the Discovery of Historic Resources (GOA, 2020).

5.3 Residual Impacts and Significance

5.3.1 Methods

Residual adverse impacts are those impacts that remain or are predicted to remain, after the implementation of mitigation measures (CEAA, 2012). Where residual adverse impacts are predicted, the project has the potential to cause significant adverse impacts. As well, if residual adverse impacts exist, the project has the potential to contribute to cumulative impacts.

To identify the residual adverse effects associated with the Project, the predicted impacts, their direction (positive or adverse), and the effectiveness of the recommended mitigation measures were considered. As per the federal document entitled, "Determining Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under Canadian Environmental Assessment Act 2012" (CEAA, 2012), if residual impacts are identified, the significance of that impact is evaluated.

5.3.2 Residual Adverse Impacts Evaluation

No residual adverse impacts are expected to occur as a result of the Project. Table A below presents a summary of the identified potential impact associated with the Project and a rationale for why the potential impact is not considered residual.



Table A: Predicted Residual Adverse Effects			
Component	Predicted Effect	Rationale	Predicted Residual Adverse Impact
Soil	Potential for soil loss	This impact is considered neutral as the predicted soil loss is occurring in areas that will remain non-vegetated (proposed gravel walkways).	No
	Potential alteration of soil quality	Correct implementation of mitigation measures are expected to fully eliminate this adverse effect.	No
Vegetation	Potential damage or trampling to retained vegetation in surrounding area	Correct implementation of mitigation measures are expected to fully eliminate this adverse effect.	No
	Introduction of non-native species	Correct implementation of weed control measures are expected to fully eliminate this adverse effect.	No
Wildlife	Temporary sensory disturbance during construction	Sensory disturbance is expected to occur only during construction and the Project is not expected to increase the public usage in the Park in the future.	No
	Potential damage or destruction of nests	Correct implementation of mitigation measures are expected to fully eliminate this adverse effect.	No

5.4 Cumulative Impacts

Cumulative impacts are adverse changes to the environment that are caused by an action in combination with other past, present, and future human actions. This Cumulative Effects Assessment (CEA) follows the guidelines set out by the Canadian Environmental Assessment Agency (CEAA, 2018); therefore, only environmental components that are predicted to have a residual adverse impact are assessed for cumulative impacts.

As there are no residual adverse impacts predicted to occur as a result of the Project, no cumulative impacts are expected.

6.0 ENVIRONMENTAL MONITORING

A qualified environmental monitor should be retained prior to construction commencing in order to provide training to the construction contractor regarding the above described environmental sensitivities and mitigation measures to be implemented. The environmental monitor should conduct inspections throughout the construction to evaluate if the mitigation measures are successful in reducing or eliminating the identified impacts. If the environmental monitor identifies mitigation measures that are not being successful, due to design, implementation or lack of maintenance, they are to inform the construction supervisor as soon as possible in order for corrective action to be taken. The environmental monitor also should be on site to supervise any pruning of trees and during any excavation work that is occurring adjacent to trees.



The Project is expected to be part of the City of Edmonton's Construction Completion Certificate (CCC) and Final Acceptance Certificate (FAC) process. This process will include inspections of the seeded area to determine if the grass is establishing successfully.

7.0 PUBLIC CONSULTATION

The City of Edmonton is leading the public consultation for the Project, which will be an online survey linked to the Project webpage and distributed through the Insight Community (an online survey mailout list the City of Edmonton maintains for public consultation on all topics). The survey is expected to reach city-wide and not just nearby residents. The survey will be available to the public on November 30, 2020, for approximately 2 weeks. It will be advertised using road-signs, on-site signage in the Park and mailout postcards to nearby residents.

8.0 CONCLUSIONS AND SUPPORTING INFORMATION

The Project is recommended to be accepted as planned as the predicted environmental impacts are anticipated to be controlled by the proposed mitigation measures. The Project is not anticipated to result in residual adverse impacts or cumulative impacts. The proposed Park upgrades are proposed to occur on the existing footprint, including existing roads, parking lots, and walkways. The proposed new walkways are located on maintained grass areas, in locations where the public are currently using, and no trees or native vegetation is expected to be removed to allow for the construction.

9.0 LIMITATIONS OF REPORT

This report is based solely on the conditions which existed on site at the time of the assessment. The client, and any other parties using this report with the express written consent of the client and Trace, acknowledges that conditions affecting the environmental assessment of the Site can vary with time and that the conclusions and recommendations set out in this report are time sensitive.

The client, and any other party using this report with the express written consent of the client and Trace, also acknowledges that the conclusions and recommendations set out in this report are based on limited observations and testing on the Site and that conditions may vary across the Site which, in turn, could affect the conclusions and recommendations made.

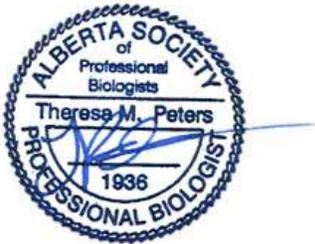
The client acknowledges that Trace is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment, or development of the Site, the decisions on which are the sole responsibility of the client.



10.0 CLOSURE AND QUALITY MANAGEMENT

We trust this meets your requirements. Should you have any questions or comments, please contact the undersigned.

Respectfully submitted,
Trace Associates Inc.



18-Nov-2020

Prepared by:
Theresa M. Peters, B.Sc., P.Biol.
Vegetation Ecologist
587.896.3893
tpeters@traceassociates.ca



18-Nov-2020

Reviewed by:
Ron Sparrow, B.Sc., RPF, CPESC
Principal Forester
403.993.4004
rsparrow@traceassociates.ca

TP/so



11.0 REFERENCES

- AAF (Alberta Agriculture and Forestry). (2020). *AGRASID 4.1: Agricultural Region of Alberta Soil Inventory Database* (Version 4.1). <https://soil.agric.gov.ab.ca/agrasidviewer/>
- AEP (Alberta Environment and Parks). (2015). *General Status of Alberta Wild Species*. <http://aep.alberta.ca/fish-wildlife/species-at-risk/albertas-species-at-risk-strategy/general-status-of-alberta-wild-species/documents/SAR-2015WildSpeciesGeneralStatusList-Mar2017.pdf>
- AEP (Alberta Environment and Parks). (2019). *Search Alberta Conservation Information Management System (ACIMS) Data*. Alberta Conservation Information Management System. <http://www.albertaparks.ca/acims-data/#>
- AEP (Alberta Environment and Parks). (2020). *Fish and Wildlife Management Information System (FWMIS)*. Fish and Wildlife Management Information System (FWMIS). <http://aep.alberta.ca/fish-wildlife/fwmis/default.aspx>
- ATC (Alberta Culture and Tourism). (2020). *Listing of Historical Resources*. <https://www.alberta.ca/listing-historic-resources.aspx>
- CEAA (Canadian Environmental Assessment Agency). (2012). *Determining Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under CEAA 2012*. Government of Canada. <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/determining-whether-designated-project-is-likely-cause-significant-adverse-environmental-effects-under-ceaa-2012.html>
- CEAA (Canadian Environmental Assessment Agency). (2018). *Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012*. Government of Canada. <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/assessing-cumulative-environmental-effects-ceaa2012.html>
- COE (City of Edmonton). (n.d.). *Emily Murphy Park*. River Valley Parks. https://www.edmonton.ca/activities_parks_recreation/parks_rivervalley/emily-murphy-park.aspx
- COE (City of Edmonton). (1992). *Ribbon of Green: North Saskatchewan River Valley and Ravine System Master Plan*. City of Edmonton. https://www.edmonton.ca/documents/PDF/Ribbon_of_GreenMaster_Plan.pdf
- COE (City of Edmonton). (1993). *Inventory of Environmentally Sensitive and Significant Areas: City of Edmonton, Consolidated Technical Report*.
- COE (City of Edmonton). (1999). *Natural Areas in the City of Edmonton: Assessment of Conservation Value and Potential*. City of Edmonton.
- COE (City of Edmonton). (2005). *Erosion and Sedimentation Control Guidelines*. City of Edmonton. https://www.edmonton.ca/city_government/documents/PDF/ControlGuide.pdf
- COE (City of Edmonton). (2008). *City of Edmonton: Biodiversity Report 2008*. City of Edmonton. https://www.edmonton.ca/city_government/documents/PDF/BIO_DIVERSITY_REPORT_-_high_res_August2008.pdf



- COE (City of Edmonton). (2016). *Urban Primary Land and Vegetation Inventory (uPLVI)*. City of Edmonton.
- COE (City of Edmonton). (2018). *North Saskatchewan River Valley Area Redevelopment Plan*. City of Edmonton. https://www.edmonton.ca/residential_neighbourhoods/plans_in_effect/North_Saskatchewan_River_ARP_Consolidation.pdf
- COE (City of Edmonton). (2020). *Emily Murphy Park Renewal Project EIA and SLS Terms of Reference*. City of Edmonton.
- Ealey, D. M. (1986). *Urban Natural History Interpretive Sites in and Adjacent Edmonton*. John Janzen Nature Centre.
- eBird (The Cornell Lab of Ornithology). (n.d.). *Hot Spot Map*. EBird. <https://ebird.org/hotspot/L1663163>
- Fiera (Fiera Biological Consulting Ltd.). (2014). *Environmentally Significant Areas in Alberta: 2014 Update*. Fiera Biological Consulting Ltd.
- GOA (Government of Alberta). (n.d.). *Flood Hazard Map Application*. Flood Hazard Map Application. <https://maps.alberta.ca/FloodHazard/?community=Edmonton>
- GOA (Government of Alberta). (2006). *Natural Regions and Subregions of Alberta*. Natural Regions Committee.
- GOA (Government of Alberta). (2016). *Alberta Weed Control Act: Weed Control Regulation (Alberta Regulation 19/2010, with amendments up to and including Alberta Regulation 125/2016)*. Alberta Queen's Printer.
- GOA (Government of Alberta). (2017a). *Alberta Conservation Information Management System (ACIMS) List of Elements in Alberta – Vascular Plants*. <http://www.albertaparks.ca/albertaparksca/management-land-use/alberta-conservation-information-management-system-acims/download-data/#trackedWatch>
- GOA (Government of Alberta). (2017b). *Alberta Weed Control Act (Statutes of Alberta, 2008. Chapter W-5.1)*. Alberta Queen's Printer.
- GOA (Government of Alberta). (2020). *Standard Requirements under the Historical Resources Act: Reporting the Discovery of Historic Resources*. Government of Alberta. <https://open.alberta.ca/dataset/1b6b899d-684b-4d83-8134-1f57a77e414d/resource/605f43c4-6026-490b-9850-e888c4ca0666/download/reporting-historic-resources.pdf>
- GOC (Government of Canada). (2018). *Nesting Periods*. General Nesting Periods of Migratory Birds in Canada. <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html>



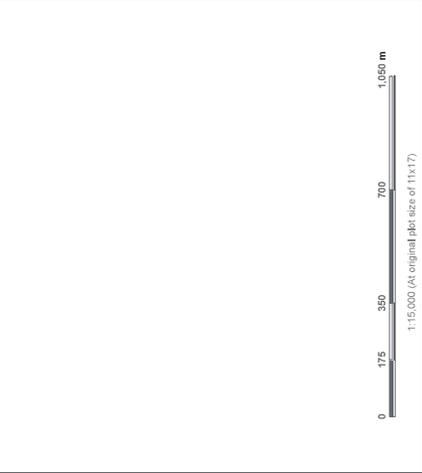
Figures

Site Location Map

IBI Group Inc.
Environmental Impact Assessment
 Emily Murphy Park Renewal Project
 Edmonton, Alberta
 Trace Project No. 200-3007-01

Legend

- ▭ Emily Murphy Park Boundary (Approximate)
- Primary Road
- Secondary Road



- Notes**
1. Coordinate System: NAD 1983 3TM 114, City of Edmonton
 2. Base Image: City of Edmonton 2019
 3. Base Image: City of Edmonton 2019
 4. Inset Image: Canada Base Map - Transportation
 5. Last Field Update: October 5, 2020



