



MASTER MUNICIPAL
CONSTRUCTION DOCUMENTS
ASSOCIATION

TENDER DOCUMENTS

Belvidere Hand Launch

City of Enderby
14084
July 2016

Prepared By:

CTQ Consultants Ltd.
1334 St. Paul Street
Kelowna, BC V1Y 2E1

Phone: (250) 979-1221

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mnoble@ctqconsultants.ca



MASTER MUNICIPAL
CONSTRUCTION DOCUMENTS
ASSOCIATION

**MASTER MUNICIPAL CONSTRUCTION DOCUMENTS
PLATINUM EDITION 2009**

UNIT PRICE CONTRACT

BELVIDERE HAND LAUNCH

MASTER MUNICIPAL CONSTRUCTION DOCUMENTS

TABLE OF CONTENTS

The complete **Master Municipal Construction Documents** consist of the following parts:

1. **Standard Documents that Require Additional Information** (available in the "MMCD - Tender Document Production Manual" or on disk)
 - Invitation to Tenderers
 - Instructions to Tender – Part I
 - Form of Tender:
 - Appendix 1 – Schedule of Quantities and Prices
 - Appendix 2 – Preliminary Construction Schedule
 - Appendix 3 – Experience of Superintendent
 - Appendix 4 – Comparable Work Experience
 - Appendix 5 – Subcontractors Agreement
 - Agreement:
 - Schedule 1 – Schedule of Contract Documents
 - Schedule 2 – List of *Contract Drawings*
 - Supplemental General Conditions
 - Supplemental Specifications

2. **Standard Documents that are fully Complete** (available in the "MMCD - General Conditions, Specifications and Standard Detail Drawings")
 - Instructions to Tender – Part II
 - General Conditions:
 - Schedule 17.5.3 - Letter Agreement with Referee
 - Flow Chart - Changes and Extra Work
 - Flow Chart - Disputes Resolution
 - Standard Specifications
 - Standard Detail Drawings

Owner: **City of Enderby**

(NAME OF OWNER)

Contract: **Belvidere Hand Launch**

(TITLE OF CONTRACT)

Reference No. **14084**

(OWNER'S CONTRACT REFERENCE NO.)

The Owner invites tenders for:

- Form and pour concrete platforms;
- Grading, filter fabric and erosion protection rip rap for pathways;
- Place subbase and base gravels, and asphalt for pathways;

A complete set of Contract Documents are available electronically from: CTQ Consultants Ltd.
1334 St. Paul Street
Kelowna, BC V1Y 2E1
Phone: (250) 979-1221
Fax: (250) 979 -1232

Owner's Representative: Murray Noble, P.Eng., Contract Administrator mnoable@ctqconsultants.ca

Tenders are scheduled to close:

Tender Closing Time: 2:00 p.m. local time

Tender Closing Date: **August 11, 2016**

Address: CTQ Consultants Ltd.
1334 St. Paul Street
Kelowna, BC V1Y 2E1
Phone: (250) 979-1221
Fax: (250) 979 -1232

(ADDRESS WHERE TENDERS MUST BE SUBMITTED)

(FOR USE WHEN UNIT PRICES FORM THE BASIS OF PAYMENT TO BE USED ONLY WITH THE GENERAL CONDITIONS AND OTHER STANDARD DOCUMENTS OF THE UNIT PRICE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS.)

(TO BE READ WITH “INSTRUCTIONS TO TENDERERS - PART II”
CONTAINED IN THE EDITION OF THE PUBLICATION
“MASTER MUNICIPAL CONSTRUCTION DOCUMENTS” SPECIFIED IN ARTICLE 2.2 BELOW)

Owner: **The City of Enderby**
(NAME OF OWNER)

Contract: **Belvidere Hand Launch**
(TITLE OF CONTRACT)

Reference No. **14084**
(OWNER'S CONTRACT REFERENCE NO.)

1.0 Introduction

1.1 These Instructions apply to and govern the preparation of tenders for this *Contract*. The *Contract* is generally for the following work:

As detailed in the Project 14084 drawing set:

- Form and pour concrete platforms;
- Grading, filter fabric and erosion protection rip rap for pathways;
- Place subbase and base gravels, and asphalt for pathways;

1.2 Address: 1334 St. Paul Street Kelowna, BC V1Y 2E1

Phone: (250) 979-1221

Fax: (250) 979 -1232

2.0 Tender Documents

2.1 The tender documents which a tenderer should review to prepare a tender consist of all of the *Contract Documents* listed in Schedule 1 entitled “Schedule of Contract Documents”. Schedule 1 is attached to the Agreement which is included as part of the tender package. The *Contract Documents* include the drawings listed in Schedule 2 to the Agreement, entitled “List of *Contract Drawings*”.

2.2 A portion of the *Contract Documents* are included by reference. Copies of these documents have not been included with the tender package. These documents are the Instructions to Tenderers - Part II, General Conditions, Specifications and Standard Detail Drawings. They are those contained in the publication entitled “Master Municipal Construction Documents - General Conditions, Specifications and Standard Detail Drawings”. Refer to Schedule 1 to the Agreement or, if not specified in Schedule 1, then the applicable edition shall be the most recent edition as of the date of the *Tender*

Closing Date. All sections of this publication are by reference included in the *Contract Documents*.

2.3 Any additional information made available to tenderers prior to the *Tender Closing Time* by the *Owner* or representative of the *Owner*, such as geotechnical reports or as-built plans, which is not expressly included in Schedule 1 or Schedule 2 to the Agreement, is not included in the *Contract Documents*. Such additional information is made available only for the assistance of tenderers who must make their own judgment about its reliability, accuracy, completeness and relevance to the *Contract*, and neither the *Owner* nor any representative of the *Owner* gives any guarantee or representation that the additional information is reliable, accurate, complete or relevant.

3.0 Submission of Tenders

3.1 Tenders must be submitted in a sealed envelope, marked on the outside with the above *Contract* Title and Reference No., and must be received by the office of:

Murray Noble, P.Eng., Contract Administrator

on or before:

Tender Closing Time: 2:00 p.m. local time

Tender Closing Date: August 11, 2016

Address: 1334 St.Paul Street Kelowna, BC V1Y 2E1

Phone: (250) 979-1221

Fax: (250) 979 -1232

3.2 Late tenders will not be accepted or considered, and will be returned unopened.

4.0 Additional Instructions to Tenderers

4.1 The Tenderer is responsible to carry out sufficient field investigation to satisfy themselves as to the site conditions.

4.2 The successful tender and award of the Contract for the project will be at the sole discretion of the owner and may not necessarily be based on the lowest bid received. Project award and construction is subject to approval from the Enderby & District Services Commission

- 4.3 The successful contractor shall complete all required construction layout and also complete a detailed post construction survey to verify completion of the works to the lines and grades indicated on the project drawings. Survey data is to be forwarded to CTQ for as-build purposes. Survey costs are to be part of the works and no additional payment will be made.
- 4.4 The contractor will be responsible to coordinate inspections with the Project Engineer and to verify granular materials, concrete, and compaction tests as required to the satisfaction of the Project Engineer. Contractor is responsible for ensuring all materials meet MMCD requirements.
- Where initial tests fail and subsequent testing is deemed necessary, the cost of subsequent testing will be the responsibility of the Contractor.
- 4.5 CTQ Consultants Ltd. shall be notified 48 hours in advance of works that require inspection.
- 4.6 Works will be carried out in accordance with the project drawings, and MMCD specifications.
- 4.7 The Contractor shall locate, mark, and protect from damage or disturbance, any and all stakes, survey pins, monuments and markers at the Place of Work. All survey stakes, pins, monuments or markers which, in the opinion of the Owner, have been damaged or disturbed shall be made good following construction by a registered BC Land Surveyor at the Contractor's expense.
- 4.8 Copies of the Master Municipal Construction Documents Platinum Edition (2009) Instructions to Tenderers – Part II, General Conditions, Specifications and Standard Detail Drawings are available separately from:

MMCDA
102-211 Columbia Street
Vancouver BC V6A2R5
Phone: 604-681-0295

This Tender shall be additionally bound by the applicable MMCD Platinum Supplementary Specifications available at <http://mmcd.net/contentpage.aspx?id=platinumres>.

- 4.9 The Contractor shall recognize the design is based upon existing utility records and filed drawings as provided by the Owner and various third parties. Prelocates of existing infrastructure crossings must be completed by the contractor in advance of construction, and notification provided to the Contract administrator of any conflicts. No claims for delay or other impacts will be accepted by the Contract administrator or the Owner that arise as a result of not thoroughly completing prelocates and adequately protecting existing utilities.
- 4.10 Any and all damages to existing infrastructure, including costs incurred by the Owner as a result of the damages, will be repaired by the Contractor at the Contractor's expense.
- 4.11 The Contractor shall schedule their works to meet Substantial Performance by **October 31, 2016. Please review the window for in-stream works as detailed in section 4.13 below.**
- 4.12 The Contractor shall provide safe access around the work site at all times and all work areas shall be suitably signed, fenced and maintained at all times to ensure pedestrian and vehicle safety.
- 4.13 Riparian Areas Protection:** All work is to be conducted as per the methods and recommendations as detailed within the Mountain Pacific Environmental Consultants Limited report dated December 22, 2015, and conditions set in the Section 11 Change Approval by FLNRO and the Riparian Areas Regulation review. Specifically, the items related to the Erosion and Sediment Control Planning, Hazardous Materials Handling and Response Planning, and minimizing the impact to existing vegetation. The Contractor must adhere to the permitting requirements as per the Section 11 Change Approval and the RAR. This includes the in-stream work window of September 6 – October 15, 2016.

The Contractor should also refer to the Best Practices for in-Stream Works Manual (March 2004) and DFO's Pacific Region Best Practices.

FOR USE WHEN UNIT PRICES FORM THE BASIS OF PAYMENT - TO BE USED ONLY WITH THE GENERAL CONDITIONS AND OTHER STANDARD DOCUMENTS OF THE UNIT PRICE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS.

Owner: **The City of Enderby**

(NAME OF OWNER)

Contract: **Belvidere Hand Launch**

(TITLE OF CONTRACT)

Reference No. **14084**

(OWNER'S CONTRACT REFERENCE NO.)

To Owner:

WE, THE UNDERSIGNED:

- 1.1 have received and carefully reviewed all of the *Contract Documents*, including the Instructions to Tenderers, the specified edition of the "Master Municipal Construction Documents - General Conditions, Specifications and Standard Detail Drawings" and the following Addenda:

(ADDENDA, IF ANY)

- 1.2 have full knowledge of the *Place of the Work*, and the *Work* required; and
1.3 have complied with the Instructions to Tenderers; and

ACCORDINGLY WE HEREBY
OFFER

- 2.1 to perform and complete all of the *Work* and to provide all the labour, equipment and material as set out in the *Contract Documents*, in strict compliance with the *Contract Documents*; and
2.2 to achieve Substantial Performance of the *Work* on or before **October 31, 2016**; and
2.3 to do the *Work* for the price, which is the sum of the products of the actual quantities incorporated into the *Work* and the appropriate unit prices set out in Appendix 1, the "*Schedule of Quantities and Prices*", plus any lump sums or specific prices and adjustment amounts as provided by the *Contract Documents*. For the purposes of tender comparison, our offer is to complete the *Work* for the "*Tender Price*" as set out on Appendix 1 of this Form of Tender. Our *Tender Price* is based on the estimated quantities listed in the *Schedule of Quantities and Prices*, and excludes *GST*.



Initials: _____

- WE CONFIRM:** 3.1 that we understand and agree that the quantities as listed in the *Schedule of Quantities and Prices* are estimated, and that the actual quantities will vary.
- WE CONFIRM:** 4.1 that the following appendices are attached to and form a part of this tender:
- 4.1.1 the *Appendices* as required by paragraph 5.3 of the Instructions to Tenderers – Part II; and
 - 4.1.2 the *Bid Security* as required by paragraph 5.2 of the Instructions to Tenderers – Part II.
- WE AGREE:** 5.1 that this tender will be irrevocable and open for acceptance by the *Owner* for a period of **60** calendar days from the day following the *Tender Closing Date and Time*, even if the tender of another tenderer is accepted by the *Owner*. If within this period the *Owner* delivers a written notice ("*Notice of Award*") by which the *Owner* accepts our tender we will:
- 5.1.1 within **5 Days** of receipt of the written *Notice of Award* deliver to the *Owner*:
 - 1. a Performance Bond and a Labour and Material Payment Bond, each in the amount of 50% of the Contract Price, covering the performance of the Work including the Contractor's obligations during the Maintenance Period, issued by a surety licensed to carry on the business of suretyship in the province of British Columbia, and in a form acceptable to the Owner;
 - 2. a Construction Schedule, as provided by GC 4.6.1;
 - 3. a "clearance letter" indicating that the tenderer is in Worksafe BC compliance; and
 - 4. a copy of the insurance policies as specified in GC 24 indicating that all such insurance coverage is in place and;

- 5.1.2 within 2 Days of receipt of written "Notice to Proceed", or such longer time as may be otherwise specified in the Notice to Proceed, commence the Work; and
- 5.1.3 sign the Contract Documents as required by GC 2.1.2

WE AGREE:

6.1 that, if we receive written *Notice of Award* of this *Contract* and, contrary to paragraph 5 of this Form of Tender, we:

6.1.1 fail or refuse to deliver the documents as specified by paragraph 5.1.1 of this Form of Tender; or

6.1.2 fail or refuse to commence the *Work* as required by the *Notice to Proceed*,

then such failure or refusal will be deemed to be a refusal by us to enter into the *Contract* and the *Owner* may, on written notice to us, award the *Contract* to another party. We further agree that, as full compensation on account of damages suffered by the *Owner* because of such failure or refusal, the *Bid Security* shall be forfeited to the *Owner*, in an amount equal to the lesser of:

6.1.3 the face value of the *Bid Security*; and

6.1.4 the amount by which our *Tender Price* is less than the amount for which the *Owner* contracts with another party to perform the *Work*.

