

**RETURN BIDS TO:**  
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**Public Works and Government Services Canada**  
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**5th floor/5e étage**  
**Edmonton**  
**Alberta**  
**T5J 1S6**  
**Bid Fax: (780) 497-3510**

**SOLICITATION AMENDMENT**  
**MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

**Comments - Commentaires**

**Vendor/Firm Name and Address**  
**Raison sociale et adresse du**  
**fournisseur/de l'entrepreneur**

**Issuing Office - Bureau de distribution**  
**Public Works and Government Services Canada**  
**Telus Plaza North/Plaza Telus Nord**  
**10025 Jasper Ave./10025 ave. Jasper**  
**5th floor/5e étage**  
**Edmonton**  
**Alberta**  
**T5J 1S6**

<b>Title - Sujet</b> Chancellor Peak Bridge Demolition	
<b>Solicitation No. - N° de l'invitation</b> E0209-141625/A	<b>Amendment No. - N° modif.</b> 001
<b>Client Reference No. - N° de référence du client</b> PWGSC	<b>Date</b> 2013-12-10
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$PWU-009-10013	
<b>File No. - N° de dossier</b> PWU-3-36261 (009)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2013-12-17</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Mountain Standard Time MST
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Davyduke (RPC), Katherine	<b>Buyer Id - Id de l'acheteur</b> pwu009
<b>Telephone No. - N° de téléphone</b> (780) 497-3547 ( )	<b>FAX No. - N° de FAX</b> (780) 497-3510
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

<b>Delivery Required - Livraison exigée</b>	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

Solicitation No. - N° de l'invitation

E0209-141625/A

Amd. No. - N° de la modif.

001

Buyer ID - Id de l'acheteur

pwu009

Client Ref. No. - N° de réf. du client

PWGSC

File No. - N° du dossier

PWU-3-36261

CCC No./N° CCC - FMS No/ N° VME

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Refer to the attach document

## ADDENDUM

<b>DESCRIPTION:</b>  Chancellor Peak Campground Restoration Yoho National Park, British Columbia Parks Canada	<b>ADDENDUM No.:</b>	<b>One (1)</b>
	<b>PROJECT No.:</b>	<b>R.0065384.001</b>
	<b>DATE OF ISSUE:</b>	<b>2013 Dec 9</b>
	<b>ISSUED BY:</b>	<b>Delcan Corp.</b>
	<b>PAGE(S):</b>	<b>1</b>

### INSTRUCTIONS:

1. Amend your copy of the tender/quotation/proposal in accordance with the detail below.
2. This Addendum forms an integral part of the Specifications and Drawings covering all aspects of this project and is to be read in conjunction therewith. However, should points arise which are at variance, this Addendum shall take precedence, unless otherwise directed by the Issuing Office.

### DETAILS OF ADDENDUM:

1. The following Specifications sections have been modified and revised versions are attached to this Addendum. Please replace these sections in their entirety.

Section 00 01 10	Table of Contents
Section 01 35 43	Environmental Procedures
Section 31 37 00	Rip Rap

2. The following document has been added as a reference to the tender documents:

Environmental Impact Analysis, Chancellor Peak Campground and Bridge Demolition  
Yoho National Park of Canada, Near Field, BC  
File: EC1030  
Delcan Corporation, December 9, 2013

**ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED**

**END OF ADDENDUM NO. 1**

Section No.	Description	Number of Pages
<b>Division 1 – General Requirements</b>		
01 00 10	General Instructions	9
01 29 01	Method of Measurement and Payment	2
01 35 29	Health and Safety Requirements	3
01 35 43	Environmental Procedures	7
01 56 00	Temporary Barriers and Enclosures	2
<b>Division 2 – Existing Conditions</b>		
02 41 13	Selective Site Demolition	5
02 41 14	Asphalt Pavement Removal	1
02 41 16	Structure Demolition	2
31 37 00	Rip Rap	2

### List of Drawings

#### **DRAWING No.**

C-001                      Campground Layout and Bridge Sections  
C-002                      Details and Photographs

### Reference Document

Environmental Impact Analysis, Chancellor Peak Campground and Bridge Demolition  
Yoho National Park of Canada, Near Field, BC  
File: EC1030  
Delcan Corporation, December 9, 2013

**Part 1 General**

**1.1 DEFINITIONS**

- .1 Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade environment aesthetically, culturally and/or historically.
- .2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

**1.2 SUBMITTALS**

- .1 Prior to commencing construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by Departmental Representative. Environmental Protection Plan is to present comprehensive overview of known or potential environmental issues which must be addressed during construction.
- .2 Address topics at level of detail commensurate with environmental issue and required construction tasks.
- .3 Environmental protection plan: include:
  - .1 Names of persons responsible for ensuring adherence to Environmental Protection Plan.
  - .2 Names and qualifications of persons responsible for manifesting hazardous waste to be removed from site.
  - .3 Names and qualifications of persons responsible for training site personnel.
  - .4 Descriptions of environmental protection personnel training program.
  - .5 Erosion and sediment control plan which identifies type and location of erosion and sediment controls to be provided including monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.
  - .6 Drawings showing locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on site.
  - .7 Traffic control plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plans include measures to minimize amount of mud transported onto paved public roads by vehicles or runoff.
  - .8 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use. Plan to include measures for marking limits of use areas including methods for protection of features to be preserved within authorized work areas.
  - .9 Spill Control Plan: including procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
  - .10 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.

- .11 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, do not become air borne and travel off the project site.
- .12 Contaminant prevention plan that: identifies potentially hazardous substances to be used on job site; identifies intended actions to prevent introduction of such materials into air, water, or ground; and details provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.
- .13 Waste water management plan that identifies methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines.
- .14 Historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands.
- .15 Pesticide treatment plan: to be included and updated, as required.

### **1.3 FIRES**

- .1 Fires and burning of rubbish on site is not permitted.

### **1.4 DISPOSAL OF WASTES**

- .1 All wastes must be stored and handled in accordance with the National Park Garbage Regulations.
- .2 Do not bury rubbish and waste materials on site unless approved by Departmental Representative.
- .3 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.
- .4 Remove all required demolition, construction and trade waste from the site and dispose of at provincial approved landfill(s), outside of Natural Park on a regular basis.
- .5 Dispose of all hazardous wastes such as asbestos; transformers, ballasts and capacitors containing PCBs; and other listed materials in conformance with the Environmental contaminants Act and applicable provincial regulations while observing the Code of Good Practice for Management of Hazardous and Toxic Wastes at Federal Establishments.
- .6 Obtain bear proof garbage containers on-site for domestic garbage generated on-site by Contractor's personnel.
- .7 Maintain the site in a tidy condition, free from the accumulation of waste products, debris and litter.

### **1.5 DRAINAGE**

- .1 Provide erosion and sediment control plan that identifies type and location of erosion and sediment controls to be provided. Plan: include monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.
- .2 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.
- .3 Do not pump water containing suspended materials into waterways or drainage systems.

- .4 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.
- .5 Identify specific area(s) that will be receiving water from trenches / excavated site subject to approval of the Parks Surveillance Officer. In no cases will the water from the site be allowed to enter standing ponds, watercourse, creek, river, wetlands, riparian zone of the water channel, and any other natural habitat area.
- .6 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with Parks Canada requirements and in conformance with the Environmental Contaminants Act and applicable provincial regulations while observing the Code of Good Practice for Management of Hazardous and Toxic Wastes at Federal Establishments.

#### **1.6 SITE CLEARING AND PLANT PROTECTION**

- .1 Protect trees and plants on site and adjacent properties where indicated.
- .2 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .3 Minimize stripping of topsoil and vegetation.
- .4 Restrict tree removal to areas indicated or designated by Departmental Representative.
- .5 When working adjacent to existing trees and, shrubs, the Contractor shall exercise all possible care to avoid injury to vegetation. Where roots or limbs over 25 mm in diameter and bark are damaged during operations, trim damaged portion. Parks Surveillance Officer will inspect all trimmed areas and approve them.
- .6 Place spoil material above high water line, keep out of waterway.

#### **1.7 WORK ADJACENT TO WATERWAYS**

- .1 Do not operate construction equipment in waterways.
- .2 Do not use waterway beds for borrow material.
- .3 Do not dump excavated fill, waste material or debris in waterways.
- .4 Design and construct temporary crossings to minimize erosion to waterways.
- .5 Do not skid logs or construction materials across waterways.
- .6 Avoid indicated spawning beds when constructing temporary crossings of waterways.
- .7 Prevent materials from entering the waterways.
- .8 Do work such that there is no negative impact on fish habitat.

#### **1.8 POLLUTION CONTROL**

- .1 Maintain temporary erosion and pollution control features installed under this contract.
- .2 Control emissions from equipment and plant to local authorities' emission requirements.
- .3 Prevent sandblasting and other extraneous materials from contaminating air and waterways beyond application area, by providing temporary enclosures.
- .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

## **1.9 NOTIFICATION**

- .1 Departmental Representative will notify Contractor in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.
- .2 Contractor: after receipt of such notice, inform Departmental Representative of proposed corrective action and take such action for approval by Departmental Representative.
- .3 Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.
- .4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

## **1.10 CANADIAN ENVIRONMENTAL ASSESSMENT ACT**

- .1 Execution of the work is subject to the provisions within the Canadian Environmental Assessment Act in effect January, 1995 as required by the Minister of Environment.
- .2 Western Regional Directive 33 provides direction specific to the application of CEAA to Parks Canada Western Region projects and in particular to the execution and implementation of environmental protection measures and requirements which the Contractor and Departmental Representative must observe.
- .3 Failure to comply with or observe environmental protection measures as identified in these specifications may result in the work being suspended pending rectification of the problem.