TRACE
 ASSOCIATES

Figure No. **1**



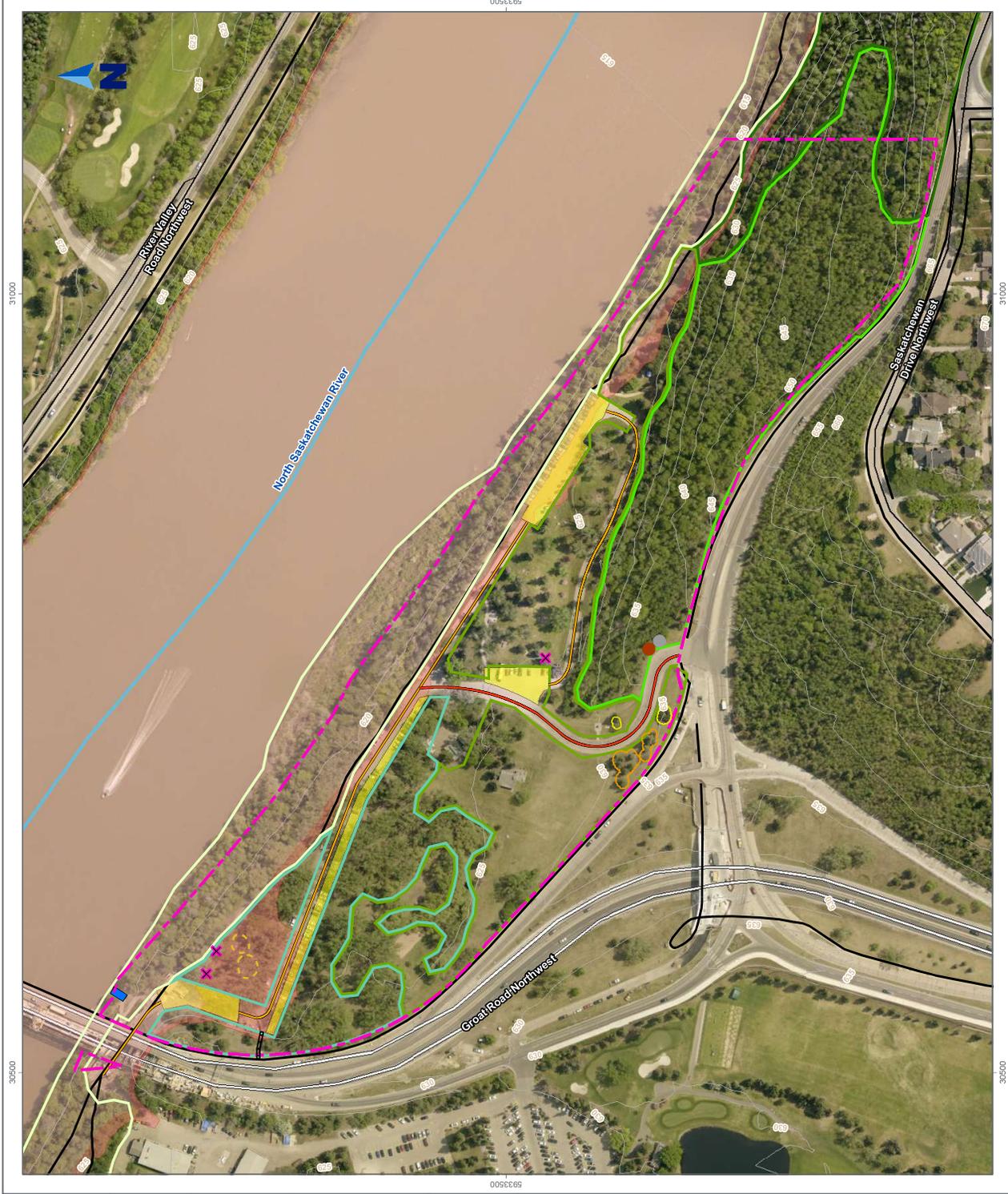
Site Plan - Existing Conditions

IBI Group Inc.
Environmental Impact Assessment
 Emily Murphy Park Renewal Project
 Edmonton, Alberta
 Trace Project No. 200-3007-01

- Legend**
- Flood Hazard Mapping:**
 - Floodway
 - Flood Fringe
 - Field Observations:**
 - EMP Sign and Flower Bed
 - Weed and Carraganna Growth
 - Wildlife Tree
 - Planted Trees
 - Shrub Bed
 - Firepit and BBQ
 - Stairs
 - Project Specifics:**
 - Emily Murphy Park Boundary (Approximate)
 - Small Craft Boat Launch
 - Primary Road
 - Secondary Road
 - Contour (5 metre Interval)
 - Major Watercourse
 - Primary Road
 - Secondary Road
 - Park Roads 6 m
 - Park Roads 9 m
 - Forest Capital Trail
 - Park Parking Lots
 - Urban Primary Land and Vegetation Inventory:**
 - Deciduous (Balsam Poplar Leading)
 - Deciduous (Trembling Aspen Leading)
 - Maintained Grass
 - Deciduous/Coniferous Trees

Notes:

- Coordinate System: NAD 1983 3TM 114
- Base Features: Canvec, AbaData, Atlas, The City of Edmonton Urban Primary Land and Vegetation Index, 2015, The City of Edmonton Urban Transportation, Edmonton, Alberta.
- Base Image: City of Edmonton 2019
- Inset Image: Canada Base Map - Transportation
- Last Field Update: October 5, 2020





Appendix A

Trace Associates Inc.
Environmental Report -
General Conditions

1.0 USE OF REPORT

This report pertains to a specific site, a specific development, and a specific scope of work. It is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site or proposed development would necessitate a supplementary assessment.

This report and the assessments and recommendations contained in it are intended for the sole use of Trace Associates Inc.'s (Trace's) client. Trace does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any party other than Trace's client (hereunder referred to as the "Client") or an approved agent of the Client. Any unauthorized use of or reliance on the report is at the sole risk of the user.

This report is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of Trace. The Client agrees that it shall use the report for its own internal purposes and it shall not provide the report to another party other than an approved agent.

2.0 LIMITATION OF REPORT

This report is based solely on the conditions that existed on site at the time of Trace's investigation. The Client, and any other parties using this report with the express written consent of the Client and Trace, acknowledge that conditions affecting the environmental assessment of the site can vary with time and that the conclusions and recommendations set out in this report are time sensitive.

The Client, and any other party using this report with the express written consent of the Client and Trace, also acknowledge that the conclusions and recommendations set out in this report are based on limited observations and testing on the subject site and that conditions may vary across the site which, in turn, could affect the conclusions and recommendations made.

The Client acknowledges that Trace is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the site, the decisions on which are the sole responsibility of the Client.

3.0 INFORMATION PROVIDED TO TRACE BY OTHERS

During the performance of the work and the preparation of this report, Trace may have relied on information provided by persons other than the Client. While Trace endeavours to verify the accuracy of such information when instructed to do so by the Client, Trace accepts no responsibility for the accuracy or the reliability of such information that may affect the report.

4.0 LIMITATION OF LIABILITY

The Client recognizes that property containing contaminants and hazardous wastes creates a high risk of claims brought by third parties arising from the presence of those materials. In consideration of these risks, and in consideration of Trace providing the services requested, the Client agrees that Trace's liability shall be limited as follows:

1. With respect to any claims brought against Trace by the Client for damages of any kind whatsoever, including without limitation, incidental, consequential, exemplary or punitive, for any reason whatsoever arising out of the provision or failure to provide services hereunder the amount of such claim and the extent of Trace's liability shall be limited to the amount of fees paid by the Client to Trace under this Agreement.
2. With respect to claims brought by third parties arising out of the presence of contaminants or hazardous wastes on the subject site, the Client agrees to indemnify, defend, and hold harmless Trace from and against any and all claim or claims, action or actions, demands, damages, penalties, fines, losses, costs and expenses of every nature and kind whatsoever, including solicitor-client costs, arising or alleged to arise either in whole or part out of services provided by Trace.

5.0 JOB SITE SAFETY

Trace is only responsible for the activities of its employees on the job site and is not responsible for the safety or supervision of any other persons whatsoever. The presence of Trace personnel on the job site shall not be construed in any way to relieve the Client or any other persons on site from their responsibility for job site safety.



6.0 DISCLOSURE OF INFORMATION BY CLIENT

The Client agrees to fully cooperate with Trace with respect to the provision of all available information on the past, present, and proposed conditions on the site, including historical information respecting the use of the site. The Client acknowledges that in order for Trace to properly provide the service, Trace requires and shall rely upon the full disclosure and accuracy of any and all such information.

7.0 STANDARD OF CARE

Services performed by Trace for this report have been conducted in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided. Engineering and scientific judgment have been applied in developing the conclusions and/or recommendations provided in this report. No warranty or guarantee, express or implied, is made concerning the test results, comments, recommendations, or any other portion of this report.

8.0 EMERGENCY PROCEDURES

The Client undertakes to inform Trace of all hazardous conditions, or possible hazardous conditions that are known to it. The Client recognizes that the activities of Trace may uncover previously unknown hazardous materials or conditions and that such discovery may result in the necessity to undertake emergency procedures to protect Trace employees, other persons, and the environment. These procedures may involve additional costs outside of any budgets previously agreed upon. The Client agrees to pay Trace for any expenses incurred as a result of such discoveries and to compensate Trace through payment of additional fees and expenses for time spent by Trace to deal with the consequences of such discoveries.

9.0 NOTIFICATION OF AUTHORITIES

The Client acknowledges that in certain instances the discovery of hazardous substances or conditions and materials may require that regulatory agencies and other persons be informed and the Client agrees that notification to such bodies or persons, as required, may be done by Trace in its reasonably exercised discretion.

10.0 OWNERSHIP OF INSTRUMENTS OF SERVICE

The Client acknowledges that all reports, plans, and data generated by Trace during the performance of the work and other documents prepared by Trace are considered its professional work product and shall remain the copyright property of Trace.

11.0 ALTERNATE REPORT FORMAT

Where Trace submits both electronic file and hard copy versions of reports, drawings and other documents and deliverables (collectively termed "Trace's instruments of professional service"), the Client agrees that only the signed and stamped versions shall be considered final and legally binding. Trace shall keep the original electronic documents for record and working purposes, and, in the event of a dispute or discrepancies, Trace's electronic copy shall govern.

The Client agrees that both electronic file and hard copy versions of Trace's instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except Trace. The Client warrants that Trace's instruments of professional service will be used only and exactly as submitted by Trace and for the purpose for which such instruments of professional service were intended.

The Client recognizes and agrees that electronic files submitted by Trace have been prepared and submitted using specific software and hardware systems. Trace makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

12.0 GOVERNING LAW

The validity, construction and performance of this Agreement shall be governed by the laws in effect in the Province of Alberta.