OUR ADDRESS is as follows:

This Tender is executed this _____ day of _____, 20_____.



Initials: _____

Contractor:

(FULL LEGAL NAME OF CONTRACTOR, PARTNERSHIP OR INDIVIDUAL)

(AUTHORIZED SIGNATORY)

(AUTHORIZED SIGNATORY)

Belvidere Hand Launch Schedule of Quantities



APPENDIX 1

See paragraph 5.3.1 of the Instructions to Tenderers – Part II
All prices and Quotations including the Contract Price shall include all Taxes, but shall not include PST/GST. PST/GST shall be shown separately.

2016-07-19
14084

Project Manager/CA: MN
Prepared By: DD
Reviewed By: Initials

Item	MMCD Section	Payment Item	Specification Title - Item Description	Unit	Quantity	Unit Price	Amount
General MMCD Contract Requirements							
	01 33 01	1.8.1	Project Record Documents	Note		Incidental	
	01 51 01	1.6.1	Temporary Utilities and Lighting	Note		Incidental	
	01 52 01	1.6.1	Temporary Structures	Note		Incidental	
	01 53 01	1.9.1	Temporary Facilities	Note		Incidental	
	01 55 00	1.5.1	Traffic Control, Vehicle Access and Parking	Note		Incidental	
	01 57 01	1.6.1	Environmental Protection	ls	1		\$ -
	01 58 01	1.3.1	Project Identification	Note		Incidental	
General MMCD Contract Requirements Sub-Total							\$ -
1.0 Earthworks and Site Preparation							
	31 24 13		Roadway Excavation, Embankment and Compaction				
		1.8.5	Common Excavation - Off-Site Disposal	cu.m	84		\$ -
		1.8.5	Common Excavation - On-Site Placement	cu.m	24		\$ -
		1.8.9	Subgrade Preparation	sq.m	239		\$ -
	31 32 19		Geosynthetics				
		1.6.1	Nilex Non Woven 4551 Filter Cloth	sq.m	284		\$ -
	31 37 10		RipRap				
		1.4.1	Graded RipRap - Machine Placed	cu.m	13		\$ -
		1.4.1	Angular Boulders	ls	1		\$ -
Section 1 Sub-Total							\$ -
2.0 Roads and Site Improvement							
	32 11 16.1		Granular Sub-Base				
		1.4.2	Granular Sub-Base - 150mm	sq.m	158		\$ -
	32 11 23		Granular Base				
		1.4.1	Granular Base - 75mm	sq.m	158		\$ -
		1.4.2	Granular Base - 150mm	sq.m	81		\$ -
	32 12 16		Hot-Mix Asphalt Concrete Paving				
		1.5.3	Asphalt Sidewalk - 50mm	sq.m	158		\$ -
Section 2 Sub-Total							\$ -
3.0 Concrete Features							
	03 30 53		Cast-In-Place Concrete				
		1.5.4	Concrete Stairs and Landings - as per provided details	LS	1		\$ -
Section 3 Sub-Total							\$ -
4.0 Utilities							
	33 42 13		Pipe Culvert				
		1.5.3	Head wall - c/w grate	ea	1		\$ -
Section 4 Sub-Total							\$ -
Total Costs							\$ -
Total Tender							\$ -

ASSUMPTIONS:

L:\General Data\Projects\2014\14084 - City of Enderby Design Services\6-Contract\Docs\Tender Documents\Tender Documents\2016-02-24 - MMCD SOQ - 14084.xlsx\Schedule of Quantities & Prices

City of Enderby - Belvidere Hand Launch

(TITLE OF CONTRACT)

See paragraph 5.3.2 of the Instructions to Tenderers – Part II.

Indicate Schedule with bar chart with major item descriptions and time.

MILESTONE DATES: _____

ACTIVITY	CONSTRUCTION SCHEDULE									
	1	2	3	4	5	6	7	8	9	10



Initials: _____

City of Enderby - Belvidere Hand Launch

(TITLE OF CONTRACT)

See paragraph 5.3.3 of the Instructions to Tenderers – Part II.

Name: _____

Experience: _____

Dates: _____

Project Name: _____

Responsibility: _____

References: _____

Dates: _____

Project Name: _____

Responsibility: _____

References: _____

Dates: _____

Project Name: _____

Responsibility: _____

References: _____

Dates: _____

Project Name: _____

Responsibility: _____

References: _____

City of Enderby - Belvidere Hand Launch

(TITLE OF CONTRACT)

See paragraph 5.3.4 of the Instructions to Tenderers – Part II.

PROJECT	OWNER / CONTACT NAME PHONE and FAX	WORK DESCRIPTION	VALUE (\$)
	Owner / Contract _____ Phone () _____ Fax () _____		
	Owner / Contract _____ Phone () _____ Fax () _____		
	Owner / Contract _____ Phone () _____ Fax () _____		
	Owner / Contract _____ Phone () _____ Fax () _____		
	Owner / Contract _____ Phone () _____ Fax () _____		
	Owner / Contract _____ Phone () _____ Fax () _____		
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	Owner / Contract _____ Phone () _____ Fax () _____		
	Owner / Contract _____ Phone () _____ Fax () _____		
	Owner / Contract _____ Phone () _____ Fax () _____		
	Owner / Contract _____ Phone () _____ Fax () _____		



Initials: _____

City of Enderby - Belvidere Hand Launch

(TITLE OF CONTRACT)

See paragraph 5.3.5 of the Instructions to Tenderers – Part II.

TENDER ITEM	TRADE	SUBCONTRACTOR NAME	PHONE NUMBER



Initials: _____

(FOR USE WHEN UNIT PRICES FORM THE BASIS OF PAYMENT TO BE USED ONLY WITH THE GENERAL CONDITIONS AND OTHER STANDARD DOCUMENTS OF THE UNIT PRICE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS.)

BETWEEN *OWNER* AND *CONTRACTOR*

This agreement made in duplicate this ___ day of _____, 20__.

Contract: **City of Enderby - Belvidere Hand Launch**

Reference No. **14084**

BETWEEN:

City of Enderby

(NAME OF OWNER)

(the "*Owner*")

AND:

(NAME AND OFFICE ADDRESS OF CONTRACTOR)

(the "*Contractor*")

The *Owner* and the *Contractor* agree as follows:

**Article 1 The Work
Start /
Completion
Dates**

- 1.1 The *Contractor* will perform all *Work* and provide all labour, equipment and material and do all things strictly as required by the *Contract Documents*.
- 1.2 The *Contractor* will commence the *Work* in accordance with the *Notice to Proceed*. The *Contractor* will proceed with the *Work* diligently, will perform the *Work* generally in accordance with the construction schedules as required by the *Contract Documents* and will achieve *Substantial Performance* of the *Work* on or before **October 31, 2016** subject to the provisions of the *Contract Documents* for adjustments to the *Contract Time*
- 1.3 Time shall be of the essence of the *Contract*.



Initials: _____

Article 2 Contract Documents

- 2.1 The "*Contract Documents*" consist of the documents listed or referred to in Schedule 1, entitled "Schedule of Contract Documents", which is attached and forms a part of this Agreement, and includes any and all additional and amending documents issued in accordance with the provisions of the *Contract Documents*. All of the *Contract Documents* shall constitute the entire *Contract* between the *Owner* and the *Contractor*.
- 2.2 The *Contract* supersedes all prior negotiations, representations or agreements, whether written or oral, and the *Contract* may be amended only in strict accordance with the provisions of the *Contract Documents*.

Article 3 Contract Price

- 3.1 The price for the *Work* ("*Contract Price*") shall be the sum in Canadian dollars of the following
- 3.1.1 the product of the actual quantities of the items of Work listed in the Schedule of Quantities and Prices which are incorporated into or made necessary by the Work and the unit prices listed in the Schedule of Quantities and Prices; plus
 - 3.1.2 all lump sums, if any, as listed in the Schedule of Quantities and Prices, for items relating to or incorporated into the Work; plus
 - 3.1.3 any adjustments, including any payments owing on account of Changes and agreed to Extra Work, approved in accordance with the provisions of the *Contract Documents*.
- 3.2 The *Contract Price* shall be the entire compensation owing to the *Contractor* for the *Work* and this compensation shall cover and include all profit and all costs of supervision, labour, material, equipment, overhead, financing, and all other costs and expenses whatsoever incurred in performing the *Work*.

Article 4 Payment

- 4.1 Subject to applicable legislation and the provisions of the *Contract Documents*, the *Owner* shall make payments to the *Contractor*.
- 4.2 If the *Owner* fails to make payments to the *Contractor* as they become due in accordance with the terms of the *Contract Documents* then interest calculated at 2% per annum over the prime commercial lending rate of the Royal Bank of Canada on such unpaid amounts shall also become due and payable until payment. Such interest shall be calculated and added to any unpaid amounts monthly.

Article 5 Rights and Remedies

- 5.1 The duties and obligations imposed by the *Contract Documents* and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.
- 5.2 Except as specifically set out in the *Contract Documents*, no action or failure to act by the *Owner*, *Contract Administrator* or *Contractor* shall constitute a waiver of any of the parties' rights or duties afforded under the *Contract*, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach under the *Contract*.

Article 6 Notices

- 6.1 Communications among the *Owner*, the *Contract Administrator* and the *Contractor*, including all written notices required by the *Contract Documents*, may be delivered by hand, or by fax, or by pre-paid registered mail to the addresses as set out below:

The *Owner*:

City of Enderby

P.O. Box 400, 619 Cliff Avenue

Enderby BC, V0E 1V0

Fax: 250-838-6007

Attention: Kurt Inglis, Assistant Corporate Officer and Planning Assistant

The *Contractor*:

Fax: _____

Attention: _____

The *Contract Administrator*:

CTQ Consultants Ltd.

1334 St. Paul Street

Kelowna, BC V1Y 2E1

Fax: (250) 979.1232

Attention: Murray Noble, P.Eng., Contract Administrator

- 6.2 A communication or notice that is addressed as above shall be considered to have been received:
 - 6.2.1 immediately upon delivery, if delivered by hand; or
 - 6.2.2 immediately upon transmission if sent by fax and received in hard copy; or
 - 6.2.3 after 5 Days from date of posting if sent by registered mail.
- 6.3 The *Owner* or the *Contractor* may, at any time, change its address for notice by giving written notice to the other at the address then applicable. Similarly if the *Contract Administrator* changes its address for notice then the *Owner* will give or cause to be given written notice to the *Contractor*.
- 6.4 The sender of a notice by fax assumes all risk that the fax is received in hard copy.

Article 7 General

- 7.1 This *Contract* shall be construed according to the laws of British Columbia.
- 7.2 The *Contractor* shall not, without the express written consent of the *Owner*, assign this *Contract*, or any portion of this *Contract*.
- 7.3 The headings included in the *Contract Documents* are for convenience only and do not form part of this *Contract* and will not be used to interpret, define or limit the scope or intent of this *Contract* or any of the provisions of the *Contract Documents*.
- 7.4 A word in the *Contract Documents* in the singular includes the plural and, in each case, vice versa.
- 7.5 This agreement shall ensure to the benefit of and be binding upon the parties and their successors, executors, administrators and assigns.

IN WITNESS WHEREOF the parties hereto have executed this Agreement the day and year first written above.

Contractor:

(AUTHORIZED SIGNATORY)

(AUTHORIZED SIGNATORY)



Initials: _____

Owner:

City of Enderby

(FULL LEGAL NAME OF CORPORATION, PARTNERSHIP OR INDIVIDUAL)

(AUTHORIZED SIGNATORY)

(AUTHORIZED SIGNATORY)

(INCLUDE IN LIST ALL DOCUMENTS INCLUDING, IF ANY, SUPPLEMENTARY GENERAL CONDITIONS,
SUPPLEMENTARY SPECIFICATIONS, SUPPLEMENTARY STANDARD DETAIL DRAWINGS.)

**Schedule 1 Schedule of
Contract
Documents**

The following is an exact and complete list of the *Contract Documents*, as referred to in Article 2.1 of the Agreement.

NOTE: The documents noted with “*” are contained in the “Master Municipal Construction Documents - General Conditions, Specifications and Standard Detail Drawings”, Platinum Edition dated 2009. All sections and supplements (to **January 10, 2013**) of this publication are included in the *Contract Documents*.

- 8.1 Agreement, including all Schedules;
- 8.2 General Conditions*;
- 8.3 Supplemental General Conditions;
- 8.4 Specifications*;
- 8.5 Supplemental Specifications;
- 8.6 Standard Detail Drawings*;
- 8.7 Executed Form of Tender, including all Appendices;
- 8.8 *Contract Drawings* listed in Schedule 2 to the Agreement, “List of *Contract Drawings*”;
- 8.9 Instructions to Tenderers - Part I;
- 8.10 Instructions to Tenderers - Part II*;
- 8.11 **Mountain Pacific Environmental – Environmental Management Plan**
- 8.12 **Section 11 Change Approval, Ministry of Forests, Lands and Natural Resource Operations.**
- 8.13 The following Addenda:

(COMPLETE LISTING OF ALL DRAWINGS, PLANS AND SKETCHES WHICH ARE TO FORM A PART OF THE CONTRACT,
OTHER THAN STANDARD DETAIL DRAWINGS AND SUPPLEMENTARY STANDARD DETAIL DRAWINGS.)