## **1.11 CONTRACTOR'S EMPLOYEE BRIEFING**

- .1 Parks Surveillance Officer will conduct briefing sessions for all employees and sub-contractor employees highlighting the requirements of this specification section, and other requirements of the Parks Surveillance Officer including operations of equipment strictly within confines of the site; harassment or attraction of wildlife; pollution and garbage management; vehicle access and parking; and care of the environment in the work area.
- .2 An initial site meeting with Contractor, Departmental Representative, Park Project Manager, and Parks Surveillance Officer will take place prior to construction commencing, so that all Park's environmental and construction concerns are met.
- .3 The contract documents have been developed in accordance with Canadian Environmental Assessment Act screening requirements. Construction methods which are directly affected by CEAA screening will be reviewed at the initial site meeting. The Contractor will be expected to comply with and ensure his construction practice meets the CEAA Standards. Failure to comply may lead to cessation of work.

## **1.12 CONTRACTOR'S OPERATIONS**

- .1 Confine all operations to the work limits as staked or designated by the Departmental Representative. No activities of any kind may be carried out beyond these work limits without written permission of the Department Representative.
- .2 Do not store or stockpile construction materials in the trees bordering or being preserved on-site. Do not unreasonably encumber the site with products.
- .3 Storage locations to be approved by Departmental Representative.
- .4 Storage locations shall be completely cleaned up and returned to original condition prior to Contractor de-mobilization in the spring, in the fall and finishing the project.



- .5 Maintenance of equipment shall be carried out in designated areas or as approved by the Departmental Representative and Parks Surveillance Officer. Maintenance of equipment such as oil changes and other servicing will not be permitted in Parks. The designated area for equipment maintenance is outside National Parks.
- .1 Inspect machinery daily for weak hydraulic lines and leaky gaskets before working on site.
- .6 Used oil, filter and grease cartridges, lubrication containers and other products of equipment maintenance shall be collected and disposed of at recycling depots and solid waste transfer stations outside of National Parks.
- .7 Provide sufficient sanitary facilities for workers and maintain in clean condition.
- .8 On site fuel storage may be permitted, subject to approval of the Parks Surveillance Officer. If required, on site fuel storage shall be in a slip tank mounted in Contractor's vehicle.
  - .1 Refuelling shall not be done within 100 m from waterways, watercourse, or as directed by Parks Surveillance Officer.
  - .2 Construct an impervious berm around potential spill areas, capable of holding 110% of tank storage volumes and to the satisfaction of the Departmental Representative and ESO before startup.
- .9 Contractor to have on all service and supervisory vehicles with emergency Spill Kit DOT-E-10102 or equivalent. Ensure all employees are properly trained to use the Spill Kit and shall be noted in the safety tool box meeting(s).
- .10 Conduct operations at all times in such a manner as to preserve the natural features and vegetation in the area. Cut and fill slopes shall be blended with adjoining topography. Material from fill slopes will not be permitted to sluff or roll into surrounding tree cover or to bury any plant material designated to be retained.
- .11 When in the opinion of the Departmental Representative and Parks Surveillance Officer, negligence on the part of the Contractor results in damage or destruction of vegetation, or other environmental or aesthetic features beyond the staked or designated work area, the Contractor shall be responsible, at his expense, for complete restoration including the replacement of trees, shrubs, topsoil, grass etc. to the satisfaction of the Parks Surveillance Officer.
- .12 Prevent erosion from rain, runoff using acceptable erosion control methods such as silt fencing, water bars, sand bags, settling ponds, rock check dams or other methods and subject to approval by the Departmental Representative.
- .13 Erosion control methods shall also be used in steep trench excavations and open cuts.
- .14 Contractor shall provide to the Departmental Representative a recommendation for non-standard erosion control methods to address specific site conditions for approval prior to installation of said erosion control methods.
- .15 Power wash all equipment outside of Parks to ensure non-native plant species are not introduced into Parks.
- .16 All equipment that requires an on-site wash down such as concrete delivery vehicle, concrete mixer and other related tools shall be confined in a designated area to ensure all its materials do not escape its designated area. Methods includes:
  - .1 Identify specific area(s) that will be receiving wash down and subject to approval of the Parks Surveillance Officer.

- .2 In no cases will the materials from the wash down be allowed to enter drainage system, standing ponds, watercourse, creek, river, wetlands, riparian zone of the water channel, and any other natural habitat area.
- .17 Provide in-stream sediment controls during removal of bridge abutments and footings, bridge deck and appurtenances and during installation of rip rap.
- .18 Shut down vehicles when not in use.
- .19 Pets are prohibited on site.
- .20 Prevent any deleterious and objectionable materials such as concrete, sediment, grout, paint, from entering rivers, streams, wetlands, waterbodies. Hazardous or toxic products shall be stored no closer than 100m from any watercourse, or as approved by the ESO.
- .21 Store equipment on tarps with appropriate containment.
- .22 Equipment shall operate from outside the wetted width or from isolated areas of the river.
- .23 Water pumped from the river shall be screened in accordance with DFO's Freshwater Intake End-of-Pipe Fish Screen Guideline (1995).
- .24 Any fish observed in isolated areas shall be brought to the attention of the ESO immediately so that they can be rescued and relocated to the main channel.
- .25 Timely and effective action shall be taken to stop, contain and cleanup all spills as long as the site is safe to enter. In the event of a major spill, all other work shall stop and all personnel devoted to spill containment and cleanup.
- .26 The costs involved in spill incident (control, cleanup, disposal of contaminants, and site rehabilitation to pre-spill conditions) shall be the responsibility of the contractor. The site will be inspected to ensure completion to the expected standard and to the satisfaction of the Departmental Representative and ESO.

#### **1.13 HISTORICAL / ARCHAEOLOGICAL CONTROL**

- .1 Provide historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands known to be on project site: and/or identifies procedures to be followed if historical archaeological, cultural resources, biological resources and wetlands not previously known to be onsite or in area are discovered during construction.
- .2 Plan: include methods to assure protection of known or discovered resources and identify lines of communication.

#### **1.14 WILDLIFE**

- .1 Avoid or terminate activities on site that attract or harass wildlife.
- .2 Notify Departmental Representative of bear activity or encounters on or around the site. Other wildlife encounters should be reported within 24 hours.

### **Part 2 Products**

#### **2.1 NOT USED**

- .1 Not Used.

**Part 3**            **Execution**  
**3.1**            **NOT USED**  
          .1        Not Used.

**END OF SECTION**

**Part 1 General**

**1.1 RELATED SECTIONS**

- .1 Section 01 00 10 – General Instructions.
- .2 Section 01 35 29 – Health and Safety Requirements.
- .3 Section 01 35 29 – Environmental Procedures.

**1.2 MEASUREMENT PROCEDURES**

- .1 Measure rip-rap as lump sum.

**Part 2 Products**

**2.1 STONE**

- .1 Hard, dense, durable quarry stone, free from seams, cracks or other structural defects, to meet following size distribution for use intended:
  - .1 Armour rip-rap:
    - .1 British Columbia Ministry of Transportation Class 250 Rip Rap.
    - .2 Clean and free of fine materials and debris prior to placing.
    - .3 Not acid containing rock or poor quality limestone rock that fractures or breaks down quickly when exposed to the elements

**2.2 GEOTEXTILE FILTER**

- .1 Geotextile:
  - .1 Non woven
  - .2 Grab strength – 875 N
  - .3 Elongation (failure) – 50%
  - .4 Puncture strength – 550 N
  - .5 Burst strength – 2.7 MPa
  - .6 Trapezoidal tear – 350 N

**Part 3 Execution**

**3.1 PLACING**

- .1 Where rip-rap is to be placed on slopes, excavate trench at toe of slope to dimensions as indicated.
- .2 Fine grade area to be rip-rapped to uniform, even surface. Fill depressions with suitable material and compact to provide firm bed.
- .3 Place geotextile on prepared surface as indicated. Avoid puncturing geotextile. Vehicular traffic over geotextile not permitted.
- .4 Provide minimum fabric lap of 300 mm.
- .5 Place rip-rap to thickness and details as indicated.

- .6 Place stones in manner approved by Departmental Representative to secure surface and create a stable mass. Place larger stones at bottom of slopes.

