DEVELOPMENT PERMIT

City of Kelowna

APPROVED ISSUANCE OF DEVELOPMENT PERMIT NO. DP26-0051

Issued To:	City of Kelowna
Site Address:	1700-1800 Parkinson Way & 1456 Spall Road, Kelowna, BC
Legal Description:	Lot 2 Section 20 Township 26 ODYD Plan 32159 Except Plan EPP3465 Lot 2 Section 20 Township 26 ODYD Plan 23634 Except Plan EPP3465 Lot 2 Section 20 Township 26 ODYD Plan 37596 Except Plans KAP62854, KAP70690 and KAP71139
Zoning Classification:	P1 - Major Institutional, P2 - Education and Minor Institutional
Developent Permit Area:	Natural Environment Development Permit Area

SCOPE OF APPROVAL

This Permit applies to and only to those lands within the Municipality as described above, and any and all buildings, structures and other development thereon.

This Permit is issued subject to compliance with all of the Bylaws of the Municipality applicable thereto, except as specifically varied or supplemented by this Permit, noted in the Terms and Conditions below.

The issuance of a Permit limits the Permit Holder to be in strict compliance with regulations of the Zoning Bylaw and all other Bylaws unless specific Variances have been authorized by the Permit. No implied Variances from bylaw provisions shall be granted by virtue of drawing notations that are inconsistent with bylaw provisions and that may not have been identified as required Variances by the applicant or Municipal staff.

1. TERMS AND CONDITIONS

THAT Development Permit No. DP26-0051 for:

- Lot 2, Section 20, Township 26, ODYD, Plan 32159, Except Plan EPP3465, located at 1700-1800 Parkinson Way, Kelowna, BC;
- Lot 2, Section 20, Township 26, ODYD, Plan 23634, Except Plan EPP3465, located at 1800 Parkinson Way, Kelowna, BC; and
- Lot A, Section 20, Township 26, ODYD, Plan 37596, Except Plans KAP62854, KAP70690, and KAP71139, located at 1456 Spall Road, Kelowna, BC;

to support the redevelopment of the Parkinson Recreation Centre and outdoor amenities adjacent to Mill Creek, be subject to the following:

A) **A Qualified Environmental Professional (Environmental Monitor) is required to oversee the works throughout the duration of the project. A copy of this development permit must be submitted to**

the designated Environmental Monitoring consultant prior to construction starting. Environmental Monitoring reports must be submitted to the City of Kelowna Development Planning Department;

B) **The designated Environmental Monitor and contractor shall meet prior to construction starting to review limits of disturbance, erosion and sediment controls and Development Permit conditions/requirements for the project site;**

C) **Physically demarcate "No Disturbance Areas", as per the direction of the Environmental Monitor, around any vegetation that will be left in place at the site using snow fencing or another visible material to avoid accidental disturbance;**

D) **No sediment laden water is to enter Mill Creek at any time. Erosion and sediment controls must be in place prior to construction starting;**

E) **No works may occur below the stream boundary of Mill Creek without obtaining a provincial Water Sustainability Act Section 11 Change Approval and a Fisheries Act Authorization. Copies of both approvals must be kept on-site for the duration of the proposed works;**

F) The development on the land be in accordance with attached Schedule "A" (Supplemental Environmental Assessment, prepared by Stantec Consulting Ltd., dated February 3, 2026);

G) The development on the land be in accordance with attached Schedule "B" (*Water Sustainability Act* Change Approval, issued by the Ministry of Water, Land, and Resource Stewardship, dated March 11, 2026);

H) The development on the land be in accordance with attached Schedule "C" (*Fisheries Act* Authorization, issued by the Fisheries and Oceans Canada, dated March 13, 2026); and

I) The development on the land be in accordance with attached Schedule "D" (Landscape Plan, prepared by VDZ+A, dated February 25, 2025).

AND FURTHER THAT this Development Permit is valid for two (2) years from the date of Manager approval, with no opportunity to extend.

2. PERFORMANCE SECURITY

As a condition of the issuance of this Permit, Council is holding the security set out below to ensure that development is carried out in accordance with the terms and conditions of this Permit. Should any interest be earned upon the security, it shall accrue to the Permit Holder and be paid to the Permit Holder if the security is returned. The condition of the posting of the security is that should the Permit Holder fail to carry out the development hereby authorized, according to the terms and conditions of this Permit within the time provided, the Municipality may use the security to carry out the work by its servants, agents or contractors, and any surplus shall be paid over to the Permit Holder, or should the Permit Holder carry out the development permitted by this Permit within the time set out above, the security shall be returned to the Permit Holder. There is filed accordingly:

a) Cash in the amount of $____0____

Before any bond or security required under this Permit is reduced or released, the Developer will provide the City with a statutory declaration certifying that all labour, material, workers' compensation and other taxes and costs have been paid.

3. DEVELOPMENT

The land described herein shall be developed strictly in accordance with the terms and conditions and provisions of this Permit and any plans and specifications attached to this Permit that shall form a part hereof.

If the Permit Holder does not commence the development permitted by this Permit within two years of the date of this Permit, this Permit shall lapse.

This Permit IS NOT a Building Permit.

4. APPLICANT'S AGREEMENT

I hereby declare that all of the above statements and the information contained in the material submitted in support of this Permit are to the best of my belief, true and correct in all respects. Upon issuance of the Permit for me by the Municipality, then in such case, I covenant and agree to save harmless and effectually indemnify the Municipality against:

a) All actions and proceedings, costs, damages, expenses, claims, and demands whatsoever and by whomsoever brought, by reason of the Municipality granting to me the said Permit.

b) All costs, expenses, claims that may be incurred by the Municipality if the construction by me of engineering or other types of works as called for by the Permit results in damages to any property owned in whole or in part by the Municipality or which the Municipality by duty or custom is obliged, directly or indirectly in any way or to any degree, to construct, repair, or maintain.

I further covenant and agree that should I be granted a Development Permit and/or Development Variance Permit, the Municipality may withhold the granting of any Occupancy Permit for the occupancy and / or use of any building or part thereof constructed upon the hereinbefore referred to land until all of the engineering works or other works called for by the Permit have been completed to the satisfaction of the Municipal Engineer and Divisional Director of Community Planning & Real Estate.

Should there be any change in ownership or legal description of the property, I undertake to notify the Community Planning Department immediately to avoid any unnecessary delay in processing the application.

5. APPROVALS

Issued by the Development Planning Department of the City of Kelowna on the 17th day of March 2026.

Alex Kondor, RPP, MCIP
Development Planning Manager
Development Planning Department

The PERMIT HOLDER is the CURRENT LAND OWNER.
Security shall be returned to the PERMIT HOLDER.

Supplemental Environmental Assessment

Redevelopment of Parkinson Recreation Centre - Naturalization of Mill Creek

February 3, 2026

Prepared for:
City of Kelowna

Prepared by:
Stantec Consulting Ltd.

Project/File:
144325039

Stantec

Limitations and Sign-off

The conclusions in the Report titled Supplemental Environmental Assessment are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from City of Kelowna (the "Client") and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided by the Client to applicable authorities having jurisdiction and to other third parties in connection with the project, Stantec disclaims any legal duty based upon warranty, reliance or any other theory to any third party, and will not be liable to such third party for any damages or losses of any kind that may result.

Prepared by: Dufaut, Taylor Digitally signed by Dufaut, Taylor Date: 2026.02.04 10:32:30 -08'00'
Signature

Taylor Dufaut, B.Sc.
Environmental Scientist
Printed Name

Reviewed by: Penner, Michelle Digitally signed by Penner, Michelle Date: 2026.02.04 10:25:22 -08'00'
Signature

Michelle Penner, R.P.Bio.
Aquatic Biologist
Printed Name

Approved by: Richardson, Noelle Digitally signed by Richardson, Noelle Date: 2026.02.04 10:11:26 -08'00'
Signature

Noelle Richardson, GIT
Environmental Scientist
Printed Name

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Acronyms / Abbreviations

AIA	Archaeological Impact Assessment
BC	British Columbia
BMP	Best Management Practice
CEMP	Construction Environmental Management Plan
cm	centimetre
the City	City of Kelowna
DBH	diameter at breast height
DFO	Fisheries and Oceans Canada
DP	Development Permit
EA	Environmental Assessment
ECCC	Environment and Climate Change Canada
EFN	environmental flow needs
EM	Environmental Monitor
ESC	erosion and sediment control
ESA	Environmentally Sensitive Area
HWM	High-water mark
km	kilometre
LWD	large woody debris
m	metre
m^2	square metres
m^3/s	cubic metres per second
mg/L	milligrams per litre
mm	millimetre
MOTT	Ministry of Transportation and Transit
NEDP	Natural Environment Development Permit
NTU	Nephelometric Turbidity Units
OCP	Official Community Plan
ONA	Okanagan Nation Alliance
the Park	Parkinson Recreation Park
PRC	Parkinson Recreation Centre
the Project	Redevelopment of Parkinson Recreation Centre
QEP	Qualified Environmental Professional

RMA	Riparian Management Area
Stantec	Stantec Consulting Ltd.
TOR	Terms of Reference
Ursus	Ursus Heritage Consulting
WFN	Westbank First Nation
WLRS	Ministry of Water, Land, and Resource Stewardship

1 Introduction

The City of Kelowna (the City) has retained Stantec Consulting Ltd. (Stantec) to provide environmental services for the proposed redevelopment of Parkinson Recreation Centre (PRC; the Project), which consists of the construction of a new PRC, redevelopment of the Parkinson Recreation Park (the Park), and naturalization of Mill Creek, which flows through the Park. The Project overlaps with five parcels in Kelowna, British Columbia (BC; the Property):

- 1700 - 1800 Parkinson Way, PID 001-556-789, Plan KAP32159, Lot 2
- 1800 Parkinson Way, PID 003-512-126, Plan KAP32159, Lot 18
- 1456 Spall Road, PID 005-788-820, Plan KAP37596, Lot A
- Plan KAP27683, Lot: PARK
- 1800 Parkinson Way, PID 006-285-368, Plan KAP23634, Lot 2

In February of 2025, Stantec prepared an Environmental Assessment (EA) report to support the City in obtaining a Natural Environment Development Permit (NEDP) for two components of the Project: the new PRC building and the Park. The February 2025 EA report excluded the works planned for naturalizing Mill Creek to accommodate the Project schedule; the new PRC building and the Park have been under construction since spring 2025 under the NEDP #25-0055.

This supplemental EA has been prepared to support the second NEDP for the Project, specifically for works within Mill Creek and the Mill Creek riparian area which will be referred to as the Project Footprint in this report (Figure 1). The history of anthropological development along Mill Creek has impacted the floodplain and riparian habitat, affecting the quality and function of fish habitat in the Project Reach. The purpose of the Mill Creek naturalization is to increase the quantity and quality of habitat for resident rainbow trout (*Oncorhynchus mykiss*) and kokanee (*Oncorhynchus nerka*) and the quantity and quality of the surrounding riparian habitat. The Project will make improvements to the channel by increasing the wetted area and the hydraulic, geomorphic, and habitat complexity in Mill Creek. Improvements to the surrounding riparian area will include planting native species, removing invasive plant species, and planting a multi-storied vegetation community.

1.1 Project Background

In 2019, the City secured a grant from the Infrastructure Canada Disaster Mitigation and Adaptation Fund to protect areas adjacent to Mill Creek against extreme flooding while also enhancing fish habitat. The City retained Okanagan Nation Alliance (ONA) to prepare a fish habitat assessment report on Mill Creek (2021) as part of a master plan for the restoration of lower Mill Creek. ONA focused their assessment on lower Mill Creek from Okanagan Lake to the Mill Creek diversion, 8.9 kilometres (km) upstream of Okanagan Lake. The ONA report (2021) summarizes fish habitat conditions within Mill Creek and provides restoration recommendations. The report splits Mill Creek into five reaches, with Reach 3 overlapping with the Project Footprint.

This EA has been prepared for the naturalization works in Mill Creek and the Mill Creek riparian area, which is scheduled to be completed in 2026. Reach 3 of Mill Creek, which is within the Project Footprint, is approximately 670 metre (m) long (Figure 1). The extent of Reach 3 is bounded by the Harvey Avenue (Highway 97) crossing at the downstream extent and at the upstream (east) bridge (49.88506 N, -119.45683 W) at the upstream extent within the Property boundary (Figure 1).
The naturalization of the Project Footprint will enhance fish habitat in Mill Creek within the Park and will be constructed in two sections (Phase 1 and Phase 2) concurrently by two crews (Figure 1):

- Phase 1 – Upstream: Extends approximately 325 m downstream from the upstream tie-in location at the farthest upstream (east) pedestrian bridge (49.88506 N, -119.45683 W) to another existing pedestrian bridge north of the Parkinson Activity Centre (49.88366 N, -119.45906 W) (Appendix A - Drawing RIV-101).
- Phase 2 – Downstream: Extends downstream from the Phase 1 tie-in point (49.88366, -119.45906) for approximately 345 m to the Ministry of Transportation and Transit (MOTT) culvert beneath Harvey Avenue (Highway 97).

Detailed designs for the Mill Creek naturalization are included in Appendix A.

- Watercourse Centerline
- Parcel Boundary
- Property
- Existing 15 m Riparian Management Area
- Natural Environment Development Permit Area - Watercourse
- Project Footprint
- Proposed 15m Riparian Area – Mill Creek Alignment
- Phase 1/2 Boundary

0 50 100 150 200 m

1:5,000 (at original document size of 8.5x11)

Notes
1. Coordinate System: NAD 1983 UTM Zone 11N
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada
3. Orthoimagery: Google Earth 2024

Stantec

Project Location:
Kelowna, BC
NTS 50K Grid: 82E/14

Project Number: 144325039
Prepared by LSTEWART on 20260108
Requested by TDUFAUT on 20260107
Checked by XXX on 2026xxxx

Client/Project/Report
City of Kelowna
Parkinson Recreation Centre
Supplemental Environmental Assessment

Figure No.
1

Title
Overview of Mill Creek Naturalization

1.2 Description of Proposed Upgrades to Mill Creek

The proposed Project works include realigning the Mill Creek stream channel and widening it to 9.1 m (where possible) to increase instream area and flow capacity, grading and developing a larger floodplain area, removing concrete retaining walls to naturalize the channel banks, increasing instream complexity (e.g., installation of large woody debris [LWD] and boulders), and installing pools and spawning habitat for fish. Additionally, vegetation will be planted within the 15 m Riparian Management Area (RMA) throughout the majority of the Project Footprint using native species. Phase 1 includes installation of a wetland feature, removal of one pedestrian bridge, installation of one new pedestrian bridge, and upgrades to an existing pedestrian bridge. Phase 2 includes removal of three pedestrian bridges and installation of one new pedestrian bridge. Each bridge will be clear span. Instream works are to occur during the proposed work window (see Section 6.2.1). Site preparation that can be done above the HWM including vegetation removal, stripping, temporary clear-span bridge crossings, construction on clear span bridges, and floodplain grading and landscaping will occur outside of the proposed timing window. The Project has a total proposed construction footprint of approximately 29,864 m^2 which is includes 6,506 m^2 for the proposed instream habitat.

To facilitate construction during the proposed construction period, the discharge of Mill Creek will need to be capped at 0.5 m^3/s to allow for feasible flow isolation and water bypass during the proposed work window (Section 6.2.1). If flows are above 0.5 m^3/s in early July 2026 (when works are proposed to start), water diversion to Mission Creek is required and the City, who operates the Mill Creek to Mission Creek diversion, will draw down water levels in Mill Creek slowly prior to instream works. Water diversion will occur in accordance with the mitigation measures outlined in Section 6.7.

Mill Creek construction has been split into two phases (see Section 1.2) and for each phase the scope of work is expected to be conducted in 12 stages:

1. Site preparation – clear, grub and remove vegetation
2. Mobilization and set up – prepare lay-down area and office and install environmental measures (i.e., ESC and bypass pipe)
3. Infrastructure removal and topsoil stripping – remove concrete pads and park tables/benches, strip surface material, initiate clear-span bridge works including temporary vehicle crossings (above HWM)
4. Mill to Mission Creek water diversion (if required)
5. Creek bypass – isolate and dewater work area, including fish salvage
6. Excavation – remove existing channel materials (i.e., concrete banks, existing substrates)
7. Creek construction – grade new channel, install substrate material and features (e.g., spawning gravels, riffle structures), and install bank material including bridge abutments below the HWM
8. Re-introduction of creek flow – return flows to the reconstructed Mill Creek channel
9. Bridge construction – place bridge assembly and structure (above HWM)
10. Landscaping – install topsoil, grade, plant trees/shrubs, and seed

11. Clean up and rehabilitation – remove non-biodegradable and non-permanent materials and install temporary fencing
12. Demobilization – remove remaining equipment from site

Staging and laydown areas within the Property will be required to facilitate the Project. The selected construction contractor is working with the PRC building and Park contractor to coordinate size and location of the laydown and staging areas. The laydown and staging area locations will be outside the RMA, where possible, and will be approved by the Environmental Monitor (EM) prior to starting work. The Project will require heavy machinery (e.g., excavator, dump trucks, etc.) to access Mill Creek. To allow in-channel works to be conducted "in-the-dry", a temporary water diversion will be used to divert flow from Mill Creek around the construction area (Section 6.7.1). Prior to dewatering, a fish salvage will be completed. The temporary diversion is assumed to be a pump-around system consisting of 10" pumps pumping the creek through pipes that will be laid approximately parallel to the channel with a sheet pile cofferdam blocking flows into the isolation area at the upstream end; however, specific methods will be confirmed by the contractor and approved by the EM prior to installation. A downstream cofferdam will be installed immediately upstream of the diversion pipe outlet, and energy dissipators installed as an erosion protection measure. Once channel construction is complete, the downstream cofferdam will be removed first, and then the upstream cofferdam will be removed slowly to limit sediment pulses. The selected construction contractor will develop a plan for water diversion in accordance with Section 6.7.1 and provide it to the QEP (who oversees the EM) for review and comment prior to construction.

In-channel and riparian construction in Mill Creek includes, but is not limited to:

- Excavation to remove existing riparian vegetation and existing channel and bank material
- Removal of four pedestrian bridges and construction of two new clear span bridges as well as upgrades to an existing clear span pedestrian bridge to increase freeboard
- Excavation of a new channel and regrading of the floodplain
- Installation of instream habitat features (e.g., pools and riffles, spawning gravels, LWD, and boulders)
- Addition of topsoil and regrading the floodplain
- Construction of a wetland adjacent to the new channel
- Restoration of disturbed areas within the Project Footprint including riparian planting and hydroseeding per landscape designs (Appendix A), and with a seed mix approved by the QEP assigned to the Project

Following construction, the instream and riparian offsets will be monitored to evaluate the success of the Project. Offset monitoring will occur in accordance with regulatory requirements including a *Fisheries Act* authorization and Section 11 Change Approval under the *Water Sustainability Act* (pending issuance) and will include an annual report to summarize the effectiveness of the habitat enhancement works.

1.3 Project Schedule

The naturalization of Mill Creek within the Project Footprint is scheduled to start in March 2026 and be completed in November 2026. The tentative high-level Project schedule is shown in Table 1-1 but is subject to change depending on permitting, design development, and procurement. The schedule described in Table 1-1 is only for tasks associated with the Naturalization of Mill Creek and not the PRC building expansion. The City will work with the construction contractor to confirm scheduling.

Table 1-1 Tentative Project Schedule for the Naturalization of Mill Creek (2026)

Stage	Activities	Proposed Start Date	Proposed End Date
Site preparation	1. Clear, grub, and remove vegetation	March 1	March 26
	2. Mobilization, install environmental controls (e.g., erosion and sediment control [ESC], bypass pipe), initiate clear-span bridge work above high-water mark (HWM)for both temporary and permanent clear-span bridges	March 26	July 1
	3. Infrastructure removal and strip ground material		
Mill to Mission Creek Diversion (prior to instream works)[1]	4. If water flows are above 0.50 cubic metres a second (m^3/s) in mid-June 2026, water will be diverted from Mill to Mission Creek using the existing Mill to Mission Creek diversion.	June 15	As needed (flow-dependent)
Instream works (to occur during proposed instream work window)[1,2]	5. Creek bypass - isolate and dewater work area, with fish salvage completed prior to July 1	July 1	September 1
	6. Excavation of existing channel		
	7. Creek construction, including installation of bridge abutments below the HWM		
	8. Re-introduction of creek flow		
Rehabilitation and site clean up	9. Bridge deck construction	September 1	November 30
	10. Landscaping		
	11. Rehabilitation and site clean up		
	12. Demobilization		

Notes:
The dates apply to 2026, where Phase 1 and Phase 2 will be constructed concurrently.
[1] Mill Creek water levels need to be capped at 0.50 m^3/s during instream works due to pipe bypass capabilities.
[2] If flows are above 0.50 m^3/s during the proposed instream work window in 2026 water will be diverted from Mill to Mission Creek (using the existing Mill to Mission Creek diversion).

1.4 Scope of Assessment

The proposed development includes replacing 670 m of the concrete-lined Mill Creek channel within the PRC property with a widened channel and naturalized floodplain, as well as planting a dense native riparian system. This EA report has been completed for the proposed upgrades to Mill Creek that have potential to impact environmentally sensitive areas, including the NEDP areas, and follows report requirements outlined by the City for NEDP guidelines as per the City's Official Community Plan (The City 2022a; Figure 1).

The scope of this EA report is to:

- Determine the amount (in square metres [m^2]) of Environmentally Sensitive Areas (ESAs) within the Project Footprint using the City's four class rating system.
- Describe the proposed upgrades to Mill Creek according to the detailed design.
- Provide a summary of regulatory requirements applicable to the naturalization of Mill Creek.
- Assess potential effects of the Project on environmental resources.
- Outline construction environmental management plans to mitigate impacts to environmentally sensitive resources within and adjacent to the Project Footprint, including environmental monitoring during construction.
- Complete a habitat balance to show habitat impacts and compensation proposed for the Project.

The four class rating system for ESAs was used to classify habitat within the Project Footprint. An impact summary table (Table 5-1, Section 5) was developed to show the proposed amount of habitat impacted through the naturalization of Mill Creek. Section 7 discusses habitat compensation.

1.5 Study Area

The Project Footprint consists of the area of direct disturbance within the Property, which includes the existing Mill Creek alignment and the 15 m RMA. The Project Footprint overlaps with three parcels owned by the City (Figure 1):

- 1700 - 1800 Parkinson Way, PID 001-556-789, Plan KAP32159, Lot 2
- 1456 Spall Road, PID 005-788-820, Plan KAP37596, Lot A
- Plan KAP27683, Lot: PARK

The upstream extent of Mill Creek within the Property is located at the crossing within the PARK lot (Plan KAP27683) and the downstream extent is at the Mill Creek and Highway 97/Harvey Avenue crossing (Figure 1). The downstream extent overlaps with a right-of-way for the Ministry of Transportation and Transit (Figure 1). The City has received written confirmation from the Ministry of Transportation and Transit that a Highway Use Permit is not required to complete the channel work adjacent to the culverts under Highway 97/Harvey Avenue, as it is considered maintenance. Project terminology to describe the areas within the Property are presented in Table 1-1.

Table 1-2 Project Terminology

Term	Description
The Property	Location of the Project which includes five parcels encompassing the redevelopment of the PRC, Park, and Mill Creek upgrades (Figure 1).
Study Area	A 2 km buffer around the Property for the purposes of identifying potentially sensitive environmental resources that may be disturbed directly or indirectly by the Project works.
RMA	The riparian management area adjacent to watercourses that provides riparian vegetation and ecosystem connectivity. The RMA is defined as the 15 m setback from top of bank of Mill Creek as specified in the City's OCP for the reaches downstream of Hardy Street (Figure 1; the City 2022a).
Project Footprint	Direct disturbance of the Property in the 670 m reach of Mill Creek and the 15 m RMA through anticipated construction activities, including permanent disturbance (Figure 1). The temporary construction footprint is not included as the Project Footprint as this was captured in the previous EA for the new PRC building and the Park.

1.6 Engagement with Indigenous Groups

The City respectfully acknowledges that the Mill Creek naturalization is taking place on the territory of the Syilx Okanagan people. The City has undertaken consultation with local groups and agencies with an interest in the proposed works. The ONA has been engaged as a technical advisory group, and two Westbank First Nation (WFN) members have been hired as Indigenous Collaborators to incorporate Syilx perspectives. The ONA report (2021) was used to inform designs and incorporate traditional ecological knowledge from the ONA and WFN into restoration recommendations.