List of Contract Drawings

TITLE	DRAWING NO.	DATE	REVISION NO.	REV. DATE
Site Grading Plan	G-01	Sept. 2015	2	July. 19, 2016

FOR USE WHEN UNIT PRICES FORM THE BASIS OF PAYMENT - TO BE USED ONLY WITH THE GENERAL CONDITIONS
AND OTHER STANDARD DOCUMENTS OF THE UNIT PRICE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS.

Owner: **City of Enderby**

(NAME OF OWNER)

Contract: **Belvidere Hand Launch**

(TITLE OF CONTRACT)

Reference No. **14084**

(OWNER'S CONTRACT REFERENCE NO.)

Measurement for Payment 1

1.1 Except as noted following, payment for all items to be as per MMCD standards as outlined in the MMCD Platinum. Also, except as noted following, all unit rates to be 'Supply and Install'.

1.2 **Tie to Existing:** will be measured as each and will be paid for at the contract price, which shall be for full compensation for all labour and equipment, excavation, pipe, fittings, backfill material, backfilling and compaction and all other works and materials necessary to complete the tie to existing.

Measurement shall be based on field confirmation of completed works.

1.3 **Survey:** Contractor is responsible for all survey required to complete construction, verification of earthwork volumes and collection of data to complete record drawings.

There is no measurement or payment for this item. Payment for survey will be incidental to the payment for work described in other Sections unless shown otherwise in the Schedule of Quantities and Prices.

1.4 **Extra Work:** Request and receive authorization from the Contract Administrator prior to commencing with any extra work.

1.5 **Sediment and Erosion Control:** Contractor to supply adequate means of sediment and erosion control during construction. Contract Administrator may direct contractor to provide sediment and erosion control as the need arises. Payment for sediment and erosion control will be incidental to the payment for work described in other Sections unless shown otherwise in the Schedule of Quantities and Prices.

1.6 **Street Cleaning:** Contractor to clean all streets affected by construction on a daily basis or as directed by the Contract Administrator. Payment for street cleaning will be incidental to the payment for work described in other Sections unless shown otherwise in the Schedule of Quantities and Prices.

- 1.7 **Removal, salvage or abandoning of existing utilities:** Payment is considered incidental to other payment items and no additional payment will be made unless itemized in the Schedule of Quantities.
- 1.8 **Mobilization & De-Mobilization:** Contractor is responsible for mobilization and de-mobilization.

There is no measurement or payment for this item.

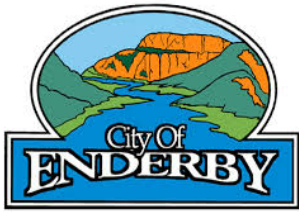
- 1.9 **Riparian Areas Protection:** All work is to be conducted as per the methods and recommendations as detailed within the Mountain Pacific Environmental Consultants Limited report dated December 22, 2015, and conditions set in the Section 11 Change Approval by FLNRO and the Riparian Areas Regulation review. Specifically, the items related to the Erosion and Sediment Control Planning, Hazardous Materials Handling and Response Planning, and minimizing the impact to existing vegetation should be reviewed in terms of impact to Contractor pricing. The Contractor must adhere to the permitting requirements as per the Section 11 Change Approval and the RAR. This includes the in-stream work window of September 6 – October 15, 2016.

The Contractor should also refer to the Best Practices for In-Stream Works Manual (March 2004) and DFO's Pacific Region Best Practices.

Replanting after construction is not included within the Contractor's scope of work and will be dealt with independently after project construction.

A Lump Sum line item is provided within the Schedule of Quantities as payment for any work that the Contractor feels is appropriate to these requirements.

END



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ENVIRONMENTAL
CONSULTANTS LIMITED
better solutions for both clients and resources

City of Enderby
Belvidere Park Hand Launch
Environmental Management Plan

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Table 1-1 Project Schedule and Identified Tasks

Table 1-2 Project Contact Information

1 INTRODUCTION

1.1 PROJECT DESCRIPTION

The City of Enderby is proposing the development of a hand launch along the Shuswap River at Belvidere Park (the Project). The hand launch is intended to meet both the environmental and public safety needs required by a recent increase in recreational watersport along the Shuswap River. In conjunction with the Projects' Environmental Assessment (Mountain Pacific 2015), an Environmental Management Plan is required to direct both construction and operation phase works.

Specific environmental considerations associated with hand launch location and design includes:

- Protection of fish habitat;
- Protection of riparian habitat;
- Protection of water quality;
- Erosion and sediment control;
- Reduced point source turbidity; and
- Reduced terrestrial impacts.

The project's final plan will target options that best balance environmental protection of the Shuswap River and the riparian area while facilitating recreational use opportunity. Both an Erosion and Sediment Control Plan, and a Spill Response and Hazardous Materials Handling Plan are located in Appendix A and B respectively.

Ecologically, the proposed site constitutes fish-bearing Shuswap River substrate habitat. Further, the Project is located downstream of Mabel River and above Mara River, both of which are also fish-bearing. Anthropological and access considerations include the site's relative proximity to both the Town of Enderby, Highway 97 and Mabel River Road.

Specific to the Project, regulatory agency review will require engagement with the Department of Fisheries and Oceans Canada (DFO), BC Ministry of Forests, Lands and Natural Resources (FLNRO), and the Regional District of the Columbia-Shuswap (RDSCS). All construction and operations should adhere to best management practises developed by the listed agencies above. A list of best management practises from the various agencies can be provided to the contractor upon request.

1.2 PROJECT LOCATION

The Project site is located in Belvidere Park, Enderby, BC, directly upstream of Cliff Avenue and its crossing over the Shuswap River. The hand launch is located on the west bank of the Shuswap River and west of the Jim Watt Heritage River Walk (11 U 348753.32 m E 5601834.86 m N). Braiding immediately upstream of the Project site has resulted in the formation of a large wetland complex on the river's west shore. The Shuswap River is productive, fish bearing, and hosts a significant annual Chinook salmon run (DFO 2014).

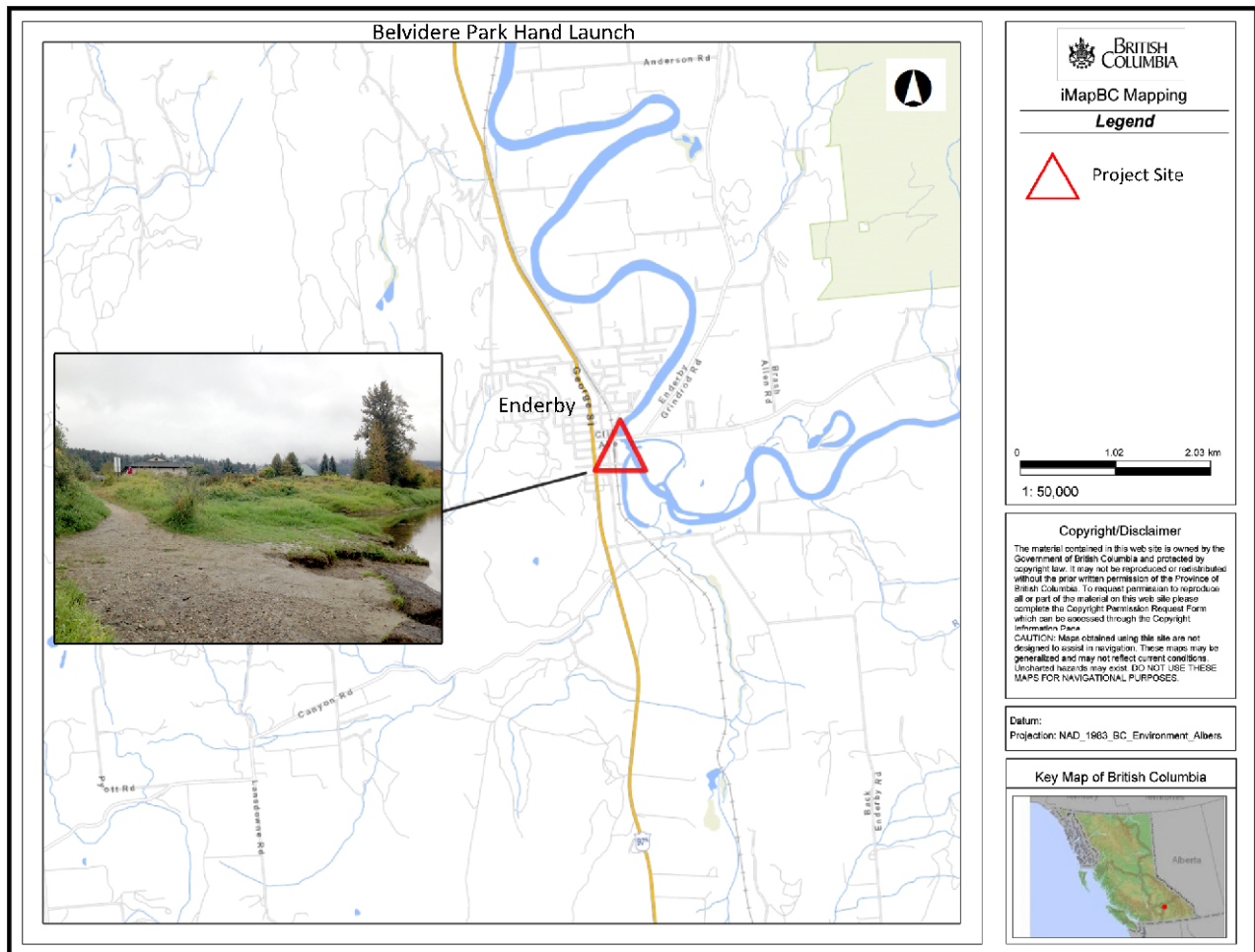


Figure 1.1 2015 City of Enderby Belvidere Park Hand Launch: Regional Study Area Map

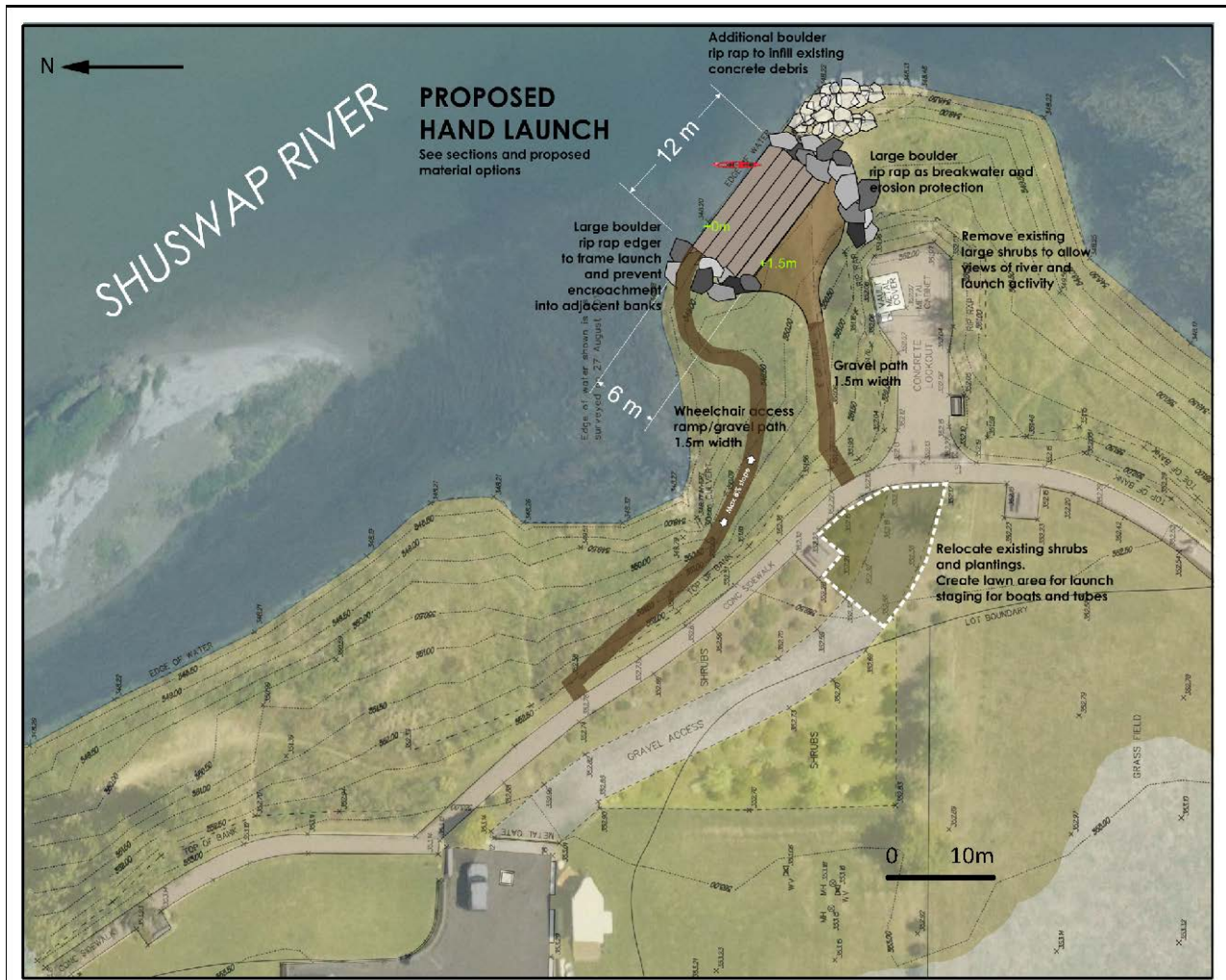


Figure 1.2 2015 City of Enderby Belvidere Park Hand Launch: Project Overview Map

1.3 PROJECT SCHEDULE

The Project was initiated in 2014 with the environmental assessment commencing in 2015. Project construction is scheduled for 2016. Table 1-1 highlights significant tasks identified throughout the project period.