**END OF SECTION**

# Environmental Impact Analysis

## Chancellor Peak Campground and Bridge Demolition

Yoho National Park of Canada  
Near Field, BC

File: EC1030

Date: December 9, 2013



<b>1. PROJECT TITLE</b>		Chancellor Peak Campground and Bridge Demolition
<b>2. PROJECT LOCATION</b>		Yoho National Park of Canada
<b>3. PROJECT SITE(S)</b>		Campground and Bridge, access approximately 23 km west from the Field town site and approximately 2 km off from the Highway 1 (Figure 1).
<b>4. PROPONENT</b>		Public Works and Government Services Canada (PWGSC)
<b>5. PROPONENT CONTACT INFORMATION</b>		Gerald Galambos Departmental Representative Public Works and Government Services Canada Gerald.galambos@pc.gc.ca Telephone: (403) 292-4782
<b>6. PROJECT DATES</b>	Commencement: In-stream work is planned to be completed in the period between January 15 and 25, 2014.	Completion: June 30, 2013
<b>7. INTERNAL PROJECT FILE #</b>		2013-0016Y
<b>8. PROJECT DESCRIPTION</b>		
<p>The proposed project is located in Yoho National Park, along the Kicking Horse River and adjacent to Highway 1, near the Town of Field, BC. The Chancellor Peaks Campground is located on a small gravel bed island surrounded by the braided Kicking Horse River. Due to flooding damage in 2006, which resulted in a lengthy closure of the campground, the Campground was deemed no longer suitable for public use. Therefore Parks Canada decided to decommission this campground. The project area is illustrated in <b>Figure 1</b>. The bridge is located at the downstream end of the island crossing the Kicking Horse River west branch, immediately upstream of the junction of the Kicking Horse River west and east streams.</p> <p>This study was conducted in order to evaluate and provide recommendations for any environmental or cultural resources concerns for the proposed campground and bridge site demolition and decommissioning. The EIA follows Parks Canada's internal process for environmental impact analysis as guided by the National Parks Act and CEAA 2012.</p> <p>Delcan staff paid a site visit on August 9<sup>th</sup>, 2013, the majority of the campground was observed being underwater, with water depth ranging between approximately 10 cm to over 1 m. The project approach included:</p> <ul style="list-style-type: none"> <li>• Development of site specific occupational health and safety plan to comply with the Occupational Health &amp; Safety Act of BC and Canada Labour Code.</li> <li>• Site supervision of work to ensure the demolition plan is followed and addressed should any problems arise during execution of work.</li> <li>• Removal, transportation and appropriate disposal of any remnant pavement, underground wiring and removable bridge parts.</li> <li>• Separation of demolition waste materials and disposal of materials off site in an appropriately designated landfill site</li> <li>• Restoration of disturbed areas due to demolition work to the conditions that existed prior to commencement of work.</li> <li>• Removal of debris and cleaning up of the work site upon completion of work.</li> </ul> <p>All efforts will be made to complete in-stream work in the period of lowest water levels outside of the fishery window and thus, will require strict adherence to isolation measures and proper sediment and erosion controls. This work may occur between January 15 and 25, 2014 or as determined in consultation with Department of Fisheries and Oceans (DFO).</p>		

## 9. ENVIRONMENTAL COMPONENTS LIKELY TO BE AFFECTED

**Ecological-Geographic Setting:** The campground and bridge are located in the Montane Ecozone, Hillsdale (HD) Ecosection, YNP – Chancellor Peak Campground Frontcountry Area and are part of the Montane Spruce Ecozone and dry cool climatic subzone (Figures 1 and 2). The YNP overall contains important montane habitat, such as wetlands and north-south wildlife corridor that connects with the Beaverfoot and Amiskwi/Blaeberry valleys. However, the project location has anthropogenic impacts of the previous Highway 1 and bridge development as well as adjacent campground electrical services and camp areas.

**Soil component:** The Kicking Horse River is characterized by fluvial braided stream, island, fans and aprons consisting of calcareous, coarse, stratified fluvial material. Orthic and Eluviated Eutric Brunisols typify the soil component. The Kicking Horse River, at the location of the campground and bridge, flows south and then westward (Figures 3 and 4). The bank material is comprised of fine silts and loose, cobbly till and has little to no cohesive properties. Where exposed this material is highly erodible, but cobble material from the till provides some natural armour as erosion progresses.

**Vegetation:** Vegetation cover is limited by old roadway pavement and bridgeworks. Some adjacent spruce and aspen with varying understory including rosebush, pinegrass, bunchberry and various sedges, as well as some *Juniper horizontalis* occurs along the river bank slope disturbed areas. This vegetation reflects the disturbances associated with old roadway and the campground (see Photos 1 to 16; Appendix II)

**Wildlife:** The Montane Ecozone is important to wildlife. Several species occur here in moderate numbers. Ungulates include deer, caribou, elk, big horn sheep and moose. The ground cover does provide support for various species of small mammals, such as snowshoe hare, red squirrel, beaver, deer mice, red-backed vole, and heather vole. Nearly all predator species, such as wolves, wolverines, coyotes, Grizzly or Black bears, cougars and lynx - are found in the general area, and would pass through the site area along the river valley corridor (see Photos 1 to 16; Appendix II).

**Birds:** This Montane Ecozone is important to breeding birds including raptors, water birds, and songbirds attracted to the riparian habitat along the river. Common species include Cooper's Hawk, Least Flycatcher, Red-breasted Nuthatch, Swainson's Thrush, Warbling Vireo and Townsend's Warbler (see Photos 1 to 16; Appendix 2- BC Species and Ecosystems Explorer Search Results).

**Fish:** Eight fish species have been recorded in the Kicking Horse River. These include bull trout (*Salvelinus confluentus*), brook trout (*Salvelinus confluentus*), kokanee salmon (*Oncorhynchus nerka*), mountain whitefish (*Prosopium williamsoni*), pygmy whitefish (*Prosopium coulteri*), rainbow trout (*Oncorhynchus mykiss*), slimy sculpin (*Cottus cognatus*) and torrent sculpin (*Cottus rhotheus*) (see Appendix 2). Bull trout are listed as a species of special concern in BC Conservation Data Centre. Fish abundance in the Kicking Horse River is limited by naturally cold water, a lack of cover and low productivity (see Photos 1 to 16; Appendix 2- BC Species and Ecosystems Explorer Search Results).

**Reptiles and amphibians:** Four amphibian species in the general area include long-toes salamander, boreal and western toads, and Columbia spotted frog. Salamander breeding in ponds had occurred in the area near the campground (Pers. Comm. Sept. 2013, Noelle Summers, Parks Canada), however, the changes in the river channel flows has added considerable amounts of silt and active flow through these areas making them unsuitable for this habitat. The Schedule 1 SARA species of concern Western Toad (*Anaxyrus boreas*) have been recorded (see Photos 1 to 16; Appendix II- BC Species and Ecosystems Explorer Search Results).

**Land and Human Use:** Yoho National Park is a gateway between the four main mountain parks for travelers and visitors in southeast BC and southwest Alberta. During summer seasons this corridor is open to scenic observations as well as various backcountry opportunities such as day hiking or climbing from campgrounds or highway access pull offs. The specific campground use and access to the Chancellor Peaks Campground has been closed since it's flooding in 2001. Thus, the effect on land and human use for recreational activities has already occurred. The CPR will maintain the road up to the bridge in order that they may access their monitoring equipment and other needs.



**Landforms:** The project decommissioning activities will occur in previously disturbed old Highway No. 1 and the Bridge crossing. The surrounding areas are composed of the previous human impacted campground and old highway developments that modified the Kicking Horse River valley and surrounding ecosites in the proposed work corridor.

**Cultural Resources:** Chancellor Peak Campground Bridge is historic site #577T, recorded in 1991. The bridge was part of the historic 1927 Banff/Windermere Highway. The bridge is a concrete span on concrete abutments and measures 20 m long 7 m wide, and decking approximately 2 m above river level. The bridge's railings feature vertical windows, 0.61 m high by 0.2 m wide, and spaced vertically at 0.19 m intervals. The bridge's abutments stand 1.2 m high with winged retaining walls extending 1.7 m each side of the bridge's north and south ends (Perry 2013).

A heritage assessment was completed for the bridge site #577T under Permit Number YNP2013-14738 (Perry 2013) determined that it had areas of advanced erosion and chemical weathering. That given the decommissioned campground and overall disuse of the road and bridge it would fall into poorer repair. The detailed heritage recording and condition assessment coupled with the architectural detail recording and mapping represents sufficient mitigation. Since the bridge is abandoned and currently a safety hazard, no further archaeological concerns are warranted (Appendix 3).

## 10. IMPORTANT EFFECTS IDENTIFIED

Please see the Effects Identification Matrix in **Appendix 1**.