Stantec understands that the City has had ongoing engagement with ONA and WFN through the inception of the Mill Creek Linear Park Master Plan in 2000, and during planning and implementation on other reaches of Mill Creek, such as the enhancement of Mill Creek at the Burne Avenue crossing which is downstream of the Project Footprint. Specifically, ONA and WFN provided feedback on native riparian species to be included in the riparian planting plan and recommendations on instream habitat complexity features. The City has also engaged with ONA and WFN on the Project since 2022, and the Mill Creek naturalization was incorporated into the Project in August 2024.

The initial meeting that Stantec attended with ONA was on August 21, 2024. The Project, including Mill Creek naturalization, has virtual biweekly meetings to discuss progress where WFN is invited and typically attends. WFN attends these bi-weekly meetings to provide ongoing feedback during the planning and design process. The biweekly meetings started to involve the Mill Creek naturalization in September 2024 and are ongoing.

Engagement activities with Indigenous Groups are summarized in Table 1-3.

Table 1-3 Engagement Activities with Indigenous Groups

Date	Indigenous Group	Topic	Means of Engagement / Discussion Topics
August 21, 2024	ONA	Initial Meeting – Introduction	In-person site walkthrough of the Project Reach. The City, ONA, and Stantec discussed the objectives of Mill Creek Naturalization and the criteria developed during their 2021 report. Primary goals discussed included widening the channel, installing pool and riffle sequencing, adding spawning material appropriate for salmon and trout species, and replacing non-native tree species with culturally important species.
September 26, 2024 – ongoing (bi-weekly)	WFN	Engage WFN on planning the redevelopment of PRC	First virtual bi-weekly PRC redevelopment meeting that incorporated Mill Creek naturalization. Bi-weekly meetings were held prior to September 2024 to discuss the redevelopment of PRC (which excluded Mill Creek until August 2024). Since September 26, 2024, design progress on Mill Creek has been discussed in bi-weekly meetings to solicit feedback from WFN. This included a discussion of WFN support in conducting an archaeological impact assessment. Topics of biweekly meetings include the incorporation of Indigenous values into the design elements, such as storytelling, integration with nature, educational elements, sustainable practices, use of natural material, community gathering spaces, and art and symbolism. As a result, the Project has included a cultural gathering area next to Mill Creek, plans to re-use removed trees for benches, and new signage for learning opportunities along pathways.
November 22, 2024	ONA, WFN	Updated Mill Creek Conceptual Designs	Virtual meeting to provide updates on Mill Creek designs, discuss the concepts and solicit feedback. Overall, support was expressed for the Mill Creek design concepts.
November 25, 2024 – ongoing (weekly)	WFN	Engage WFN on planning Mill Creek naturalization	First virtual meeting WFN attended to participate in weekly meetings with the City and consultants on planning Mill Creek naturalization, specifically (separate from the Project). Discussion topics include the status of the pre-design assessments, the design, reporting, and regulatory submissions. During these meetings, updates on design has been provided and solicited feedback for the inclusion of the gathering space into the grading of the floodplain as well as riparian vegetation species in the landscape plan. Engagement and feedback from WFN is intermittent (i.e., WFN is not in attendance weekly). In general, they have expressed support with the progress of Mill Creek naturalization plans.
April 29, 2025	ONA, WFN	Mill Creek Detailed Design Review	Virtual meeting to present the detailed design for Mill Creek works and solicit feedback. WFN indicated that they discussed the Mill Creek Project with Chief and Council and received positive feedback. The following additional feedback was provided: • Recommend reaching out to the En'owkin Centre and Okanagan Indian Band for opportunities to purchase native species. • Inclusion of wildlife habitat is supported; however, consider risks of wildlife crossing high traffic areas to access habitat. • Remove invasive plant species (e.g., Siberian elm [*Ulmus pumila*]) and incorporate Indigenous species.

Date	Indigenous Group	Topic	Means of Engagement / Discussion Topics
			• Bench the wetland to increase variety of habitat.
May 21, 2025	ONA[1]	Mill Creek Mitigations During Construction for Protection of Fish	Virtual meeting to discuss the timing of the variance that will be requested for the instream work window. Given the timing of spawning rainbow trout (spring) and migrating kokanee (mid-summer for fall spawning), Stantec solicited feedback on potential impacts to fish and appropriate mitigations to either extend the least-risk window into the fall (e.g., July 31 – September 30) or earlier in the spring (e.g., June/July to later August). The ONA was supportive of an earlier instream work window with the application of spawning deterrents for rainbow trout, rather than potentially preventing kokanee adults migrating upstream in the fall. WFN confirmed support with this approach during the next weekly Mill Creek meeting. This was also favoured by the City and was incorporated into this application.
June 5, 2025	ONA	Mill Creek Updated Proposed Instream Work Timing	Email communications to confirm ONA's support to request an early instream work window after the City raised concerns about the environmental flow needs (EFN) during June/July. To be able to initiate instream works before the end of spring freshet, management of flows may be required at the Mill Creek to Mission Creek diversion, which the City is able to implement. However, reducing flows within Mill Creek to 0.5 m^3/s, which is the proposed flow required to facilitate construction, is less than the EFNs that ONA indicated for that time of year (2020). ONA confirmed that the proposed reduced flows are within the expected realm of deviations from EFN (and above critical low flows) and that this approach was still supported.

Notes:
ONA – Okanagan Nation Alliance
WFN – Westbank First Nation
[1]WFN was invited but could not attend.

2 Site Conditions and Environmental Values

2.1 Desktop Review and Site Assessment

Stantec completed a background (desktop) review within the Study Area of publicly available information and a field assessment within the Property to assess site conditions and characterize vegetation, wildlife and wildlife habitat, and fish and fish habitat values that have the potential to be affected by the Project. A field assessment was completed by two Stantec Qualified Environmental Professionals[1] (QEPs) on October 10 and 25, 2024. The field assessment focused on the environmental resources present within the Property, specifically where the Project Footprint overlaps with the RMA of Mill Creek (Figure 1Figure 2). The purpose of the field assessment was to confirm the findings of the desktop review and characterize existing environmental conditions as they relate to vegetation, wildlife and wildlife habitat, and fish and fish habitat values present within and adjacent to the Project Footprint.

Results of the assessment and description of the existing conditions are described in the February 2025 EA. A photolog showing existing conditions of the Project Footprint is included in Appendix B.

2.2 ESA Mapping Methods

The City's Terms of Reference (TOR; the City n.d.) require the stratification of the Property based on the area's environmental sensitivity. This follows the Environmental Inventory Phase, Impact Assessment Phase, and Protection, Mitigation, Compensation, and Implementation Strategy of the City's TOR (the City n.d.) for an EA under the City's guidance. The Project does not trigger a provincial Environmental Assessment as defined under the Reviewable Project Regulations under the BC *Environmental Assessment Act*. The February 2025 EA identifies environmental values that are to be protected during proposed site development. This supplemental EA report evaluates potential effects of the Project on the existing conditions for environmental features within the Project Footprint.

ESAs were stratified into categories of "environmental sensitivity" for mapping to describe the Project Footprint's environmental and biophysical characteristics. The condition of vegetation and ecological communities and occurrence of environmentally sensitive features (wildlife habitat, bird nesting habitat, fish habitat) were used in mapping ESA areas.

ESAs are ranked using the following four class rating system as per the City's TOR (n.d.):

> ESA – 1 *(Very High) - These areas contain significant vegetation and wildlife characteristics representing a diverse range of sensitive habitat. These features contribute significantly to the overall connectivity of habitat and ecosystems. Avoidance and conservation of ESA-1 designations should be the primary objective. If development should occur within*

[1] Qualified Environmental Professional: is registered under the *Professional Governance Act* and is a professional holding any of the designations defined in the BC Regulations (2019). The individual must be in good standing with the regulatory body under the Act for the individual's profession, and when conducting the assessment, the individual is acting within their area of expertise and scope of professional practice.

these areas, compensation to promote no net loss at a ratio of 3:1 of equivalent functioning habitat may be required only after it proves impossible or impractical to maintain the same level of ecological function. Refer to the City's Official Community Plan (OCP) Chapter 7.8 for aquatic habitat compensation policies.

ESA – 2 *(High) – These areas of moderate significance contribute toward the overall diversity and contiguous nature of the surrounding natural features. If development is pursued in these areas, portions of the habitat should be retained and integrated to maintain the contiguous nature of the landscape. Some loss to these ESAs can be offset by habitat improvements to the remaining natural areas found on a property.*

ESA – 3 *(Moderate) – These areas are typically delineated as low significance representing disturbed habitats of fragmented features. These areas contribute to the diversity to the landscape although, based on the condition and adjacency of each habitat, significant function within the landscape is limited. If development is pursued in these areas, the impacts should be offset by habitat improvements in other more sensitive natural areas found on a property.*

ESA 4 – *(Low) – These delineated areas contribute little or no value to the overall diversity or vegetation, soils, terrain, and wildlife characteristics of an area. Development is encouraged to be focused on these sites before consideration of developing higher rated sites of the area. These areas shall not be considered as areas for restoration and enhancement or as recruitment as higher value ESAs in offsetting development in other areas.*

Spatial boundaries of ESAs were delineated using the Central Okanagan Sensitive Ecosystem mapping database as a base map (Ryan et al. 2022) and the City's TOR as guidance (the City n.d.). Stantec mapped ESAs in the Project Footprint in a manner consistent with the City's TOR (the City n.d.). The City's OCP requires projects to comply with RMA minimum setbacks (i.e., buffers on streams and wetlands) for the protection of sensitive ecosystems. ESAs were delineated as a basemap (Iverson 2008) and stratified using ArcGIS tools (i.e., ArcGIS Pro 3.0[2]). The ESAs were then ground-truthed during the field assessment by evaluating the site condition (e.g., level of disturbance), vegetation and ecosystems present, wildlife habitat suitability, wildlife species at risk with potential occurrence, and professional interpretation.

2.2.1 ESA Mapping Results

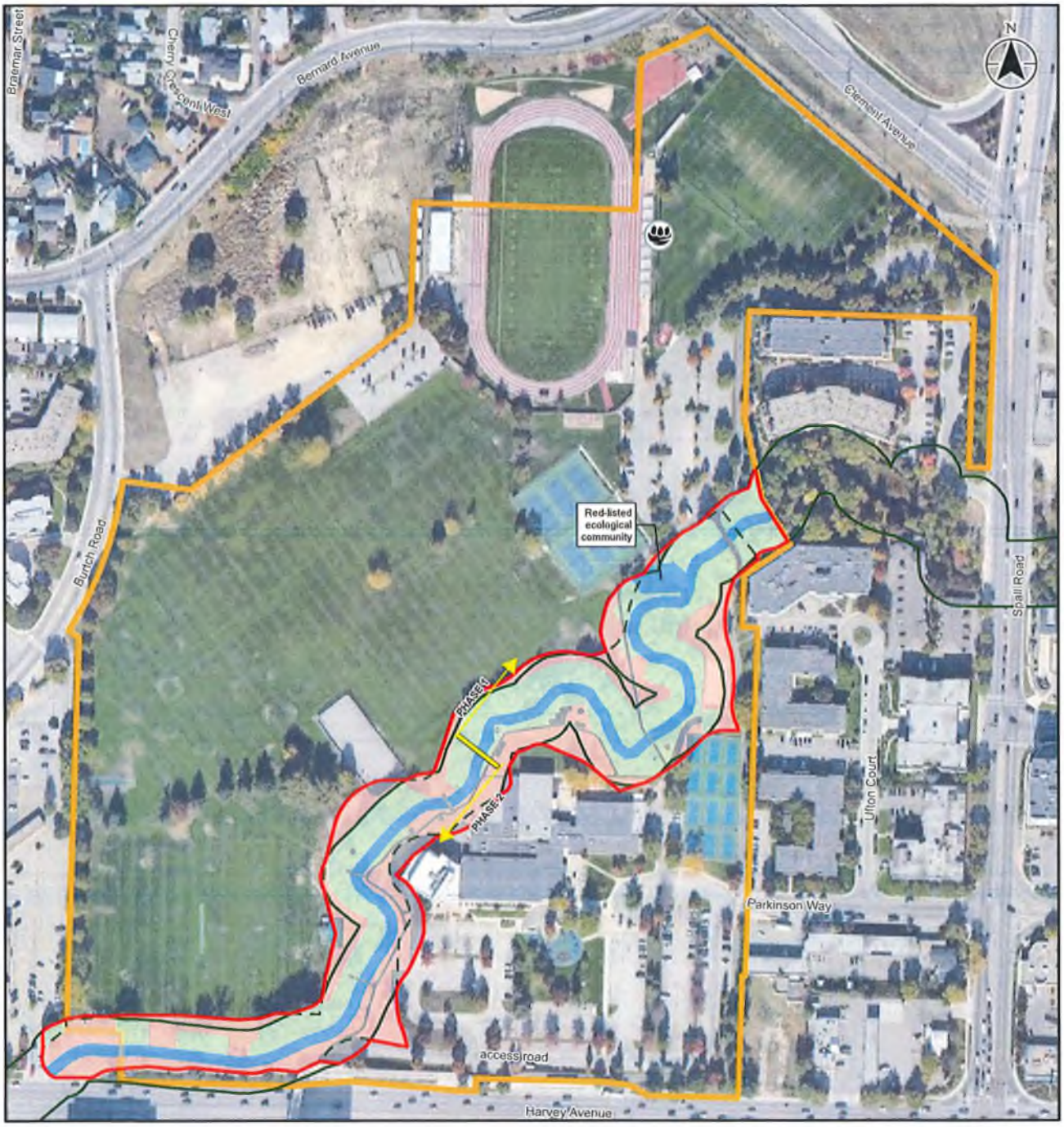
ESAs are summarized in Figure 2. Due to its high ecological significance and sensitive habitat, Mill Creek is classified as ESA 1 while intact riparian vegetation within the surrounding RMA (up to a 15 m buffer) is classified as ESA 2. Manicured lawn and hardscapes within the RMA were classified as ESA 3 and ESA 4, respectively (Figure 2). The RMA provides connectivity to the naturalized terrestrial areas south of the Kelowna Cemetery across Spall Road, which connects to Dilworth Mountain and is used by wildlife. Although weeds and invasive plants were observed within the ESA 2 areas due to the proximity to

[2] ESRI 2024. ArcGIS Pro Desktop: Release 3.0. Redlands, CA.

disturbance along paved areas, the RMA, particularly a small portion of the Phase 1 reach has significant vegetation cover and contributes to the diversity and contiguity of the landscape. An additional ESA 1 area has been categorized within the Phase 1 reach due to the presence of the red-listed ecological community (black cottonwood / common snowberry – roses [*Populus trichocarpa / Symphoricarpos albus - Rosa* spp.]; Figure 2).

The proposed works for the Mill Creek naturalization will take place within the existing stream channel (this is required to create the new, naturalized channel) and within the existing and proposed RMA. Areas that provide functioning riparian habitat adjacent to the creek and are within the proposed RMA are classified as ESA 2, and pre-disturbed areas showing limited or no native vegetation growth are classified as ESA 3. Disturbance to ESA 2 and 3 areas will be replaced with functioning riparian habitat. Areas with existing paved surfaces (e.g., walking paths) are classified as ESA 4. The proposed RMA will replace pre-existing paved surfaces and pathways with riparian habitat to naturalize the areas along Mill Creek.

Potential Project-related effects and mitigation measures are described in Section 4 and Section 6, respectively. The extent of each ESA within the Project Footprint of the proposed Mill Creek naturalization is summarized in Section 5.



Notes
1. Coordinate System: NAD 1983 UTM Zone 11N
2. Data Sources: DataBC, Government of British Columbia; Natural Resources Canada
3. Orthoimagery: Google Earth 2024

- Property
- Existing 15 m Riparian Management Area
- Project Footprint
- Proposed 15m Riparian Area – Mill Creek Alignment
- Phase 1/2 Boundary
- Nest Location

Environmentally Sensitive Area
- ESA 1
- ESA 2
- ESA 3
- ESA 4

0 50 100 150 m
1:3,500 (at original document size of 8.5x11)

Stantec

Project Location:
Kelowna, BC
NTS 50K Grid: 82E/14

Project Number: 144325039
Prepared by LSTEWART on 20260108
Requested by TDUFAUT on 20260107
Checked by XXX on 2026xxxx

Client/Project/Report
City of Kelowna
Parkinson Recreation Centre
Supplemental Environmental Assessment

Figure No.
2

Title
Environmentally Sensitive Areas

2.3 Effects Assessment Methods

Stantec identified potential Project-related effects on environmental components based on recommendations provided in the OCP's guidelines for NEDP areas and the TOR (the City 2022a., n.d.). The OCP (the City 2022a) recommends limiting impacts on environmental sensitive areas by:

- Protecting, restoring, and enhancing ESAs as functioning ecosystems
- Protecting and enhancing water quality
- Protecting drinking water sources and subsurface aquifers against possible contamination from land use and development activities
- Managing the introduction and spread of invasive species
- Limiting soil disturbance
- Protecting hydrological functions
- Protecting biodiversity, as well as wildlife habitats, features, and functions
- Promoting the efficient use of water to ensure a sustainable hydrologic system

3 Regulatory Framework

Environmental permits and approvals required to facilitate the naturalization of Mill Creek are included in Table 3-1.

Table 3-1 Federal, Provincial, and Municipal Regulations and Approvals Anticipated for Instream Riparian Activities Works

Environmental Permits and Approvals for Construction	Regulatory Agency	Description
Fisheries Act Authorization	DFO	An application for an authorization under the *Fisheries Act* was submitted to Fisheries and Oceans Canada (DFO) July 19, 2025 (No. 25-HPAC-00816)
Water Sustainability Act – Section 11 Change Approval	WLRS	An application for a Section 11 Change Approval was submitted to the Ministry of Water, Land, and Resource Stewardship (WLRS) July 19, 2025 (No.100481810)
Wildlife Act – Scientific Fish Collection Permit	WLRS	A scientific fish collection permit will be applied for a minimum of 30 days prior to planned construction. This must be in place prior to salvage of aquatic species.
Natural Environment Development Permit Area (Riparian Management Area Variance; Kelowna Official Community Plan [the City 2022])	the City	A development permit for proposed works within Mill Creek is required and will be submitted in January 2026. This Supplemental EA will support the DP application.

Note:
DFO – Fisheries and Oceans Canada; WLRS – Ministry of Water, Land and Resource Stewardship; the City – City of Kelowna.

As detailed design is underway to prepare an Issued for Construction drawing set, there is an area between the Parkison Activity Centre (Appendix A: Drawing Riv-101 shown as "Existing PAC Building") and Mill Creek where the path profile may have to be raised to meet the new bridge elevation, which is higher to meet freeboard requirements. Stantec and the City met with the regional Chief Dike Inspector, Shaun Reimer, to discuss applicability under the *Dike Maintenance Act*, and received confirmation that the proposed berm would be exempt as it would meet the definition of a "private dike" as defined on the Act[3].

[3] *Dike Maintenance Act*, RSBC 1996, C95.
https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/96095_01

4 Potential Project Effects

The following information was considered during the assessment of potential Project-related effects for the naturalization of Mill Creek:

- The Project Footprint as shown in Figure 1.
- High level understanding of the construction schedule and approach.
- Environmental conditions, specifically the presence of, or potential for, species or ecosystems of conservation concern or sensitive areas (included in the February 2025 EA)
- Desktop and field assessment observations for vegetation, wildlife and wildlife habitat, fish and fish habitat (included in the February 2025 EA).
- Potential interactions between vegetation, wildlife and wildlife habitat, fish and fish habitat, and Project impacts from construction.
- Implementation of environmental mitigation measures to avoid or reduce identified Project-related effects.

Potential Project-related adverse effects on vegetation, wildlife, and aquatic resources can be avoided and reduced through the implementation of mitigation measures developed in consideration of applicable legislation, regulations, and industry best practices. Mitigation measures to address potential effects of the Project are presented in Section 6.

4.1 Vegetation

Potential Project-related effects on vegetation consist of the following:

- **Change in ecosystems**: twelve invasive species and 117 non-invasive trees are planned to be removed for the naturalization of Mill Creek (Appendix A– Drawing L-100). Vegetation removal within the Project Footprint could result in change in ecosystems.
- **Spread of noxious weeds:** due to the ground disturbance associated with the Project, there is potential for noxious weed species to be spread during site preparation, construction, and post-construction activities, including during equipment mobilization and soil disturbance. Ground disturbance may create microhabitats that favour the proliferation of invasive or noxious weed species.

An arborist has conducted a Property-wide tree survey and Stantec's landscape architects have developed a restoration design to offset trees impacted within the RMA (Appendix A – Drawing L-101 and L-102). In consideration of retaining mature non-invasive species, the landscape architects and creek design engineers collaborated to retain fifteen existing trees (Appendix A – Drawing L-100); the 117 non-native trees requiring removal were either going to be directly impacted by widening the creek

channel, changes to the channel alignment, and/or regrading the floodplain, or will be indirectly impacted through their root systems.

The quantity and size (diameter at breast height [DBH]) of trees that will be impacted as a result of the naturalization of Mill Creek are summarized in Table 4-1. Tree removals under this development permit (DP) application are summarized by size to inform tree replacement quantities based on the City's tree replacement criteria (2022b). The quantity of trees that have been removed for the PRC building and Park under the NEDP #25-0055 have been compensated for as per the landscape plan submitted under that DP.

Table 4-1 Tree Removal associated with Mill Creek Naturalization

Diameter at Breast Height (centimetre [cm])	Quantity of Trees Removed
0 – 15.1	14
15.2 – 30.4	20
30.5 – 45.6	33
45.7 – 60.9	18
>61.0	32
Total Removals	**117**

4.2 Wildlife and Wildlife Habitats

Potential Project effects on wildlife and wildlife habitat include:

- **Change in habitat**: the removal or alteration of vegetation due to clearing required for naturalization of the creek and related changes in drainage patterns may result in change in habitat for some wildlife species. Construction noise may result in temporary disturbance of wildlife. Erosion, sedimentation, or spills/leaks (e.g., hydrocarbon, concrete wash water) may result in changes in water quality for wildlife.
- **Change in mortality risk**: ground disturbance and vegetation clearing during construction may result in physical destruction of key habitat features (e.g., nests, small mammal burrows). Vehicle and equipment movement during construction may result in accidental mortality of smaller, less mobile species or individuals (e.g., snakes, rodents). Animal-vehicle collisions with larger species (e.g., deer) may occur during construction activities.
- **Change in wildlife movement**: alteration or blockage of wildlife movement due to physical barriers, sensory disturbance, or vegetation clearing. Habitat fragmentation and/or loss of wildlife movement corridors from Mill Creek to upland habitat.

4.3 Fish and Fish Habitat

Potential effects of the Project on local fish and fish habitat consist of the following:

- **Change in fish habitat:** alteration of the channel and banks and loss of mature riparian vegetation (i.e., loss of cover) will alter fish habitat.
- **Change in fish passage:** isolation of the Project Footprint will temporarily block fish passage.
- **Changes to water quality**: potential impact on water quality due to sedimentation on Mill Creek and connected downstream habitats during construction and potential to increase total suspended solid concentrations/turbidity in Mill Creek. The Project also has potential to introduce deleterious substances into Mill Creek (e.g., accidental hydrocarbon releases).
- **Changes to flows**: naturalization of Mill Creek will require isolation, bypass, and dewatering of the work area and will have potential impacts to flows including change in water quantity, water quality, water velocities, and water depths downstream of the work area.
- **Change in fish mortality risk**: mobilization and transport of sediment resulting in fish mortality from gill abrasion and/or limited foraging ability, or mortality of fish eggs. Death of fish during temporary dewatering within the isolation area to facilitate work in the dry. Increased risk of mortality to fish from potential spills/leaks from construction equipment.
- **Introduction of invasive aquatic species**: introduction of invasive aquatic species from contaminated equipment.