Table 1-1 Project Schedule and Identified Tasks

Project Initiation	January 2015
Project Management Meeting	January 2015
Comprehensive Baseline Assessment	September 2015
Environmental Assessment Submission	December 2015
Construction start	February 2016

1.4 PROJECT CONTACT INFORMATION

Table 1-2 outlines contact information pertaining to Project works.

Table 1-2 Project Contact Information

Responsible Parties	Organization	Contact	Telephone	Fax	Email
Proponent	City of Enderby	Kurt Inglis	(250) 838-7230	(250) 838-6007	kinglis@cityofenderby.com
Consultant	Mountain Pacific Environmental Consultants Ltd.	Eric A. Miller RPF, RPBio	(250) 558-9131	(250) 558-0652	eamiller@telus.net
Federal EA Coordinator	Fisheries and Oceans Canada	Bruce Runciman	250.804.7007	250.804.7010	Bruce.Runciman@dfo-mpo.gc.ca
Municipality	City of Enderby	Kurt Inglis	(250) 838-7230	(250) 838-6007	kinglis@cityofenderby.com

2 CONSTRUCTION PHASE PLANNING

2.1 SURFACE WATER AND GROUNDWATER

Potential Environmental Impact: Construction activities such as earth works and placement and securing of hand launch components has the potential to cause sedimentation and turbidity.

Mitigation:

- Prevent the release of silt, sediment, or sediment-laden water. If works are expected to significantly disrupt river substrates, then containment measures must be undertaken;
- Sufficient water depths must be present to prevent the construction machinery from grounding on the substrate and the use of stabilizing spuds should be minimized (Fisheries and Oceans Canada and Ministry of Environment, date unknown). During construction, scour from excavation must not occur; and
- It may be necessary to install a floating/hanging silt curtain during earth works and other construction activities if turbidity becomes a significant concern. The need for a silt curtain could be determined by the contractor, proponent and environmental monitor based on the construction activities and associated turbidity concerns.
- Refer to Appendix A which contains an Erosion and Sediment Control Plan, and Appendix B that has a Spill Response and Hazardous Materials Handling Plan.

Potential Environmental Impact: Spills of various substances during construction (fuels, concrete, lubricants, etc). have the potential to impact water quality. Construction materials have the potential to impact water quality if they leach substances into the water. See Appendix B for Spill Response Plan.

Mitigation:

- No concrete pours should occur on site. All hand launch components should be pre-cast;
- Ensure that onsite machinery is in good operating condition, clean and free of leaks, excess oil, or grease;
- Operators should take care when fuelling equipment to prevent spills (Refer to Appendix B). Fuelling should occur over an impermeable surface so that incidental spills or drips can be cleaned up with the appropriate spill response materials. All of the construction crew should be familiar with the location and proper use of these materials and how to respond in the event of a spill or spill related emergency;
- Any equipment left in proximity to water over night should be secure. We recommend placing a clean piece of cardboard or some sheeting underneath equipment parked overnight to detect incidental leaks or drips;
- Equipment operating on site should be serviced with “environmentally friendly” hydraulic fluid;

- No equipment is to sit within the wetted perimeter of Shuswap River during construction;
- Only lumber treated with environmentally friendly stains should be used in hand launch construction. Cut, seal and stain all lumber away from the water using only environmentally-friendly stains. All sealed and stained lumber must be completely dry before being used near water; and
- Any spills of a deleterious substance of reportable quantities must be immediately reported to Emergency Management BC's 24 hour hotline at 1-800-663-3456 as well as Fisheries and Oceans Canada and Ministry of Environment.

2.2 SOILS AND SEDIMENT

Potential Environmental Impact: Construction activities could result in changes to soils and sediment in the nearshore area. Excavation has the potential to displace substrates. The area of disturbance has the potential to increase bank erosion and sediment input into the aquatic environment.

Mitigation:

- No beach grooming, addition of sand or removal of cobbles/boulder below the high water mark should occur during construction;
- Cobbles and boulders occurring within the Project footprint must not be removed from the river environment. If necessary, they should be relocated to an area immediately adjacent and of similar water depth following guidelines of the;
- Refer to Appendix A which contains an Erosion and Sediment Control Plan;.
- During construction, scour from construction machinery must not occur, and the river shore must remain in the same condition or better than prior to construction; and
- Hand launch components including rock must be towed or lifted into placed and not dragged across the existing river substrate.

2.3 AIR QUALITY AND CLIMATE CHANGE

Potential Environmental Impact: Construction activities will likely result in a temporary increase in air emissions associated with construction and operation of equipment and machinery.

Mitigation:

- Limit idling of equipment; and
- Make sure equipment is serviced and in good working order.

2.4 NOISE AND VIBRATION

Potential Environmental Impact: Construction activities will likely result in a temporary increase in noise associated with pile driving and operation of equipment and machinery.

Mitigation:

- Limit noise impacts by following Regional District of North Okanagan noise guidelines and bylaws.

2.5 AQUATIC VEGETATION

Potential Environmental Impact: Construction activities have the potential to impact the existing riparian area.

Mitigation:

- Minimize the Project footprint where possible and avoid disturbance outside the project footprint area;
- No aquatic vegetation should be removed during construction, other than the project footprint; and
- Practise erosion and sediment control within the vegetated riparian area.

Potential Environmental Impact: Construction activities have the potential to impact aquatic macrophytes.

Mitigation:

- Hand launch structures should be positioned such that they are not impacting aquatic vegetation wherever possible; and

2.6 FISH AND FISH HABITAT

Potential Environmental Impact: Works completed outside the timing windows designated for Shuswap River have the potential to impact important life stages of fish populations in Shuswap River.

Mitigation:

- Works should be completed during the least risk timing window for Shuswap River. As a result the timing window is August 7 – September 15 and November 1 – April 1. For works to occur outside the timing window, an environmental consultant would need to be retained to provide a more detailed assessment of the timing windows effect on fish life history and provide a detailed rationale for working outside of the window as well as mitigation measures to mitigate the effect

of construction of the proposed hand launch. Full time monitoring outside the timing window may be required. The proponent would like to work within the timing window to take advantage of low water levels. A more detailed assessment of the risk would need to be completed along with mitigation measures to address the potential for impacts to important fish life stages/processes; and

- No works can occur below the high water mark of Shuswap River without having a Provincial Water Act Section 9 Notification application submitted, approved and in the possession of the property owner and contractor prior to any instream works. It is understood that the works will also likely require a review by Fisheries and Oceans Canada.

2.7 TRANSPORTATION AND NAVIGATION

Potential Environmental Impact: Construction activities have the potential to interfere with pedestrian and boat traffic on Shuswap River.

Mitigation:

- Construction crews should adhere to all boating guidelines and should be clearly visible to pedestrian and boating traffic.

2.8 ENVIRONMENTAL MONITORING

A Qualified Environmental Professional (QEP), as defined in the Riparian Areas Regulation Assessment Methods, will be retained as project environmental monitor by the City of Enderby.

There will be a pre-construction meeting to communicate the importance of SPEA protection and the erosion and sediment control plan with site personnel, along with mitigation measures detailed in the “City of Enderby, Belvidere Hand Launch Environmental Assessment”. Final monitoring will review the compliance with the above measures and the protection of the riparian area and fish and fish habitat.

Routine site inspections during the construction phase will be made by the QEP and reports submitted to the City of Enderby. Any non-adherence to measures contained within the environmental assessment and environmental management plan will be rectified immediately through the QEP communicating with the construction manager. If this course of action is unsuccessful the proponent will initiate contractual processes to ensure compliance.

A post-development/construction report summarising the development, outlining the degree of compliance with the above measures and demonstrating that the riparian area and fish and fish habitat are protected will also be produced and submitted to government agencies and the Riparian Areas Regulation database.

3 OPERATION PHASE PLANNING

3.1 SURFACE WATER AND GROUNDWATER

Potential Environmental Impact: Maintenance of the hand launch has the potential to affect surface water quality.

Mitigation:

- Maintenance activities should be completed at the hand launch during low flow period. The hand launch management should develop a policy restricting boat maintenance at the hand launch;
- The erosion and sediment control and spill response plans should be available to users and city staff;
- Develop policies and guidelines that discourage pollution. Educate hand launch users on best management practices by handing out information pamphlets or by posting information signs;
- Maintenance of deck or hand launch components must not be carried out within open water with the potential to deposit debris or harmful substances. Any maintenance work where there is the potential for debris to enter the water must be completed over a tarp or similar barrier to allow debris to be collected and disposed of off-site and not in the water; and
- Refer to Appendix A which contains an Erosion and Sediment Control Plan, and Appendix B that has a Spill Response and Hazardous Materials Handling Plan.

Potential Environmental Impact: Garbage and waste from hand launch use could end up in the water or on shore.

Mitigation:

- Make garbage bins and waste receptacles readily available at the entrance to the hand launch and in other designated areas. Garbage bins should be secured so they do not accidentally end up in the water;
- Develop policies and guidelines that discourage pollution. Educate hand launch users on best management practices by handing out information pamphlets and by posting information signs;
- Make sure hand launch staff are aware of environmental rules and guidelines and are able to enforce them to users; and
- Collect and retrieve garbage found in nearshore areas or in the water.

3.2 SOIL AND SEDIMENT

Potential Environmental Impact: Boats operating in nearshore areas could cause scour

Mitigation:

- Information should be given to moorage users that they are to avoid shallow areas and use the designated launch.

Potential Environmental Impact: Grounding of boats and floatation equipment by the hand launch can be harmful to nearshore substrates and vegetation.

Mitigation:

- The main hand launch access must be regularly assessed and managed so that erosion and sediment control is maintained.

3.3 AIR QUALITY AND CLIMATE CHANGE

Potential Environmental Impact: Hand launch could potentially increase air emissions present locally.

Mitigation:

- Encourage hand launch users to limit idling with signs and other information;
- The hand launch will primarily service existing boat traffic on Shuswap River and as a result emissions are not expected to increase substantially.

3.4 NOISE AND VIBRATION

Potential Environmental Impact: Hand launch could potentially increase noise present locally.

Mitigation:

- Set guidelines for operational hours for the hand launch;
- Adhere to local bylaws and guidelines for noise.

3.5 AQUATIC VEGETATION

Potential Environmental Impact: traffic could potentially reduce aquatic macrophyte growth through scour.

Mitigation:

- Manage or limit foot traffic in nearshore areas.

3.6 FISH AND FISH HABITAT

Potential Environmental Impact: Boats have the potential to be a mechanism for invasive species transfer.

Mitigation:

- Where feasible ensure that boats and equipment entering the Shuswap River are clean, drained and dry and remove any visible mud, plants, fish or animals.

3.7 TRANSPORTATION AND NAVIGATION

Potential Environmental Impact: The hand launch may interfere with boating traffic on Shuswap River.

Mitigation:

- The hand launch should be properly marked as appropriate buoys and signage must be in place;
- Reduced speed buoys are recommend in proximity to the hand launch to avoid potential interference with boat traffic;
- The hand launch has been placed in low water instead – this reduces the amount the hand launch extends into the navigable portions of Shuswap River.

3.8 EFFECTIVENESS MONITORING

A Qualified Environmental Professional (QEP), should conduct effectiveness monitoring on any revegetation works that area completed as part of mitigation for the potential environmental impacts due to construction of the hand launch, pathways and bank protection works. This can be determined and a plan developed once finalized revegetation plans to mitigate project impacts is complete.

4 REFERENCES

MOUNTAIN PACIFIC Environmental Consultants Ltd. 2015. City of Enderby Belvidere Hand Launch Environmental Assessment 68 pg.

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Appendix A: Erosion and Sediment Control Plan

Erosion and Sediment Control Plan

Acronyms

Environmental Management Plan	EMP
Environmental Monitor	EM
Ministry of Environment	MoE
Nephelometric Turbidity Unit	NTU
Provincial Emergency Program	PEP

1 Introduction

The erosion and sediment plan outlines the protection control measures that need to be implemented to protect downstream habitat and water users from increased water sediment levels due to construction activity. The contractor will be required to develop and implement drainage, erosion and sediment control plans prior to any construction activity. The plan shall be submitted to the Engineer and the Environmental Monitor prior to undertaking the work and must be approved by the EM prior to commencing work. The contractor shall develop a plan that:

- Minimizes the extent of soil disturbance related to construction activities to control erosion as much as possible;
- Intercepts and diverts runoff before water enters the construction site;
- Provides drainage and settlement facilities so that sediment-laden waters from the construction site are contained until they meet water quality requirements stated in Section 3.

2 Water Quality Requirements

The contractor will undertake erosion and sediment control measures to ensure that water from the construction does not exceed BC Approved Water Quality Guidelines for domestic water use or aquatic life. The Shuswap River is a major water source for a number of communities including the City of Enderby. The BC Approved Water Quality Guidelines state that induced turbidity levels shall not exceed:

- 1 NTU (nephelometric turbidity unit) when background is less than or equal to 5 NTU for untreated drinking water;
- 5 NTU when background is less than or equal to 50 NTU; and
- 10% when background turbidity levels are higher than 50 NTU for treated drinking water.