- The demolition activities could affect some terrestrial and aquatic habitat with rock, soil, debris.
- The demolition activities could impact some of the vegetation along the water course. Common plant species and communities were observed at the Project site during field study and assessment of the bridge.
- An accidental spill of a toxic substance may affect the surrounding vegetation.
- The demolition activities could temporarily mobilize sediments and negatively affect water quality during demolition. Sediment introduction and/or the disturbance of bed material may occur as a result of abutment removal, bank reclamation activities, drainage along the road alignment, and disturbance of the streambed during installation/removal of the isolation measures. Sediment may also be introduced to the stream from erosion of bare bank material exposed due to construction activities. Other deleterious substances (i.e., concrete) may be introduced during removal of the existing bridge deck and abutments.
- Several fish species are found in the Kicking Horse River. Eight fish species have been recorded in the Kicking Horse River. These include bull trout (*Salvelinus confluentus*), brook trout (*Salvelinus confluentus*), kokanee salmon (*Oncorhynchus nerka*), mountain whitefish (*Prosopium williamsoni*), pygmy whitefish (*Prosopium coulteri*), rainbow trout (*Oncorhynchus mykiss*), slimy sculpin (*Cottus cognatus*) and torrent sculpin (*Cottus rhotheus*) (see Appendix 2). Bull trout are listed as a species of special concern in BC Conservation Data Centre.
- The primary concerns for fish and fish habitat resulting from any type of activity occurring in or about a waterbody are the effects of downstream transport and deposition of sediment. The effects of introduced sediment on fish are many and varied, ranging from direct mortality (in extreme cases) to various sub-lethal effects including habitat avoidance and redistribution, reduced feeding and growth, respiratory impairment, and reduced tolerance to disease. Deposited sediment has the potential to alter the diversity and abundance of benthic macroinvertebrates (a major food source for fish) and reduce habitat suitability for a range of critical life-requisite functions (i.e., spawning, incubation of eggs, rearing, overwintering).
- Wildlife will likely be temporarily disturbed during the time of demolition.
- Due to high amounts of flooding and silt levels as well as the limited work zones impacts are not anticipated to the Western Toad (*Anaxyrus boreas*) (Appendix 2).
- Some existing fish habitat could be disturbed.
- An accidental spill of a toxic substance or deleterious substances falling into the river could potentially affect water quality and aquatic life at and downstream.
- The Kicking Horse River is a navigable watercourse, but the bridge occurs on a side channel and is a current obstruction to navigation and thus is not currently navigable.
- The Bridge was built as part of the old Highway No. 1. A Heritage Assessment indicates that the bridge is in poor repair and its demolition will not be a significant loss as a cultural resource (see Appendix 3).
- Dust generated from demolition activities and equipment exhaust could affect air quality in the immediate vicinity but will not affect park visitors at the project location, as the campground is closed and located some distance (>2 km from public access).
- Noise generated from project activities will not affect park visitors at the project location, as the campground is closed and located some distance (>2 km from public access).
- Heavy equipment stored onsite and demolition activities will not affect visitor safety, as the campground is closed and the access can be locked over 2 km back from the worksite.
- Improperly disposed of garbage and wastes may encourage increased human-wildlife interactions in nearby campgrounds or along the highway.

## 11. MITIGATION MEASURES

Mitigation measures associated with the demolition activities are detailed below:

### Project-Specific Mitigations

1. The migratory bird nesting window is April 1st to August 31<sup>st</sup>. Demolition work is scheduled outside this window.
2. Heavy equipment will be brought using the most direct route to the site along existing access.
3. Equipment will be stored on previously disturbed sites areas eliminating the need to clear vegetation for equipment lay down sites.
4. The project will involve removal of a clear span bridge supported by concrete abutments. Temporary in-stream barriers (i.e., turbidity curtains, Aquadam, etc.) will be constructed to isolate in-stream work areas on both banks or, alternately, diverting the side channel back into the main channel. Fish observations shall be brought to the attention of the ESO so that they will be salvaged from isolated work areas and relocated to the main channel. The bridge and abutments will be removed and the south streambank will be sloped and protected with riprap. The in-stream barrier will be removed as soon as possible and disturbed areas reclaimed.
5. Containments will be used to reduce the risk of equipment, debris or deleterious substances falling into the river (i.e., a working pad built of ice or other materials). An impervious berm capable of holding 110% of the tank storage volumes shall be constructed around potential spill areas.
6. The demolition will be completed in a timely matter as to limit the length of the project.

### General Mitigations

1. It is the responsibility of the contractor to ensure that all project works are conducted in accordance with all applicable regulations and approvals including *Fisheries Act* (Federal – DFO) and *Canada National Parks Act* (Federal – Parks Canada). This includes, that any water pumped be screened in accordance with DFO's Freshwater Intake End-of-Pipe Fish Screen Guideline (1995).
2. It is the responsibility of the contractor to obtain all necessary permits prior to the commencement of Project activities.
3. Any disturbance of the right-of-way approach to the watercourse should be kept to a minimum, and stabilized and restored to pre-construction or natural conditions (specific rip-rap applications – clean and free of fine materials and debris and not acid containing rock or poor quality fracturing limestone - to be consulted with Parks Canada Environmental Assessment Specialist).
4. **Spoil and waste materials removed from the work site should be stored above the high water mark**, and stabilized as required to minimize the potential for runoff events to transport them into the water body.
5. Construction should be halted during periods of heavy precipitation or in the event of a spill, until it has been cleaned up.
6. Construction debris should be promptly collected and removed from the area to prevent any introduction to the watercourse. No negative impacts to fish will be permitted.
7. Effective sediment and erosion control measures should be in place prior to, during and after construction to prevent sediment from entering the watercourse. All sediment and erosion control measures should be inspected regularly (at least daily) to ensure that they are maintained, cleaned or upgraded as required until complete revegetation of all disturbed areas is achieved. All disturbed areas to be revegetated as soon as practical following construction with native seed mix approved by Parks Canada.
8. It is the responsibility of the contractor to provide Parks Canada staff with advance notifications of project activities to allow this information to be included in local media.
9. The Yoho National Park Environmental Surveillance Officer (ESO) will inspect demolition activities to ensure all project work is conducted in accordance with all identified environmental protection measures. The ESO maintains the right to halt any work that does not comply with this approval and to require additional mitigations in response to any unforeseen environmental impacts.
10. It is expected that all staff of the contractor and sub-contractors will understand and comply with all National Park regulations within the Park. Pre-work briefings/meetings with the ESO and site staff, will be arranged to address environmental sensitivities within the Project Area.
11. All site staff are required to wear the appropriate Personal Protective Equipment (PPE) and be trained to standards that comply with both the *BC Occupational Health and Safety Act* and Worker's Compensation Board.

## 12. INADVERTENT RELEASE OF TOXIC SUBSTANCES

Accidental petroleum spills may potentially occur at the construction site during equipment refueling, equipment malfunctions (i.e., hydraulic leaks), or because of an accident involving construction or refueling equipment. Petroleum spills could affect both the terrestrial and aquatic environment

### Mitigation

- All equipment shall operate from outside the wetted width or from isolated areas of the river.
  - All of the equipment being used near the watercourse should be inspected for hydraulic leaks prior to use (at least daily) and should be clean and in good working order.
  - We recommend the use of non-toxic or vegetable based hydraulic fluid in equipment that will be working in close proximity to water.
  - All of the machinery should be refuelled in a well-defined location at least 100 m away from any surface water body or as designated by the assigned Parks Canada ESO.
  - An approved hydrocarbon spill containment kit for ground spills and floating sorbent pads and booms for spill clean-up in open water shall be on site during construction.
  - In the unlikely event of a spill, regulatory agencies will be notified in accordance with standard reporting requirements.
13. Prior to use on site, equipment will be inspected for fluid leaks of any kind. Any detected leaks will be addressed immediately and absorbent pads will be used under equipment with chronic leaks. **Overnight equipment should be stored on tarps with appropriate containment** if required.
  14. Spills on-site should be managed in accordance with:
    - Environmental Practices for General Construction in the Yoho National Park and Developed Areas. 2011.
    - Best Available Methods for Common Leaseholder Activities. 1998.
    - and shall be cleaned up at the contractors cost.
  15. Utilize manual labour where feasible to avoid disturbance to riparian vegetation;
  16. It is the responsibility of the contractor to have an emergency response plan and a spill response kit on site. All staff must be aware of its location on site and must be trained on spill response procedures.
  17. In the event of any fluid spills or leaks exceeding 5 litres or any spill quantity to water, Parks Canada's Banff Dispatch (403.762.1473) and the ESO should be notified immediately. Any absorbent materials used in the clean up or soils contaminated by the spill should be disposed of in the appropriate facilities.
  18. All refueling will take place on hardened, impermeable surfaces at least 100 m, or as designated by the assigned Parks Canada ESO, from the Kicking Horse River.
  19. Prior to accessing the site, construction equipment, particularly tire treads, will be pressure washed or steam cleaned to prevent the introduction of non-native species.
  20. To reduce noise and air pollution demolition equipment will be turned off when not in use.
  21. All food and garbage will be stored and handled in accordance with the National Park Garbage Regulations.
  22. Feeding, harassment or destruction of any wildlife is strictly prohibited. Wildlife encountered at or near project locations will be allowed to passively disperse without undue harassment.
  23. Nuisance wildlife will be immediately reported to the Yoho National Park Dispatch.
  24. Firearms and pets are prohibited on site.
  25. Fishing on site by Project crew is prohibited.
  26. Impacts to cultural or historical resources will occur for the bridge demolition. However, in the unlikely event that any other cultural or historical artifact is observed during works, it will be managed in accordance with "Best Available Methods for Common Leaseholder Activities".
  27. The contractor assumes any risk to public safety as a result of project activities.
  28. Implementation of the above-mentioned mitigations will be the responsibility of the contractor.