5 Impact Summary

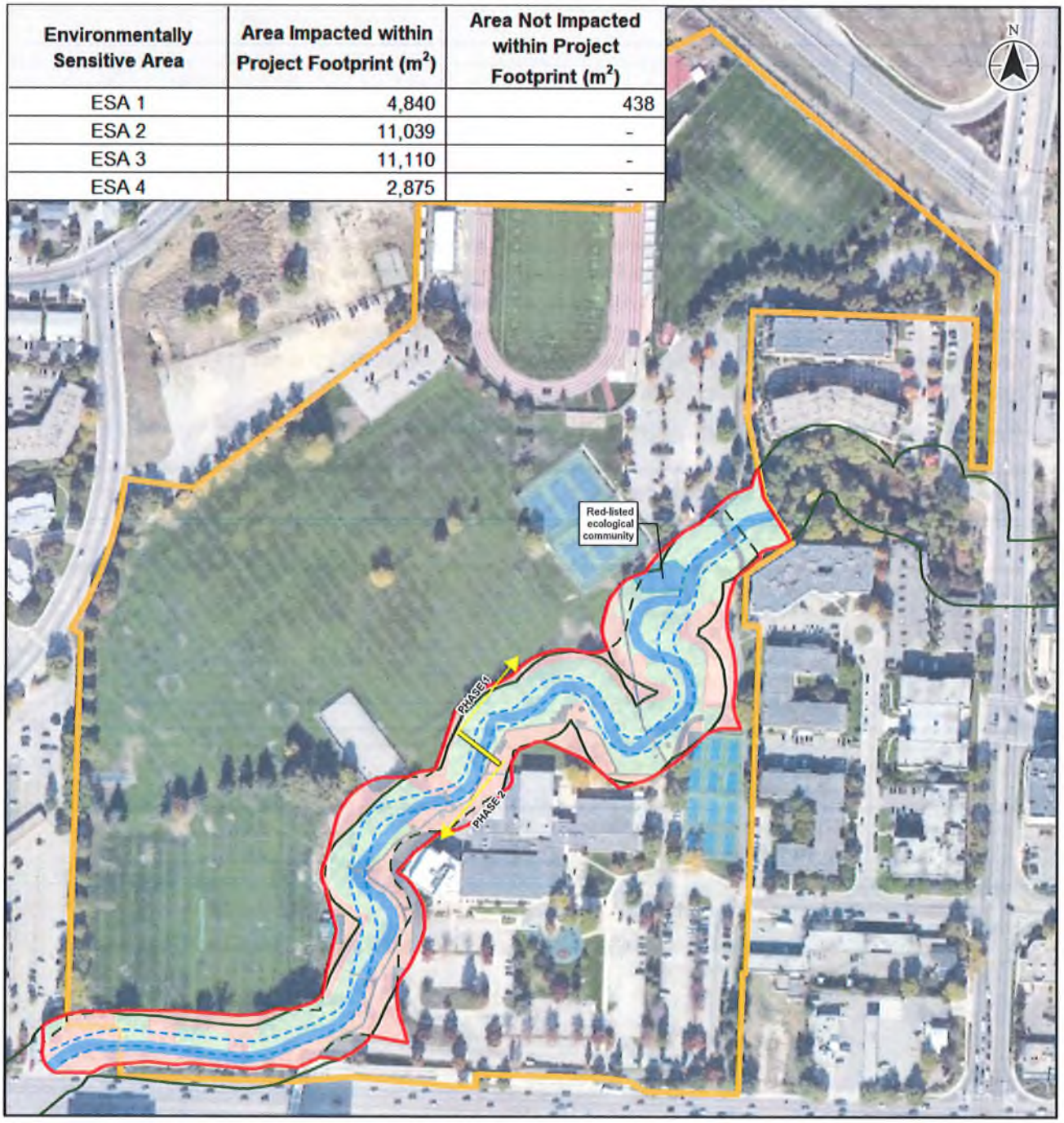
The Project Footprint and ESAs are presented in Figure 3 and total area of disturbance for each ESA class is summarized in Table 5-1.The Project requires permanent disturbance to ESA 1 (4,840 m^2) due to the creek channel realignment and naturalization; however, this is necessary to reconstruct the channel and the Project is anticipated to result in a net gain of ESA 1 habitat. No disturbance will occur within the red-listed ecological community. The Project will also impact ESA 2 areas (11,039 m^2), ESA 3 areas (11,110 m^2), and ESA 4 areas (2,875 m^2).

Table 5-1 Potential Project-Related Effects to ESAs Within the Project Footprint

ESA Classification	Habitat Type within Project Site	Area of Disturbance within Permanent Project Footprint	
		(m^2)	(%)
ESA 1 (Very High)	Creek channel, riparian buffer 3 to 5 m from top of bank[1]	4,840	16.2
ESA 2 (High)	Functioning riparian habitat adjacent to creek within 15 m Mill Creek RMA	11,039	37.0
ESA 3 (Moderate)	Manicured lawn within the 15 m Mill Creek RMA	11,110	37.2
ESA 4 (Low)	Paved pathways, infrastructure (e.g., outdoor gym)	2,875	9.6
Total		**29,864**	**100**

Note:
[1] Although the red-listed ecological community is designated as ESA 1 in the Project Footprint, it is excluded from the area of disturbance as it will be retained.

Environmentally Sensitive Area	Area Impacted within Project Footprint (m^2)	Area Not Impacted within Project Footprint (m^2)
ESA 1	4,840	438
ESA 2	11,039	-
ESA 3	11,110	-
ESA 4	2,875	-



Notes
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3. Orthoimagery: Google Earth 2024

Property
Existing 15 m Riparian Management Area

Project Footprint
Proposed 15m Riparian Area – Mill Creek Alignment
Proposed Top of Bank
Phase 1/2 Boundary

Environmentally Sensitive Area
ESA 1
ESA 2
ESA 3
ESA 4
ESA 1 red-listed ecological community to be retained

0 50 100 150 m
1:3,500 (at original document size of 8.5x11)

Stantec

Project Location:
Kelowna, BC
NTS 50K Grid: 82E/14

Project Number: 144325039
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Figure No.
3

Title
Project Impacts

6 Construction Environmental Management Plan

The purpose of this Construction Environmental Management Plan (CEMP) section is to summarize Project-specific mitigation measures that will be implemented during construction to avoid, limit, and mitigate potential environmental impacts. The CEMP is a living document and will be updated as needed to incorporate new or additional information relevant to the Project.

This CEMP is based on findings from the February 2025 EA and this Supplemental EA. The CEMP provides recommendations to reduce Project-related effects on ESAs, vegetation, and fish and wildlife species and their habitat within and adjacent to the Project Footprint. Construction recommendations are proposed to meet or exceed the objectives for protecting, restoring, or enhancing ESAs, as defined by the TOR (the City n.d.). The following mitigation measures are applicable to the naturalization of Mill Creek and there will be environmental oversight throughout construction, particularly during periods or activities of higher environmental risk (e.g., vegetation clearing during bird nesting periods, dewatering).
The measures provided in this section have been developed based on accepted best management practices (BMPs), standard industry procedures, and an understanding of the environmental baseline conditions within the Project Footprint.

The CEMP has been prepared to provide:

- An overview of key construction roles and responsibilities (Section 6.1)
- Project-specific construction mitigation measures (Section 6.2 to Section 6.12)
- Construction environmental monitoring program to be followed during construction (Section 6.13)

This CEMP documents commitments to undertake the Project in an environmentally sustainable manner, using BMPs and mitigations in compliance with regulatory requirements for protection of environmental resources. The management plans and monitoring protocols outlined in this CEMP may be re-evaluated to update and improve the overall environmental management and protection related to the construction contractor's site-specific plans as construction progresses.

6.1 Roles and Responsibilities

The roles and responsibilities of the Project Team are described in Table 6-1.

Table 6-1 Roles and Responsibilities of the Project Team

Role	Environmental Responsibilities
Project Owner (the City)	• Overall responsibility for delivery of the Project. • Coordinates with the Owner's Project Manager, QEP, and landowners and stakeholders. • Holds required regulatory approvals for construction. • Notifies regulatory agencies or authorities of environmental non-compliance or environmental incidents, where applicable. • Addresses in-person public inquiries from the public
Engineer of Record / Construction Inspector(s) (Stantec)	• Coordinates with the Project Owner, Contractors, and QEP. • Provides the contractor(s) and EM with detailed designs and specifications for construction. • Understands details of the Project by reviewing relevant documentation and regulatory approvals (e.g., CEMP, environmental permits/approvals). • Supports contractor in correcting deficiencies and non-compliances as they are identified, or upon direction from the EM and/or regulators. • Coordinates with the EM to confirm that the contractor(s) at the site receive an orientation on the contents of the CEMP. When the EM is unavailable, provides orientations to managers, site supervisors and crew leaders so they can distribute relevant information to their crews. • Collects and maintains an inventory of hazardous materials on-site (safety data sheets) as provided by Contractor(s).
Construction Contractor(s)/ Subcontractor(s) (to be confirmed)	• Understands details of the Project by reviewing relevant documentation and regulatory approvals (e.g., CEMP, environmental permits/approvals). • Carries out works according to approved designs and standards, regulatory requirements, this CEMP, BMPs listed herein and, if required, contractor-specific environmental protection plans. • Verifies that their personnel (including subcontractor(s)) are appropriately trained and competent in the use of environmental protection and mitigation measures as outlined in this CEMP (e.g., sediment, waste, spill, and noise control measures). • Notifies the Construction Inspector and/or EM of any observed or potential environmental noncompliance activities or conditions with this CEMP. • Maintains an inventory of hazardous materials on-site and provides Safety Data Sheet to construction inspector. • Immediately reports incidents to the EM(s) and Construction Inspector(s) and initiates an appropriate response. • Corrects deficiencies and non-compliances upon direction from the EM(s) or delegate, and/or regulators. • Coordinates with the EM or inspects equipment and materials that come to the site to verify that they are free of deleterious substances and invasive species. • Directs all in-person public inquiries to the Project Owner.

Role	Environmental Responsibilities
Owner's QEP/EM (Stantec.)	• The EM will be a QEP or be under the direction of a QEP. • Prepares and updates the CEMP as needed. • Maintains a current version of the CEMP and understands the contents of the CEMP. • Completes and records environmental pre-job meetings with the contractor(s). • Attends health and safety meetings and contractor tailgate meetings, where appropriate, to communicate potential environmental concerns/requirements. • Communicates requirements of this CEMP to the contractor(s). • Has the Stop Work Authority that allows them to suspend Project activities that are causing, or may imminently cause, harm to fish, wildlife, or the environment (e.g., water quality), for non-compliance with this CEMP or contravention of regulatory permits / approvals. • Evaluates and reports on the effectiveness of the environmental mitigation measures and on the contractor's work procedures through regular site visits. • Monitors construction activity to verify that works are undertaken in compliance with the CEMP, environmental permits / approvals, and regulatory requirements. • Measures and monitors water quality in accordance with this CEMP, as and when required. • Advises the contractor of noncompliance and of emerging environmental issues and assists in addressing them. • Provides corrective advice to the contractor, where appropriate. • Maintains records of site visits and advises the contractor(s) promptly of non-compliances with this CEMP. • Writes environmental monitoring reports to be submitted to the contractor(s) or Owner as required, in accordance with this CEMP.

6.2 General Construction Practices

Table 6-2 provides general environmental mitigation measures applicable to Project construction activities. The Contractor is responsible for implementing mitigation measures unless otherwise specified.

Table 6-2 General Construction Mitigation Measures

Category	Mitigation Measure
CEMP, Approvals, and Permits	• A copy of this CEMP and applicable permits will be on-site and readily available.
Meetings and Communication(s)	• A pre-construction meeting with the Project team, including on-site supervisors and EMs, will be held to promote an understanding of the Project, environmentally sensitive areas, the CEMP, reporting responsibilities, and emergency response plans.
	• Update meetings may be required prior to new phases of work or major changes on-site or with the construction work plan.
	• Weekly meetings may be required to update Project personnel on the status of ongoing works, approvals, permits, plans, or other Project-related concerns.
Training	• Contractors will be provided with a copy of the CEMP and should be familiar with the components of the CEMP appropriate to their scope of work.
	• Contractors will be provided with an orientation on the contents of the CEMP completed by the Construction Inspector or EM.
	• Records of CEMP orientations will be kept by the Contractor.
	• Personnel involved with construction activities will be adequately trained or experienced.
Stop Work	• The contractor will stop work and contact the EM for assistance prior to commencing or continuing activities that may pose environmental risk not addressed in this CEMP.
	• The EM will have authority to issue a Stop Work order where activities are adversely affecting, or will adversely affect, the environment including, but not limited to, water/sediment quality and/or habitat. The EM will also make recommendations in the field for avoiding and mitigating impacts to the environment, where measures in this CEMP are not effective.
Construction Area	• The construction area will be limited to the extent possible.
	• The contractor, with input from the EM, will delineate the construction limits to identify work areas, sensitive habitats, and no-go zones.
Site Cleanliness	• The site will be kept tidy during activities and left in a good condition at the end of the Project.
Stockpiles/ Laydown Areas	• Stockpiling of material and the configuration of the laydown area shall be in accordance with BMPs and limited to approved areas.

Category	Mitigation Measure
Deleterious substances	• Construction materials will be free of deleterious substances that may be harmful to fish, fish habitat, or water quality (e.g., fine sediments, hydrocarbons, contaminants).
	• Boulders used instream will not be acid rock generating.
	• Machinery will be cleaned prior to arriving on-site and inspected/maintained for the duration of the Project to limit leaks/spills.
	• Equipment and machinery will use bio-degradable fluids, where possible.
	• Fueling will be conducted away (>30 m, where possible) from potential surface discharge locations, watercourses, sumps, drains, and catch basins and follow protocols listed within Section 6.11.
	• No cement wash, leachate, or raw cement will be discharged to a stream, watercourse, or drainage without treatment and/or monitoring for pH and turbidity.
Water Quality: Oil and Grease	• No oil and grease (detectable by sight or smell) will be released to the aquatic environment. • Oily waste will be stored in sealed containers and disposed off-site at an approved disposal site.
Vegetation and Wildlife	• Activities will be completed in such a way as to limit impacts and disturbance to vegetation and wildlife.
	• Report encounters or discoveries of wildlife within the site to the EM (e.g., snake sightings, bird nests, small mammal entrapment).
Air and Noise Quality	• Limit equipment and machine idling.
	• Turn off heavy equipment when inactive for more than 30 minutes.
	• Verify that equipment and machinery are in good operating condition prior to work.
	• Carry out regular maintenance on equipment and machinery.
	• Equipment and machinery will have noise abatement equipment (e.g., mufflers) in good working order.
	• Smoking will only be permitted in designated areas.
	• Fire suppression equipment must be present at designated smoking areas.
	• Fires and burning of rubbish and vegetation is not permitted on-site.
Demobilization and Cleanup	• Temporary construction materials, machinery, tools, and structures not related to long-term features or mitigations should be removed from the site.
	• Remove non-biodegradable erosion and sediment control materials once the site is stabilized.
	• Reclaim disturbed areas following the completion of the Project, if applicable.
	• Reclamation and revegetation (if applicable) will be reviewed by a QEP for completeness prior to final demobilization.

6.2.1 Timing Windows

Environmental resources like fish and wildlife may be more affected by disturbances during certain times of the year. There are designated "least-risk" windows when activities can occur with reduced likelihood of negative impacts. It is recommended to avoid Project activities that could cause disturbance or harm or that these activities are scheduled in accordance with periods of lower risk. Table 6-3 provides the high-risk times for wildlife and the lowest risk timing windows for wildlife and fish, respectively that may be affected by the Project.

Table 6-3 Project Timing Windows

Resource	Active Periods (higher risk)[a]	Timing Window (lower risk)[b]	Source
Fish	N/A	August 7 to August 19	BC Gov. 2018
Migratory birds (nesting period)	March 26 to August 16	N/A	Environment and Climate Change Canada (ECCC) 2025
Raptors (nesting period)	February 5 to September 30 in the Thompson/Okanagan Region (although nests are protected year-round)	N/A	BC Gov. 2013

Notes:
[a] Peak activity. Awareness of, and mitigation for, incidental discovery outside of these periods is recommended.
[b] Least Risk Timing Window for instream work in the Thompson/Okanagan region; work within this period is recommended.

The scope of work for the Project cannot be completed within the prescribed least-risk window for fish for Mill Creek, which is a 13-day period; therefore, the City has requested an extension to the least risk window with DFO and WLRS as follows:

- July 1 and September 1 (62 days)

Instream works are proposed from July 1 to September 1, as this will partially overlap with the provincial least risk instream work window for Mill Creek. Although it overlaps with eight days of the expected kokanee migration period (August 25 to October 8), kokanee within this reach have typically been observed arriving later in September, and it avoids overlap with the anticipated kokanee spawning period (September 17 to October 13; ONA 2021). Additionally, the Project proposes to install spawning determents in Mill Creek in early April, prior to rainbow trout spawning, which typically starts in May in Mill Creek. The spawning deterrents will be installed after 50% emergence of kokanee has occurred (expected to be end of March). These measures will limit potential impacts to fish eggs during the Project, despite some works occurring outside of the least risk window for fish.

To support an instream work window as early as July 1, spring freshet flows need to be considered for bypass pumping capabilities. If flows are above 0.50 m^3/s as of July 1, 2026, water diversion will be required from Mill Creek to Mission Creek using the existing Mill to Mission Creek diversion.

Water diversion will occur in accordance with the City's existing water licence (Section 9 Licence #504805 under the *Water Sustainability Act*). This approach was recommended by ONA, who confirmed that environmental flow needs would be sustained at 0.50 m^3/s.

6.3 Site Access, Mobilization and Laydown Areas

The measures outlined in Table 6-4 will be employed during construction to limit the environmental effects associated with access, mobilization, and laydown.

Table 6-4 Mitigation Measures for Access, Mobilization and Laydown

Category	Mitigation Measure
Mobilization	• Contractor to plan out mobilization strategy to reduce the number of trips to and from the Project work area.
Laydown	• Establish the laydown areas for equipment and material on a flat, stable area where environmental risk is limited. • Stockpiling of rock material containing fine, erodible sediment or fill material will not be stored within 15 m of Mill Creek unless it is covered and appropriate BMPs are applied to mitigate runoff.
Access	• Limit the riparian area that will be disturbed during access and use pre-existing roads as access routes where possible. Areas impacted by construction will be restored to pre-existing conditions, if not already part of the PRC building or Park developments. • Clearing areas should be limited, delineated, and reviewed with the EM prior to construction.

6.4 Vegetation Management

Table 6-5 outlines mitigation measures that will be implemented during Project-related activities to reduce the disturbance of vegetation that will not be removed as part of the Project and to protect existing native trees and plants.

Table 6-5 Vegetation Mitigation Measures

Category	Mitigation Measure
Access	• Limit the riparian area that will be disturbed during access and use pre-existing trails, roads or cut lines as access routes. • Reduce vegetation removal to only what is required for construction and site safety. Flag limits of disturbance prior to entering new areas. • Retain mature trees, wildlife trees, and native vegetation unless the trees must be removed for the construction footprint or the safety of construction personnel. • Retain the red-listed ecological community east of the new building development. The QEP will flag the outer limits of the red-listed ecological community to protect the community from the disturbance during construction.

Category	Mitigation Measure
Laydown	• It is anticipated that the laydown area will be limited to a previously disturbed area. • Construction materials will not be stored on vegetated areas unless approved by the EM. Laydown areas will be discussed with the contractor. If required, site-specific mitigation will be implemented for the laydown area.
Rare Plant Sightings	• If a previously unidentified rare plant is found prior to or during construction, those areas will be flagged and avoided where possible. If not possible, then a QEP will determine appropriate mitigation.
Tree Injury	• Avoid disturbing the roots of large diameter mature trees (over 20 cm DBH) that are not being removed for the Project, setbacks are to be informed by a QEP when trees are identified that will not be disturbed.
Restoration and Replanting	• Restore grassland communities as soon as possible post-construction using a certified weed-free native grass seed mix in accordance with the landscape plan. • Stockpile topsoil separately from subsoil for use in reclamation. • Locate stockpiles on previously disturbed areas, where possible. • Restore disturbed areas as soon as possible once construction is completed.

6.5 Wildlife Management

The following mitigation measures are intended to reduce effects on wildlife and wildlife habitat during Project construction. Table 6-6 outlines the mitigation measures and BMPs to prevent and mitigate potential wildlife effects and human interactions.

Table 6-6 Wildlife Mitigation Measures

Category	Mitigation Measure
Birds and Bird Nests	• If tree, shrub, or grassland vegetation removal occurs between March 26 and August 16 (ECCC 2025), the Stantec QEP will conduct pre-disturbance bird nesting surveys to avoid contravening the *Migratory Birds Convention Act*, 1994. If active nests are found within the clearing limits, establish a buffer around the nest that is appropriate for the species affected in consultation with the QEP. • If clearing has not commenced within three days following the nest survey, another nest survey must be completed before clearing can proceed. • Migratory bird nests are protected while they are active (i.e., the nest is occupied) or suspected to be active. If a bird nest is encountered during construction, the EM will be contacted immediately. • The unoccupied nests of certain species (listed in Schedule 1) are protected under the Migratory Bird Regulations. The duration of protected status can extend from 12-36 months depending on the species. Consult with a QEP if the nest of an unknown bird is observed.

Category	Mitigation Measure
Birds and Bird Nests (cont'd.)	• Nests of eagles, peregrine falcons (*Falco peregrinus*), gyrfalcons (*Falco rusticolus*), ospreys (*Pandion haliaetus*), great blue herons (*Ardea herodias*), and burrowing owls (*Athene cunicularia*) are protected year-round under the provincial *Wildlife Act,* regardless of their status. If a raptor or heron nest is encountered during construction, work in the vicinity of the nest will be stopped and the Project QEP will be contacted immediately. ▪ An osprey nest is over 100 m north of the Project Footprint at the Apple Bowl; however, construction traffic will use a road to and from the Project Footprint that is within the 100 m buffer. Ospreys are relatively tolerant of human activity (BC Gov 2013); however, an environmental monitor will monitor the osprey nest during monitoring visits (see Section 6.13) for evidence of sensitivity while nesting. • The nests of barn swallow (*Hirundo rustica*) are considered residences under SARA and are protected from May 1 or the date when adults are first seen building or occupying the nest, whichever is earlier, to August 31 or the date when a bird is last seen at the nest, whichever is later. If a barn swallow nest is detected during construction, the QEP will be contacted immediately.
Birds and Bats	• If required, nighttime lighting for the Project should include the following measures to reduce the risk of injury or mortality and disruption of movement for birds and bats: ▪ Use directional or shielded lighting to reduce the vertical and horizontal distribution of light (Fure 2012; Elmeros et al. 2016) ▪ Use amber coloured LED lights (with a wavelength of 600 nanometres) that are less visible to bats, where possible (Fure 2012; Elmeros et al. 2016)
Bats	• Active season for bats is March 1 to November 1 with maternity season typically May-September (BC Bats 2017). Bats may use cavities in larger diameter trees to roost (day roost, night roost, or maternity roost). Prior to removing large diameter trees (>50 cm DBH), QEP to conduct a survey to look for potential roosting habitat. If roosting habitat is identified, QEP to conduct emergence surveys at night prior to tree removal. If no bats are observed, tree removal to be completed within 3 days of the emergence survey. If bats are identified, a one-way trap can be installed onto the cavity, and another emergence survey is to be completed prior to tree removal.
Badgers	• Suspend construction and notify the QEP if American badgers (*Taxidea taxus*) are found in the work area. Works will be suspended until the badger(s) leave the construction area. If an active badger den is observed within or proximal to the Project, construction will be suspended until the den is determined to be inactive. If an active badger den is observed, the QEP must contact the WLRS.
Snakes	• If clearing and grubbing occurs between April 1 and October 31 (i.e., when snakes are out of hibernation and most active), pre-clearing snake surveys may be required to reduce the risk of mortality. • The QEP will decide if and where wildlife exclusion fencing for reptiles is needed.
Wildlife Discovery Contingency	• If wildlife is detected within the worksite, including laydown areas and temporary workspaces, prior to or during construction, the EM should be informed promptly. The EM will contact a QEP, as necessary. • Incidental wildlife observations/encounters (e.g., discovery of a previously unseen nest) will be reported to the QEP prior to conducting work that would disturb that wildlife.

Category	Mitigation Measure
General Wildlife Management	• Project wastes and recycling materials, food wastes, and wastes associated with equipment maintenance and repairs temporarily stored onsite will be stored in wildlife proof containers and will be regularly transferred to an approved disposal or sorting facility. • Secure wildlife attractants (e.g., garbage, food) in buildings or cab of work vehicles. • Wildlife incidents related to garbage or human food attractants will be reported to the EM. • Feeding of wildlife will not be permitted. All meals and food waste will be securely stored in vehicles, offices, or appropriate disposal facilities to prevent attraction of wildlife.
Dead, Sick, Injured Animals	• Observations of dead, sick, or injured animals will be reported to the EM immediately.
Project Access and Area	• The contractor will consult with the EM when selecting Project access routes, to consider resident flora and fauna, especially during times of the year when they are most sensitive (e.g., during the growing season, during peak activity periods). • The worksite should be clearly delineated by the contractor. Equipment presence will be restricted to the immediate work area. The establishment of approved work areas will limit disturbance and the potential to alter, damage, and/or destroy wildlife habitat and sensitive ecosystems. • Where possible, top danger trees instead of felling them and retain them as wildlife habitat.
Wildlife Stress	• Activities should be completed in such a way as to reduce stress and disturbance to resident flora and fauna. • The active work area should be routinely inspected by the on-site EM for presence of species of conservation concern and sensitive habitat features (e.g., bird nests).