Appendix B

Historical Photographs



Aerial Photograph 1: 1949



Aerial Photograph 2: 1962



Aerial Photograph 3: 1967



Aerial Photograph 4: 1980



Aerial Photograph 5: 1987



Aerial Photograph 6: 1991



Aerial Photograph 7: July 8, 2004



Aerial Photograph 8: September 14, 2008



Aerial Photograph 9: August 30, 2012



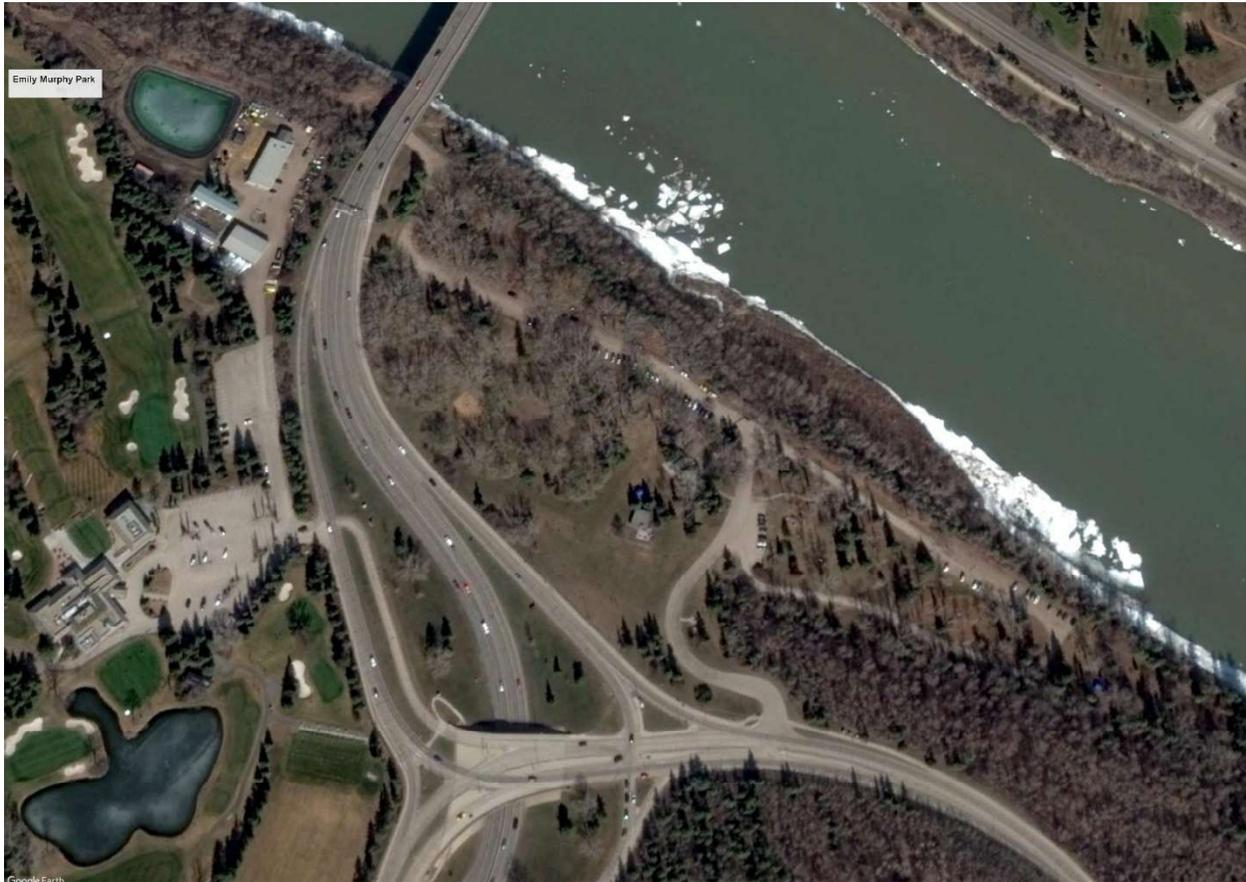
Aerial Photograph 10: February 9, 2013



Aerial Photograph 11: April 20, 2015



Aerial Photograph 12: September 29, 2015



Aerial Photograph 13: April 1, 2016



Aerial Photograph 14: August 25, 2017



Aerial Photograph 15: May 2019



Appendix C

Site Photographs



Photo 1: Western portion of the Site. View facing southwest, looking at the proposed western pathway section (October 9, 2020).



Photo 2: Western portion of the Site. View facing southwest, looking at the proposed western pathway section (October 9, 2020).



Photo 3: Western portion of the Site. View facing northwest, looking at the proposed western pathway section, where it joins to the existing gravel pathway (October 9, 2020).



Photo 4: Eastern portion of the Site. View facing northwest, looking at the upper portion of the proposed eastern pathway section (October 9, 2020).

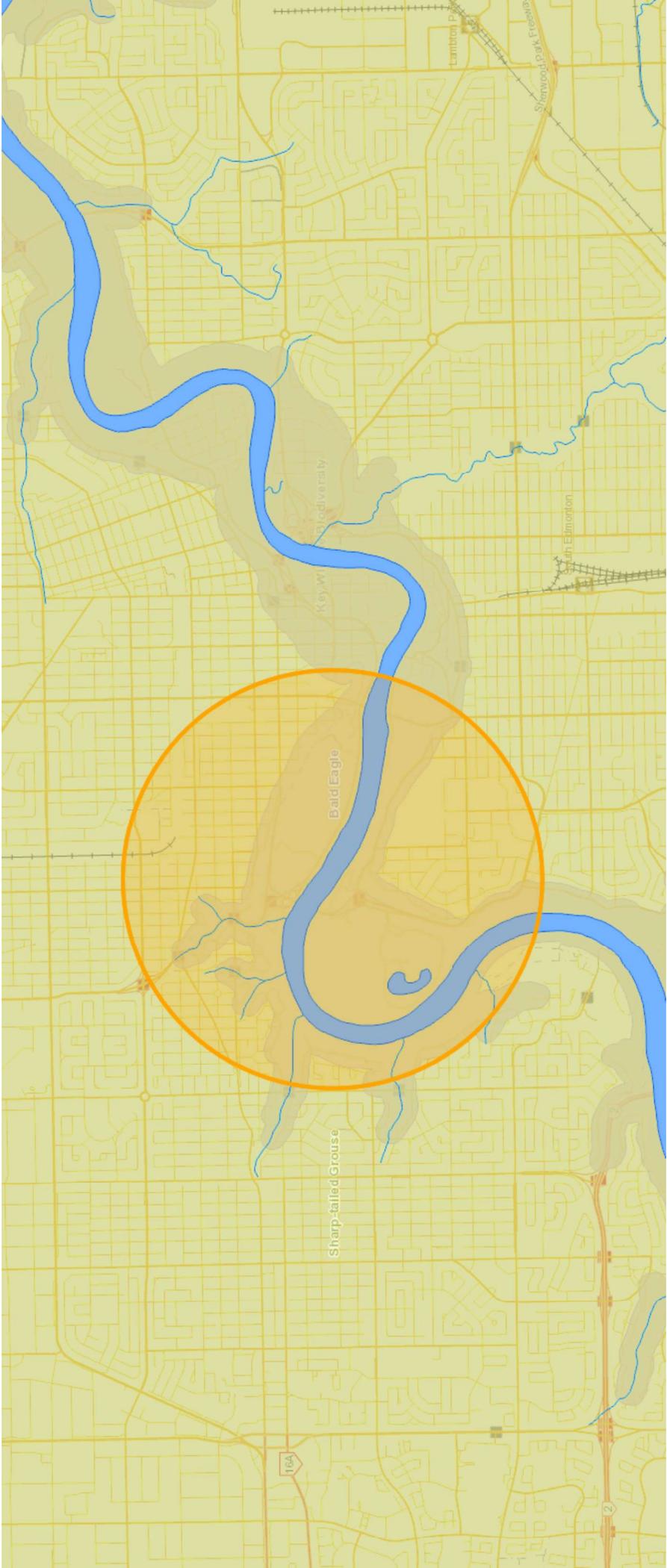


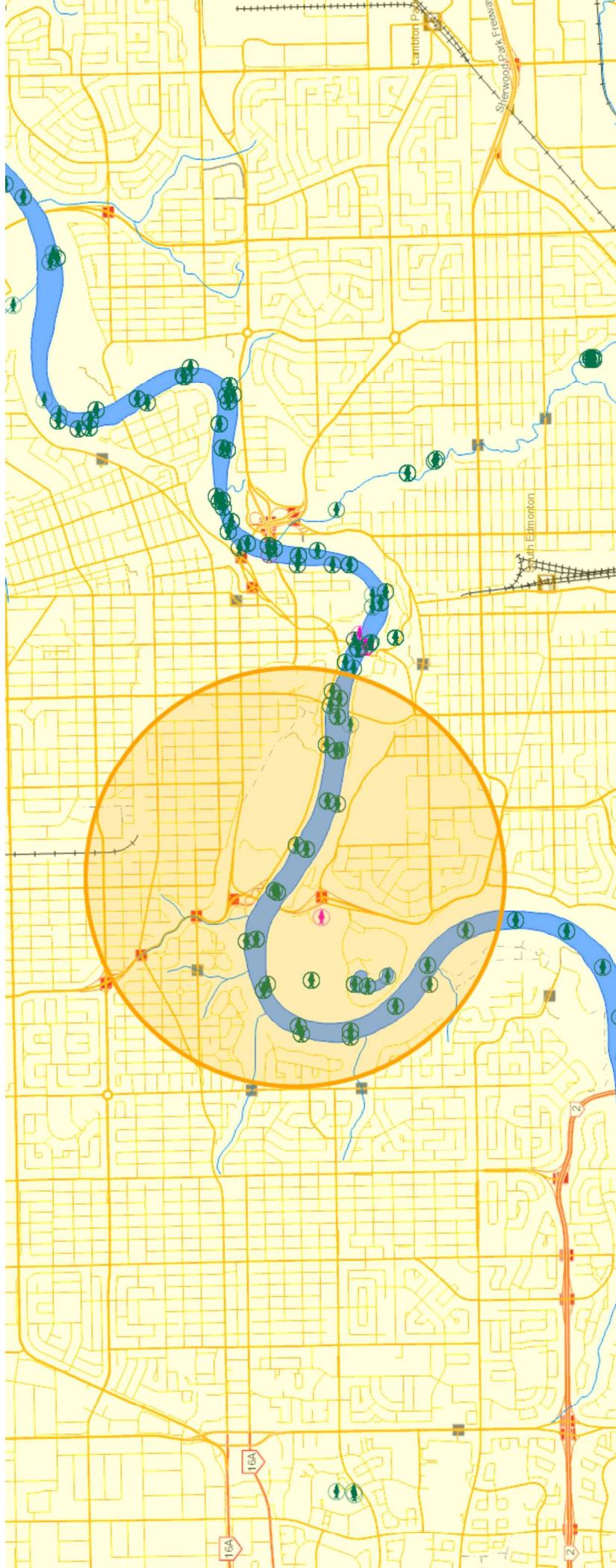
Photo 5: Eastern portion of the Site. View facing northwest, looking at the lower portion of the proposed eastern pathway section (October 9, 2020).



Appendix D

FWMIS and LAT Report





Fish and Wildlife Internet Mapping Tool (FWIMT)

(source database: Fish and Wildlife Management Information System (FWMIS))

Species Summary Report

Report Date: 01-Apr-2020 14:23

Species present within the current extent

Fish Inventory

BURBOT
 CICHLID
 EMERALD SHINER
 GOLDEYE
 LAKE CHUB
 LONGNOSE DACE
 LONGNOSE SUCKER
 MINNOW FAMILY
 MOONEYE
 MOUNTAIN WHITEFISH
 NORTHERN PIKE
 QUILLBACK
 RIVER SHINER
 SAUGER
 SHORthead REDHORSE
 SILVER REDHORSE
 SPOONHEAD SCULPIN
 SUCKER FAMILY
 TROUT-PERCH
 WALLEYE
 WHITE SUCKER
 YELLOW PERCH

Wildlife Inventory

BARRED OWL
 BAY-BREASTED WARBLER
 CAPE MAY WARBLER
 COUGAR
 LITTLE BROWN BAT
 NORTHERN LONG-EARED BAT
 PEREGRINE FALCON
 SHARP-TAILED GROUSE
 SHORT-EARED OWL