<b>12. IMPACT SIGNIFICANCE</b>	
<b>Temporary Effects</b> <ul style="list-style-type: none"> <li>Impacts to fish species and amphibians- short term and localized – <b>minor</b>.</li> <li>Noise and disturbance of wildlife – short-term and localized – <b>minor</b>.</li> <li>Disturbance of vegetation in the vicinity of the project site and water course – short-term and localized – <b>minor</b>.</li> <li>Mobilization of sediments during demolition – short-term and localized – <b>minor</b>.</li> <li>Risk for potential spills and leaks as a result of demolition activities – <b>low</b>.</li> <li>Reduced air quality in the vicinity of project site – short-term and localized – <b>minor</b>.</li> <li><b>Cultural resources assessment</b> has recommended that the Chancellor Peak Campground Bridge be demolished due to poor condition.</li> </ul> <b>Residual Effects</b> <ul style="list-style-type: none"> <li>Assuming that all mitigation measures outlined in this document are adhered to, no significant residual environmental effects are anticipated.</li> </ul> <b>Cumulative Effects</b> <ul style="list-style-type: none"> <li>Due to the short duration of this demolition project and mitigation measures, no significant cumulative effects are expected.</li> </ul>	
<b>13. SITE INSPECTION</b> ( ? For help completing this section see instructions at end of document)	
<input type="checkbox"/>	Site inspection not required
<input checked="" type="checkbox"/>	Site inspection required
An inspection will be conducted by the Environmental Assessment Specialist to ensure compliance with mitigations. Michael den Otter, Environmental Assessment Specialist, Yoho National Park (250) 347-6172	
<b>14. EXPERTS CONSULTED (Including PCA Experts)</b>	
Department/Agency/Institution Contact Information Date of Request Expertise Requested  Response	Parks Canada Shelley Humphries: 250-343-2008 2013-08-26 Aquatics Specialist  Confirmed the presence of Bull Trout, Brook Trout, Rainbow Trout, Rocky Mountain Whitefish and Burbot.
<b>15. PUBLIC PARTICIPATION</b>	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
<b>16. DECISION</b>	
<b>Taking into account implementation of mitigation measures outlined in the analysis, the project is:</b>	
<input checked="" type="checkbox"/>	Not likely to cause significant adverse environmental effects.
<input type="checkbox"/>	Likely to cause significant adverse environmental effects.
<b>SIGNATURES AND APPROVAL</b>	
<b>EIA Author</b>	
Name: Chuck Ramsay	Title: Environmental Manager
Signature	Date: Nov. 15, 2013
<b>DECISION APPROVAL</b>	
Name: Alex Kolesch	Title: Manager, Land Use Policy and Planning, LLYK
Signature	Date
Name: Michael den Otter	Title: Environmental Assessment Specialist
Signature	Date

## 17. REFERENCE LIST

Axys, Environmental Consulting Ltd. and David Walker & Associates. 1998. *Best Available Methods for Common Leaseholder Activities*. Prepared for Line Leaseholders Working Group, Jasper National Park. Calgary.

B.C. Conservation Data Centre. 2013. BC Species and Ecosystems Explorer. B.C. Minist. Of Environ. Victoria, B.C. Available: <http://a100.gov.bc.ca/pub/eswp/> (accessed Aug. 12, 2013).

Coen, G., and P. Kuchar. 1982. Biophysical (ecological) inventory of Yoho National Park, British Columbia, Canada. Agriculture Canada, Research Branch, Edmonton, Alberta., LRRI Contribution No. 82-20. 92 p.

Lea, E.C. 1984. Biophysical resources of the East Kootenay Area. B.C. Min. Env., Kelowna, B.C., MOE Techn. Rep. No. 5. 75 p.

Parks Canada, *Draft Statement of work: Development of Engineered Demolition Plans, Demolition and Disposal*, March 21, 2013

Parks Canada Agency, *Model Class Screening Report For Routine Frontcountry Projects IN Lake Louise and Yoho and Kootenay National Parks*, Winter, 2012.

## 18. ATTACHMENTS LIST

**Figure 1 – Project Location, Biogeoclimatic Ecosystems**

**Figure 2 – Project Description – South Portion**

**Figure 3 – Project Description – North Portion**

**Appendix I - Site Photographs**

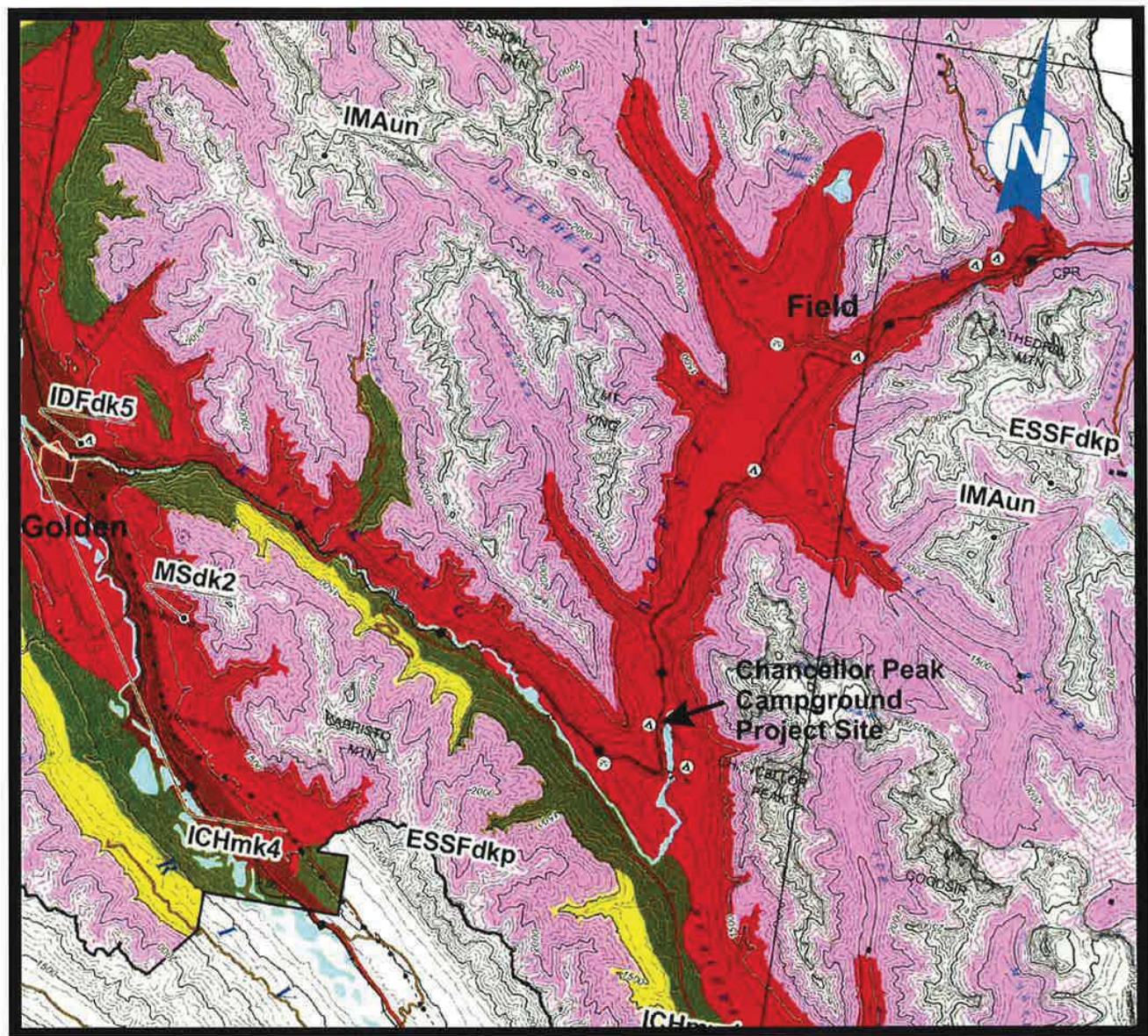
**Appendix II - BC Species and Ecosystems Explorer Search Results from: B.C. Conservation data Centre. 2013**

**Appendix III – Archaeological Assessment of the Chancellor Bridge – interim report – 2013**

**Appendix IV – Effects Identification Matrix**

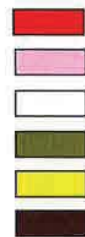
## 19. ADDITIONAL CONSIDERATIONS / COMMENTS





## Biogeoclimatic Ecosystems Key

Label	Zone Name	Subzone Name
MSdk2	Montane Spruce	Dry Cool
ESSFdkp	Engelmann Spruce - Subalpine Fir	Dry Cool
IMAun	Interior Mountain - heather Alpine	Undifferentiated
ICHmk4	Interior Cedar - Hemlock	Moist Cool
ICHmw1	Interior Cedar - Hemlock	Moist Warm
IDFdk5	Interior Douglas - fir	Dry Cool



## Public Works Government Services Canada - Chancellor Peak Campground and Bridge Demolition Project Location.

Source:  
modified from Biogeoclimatic  
Ecosystem Classification  
Subzone/Variant Map for the Columbia Subunit  
2012, Govt, BC

Scale  
approx. 3 km

Date: September, 2013



Publics Works and  
Government Services  
Canada

Travaux publics et  
services gouvernementaux  
Canada



Client/Client:

Parks Canada  
Agency

Western and  
Northern Region

L'Agence Parcs  
Canada

Ouest et Nord  
du Canada



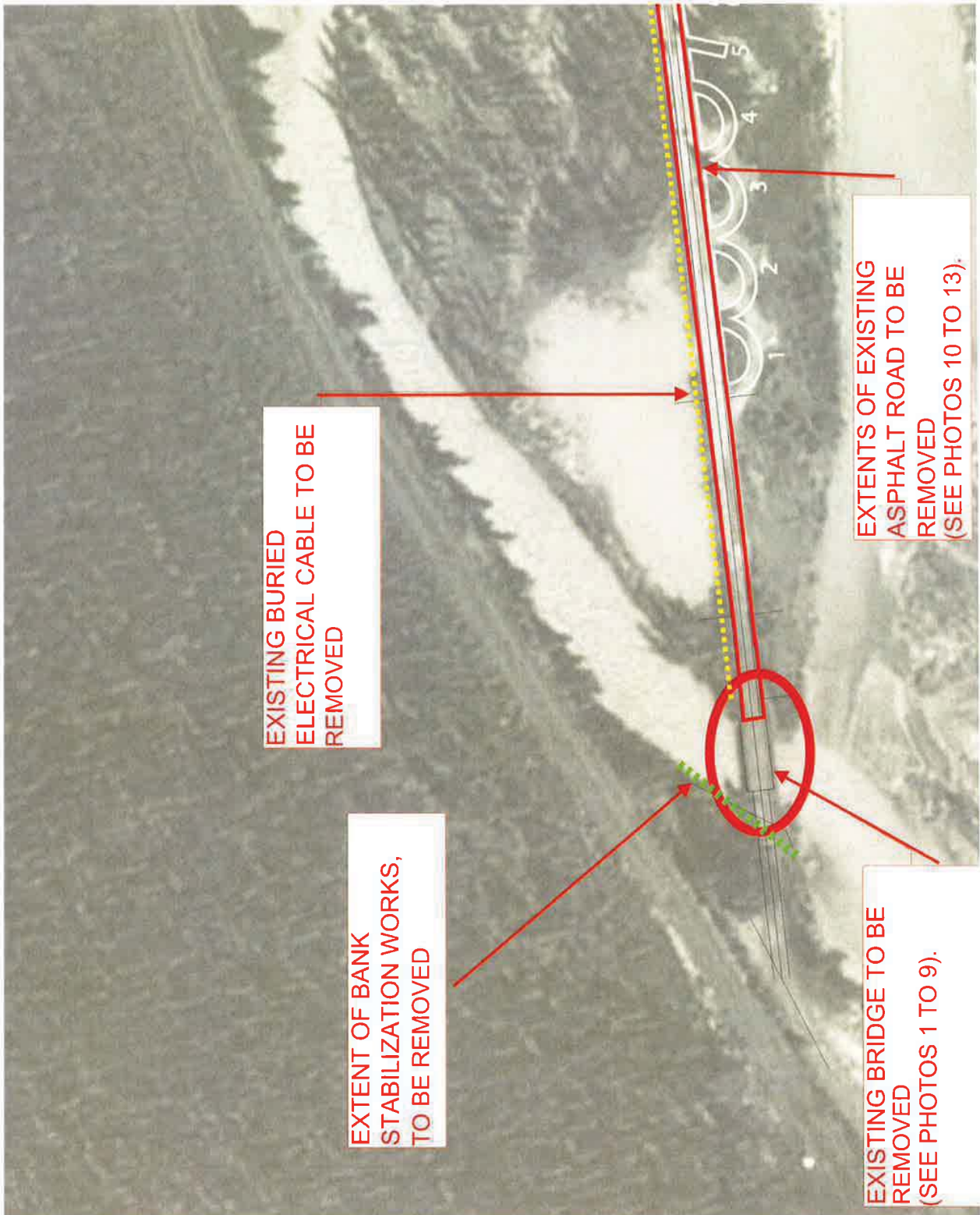
802 - 4TH AVENUE SW, SUITE 100  
CALGARY, ALBERTA, CANADA T2P 3E8  
TEL: 403-228-9450 FAX: 403-228-9455  
www.delcan.com

Figure

1

Suite 100, 808 - 4th Ave, SW,  
Calgary, AB T2P 3E8  
Tel.: 403-228-9450  
Fax: 403-228-9455





**Public Works Government Services  
Canada - Chancellor Peak Campground  
and Bridge Demolition Project Location,  
South Portion.**

Scale  
approx. 8 m

Date: September, 2013



Public Works and  
Government Services  
Canada

Travaux publics et  
services gouvernementaux  
Canada



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CALGARY, ALBERTA, CANADA T2P 3E8  
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Parcs Canada  
Agency

L'Agence Parcs  
Canada

Western and  
Northern Region

Ouest et Nord  
du Canada

Figure

2

Suite 100, 808 - 4th Ave. SW,  
Calgary, AB T2P 3E8  
Tel.: 403-228-9450  
Fax: 403-228-9455





**Public Works Government Services  
Canada - Chancellor Peak Campground  
and Bridge Demolition Project Location,  
North Portion.**

Scale  
approx. 8 m

Date: September, 2013



Public Works and  
Government Services  
Canada

Travaux publics et  
services gouvernementaux  
Canada



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Figure  
**3**

**APPENDIX I**  
**PROJECT PHOTOGRAPHS**



**PHOTO 1** South end of Project Area, Facing North over Bridge and Road Access.



**PHOTO 2** South end of Project Area, Facing North-northeast over Bridge and Road Access.



**PHOTO 3** Bridge Crossing on Kicking Horse River, Facing Northeast over Bridge - to be removed.



**PHOTO 4** Bridge Crossing on Kicking Horse River, Facing North along west channel.





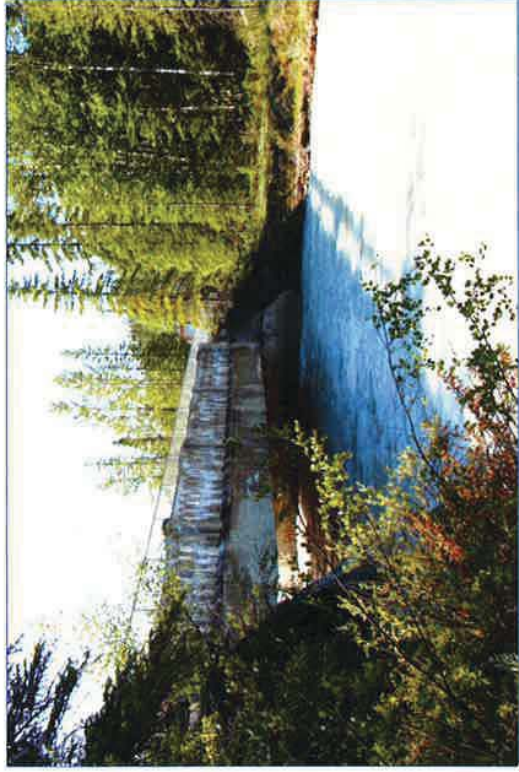
**PHOTO 5** Bridge Crossing on Kicking Horse River, Facing Northeast over East side of Bridge along East channel.



**PHOTO 6** Bridge Crossing on Kicking Horse River, Facing South over East side of Bridge.



**PHOTO 7** Bridge Crossing on Kicking Horse River, Facing South over East side of Bridge.

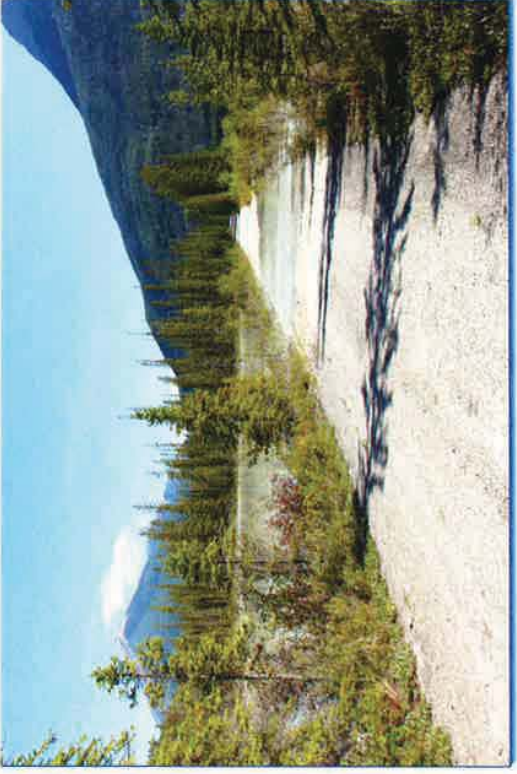


**PHOTO 8** Bridge Crossing on Kicking Horse River, Facing South over West side of Bridge.





**PHOTO 9** Bridge Crossing on Kicking Horse River, Facing South over top of Bridge.



**PHOTO 10** Bridge Crossing on Kicking Horse River, Facing North from Bridge, overview of flooded old highway and access into campground.



**PHOTO 11** Bridge Crossing on Kicking Horse River, Facing North-northwest, overview of flooded old highway and access into campground.



**PHOTO 12** Bridge Crossing on Kicking Horse River, Facing North, overview of flooded old highway and access into campground.