6.6 Fish Salvage and Relocation

Prior to isolation and dewatering of Mill Creek in the work area, a fish salvage will be required to limit the potential for fish stranding or mortality. The extent (duration/level of effort) of the fish salvage will be determined by the QEP leading the fish salvage crew and will be based on a diminishing catch-per-unit-effort, and the terms and conditions of applicable permits.

The recommended approach to the fish salvage and relocation is described below:

- Install a temporary fish exclusion net upstream and downstream of the construction area.
- Reinforce the fish exclusion nets with chain link fencing to support isolation nets, if required.
- Fish salvage within the exclusion will be completed using minnow traps, beach seine, dip netting, and electrofishing (if water temperatures are between 5 and 20°C) where feasible; fish will be relocated upstream or downstream of the exclusion nets.
- When the QEP determines that fish have been substantially removed from the area, flows can be diverted to dewater the work area.

- An EM will remain on-site during the flow bypass and assess the habitat as it dewaters.
- As the water level is drawn down, the EM will salvage remaining fish from isolated pools with a beach seine and dip nets.

6.7 Water Bypass and Monitoring

6.7.1 Water Bypass

To facilitate construction in the dry, Stantec understands Mill Creek will be isolated and flow within the creek will be diverted around the work area using dams, bypass pumps, hoses, bypass conduits, or other methods acceptable to the QEP. The contractor will prepare the water bypass plan which will be reviewed by the QEP prior to construction. The plan will be in adherence to the Requirements and Best Management Practices for Making Changes in and About a Stream in British Columbia (BC Gov. 2022) and DFO's Standard for In-water Site Isolation (2025). The following mitigation measures are intended to reduce effects on fish and fish habitat during Project construction:

- Construction will be completed in compliance with regulatory permits (i.e., City DP, Section 11 Change Approval under the *Water Sustainability Act*, *Fisheries Act* Authorization, and the Scientific Fish Collection Permit), BMPs and the CEMP.
- Construction materials will be free of deleterious substances that may be harmful to fish, fish habitat, or water quality (e.g., fine sediments, hydrocarbons, contaminants).
- Machinery will be cleaned prior to arriving on-site and inspected/maintained for the duration of the Project to limit leaks/spills.
- Equipment and machinery will use bio-degradable fluids, where possible.
- In-water works shall be completed during the least risk timing window for Mill Creek (August 7 – August 19), unless a variance is approved (see Section 6.2.1).
- A fish salvage will be completed prior to instream works to facilitate construction in the dry (Section 6.6)
- The work area will be isolated from flowing water in a manner that does not cut off flow downstream of the work area at any time during construction.
- Water bypass and pumps will be monitored 24-hours per day and back-up pumps will be available on site.
- Appropriate fish screen requirements will be adhered to during the bypass process as per DFO's Interim code of practice: End-of pipe fish protection screens for small water intakes in freshwater (2020).
- The point of discharge will be located immediately downstream of the worksite to limit disturbance to downstream fish populations and their habitat. Methods for the bypass are to be confirmed by the contractor, but proposed methods are to use physical barriers (e.g., sheetpiles, bulk bags)

upstream and downstream of the work area, diverting flows through a pump-around bypass system.

- Pumps, pipes, or conduits must be sized to divert the 1 in 10-year maximum daily flow for the period of construction.
- Back-up pumps will be available on site.
- The flow from the discharge point will be diffused such that fish habitat is not disturbed and it does not result in erosion and effects on downstream water quality (e.g., using a spray diffuser nozzle system).
- Groundwater (if any) from within the work area will be discharged to a vegetated upland site above the high-water mark to allow for settling of sediment before it re-enters the watercourse. Relocate the outlet hose as required to avoid saturation of the discharge location.
- Upon completion of the works, remove the bypass under direction of an EM. The contractor shall notify the EM prior to (24–48 hours) re-introducing water back into the construction area.

6.7.2 Water Quality Monitoring

Water quality monitoring is intended to identify potential effects to downstream water quality in Mill Creek during construction of the Project. Water quality monitoring will be completed by the EM during Project activities downstream of the worksite, as required (e.g., during the preparation of laydown/staging areas, machine access, isolation and dewatering, channel construction). In situ measurements will be collected both upstream and downstream of the work area; upstream samples will be used to determine background water quality. Downstream water quality will be measured during instream works and as needed at appropriate intervals using portable turbidity monitors. Additional sampling will be completed during significant rain events (i.e., 10 millimetres [mm] in one hour or 25 mm over 24 hours). Water quality results will be included in a daily monitoring report. Table 6-7 describes the in situ water quality parameters that will be measured and the criteria for the BC Approved Water Quality Guidelines (WLRS 2025). Oil and grease will be reported as detected by sight or smell.

Table 6-7 Water Quality Criteria for BC Approved Water Quality Guidelines (WLRS 2025)

Parameter	Water Quality Criteria
Turbidity—Nephelometric Turbidity Units (NTU)	• Change from background of 8 Nephelometric Turbidity Units (NTU) at any one time for a duration of 24 hours in all waters during clear flows or in clear waters. • Change from background of 2 NTU at any one time for a duration of 30 days in all waters during clear flows or in clear waters. • Change from background of 5 NTU at any time when background is 8–50 NTU during high flows or in turbid waters. • Change from background of 10% when background is > 50 NTU at any time during high flows or in turbid waters.
pH	• Downstream pH is below 6.5 or above 9.0 pH units.
Dissolved Oxygen	• Instantaneous minimum of >5 mg/L or long-term chronic >8 mg/L for all life stages other than buried embryo / alevin

6.8 Erosion and Sediment Control Plan

For the planned construction at Mill Creek, general sediment and erosion control BMPs will be followed during construction for all tasks related to this Project. Further, the contractor will also be required to provide an ESC plan in accordance with BMPs prior to the commencement of the Project. Table 6-8 outlines the mitigation measures for ESC.

Table 6-8 Erosion and Sediment Control Measures

Category	Mitigation Measure
Site Management	• Activities will be completed in such a way as to limit the volume of fines and organic debris that may enter the waterbody (e.g., tarps on stockpiles to prevent debris from entering the channel). • When Project activities have the potential to release sediment, ESC measures (e.g., erosion control fabric, plastic sheeting, straw wattles, silt fences, gravel check dams, etc.) will be installed by the contractor between construction areas and water, as required prior to construction, and in consultation with the EM. Additional site-specific protection measures may be required at the direction of the EM or their delegate. • Install silt fencing prior to works along the downslope construction limit where there is potential for downslope transport of sediment prior to ground disturbance. • Stake the silt fence into the ground and bury the base a minimum of 15 cm to prevent sediment transport underneath the fence. • Locate soil stockpiles within the construction limit, upslope of silt fencing. • Do not stockpile material within 15 m of Mill Creek or the red-listed ecological community. • Cover stockpiled material with tarps during periods of high rainfall. Install silt fencing immediately downslope of stockpiles to capture loose and eroding material if there is a risk of material draining to Mill Creek.

Category	Mitigation Measure
	• Keep additional erosion and sediment control materials on site (e.g., silt fence, filter fabric, hay bales). • Revegetate areas as soon as possible post construction, following the landscape plan.
Water Bypass	• If ditches, bypasses, or water pumps are constructed or used to control Project construction water, they will discharge the water downstream of the worksite and outside of sensitive habitats. Flows that exceed applicable water quality parameters (Table 6-7) should be diverted to a sediment containment area or vegetated area where flow can slowly infiltrate.
Weather Events	• ESC measures will remain in place throughout construction activities and until construction is complete, ground conditions have stabilized, and water quality (measured by turbidity) downstream of the control measures meets background conditions or water quality guidelines as measured by the EM. • Avoid construction during periods of intense rainfall or storm events based on weather predictions and observations to protect the soil structure and reduce the transport of sediment. • During high rainfall, work may be stopped at the discretion of the EM.
Weather Events (cont'd.)	• When rainfall warnings are forecasted, works should be postponed if possible. If not possible, the contractor, in consultation with the EM, will evaluate the worksite and develop further site-specific mitigation measures to address the risk of erosion and sedimentation caused by working in wet conditions. These mitigation measures will be implemented as required. If special materials or equipment are required, works should not commence until such materials and equipment are on-site and control measures are installed. • Inspect erosion control structures on a regular basis and after major rainfalls to maintain effectiveness, to identify where replacement or maintenance is required, and to identify where trapped sediments need to be removed. Undertake repair or maintenance of erosion control structures, as required.

6.9 Invasive and Noxious Weed Management

Vegetation clearing and ground disturbance, combined with the introduction of invasive or noxious weed propagules on Project staff or equipment, can result in the spread of weed species into the site. The introduction of invasive/noxious weeds can result in adverse effects on valued environmental components including native vegetation communities, wildlife, and wildlife habitat. The Project should be undertaken in accordance with the *Weed Control Act* and associated regulation which requires the control of noxious weed species. Mitigation measures that will be implemented during the Project to prevent and reduce the spread of noxious weeds are outlined in Table 6-9.

Table 6-9 Mitigation Measures for Invasive and Noxious Weed Management

Category	Mitigation Measure
Equipment Management	• All equipment should be cleaned prior to entering the site to prevent the introduction of invasive and/or noxious weeds. • Vehicles, equipment, and machinery should avoid driving or parking in or near areas where invasive and/or noxious weeds occur. • Prior to moving vehicles or equipment from an area infested with invasive or noxious weeds to a non-infested area, inspect the undercarriage, remove any attached plants, and wash the undercarriage to remove any plant propagules or soil.
Site Management	• Where possible, retain existing native vegetation and reduce ground disturbance. • Remove invasive species and noxious weeds manually from the Project Footprint prior to construction and discourage their growth by planting native vegetation as soon as possible following removal and post-construction. • The site should be monitored for invasive and noxious weed growth during construction, and corrective measures such as spraying, mowing, or hand pulling implemented to avoid further infestation.
Reporting and Education	• Materials used for ESC (e.g., straw bales) should not contain invasive or noxious weeds; if required for sediment control, use straw bales instead of hay to limit potential introductions of invasive/noxious weeds. • Staff/consultants/Contractors should report the presence of invasive and noxious weed species to the EM so infestations can be mapped and inventoried per the Invasive Alien Plant Program (2026), and appropriate control measures can be undertaken.
Restoration and Reclamation	• Restoration of disturbed areas will be completed post-construction using materials approved by a QEP. This will include hydroseeding and planting of trees and shrubs. The seed mix should be free of noxious weeds (Canada Certified #1 Mixture grade) and contain regionally appropriate (i.e., native) species. • Import clean and certified weed free soils or fill for site construction.

6.10 Air Quality Management

Construction activities during dry periods may create airborne dust, which may affect vegetation, nesting birds, and other terrestrial and aquatic resources. Dust suppression measures such as watering roadways and frequent sweeping should be implemented during construction activities to limit the potential for impacts on terrestrial resources. Chemical dust suppressants will not be employed.

Equipment and vehicles should reduce idling, when possible, to reduce impacts on air quality. Equipment should be well maintained and fitted with mufflers.

6.11 Spill Prevention and Emergency Response

Spill prevention and emergency response provides a course of action for handling spills and emergencies that may occur during construction. Core components of the spill prevention and emergency response guidelines recommend that appropriate spill abatement and clean-up materials (e.g., spill containment

kits) be stored in a designated location(s) on-site, including on heavy equipment (earth-moving equipment) and in vehicles. In the case of a spill, it is required that all used spill abatement and clean-up materials be promptly replaced.

6.11.1 General Spill Prevention and Response Best Management Practices

As defined within the *Fisheries Act*, a spill is a release of a deleterious substance into the environment; and the Spill Reporting Regulation under the *Environmental Management Act* outlines what is considered a reportable spill. Because construction activities require the use of heavy equipment that uses fuels, lubricating oils, and hydraulic fluids, there is potential for these fluids to leak and impact terrestrial and aquatic environments. Consequently, these deleterious substances will be strictly managed.

Typical spill prevention and emergency response mitigation measures that will be used to reduce the potential for adverse effects from the release of a deleterious substance include, but are not limited to:

- Equipment (e.g., earth-moving equipment and hand tools) will be in good operating condition and free of excess oil, grease, and other contaminants deleterious to the environment. Clean the equipment prior to bringing it to site, as required.
- Equipment and machinery should use bio-degradable fluids, if possible.
- Equipment will be inspected daily, for leaks or excess oil and grease.
- Place drip trays under equipment when not in use.
- Do not refuel or service equipment within 30 m of a watercourse or surface water drainage.
- If an equipment leak is detected, stop work with that piece of machinery. As soon as possible, relocate the equipment to an area of least environmental sensitivity as directed by the EM (provided that moving the equipment does not increase the risk of environmental contamination).
- Heavy equipment will carry small spill kits with hydrocarbon soaker-pads for quick spill response.
- Fuel must not be stored on-site within 30 m of a watercourse.
- Waste fuel or products such as filters will be secured in a spill-proof container and discarded at an approved facility.
- An appropriate number of spill containment kits, containing materials appropriate to the works, will be readily accessible on-site in the event of a release of a deleterious substance to the environment.
- On-site staff will be trained in spill response and use of spill containment kits.
- The Project Owner will immediately report any spill of a substance of reportable quantities that is toxic, polluting, or deleterious to aquatic life to the Emergency Management BC Incident Reporting Hotline at 1-800-663-3456 and DFO's Observe, Record and Report Hotline 1-800-465-4336.

Reportable quantities of spills are outlined in the Government of BC fact sheet on Spill Reporting (BC Ministry of Environment and Climate Change Strategy 2024), included as Appendix C. The reportable quantity of flammable liquids is 100 litres.

6.11.1.1 Spill Discovery and Response

If safe to do so, personnel discovering a spill incident will immediately conduct an initial assessment of the magnitude of the problem and whether they can remedy or alleviate the situation to reduce environmental impacts prior to seeking additional help or notifying the EM, Construction Inspector, and/or the Project Owner.

The assessment will include the following:

1. Assess the hazard to persons in the vicinity of the spill and ensure personal safety and the safety of others.
2. Cease operations in the vicinity of the spill (e.g., shutting off faulty equipment if safe to do so).
3. Identify the product and source of the spill.
4. Assess whether the spill can be readily stopped, contained, or brought under control, and, as safety permits, stop or control the spill (commence placement of spill-absorbent materials [e.g., booms, spill pads] on the substance).
5. Report the spill without delay to the Construction Inspector, EM, and the Project Owner verbally then follow up in writing.
6. Resume safe, effective action to contain and clean-up spilled materials.

In the case of more significant spills, a more rigorous response may be required as outlined by the following procedures:

1. **Confirm Safety**
    a. Confirm personal/public, electrical, and environmental safety.
    b. Never rush in; always determine the product spilled before taking action.
    c. Wear appropriate personal protective equipment and consult Safety Data Sheets.
    d. Warn people in the immediate vicinity.
    e. Confirm there is no ignition source present if the spill may be a flammable material.
    f. Only appropriately trained personnel should be responsible for cleaning up and managing the spill.
2. **Stop the Flow (When Possible and Safe to Do So)**
    a. Act quickly to reduce the risk of environmental impacts.
    b. Close valves, shut off pumps or plug holes/leaks, set containers upright.
    c. Stop the flow of the spill at its source.
3. **Secure the Area**

a. Limit access to the spill area.
b. Prevent unauthorized entry onto the site.

4. **Contain the Spill**
   a. Block off and protect drainage pathways. In the event of a spill onto the ground, a spill boom will be placed on the downslope side. The containment boom will be placed downstream where there is a spill to water. If on water, place booms around the spill to prevent the spread.
   b. Prevent spilled material from entering drainage structures (e.g., local watercourses).
   c. Use spill absorbent material to contain the spill.
   d. If necessary, use a constructed dam or other method to prevent any discharge off-site.
   e. Make every effort to limit contamination.
   f. Contain as close to the source as possible.
5. **Clean Up**
   a. Use appropriate equipment to clean-up the spill based on the material spilled.
   b. Technical assistance will be available from the EM on clean-up procedures and residue sampling.
   c. All equipment and/or material used in clean-up (e.g., used absorbent, oil containment materials, etc.) will be disposed of in accordance with regulatory requirements.
   d. Spills may produce hazardous wastes (e.g., material with >3% oil) and contaminated soil. All waste disposals must comply with the *Environmental Management Act* and Regulations.
   e. Contaminated soil will be treated and dealt with as required on a site-specific basis as directed by the QEP.
6. **Notify/Report**
   a. Once the spill is contained, contact the EM and Construction Inspector and inform them of the issue. All spills, regardless of quantity, are required to be reported to the Project Owner and the QEP.
   b. All spills will be reported to the EM. If the EM determines the spill amounts requires external notification, the Project Owner will immediately report details of the spill to Environmental Management BC (24-hour Report a Spill) at 1-800-663-3456 and water users downstream of the Project. A list of materials and reportable quantities has been included in Appendix C.
   c. Spill reports to EMBC must include:
      i. Name and contact phone number of the person reporting the spill
      ii. Name and phone number of the person(s) responsible for the spill
      iii. Location, time, and date of spill
      iv. Material spilled and quantity
      v. Approximate volume of material recovered, if any

vi. Cause and effect of the spill
vii. Action taken to contain the spill
viii. Description of spill location and surrounding area
ix. Duration of occurrence
x. Weather conditions
xi. Planned follow-up
xii. Government agencies on the scene
xiii. Persons or agencies advised or to be advised

d. Environmental "*Near Misses*" will also be reported to the EM.

6.11.2 Spill Response Equipment

Spill response equipment on-site will include, but not be limited to:

- Spill containment kit for the Project area including safety goggles, polyvinyl chloride gloves, 20 absorbent pads, six absorbent booms (minimum 3 m in length), one container of emergency sealant, and five heavy duty plastic bags.
- Hand tools for appropriate clean-up of materials in organic soils.
- Natural absorbent (e.g., Sphag Sorb) to clean-up hydrocarbon spills in standing water or in soils.
- Each piece of construction equipment will carry a spill kit containing ten oil absorbent pad, two absorbent booms, 3 m in length), and two heavy duty plastic bags.

It is the contractor(s)'s responsibility to confirm that personnel on-site are knowledgeable in the application of spill response equipment and receive appropriate training prior to commencing work.

6.12 Waste Management

Waste from the Project has the potential to adversely affect aquatic and terrestrial environments. Typical mitigation measures that will be used to reduce potential adverse effects from waste are outlined in Table 6-10.

Table 6-10 Waste Control Mitigation Measures

Category	Mitigation Measure
Contaminated Soil	• If suspected contaminated soil is present at the time of construction (i.e., visual inspection or odour), the soil should be separated and disposed of off-site at an appropriate facility.
Waste	• Waste or any miscellaneous unused materials will be recovered for either disposal in a designated facility or placed in storage. Under no circumstances will materials be deliberately thrown into the aquatic or terrestrial environment.

Category	Mitigation Measure
	• Litter in the form of coffee cups, lunch wrappers, cigarette butts, and other such items will be disposed of in covered trash containers immediately. • Construction debris/waste will be collected, transported, and disposed of offsite and in accordance with applicable legislation, guidelines, and BMPs.
Portable Toilets	• Portable toilets, if required, will be located a minimum of 30 m from any waterbody or catch basin. Sewage from portable toilets will be disposed of in an approved sewage disposal facility on an as-needed basis.
Hazardous Waste	• Although hazardous waste is not anticipated for the Project, it should be noted that sorbent materials or soils saturated with hydrocarbons (equal to or greater than 3 percent by weight) are classified as hazardous waste under the British Columbia *Environmental Management Act* and must be managed accordingly. • Used petroleum products, including their empty containers, will be collected and transported to a licensed recycling facility in approved storage containers following applicable regulations.
Deleterious substances	• Construction materials will be free of deleterious substances that may be harmful to fish, fish habitat, or water quality (e.g., fine sediments, hydrocarbons, contaminants).
	• Machinery will be cleaned prior to arriving on-site and inspected/maintained for the duration of the Project to limit leaks/spills.
	• Equipment and machinery will use bio-degradable fluids, where possible.
	• Fueling will be conducted away (>30 m, where possible) from potential surface discharge locations, watercourses, sumps, drains, and catch basins and follow protocols listed within Section 6.11.
	• No cement wash, leachate, or raw cement will be discharged to a stream, watercourse, or drainage without treatment and/or monitoring for pH and turbidity.
Water Quality: Oil and Grease	• No oil and grease (detectable by sight or smell) will be released to the aquatic environment. • Oily waste will be stored in sealed containers and disposed off-site at an approved disposal site.

6.13 Archaeological and Heritage Resource Protection

In 2022, the City engaged Ursus Heritage Consulting (Ursus) to carry out an Archaeological Impact Assessment (AIA) for the Lower Mill Creek Improvement Project in Kelowna, which was carried out under BC Heritage Inspection Permit 2021-0319. The AIA (Ursus 2022) covered five reaches along Mill Creek, one of which overlaps the extent the Project Reach. Results of the AIA within the extent of the Project are as follows: (1) no archaeological materials were identified during inspections, and (2) there is low archaeological potential due to the Project area being highly developed and disturbed. Ursus recommended following a Chance Find Procedure during construction activities.

Separately, the City engaged with WFN to carry out an Archaeological Overview Assessment and Preliminary Field Reconnaissance for the greater PRC, to expand the AIA footprint. The Archaeological Overview Assessment was completed by Cabin Resource Management and submitted to WFN in

February 2025, which identified two areas north of Mill Creek with archaeological potential. In April 2025, Ursus completed a Preliminary Field Reconnaissance with representatives from WFN and Okanagan Indian Band and assessed the areas as having a low potential for archaeological materials due to past significant disturbances.

The City commits to engaging with WFN's Archaeology Department to coordinate monitors during ground-disturbance activities. WFN and Okanagan Indian Band had monitors present during excavation for the new PRC building in 2025. The City has confirmed they will contact Westbank Archaeology Department early in 2026 to request for support during site preparation works starting in March. As a result, archaeological considerations, archaeological construction monitoring and Chance Find procedures are being prepared by others.

6.14 Environmental Monitoring, Reporting and Compliance

Environmental monitoring for the Project will verify that construction activities are carried out in accordance with the CEMP and applicable regulatory requirements. The following sections outline the approach, responsibilities, and reporting procedures to maintain compliance during construction.

6.14.1 General Environmental Monitoring

The EM will verify that ongoing Project activities are monitored against this CEMP, construction-specific plans, and applicable regulatory requirements and permit conditions. The EM will be responsible for monitoring of the contractor's compliance with the CEMP; however, it is the contractor's responsibility to complete daily reviews of the site conditions and mitigation measures. If this CEMP is adhered to, the potential for environmental impacts and adverse environmental effects will be reduced.

The EM will attend tailgate meetings, complete machinery inspections, conduct water quality sampling, and provide support/advice on environmental protection measures and mitigation as required to advance construction activities. If the EM is not on-site, the contractor(s) will communicate with the EM to discuss the construction activities, potential environmental risks, and specific mitigation measures. In addition, the EM will confirm with the contractor(s) that new on-site personnel (including subcontractor[s]) understand their environmental responsibilities and the requirements of the CEMP.

On-site personnel should be aware of the potential for environmental non-compliance issues and address and communicate concerns or non-compliances to the EM, Construction Inspector, and/or Project Owner without undue delay. Regular and on-going reviews by the contractor to visually check on water levels and water quality downstream of the work area and signs of releases of deleterious substances will improve early detection of potential releases, failures, and incidents.

It is anticipated that the EM, with oversight from a QEP, will be present during Project initiation, for establishment of environmental mitigation control, and key activities taking place in areas where sensitive environmental features may be affected. Full-time monitoring will be conducted during environmentally

sensitive activities (e.g., initiating water bypass) and continue periodically during inactive periods in the construction schedule at the discretion of the QEP. Responsibilities of the EM, under direction of a QEP, will include:

- Attending key meetings at which environmental protection measures are to be discussed, including the construction kick-off meeting.
- Bringing a copy of this CEMP and regulatory authorizations and approvals to the construction kick-off meeting and keep on site. A description of the mitigation measures and BMPs must be kept readily available at the site by the Contractor for reference while the work is being conducted. Copies of relevant permits and emergency contact information must also be kept on site by the Contractor and readily available.
- Complete a nest survey prior to work commencing if vegetation clearing, grubbing, or ground disturbance will occur during the primary nesting period (March 26 to August 16 [ECCC 2025]).