The BC Approved Water Quality Guidelines state that for aquatic use, maximum induced turbidity levels shall not exceed:

- i. 8 NTU in 24 hours when background is less than 8 NTU, or
- ii. 8 NTU when background is between 8 and 80, or
- iii. 10% when background turbidity levels are greater than 80 NTU.

The guidelines also state that maximum induced suspended sediments shall not exceed:

- i. 25mg/L in 24 hours when background is less than or equal to 25;
- ii. 25mg/L when background is between 25 and 250; or
- iii. 10% when background is greater than or equal to 250.

Water turbidity measurements shall be taken in the field using a portable turbidity meter, when works are to occur in or near water, specifically if there is a risk of sediment laden water or material to enter a waterbody. Measurements shall be taken from a site (or sites) upstream of the construction area on Shuswap River to measure background turbidity levels. The turbidity of water draining from the construction site shall be measured to make sure it does not exceed the BC Approved Water Quality Guidelines stated above. Measurements shall be taken at the following times:

- Weekly during construction if works are occurring near to water;
- During rain events;
- During spring runoff;
- At any time increased sedimentation levels are observed.

3 Erosion Control Measures

In all cases, construction of erosion and sediment control works will be among the first tasks completed. The primary method of controlling sediment is to control erosion as much as practical. This will include:

- Adequately marking boundaries of the construction site with flagging prior to commencing any construction work to prevent unnecessary disturbance to the in-stream and riparian areas of the Shuswap River. The flagging shall be reviewed by an EM prior to undertaking any work;
- Clearing and grubbing in any area will be minimized as much as possible to limit exposure of mineral soil. Cleared areas will be re-vegetated as soon as possible during or following construction with native species wherever possible;
- Collecting runoff from disturbed sites and divert it into a drainage and retention system that allows for sediment to settle out prior to the water leaving the construction site;

- Halting construction activities during periods of high rainfall;
- Isolating any in-stream worksite by diverting any upstream flow around the worksite, or timing construction activities during low water so all works occur in the dry;
- Any sediment control structures, such as silt fences, check dams and retention ponds shall be regularly inspected, maintained, and accumulated sediments removed. In the event that a sediment control mechanism is not working properly, it must be repaired or replaced immediately.

Appendix B: Spill Response Plan and Handling of Hazardous Materials

Spill Response Plan and Handling of Hazardous Materials

Acronyms

Environmental Management Plan	EMP
Environmental Monitor	EM
Ministry of Environment	MoE
Nephelometric Turbidity Unit	NTU
Provincial Emergency Program	PEP

1 Construction Equipment

The most likely source of any contaminant is from equipment used on site. The following recommendations are designed to minimize the likelihood and impact of a spill.

- All equipment shall be regularly inspected for leaks at the start and end of each working day. Leaking equipment shall be immediately removed from the site and repaired.
- Fuel must be properly contained and stored. Fuel is not to be stored on site overnight. A designated fueling station should be identified and used. This location must be at least 30m from the Shuswap River or any other waterbody.
- Logbooks will be kept for each machine onsite and updated daily.
- All equipment must be well-maintained to avoid leakage of fuel or oils.
- Major repairs are not allowed on-site, minor servicing must be conducted a minimum of 30m from a watercourse. To minimize the footprint of potential machinery related spills, repairs should be carried out at the fueling station when possible.
- If equipment is required to work within the wetted perimeter of the stream it must be cleaned and free of dirt and contaminants.
- Idling should be minimized.

2 Emergency Spill Response Plan

The emergency spill response plan outlines the responsibilities and requirements of the contractor for the management of fuels and other substances during construction activity. The purpose of the plan is to:

- Identify preventative measures in order to reduce the risk of a spill,
- Ensure a state of readiness for spill emergencies
- Ensure health and safety considerations are applied in the event of a spill

- Direct mitigation and remediation of spill impacts,
- Direct investigation of spill events.

3 Responsibilities

The contractor is responsible for ensuring that the emergency spill plan is implemented during the construction of the Belvidere Park Hand Launch for the City of Enderby.

4 Equipment and Fueling Guidelines

The anticipated source of any spill during construction is associated with the use of heavy machinery, and is likely to involve the release of fuel or oil onto the site. These guidelines are designed to reduce the likelihood of a spill, and reduce the size and/or impacts of any spill that occurs.

- All fuels or deleterious substances used during construction will be properly identified and stored in a safe manner according to Workplace Hazardous Materials Information System standards.
- All fuels or deleterious substances will be carefully handled to avoid spillage, and properly secured against unauthorized access.
- A Spill Containment Kit will be readily accessible on-site.
- All personnel will be adequately instructed in the use of the Spill Response Kit.
- Fueling must only be at a designated location, pre-selected so that it is a minimum of 30m from any watercourse.
- Fuel must not be stored on-site overnight.
- Raw or uncured waste concrete and grouts will be disposed of by removal from the development site, or once cured, by burial on-site in a location and manner that will not impact any watercourse.
- Wash down waters from aggregate surfaces, cast-in-place concrete and concrete equipment will be trapped on-site to allow sediment to settle out and pH neutrality to be achieved, before the water is released into the ground or into the storm drain system.
- Equipment must not be washed down on site.
- Any spills of hazardous substances that has or could enter the groundwater must be immediately reported to the EM and the City of Enderby. The reporting requirements for any spill are detailed below.
- Spilled substances must be contained immediately. If contaminated soils threaten a watercourse than the soils should be removed to a location away from the watercourse. Contaminated soils must not be removed from site without the prior approval of the City of Enderby, EM and MoE.

5 Emergency Spill Response Procedure

All construction personnel must be familiar with the following spill response procedure. An incident report sheet (provided) must be filled out for any incident.

Initial Assessment

Step 1

- Identify product and extent of contamination
- Identify any safety concerns
- Notify Site Supervisor

Step 2

- Eliminate the source of the spill
- Contain the spill and mark the extent of the spill
- Pick up spill using pads, booms, pillow or granular absorbent
- For spills to water, isolate the contamination if possible
- Dispose of contaminated spill cleaning equipment at suitable locations
- If there is the potential for the spill to contaminate a watercourse, excavate the contamination and move away from the watercourse for further treatment
- Contaminated soils must not be removed from the site without prior approval from the City of Enderby, the EM and MoE

Belvidere Park Hand Launch Construction, City of Enderby

Spill Incident Report

Date of Report	
Date and Time of Incident	
Date and Time Reported to Supervisor	
Date and Time Reported to EM/ City of Enderby	
Personnel at Spill Site	
Spilled contents and amount	
Cause and effect of spill	
Spill stopped or continuing	
Spill contained	
Extent of contamination	
Containment method	
Further action required	
Hazards to persons, property or environment	
Comments	

Form filled out by:

Position:

Contact

Copies of form must be provided to the City of Enderby, EM and Project Engineer

Spill Reporting Requirements

The following table outlines the reporting requirements for any spill.

Product:	Threshold:	Incident:	Report to:
Fuel and Oil	= Any Amount	to land	Enderby/EM
	> 100L	to land	Enderby /EM/PEP
	= Any Amount	to water	Enderby /EM/PEP
Chemicals	= Any Amount	to land	Enderby /EM
	>5L	to land	Enderby /EM/PEP
	= Any Amount	to water	Enderby /EM/PEP
Explosives	= Any Amount	Water or land	Enderby /EM/PEP

All spills must be reported to the site supervisor. Contact details for the above people must be provided.

Telephone numbers in case of spills:

City of Enderby 1-250-838-7230

Environmental Monitor

B.C. Provincial Emergency Program 1-800-663-3456

Environment Canada Emergencies 1-604-666-6100

Spills Kits

Spill kits shall be stored at a readily accessible location on-site, such as the designated fueling area. All personnel must be trained in their use. The required contents of a spill kit and their use are:

Product	Requirement	How to Use
Universal pad	Mandatory	<ul style="list-style-type: none"> • Place on spill. • Place on leaks. • Use as wipes.
Water resistant pad	Mandatory	<ul style="list-style-type: none"> • Place on spill. • Place on leaks. • Use as wipes.
Sock/Boom	Mandatory	<ul style="list-style-type: none"> • Surround the spill or surround area you need to protect. • To use in running water, place across outfall, anchor to bank. • To use in standing water, tie rope to each end and sweep around the spill, corralling it into a smaller more manageable area, use pads to soak up remaining fuel or oil.
Rope	Mandatory	<ul style="list-style-type: none"> • Must be available if sock/boom needs to be tied down, for example if used in running water.
Disposal bags	Mandatory	<ul style="list-style-type: none"> • Place soaked material into bag and seal.
Gloves	Mandatory	<ul style="list-style-type: none"> • Carry out clean-up using the gloves to protect hands.
Goggles	Mandatory	<ul style="list-style-type: none"> • Eye protection from splashing.
Epoxy repair putty	Suggested	<ul style="list-style-type: none"> • Utilize to repair small cracks and leaks in equipment until proper repair can be made.

Appendix D Riparian Areas Regulation Assessment

FORM 1

Riparian Areas Regulation - Qualified Environmental Professional - Assessment Report

Riparian Areas Regulation: Assessment Report

Please refer to submission instructions and assessment report guidelines when completing this report.

		Date	December 15, 2015		
I. Primary QEP Information					
First Name	Eric	Middle Name	A		
Last Name	Miller				
Designation	R.P.Bio	Company Mountain Pacific Environmental Consultants Ltd.			
Registration #	1349	Email eamiller@telus.net			
Address	11709 Husband Road				
City	Coldstream	Postal/Zip	V1B 2W1	Phone #	(250) 558-9131
Prov/state	BC	Country	Canada		
II. Secondary QEP Information (use Form 2 for other QEPs)					
First Name	Brian	Middle Name	J		
Last Name	Arquilla				
Designation	R.P.Bio	Company Mountain Pacific Environmental Consultants Ltd.			
Registration #	2396	Email brian@mtn-pac.com			
Address	7155 Tabor Drive				
City	Vernon	Postal/Zip	V1B 4A4	Phone #	(250) 540-4623
Prov/state	BC	Country	Canada		
III. Developer Information					
First Name	Kurt	Middle Name			
Last Name	Inglis				
Company	City of Enderby				
Phone #	(250) 838-7230	Email		kinglis@cityofenderby.com	
Address	619 Cliff Avenue, PO Box 400				
City	Enderby	Postal/Zip	V0E 1V0		
Prov/state	BC	Country	Canada		
IV. Development Information					
Development Type	Other				
Area of Development (ha)	0.00113	Riparian Length (m)	60		
Lot Area (ha)	N/A	Nature of Development	New		
Proposed Start Date	Spring 2016	Proposed End Date	Summer 2016		
V. Location of Proposed Development					
Street Address (or nearest town)	Belvidere Park, Enderby, BC				
Local Government	City of Enderby	City Enderby			
Stream Name	Lower Shuswap River				
Legal Description (PID)					Region Okanagan
Stream/River Type	Stream	DFO Area Region 8			
Watershed Code	128-835500				
Latitude	50	32	56.94	Longitude	119 08 04.34

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Section 1. Description of Fisheries Resources Values and a Description of the Development proposal

(Provide as a minimum: Species present, type of fish habitat present, description of current riparian vegetation condition, connectivity to downstream habitats, nature of development, specific activities proposed, timelines)

Nature of Development

The City of Enderby is proposing the development of a hand launch along the Shuswap River at Belvidere Park in Enderby, BC, directly upstream of Cliff Avenue and its crossing over the river. The hand launch is intended to address both the environmental and public safety needs required by a recent increase in recreational watersport along the Shuswap River. The hand launch is located on the west bank of the Shuswap River and west of the Jim Watt Heritage River Walk (11 U 348753.32 m E 5601834.86 m N). The project components proposed to be constructed include:

- Hand launch – consisting of a series of steps to allow river access during different water levels. Riprap protection on each side of launch.
- Main paved pathway (where pre-existing dirt path is currently used).
- Wheelchair access paved pathway.
- Bank protection works around culvert area and pathways.

In addition to this document, refer to the “City of Enderby, Belvidere Hand Launch Environmental Assessment” for a complete description of effects and mitigation measures planned for this project.

Fish and Fish Habitat

The Lower Shuswap River and its tributaries provide important spawning and rearing habitat for salmonids and other fish species. The Shuswap River support the largest Chinook salmon fishery in the South Thompson-Shuswap Habitat Management Area and it is also supports a large Sockeye fishery. Good potential spawning areas with intact complex riparian communities are not found on the Lower Shuswap between Mara Lake and a point approximately 6 km upstream from Enderby (NORD 2011).

Spawning and juvenile rearing success is affected by water quality, riparian complexity and river channel characteristics. The Lower Shuswap River from 6 km upstream of Enderby downstream to Mara Lake lacks large woody debris, deep holding pools, good gravel sources and has large areas of impacted stream banks and riparian areas (Ecoscape 2011). In addition, salmon spawning potential on the lower section is impacted by fine sediment loading which affects incubation habitat quality (NORD 2014). Coho have been adversely affected by bank modification – riprapping and channelization; loss of side channels and off-channel habitats; and general reduction in habitat diversity (DFO 1997). Loss of riparian habitats and silt in the river was found to affect spawning success of Chinook (NORD 2011).

Target fish species for this assessment focused on Chinook salmon, Coho salmon, Kokanee and Sockeye salmon, and Rainbow trout, as they are important species to First Nations and provide recreational and commercial fisheries.