**PHOTO 13** Overview of old highway into campground and adjacent flooded areas, facing South-southwest.



**PHOTO 14** Overview of old highway into campground, facing North.



**PHOTO 15** Overview of old highway into campground, facing South, note underground cable beside road - to be removed.



**PHOTO 16** Close-up of pavement capping on old highway through campground - to be removed.

## **APPENDIX II**

### **BC SPECIES AND ECOSYSTEM EXPLORER RESULTS**

## BC Species and Ecosystems Explorer Search Results

Scientific Name	English Name	Status					
		Provincial	BC List	COSEWIC	SARA	Global	CF Priority
<i>Acipenser transmontanus</i>	White Sturgeon	S2 (2004)	No Status	E (2003)	1-E (2006)	G4 (2002)	2
<i>Agosotis lackschewitzii</i>	pink agosotis	S2S3 (2000)	Blue			G4 (1997)	2
<i>Anaxyrus boreas</i>	Western Toad	S3S4 (2010)	Blue	SC (2012)	1-SC (2005)	G4 (2008)	2
<i>Anemone canadensis</i>	Canada anemone	S2S3 (2000)	Blue			G5 (1984)	3
<i>Ardea herodias herodias</i>	Great Blue Heron, <i>herodias</i> subspecies	S3B,S4N (2009)	Blue			G5T5 (2000)	2
<i>Boloria alberta</i>	Albert's Fritillary	S3 (2013)	Blue			G3 (2009)	2
<i>Botaurus lentiginosus</i>	American Bittern	S3B (2010)	Blue			G4 (1996)	2
<i>Botrychium crenulatum</i>	dainty moonwort	S2S3 (2013)	Blue			G3 (2011)	2
<i>Botrychium hesperium</i>	western moonwort	S2S3 (2001)	Blue			G4 (2008)	2
<i>Botrychium montanum</i>	mountain moonwort	S1S2 (2013)	Red			G3 (2005)	2
<i>Campylidium radicale</i>		S2S3 (2011)	Blue			G3G5 (1991)	2
<i>Carex comosa</i>	bearded sedge	S2 (2005)	Red			G5 (1998)	3
<i>Carex rostrata</i>	swollen beaked sedge	S2S3 (2000)	Blue			G5 (1984)	3
<i>Chordeiles minor</i>	Common Nighthawk	S4B (2010)	Yellow	T (2007)	1-T (2010)	G5 (2009)	2
<i>Colias meadii</i>	Mead's Sulphur	S3 (2013)	Blue			G4G5 (2009)	3
<i>Contopus cooperi</i>	Olive-sided Flycatcher	S3S4B (2009)	Blue	T (2007)	1-T (2010)	G4 (2008)	2
<i>Cypseloides niger</i>	Black Swift	S4B (2009)	Yellow	C (2011)		G4 (1996)	2
<i>Dolichonyx oryzivorus</i>	Bobolink	S3B (2010)	Blue	T (2010)		G5 (2009)	2
<i>Dryopteris cristata</i>	crested wood fern	S2S3 (2000)	Blue			G5 (2011)	3
<i>Eleocharis elliptica</i>	Slender spike-rush	S2S3 (2004)	Blue			G5 (1984)	3
<i>Euphagus carolinus</i>	Rusty Blackbird	S3S4B (2010)	Blue	SC (2006)	1-SC (2009)	G4 (2008)	2
<i>Grimmia mollis</i>		S2S3 (2011)	Blue			G5 (2012)	2
<i>Grus canadensis</i>	Sandhill Crane	S4B (2009)	Yellow	NAR (1979)		G5 (1996)	5



8/12/13	BC Species and Ecosystems Explorer Search Results (Printer-friendly)						
<i>Gulo gulo</i>	Wolverine	S3 (2010)	No Status	SC (2003)		G4 (2005)	2
<i>Gulo gulo luscus</i>	Wolverine, <i>luscus</i> subspecies	S3 (2010)	Blue	SC (2003)		G4T4 (1996)	2
<i>Hirundo rustica</i>	Barn Swallow	S3S4B (2009)	Blue	T (2011)		G5 (1996)	2
<i>Hygrohypnum alpinum</i>		S3 (2011)	Blue			G4G5 (2007)	3
<i>Magnipelta mycophaga</i>	Magnum Mantleslug	S2S3 (2008)	Blue	SC (2012)		G3 (2006)	2
<i>Minuartia austromontana</i>	Rocky Mountain sandwort	S2S3 (2000)	Blue			G4 (1995)	3
<i>Mnium arizonicum</i>		S2S3 (2011)	Blue			G5? (1996)	2
<i>Myotis lucifugus</i>	Little Brown Myotis	S4 (2013)	Yellow	E (2012)		G3 (2012)	5
<i>Myotis septentrionalis</i>	Northern Myotis	S2S4 (2013)	Blue	E (2012)		G1G3 (2012)	2
<i>Nephroma occultum</i>	cryptic paw	S2S3 (2007)	Blue	SC (2006)	1-SC (2007)	G4 (2007)	2
<i>Numenius americanus</i>	Long-billed Curlew	S3B (2010)	Blue	SC (2011)	1-SC (2005)	G5 (1996)	2
<i>Oeneis jutta chermocki</i>	Jutta Arctic, <i>chermocki</i> subspecies	S3 (2013)	Blue			G5T4Q (1999)	4
<i>Oncorhynchus clarkii lewisi</i>	Cutthroat Trout, <i>lewisi</i> subspecies	S3 (2004)	Blue	SC (2006)	1-SC (2010)	G4T3 (2003)	2
<i>Orthotrichum pallens</i>		S3 (2011)	Blue			G5 (1991)	2
<i>Ovis canadensis</i>	Bighorn Sheep	S3 (2010)	Blue			G4 (2008)	3
<i>Pekania pennanti</i>	Fisher	S2S3 (2006)	Blue			G5 (2005)	2
<i>Pinus albicaulis</i>	whitebark pine	S2S3 (2013)	Blue	E (2010)	1-E (2012)	G3G4 (2011)	3
<i>Platyhypnidium riparioides</i>		S3? (2011)	Blue			G4 (2004)	2
<i>Pohlia longicollis</i>		S2 (2011)	Red			G4G5 (1991)	2
<i>Rangifer tarandus</i>	Caribou	S3 (2010)	No Status			G5 (2006)	2
<i>Rangifer tarandus</i> pop. 1	Caribou (southern mountain population)	S1 (2010)	Red	T (2000)	1-T (2003)	G5T2Q (2002)	2
<i>Salvelinus confluentus</i>	Bull Trout	S3S4 (2011)	Blue	SC (2012)		G4 (2011)	2
<i>Solidago gigantea</i>	smooth goldenrod	S1 (2000)	Red			G5 (2012)	
<i>Trichophorum pumilum</i>	dwarf clubrush	S2S3 (2000)	Blue			G5 (1997)	3
<i>Ulotia curvifolia</i>		S3 (2011)	Blue			G3G5 (1991)	2
<i>Ursus arctos</i>	Grizzly Bear	S3 (2010)	Blue	SC (2002)		G4	2

*Warnstorfia*  
*pseudostraminea*

S3 (2011) Blue

G3G4  
(2010)

3

## Search Summary

**Time Performed** Mon Aug 12 16:04:28 PDT 2013

**Results** 50 records.

**Search Criteria** Search Type: Plants & Animals  
AND Forest Districts: Headwaters Forest District (DHW) ( Restricted to Red, Blue, and Legally designated species )  
AND MOE Regions: 4- Kootenay ( Restricted to Red, Blue, and Legally designated species )  
AND Regional Districts: Columbia-Shuswap (CSRD) ( Restricted to Red, Blue, and Legally designated species )  
Sort Order: Scientific Name Ascending

**Notes** 1. Citation: B.C. Conservation Data Centre. 2013. BC Species and Ecosystems Explorer. B.C. Minist. of Environ. Victoria, B.C. Available: <http://a100.gov.bc.ca/pub/eswp/> (accessed Aug 12, 2013).  
2. Forest District, MoE Region, Regional District and habitat lists are restricted to species that breed in the Forest District, MoE Region, Regional District or habitat (i.e., species will not be placed on lists where they occur only as migrants).

[Modify Search](#) | [New Search](#) | [Results](#)