Being present on site prior to earthworks and vegetation clearing, and after significant precipitation events.

- Conduct environmental monitoring site visits for the duration of the works approved under this DP (estimated to be between March and November 2026). Monitoring visits will include:
    - Water quality monitoring in accordance with Section 6.7.2
    - Monitoring for disturbance to the osprey nest should they be nesting in the nest >100 m north of the building footprint (Section 6.5).
    - Check that silt-fencing and other ESC measures are properly maintained and inspect the site for potential ESC risks.
    - Check that wildlife exclusion fencing (if required by the QEP) is properly maintained.
    - Confirm that spill prevention measures are implemented, such as spill trays under unused equipment, equipment is clean, spill kilts are on site, and fuelling / fuel storage is more than 30 m from Mill Creek.
    - Check that measures to protect vegetation are implemented, protected areas are delineated, and check for invasive and noxious species occurrences.
- Providing recommendations that will improve the efficacy of the environmental mitigation measures.
- Documenting environmental incidents or accidents that occur and provide guidance in addressing such incidents.
- Preparing a final report upon the substantial completion of construction works summarizing the project activities and listing deficiencies noted throughout the works.
- Stopping construction in the event that wildlife is encountered in the Project Footprint and advise the contractor on when they can resume construction.
- Stopping construction if activities contravene mitigation measures or permit conditions.

6.14.2 Stop Work Authority

The EM will have authority to require the constructor to alter the work methodology and/or issue Stop Work orders to reduce or limit environmental impacts and/or adverse environmental effects, whether probable, imminent, or occurring. The EM may also stop work if circumstances are likely to result in a non-compliance with legislation, Project approvals, Project-specific mitigation measures, or this CEMP.

Once corrective actions have been implemented and deemed appropriate by the EM, Project activity will be allowed to resume under the EM's guidance.

6.14.3 Monitoring Reports

The EM is responsible for keeping notes of Project activities and for providing an environmental monitoring summary via email to the QEP and Engineer of Record within 24 hours. The EM will also be responsible for submitting a summary completion report once the works are complete. The completion report will be submitted to the Project Owner and forwarded to regulatory agencies, where required. The monitoring completion report will, at a minimum, summarize:

- Construction activities
- Mitigation measures and activities that have been implemented or recommended
- Non-compliances, environmental incidents, and remedial action taken or implemented to address the non-compliance
- Results of water quality monitoring
- Photographs
- Overall compliance or non-compliance with the CEMP and/or regulatory permits / authorizations

6.14.4 Non-Compliance and Incident Reporting

Non-compliances and incidents must be reported to the Project Owner and the EM. Non-compliances include non-compliance with this CEMP, Project-specific mitigation plans, or project permits / authorizations / legislation (e.g., fish kills). Incidents include workplace incidents such as spills or environmental hazards. The Contractor is responsible for preparing non-compliance and incident reports. The Project Owner is responsible for reporting to regulators. Spill reporting will be completed following the procedures outlined in Section 6.11.1.

The non-compliance and incident reports will include:

- Reporting person's name and telephone number
- Date and time of the non-compliance or incident, including major steps (such as when the incident occurred, when did response occur)
- Location of non-compliance or incident (coordinates if available)

- Description and cause of the non-compliance or incident (if a spill—including type, source, and quantity of material)
- Receiving environment description
- Names of other persons or government agencies notified
- Description of the response and when it occurred
- Details of further action required
- Recommendations for preventative/mitigation measures

6.14.4.1 Issue Resolution

Issues such as a non-compliance or incident must be resolved by the contractor in collaboration with the EM, Engineer of Record, and Project Owner. When a non-compliance or incident occurs, remedial actions must be taken as soon as possible (i.e., as soon as the site is safe). In case of difference of opinion between the contractor(s) and the EM, the Project Owner and QEP will determine the appropriate resolution.

6.14.5 Emergency Contacts

Emergency contacts for the Project are provided in Table 6-11.

Table 6-11 Emergency Contact List

Contact	Phone Number
City of Kelowna Project Manager, Scott Bushell	250-469-8466
Stantec Project Manager, Joel Sawatzky	403-392-7460
Stantec Engineer of Record, Devin Smith	519-546-1092
Stantec Environmental Lead, Noelle Richardson	250-575-4706
Provincial Emergency Program, 24h Spill Reporting	1-800-663-3456
DFO Observe, Record and Report Hotline	1-800-465-4336
DFO, Violations and Reporting, Report All Poachers and Polluters (RAPP)	1-877-952-RAPP (7277)

7 Habitat Restoration and Compensation

Tree removals associated with the Project are detailed in Table 4-1 of Section 4.1. There are 117 trees that require removal (Appendix A – Drawing L-100). Based on their sizes and the City of Kelowna's Tree Protection Bylaw No. 8041 (the City 2022b), a total of 584 trees need to be planted to offset these removals (Table 7-1).

Table 7-1 Tree Removal Replacement Criteria and Requirements

Diameter at Breast Height	Trees Removed	Replacement Criteria	Quantity Required
0 – 15.1 cm	14	2	28
15.2 – 30.4 cm	20	3	60
30.5 – 45.6 cm	33	4	132
45.7 – 60.9 cm	18	6	108
>61.0 cm	32	8	256
Total	**117**	-	**584**

The City of Kelowna's Tree Protection Bylaw No. 8041 (the City 2022b) stipulates that the replacement trees shall be a minimum of 2 m in height for conifers and 60 mm DBH for deciduous species.
The quantity, species, and size of trees proposed for Mill Creek naturalization are in compliance with the City bylaw as shown in Table 7-1 and Appendix A (Drawings L-101 and L-102). The total quantity of trees proposed for planting is 779, an overall replacement ratio of 6.7:1, and a surplus of what is required per the bylaw. In addition, the tree understory will be infilled with 6,376 shrubs (Table 7-1 and Appendix A – Drawings L-101 and L-102).

The riparian enhancement design strives to simulate local riparian communities and use native riparian and culturally important species to enhance the environmental and flood resilience of the area while incorporating native and Indigenous plant species to support local biodiversity and cultural practices. Indigenous species have been incorporated into the planting plan with input from ONA and WFN. Table 7-2 includes the species, quantity, and size of trees proposed based on the City bylaw and feedback from WFN and ONA.

Table 7-2 Species, Quantity, and Size of Trees Proposed for Mill Creek Naturalization

Species – Common Name	Species - Scientific Name	Proposed Planting Plan	
		60 mm caliber[e]	15# pot[e]
Douglas maple[a]	*Acer glabrum douglasii*	-	74
Water birch[a]	*Betula occidentalis*	31	72
Paper birch[a]	*Betula papyrifera*	39	37
Black hawthorn[a]	*Crataegus douglasii*	14	67
Trembling aspen[a]	*Populus tremuloides*	66	284
Black cottonwood[a]	*Populus trichocarpa*	-	60

Species – Common Name	Species - Scientific Name	Proposed Planting Plan	
		60 mm caliber[e]	15# pot[e]
Freeman maple[a]	*Acer x freemanii 'jeffersred'*	6	-
Douglas fir[b]	*Pseudotsuga menziesii*	29[c]	-
	Total Trees by Pot Size	**185**	**594**
	Total Trees	**779**	
	Total Shrubs	**6,376[d]**	

Notes:
[a] deciduous species
[b] coniferous species
[c] specification stipulates 2.5 m height (Appendix A - Drawing L-101)
[d] quantity of shrubs retrieved from Appendix A, drawings L-101 and L-102; shrub container sizes include 250cc plug[e] and #1 pot[e]
[e] Typical dimensions of nursery stock are as follows:
60 mm caliber – 75 mm minimum diameter root ball, 38 mm depth
#15 pot – 431 – 482 mm in diameter, 342 – 393 mm depth
250 cc plug – 47 mm square, 89 mm depth
#1 pot – 150 – 200 mm diameter, 150 – 200 mm depth

Project impacts to ESA areas are shown in Table 5-1 of Section 5. The naturalization of Mill Creek has the following impacts on ESA areas:

- 4,840 m^2 of ESA 1 (instream)
- 11,039 m^2 of ESA 2 (effective riparian vegetation)
- 11,110 m^2 of ESA 3 (manicured lawn)
- 2,875 m^2 of ESA 4 (hardscapes)

Footprints for the naturalization of Mill Creek are considered permanent as the temporary work areas (e.g., laydown areas) have been accounted for in the February 2025 EA report.

The intent of the Project is to create high quality habitat within the existing Mill Creek channel and RMA. As such, the Project will result in the construction of 6,506 m^2 of instream habitat, offsetting the 4,840 m^2 of impacts to ESA 1 (Table 7-3). Further, the Project will result in the planting of 19,435 m^2 of riparian habitat, offsetting for the loss of 11,039 m^2 of existing functioning riparian vegetation. The area of non-vegetated manicured lawn (ESA 3) will be reduced from 11,110 m^2 to 978 m^2 and the area of hardscapes (ESA 4) will be reduced from 2,875 m^2 to 125 m^2 to allow for improved instream and riparian habitat. The Project will result in an overall increase in 1,666 m^2 of instream habitat (ESA 1) and 8,396 m^2 of riparian habitat (ESA 2).

Table 7-3 Habitat Balance

ESA Classification	Habitat Type within Project Site	Area of Disturbance within Permanent Project Footprint (m^2)	Proposed Habitat (m^2)	Habitat Balance (m^2)
ESA 1 (Very High)	Creek channel, riparian buffer 3 to 5 m from top of bank[1]	4,840	6,506	+1,666
ESA 2 (High)	Functioning riparian habitat adjacent to creek within 15 m Mill Creek RMA	11,039	19,435	+8,396
			Total High-Quality Habitat Proposed	+10,062
ESA 3 (Moderate)	Manicured lawn within the 15 m Mill Creek RMA	11,110	978	-10,132
ESA 4 (Low)	Paved pathways, parking lot, buildings, and infrastructure (i.e. tennis courts)	2,875	125	-2,750
			Total Reduction in Low Quality Habitat	-12,882

Note:
[1] Although the red-listed ecological community is designated as ESA 1 in the Project Footprint, it is excluded from the area of disturbance as it will be retained.

The objective of Mill Creek restoration is to increase the quantity and quality of spawning, rearing, and overwintering habitat for resident rainbow trout and spawning and migration habitat for kokanee. The Project design meets this objective by increasing the wetted area, and the hydraulic, geomorphic, and habitat complexity in Mill Creek compared to the disturbed conditions that currently exist in the Project Footprint. Specific habitat benefits expected to result from the naturalization include:

- A wider channel connected to its floodplain, with natural banks to improve channel hydraulics and complexity
- The addition of pools to increase rearing and holding habitat, and addition of deep scour pools to provide overwintering habitat for juvenile and adult rainbow trout
- Inclusion of riffles at channel inflection points to increase hydraulic complexity and spawning habitat
- The addition of LWD to increase cover for juvenile and adult fish
- The addition of spawning gravels to pool tail-outs for adult salmonid spawning
- Removal of invasive vegetation and restoration of riparian vegetation with native species to increase bank stability, allochthonous inputs, and shade

8 Summary

Stantec completed a desktop review and a field assessment in 2024 to document the existing environmental conditions in the Project Footprint for the Mill Creek naturalization works and the potential effects on the environment. Results of the assessment are included in the February 2025 EA report and a photolog of the site conditions are provided in Appendix B. A summary of key impacts, potential effects, and mitigations include:

- Potential Project effects include:
  - changes to vegetation communities due to riparian vegetation removal and replanting, and spread of noxious weeds
  - alteration of terrestrial habitats for wildlife due to Project-related clearing, temporary wildlife disturbances from construction-related noise and activity, potential disturbance to migratory birds during the nesting period
  - changes to fish habitat due to channel alteration and riparian vegetation removal, alteration of flows, temporary changes to water quality, and increased risk of mortality to fish during construction
- The Project submitted applications for a *Fisheries Act* Authorization and a *Water Sustainability Act* Section 11 Change Approval in July 2025. A scientific fish collection permit and an NEDP applications will be submitted prior to construction. This Supplemental EA report will accompany the NEDP application.
- The proposed work window for instream works is July 1 to September 1, 2026. If flows are above 0.50 m^3/s in July 2026, water diversion will be required from Mill Creek to Mission Creek using the existing Mill to Mission Creek diversion.
- The contractor will follow mitigations detailed in the CEMP included in this report.
- An environmental monitor will oversee construction activities. The EM will verify that Project activities are monitored in compliance with this CEMP, construction-specific protection plans, and applicable regulatory requirements and permit conditions.
- The Project will permanently disturb 4,840 m^2 of ESA 1, 11,039 m^2 of ESA 2, 11,110 m^2 of ESA 3, and 2,875 m^2 of ESA 4 habitat.
- ESA 1 impacts are required to implement the improvements to the existing channel; the red-listed community located within the ESA 1 will be retained.
- Tree removals will be compensated by planting 779 replacement trees in accordance with the City's replacement criteria, and 6,376 shrubs (Appendix A – Drawings L-101 and L-102).
- ESA impacts are due to the realignment and naturalization of the creek and therefore, result in an overall net gain in both quantity and quality of habitat after channel reconstruction and subsequent planting and restoration works. A net gain of 10,062 m^2 of habitat is proposed by replacing existing habitat with 6,506 m^2 of instream habitat and 19,435 m^2 of riparian habitat.

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BRITISH COLUMBIA

SCHEDULE B
This forms part of application
DP26-0051
Planner Initials JK
City of Kelowna
COMMUNITY PLANNING

March 11, 2026 (Via Email)

Job Number: 135562
vFCBC Tracking Number: 100481810

City of Kelowna
1435 Water ST
Kelowna, BC V1Y 1J4

Attention: Scott Bushell (SBushell@kelowna.ca)

Change Approval - Changes In and About a Stream (File 8007316)

A Change Approval for the above application has been granted and a *Water Sustainability Act Section* 11(1) Changes In and About a Stream Approval document verifying this is attached.

This Change Approval does not authorize occupation of private or Crown owned land. Permission of the affected landowner, or a permission to occupy Crown land, must be obtained and should be in writing for your protection.

The holder of this approval shall ensure that any proposed development and/or changes do not impact traditional or special sites in accordance with the *Heritage Conservation Act* and the ability of First Nation community members to participate in traditional activities on the land and water.

This approval does not constitute authority of any other agency. The holder of this approval shall have the necessary permits from other agencies concerned prior to the commencement of the works authorized herein. The permit holder is required to adhere to all other applicable Provincial and Federal Regulations.

Archeological sites (both recorded and unrecorded) are protected under the *Heritage Conservation Act* and must not be altered or damaged without

Ministry of Water, Land and Resource Stewardship
Mailing Address: 1259 Dalhousie Drive, Kamloops BC V2C 5Z5
Location: 1259 Dalhousie Drive, Kamloops BC V2C 5Z5
Phone: (250) 371-6200
Fax: (250) 828-4000
Web: http://www.gov.bc.ca/water

a permit from the Archeology Branch. The holder of this approval must advise everyone who will be involved in ground-disturbance and construction that if archeological materials are encountered, activities must be halted and the Archeology Branch contacted at 250-953-3334 for direction.

The *Water Sustainability Act* gives the recipient of this notice the right to appeal my decision. Any appeal from this decision must be filed within 30 days of delivery of this notice to you. Information on filing an appeal can be found on the Environmental Appeal Board Website at http://www.bceab.ca/ .

If you have any questions or concerns regarding the document issued or this letter, please feel free to contact me, by email at brian.purvis@gov.bc.ca or by phone at (250) 793-5721.

Sincerely,

Assistant Water Manager
Regional Hydrologist

cc/encls: Stantec Consulting Ltd.
Attn: Noelle Richardson (noelle.richardson@stantec.com) and Rebecca Tharby (Rebecca.tharby@stantec.com)

Enclosure: Change Approval 8007316

Ministry of Water, Land and Resource Stewardship
Mailing Address: 1259 Dalhousie Drive, Kamloops BC V2C 5Z5
Location: 1259 Dalhousie Drive, Kamloops BC V2C 5Z5
Phone: (250) 371-6200
Fax: (250) 828-4000
Web: http://www.gov.bc.ca/water

Paragraphs 34.4(2)(b) and 35(2)(b) *Fisheries Act* Authorization

Authorization issued to
City of Kelowna *(hereafter referred to as the "Proponent")*

Attention to:
Scott Bushell
1435 Water St
Kelowna, B.C., V1Y 1J4
SBushell@kelowna.ca

SCHEDULE C
This forms part of application
DP26-0051
Planner Initials JK
City of Kelowna COMMUNITY PLANNING

Location of Proposed Project

Nearest community:	Kelowna
District:	Kelowna Regional District
Province:	BC
Name of watercourse:	Mill Creek
UTM Coordinates:	11U 323115 E 5528438 N to 11U 323516 E 5528746 N

Valid Authorization Period

This authorization remains in force from the **Date of Issuance** until May 31, 2037.

Please note that this authorization may contain more specific timing requirements and limitations. These are set out in the Conditions of Authorization section.

Description of Proposed Project

The proposed project of which the works, undertakings or activities authorized are a part of involves:

- Realigning and widening stream channel to 9.1 m (where possible) to increase instream area and flow capacity;
- Grading areas below the high water mark to expand the surrounding floodplain area;
- Removing concrete retaining walls to naturalize the channel banks;
- Installing large woody debris (LWD) and boulders to increase instream complexity; and
- Excavating streambed and adding gravels to provide pool and spawning habitat.

The project is described in the following documents (*hereafter referred to as the "Project Plan"*):

- *Fisheries Act* Authorization Application - Mill Creek Naturalization within Parkinson Recreation Centre Version 1, prepared by Stantec Consulting Ltd., dated September 23, 2025; and
- Redevelopment of Parkinson Recreation Center – Mill Creek Channel Phase 1 & 2 – *Design Drawings*, prepared by Stantec Consulting Ltd., dated July 18, 2025.

- Supplemental Environmental Assessment: Redevelopment of Parkinson Recreation Centre – Naturalization of Mill Creek (includes Construction Environmental Management Plan), prepared by Stantec Consulting Ltd., dated February 3, 2026.

Description of authorized works, undertakings or activities likely to result in the harmful alteration, disruption or destruction (HADD) of fish habitat:

- Realignment and widening of 670 linear m of stream channel; and
- Grading and developing the larger floodplain area by:
  - Removing concrete retaining walls to naturalize the channel banks; and
  - Re-contouring of stream margin areas to encourage infiltration into the floodplain.

The authorized works, undertakings or activities are likely to result in the following impacts to fish and fish habitat:

- harmful alteration, disruption or destruction of 6,026 m^2 of aquatic fish habitat and 20,523 m^2 riparian fish habitat.

The works, undertakings or activities associated with the proposed project described above, are not expected to result in the death of fish provided that avoidance and mitigation measures described in the Project Plan and outlined in the Conditions of Authorization below are effectively implemented. Any death of fish resulting from this project should be demonstrated to have been unavoidable or accidental. DFO should be notified immediately in such circumstances via an email to DFO.PACViolations-InfractionsPAC.MPO@dfo-mpo.gc.ca and to Observe, Record, Report at 1-800-465-4336 or DFO.ORR-ONS.MPO@dfo-mpo.gc.ca.

Conditions of Authorization

The above described works, undertakings or activities must be carried on in accordance with the following conditions.

1. **Conditions that relate to the period during which the works, undertakings or activities can be carried on:**

   The works, undertakings or activities are authorized to be carried on during the following period:

Instream works: July 1, 2026	**To:** September 1, 2026
All other works: March 1, 2026	**To:** November 30, 2026

   If the Proponent cannot complete the works, undertakings or activities during this period, Fisheries and Oceans Canada (DFO) must be notified in advance of the expiration of the above time period. An application for amendment, suspension or cancellation of the authorization should be submitted to DFO.

   The periods during which other conditions of this authorization must be complied with are provided in their respective sections below.

2. **Conditions that relate to measures and standards to avoid and mitigate impacts to fish and fish habitat:**

2.1 The Proponent (or contractor) shall adhere to all designs and avoidance and mitigation measures consistent with the Project Plan. If there is a conflict between the conditions of the Project Plan and this authorization, the conditions listed under this authorization shall prevail.

2.2 Environmental Monitoring: The Proponent shall retain an appropriately Qualified Environmental Professional (QEP) to oversee measures and standards to avoid and mitigate impacts to fish and fish habitat. The QEP (or Environmental Monitors working under the direction of the QEP) shall monitor the implementation of the conditions of this authorization and shall be onsite at all times during all works, undertakings or activities below the high water mark. The QEP shall ensure the measures and standards to avoid and mitigate impacts to fish and fish habitat are effective, and that no additional harm to fish and fish habitat occurs other than what is outlined herein.

2.3 Sediment and erosion control: Sediment and erosion control measures must be in place and shall be upgraded and maintained, such that release of sediment is avoided at the location of the authorized works, undertakings or activities.

2.4 Avoid deposition of deleterious substances: Develop a plan to prevent deleterious substances from entering a watercourse or water body. Maintain all machinery on site in a clean condition and free of fluid leaks. Plan activities near water such that materials do not enter a watercourse or water body. Implement a response plan immediately in the event of a spill of a deleterious substance (including sediment).

2.5 Site Isolation and Fish Salvage: In-water works, undertakings or activities must be carried out within areas previously isolated and salvaged for fish. Incorporate applicable measures and standards from DFO's In-water site isolation (dfo-mpo.gc.ca) guidance document and ensure pumps are screened to prevent the entrainment or impingement of fish according to DFO's Interim code of practice: End-of-pipe fish protection screens for small water intakes in freshwater (dfo-mpo.gc.ca). It is the Proponent's responsibility to obtain the necessary Federal and Provincial fish collection permits for fish salvage and follow conditions therein.

2.6 Fish Passage: Maintain 100% of instream flow downstream of the diversion terminus to ensure fish passage is not impacted during the construction period. Restore flow gradually to sections of constructed stream channel to reduce the potential for downstream impacts due to sedimentation.

2.7 Spawning Deterrents: Prior to construction, install spawning deterrents (snow-fence) in the project reach before the spawning period for spring spawners to prevent dewatering of redds when the diversion is installed. Remove all spawning deterrent materials upon completion of the works.

2.8 Riparian Habitat Mitigation: Limit riparian vegetation clearing to only the footprints described in the Project Plan. Clearly mark boundaries prior to vegetation clearing to avoid additional removal or encroachment.

2.9 Contingency measures: Measures shall be put in place if monitoring required in Section 3 below indicates that the measures and standards to avoid and mitigate the impacts to fish and fish habitat are not successful.

2.10 Dates by which these measures and standards shall be implemented: Measures and standards to avoid and mitigate impacts to fish and fish habitat shall be implemented prior to the initiation of works, undertakings or activities.

3. **Conditions that relate to monitoring and reporting of measures and standards to avoid and mitigate impacts to fish and fish habitat:**

3.1 Monitoring of avoidance and mitigation measures: The Proponent shall monitor the implementation of avoidance and mitigation measures referred to in Section 2 of this authorization and report to DFO, by **January 31, 2027**, indicating whether the measures and standards to avoid and mitigate impacts to fish and fish habitat were conducted according to the conditions of this authorization. This shall be done by:

3.1.1 Demonstration of effective implementation and functioning: Provide a summary of quantitative and qualitative data collected during monitoring, including dated and georeferenced photographs, inspection notes, and reports that demonstrate effective implementation and functioning of mitigation measures and standards described in Section 2 to limit the impacts to fish and fish habitat to what is covered by this authorization.

3.1.2 Contingency measures: Provide details of any contingency measures that were followed to prevent impacts greater than those covered by this authorization in the event that mitigation measures did not function as described.

3.1.3 As-builts: Provide georeferenced 'as-built' drawings and geospatial polygons that accurately represent the completed HADD (i.e., extent and depth of infilling, dredging, riprap placement below the high water mark) footprints. Geospatial polygon data must be supplied in shapefile (.shp, .shx, .dbf, and .prj) format.

The following data must also be supplied in an Excel file (i.e., metadata):

- HADD area per habitat type (based on the high water mark of the Mill Creek);
- Dates when HADD of fish habitat was completed;
- The coordinate system used, and the accuracy of the GPS unit (e.g., ± 1 m).