Fish Habitat

The Project site lies on the west side of the Lower Shuswap River and will be constructed both in-stream and also within the riparian area. Based on habitat mapping completed for the Lower Shuswap River, the riparian area (above high water mark) along Belvidere Park is rated as rural and highly disturbed, as this area has buildings, driveways, and landscaping present throughout. The tree canopy is very limited to absent and natural plant associations are sparse to absent (Ecoscape 2011). Riparian habitat values along this area for fish species are very low based on biodiversity, contributing organic matter to the watershed, large woody debris recruitment potential and wildlife values.

In-stream habitat components (below high water mark) of the Project area include annual flooded grasses, in-stream vegetation below low water, a small backwater bay, side channel and the confluence with Fortune Creek, directly upstream. Fish habitat utilized in the Lower Shuswap River and considered of high value to Chinook and Coho juveniles include backwater areas, aquatic vegetation, and low flood site areas (Ecoscape 2011). Chinook fry are known to utilize streamside grasses after emergence in the spring, before their downstream migration (DFO 1997). Additional high value habitat for Coho includes stream confluences and side channels. Fortune Creek is a known spawning and rearing area for rainbow trout, and Coho and Chinook utilize Fortune Creek for rearing juvenile fish. While the project area does not have a low flood site ecosystem, it does support grass and perennial vegetation that is annually flooded during Chinook, Coho, Sockeye and Kokanee emergence.

A key consideration of this area is that the riparian and in-stream areas of the Project currently undergo significant disturbance annually by recreational users floating the Lower Shuswap River. Annually Belvidere Park sees over 5,000 users launch from the river banks along the entire Project shore (Kurt Ingis pers. comm). As noted by Arquilla (2014) this results in significant bank disturbance and in-stream impacts including:

- Erosion and sedimentation input into the Shuswap River;
- In-stream aquatic habitat damage within the Project area;
- Riparian disturbance.

Some riverbank stabilization has been completed in the past (gabion baskets) along the downstream portion of the Project, however, the small backwater bay area and the main launch area are heavily disturbed and contain very fine grained substrate. Continued disturbance has caused fine sediment to erode from the banks into the river and subsequently is stirred up by recreational users resulting in a point sediment source on the Lower Shuswap River. Overall, the in-stream habitat rating for this area is low/moderate quality, but could be

improved if sediment input is controlled and bank erosion plus in-stream damage is reduced or eliminated. In addition, riparian restoration, or establishing some attributes of riparian function should be considered within and adjacent to the Project area.

One of the Department of Fisheries and Oceans' management objectives identified in 1997 were to maintain good gravel and water quality and the restoration of riparian zones. The North Okanagan Regional District also identified that maintaining water quality and quantity, ecosystems and diversity and recreation are three of the top goals for maintaining sustainability in the Shuswap River watershed (NORD 2014).

Description of current riparian vegetation condition

The riparian forest communities along the shoreline of the Project are non-existent, and there are small fragmented with bands of residual forest ranging between 5 - 10 m. Some intact riparian forest remains across the river. The principal vegetation type in the riparian area of the Project area consists of grasses, perennial plants, and a few species of shrubs. The main component of vegetation within both the riparian and in-stream portions of the Project area was reed canary grass (*Phalaris arundinacea*), which is an invasive plant. Remnants of the pre-existing riparian habitat were present including cottonwood (*Populus trichocarpa*) growing both north and south of the Project area, snowberry (*Symphoricarpos albus*), Nootka rose (*Rosa nutkana*), willow (*Salix spp*), and Douglas-maple (*Acer glabrum*). Other invasive plants occurring on site include common tansy (*Tanacetum vulgare*) and blueweed (*Echium vulgare*), which are both provincially listed as noxious weeds.

Section 2. Results of Detailed Riparian Assessment (SPEA width)

Refer to Chapter 3 of Assessment Methodology

Date:

Description of Water bodies involved (number, type)

Stream	<input type="text" value="1"/>
Wetland	<input type="text"/>
Lake	<input type="text"/>
Ditch	<input type="text"/>
Number of reaches	<input type="text" value="1"/>
Reach #	<input type="text" value="1"/>

Channel width and slope and Channel Type (use only if water body is a stream or a ditch, and only provide widths if a ditch)

	Channel Width(m)	Gradient (%)	
starting point	<input type="text" value="106.2"/>	<input type="text"/>	I, <u>Eric Miller</u> , hereby certify that: a) I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i> ; b) I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>City of Enderby</u> ; c) I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and d) In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation.
upstream	<input type="text" value="103.5"/>	<input type="text" value="<1"/>	
	<input type="text" value="74.0"/>	<input type="text"/>	
	<input type="text" value="69.5"/>	<input type="text"/>	
	<input type="text" value="76.2"/>	<input type="text"/>	
	<input type="text" value="65.9"/>	<input type="text"/>	
downstream	<input type="text" value="93.3"/>	<input type="text" value="<1"/>	
	<input type="text" value="112.4"/>	<input type="text"/>	
	<input type="text" value="108.6"/>	<input type="text"/>	
	<input type="text" value="103.3"/>	<input type="text"/>	
	<input type="text" value="142.4"/>	<input type="text"/>	
Total: minus high /low	<input type="text" value="847.0"/>	<input type="text"/>	
mean	<input type="text" value="94.1"/>	<input type="text"/>	
	<input type="text" value="R/P"/>	<input type="text" value="C/P"/>	
Channel Type	<input type="text" value="X"/>	<input type="text"/>	<input type="text"/>

Site Potential Vegetation Type (SPVT)

SPVT Polygons	Yes <input type="text"/>	No <input checked="" type="text" value="X"/>	Tick yes only if multiple polygons, if No then fill in one set of SPVT data boxes
	I, <u>Eric Miller</u> , hereby certify that: a) I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i> ; b) I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>City of Enderby</u> ; c) I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and d) In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation.		
Polygon No:	<input type="text" value="1"/>	Method employed if other than TR	
SPVT Type	LC <input type="text"/>	SH <input type="text"/>	TR <input checked="" type="text" value="X"/>

Zone of Sensitivity (ZOS) and resultant SPEA

Segment No:	<input type="text" value="1"/>	If two sides of a stream involved, each side is a separate segment. For all water bodies multiple segments occur where there are multiple SPVT polygons
LWD, Bank and Channel Stability ZOS (m)	<input type="text" value="15"/>	
Litter fall and insect drop	<input type="text" value="15"/>	

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Riparian Areas Regulation - Qualified Environmental Professional - Assessment Report

ZOS (m)					
Shade ZOS (m) max	30	South bank	Yes	X	No
Ditch	Justification description for classifying as a ditch (manmade, no significant headwaters or springs, seasonal flow)				
Ditch Fish Bearing	Yes	No	If non-fish bearing insert no fish bearing status report		
SPEA maximum	30m	(For ditch use table3-7)			

Segment No:	If two sides of a stream involved, each side is a separate segment. For all water bodies multiple segments occur where there are multiple SPVT polygons				
LWD, Bank and Channel Stability ZOS (m)					
Litter fall and insect drop ZOS (m)					
Shade ZOS (m) max		South bank	Yes		No
SPEA maximum		(For ditch use table3-7)			

Segment No:	If two sides of a stream involved, each side is a separate segment. For all water bodies multiple segments occur where there are multiple SPVT polygons				
LWD, Bank and Channel Stability ZOS (m)					
Litter fall and insect drop ZOS (m)					
Shade ZOS (m) max		South bank	Yes		No
SPEA maximum		(For ditch use table3-7)			

I, Eric Miller, hereby certify that:

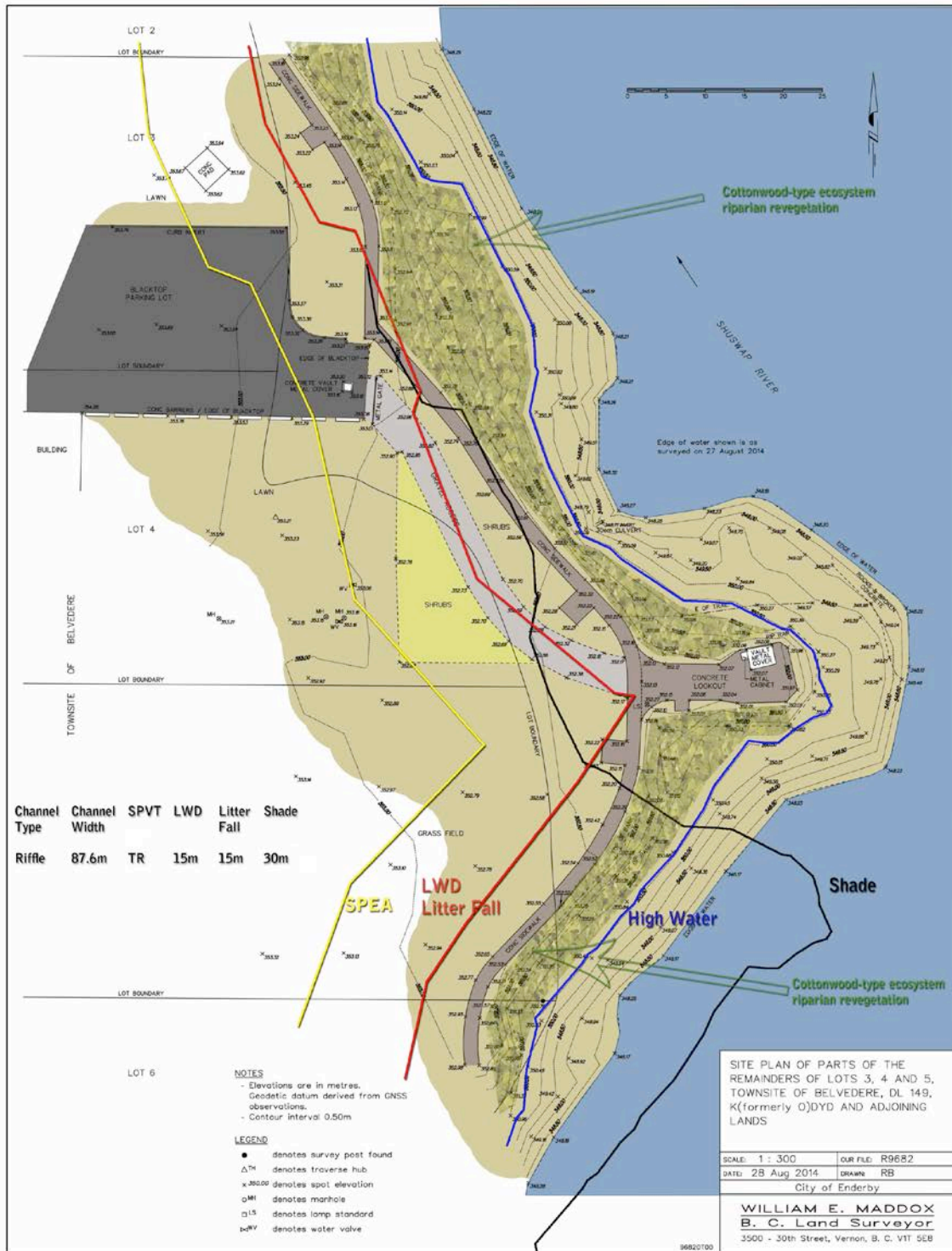
- I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the *Fish Protection Act*;
- I am qualified to carry out this part of the assessment of the development proposal made by the developer City of Enderby;
- I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and
- In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation.

Comments

Stream channel type is GLIDE. SPEA and ZOS calculations made using Riffle Pool specifications.