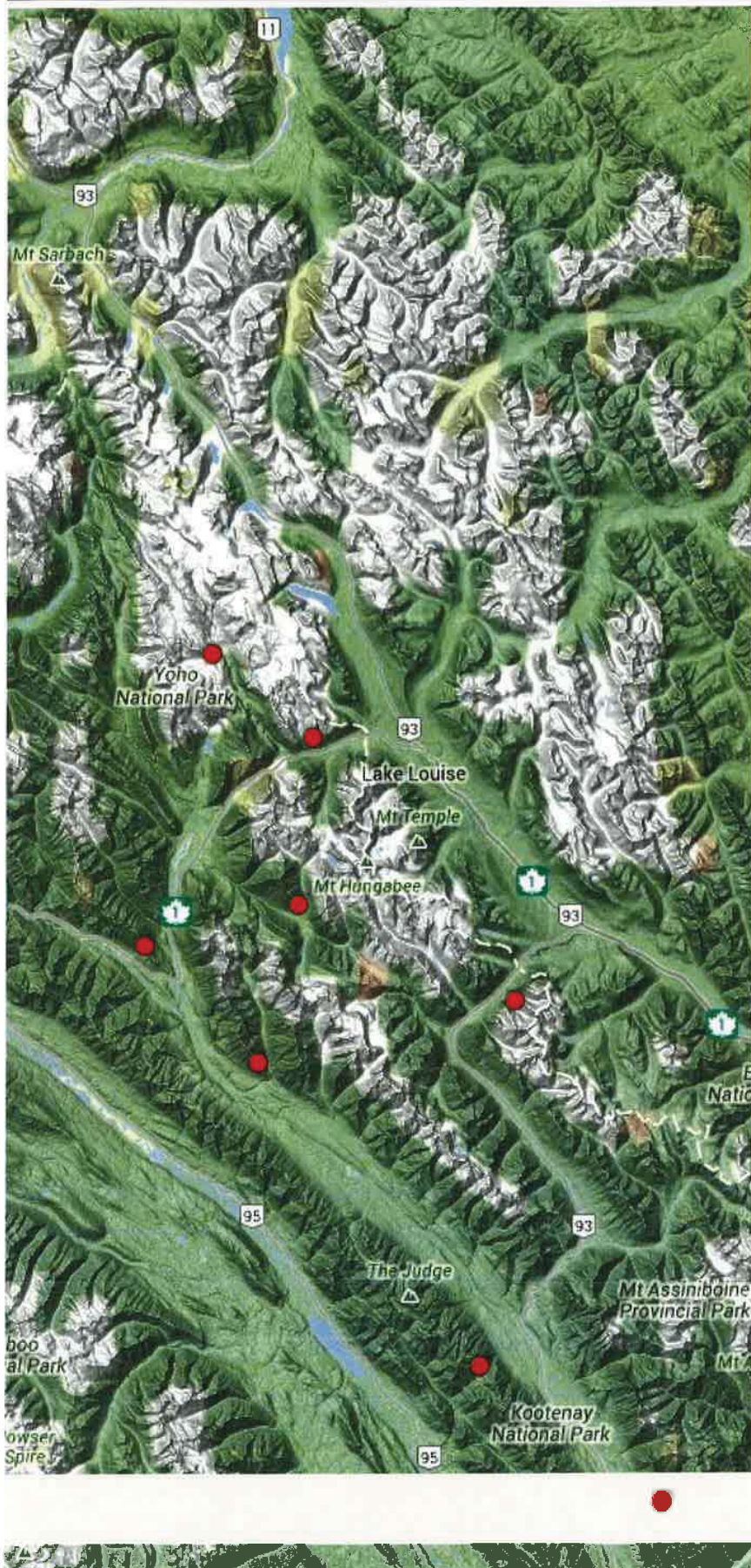


Generalized Locations - *Pinus albicaulis* (Whitebark Pine)

Modify Search

New Search

Results



## Site Names

Location details are available by clicking on a Site Name (↓) or ● map marker.



BARRETT CREEK, 1.6 KM SOUTHEAST OF

CULTUS CREEK, 1.3 KM NORTH OF

EAST GATE, 2.5 KM NORTHEAST OF

HARGREAVES LAKE, 1.7 KM NORTHEAST OF

KILMARNOCK CREEK, 2 KM EAST OF

KIMPTON CREEK, 2.4 KM SOUTH OF

LUXOR PASS, 1.1 KM NORTHWEST OF

MCARTHUR CREEK

MOLLISON CREEK, 1.5 KM WEST OF

MOUNT DOMKE, 5 KM WEST OF

MOUNT PECK, 6.1 KM SOUTHEAST OF

PAGET PEAK

PINEWOOD CREEK

RAINBOW FALLS, 2 KM NORTH OF

STANLEY CREEK

SWEDE CREEK, 4.6 KM NORTH OF

TOP OF THE WORLD PARK, 2.1 KM NORTHWEST OF

WIEDENMAN CREEK, 2.3 KM NORTHEAST OF

YOHO VALLEY

Note: Locations on this map are limited to those mapped by the BC Conservation Data Centre; they do not represent a comprehensive distribution for the species/ecological community. For more information contact [cdcddata@gov.bc.ca](mailto:cdcddata@gov.bc.ca).

### **APPENDIX III**

#### **ARCHAEOLOGICAL ASSESSMENT AND HERITAGE EVALUATION**

## **Preliminary Report:**

### **Emerald Lake Bridge upgrade and Chancellor Peak Campground bridge Removal – Archaeological Assessment and Heritage Recording, Yoho National Park 2013**

**Permit Number:** YNP2013-14738

**Permit Holder:** Bill Perry

**Project Name:** Emerald Lake Bridge upgrade and Chancellor Peak Campground bridge Removal –  
Archaeological Assessment and Heritage Recording, Yoho National Park 2013

**Project Description:** The project involves the heritage recording of two historic bridges within Yoho National Park of Canada; one located at the Emerald Lake Lodge, the other at the former Chancellor Peak campground.

**Client:** Caroline Marion, Manager, Townsites and Realty, Lake Louise, Yoho and Kootenay Field Unit  
Gary Sears, in charge of the Chancellor Peak campground bridge removal,  
Noelle Summers, Environmental Assessment, Lake Louise, Yoho and Kootenay Field Unit

**Type of Assessment:** Field recording, two locations.

**Project Start Date:** August 21, 2013

**Project End Date:** August 21, 2013

**Single Year/ Multi-Year Project Scope:** Single year project.



**Project Location/ Background:** Plans call for almost the complete replacement of bridge elements at the Emerald Lake Lodge at Emerald Lake, Yoho NP and the complete demolition and removal of the historic Chancellor Peak campground bridge, also in Yoho NP.

Emerald Lake Lodge plans to remove elements of the current bridge down to its piers to facilitate reconstruction to address safety concerns. The bridge was originally recorded as part of the historic Emerald Lake Lodge, archaeological site 402T.

Parks Canada proposes to remove the Chancellor Peak campground access bridge, historic site 577T, as the bridge has both public safety and environmental concerns. The current condition of the bridge with its advanced state of erosion makes the bridge not currently useable.

**Project Objective:** The objective is to provide heritage recording of the two historic bridge structures and to give recommendations to Parks Canada field unit managers regarding these historic resources.

**Project Deliverables:** Two site heritage recordings, updating of archaeological/historic information and databases, and the production of a field assessment report (this volume).

#### **Methodology and Results:**

Emerald Lake Lodge bridge: The bridge was examined by the author on August 21, 2013.

The Emerald Lake Lodge, the historic elements of which have been recorded as historic site 402T, was initially constructed in 1902. The lodge has grown over the years to eventually be replaced by the present modern structures. The bridge was last rebuilt in the 1980s when most, if not all of the structural elements were replaced. There was a possibility that there may still be some original historic elements left in the current bridge structure.

Detailed assessment, photo-documentation and mapping were undertaken as part of this assessment. In the course of this work, it was not possible to determine whether any historic elements remain within the current structure. Since the entire bridge was replaced except for the piers in the 1980s, it is not too likely there are historic elements left to be a concern within the current structure. The piers as well, do not look older than the 1980s. A request has been made to the Yoho NP archives and to the Emerald Lake Lodge operations manager for copies of the 1980s development plans that would confirm this assumption.

Chancellor Peak Campground bridge: The historic Chancellor Peak campground bridge was previously recorded by the author in 1991 as archaeological resource site 577T. The bridge was part of the historic 1927 Banff/Windermere Highway. The bridge is a concrete bridge span on concrete abutments and measures 20 m long, 7 m wide, with its decking 2 m above river level. The bridge's railings feature vertical windows, 0.61 m high by 0.2m wide, spaced vertically at 0.19m intervals. The bridge's abutments stand 1.2m high, with winged retaining wall extending 1.7m each side of the bridge's north and south ends.

The bridge was reassessed by updating its condition and photo-documentation records. The measurements from the 1991 assessment were confirmed and detailed drawings made. Noelle Summers indicated the bridge is currently a public safety issue and since the bridge and road are no longer used and the campground has been decommissioned, the condition of the bridge will only get worse. Current assessment of the structure's condition has found many areas of advanced erosion and chemical weathering.

**Recommendations:**

Emerald Lake Lodge bridge: Once development plans from the 1980s are obtained and reviewed, it will be possible to confirm whether any historic structural elements remain within the current structure. As it now stands, it is the opinion of the author that none of the structural elements observed and recorded as part of the Heritage recording is historic. Unless new information surfaces that indicates otherwise from the 1980s development plans, there are no archaeological concerns for this bridge as it is anticipated that previous development has removed all historic elements. There is the possibility however, that bridge remediation plans may involve excavation of a portion of the roadbed and river bank on either side of the bridge. If this excavation uncovers earlier historic bridge structural elements, it is recommended that a Parks Canada archaeologist be contacted to review the finds and make recommendations for their disposition.

Chancellor Peak Campground bridge: This detailed heritage recording and condition assessment coupled with additional architectural detail recording and mapping represents sufficient mitigation. Since this bridge is abandoned and currently a safety hazard, no further archaeological concerns are warranted.



Figure 1 Overview of Emerald Lake Lodge bridge. View NE.



Figure 2. Detail of structural elements, Emerald Lake Lodge bridge. View W.





Figure 3 Overview of Chancellor Peak bridge. View N.



Figure 4 View of bridge top of Chancellor Peak bridge and erosion. View NE.

**APPENDIX IV**  
**EFFECTS IDENTIFICATION MATRIX**



EFFECTS IDENTIFICATION MATRIX														
	Use the following matrix to identify if your project may have potential impacts on components of the environment		Components of Environment and Mandate Elements Affected by Environmental Change											
			Natural Resources					Cultural Resources		Visitor Experience				
			Air	Soil	Water	Flora	Fauna	Historic Value	Character defining elements	Viewscape	Visitor appreciation & access	Recreational /other opportunities	Public Safety	Unique character & connection to place
Phases	Examples of Associated Activities													
Project Components	Preparation Demolition	Supply and storage of materials	<input type="checkbox"/>	X	X	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Burning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Clearing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Demolition	X	X	X	X	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
		Disposal of waste	<input type="checkbox"/>	X	X	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Blasting/ Drilling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Dredging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Drainage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Excavation	X	X	X	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
		Grading	<input type="checkbox"/>	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Backfilling	X	X	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Use of machinery	X	X	X	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
		Transport of materials/ equipment	X	X	X	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
		Building of fire breaks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Use of Chemicals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Set up of temporary facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Other (remediation)	<input type="checkbox"/>	X	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>