3.2 Report Submission: All required reports and geospatial polygons (.shp files) are to be submitted to ReferralsPacific@dfo-mpo.gc.ca, with reference to DFO File Number: 25-HPAC-00816.

4. **Conditions that relate to the offsetting plan:**

4.1 Letter of credit: DFO may draw upon funds available to DFO as the beneficiary of the letter of credit (No. 2583428V) provided to DFO as part of the application for this authorization, to cover the costs of implementing and maintaining the offsetting plan required to be implemented under this authorization, including the associated monitoring measures included in section 5 of this authorization, in instances where the Proponent fails to implement these required measures.

4.2 Scale and description of offsetting measures: The Proponent will complete offsetting measures, including aquatic habitat complexing, riparian planting, and site remediation. The offsetting measures shall be carried out according to the measures set out in the Proponent's Offsetting Plan (*Fisheries Act* Authorization Application: Mill Creek Naturalization within Parkinson Recreation Centre *Version 2* – Section 9: Offset Plan and Habitat Balance), prepared by Stantec Consulting Ltd.,

dated September 23, 2025, and the engineered design drawings, approved by DFO. Offsetting measures shall include the following:

Aquatic Habitat Offsetting Measures:

Reconstruct the channel to increase the quantity and quality of spawning, rearing, and overwintering habitat for resident rainbow trout, and spawning and migration habitat for kokanee by increasing the wetted area and hydraulic, geomorphic, and habitat complexity, as follows:

- Average channel width will be increased to 9.1 m to increase available instream habitat within the project reach of Mill Creek from 5,155 m^2 to 6,026 m^2;
- 1,402 m^2 of spawning habitat will be created through placement of spawning gravels at pool tail-outs;
- 14 rearing and holding pools of two types will be created: 11 typical pools with residual pool depth >0.5 m on outside bends, and 3 deep scour pools with residual pool depth >0.8 m, to increase overwintering habitat for resident rainbow trout;
- 29 pieces of LWD with root wads embedded in the banks adjacent to pools will be installed to increase instream cover;
- 17 boulder clusters, with each cluster consisting of 3 to 5 boulders, will be installed throughout the site;
- Existing retaining walls will be removed and restored to natural stream banks;
- 14 riffles will be constructed at channel inflection points to increase hydraulic complexity and create spawning habitat for adult rainbow trout, kokanee, chinook salmon and sockeye salmon; and,
- Invasive vegetation species will be removed and replaced with native riparian vegetation species to increase bank stability, allochthonous inputs, and shade.

Riparian Habitat Offsetting Measures:

Reclaim and enhance 20,523 m^2 of functional riparian area within 15 m of the high-water mark throughout the project reach of Mill Creek. Riparian offsets will be planted as follows:

- Riparian Edge Complex (1,324 m^2; density of 1.1 plants/m^2) – approximately one to three meters apart, and immediately above the High Water Mark (HWM). This zone will include container shrubs and perennials;
- Transition Zone Complex (422 m^2; density of 0.28 plants/m^2) – located in full sun, above the bankfull width and extending across the floodplain to the floodplain protection berms. This zone will include container shrubs and sun-tolerant perennials;
- Upland Shrub Complex (512 m^2; density of 0.70 plants/m^2) – selected above the mid-upper riparian zone;
- Wetland Zone Complex (257 m^2; density of 11.6 plants/m^2) – consisting of water-tolerant grass and sedge species; and,
- Riparian Seed Mix (9,266 m^2) – covering the Riparian Management Area.

4.3 Implementation of offsetting measures: All offsetting measures shall be implemented by **November 30, 2026**.

4.4 Offsetting criteria to assess the implementation and effectiveness of the offsetting plan: All fish habitat offsetting measures shall be completed and functioning according to the criteria below and as detailed within the Offsetting Plan:

4.4.1 Aquatic Habitat Effectiveness:

Habitat monitoring of pools, boulder clusters, and root wads will be assessed through as-built surveys completed after construction of the offsetting measures and will be deemed effective when the offsetting habitat quantity (m^2) and offsetting features (LWD/pools/boulder clusters/riparian vegetation) remain consistent with the approved offsetting design at the end of the 10-year monitoring period, and demonstrate the following:

- Rearing habitat gained (m^2) and/or rearing habitat quality change (m^2) greater than preconstruction baseline conditions.
- Spawning habitat gained (m^2) and/or spawning habitat quality change (m^2) greater than preconstruction baseline conditions, and spawning habitat use confirmed by visual spawning surveys.
- Overwintering habitat gained (m^2) and/or overwintering habitat quality change (m^2) greater than preconstruction baseline conditions.
- Presence/absence of salmonids in the constructed rearing habitat greater than preconstruction baseline conditions.
- Salmonid density (measured as number of fish per unit effort and/or per m^2) greater than pre-construction baseline conditions.

4.4.2 Riparian Habitat Effectiveness:

Within each monitoring year, vegetation survivorship and riparian health assessments (density, cover, vigor) shall be conducted with a goal of 80% survivorship in Year 3 and 80% canopy coverage by the end of the monitoring period. Plant survival measurements include a sample census of live plants by species. Annual increases in canopy coverage and shading of the watercourse are expected for the duration of monitoring.

4.5 Contingency measures: If the results of monitoring as required in Section 5 indicate that the offsetting measures are not completed by the date specified and/or are not functioning according to the above criteria in 4.4, the Proponent shall give written notice to DFO, and provide a contingency offsetting plan, performance criteria and associated monitoring measures. The contingency offsetting plan must be approved by DFO in writing before it can proceed, and it must be implemented at once.

4.5.1 Scale and description of contingency measures: Additional, alternative, and/or modified offsetting measures must be sufficient to compensate for the shortfall in offsetting.

4.5.2 Monitoring measures to ensure offsetting contingency is completed and/or functioning as required: Monitoring measures to ensure the offsetting contingency measures are completed and/or functioning as required by this authorization are the same as the effectiveness monitoring for offsetting in Section 4.3.

4.5.3 If major maintenance is required to achieve the 80% riparian survival targets within any of the planting areas during any given year, timelines for monitoring and maintenance will be re-started at Year 1 after re-stocking has occurred.

4.6 The Proponent shall not carry on any works, undertakings or activities that will adversely impact the offsetting measures.

5. **Conditions that relate to monitoring and reporting of implementation of the offsetting plan (described in section 4):**

5.1 Schedule(s) and criteria: Monitoring of completed offsetting shall begin in 2027. The Proponent shall conduct monitoring of the implementation of offsetting measures according to the Offsetting Plan and according to the timeline and criteria below. The monitoring schedule and reporting may be amended if offsetting contingency measures are required as per Condition 4.5.

The monitoring and reporting schedule is detailed in the following table:

Offsetting Monitoring	Monitoring Report Year	Monitoring Period	Monitoring Report Due
Pools, LWD, and all riparian areas, including live staking, potted planting, and mature tree planting.	1	July – August	February 28, 2028
	2		February 28, 2029
	3		February 28, 2030
	5		February 28, 2032
	10		March 31, 2037

5.2 List of reports to be provided to DFO: The Proponent shall report to DFO on whether the offsetting measures were conducted according to the conditions of this authorization by providing the following:

5.2.1 Offsetting Construction: Within 90 days of the completion of offsetting construction, provide a written assessment to DFO on whether the offsetting measures were constructed in accordance with the conditions of this authorization. The report shall include, at a minimum, the following:

- A description of the completed offsetting habitat including dimensions (e.g., area, elevation) and materials used, profile drawings of the completed offsetting habitat, and a comparison of as-built dimensions to design dimensions;
- Dated photographs of the offsetting footprint pre-construction, during construction, and post construction;
- An inventory of the riparian vegetation (species and densities) planted in the riparian planting areas and an assessment of planting success;
- Recommendations if additional measures are required to meet the requirements this authorization;
- A summary of the effectiveness of the measures and standards that were implemented to avoid and mitigate impacts to fish and fish habitat; and
- A summary of contingency measures and standards that were implemented in the event that mitigation measures and standards did not function as described/intended.

5.2.2 Offsetting Effectiveness: Written reports shall be completed and submitted as per the reporting schedule outlined in Condition 5.1. Reports shall assess the effectiveness and

functionality of the offset relative to the success criteria listed within the Offsetting Plan and in Condition 4.4. The Offsetting Effectiveness Monitoring Reports will also include:

- A description of the methods used to assess the success of the offsetting measures.
- All completed field cards with adequate notes, in each reporting year.
- An assessment of the habitat function and quality for each offsetting measure.
- An evaluation of each offsetting measure against their objectives, as described in Condition 4.4 and in the Offsetting Plan.

5.2.3 As-Builts: Provide georeferenced 'as-built' drawings and geospatial polygons that accurately represent the completed offsetting measures footprint(s). Geospatial polygon data must be supplied in shapefile (.shp, .shx, .dbf, and .prj) format.

The following data must also be supplied in an Excel file (i.e. metadata):

- Area of the offset per habitat type (based on high water mark);
- Target species of offset habitat;
- Dates offsetting completed, date of maintenance, and date monitored;
- The coordinate system used, and the accuracy of GPS unit (e.g., ± 1 m).

5.3 Report Submission: All required reports and geospatial polygons (shape files) are to be submitted to ReferralsPacific@dfo-mpo.gc.ca, with reference to DFO File Number: 25-HPAC-00816.

Authorization Limitations and Application Conditions

The Proponent is solely responsible for plans and specifications relating to this authorization and for all design, safety and workmanship aspects of all the works associated with this authorization.

The holder of this authorization is hereby authorized under the authority of Paragraphs 34.4(2)(b) and 35(2)(b) of the *Fisheries Act*. R.S.C., 1985, c.F-14, to carry on the works, undertakings or activities that are likely to result in impacts to fish and fish habitat as described herein.

This authorization does not purport to release the Proponent from any obligation to obtain permission from any private landowner or to comply with the requirements of any other regulatory agencies.

This authorization does not permit the deposit of a deleterious substance in water frequented by fish. Subsection 36(3) of the *Fisheries Act* prohibits the deposit of any deleterious substances into waters frequented by fish unless authorized by regulations made by Governor in Council.

At the date of issuance of this authorization, no individuals of aquatic species listed under the *Species at Risk Act* (SARA) were identified in the vicinity of the authorized works, undertakings or activities.

It is also your *Duty to Notify* DFO if you have caused, or are about to cause, the unauthorized death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat. Such notifications should be directed to DFO.PACViolations-InfractionsPAC.MPO@dfo-mpo.gc.ca **and** to Observe, Record, Report at 1-800-465-4336 or DFO.ORR-ONS.MPO@dfo-mpo.gc.ca.

The failure to comply with any condition of this authorization constitutes an offence under Paragraph 40(3)(a) of the *Fisheries Act*, and may result in charges being laid under the Act.

A copy of this authorization will be kept on site while the work is in progress and upon request be provided to relevant federal or provincial officials. The authorization holder is responsible for ensuring work crews are familiar with, and able to adhere to, the conditions.

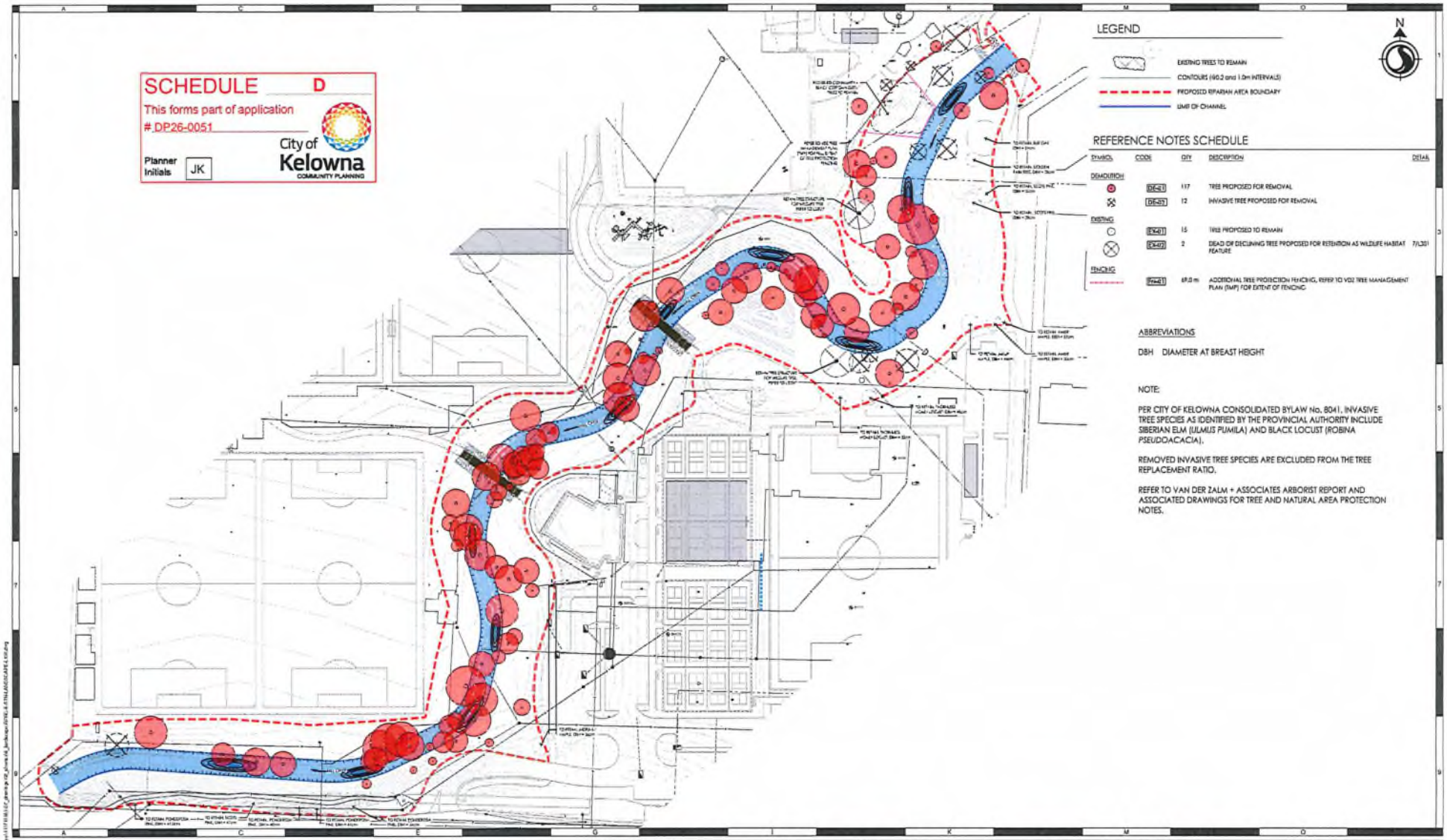
This authorization cannot be transferred or assigned to another party. If the works, undertakings or activities authorized to be conducted pursuant to this authorization are expected to be sold or transferred, or other circumstances arise that are expected to result in a new Proponent taking over the works, undertakings or activities, the Proponent named in this authorization shall advise DFO in advance.

Date of Issuance: March 13, 2026

Approved by: Classen, Anna

Digitally signed by Classen, Anna
DN: C=CA, O=GC, OU=DFO-MPO, CN="Classen, Anna"
Reason: I am approving this document with my legally binding signature
Location:
Date: 2026.03.13 09:16:34-07'00'
Foxit PDF Editor Version: 13.2.0

Anna Classen
Regional Director General
Pacific Region
Fisheries and Oceans Canada



CONSULTANT
Stantec
200-1620 Dickson Avenue,
Kelowna, B.C. V1Y 9Y2
Tel. (250) 860-3325
Fax. (250) 860-3367

STAMPS
ISSUED FOR PERMIT PURPOSES ONLY

NOT FOR CONSTRUCTION

NO	DATE	ISSUE/REVISION	BY	APPROVED	CHECKED
1	2025/07/18	ISSUED FOR PERMIT	LM	BT	BT

SEAL
BENJAMIN R. TYMCHYSHYN
426
2025-07-18

SURVEY	BASE: S.MCKICHAN
DESIGN: S.MCKICHAN	PROFESSIONAL OF RECORD: B. TYMCHYSHYN
SCALE	

CITY OF KELOWNA
REDEVELOPMENT OF PARKINSON RECREATION CENTER
MILL CREEK TREE MANAGEMENT PLAN

CITY DEPT: INFRASTRUCTURE	
CITY FILE NO. -	
PROJECT DRAWING NO. L-100	REV NO. 1
CITY RECORD NO. -	SHEET NUMBER SHEET OF -

LEGEND

- EXISTING TREES TO REMAIN
- CONTOURS (#0.2 and 1.0m INTERVALS)
- PROPOSED RIPARIAN AREA BOUNDARY
- LIMIT OF CHANNEL
- LOW FLOW INUNDATION BOUNDARY
- 2 YEAR INUNDATION BOUNDARY
- 10 YEAR INUNDATION BOUNDARY
- TOP OF BANK
- HABITAT FEATURES (PROPOSED WILDLIFE TREE AND ROCKY OUTCROPS)

PLANT SCHEDULE L101

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CAL/HT	DETAIL
TREES					
	Ad	30	ACER GLABRUM DOUGLASII / DOUGLAS MAPLE	#15 POT	
	Ax	3	ACER X FREEMANII 'JEFFERSRED' / AUTUMN BLAZE® FREEMAN MAPLE	60MM CAL./B&B	
	Bo7	32	BETULA OCCIDENTALIS / WATER BIRCH	#15 POT	
	Bo	15	BETULA OCCIDENTALIS / WATER BIRCH	60MM CAL./B&B	
	Bp2	23	BETULA PAPYRIFERA / PAPER BIRCH	#15 POT	
	Bp	20	BETULA PAPYRIFERA / PAPER BIRCH	60MM CAL./B&B	
	Cr4	35	CRATAEGUS DOUGLASII / BLACK HAWTHORN	#15 POT	
	Cr	5	CRATAEGUS DOUGLASII / BLACK HAWTHORN	60MM CAL./B&B	
	Pte2	147	POPULUS TREMULOIDES / TREMBLING ASPEN	#15 POT	
	Pto	30	POPULUS TREMULOIDES / TREMBLING ASPEN	60MM CAL./B&B	
	Pt	24	POPULUS TRICHOCARPA / BLACK COTTONWOOD	#15 POT	
	Pst	19	PSEUDOTSUGA MENZIESII / DOUGLAS FIR	2.5M HT.	

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	DETAIL
SHRUB AREAS					
		1,324 m²	A RIPARIAN EDGE COMPLEX (LOWER RIPARIAN ZONE)		
	Ca	214	CAREX AQUATILIS / WATER SEDGE	250CC PLUG	
	Cu	214	CAREX UTRICULATA / BEAKED SEDGE	250CC PLUG	
	Jb	214	JUNCUS BALTICUS / BALTIC RUSH	250CC PLUG	
	Sl2	241	SALIX INTERIOR / SANDBAR WILLOW	250CC PLUG	
	Sp3	345	SALIX LASIANDRA / PACIFIC WILLOW	250CC PLUG	
	Sd	179	SALIX SITCHENSIS / SITKA WILLOW	250CC PLUG	
		421.3 m²	B TRANSITION ZONE COMPLEX (MID TO UPPER RIPARIAN ZONE)		
	Cr2	17	CORNUS SERICEA / RED TWIG DOGWOOD	#1 POT.	
	Ma	31	MAHONIA AQUIFOLIUM / OREGON GRAPE	#1 POT.	
	Ri	30	RIBES LACUSTRE / BLACK SWAMP GOOSEBERRY	#1 POT.	
	Sb	20	SALIX BEBBIANA / BEAKED WILLOW	#1 POT.	
	Sp3	20	SALIX DISCOLOR / PUSSY WILLOW	#1 POT.	
		512 m²	C UPLAND SHRUB COMPLEX (UPPER RIPARIAN ZONE)		
	Am	34	ACHILLEA MILLEFOLIUM / COMMON YARROW	#1 POT.	
	Al	28	AMELANCHIER ALNIFOLIA / SASKATOON BERRY	#1 POT.	
	Au	34	ARCTOSTAPHYLOS UVA-URSI / KINNIKINNICK	#1 POT.	
	Ac	34	ASTER CONSPICUUS / SHOWY ASTER	#1 POT.	
	Ma	28	MAHONIA AQUIFOLIUM / OREGON GRAPE	#1 POT.	
	Pf	23	POTENTILLA FRUTICOSA / BUSH CINQUEFOIL	#1 POT.	
	Rc	23	RIBES CEREUM / WAX CURRANT	#1 POT	
	Ri	23	RIBES LACUSTRE / BLACK SWAMP GOOSEBERRY	#1 POT.	
	Rr	23	ROSA ACICULARIS / COMMON PRICKLY ROSE	#1 POT.	
	Rn	23	ROSA NUTKANA / NOOTKA ROSE	#1 POT.	
	Sa	23	SYMPHORICARPOS ALBUS / COMMON WHITE SNOWBERRY	#1 POT.	
		257 m²	D WETLAND ZONE COMPLEX		
	Cs3	445	CAREX ROSTRATA / BEAKED SEDGE	250CC PLUG	
	Cu2	445	CAREX UTRICULATA / BEAKED SEDGE	250CC PLUG	
	Eo	445	ELEOCHARIS PALUSTRIS / CREAT SPIKE RUSH	250CC PLUG	
	Jb2	445	JUNCUS BALTICUS / BALTIC RUSH	250CC PLUG	
	Sl	445	SCHOENOPLECTUS TABERNAEMONTANI / SOFTSTEM BULRUSH	250CC PLUG	
	Sm	445	SCIRPUS MICROCARPUS / SMALL-FRUITED BULRUSH	250CC PLUG	
	Tl	297	TYPHA LATIFOLIA / BROADLEAF CATTAIL	250CC PLUG	
GROUND COVERS					
		9,266 m²	RIPARIAN SEEDMIX		DENSITY
	Am2	278.0 m²	ACHILLEA MILLEFOLIUM / COMMON YARROW	SEED	3%
	As2	926.6 m²	AGROSTIS SCABRA / ROUGH BENTGRASS	SEED	10%
	Cb	463.3 m²	CALAMAGROSTIS CANADENSIS / BLUEJOINT GRASS	SEED	5%
	Da	1,390 m²	DESCHAMPSIA ELONGATA / SLENDER HAIRGRASS	SEED	15%
	Eg	1,390 m²	ELYMUS GLAUCUS / BLUE WILDRYE	SEED	15%
	El	1,390 m²	ELYMUS TRACHYCAULUS / SLENDER WHEATGRASS	SEED	15%
	Ec	185.3 m²	EURYBIA CONSPICUA / SHOWY ASTER	SEED	2%
	Fi	926.6 m²	FESTUCA IDAHOENSIS / IDAHO FESCUE	SEED	10%
	Ga	185.3 m²	GAILLARDIA ARISTATA / BLANKET FLOWER	SEED	2%
	Km	463.3 m²	KOELERIA MACRANTHA / PRAIRIE JUNEGRASS	SEED	5%
	Ls	278.0 m²	LUPINUS SERICEUS / SILKY LUPINE	SEED	3%
	Ps	926.6 m²	POA SECUNDA / BLUEGRASS	SEED	10%
	Pt2	463.3 m²	PSEUDOROEGNERIA SPICATA / BLUEBUNCH WHEATGRASS	SEED	5%
		467 m²	RIPARIAN SEEDMIX - HANDSEEDING ONLY		

BC One Call Click or Call

CONSULTANT	STAMPS	NO	DATE	ISSUE/REVISION	BY	APPROVED	CHECKED
Stantec 400-1620 Dickson Avenue, Kelowna, B.C. V1Y 9Y2 Tel. (250) 860-3225 Fax. (250) 860-3357	ISSUED FOR PERMIT PURPOSES ONLY NOT FOR CONSTRUCTION	1	2025/07/18	ISSUED FOR PERMIT	LM	BT	BT