Stocked Inventory

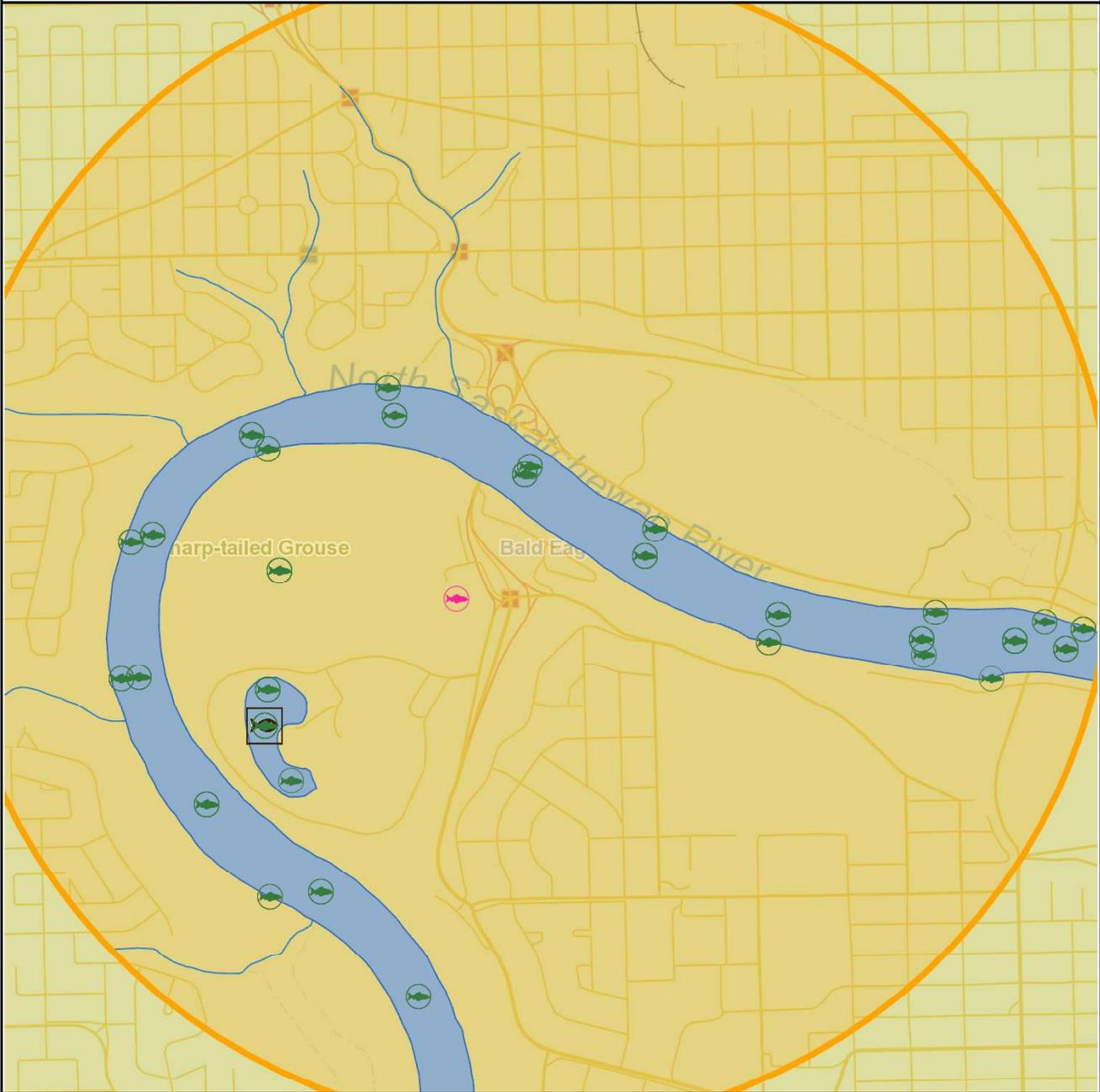
RAINBOW TROUT
 YELLOW PERCH

Buffer Extent

Centroid (X,Y)	Projection	Centroid (Qtr Sec Twp Rng Mer)	Radius or Dimensions
596925, 5930287	10-TM AEP Forest	SW 31 52 24 4	2 kilometers

Contact Information

For contact information, please visit:
<https://www.alberta.ca/fisheries-and-wildlife-management-contacts.aspx>



Display may contain: Base Map Data provided by the Government of Alberta under the Alberta Open Government Licence. Cadastral and Dispositions Data provided by Alberta Data Partnerships. ©GeoEye, all rights reserved. Information as depicted is subject to change, therefore the Government of Alberta assumes no responsibility for discrepancies at time of use.

Landscape Analysis Tool (LAT) Report

Recreational Development

000005AEF7

Page 1 of 15

LAT Number:	000005AEF7	LAT Date:	2020-10-23	14:49:47
Project Name:	Emily Murphy Renewal Project			
Project Description:				
Disposition Type:	REC	Recreational Development		
Purpose Type:	RDMN	Recreational Development (M/NP)		
Activity Type:	RDMN01RECP	Adventure / Youth Camp		

Responsibility of Applicants:

It is the applicant's responsibility to conduct a full review of the generated LAT Report, ensuring that you are aware and have a full understanding of the identified standards and conditions, and any additional limitations that may also be imposed by an approved higher level plan, reservation or notation or any other law or Order of the Province or the Government of Canada that may impact the placement, construction or operation of the proposed disposition, purpose and activity.

The applicant must assess if the proposed disposition, purpose and activity can meet the applicable standards, conditions and any limitations which will subsequently determine if the application can be submitted to the regulatory body. Applicants should complete a thorough review of regulatory and application processes including supporting procedural documents and the generated LAT Reports prior to making this determination.

Where the applicant chooses not to meet, or is not able to meet, one or more Approval Standards or higher level plans within the generated LAT Report as submitted as part of the application, or any affected reservations as identified within the land status report, the applicant is required to complete the appropriate mitigation as part of their supplement submission that addresses individually each of the items not being met.

The information provided within the LAT Tool is a spatial representation of features provided to the applicant for activity and land use planning. The accuracy of these layers varies depending on the resource value being represented. The regulatory body insists that site visits, wildlife surveys and groundtruthing efforts are completed to ensure that you, the applicant can meet the procedures detailed within the *Pre-Application Requirements for Formal Dispositions*, the identified approval standards, operating conditions and *Best Management Practices* as represented within the *Master Schedule of Standards and Conditions*.

Proximity to Watercourse/Waterbodies:

Applicants will ensure that standards or conditions for Watercourse/Waterbody features as identified within the generated LAT Report are followed. It is the responsibility of the applicant to ensure the identified setbacks and buffers are properly established through a pre-site assessment and maintained.

NOTE: Be aware that the submission of a LAT Report as part of an application submission does not imply approval of the activity. The standards and conditions identified within the LAT Report may be subject to change based on regulatory review.

Landscape Analysis Tool (LAT) Report

Recreational Development

000005AEF7

Page 2 of 15

Base Features

Green/White Area	White Area
Municipality	
FMA	
FMU	
Provincial Grazing Reserve	
Rocky Mountain Forest Reserve	
PLUZ Areas	
Protected Areas	

Provincial Sanctuaries

Wildlife Corridors	
Restricted Area	
Game Bird	Zone 4
Seasonal	

Landscape Analysis Tool (LAT) Report

Recreational Development

000005AEF7

Page 3 of 15

Higher Level Plans

Integrated Resource Plan (Local)	
Integrated Resource Plan (Subregional)	
Access Management Plan	
Landscape Management Plan	

Landscape Analysis Tool (LAT) Report

Recreational Development

000005AEF7

Page 4 of 15

Additional Application Requirements

Wildlife Survey	Yes	DND Area	
-----------------	-----	----------	--

Historical Resources

HRV Rating	Category
5	a, p
4	a
5	p

Historic Resources Application Required: Yes

The proposed activity is in an area identified as having historic resource concerns; therefore, approval under the *Historic Resources Act* is required prior to the initiation of any land surface disturbance activities. The applicant must submit a Historic Resources Application through the Online Permitting and Clearance (OPaC) system (www.opac.alberta.ca).

Landscape Analysis Tool (LAT) Report

Recreational Development

000005AEF7

Page 5 of 15

Sensitive Features

Wildlife and Other Sensitive Species

	Intersected		Intersected
Burrowing Owl Range		Ord's Kangaroo Rat Key Habitat Area	
Caribou Range		Other Sensitive and Endangered Species	Yes
Colonial Nesting Birds		Piping Plover Waterbodies	
Endangered and Threatened Plants Ranges		Sensitive Amphibian Ranges	
Federal Aquatic Critical Habitat		Sensitive Raptor Range	Yes
Greater Short-horned Lizard Habitat		Sensitive Snake Species Range	
Greater Short-horned Lizard Range		Sharp-tailed Grouse Leks and Buffer	
Greater Sage Grouse Range		Sharp-tailed Grouse Survey	Yes
Greater Sage Grouse Leks and Buffer		Special Access Area	
Grizzly Bear Zone		Swift Fox Range	
Key Wildlife and Biodiversity Areas	Yes	Trumpeter Swan Buffer	
Mountain Goat and Sheep Areas		Trumpeter Swan Waterbodies/Watercourse	
Ord's Kangaroo Rat Range			

Federal Orders:

	Intersected
Greater Sage Grouse	

Grassland and Natural Regions:

	Intersected		Intersected
Central Parkland	Yes	Mixed Grass Sub-region layer	
Central Parkland and Northern Fescue		Montane	
Chinook Grasslands		Northern Fescue	
Dry Mixed Grass		Peace River Parkland	
Foothills Fescue		Permafrost	
Foothills Parkland Grasslands		Rough Fescue PNT	
Grassland and Parkland Natural Region	Yes	Subalpine or Alpine	

Landscape Analysis Tool (LAT) Report

Recreational Development

000005AEF7

Page 6 of 15

Alberta Township System (ATS) Land List

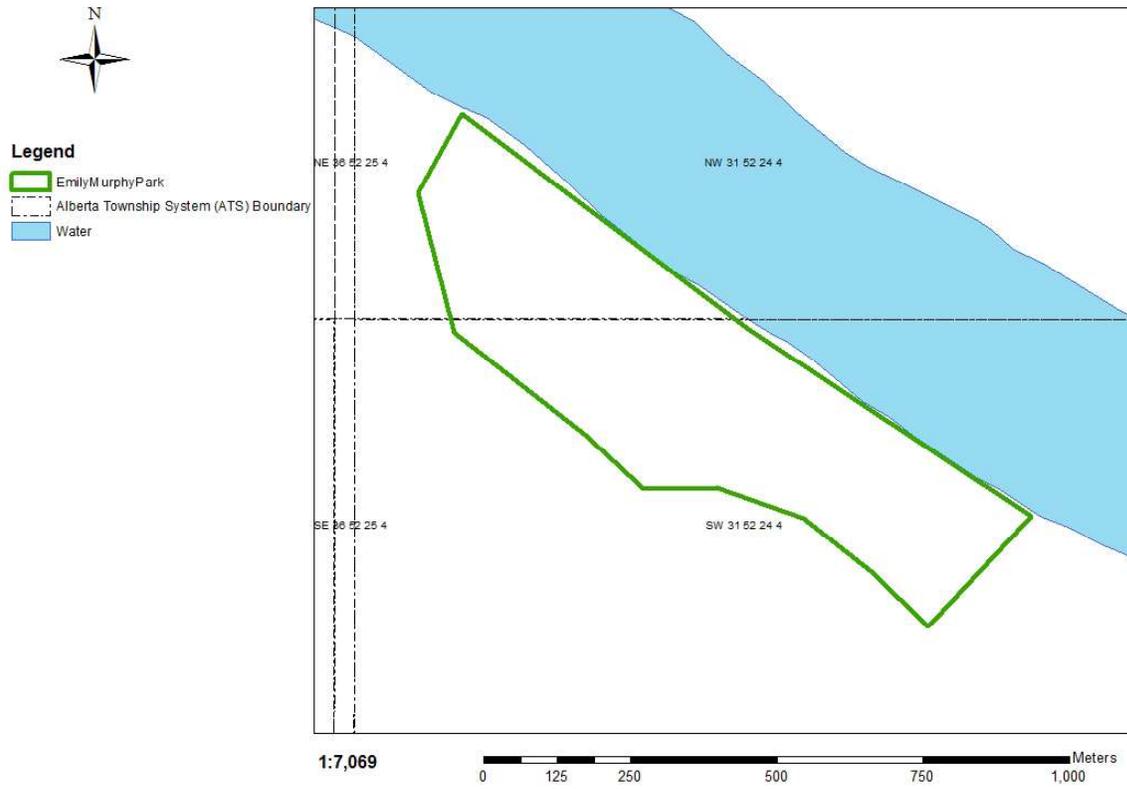
Quarter	Section	Township	Range	Meridian	Road Allow.	Sensitive Features Identified
SW	31	52	24	4		Grassland and Parkland Natural Region, Key Wildlife and Biodiversity Areas, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Central Parkland, Green / White Area
NW	31	52	24	4		Grassland and Parkland Natural Region, Key Wildlife and Biodiversity Areas, Sensitive Raptor Range, Sharp-tailed Grouse Survey, Other Sensitive and Endangered Species, Central Parkland, Green / White Area