Section 3. Site Plans

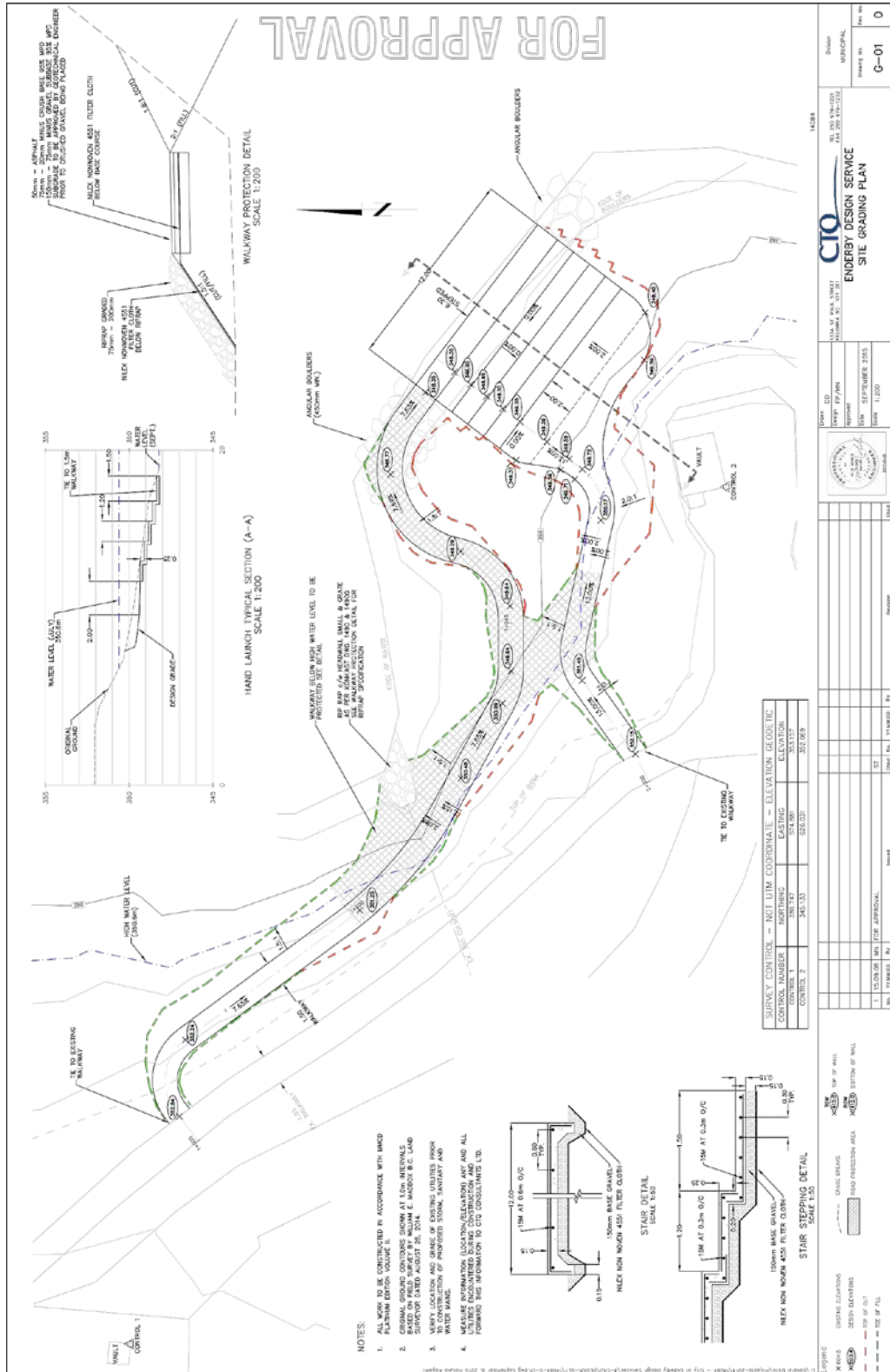
3.1 SPEA and Zones of Sensitivity



3.2 Project Area, SPEA and Zones of Sensitivity – wider aerial photo



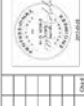
3.3 Project Proposal Details



Sheet: 11/24
 Title: RIPARIAN AREAS REGULATION - QUALIFIED ENVIRONMENTAL PROFESSIONAL - ASSESSMENT REPORT
 Project No: G-01
 Date: 0

CIO
ENERGY DESIGN SERVICE
SITE GRADING PLAN

Client: MFC
 Project: RAR
 Draw: SEPTEMBER 2015
 Scale: 1:200
 Date: 0



Legend:
 - GRASS BELT
 - WALKWAY PROTECTION AREA
 - TOP OF SILL
 - BOTTOM OF SILL

No.	Description	Rev.	Date
1	FOR APPROVAL	0	0

Section 4. Measures to Protect and Maintain the SPEA

This section is required for detailed assessments. Attach text or document files, as need, for each element discussed in chapter 1.1.3 of Assessment Methodology. It is suggested that documents be converted to PDF *before* inserting into the assessment report. Use your “return” button on your keyboard after each line. You must address and sign off each measure. If a specific measure is not being recommended a justification must be provided.

<p>1. Danger Trees</p>	<p>There were no danger trees identified at the time of the assessment. If a danger and hazard tree is observed during construction, a hazard tree assessment will be completed prior to removing any large mature trees within the SPEA</p>
<p>I, <u>Eric Miller</u>, hereby certify that:</p> <p>e) I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i>;</p> <p>f) I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>City of Enderby</u>;</p> <p>g) I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation</p>	
<p>2. Windthrow</p>	<p>Increased windthrow is not anticipated for this development. Vegetation removal will be limited to the project footprint and no forests are being removed.</p>
<p>I, <u>Eric Miller</u>, hereby certify that:</p> <p>a. I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i>;</p> <p>b. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>City of Enderby</u>;</p> <p>c. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation</p>	
<p>3. Slope Stability</p>	<p>There is evidence of land slide 130m south of the project on the old oxbow Fortune Creek flows into. The construction design addresses slope stability through use of riprap and boulder placement adjacent to an existing culvert and also on each side of the hand launch, plus revegetation or avoiding disturbance in other areas to maintain or increase slope stability.</p>
<p>I, <u>Eric Miller</u>, hereby certify that:</p> <p>a. I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i>;</p> <p>b. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>City of Enderby</u>;</p> <p>c. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation</p>	
<p>4. Protection of Trees</p>	<p>No trees will be removed within the SPEA and no trenching or digging that could impact the root zones of trees will be permitted. Removal will be limited to grass and small shrubs.</p>
<p>I, <u>Eric Miller</u>, hereby certify that:</p> <p>a. I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i>;</p> <p>b. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>City of Enderby</u>;</p> <p>c. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation</p>	

FORM 1

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<p>5. Encroachment</p>	<p>The proposed development will reduce encroachment which is currently a significant problem in the SPEA. The trails will direct all human activity to one location, reducing the amount of uncontrolled trampling and disturbance of the riparian vegetation adjacent and within the project footprint.</p>
<p>I, <u>Eric Miller</u>, hereby certify that:</p> <p>a. I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i>;</p> <p>b. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>City of Enderby</u>;</p> <p>c. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation</p>	
<p>6. Sediment and Erosion Control</p>	<p>During operation of the project, minimize exposure of soils above and below the high water mark by keeping the public and any maintenance equipment out of the area. Use of riprap and revegetation in all areas presently bare will reduce potential for erosion and sedimentation.</p>
<p>I, <u>Eric Miller</u>, hereby certify that:</p> <p>a. I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i>;</p> <p>b. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>City of Enderby</u>;</p> <p>c. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation</p>	
<p>7. Stormwater Management</p>	<p>A culvert is located in the small bay area just north of the hand launch. Its source is unknown. Further testing of water quality and potential for sediment input is recommended.</p>
<p>I, <u>Eric Miller</u>, hereby certify that:</p> <p>a. I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i>;</p> <p>b. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>City of Enderby</u>;</p> <p>c. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation</p>	
<p>8. Floodplain Concerns (highly mobile channel)</p>	<p>There are no floodplain concerns relevant to this project. The walkway and stepped launch construction is designed to be submerged during periods of high water, to emerge as water levels fall. The Belvidere Park area is diked and protected from flood.</p>
<p>I, <u>Eric Miller</u> (<i>name of qualified environmental professional</i>), hereby certify that:</p> <p>a. I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i>;</p> <p>b. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>City of Enderby</u> (<i>name of developer</i>) ;</p> <p>c. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation</p>	

Section 5. Environmental Monitoring

Attach text or document files explaining the monitoring regimen Use your "return" button on your keyboard after each line. It is suggested that all document be converted to PDF *before* inserting into the PDF version of the assessment report. Include actions required, monitoring schedule, communications plan, and requirement for a post development report.

A Qualified Environmental Professional (QEP), as defined in the Riparian Areas Regulation Assessment Methods, will be retained as project environmental monitor by the proponent.

There will be a pre-construction meeting to communicate the importance of SPEA protection, environmental management plan, and the erosion and sediment control plan with site personnel. Final monitoring will review the compliance with the above measures and the protection of SPEA.

Routine site inspections during the construction phase will be made by the QEP and reports submitted to the proponent. Any non-adherence to measures contained within the environmental assessment and environmental management plan will be rectified immediately through the QEP communicating with the construction manager. If this course of action is unsuccessful the proponent will initiate contractual processes to ensure compliance.

A post-development/construction report summarising the development, outlining the degree of compliance with the above measures and demonstrating that the SPEA is protected will also be produced and submitted on the RAR database.



May 27, 2016

File: A8003406

City of Enderby
P.O. Box 400
619 Cliff Avenue
Enderby, B.C. V0E 1V0

Attention: Kurt Inglis, Assistant Corporate Officer and Planning Assistant

Re: Water Sustainability Act Change Approval (Section 11) – Upgrading of a hand launch site on Shuswap River at Belvidere Park (700 Railway Street, Enderby, B.C.)

Your application for a Change Approval has been granted, and the approval document is attached. This Change Approval, or copy of it, must be kept on the work site so that it may be shown to a Ministry official upon request.

Archaeological sites are protected by the *Heritage Conservation Act*. These sites are protected for their historical, cultural, scientific, and educational value to the general public, local communities, and First Nations. When a proposed development location overlaps with an archaeological site, it is these values that are addressed in managing the development impacts to the site.


If any archaeological material is encountered during construction, all activities must cease and the Archaeological Branch must be contacted at (250) 953-3334 for direction.

It is the responsibility of the holder of this Change Approval to ensure that their activities, works or construction are in compliance with all legislation, including the *Fisheries Act* (Canada) and the *Navigation Protection Act* (Canada), as well as with any applicable federal, provincial or local government bylaws, regulations or enactments.

Please review the document entitled, "*Habitat Officer's Terms and Conditions for Changes in and about a Stream specified by Ministry of Environment Habitat Officers, Okanagan Region*"¹, which describes requirements specified by the Ministry's Ecosystem Section, and can be obtained from the following internet address: http://www.env.gov.bc.ca/wsd/regions/okr/wateract/terms_and_conditions_april-2011.pdf. For any questions about these requirements and any questions you may have about the Terms and Conditions, please contact the Habitat Officer at our Penticton Office, Robert Stewart, at Robert.Stewart@gov.bc.ca or (250) 490-8253.

If you have any other questions or concerns regarding this Change Approval, please contact Yi Li, at Yi.Li@gov.bc.ca or (250) 490-8265 in Penticton.

Yours truly,

A handwritten signature in purple ink that reads "Yi Li". The signature is written in a cursive style with a large initial "Y" and "L".

Yi Li, P.Eng.
Assistant Water Manager
Thompson Okanagan Region

YL/cl

Attachments

¹ http://www.env.gov.bc.ca/wsd/regions/okr/wateract/terms_and_conditions_april-2011.pdf

cc: Mountain Pacific Environmental Consultants Ltd.; Attn: Brian Arquilla
CTQ Consultants Ltd.; Attn: Murray Noble
Habitat Officer, Penticton; Attn: Rob Stewart
First Nations Relations Advisor, Penticton; Attn: Laverne Cormier
Land Officer, Kamloops; Attn: Keith Weir
Front Counter BC, Vernon



CHANGE APPROVAL

Changes in and about a stream

WATER SUSTAINABILITY ACT - SECTION 11

City of Enderby is hereby authorized to make changes in and about a stream as follows:

- A. The stream is Shuswap River.
- B. The changes to be made in and about the stream are as follows:
 - 1. Upgrading of a hand launch by installing a series of stair steps;
 - 2. Construction of a wheel chair access way to the hand launch, which behaves as an embankment; and
 - 3. Erosion protection around the outlet of an existing culvert.
- C. All works shall comply to design plans as follows:
 - 1. All information submitted as part of the *Water Act* application.
 - 2. All emails from Kurt Inglis at City of Enderby, Eric Miller, R.P.F., R.P.Bio. at Mountain Pacific Environmental Consultants Ltd., and Murray Noble, P.Eng. at CTQ Consultants Ltd., and attached supporting documents.
 - 3. Drawing titled "*Enderby Design Service – Site Grading Plan*" (G-01), prepared by Murray Noble and dated September 2015.
 - 4. A report titled "*City of Enderby Belvidere Park Hand Launch - Environmental Assessment*", prepared by Eric Miller and dated January 14, 2016.
 - 5. A technical rational and a site specific plan to undertake the proposed work outside of the least risk fisheries window, submitted by Eric Miller via email on May 27, 2016 (3:14 PM).

In the event of disagreement amongst conditions specified in these documents, the requirements specified in the most recent document shall be followed.

In the event of disagreement between conditions specified in these documents and those of this Change Approval, the requirements specified in the Approval shall be followed.

- D. This Change Approval or copy of it must be kept on the work site so that it may be shown to a Ministry official upon request.
- E. This Change Approval does not authorize entry onto privately held land.
- F. The work authorized shall be completed between September 6, 2016 and October 15, 2016.
- G. The least risk fisheries window for the River at the site is August 7 to August 31. However, the proposed work can be completed during a preferred period as per the technical rational and the site specific plan submitted by Eric Miller via email on May 27, 2016. By the technical rational and the site specific plan, the holder of this Approval must ensure compliance with the *Fisheries Act*.
- H. This Change Approval does not constitute authority of any other agency. The holder of this Change Approval shall have the necessary permits from other agencies concerned prior to the commencement of the works authorized herein.
- I. The Water Manager, Thompson Okanagan Region shall receive a written notification of any proposed schedule alterations or project modifications required to complete the work. Upon review of the written request, the Water Manager **may**, at his or her discretion, grant a time extension or initiate a further review of the project that may result in amendment to conditions in this Change Approval or require a new application submission.
- J. A qualified environmental professional (QEP) shall provide onsite environmental monitoring during execution of the work in and about a stream. If in the opinion of the QEP, the implementation of mitigation measures fails or is unlikely to protect ecological values, all work shall cease until a remedy is found.
- K. Upon completion of the work a qualified environmental professional shall submit a summary report of the environmental monitoring program to the undersigned.
- L. Silt and other fine soil textures, or other deleterious substances, shall be prevented from entering the stream. This must be ensured through the use of silt fencing, sediment ponds, hydrocarbon separators, and appropriate silt curtain and/or cofferdam materials.
- M. All work shall be conducted in the dry portion of the channel, or from the top of the bank. No equipment shall be operated in the water.
- N. The holder of this Change Approval shall take reasonable care to avoid damaging any land, works, trees or other property, and shall make full compensation to the owners for any damage or loss resulting from the exercise of the rights granted with this Approval. Vegetation shall be disturbed as little as possible.