SEAL: 2025-07-18

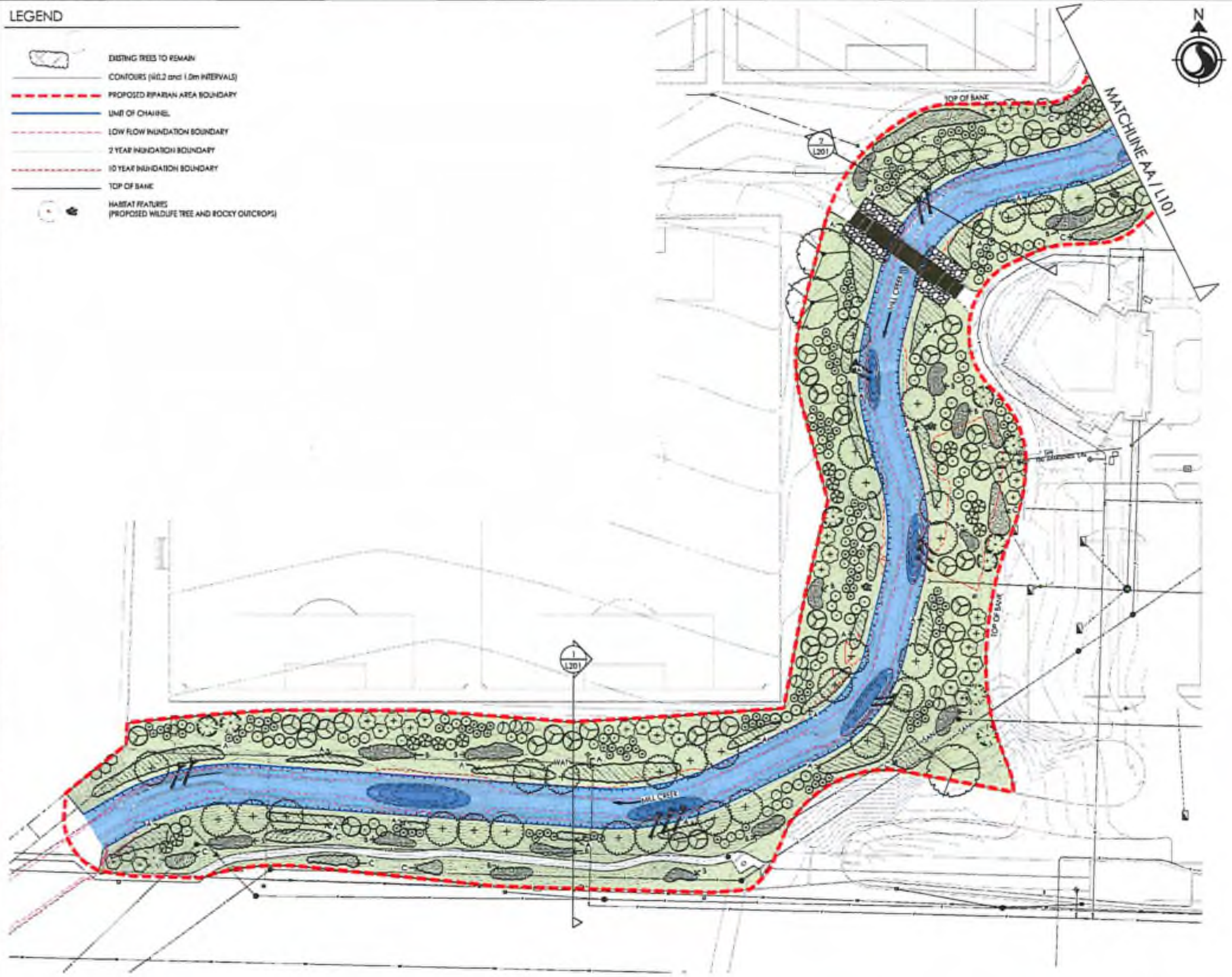
SURVEY	BASE
	S.MCKICHAN
DESIGN	PROFESSIONAL OF RECORD
S.MCKICHAN	B. TYMCHYSHYN
SCALE	H 1:500

CITY OF KELOWNA

REDEVELOPMENT OF PARKINSON RECREATION CENTER

MILL CREEK LANDSCAPE RESTORATION PLAN

CITY DEPT.	INFRASTRUCTURE
CITY FILE NO.	-
PROJECT DRAWING NO.	L-101
REV NO.	1
CITY RECORD NO.	-
SHEET NUMBER	SHEET OF -



LEGEND

- EXISTING TREES TO REMAIN
- CONTOURS (@0.2 and 1.0m INTERVALS)
- PROPOSED RIPARIAN AREA BOUNDARY
- LIMIT OF CHANNEL
- LOW FLOW INUNDATION BOUNDARY
- 2 YEAR INUNDATION BOUNDARY
- 10 YEAR INUNDATION BOUNDARY
- TOP OF BANK
- HABITAT FEATURES (PROPOSED WILDLIFE TREE AND ROCKY OUTCROPS)

PLANT SCHEDULE L102

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CAL/HT
TREES				
	Ad	44	ACER GLABRUM DOUGLASII / DOUGLAS MAPLE	#15 POT
	Af	3	ACER X FREEMANII 'JEFFERSRED' / AUTUMN BLAZE® FREEMAN MAPLE	60MM CAL./B&B
	Bo2	40	BETULA OCCIDENTALIS / WATER BIRCH	#15 POT
	Bo	16	BETULA OCCIDENTALIS / WATER BIRCH	60MM CAL./B&B
	Bp2	14	BETULA PAPYRIFERA / PAPER BIRCH	#15 POT
	Bp	19	BETULA PAPYRIFERA / PAPER BIRCH	60MM CAL./B&B
	Cr4	32	CRATAEGUS DOUGLASII / BLACK HAWTHORN	#15 POT
	Cr	9	CRATAEGUS DOUGLASII / BLACK HAWTHORN	60MM CAL./B&B
	Pto2	137	POPULUS TREMULOIDES / TREMBLING ASPEN	#15 POT
	Pte	36	POPULUS TREMULOIDES / TREMBLING ASPEN	60MM CAL./B&B
	Pt	34	POPULUS TRICHOCARPA / BLACK COTTONWOOD	#15 POT
	Pd	10	PSEUDOTSUGA MENZIESII / DOUGLAS FIR	2.5M HT.

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT
SHRUB AREAS				
		1,031 m²	A RIPARIAN EDGE COMPLEX (LOWER RIPARIAN ZONE)	
	Ca	167	CAREX AQUATILIS / WATER SEDGE	250CC PLUG
	Cu	167	CAREX UTRICULATA / BEAKED SEDGE	250CC PLUG
	Jb	167	JUNCUS BALTICUS / BALTIC RUSH	250CC PLUG
	Si2	187	SALIX INTERIOR / SANDBAR WILLOW	250CC PLUG
	Sp3	268	SALIX LASIANDRA / PACIFIC WILLOW	250CC PLUG
	Ss7	135	SALIX SITCHENSIS / SITKA WILLOW	250CC PLUG
		359.8 m²	B TRANSITION ZONE COMPLEX (MID TO UPPER RIPARIAN ZONE)	
	Cr2	17	CORNUS SERICEA / RED TWIG DOGWOOD	#1 POT.
	Ma	30	MAHONIA AQUIFOLIUM / OREGON GRAPE	#1 POT.
	Rl	30	RIBES LACUSTRE / BLACK SWAMP GOOSEBERRY	#1 POT.
	Sb	18	SALIX BEBBIANA / BEAKED WILLOW	#1 POT.
	Sd2	18	SALIX DISCOLOR / PUSSY WILLOW	#1 POT.
		346.6 m²	C UPLAND SHRUB COMPLEX (UPPER RIPARIAN ZONE)	
	Am	36	ACHILLEA MILLEFOLIUM / COMMON YARROW	#1 POT.
	As	17	AMELANCHIER ALNIFOLIA / SASKATOON BERRY	#1 POT.
	Au	37	ARCTOSTAPHYLOS UVA-URSI / KINNIKINNICK	#1 POT.
	Ac	37	ASTER CONSPICUUS / SHOWY ASTER	#1 POT.
	Mg	17	MAHONIA AQUIFOLIUM / OREGON GRAPE	#1 POT.
	Pf	17	POTENTILLA FRUTICOSA / BUSH CINQUEFOIL	#1 POT.
	Rc	17	RIBES CEREUM / WAX CURRANT	#1 POT
	Rs	17	RIBES LACUSTRE / BLACK SWAMP GOOSEBERRY	#1 POT.
	Ra	17	ROSA ACICULARIS / COMMON PRICKLY ROSE	#1 POT.
	Rn	17	ROSA NUTKANA / NOOTKA ROSE	#1 POT.
	Sa	17	SYMPHORICARPOS ALBUS / COMMON WHITE SNOWBERRY	#1 POT.

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	DENSITY
GROUND COVERS					
		9,725 m²	RIPARIAN SEEDMIX		
	Am2	291.8 m²	ACHILLEA MILLEFOLIUM / COMMON YARROW	SEED	3%
	As2	972.5 m²	AGROSTIS SCABRA / ROUGH BENTGRASS	SEED	10%
	Cb	486.3 m²	CALAMAGROSTIS CANADENSIS / BLUEJOINT GRASS	SEED	5%
	De	1,459 m²	DESCHAMPSIA ELONGATA / SLENDER HAIRGRASS	SEED	15%
	Eg	1,459 m²	ELYMUS GLAUCUS / BLUE WILDRYE	SEED	15%
	Et	1,459 m²	ELYMUS TRACHYCAULUS / SLENDER WHEATGRASS	SEED	15%
	Ec	194.5 m²	EURYBIA CONSPICUA / SHOWY ASTER	SEED	2%
	Fi	972.5 m²	FESTUCA IDAHOENSIS / IDAHO FESCUE	SEED	10%
	Ga	194.5 m²	GAILLARDIA ARISTATA / BLANKET FLOWER	SEED	2%
	Km	486.3 m²	KOELERIA MACRANTHA / PRAIRIE JUNEGRASS	SEED	5%
	Ls	291.8 m²	LUPINUS SERICEUS / SILKY LUPINE	SEED	3%
	Ps	972.5 m²	POA SECUNDA / BLUEGRASS	SEED	10%
	Ps2	486.3 m²	PSEUDOROEGNERIA SPICATA / BLUEBUNCH WHEATGRASS	SEED	5%

BC One Call — Click or Call Before You Dig

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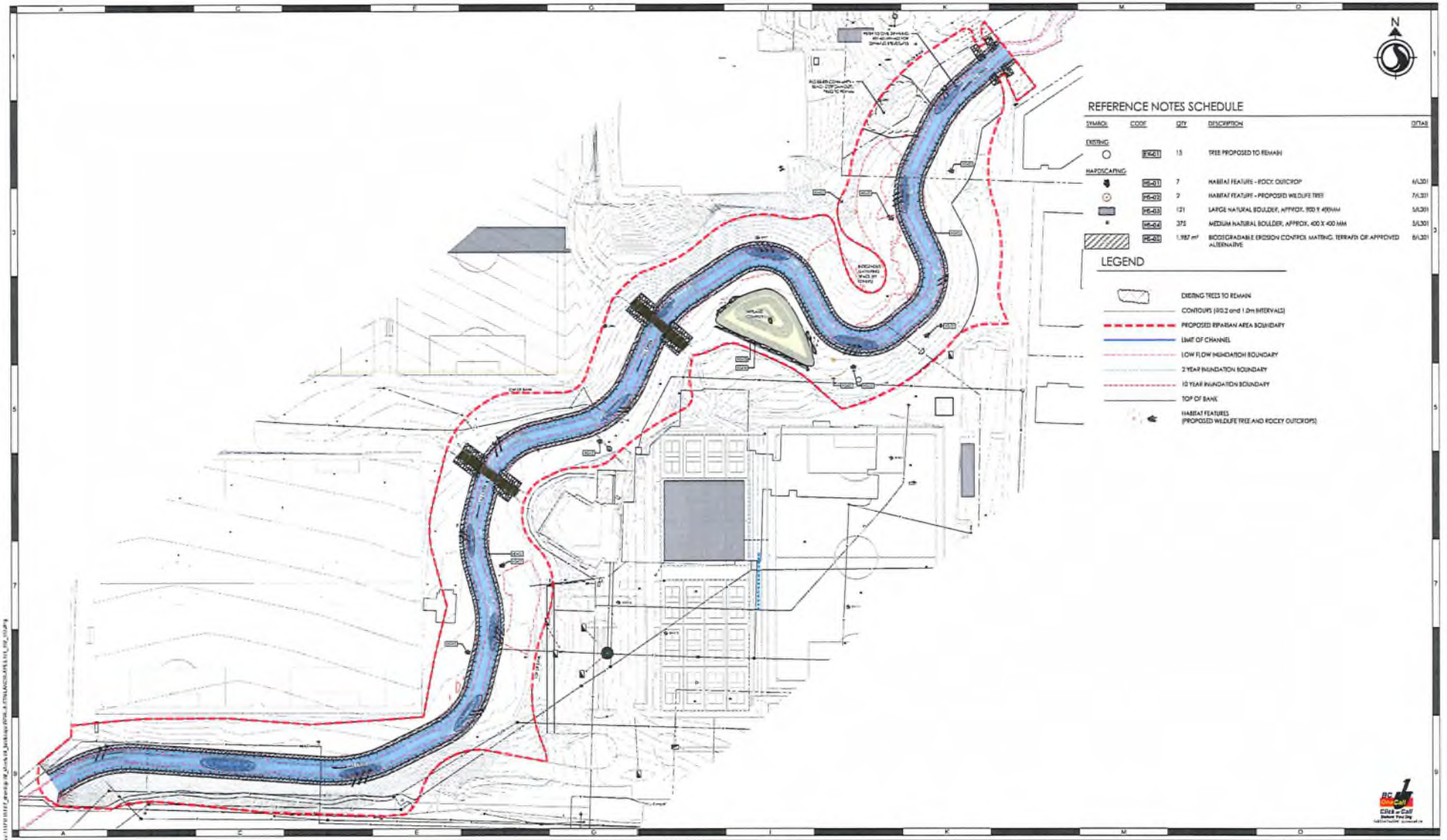
SURVEY	BASE		CITY DEPT.
	S.MCKICHAN	CITY OF KELOWNA	INFRASTRUCTURE
DESIGN S.MCKICHAN	PROFESSIONAL OF RECORD B. TYMCHYSHYN	REDEVELOPMENT OF PARKINSON RECREATION CENTER	CITY FILE NO. -
SCALE H 1:500 0 5 10 25		MILL CREEK LANDSCAPE RESTORATION PLAN	PROJECT DRAWING NO. L-102 — REV NO. 1 CITY RECORD NO. - — SHEET NUMBER SHEET OF -



CONSULTANT
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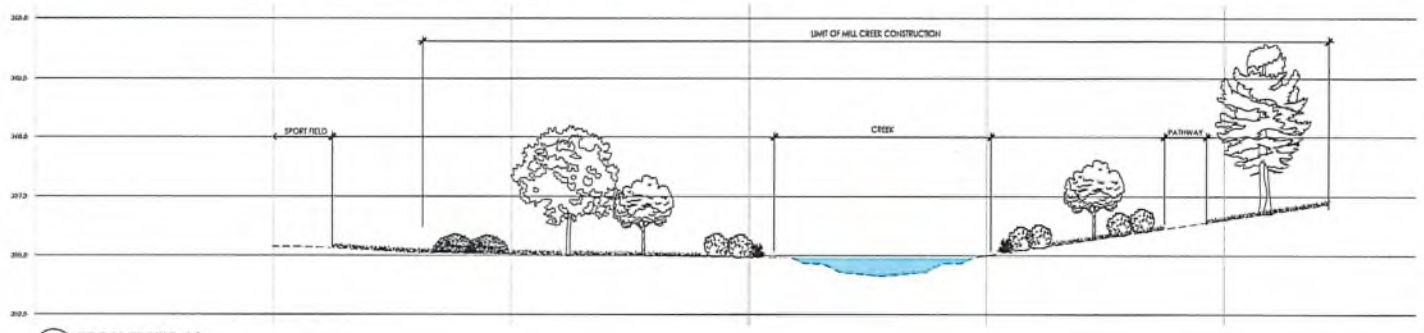
GEAL
2025-07-10

SURVEY
BASE S.MCKICHAN
DESIGN S.MCKICHAN
PROFESSIONAL OF RECORD B. TYMCHYSHYN
SCALE 1:750 0 7.5 22.5 37.5m

CITY OF KELOWNA
REDEVELOPMENT OF PARKINSON RECREATION CENTER
MILL CREEK LANDSCAPE MATERIALS PLAN

CITY DEPT. INFRASTRUCTURE
CITY FILE NO. -
PROJECT DRAWING NO. L-103
REV NO. 1
CITY RECORD NO. -
SHEET NUMBER SHEET OF -



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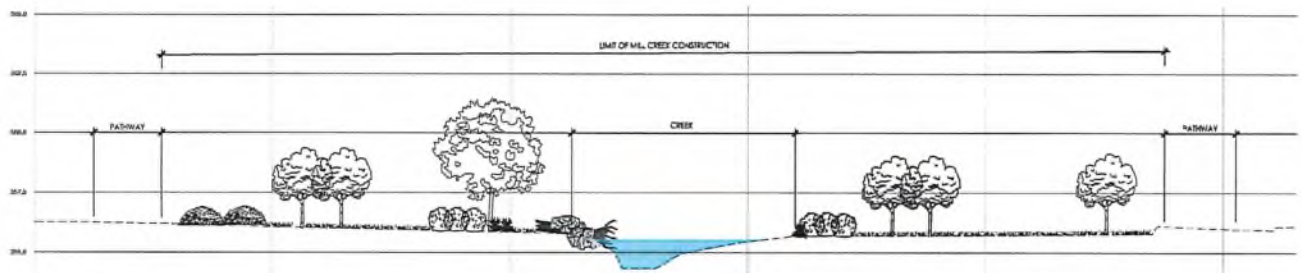

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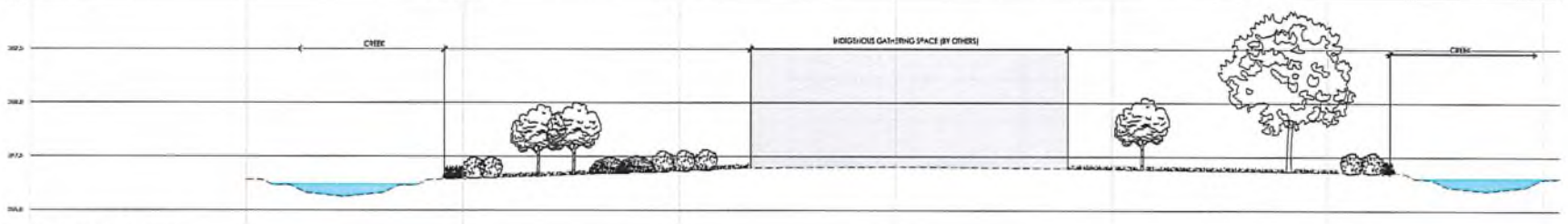

3 CROSS SECTION 3
SCALE: 1:100

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SURVEY	BASE	CITY OF KELOWNA	CITY DEPT. INFRASTRUCTURE
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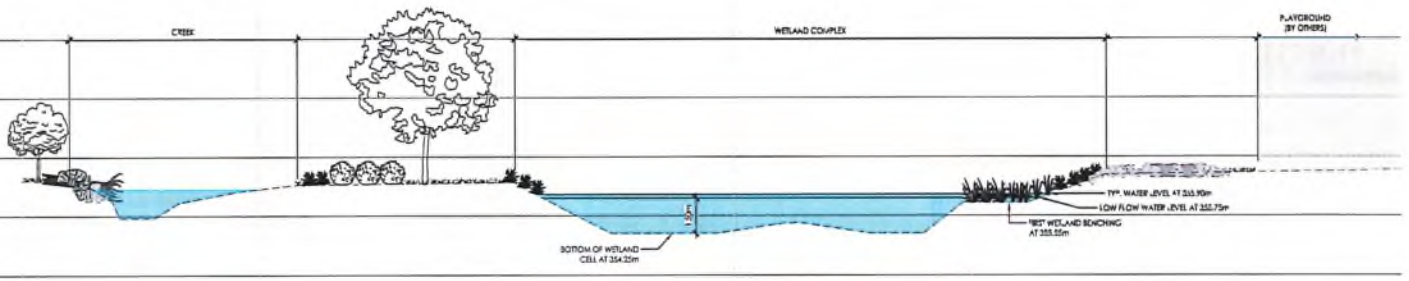
DESIGN	PROFESSIONAL OF RECORD	REDEVELOPMENT OF PARKINSON RECREATION CENTER	CITY FILE NO. -
S.MCKICHAN	B. TYMCHYSHYN		
SCALE			PROJECT DRAWING NO. L-201 / REV NO. 1
AS NOTED		LANDSCAPE SECTIONS	CITY RECORD NO. - / SHEET NUMBER SHEET OF -



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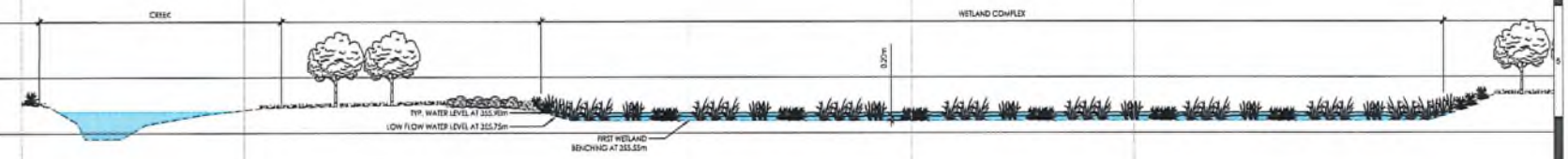

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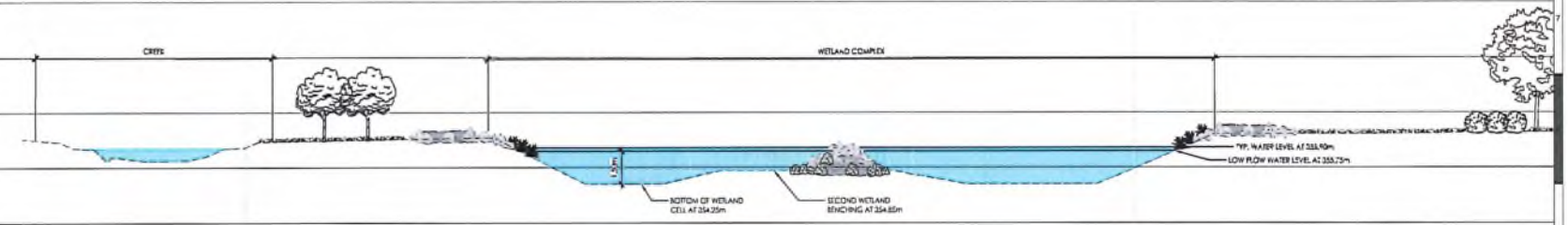

6 CROSS SECTION 6
SCALE: 1:100

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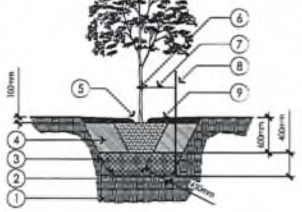
SEAL
BENJAMIN R. TYMCHYSHYN
428
2025-07-18

SURVEY	S.MCKICHAN
DESIGN	S.MCKICHAN
PROFESSIONAL OF RECORD	B. TYMCHYSHYN
SCALE	AS NOTED

CITY OF KELOWNA
REDEVELOPMENT OF PARKINSON RECREATION CENTER
LANDSCAPE SECTIONS

CITY DEPT.	INFRASTRUCTURE
CITY FILE NO.	-
PROJECT DRAWING NO.	L-202
REV NO.	1
CITY RECORD NO.	-
SHEET NUMBER	SHEET OF -



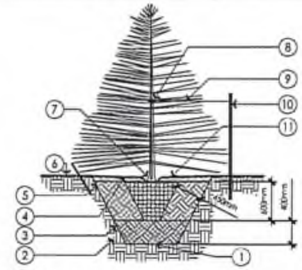
1. SUBSOIL
2. COMPACTED GROWING MEDIUM BELOW ROOTBALL
3. SCARIFY SIDES OF TREE PIT
4. GROWING MEDIUM, REFER TO GROWING MEDIUM SPEC
5. TRUNK FLARE AT GRADE
6. RUBBER STRAP TO PREVENT ANY CONTACT BETWEEN WIRE AND TREE
7. 11 GAUGE GUY WIRE OR APPROVED ALTERNATIVE
8. USE TWO 1800mm PAINTED T-BARS
9. 75mm APPROVED MULCH, STARTING 50mm FROM TRUNK FLARE EXTENDING TO LIMIT OF TREE PIT / WELL

NOTES:
PRUNE AWAY ANY GIRDLING ROOTS.
PRUNE BROKEN AND FRAYED ROOT ENDS WITH SECATEURS.
HOLD TRUNK VERTICAL, BACKFILL AROUND ROOTS WITH TOPSOIL, CONTINUOUSLY PACKING THE SOIL UNTIL FIRM.
TREE SHOULD BE PLANTED THE SAME ORIGINAL GROWING DEPTH AS IN NURSERY, TRUNK FLARE SHOULD BE VISIBLE AT GRADE.
IF TREE IS IN A WIRE BASKET, CUT AND REMOVE STRAPPING AND THE HORIZONTAL/VERTICAL WIRES OF THE UPPER ⅓ AS A MINIMUM, PULL BACK BURLAP TO THE SAME MINIMUM.
T-BARS SHOULD BE HAMMERED DOWN INTO SOLID FOOTING (MINIMUM 400mm INTO SUBSOIL).
STAKING TO BE IN PLACE FOR A MAXIMUM OF ONE YEAR, WHEN REQUIRED.
USE RUBBER STRAPS (TO PROTECT THE TREE) AT POINT OF CONTACT WITH TRUNK.
PRUNE DEAD / DYING / DISEASED BRANCHES TO MAINTAIN NATURAL FORM OF TREE.