Landscape Analysis Tool (LAT) Report

Recreational Development

000005AEF7

Page 7 of 15



Landscape Analysis Tool (LAT) Report

Recreational Development

000005AEF7

Page 8 of 15

Land Management

Report ID	Approval	Condition
1	1032-AS	Incidental Activities* as referenced on the associated supplement that fall within the sizing parameters, as defined within the PLAR Approvals and Authorizations Administrative Procedure's as amended, identified at the time of application are subject to the conditions of the associated Disposition and available for use for a term of four years from date of Disposition approval.
2	1035-AS	Where an Integrated Resource Plan or a Reservation/Protective Notation identifies a greater set back, the greater set back will prevail.
3	1036-AS	The Disposition Holder must not submit additional applications for access dispositions if access under disposition already exists.
4	1037-AS	Where a Higher Level Plan* exists, the Disposition Holder must follow any direction provided within that plan.
5	1039-AS	With the exception of pipelines, for activities that fall within any Protective Notation (PNT) lands with a purpose code 400 Series encompassing a section of land (259 hectares) or less, located in the Provincial White Area* (i.e., Provincial settled lands), the Disposition Holder must construct all activities within lands developed as range improvement. Where no range improvement exists, activities must occur within 100 metres of the PNT perimeter (i.e., outside boundary).
6	1046	The Disposition Holder must repair or replace any identified improvements (e.g., fences, water control structures, and signage) that were damaged as a result of industry activities on the land to pre-existing condition within 30 days of entry or immediately if occupied by livestock.
7	1047	The Disposition Holder must maintain all activities for proper drainage of surface water.
8	1049	For activities that occur on Canadian Forces Bases, the Disposition Holder must coordinate all activities through Energy Industry Control at (780) 842-5850 for activity on Canadian Forces Base/Area Support Unit, Wainwright, and (780) 573-7206 for activity on Canadian Forces Base/Area Support Unit, Cold Lake.
9	1051	The Disposition Holder must comply with all requirements and direction as defined within the Pre-Application Requirements for Formal Dispositions as amended from time to time.
10	1053-AS	The Disposition Holder must not locate activities within 45 meters from the top of any coulees* with the exception of activities such as; access, pipelines and linear easements crossing those features.
11	1058	The Disposition Holder must remove all garbage and waste material from this site to the satisfaction of the Regulatory Body, in its sole discretion.
12	1059	The Disposition Holder must ensure any garbage remaining on site overnight is placed in secure bear resistant containers and ensure that these containers are emptied on a regular basis to avoid excess garbage being present on the land or when the Disposition Holder will be off the land for more than two days.

Landscape Analysis Tool (LAT) Report

Recreational Development

000005AEF7

Page 9 of 15

13	1060	The Disposition Holder must ensure public accessibility to the Disposition and the associated facilities.
14	1062	The Disposition Holder must not enter the boundaries of any research or sample plot.
15	1063	When proposed activities cross designated or recreation trail(s)* or when operations encroach on those trail(s)*, the Disposition Holder must ensure that: <ul style="list-style-type: none"> • Activities crossing trails* are constructed in a manner that will not remove snow from the trail(s)*, produce ruts in the trail(s)*, or otherwise adversely affect travel. • No mechanical equipment is permitted to travel along the trail(s)*, unless approved in writing by the Regulatory Body. • Warning signs are posted along trail(s)* during construction and reclamation activities advising trail* users of the upcoming crossing location. • Any recording devices or equipment laid along the trail(s)* are placed off of the travel portion so that the geophones do not interfere with travel.
16	1071	Where a Wildfire Prevention Plan or FireSmart Plan is reviewed and approved by the Wildfire Management Branch, the Disposition Holder must ensure any proposed clearing on public land has been authorized by the Regulatory Body.

Vegetation

Report ID	Approval	Condition
17	1200	The Disposition Holder must manage all weeds as per the Weed Control Act.
18	1204	The Disposition Holder must ensure the chemical application for the purpose of vegetation control occurs in accordance with the Pesticide Regulation and Environmental Code of Practice for Pesticides.
19	1205	The Disposition Holder must salvage all merchantable timber and haul to the location of end use unless a request for waiver is approved under the Forests Act.
20	1206	The Disposition Holder must salvage merchantable timber according to the utilization standards for the overlapping timber disposition(s) (i.e., FMA, CTL, DTL) or, where no overlapping timber disposition exists, as per the approved forest management plan.
21	1207	The Disposition Holder must slash, limb and buck flat to the ground all woody debris* and leaning trees created by the activity to a length that must not exceed 2.4 metres.
22	1208	On forested lands, the Disposition Holder must dispose of excess coarse woody debris* remaining after rollback* or stockpiling for interim reclamation* and final reclamation*.
23	1209	The Disposition Holder must dispose of coarse woody debris* within FireSmart Community Zones* by burning unless a Debris Management Plan has been approved under the Forest and Prairie Protection Act.
24	1211	The Disposition Holder must not allow timber storage piles or windrows to encroach into standing timber.

Landscape Analysis Tool (LAT) Report

Recreational Development

000005AEF7

Page 10 of 15

Soil		
Report ID	Approval	Condition
25	1256	The Disposition Holder must not conduct any activities during adverse ground conditions*.
26	1257	The Disposition Holder must conduct all activity to prevent and control erosion* and sedimentation on or adjacent* to the Lands.
27	1258	The Disposition Holder must install and maintain erosion control* measures.
28	1259-AS	The Disposition Holder must not transport from the Lands topsoil* or subsoil* unless authorized in writing by the Regulatory Body.
29	1260	Where activities have occurred on the Lands that do not involve minimal disturbance* construction, the Disposition Holder must salvage topsoil* for land reclamation as follows: a. Salvage all topsoil* from: i. Mineral soils ii. Shallow organic soils* iii. Reclaimed soils b. Where the depth of the topsoil* is less than 15 cm, the topsoil* and part of the subsoil* to a total depth of 15 centimetres must be salvaged, unless the upper subsoil* is considered chemically unsuitable*.
30	1263	All reclamation material* must be considered suitable as defined in the May 2001 Salt Contamination Assessment Guidelines and meet the February 2016 Alberta Tier 1 Soil and Groundwater Remediation Guidelines, as amended or replaced from time to time.
31	1265	The Disposition Holder must store reclamation material* in accordance with all of the following: a. reclamation material* must not be placed beneath the ground surface or buried in any way; b. coarse woody debris* stored for greater than 12 months must be stored with the topsoil*; and c. topsoil* and subsoil* must be stored separately.
32	1267	The Disposition Holder must not mix wood chips with any reclamation material*.
33	1268	The Disposition Holder must not apply wood chips to the lands at a depth greater than five (5) centimeters.
34	1269	The Disposition Holder must manage wood chips in accordance with the directive ID 2009-01 Management of Wood Chips on Public Land as amended from time to time.
35	1270	The Disposition Holder must not store piles or windrows of reclamation material* that encroach into standing timber.
36	1271	The Disposition Holder must not use soil sterilants for any activities on the Lands.

Landscape Analysis Tool (LAT) Report

Recreational Development

000005AEF7

Page 11 of 15

Watercourse / Waterbody		
Report ID	Approval	Condition
37	1301-AS	The Disposition Holder must not interrupt natural drainage (including ephemeral and fens*), block water flow or alter the water table.
38	1303-AS	The Disposition Holder must construct activities outside the appropriate watercourse* setbacks, except for vehicle or pipeline crossings: a) Intermittent watercourses* and springs must have a setback of at least 45 metres from the top of the break. b) Small Permanent watercourses* must have a setback of at least 45 metres from the top of the break. c) Large Permanent watercourses* must have a setback of at least 100 metres from the top of the break.
39	1304-AS	The Disposition Holder must maintain the following waterbody* setbacks from the disposition edge for all site activities, or paralleling linear dispositions, or pipeline bore site: a) A minimum setback of 45 metres of undisturbed vegetation must be maintained from non-permanent seasonal wetlands*. b) A minimum setback of 100 metres from the bed and shore* of semi-permanent and permanent ponds, wetlands*, shallow open water ponds and lakes.
40	1310	The Disposition Holder must not deposit or place debris*, soil or other deleterious materials* into or through any watercourse* and/or waterbody*, or on the ice of any watercourse* and/or waterbody*.
41	1315	The Disposition Holder must acquire an authorization for access (off-disposition) for water withdrawal activities.
42	1317	Where surface disturbance* will occur and a risk of surface erosion* exists, the Disposition Holder must install and maintain sediment* control structures to dissipate the flow of water and capture sediment* prior to it entering a watercourse* or waterbody*.
43	1325	The Disposition Holder must not remove or use water from dugouts, surface ponds, springs, or water wells within the grazing disposition unless an authorization is issued from the Environment and Parks (GoA) agrologist.
44	1327	All licences, authorizations and approvals issued under the Alberta Environmental Protection and Enhancement Act, Water Act or Public Lands Act should not be taken to mean the Disposition Holder has complied with federal legislation. The Disposition Holder should contact Habitat Management, Fisheries and Oceans in relation to the application of federal laws relating to the Fisheries Act (Canada). Fisheries Protection Program, Fisheries and Oceans Canada 867 Lakeshore Road, Burlington, Ontario, L7R 4A6 Telephone: 1-855-852-8320 Email: Fisheriesprotection@dfo-mpo.gc.ca Web address: www.dfo-mpo.gc.ca The Disposition Holder should also contact the Navigation Protection Program, Canadian Coast Guard, 4253-97 Street, Edmonton, Alberta, T6E 5Y7, phone: (780) 495-4220, relating to the Navigation Protection Act.

Landscape Analysis Tool (LAT) Report

Recreational Development

000005AEF7

Page 12 of 15

Reclamation		
Report ID	Approval	Condition
45	1353	The Disposition Holder must complete temporary reclamation* on the Lands within 1 growing season of construction phase* for all topsoil* and subsoil* stockpiles required for final reclamation*.
46	1354	The Disposition Holder must prior to seeding herbaceous seed in forested* or peatlands* submit a Request for Seeding in writing to the Regulatory Body that contains all of the following: a. rationale for conducting seeding of herbaceous species*; b. a description of the proposed site for seeding including information with respect to the following: i. Whether the Lands are subject to high erosion* ii. Whether the Lands are prone to invasion from agronomic or weed species c. a proposed seed mix composition for re-vegetation of the Lands in accordance with the Native Plant Revegetation Guidelines for Alberta, 2001 as amended or replaced from time to time or a rationale for alternate species; d. provide a seed certificate in accordance with the Seed Act for the seed mixed to be used for re-vegetation*; and e. any other information requested by the Regulatory Body.
47	1355	The Disposition Holder must only conduct seeding in accordance with the written request for seeding as approved by the Regulatory Body.
48	1356	The Disposition Holder must when seeding cultivated lands*, use agronomic or forage seed that meets or exceeds Certified #1 as outlined in the Seeds Act and Seeds Regulations. Seed mixes are to be free of species listed in the Weed Control Act. A seed certificate must be provided to the Regulatory Body within 30 days upon request.
49	1357	The Disposition Holder must re-vegetate the Lands with trees or shrubs within the Green Area* that meet the requirements of the December 2016 Alberta Forest Genetic Resource Management and Conservation Standards document, as amended or replaced from time to time.
50	1359	The Disposition Holder must not have slash and rollback* accumulations within five (5) meters of the perimeter of the disposition boundary, greater than the percent ground cover on the surrounding undisturbed forest floor.
51	1363	For final reclamation*, the Disposition Holder must complete all of the following: a) contour the disturbed land to the pre-disturbance landform or to the landform approved by the Regulatory body; b) replace all stockpiled subsoil*, then replace all stockpiled topsoil*; c) spread all coarse woody debris* on forested lands*; and d) reclamation materials* must be replaced over the entire area from which they were removed unless otherwise approved in writing by the Regulatory Body.
52	1364	The Disposition Holder must reclaim the Lands to the pre-disturbance land use* type (forested*, grassland*, cultivated*, mineral wetland* and peatlands*) unless otherwise authorized in writing by the Regulatory Body.