- O. All disturbed areas shall be restored to their original condition and protected from erosion.
- P. Fuelling and servicing of vehicles and equipment must occur away from all streams, lakes and water bodies and any spills must be properly cleaned up and reported as required by the Spill Reporting Regulation (B.C. Reg. 263/90).
- Q. Any machinery operated on the site shall be in good repair and be free of hydraulic leaks and excess surface oil and grease.
- R. All reasonable effort will be made to avoid any negative impacts to the stream's ecosystem.
- S. Appropriate design methods and construction techniques for the site conditions shall be utilized. Applicable technical guidelines shall be followed, which include, but not limited to, *Riprap Design and Construction Guide (BC Ministry of Environment, Lands and Parks)*, *2012 Standard Specifications for Highway Construction (BC Ministry of Transportation & Infrastructure)*, and *BC MoT Supplement to TAC Geometric Design Guide*.
- T. The proposed works must not be composed of materials harmful to the aquatic environment. Anthropogenic materials such as broken concrete are not allowed to be used for the riprap works. Where rock riprap is used to protect against erosion, it shall be clean, durable, and angular; and, suitably graded and sized to resist movement by current and wave. The riprap shall have an apron or entrenched toe of rock excavated into the streambed at the toe of the slope.
- U. Where rock riprap is used to protect against erosion, the upstream end of the riprap must be keyed (trenched) back into the bank so that the bank protection is not outflanked by erosion farther upstream.
- V. Rock riprap must not be end-dumped down the bank of the stream but must be placed against the bank/apron/toe trench using an excavator with a thumb.
- W. It is the Approval Holder's responsibility to ensure the structural safety of the proposed wheel chair access way (an embankment) during and after the dredging works. It is recommended that the safety of the embankment be assessed. The proposed erosion protection works shall be designed to be a stable profile given site conditions and material properties.
- X. All disturbed areas of the stream channel shall be protected from erosion.
- Y. Within 60 days following completion of construction and prior to expiry of the approval, submit record drawings to the Water Manager and provide assurance by a qualified professional that the constructed work as reflected in the record drawings substantially complies in all material respects with the design plans and supporting documents submitted with the application.

- Z. All work must comply with the *Habitat Officer's Terms and Conditions for Changes in and about a Stream specified by Ministry of Environment Habitat Officers, Okanagan Region* as per attached document, and mitigations
- AA. The holder of this Approval shall also adhere to all mitigation measures presented in the *City of Enderby Belvidere Park Hand Launch - Environmental Assessment*, and the site specific plan submitted by Eric Miller on May 27, 2016.
- BB. and the technical rational and the site specific plan submitted by Eric Miller via email on May 27, 2016.
- CC. Prior to carrying out any maintenance of the works under this approval, the holder is to attain the consent of the Water Manager, Thompson Okanagan Region.
- DD. Upon commencement of the project, the works shall be pursued to completion as quickly as possible.



Yi Li, P.Eng.
Assistant Water Manager
Thompson Okanagan Region

**Habitat Officer's Terms and Conditions for changes in and about a stream specified by
Ministry of Environment Habitat Officers, Okanagan Region**

Section 42 (1) of the *Water Regulation* gives authority to a Habitat Officer to add specific conditions to ensure the protection of habitat in addition to the conditions of general application. Under this authority, Ministry of Environment (MoE) Habitat Officers, Okanagan Region, require the following mandatory terms and conditions:

42 (1) To protect habitat, a person making a change in and about a stream¹ under this regulation, other than under section 44(1)(o) to (s) or (2), must make that change in accordance with terms and conditions specified by the habitat officer with respect to

a) The timing window or the period or periods of time in the year during which the change can proceed without causing harm to fish, wildlife or habitat,

Windows of least risk for fish and wildlife, including some species at risk, in Okanagan Region can be found on the work windows webpage:

<http://www.env.gov.bc.ca/wsd/regions/okr/wateract/workwindows.html>

Fish and Fish Habitat:

1. All activities in fish streams, as well as tributaries that have a risk of depositing sediment into fish streams, must be undertaken within a window of least risk to fish and fish habitat. Windows of least risk are designed to protect all fish species known to occur in a stream.
2. **If works are proposed outside the listed windows the proponent must engage a qualified professional** to assess species and habitats present and determine if a site specific plan can be developed to ensure compliance with the *Fisheries Act*.
3. The recommendations and the technical rational for the plan must be developed, signed and sealed by an appropriately qualified professional(s). A report must be maintained by the proponent in the event the works are monitored or a compliance inspection is conducted.
4. If impacts cannot be mitigated to avoid the potential for a harmful alteration, disruption or destruction to fish and/or fish habitat, and the proponent wishes to continue to seek approval for the operations to proceed, the proponent must proceed with the process for obtaining an authorization from the Federal Department of Fisheries and Oceans (outlined in section (h) below).
5. Notwithstanding the above, the fisheries timing window is not applicable if the stream channel is naturally dry (no flow), or frozen to the bottom, at the worksite and the instream activity will not adversely impact fish habitat (e.g. result in the introduction of sediment into fish habitat or damage to fish habitat).

¹. A "stream" is defined in the *Water Act* as "a natural watercourse or source of water supply, whether usually containing water or not, ground water, and a lake, river, creek, spring, ravine, swamp and gulch". For the purposes of this document, the definition of "stream" includes all those watercourses that are considered to be fish habitat, including channelized streams, and ditches that are fish habitat.

Wildlife:

1. Most species of wildlife are at their highest risk for disturbance during the period where they raise their young.
2. Some may be at risk during their dormant or hibernating period.
3. Wildlife observation records can be obtained through the Conservation Data Centre <http://www.env.gov.bc.ca/cdc> for species at risk.
4. Habitat Wizard <http://www.env.gov.bc.ca/habwiz/> provides observation records for other species.
5. The absence of an observation record does not confirm that a species is not present.
6. **A qualified professional may be able to determine minor variances to these least risk work windows based on the location in the region and species presence.**

NOTE: In all cases, minimize the amount of time the work site is in a disturbed state by completing work as quickly as possible, while considering worker safety and minimizing environmental risk.

b) The minimum instream flow or the minimum flow of water that must remain in the stream while the change is being made,

The natural rate of water flow must be maintained upstream and down stream of the worksite during all phases of instream activity.

c) The removal of material from the stream or stream channel in connection with the change,

1. In fish streams, the permanent removal of stable, naturally occurring material from the stream or stream channel is not permitted.
2. In non fish streams with a species at risk, or habitat of a species at risk, the permanent removal of stable, naturally occurring material from the stream or stream channel is not permitted.
3. In non-fish bearing streams without species at risk, the permanent or temporary removal of stable, naturally occurring material must be minimized and completed only as necessary to make the change in accordance with Part 7 of the *Water Regulation*.
4. The removal of material must not lead to stream channel instability or increase the risk of sedimentation into the watercourse.
5. Any spoil materials must be placed in a manner that ensures that sediment, or debris, does not enter the watercourse.
6. The spoil must be placed where it will not impact riparian habitats or impact habitats of species at risk

d) The addition of substance, sediment, debris or material to the stream or stream channel in connection with the change,

1. Instream activities must be conducted in the dry (no water present within the worksite) and the worksite must be isolated from water flowing in the stream channel.
2. Measures must be taken to ensure that no harmful material (e.g. fuel and other hydrocarbons, soil, road fill, or sediment), which could adversely impact water quality, fish and other aquatic life, species at risk and/or fish habitat(including riparian and or emergent vegetation), can enter the wetted perimeter as a result of the project activities.
3. All equipment must be located and operated outside of the wetted perimeter of the stream unless operated from a barge where deleterious substances will not enter the water and in a manner that will not result in grounding of the barge.
4. Equipment used in close proximity to the wetted perimeter must be free of deleterious material (e.g. hydrocarbons) and in good mechanical condition (e.g. no fuel or hydraulic leaks).
5. Erosion and sediment control structures are to be available onsite and utilized as necessary.
6. Do not work in weather conditions likely to substantially increase the risk of sediment introduction to the stream
7. If approved, beaver dam removal must occur slowly, a portion at a time, in order to minimize scouring and the addition of silt to downstream areas. A dam breach should normally not exceed 0.2 square metres in area (i.e., a typical breach could measure 1.0 metre x 20 centimetres in size). All material removed from a beaver dam must be disposed of in such a manner that it cannot re-enter the stream.

e) The salvage or protection of fish or wildlife while the change is being made or after the change has been made,

1. If dewatering of the worksite is necessary, fish salvage must occur on a fish-bearing stream prior to commencing works. A fish salvage permit must be obtained from the Ministry of Environment prior to commencing salvage activities
(http://www.env.gov.bc.ca/pasb/applications/process/scientific_fish_collect.html)
2. If an area is de-watered as a result of beaver dam removal or modification and results in the stranding of fish, then these fish must be salvaged and returned to the stream.
3. Measures must be taken to ensure that operating equipment (e.g. water pumps) does not harm aquatic life.
4. **NOTE** – if you are undertaking an activity in a **red zone** based on known western ridged mussel (*Gonidea angulata*) occurrences (see LLP¹), salvage mussels and relocate them to an areas with similar site conditions. Salvage must be undertaken by a qualified professional and must be consistent with the Department of Fisheries and Oceans (DFO) Salvage Protocol (contact MOE Ecosystems Staff to obtain this protocol). Follow up monitoring is to be conducted for 2 years post relocation and reports provided to the Habitat Officer annually.

f) The protection of natural materials and vegetation that contribute to habitat or stream channel stability,

Minimize disturbance to natural materials and vegetation that contribute to habitat or stream channel stability. In addition to fish habitats this includes protection of riparian habitats for wildlife.

g) The restoration of the work site after the change has been made, and

1. Complete restoration activities (including erosion control), as soon as possible following construction/disturbance.
2. Any disturbed areas must be restored to function as they did in their pre-disturbance condition (e.g. riparian areas, including grasslands). Appropriate native seed/plant/tree species must be used to restore the site to pre disturbance conditions.
3. Restoration must be completed in a manner that will minimize colonization and spread of invasive plants.

h) The requirement to obtain an approval from the federal Department of Fisheries and Oceans in connection with the change.

1. **Proponents are responsible for complying with the federal *Fisheries Act*.** No “harmful alteration, disruption, or destruction” (HADD) of fish habitat is authorized by this document.
2. If a qualified professional or Habitat Officer determines a potential HADD may occur as a result of the works, a review for formal “authorization” from DFO is required.
3. If requested, the proponent will need to provide the Habitat Officer more information (including assessments by qualified professionals) to determine if an “authorization” is required from DFO.

NOTE: If you are constructing a dock (as defined in the Okanagan Large Lake Foreshore Protocol¹) the following applies:

(A) An approval from DFO is **not required** when:

1. The structure is proposed on a water body not indentified in the Okanagan Large Lake Foreshore Protocol⁽¹⁾ (LLP) or in a **no colour or yellow zone** (as identified in the LLP). In addition, dock construction and design must meet **all** of the conditions and measures outlined in the *Fisheries and Oceans Canada Pacific Region Operation Statement for Dock and Boathouse Construction in Fresh water System*² (ROS). If some of the conditions or measures of the ROS cannot be met then you must engage a qualified professional (fish biologist) to assist you in your design and construction to ensure a HADD does not occur.
2. The structure is proposed in a **red zone** (as identified in the LLP) where there is no shore spawning habitat, and a qualified professional (fish biologist) has been engaged to ensure all of the conditions and measures outlined in the ROS have been followed and that a HADD will not occur.

3. The structure is proposed in a **red zone** (as identified in the LLP), and
 - All ROS conditions and measures will be adhered to, except for Measure 3 (i.e. dock is in a known spawning habitat); and
 - A qualified professional (fish biologist) has been engaged to ensure that a HADD will not occur, and
 - All of the design criteria identified below are adhered to.

Design Criteria:

- All instream works must occur during the least risk timing window;
- Piles are not to be placed within known or potential spawning substrates;
- The spanning structure (gangway) of spawning area must be no greater than 1.5m in width;
- The spanning structure (gangway) over the spawning area must be made with light penetrating materials;
- Dock must be no less than 0.5m above the high water mark, or the Geodetic Survey of Canada datum (if available);
- Batter boards are not to be used on the dock; and
- There will be no floating structures.

(B) An approval from DFO is **required** when:

- 1) A qualified professional or a Ministry of Environment Habitat Officer has indicated a **HADD** will likely occur as a result of your works, regardless of what lake or zone you are in.
- 2) The structure is proposed in a **black zone** on any of the lakes identified in the LLP (see section 6.1 of the LLP).
- 3) The structure is proposed in a **red zone** (as identified in the LLP) where there is no shore spawning habitat and the ROS will not be adhered to.
- 4) The structure is proposed in a **red zone** (as identified in the LLP) where there **is** shore spawning and ROS (except Measure 3), and all design criteria (listed above), will not be adhered to.

¹ Okanagan Region Large Lakes Foreshore Protocol <http://www.env.gov.bc.ca/okanagan/esd/ollp/ollp.html>

² Fisheries and Oceans Canada Pacific Region Operation Statement for Dock and Boathouse Construction in Fresh water Systems

(http://www-heb.pac.dfo-mpo.gc.ca/decisionsupport/os/operational_statements_e.htm)