PREVAILING WIND

STAKING PLAN: T-BAR

1 DECIDUOUS TREE PLANTING
SCALE: 1:40



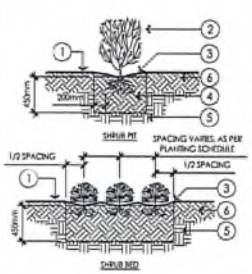
1. COMPACTED GROWING MEDIUM BELOW ROOT BALL
2. SUB-SOIL
3. SCARIFY SIDES OF TREE PIT
4. SLOPE GROWING MEDIUM FROM ROOT BALL TO EDGE OF HOLE TO FORM WELL
5. GROWING MEDIUM
6. FINISHED GRADE
7. TRUNK FLARE AT GRADE
8. RUBBER STRAP TO PREVENT ANY CONTACT BETWEEN WIRE AND TREE
9. 11 GUAGE GUY WIRE OR APPROVED ALTERNATIVE
10. USE THREE 1800mm PAINTED T-BARS (OUTSIDE DRIPLINE)
11. 75mm MULCH, STARTING 50mm FROM TRUNK FLARE EXTENDING TO LIMIT OF TREE PIT/WELL. MULCH NOT TO CONTACT TRUNK.

NOTES:
- CHECK FOR GIRDLING ROOTS. ANY GIRDLING ROOTS SHOULD BE PRUNED TO PREVENT FUTURE GIRDLING.
- PRUNE BROKEN AND FRAYED ROOT ENDS WITH SECATEURS.
- HOLD TRUNK VERTICAL, BACKFILL AROUND ROOTS WITH TOPSOIL, CONTINUOUSLY PACKING THE SOIL UNTIL FIRM.
- TREE SHOULD BE PLANTED AT THE SAME ORIGINAL GROWING DEPTH AS IN NURSERY. TRUNK FLARE SHOULD BE VISIBLE AT GRADE.
- IF TREE IS IN A WIRE BASKET, CUT AND REMOVE STRAPPING AND THE HORIZONTAL/VERTICAL WIRES OF THE UPPER ⅓ AS A MINIMUM. PULL BACK BURLAP TO THE SAME MINIMUM.
- T-BARS SHOULD BE HAMMERED DOWN INTO SOLID FOOTING (minimum 400mm INTO SUBSOIL).
- STAKING TO BE IN PLACE FOR A MAXIMUM OF ONE YEAR WHEN REQUIRED.
- PRUNE DEAD / DYING / DISEASED BRANCHES TO MAINTAIN NATURAL FORM OF TREE

PREVAILING WIND

STAKING PLAN: T-BAR

2 CONIFEROUS TREE PLANTING
SCALE: 1:40

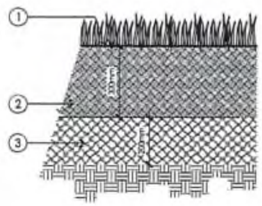


1. FINISHED GRADE
2. PRUNE DEAD, DYING AND DISEASED BRANCHES WHILE RETAINING NATURAL PLANT SHAPE
3. 75mm APPROVED MULCH, STARTING 50mm FROM TRUNK FLARE EXTENDING TO LIMIT OF SHRUB PIT/BED
4. ON SITE LOAM OR IMPORTED LOAM (AS SPECIFIED)
5. UNDISTURBED SOIL
6. 450mm DEPTH GROWING MEDIUM

NOTES:

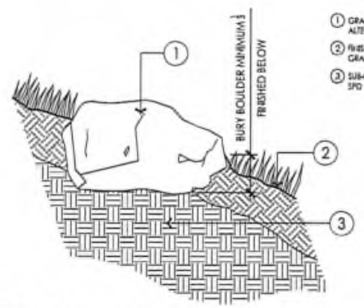
LOOSEN ROOTBALL FROM POT/CONTAINER
CHECK FOR GIRDLING ROOTS. ANY GIRDLING ROOTS SHOULD BE PRUNED TO PREVENT FUTURE GIRDLING
THIS DETAIL WILL BE USED FOR ALL CONTAINERIZED DECIDUOUS OR CONIFEROUS SHRUBS. PLANT SHRUB AT ORIGINAL DEPTH AS GROWN IN NURSERY. ROOT FLARE SHOULD BE VISIBLE AT GRADE.

3 SHRUB PLANTING
SCALE: 1:40



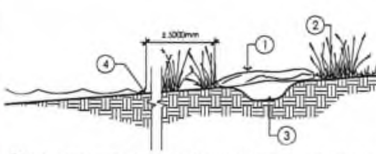
1. SEED MIX. REFER TO SPECS
2. 300mm MIN. DEPTH GROWING MEDIUM. MIXTURE OF 3 PARTS (75%) EXISTING SOIL TO 1 PART (25%) COMPOST)
3. SCARIFY AND TILL EXISTING SOIL TO A DEPTH OF 300mm

4 SEEDED AREAS
SCALE: 1:10



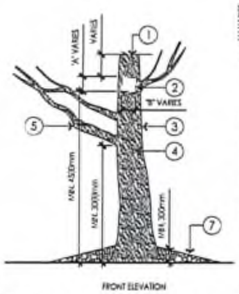
1. GRANITE BOULDER OR APPROVED ALTERNATIVE
2. FINISHED GRADE. REFER TO GRADING PLAN
3. SUB-GRADE. COMPACTED TO 95% SPD

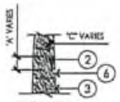
5 BOULDER PLACEMENT ON SLOPE
SCALE: 1:15



1. FLAT ROCK OVER DEPRESSION. ENSURE ACCESS REMAINS CLEAR OF OBSTRUCTIONS UNDER ROCK. ROCK TO BE MIN. 500MM DIA
2. NATURALIZED - NO MOW SEED MIX
3. EXCAVATE DEPRESSIONS TO A DEPTH OF ± 200mm AND WIDTH OF APPROX. 500mm X 500mm
4. NORMAL WATER LEVEL SHORELINE

6 AMPHIBIAN HABITAT
SCALE: 1:30





HABITAT CAVITY NOTES:
- 300mm DISTANCE A
- 250mm DISTANCE B
- 30mm DISTANCE C

CAVITIES TO BE PLACED ON SOUTH SIDE OF TREE. CAVITY DIMENSIONS WILL VARY FROM SPECIES TO SPECIES. CONFIRM WITH WILDLIFE BIOLOGIST PRIOR TO CUTTING.

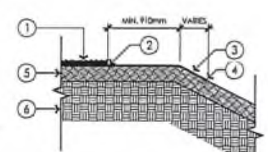
1. REFER TO HABITAT SNAG DETAIL
2. CUT LINE - 'J CUT'
3. BARK OF TREE
4. SNAG
5. SECURE LIMBS TO REMAIN FOR PERCHES. HAZARDOUS LIMBS TO BE REMOVED.
6. CAVITY
7. GRAVEL BEDDING. MINIMUM 300mm DEPTH AT BASE OF TREE

NOTES:
1. START CUT AT BASE OF CAVITY AND MOVE UPWARD IN A 'J' MOTION.
2. CONTINUE TO MAKE THIN CUTS UNTIL THE DESIRED CAVITY DEPTH IS REACHED.

HEIGHT OF SNAG TO BE ASSESSED BY INTERNATIONAL SOCIETY OF ARBORICULTURE CERTIFIED ARBORIST TO ENSURE SNAG SHALL NOT POSE A RISK TO PUBLIC/PRIVATE PROPERTY OR ANY PERSON.

7 PROPOSED WILDLIFE TREE
SCALE: 1:50

1. ADJACENT LANDSCAPE PLANTING, REFER TO PLANTING PLAN
2. 1 ROW OF STAPLES. 30mm O.C. SPACING AT TOP OF SLOPE
3. TERRAFIX 5100 STRAW FIBRE EROSION CONTROL BLANKET, OR APPROVED ALTERNATIVE
4. PARALLEL ROWS OF STAPLES 10mm APART, STAGGERED AND 15mm O.C. SPACING. STAPLES TO BE PLACED CLOSE TO EDGE OF BLANKET
5. GROWING MEDIUM, 200mm DEPTH
6. 98% SPD COMPACTED SUBGRADE



8 EROSION CONTROL BLANKET
SCALE: 1:30

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SEAL

SURVEY	BASE
	S.MCKICHAN
DESIGN S.MCKICHAN	PROFESSIONAL OF RECORD B. TYMCHYSHYN
SCALE AS NOTED	

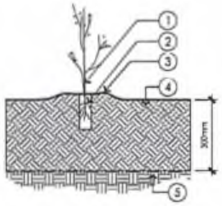
CITY OF KELOWNA

REDEVELOPMENT OF PARKINSON RECREATION CENTER

LANDSCAPE DETAILS

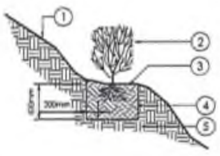
CITY DEPT. INFRASTRUCTURE	
CITY FILE NO. -	
PROJECT DRAWING NO. L-301	REV NO. 1
CITY RECORD NO. -	SHEET NUMBER SHEET OF -

1. VIGOROUS SPECIMENS, THOROUGHLY ROOTED THROUGH CONTAINER
2. 250cc ROOT PLUG ENSURE ROOTBALL REMAINS INTACT
3. CREATE 50mm HIGH SAUCER
4. GROWING MEDIUM, 300mm DEPTH
5. SUBGRADE



NOTE:
1. DIG ALL ROOT HOLES BY HAND WHEN CLOSER THAN 1.5M TO UNDERGROUND POWER, TELEPHONE AND GAS ALIGNMENTS.
2. PRUNE ONLY DEAD OR DISEASED LIMBS, MAINTAIN PLANT FORM.
3. CONTRACTOR TO ALLOW FOR 20% SETTLEMENT WHEN PLACING PLANT MATERIAL.
4. PLANTING HOLE MAY BE ANGLED.
5. ENSURE PLANT MATERIAL IS WELL WATERED FOLLOWING INSTALLATION.

1 PLANT PLUG INSTALLATION
SCALE: 1:10

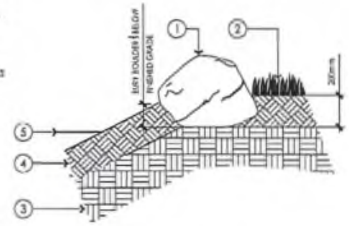


1. EXISTING GRADE
2. PRUNE DEAD, DYING AND DISEASED BRANCHES WHILE RETAINING NATURAL PLANT SHAPE
3. SPADE SHRUB PITS
4. GROWING MEDIUM
5. SCARIFY PIT BOTTOM AND SIDES

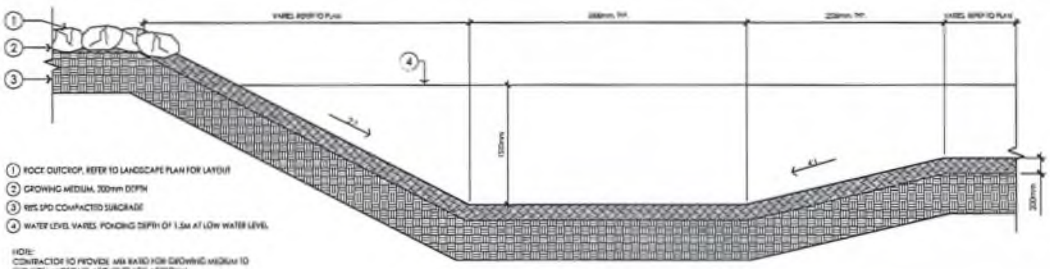
NOTES:
- LOOSEN ROOTBALL FROM POT/CONTAINER
- CHECK FOR GIRDLING ROOTS, ANY GIRDLING ROOTS SHOULD BE PRUNED TO PREVENT FUTURE GIRDLING
- THIS DETAIL WILL BE USED FOR ALL CONTAINERIZED DECIDUOUS OR CONIFEROUS SHRUBS PLANT SHRUB AT ORIGINAL DEPTH AS GROWN IN NURSERY, ROOT FLARE SHOULD BE VISIBLE AT GRADE

2 SHRUB PLANTING ON SLOPE
SCALE: 1:40

1. GRANITE BOULDER OR APPROVED ALTERNATIVE
2. ADJACENT PLANTING, REFER TO PLANTING PLAN
3. SUB-GRADE, COMPACTED TO 95% SPD
4. GROWING MEDIUM, 200mm DEPTH
5. WETLAND WATER LEVEL, VARIES



3 BOULDER PLACEMENT AT WETLAND
SCALE: 1:15

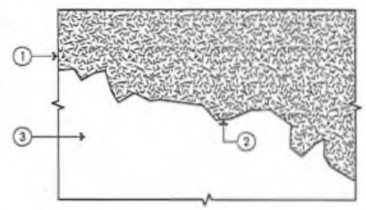


1. ROCK OUTCROP, REFER TO LANDSCAPE PLAN FOR LAYOUT
2. GROWING MEDIUM, 300mm DEPTH
3. 95% SPD COMPACTED SUBGRADE
4. WATER LEVEL VARIES. PONDING DEPTH OF 1.5M AT LOW WATER LEVEL

NOTE:
CONTRACTOR TO PROVIDE MIX RATIO FOR GROWING MEDIUM TO PROJECT LANDSCAPE ARCHITECT FOR APPROVAL.

4 WETLAND BENCHING SECTION
SCALE: 1:30

1. EDGE OF WETLAND
2. PROPOSED EDGE OF WETLAND TO BE DETERMINED ONSITE WITH CONTRACTOR
3. WETLAND, WATER SURFACE LEVEL VARIES



5 WETLAND EDGE PLAN VIEW
SCALE: 1:40

CONSULTANT

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2025-07-16

SURVEY	BASE S.MCKIDHAN
DESIGN S.MCKIDHAN	PROFESSIONAL OF RECORD B. TYMCHYSHYN
SCALE AS NOTED	

CITY OF KELOWNA
REDEVELOPMENT OF PARKINSON RECREATION CENTER

LANDSCAPE DETAILS

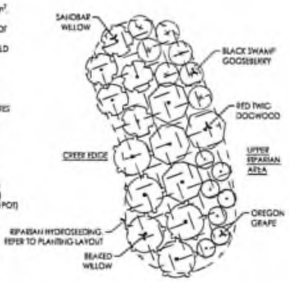
CITY DEPT. INFRASTRUCTURE
CITY FILE NO. -
PROJECT DRAWING NO. L-302
REV NO. 1
CITY RECORD NO. -
SHEET NUMBER SHEET OF -

TRANSITION ZONE COMPLEX PLANTING NOTES:

- TYPICAL PLANT COMMUNITY BASED UPON AREA OF 100m². SPECIES PERCENTAGES ARE APPROXIMATE ONLY.
- ENSURE SHRUBS ARE PLANTED IN MINIMUM GROUPINGS OF 5 AND MAXIMUM GROUPINGS OF 15
- BED LAYOUTS SCHEMATIC ONLY, FINAL LAYOUT TO BE FIELD FIT ON SITE AND APPROVED BY CITY OF KELOWNA AND LANDSCAPE ARCHITECT PRIOR TO PLANTING
- SHRUB AND TREE BED PLANTING PER CITY OF KELOWNA SPECIFICATION
- IF ROOT OF TREES ARE EXPOSED WHILE PLANTING NEAR EXISTING TREE STANDS, REFER TO TREE PRESERVATION NOTES FOR PROPER ROOT PRUNING TECHNIQUES
- REFER TO PROJECT SPECIFIC AND PLANTING NOTES L000

TRANSITION ZONE COMPLEX PLANTING
PLANTING AREA = (100 m²)

(4) RED TWIG DOGWOOD/CORNUS SERICEA (25%, #1POT)
(7) OREGON GRAPE/MAHONIA AQUIFOLIUM (10%, #1POT)
(7) BLACK SWAMP GOOSEBERRY/RIBES LACUSTRE (10%, #1POT)
(5) BEAKED WILLOW/SALIX BEBBIANA (30%, #1POT)
(5) PUSSY WILLOW/SALIX DISCOLOR (20%, #1POT)



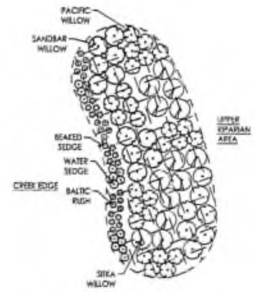
1 TRANSITION ZONE COMPLEX PLANTING
SCALE: N.T.S.

RIPARIAN EDGE COMPLEX PLANTING NOTES:

- TYPICAL PLANT COMMUNITY BASED UPON AREA OF 100m². SPECIES PERCENTAGES ARE APPROXIMATE ONLY.
- ENSURE SHRUBS ARE PLANTED IN MINIMUM GROUPINGS OF 5 AND MAXIMUM GROUPINGS OF 15
- BED LAYOUTS SCHEMATIC ONLY, FINAL LAYOUT TO BE FIELD FIT ON SITE AND APPROVED BY CITY OF KELOWNA AND LANDSCAPE ARCHITECT PRIOR TO PLANTING
- SHRUB AND TREE BED PLANTING PER CITY OF KELOWNA SPECIFICATION
- IF ROOT OF TREES ARE EXPOSED WHILE PLANTING NEAR EXISTING TREE STANDS, REFER TO TREE PRESERVATION NOTES FOR PROPER ROOT PRUNING TECHNIQUES
- REFER TO PROJECT SPECIFIC AND PLANTING NOTES L000

RIPARIAN EDGE COMPLEX PLANTING
PLANTING AREA = (100 m²)

(16) WATER SEDGE/CAREX AQUATILIS (10%, 250CC PLUG)
(16) BEAKED SEDGE/CAREX UTRICULATA (10%, 250CC PLUG)
(16) BALTIC RUSH/JUNCUS BALTICUS (10%, 250CC PLUG)
(18) SANDBAR WILLOW/SALIX INTERIOR (25%, 250CC PLUG)
(26) PACIFIC WILLOW/SALIX LASIANDRA (25%, 250CC PLUG)
(13) SITKA WILLOW/SALIX SITCHENSIS (20%, 250CC PLUG)



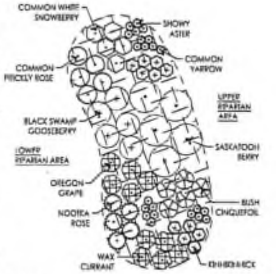
2 RIPARIAN EDGE COMPLEX PLANTING
SCALE: N.T.S.

UPLAND SHRUB COMPLEX PLANTING NOTES:

- TYPICAL PLANT COMMUNITY BASED UPON AREA OF 100m². SPECIES PERCENTAGES ARE APPROXIMATE ONLY.
- ENSURE SHRUBS ARE PLANTED IN MINIMUM GROUPINGS OF 5 AND MAXIMUM GROUPINGS OF 15
- BED LAYOUTS SCHEMATIC ONLY, FINAL LAYOUT TO BE FIELD FIT ON SITE AND APPROVED BY CITY OF KELOWNA AND LANDSCAPE ARCHITECT PRIOR TO PLANTING
- SHRUB AND TREE BED PLANTING PER CITY OF KELOWNA SPECIFICATION
- IF ROOT OF TREES ARE EXPOSED WHILE PLANTING NEAR EXISTING TREE STANDS, REFER TO TREE PRESERVATION NOTES FOR PROPER ROOT PRUNING TECHNIQUES
- REFER TO PROJECT SPECIFIC AND PLANTING NOTES L000

UPLAND SHRUB COMPLEX PLANTING
PLANTING AREA = (100 m²)

(11) COMMON YARROW/ACHILLEA MILLEFOLIUM (5%, #1 POT)
(5) SASKATOON BERRY//AMELANCHIER ALNIFOLIA (20%, #1 POT)
(11) KINNIKINNICK/ARCTOSTAPHYLOS UVA-URSI (5%, #1 POT)
(11) SHOWY ASTER/ASTER CONSPICUUS (5%, #1 POT)
(5) OREGON GRAPE/MAHONIA AQUIFOLIUM (10%, #1 POT)
(5) BUSH CINQUEFOIL/POTENTILLA FRUTICOSA (10%, #1 POT)
(5) WAX CURRANT/RIBES CEREUM (10%, #1 POT)
(5) BLACK SWAMP GOOSEBERRY/RIBES LACUSTRE (10%, #1 POT)
(5) COMMON PRICKLY ROSE/ROSA ACICULARIS (10%, #1 POT)
(5) NOOTKA ROSE/ROSA NUTKANA (10%, #1 POT)
(5) COMMON WHITE SNOWBERRY/SYMPHORICARPOS ALBUS (10%, #1 POT)



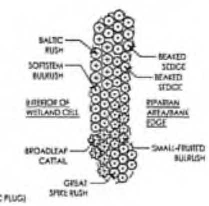
3 UPLAND SHRUB COMPLEX PLANTING
SCALE: N.T.S.

WETLAND ZONE COMPLEX PLANTING NOTES:

- TYPICAL PLANT COMMUNITY BASED UPON AREA OF 100m². SPECIES PERCENTAGES ARE APPROXIMATE ONLY.
- ENSURE SHRUBS ARE PLANTED IN MINIMUM GROUPINGS OF 5 AND MAXIMUM GROUPINGS OF 15
- BED LAYOUTS SCHEMATIC ONLY, FINAL LAYOUT TO BE FIELD FIT ON SITE AND APPROVED BY CITY OF KELOWNA AND LANDSCAPE ARCHITECT PRIOR TO PLANTING
- SHRUB AND TREE BED PLANTING PER CITY OF KELOWNA SPECIFICATION
- IF ROOT OF TREES ARE EXPOSED WHILE PLANTING NEAR EXISTING TREE STANDS, REFER TO TREE PRESERVATION NOTES FOR PROPER ROOT PRUNING TECHNIQUES
- REFER TO PROJECT SPECIFIC AND PLANTING NOTES L000

WETLAND ZONE COMPLEX PLANTING
PLANTING AREA = (5 m²)

(9) BEAKED SEDGE/CAREX ROSTRATA (15%, 250CC PLUG)
(9) BEAKED SEDGE/CAREX UTRICULATA (15%, 250CC PLUG)
(9) GREAT SPIKE RUSH/ELEOCHARIS PALUSTRIS (15%, 250CC PLUG)
(9) BALTIC RUSH/JUNCUS BALTICUS (15%, 250CC PLUG)
(9) SOFTSTEM BULRUSH/SCHOENOPLECTUS TABERNAEMONTANI (15%, 250CC PLUG)
(9) SMALL-FRUITED BULRUSH/SCIRPUS MICROCARPUS (15%, 250CC PLUG)
(6) BROADLEAF CATTAIL/TYPHA LATIFOLIA (10%, 250CC PLUG)



4 WETLAND ZONE COMPLEX PLANTING
SCALE: N.T.S.

CONSULTANT	STAMPS	NO	DATE	ISSUE/REVISION	BY	APPROVED	CHECKED
Stantec 400-1620 Dickson Avenue, Kelowna, B.C. V1Y 9Y2 Tel. (250) 860-3225 Fax. (250) 860-3567	ISSUED FOR PERMIT PURPOSES ONLY NOT FOR CONSTRUCTION	1	2025/07/18	ISSUED FOR PERMIT	LM	BT	BT

SEAL: 428 — 2025-07-18

SURVEY	BASE
	S.MCKICHAN
DESIGN S.MCKICHAN	PROFESSIONAL OF RECORD B. TYMCHYSHYN
SCALE	AS NOTED

CITY OF KELOWNA

REDEVELOPMENT OF PARKINSON RECREATION CENTER

LANDSCAPE DETAILS

CITY DEPT. INFRASTRUCTURE	
CITY FILE NO. -	
PROJECT DRAWING NO. L-303	REV NO. 1
CITY RECORD NO. -	SHEET NUMBER SHEET OF -