Landscape Analysis Tool (LAT) Report

Recreational Development

000005AEF7

Page 13 of 15

Wildlife		
Report ID	Approval	Condition
53	1500	The Disposition Holder must conduct a complete and immediate Wildlife Sweep* of the Lands (plus 100 metre buffer*) subject to the disposition prior to any activity.
54	1501	The Disposition Holder must submit results from a Wildlife Sweep* to the Fisheries and Wildlife Management Information System (FWMIS) and notify the issuing Regulatory Body in writing upon request that the Wildlife Sweep* was completed.
55	1502-AS	The Disposition Holder must incorporate a buffer* zone of a minimum width of 100m undisturbed vegetation, where an established buffer* does not already exist (e.g. Species at Risk) for any and all key habitat features including, but not limited to leks*, nests, dens and houses identified in the Wildlife Sweep*.
56	1503	When Wildlife Surveys* are required, the Disposition Holder must submit results from the Wildlife Survey* to the Fisheries and Wildlife Management Information System (FWMIS).
57	1509	The Disposition Holder must incorporate buffers*, setbacks and activity timing restrictions for any and all key habitat features including, but not limited to leks*, nests, dens and houses identified in the wildlife survey*.
58	1510	The Disposition Holder is responsible for compliance with federal laws and should contact Environment and Climate Change Canada in relation to the application of federal laws relating to the Migratory Birds Convention Act and the Species at Risk Act. Canadian Wildlife Service Prairie Region Environment and Climate Change Canada Eastgate Offices 9250 – 49th Street Edmonton, Alberta T6B 1K5 Telephone: 1-855-245-0331 (toll free) Email: ec.leprpn-sarapnr.ec@canada.ca Web address: sararegistry.gc.ca
Sensitive Raptor Range		
Report ID	Approval	Condition
59	1550-AS	The Disposition Holder must conduct appropriate pre-construction wildlife* surveys for all activities occurring within the identified Species At Risk ranges of the Landscape Analysis Tool, as per the direction of the Sensitive Species Inventory Guidelines as amended from time to time.
60	1551-AS	The Disposition Holder must not conduct any activities within 1000 metres of a sensitive raptor active nest*.

Landscape Analysis Tool (LAT) Report

Recreational Development

000005AEF7

Page 14 of 15

Sharp-Tailed Grouse Survey / Leks and Buffers

Report ID	Approval	Condition
61	1640-AS	The Disposition Holder must conduct appropriate pre-construction wildlife surveys* for all activities occurring within the identified Species At Risk ranges of the Landscape Analysis Tool, as per the direction of the Sensitive Species Inventory Guidelines 2013 as amended from time to time.

Other Sensitive and Endangered Species

Report ID	Approval	Condition
62	1780-AS	The Disposition Holder must conduct appropriate pre-construction wildlife* surveys for all activities occurring within the identified Species At Risk ranges of the Landscape Analysis Tool, as per the direction of the Sensitive Species Inventory Guidelines 2013 as amended from time to time.
63	1781-AS	Between April 15 and August 15, the Disposition Holder must not conduct any activities* within 100 meters of an active nest site for Federally listed species.

Key Wildlife and Biodiversity Areas

Report ID	Approval	Condition
64	1882-AS	The Disposition Holder must not conduct any activity within 100 meters of the edge of a valley break* or within 100 metres of a bed and shore* where the valley break* is not defined.
65	1889	The Disposition Holder must not seed legumes.
66	1890	The Disposition Holder must re-vegetate all areas on which an activity has occurred.

Grassland and Parkland Natural Region

Report ID	Approval	Condition
67	1944	On native grasslands*, the Disposition Holder must not crimp straw* subject to the following exceptions: a) The straw* used for crimping must be sourced from a native species* from the same ecological range site* as the Lands; b) The weed analysis for the straw* used for crimping must comply with the Weed Control Act, as amended or replaced from time to time.

Landscape Analysis Tool (LAT) Report

Recreational Development

000005AEF7

Page 15 of 15

68	1952	<p>In native grasslands* as identified by the Central Parkland Layer of the Landscape Analysis Tool that requires Assisted Natural Recovery*, the Disposition Holder must submit a request for Assisted Natural Recovery in writing to the Regulatory Body that contains all of the following:</p> <ol style="list-style-type: none"> 1. Rationale for conducting Assisted Natural Recovery*; 2. A description of the proposed site for Assisted Natural Recovery* including information with respect to the following: <ol style="list-style-type: none"> a) Whether the Lands are subject to high erosion*; b) Whether the soil on the Lands has been disturbed to an area greater than 50m²; c) Whether the Lands are prone to invasion from agronomic or weed species; 3. A proposed seed mix composition for re-vegetation of the Lands: <ol style="list-style-type: none"> a) That is consistent with native plant communities that are adjacent* to and in the immediate vicinity of the Lands as determined by the A Preliminary Classification of Plant Communities in the Central Parkland Natural Subregion of Alberta, as amended or replaced from time to time; b) Provide a seed certificate in accordance with the Seed Act for the seed mix to be used for Assisted Natural Recovery*; and c) Any other information requested by the Regulatory Body.
69	1957	<p>The Disposition Holder must not construct activities on native grassland* within the Grassland and Parkland Natural Region between April 15th and August 15th, unless grassland bird surveys are completed as per the Sensitive Species Inventory Guidelines Protocol as amended.</p>
70	1958	<p>The Disposition Holder must not conduct any activities within 100 meters of an active nest site between April 15th and August 15th for the following species:</p> <ul style="list-style-type: none"> • short-eared owl • mountain plover • long-billed curlew • upland sandpiper • Sprague's pipit • Chestnut-collared longspur • Loggerhead Shrike • Bank Swallow



Appendix E

ACIMS Report

Date: 19/3/2020

Requestor: Consultant

Reason for Request: Environmental Assessment

SEC: 31 TWP: 052 RGE: 24 MER: 4



■ Non-sensitive EOs (updated: October 2017)

M_RR_TTT_SS	EO_ID	ECODE	S_RANK	SNAME	SCOMNAME	LAST_OBS_D
4-24-052-31	3660	NBMUS2N040	S1S2	Entodon concinnus	moss	1989-06-12
4-24-052-31	7612	PDASTEH022	S3	Doellingeria umbellata var. pubens	flat-topped white aster	1952-08-16
4-24-052-31	18873	PDAPI1K060	S3	Osmorhiza longistylis	smooth sweet cicely	2009-09-04
4-24-052-31	16537	NBMUS6F020	S1S2	Rhodobryum ontariense	Ontario Rhodobryum moss	2006-05-21
4-24-052-31	15808	PDAPI1K060	S3	Osmorhiza longistylis	smooth sweet cicely	2005-06-27
4-24-052-31	22925	IMGASN3050	SU	Ferrissia rivularis	Creeping Ancyloid	2001-01-01
4-24-052-31	16965	PDAPI1K060	S3	Osmorhiza longistylis	smooth sweet cicely	2005-06-21
4-24-052-31	3586	NBMUS2C0B0	S2S3	Didymodon fallax	fallacious screw moss	1958-04-23
4-24-052-31	4254	NBMUS5S020	S2	Pohlia atropurpurea	moss	1989-05-30
4-24-052-31	1850	IILEP73020	S2	Poanes hobomok	Hobomok Skipper	1999-06-21
4-24-052-31	6725	PDAPI1K060	S3	Osmorhiza longistylis	smooth sweet cicely	2013-06-26
4-24-052-31	3669	NBMUS2N100	S2S3	Entodon schleicheri	Schleicher's silk moss	2002-06-05
4-24-052-31	2144	IIDODO15020	S3	Anax junius	Common Green Darner	1989-06-26
4-24-052-31	3666	NBMUS2N040	S1S2	Entodon concinnus	moss	2002-06-01

Next Steps: See FAQ (<https://www.albertaparks.ca/albertaparksca/management-land-use/alberta-conservation-information-management-system-acims/faqs.aspx#2> - Process)

■ Sensitive EOs (updated: October 2017)

M-RR-TTT	EO_ID	ECODE	S_RANK	SNAME	SCOMNAME	LAST_OBS_D
----------	-------	-------	--------	-------	----------	------------

No Sensitive EOs Found: Next Steps - See FAQ (<https://www.albertaparks.ca/albertaparksca/management-land-use/alberta-conservation-information-management-system-acims/faqs.aspx#2> - Process)

■ Protected Areas (updated: October 2017)

M-RR-TTT-SS	PROTECTED_AREA_NAME	TYPE	IUCN
-------------	---------------------	------	------

No Protected Areas Found

 Crown Reservations/Notations (updated: October 2017)

M-RR-TTT-SS	NAME	TYPE
-------------	------	------

No Crown Reservations/Notations Found

Updated: Dec 11, 2019



Appendix F

Historical Resource Act
Approval

Historical Resources Act Approval

Proponent: City of Edmonton
14th Floor Edmonton Tower, 10111 - 104 Avenue, Edmonton, AB T5J 0J4

Contact: Mr. Ryan Andres

Agent: The Archaeology Group

Contact: Walt Kowal

Project Name: Emily Murphy Park Renewal Project

Project Components: Park Development
Parking Lot
Access Road
Water Supply
Other - signs and park furniture

Application Purpose: Requesting HRA Approval / Requirements

Historical Resources Act approval is granted for the activities described in this application and its attached plan(s)/sketch(es) subject to Section 31, "a person who discovers an historic resource in the course of making an excavation for a purpose other than for the purpose of seeking historic resources shall forthwith notify the Minister of the discovery." The chance discovery of historical resources is to be reported to the contacts identified within [Standard Requirements under the Historical Resources Act: Reporting the Discovery of Historic Resources](#).



Martina Purdon
Manager, Regulatory Approvals
and Information Management
Alberta Culture, Multiculturalism
and Status of Women

Lands Affected: All New Lands

Proposed Development Area:

MER	RGE	TWP	SEC	LSD List
4	24	52	31	5-6,11-12

Documents Attached:

Document Name	Document Type
Location Maps - no site information	Illustrative Material



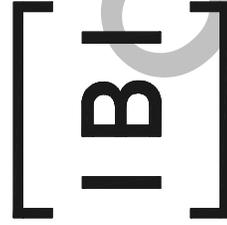
Appendix G

IBI Group Drawing Set

CITY OF EDMONTON

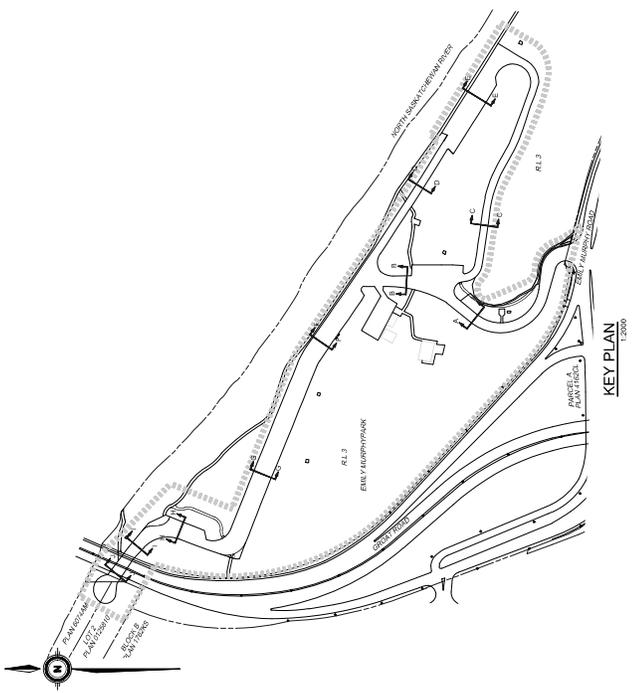
EMILY MURPHY PARK RENEWAL PRELIMINARY DESIGN

CONTRACT No. E0-124848
CP-8747

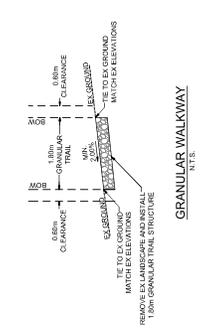
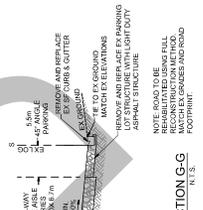
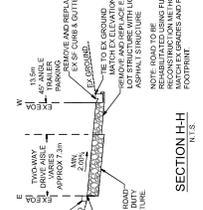
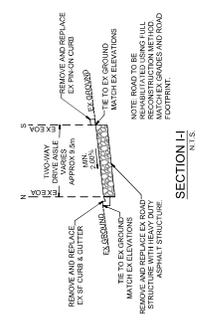
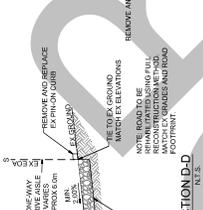
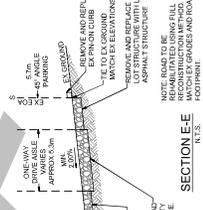
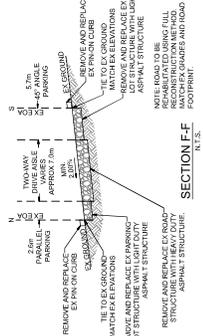
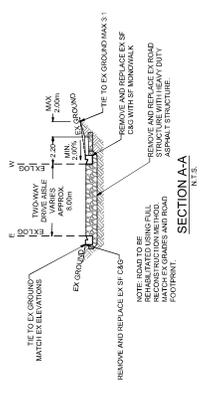
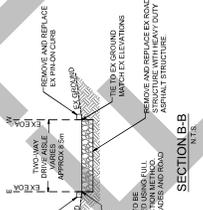
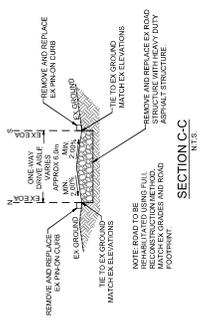


OWNER: INTEGRATED INFRASTRUCTURE SERVICES
BUILDING GREAT NEIGHBORHOODS AND OPEN SPACES
OPEN SPACE PLANNING AND DESIGN

NOVEMBER, 2020

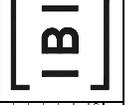


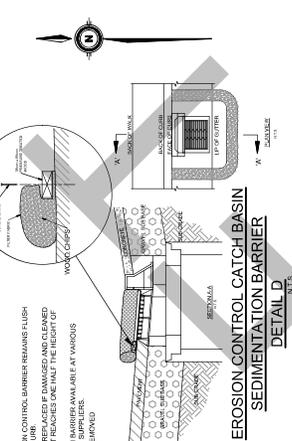
SEE OVERALL DESIGN AND SURVEILLANCE PLAN FOR SURFACE STRUCTURE DESIGN AND CONSTRUCTION METHODOLOGY



ISSUE NO. _____ CITY FINAL ACCEPTANCE FOR DESIGN _____ DEPARTMENT OF TRANSPORTATION _____ PREPARED BY: _____ DATE: 04/NOV/20		REVISIONS TO APPROVED DRAWINGS NO. DATE DESCRIPTION BY APPROVED		DATE: NOVEMBER, 2020 DESIGNER: L.L. DRAWING: L.L. CHECKED: R.T.D. SCALE: N.T.S.		CITY OF EDMONTON EMILY MURPHY PARK RENEWAL PRELIMINARY DESIGN TYPICAL ROAD CROSS SECTIONS		SHEET 07 OF SHEET C
--	--	--	--	---	--	--	--	---------------------

IBI GROUP PROFESSIONAL SERVICES (CANADA) INC
 300 - 10830 Jasper Avenue
 Edmonton AB T5J 2B3 Canada
 Tel 780 428 4000 Fax 780 426 3256
 ibigroup.com





**EROSION CONTROL CATCH BASIN
SEDIMENTATION BARRIER
DETAIL D**



LEGEND

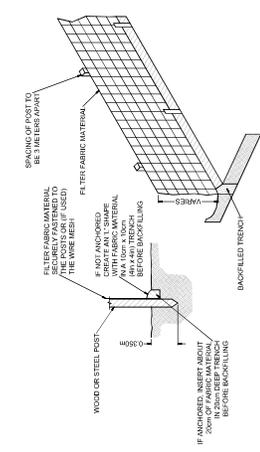
- LIMIT OF CONSTRUCTION
- EXISTING OVERLAND DRAINAGE FLOW
- SILT FENCE
- SEDIMENT RETENTION BASIN
- CONTOUR ELEVATION (STRIPPED)
- STABILIZED CONSTRUCTION ENTRANCE
- TO BE MONITORED DAILY FOR CLEANING

EROSION & SEDIMENTATION CONTROL MEASURES

- 1. SILT FENCE (SEE DETAIL 'K' THIS DRAWING)
- 2. TO BE MONITORED DAILY FOR CLEANING
- 3. SEDIMENTATION BARRIER (SEE DETAIL 'D' THIS DRAWING)
- 4. EROSION CONTROL MEASURES (SEE DETAIL 'L' THIS DRAWING)

NOTES

1. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED WITHIN THE PERMITTED WORK AREA AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
2. THE OPERATIONAL PERIOD OF ALL EROSION CONTROL MEASURES SHALL BE MONITORED DAILY FOR CLEANING.
3. CONSTRUCTION OF SURFACE IMPROVEMENTS SHALL BE CONSTRUCTED TO GUARANTEE EROSION AND SEDIMENT CONTROL BY THE CITY OF EDMONTON.
4. ALL OPERABLE ROADWAYS ARE TO BE CLEARED OF ANY DEBRIS, MUD OR OTHER MATERIALS PRIOR TO OPENING TO TRAFFIC.
5. ALL EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO COMMENCING CONSTRUCTION OF ANY IMPROVEMENTS.
6. ALL EROSION CONTROL MEASURES SHALL BE PROTECTED WITH SILT TRAPS UNTIL SURFACE IMPROVEMENTS ARE COMPLETE.
7. INSPECTION OF ALL EROSION CONTROL MEASURES TO BE CARRIED OUT EVERY SEVEN DAYS.
8. THE EROSION CONTROL AND SEDIMENTATION PLAN MUST BE UPDATED WHEN THERE ARE CHANGES TO THE PROJECT (E.G. CHANGES TO THE PERMITTED WORK AREA, CHANGES TO THE SCHEDULED WORK, CHANGES TO THE PERMITTED WORK AREA, CHANGES TO THE PERMITTED WORK AREA).
9. THE EROSION CONTROL AND SEDIMENTATION CONTROL MEASURES AND FIELD LOGS SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
10. ALL MEASURES TO BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.

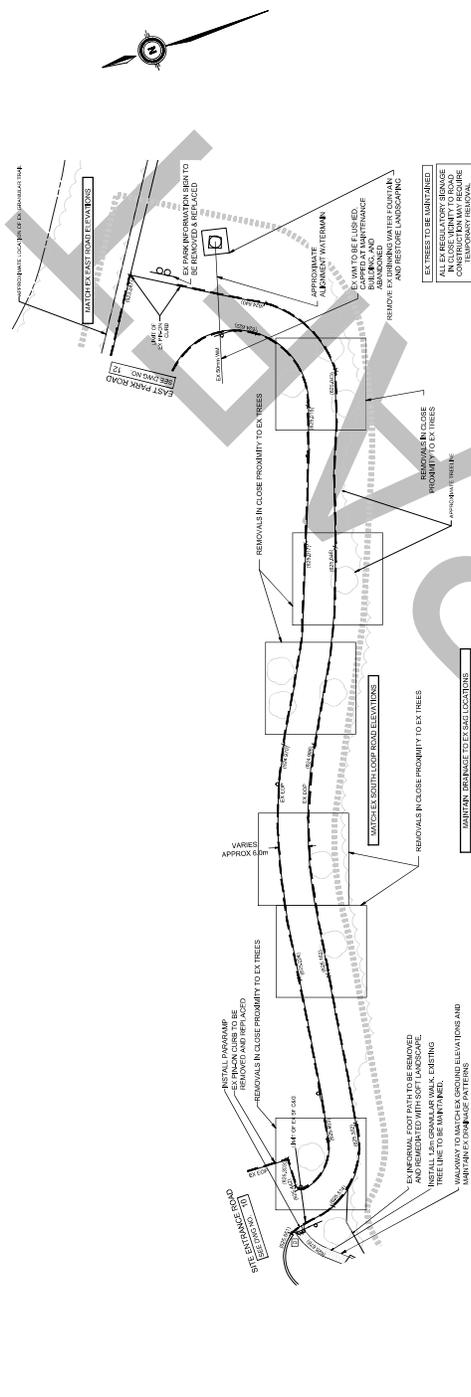


**DETAIL A
TYPICAL SILT FENCE LAYOUT**

ISSUE/REVISION	6	DATE	NOVEMBER, 2020	REVISIONS TO APPROVED DRAWINGS
	5	DESCRIPTION	LL	
CITY FINAL ACCEPTANCE	4	DATE		
	3	DESCRIPTION	LL	
DEPARTMENT REVIEW	2	DATE		
	1	DESCRIPTION	R.T.D.	
DATE	04/07/20	SCALE	1:1000	
ISSUED DATED (DD MON YY)				
<p>IBI GROUP PROFESSIONAL SERVICES (CANADA) INC 300 - 10830 Jasper Avenue Edmonton AB T5J 2B3 Canada Tel 780 428 4000 fax 780 428 3256 ibigroup.com</p>				
<p>CITY OF EDMONTON EMILY MURPHY PARK RENEWAL PRELIMINARY DESIGN</p>				
<p>EROSION AND SEDIMENTATION CONTROL PLAN</p>				
				<p>SHEET 08 OF SHEET C</p>

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH REMOVALS AND REPLACEMENTS.
5. CONTRACTOR SHALL VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
6. CONTRACTOR SHALL VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
7. CONTRACTOR SHALL VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
8. CONTRACTOR SHALL VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
9. CONTRACTOR SHALL VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
10. CONTRACTOR SHALL VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.



STANDARD SOIL CONDITIONS WATER MAIN DEPTH CHART

WM DIAMETER	DEPTH OF WATER MAIN INFEET FROM
150mm	1.50m
200mm	2.00m
250mm	2.50m
300mm	3.00m
350mm	3.50m
400mm	4.00m
450mm	4.50m
500mm	5.00m

NO.	DESCRIPTION	DATE	APPR.
1			
2			
3			
4			
5			
6			

REVISIONS TO APPROVED DRAWINGS

NO.	DESCRIPTION	DATE	APPR.
1			
2			
3			
4			
5			
6			

DESIGNED BY:	DATE:
CHECKED BY:	APPROVED:
SCALE:	PROJECT:

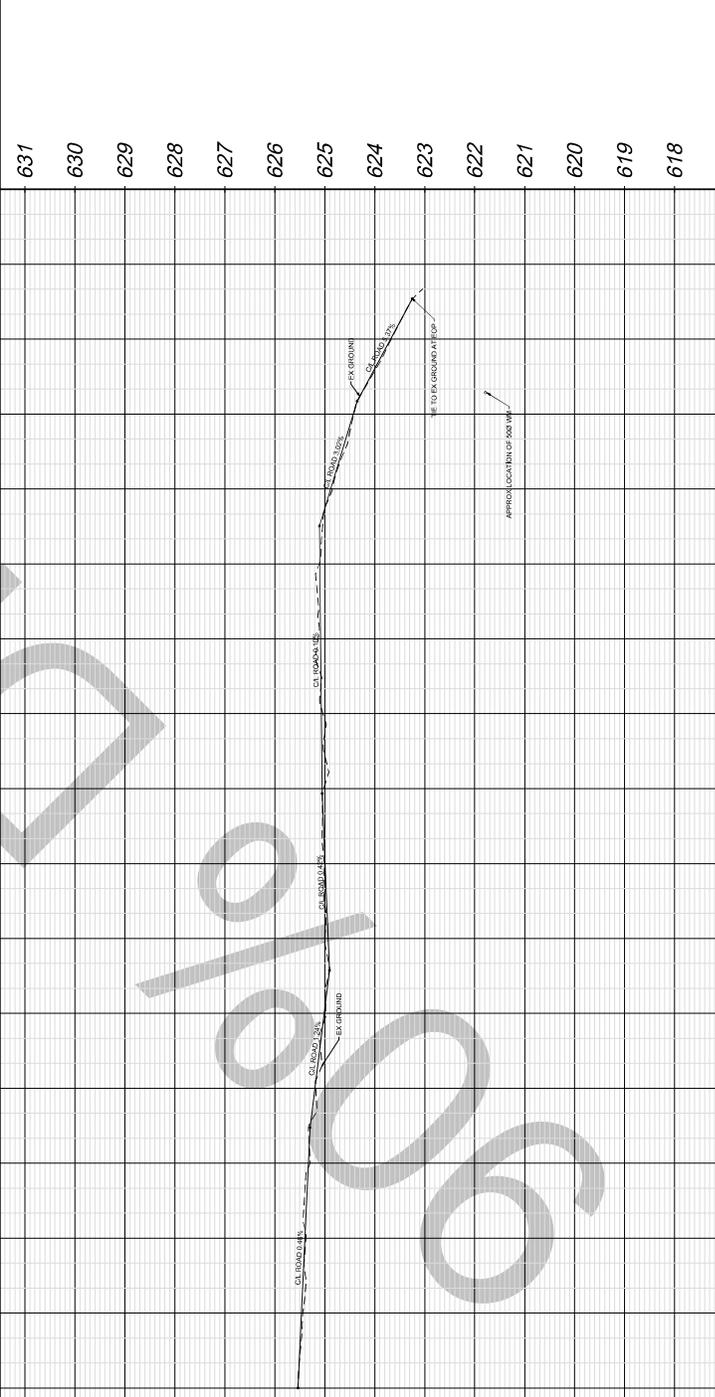
IBI GROUP PROFESSIONAL SERVICES (CANADA) INC
 1000 West 17th Avenue
 Edmonton, Alberta T6M 0K6
 Tel: 780.428.4000
 Fax: 780.428.3256
 ibigroup.com

CITY OF EDMONTON
 SOUTH LOOP ROAD

PROJECT:
 EMILY MURPHY PARK RENEWAL
 PRELIMINARY DESIGN

DRAWING NO:
 124848-P11

SHEET 11 OF SHEET C



GENERAL NOTES:

1. ALL DIMENSIONS ARE UNLESS OTHERWISE SPECIFIED.
2. THE CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS AND PROVIDE A RECORD DRAWING THEREOF.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.
4. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND STRUCTURES.
5. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND STRUCTURES.
7. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND STRUCTURES.
9. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND STRUCTURES.

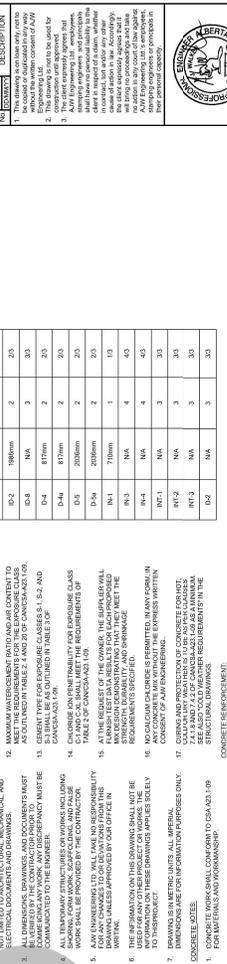
NO.	REVISION	DATE	DESCRIPTION
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

PROJECT: Estimote River Valley Parks
REF. EDM. P. 00-EDM. P. 51

CYGNUS
 5800 TRINIDAD ROAD, SUITE 404
 EDMONTON, ALBERTA T6B 0K2
 TEL: 780-426-4000
 FAX: 780-426-4001
 WWW.CYGNUS.COM

NO.	REVISION	DATE	DESCRIPTION
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

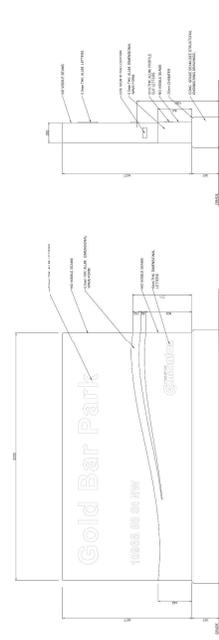
FOUNDATION - SIGN ID-1, D-4, D-5, D-4b, D-5b
 SCALE: 1:20



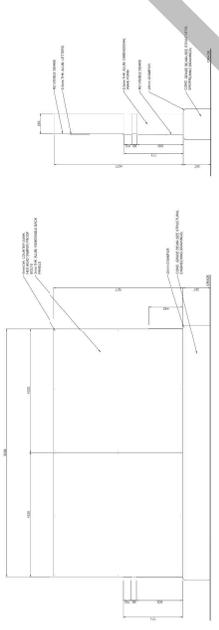
NO.	REVISION	DATE	DESCRIPTION
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

FOUNDATION - SIGN ID-2, D-4, D-5, D-4b, D-5b
 SCALE: 1:20

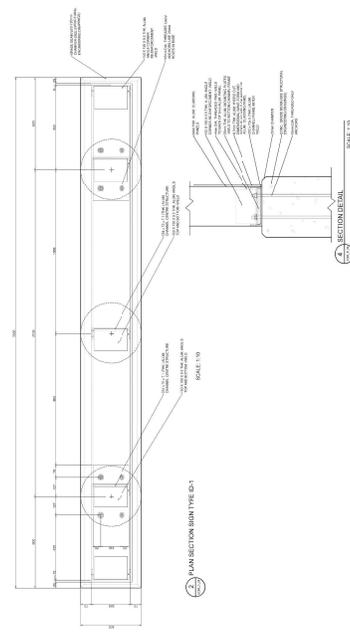




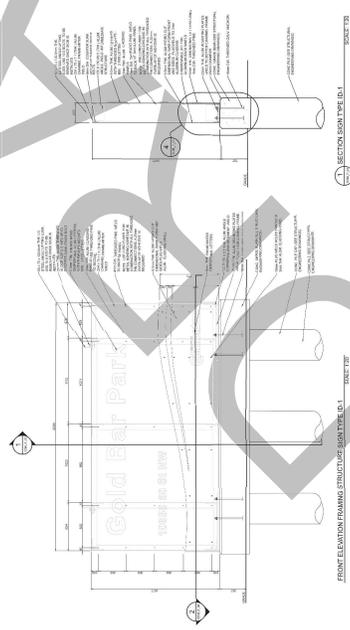
FRONT ELEVATION - SIGN TYPE B-1
 SCALE: 1/8" = 1'-0"
 SHEET: 2/2
EDM_P_01



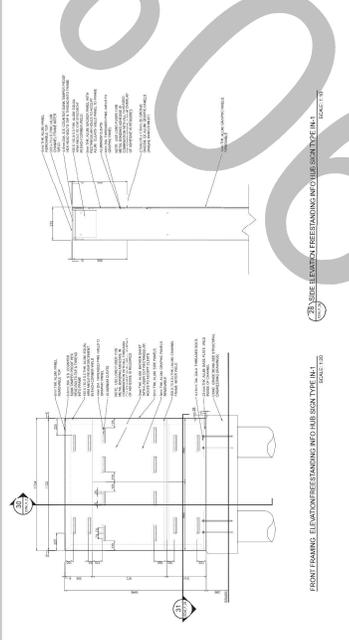
RIGHT SIDE ELEVATION - SIGN TYPE B-1
 SCALE: 1/8" = 1'-0"
EDM_P_02



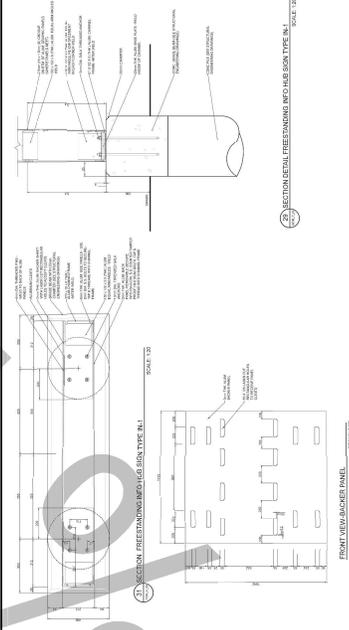
FRONT ELEVATION - FRAME STRUCTURE - SIGN TYPE B-1
 SCALE: 1/8" = 1'-0"
EDM_P_04



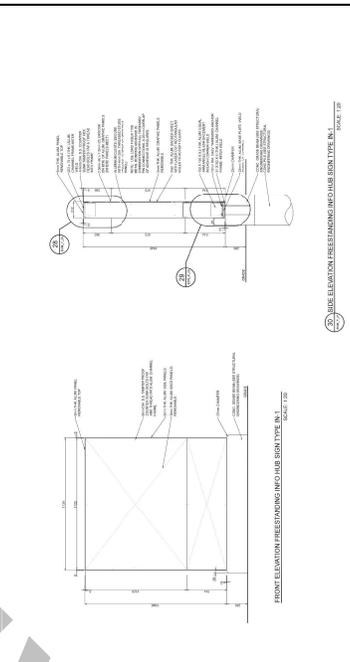
FRONT ELEVATION - FRAME STRUCTURE - SIGN TYPE B-1
 SCALE: 1/8" = 1'-0"
EDM_P_03



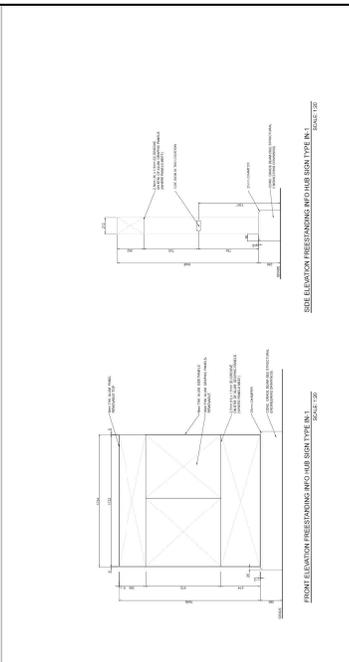
FRONT ELEVATION - FRAME STRUCTURE - SIGN TYPE B-1
 SCALE: 1/8" = 1'-0"
EDM_P_28



FRONT ELEVATION - FRAME STRUCTURE - SIGN TYPE B-1
 SCALE: 1/8" = 1'-0"
EDM_P_29



FRONT ELEVATION - FRAME STRUCTURE - SIGN TYPE B-1
 SCALE: 1/8" = 1'-0"
EDM_P_27



SIDE ELEVATION - FRAME STRUCTURE - SIGN TYPE B-1
 SCALE: 1/8" = 1'-0"
EDM_P_26

ISSUE DATED (DD MON YY) 04 NOV 20 80% 60% SUBMISSION DATE	REVISIONS TO APPROVED DRAWINGS NO. DATE DESCRIPTION BY APPROVED	IBI GROUP PROFESSIONAL SERVICES (CANADA) INC 300 - 10830 Jasper Avenue Edmonton AB T5J 2B5 Canada Tel: 780-426-4000 / Fax: 780-426-3256 ibigroup.com	DATE: NOVEMBER 2020 DESIGNED BY: S.K. DRAWN BY: CHECKED BY: LD SCALE: 1/8" = 1'-0"	CITY OF EDMONTON EMILY MURPHY PARK RENEWAL PRELIMINARY DESIGN DETAILS 2	SHEET 18 OF SHEET COUNT
--	--	--	--	--	-------------------------------

TRACE™

A S S O C I A T E S

HEAD OFFICE

Lincoln Park Centre

Suite 300, 37 Richard Way SW

Calgary, Alberta T3E7M8

1.877.418.7223

traceassociates.ca