



# Basic Impact Analysis (BIA)

## Lake Louise Campground Flood Control

Banff National Park

February 2015



Parks  
Canada

Parcs  
Canada

Canada

**1. PROJECT TITLE**

Lake Louise Campground Flood Control

**2. PROJECT LOCATION**

Banff National Park, Alberta

**3. PROJECT SITE(S)**

Lake Louise Campground

**4. PROPONENT**

Darren McNamara, P. Eng

**5. PROPONENT CONTACT INFORMATION**

P.O Box 213 Lake Louise, AB T0L 1E0

T: 403-522-1199

E: darren.mcnamara@pc.gc.ca

**6. PROJECT DATES**

Planned commencement: May 2015

Planned completion: June 2015

**7. INTERNAL PROJECT FILE #**

2015-002L

**8. PROJECT DESCRIPTION**

The Bow River has flooded the banks at the campground for the past two years and three of the last six years. An emergency berm was installed to protect the infrastructure during the floods of 2012. A total of \$40k was allocated for the 2012 flooding to enhance the berm. The flood events of 2013 further eroded the banks of the Bow River necessitating a review of the initial proposed work. The objective is to protect both the campground and the wastewater collection system infrastructure from future flooding by adjusting the placement of the berm and armouring it.

The existing berm will be removed and replaced by a new berm constructed from native alluvium material and geogrid. The berm will be armoured in one section with class two rip rap with loam filled voids and riparian vegetation (willow). The exposed surface of the berm will be finished with shrubs, topsoil and hydroseed on the banks. A crushed gravel walkway will be located on the top of the berm. A section of the existing road will be replaced by the berm and a corresponding section of road will be expanded on the other side. Some tree removal will be required. A DFO review is not required provided there is no temporary or permanent increase in the existing footprint below the High Water Mark, and there is no new temporary or permanent fill placed below the High Water Mark.

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## 9. VALUED COMPONENTS LIKELY TO BE AFFECTED

Valued components that are likely to be affected include natural resources (air, wildlife, soil and landforms, vegetation, water) and visitor experience (views and soundscapes, visitor access & services, visitor safety). The project will be completed in a previously disturbed area, and no effects are expected on archeological resources. The project will not involve working in water.

### **Air Quality**

Effects on air quality will be limited to the construction phase and will include emissions from vehicles and machinery.

### **Wildlife**

Noise from construction equipment may disturb wildlife and alter movement patterns. The work will occur in a heavily used area for a short duration, and the effects are expected to be minimal.

### **Soil and Landforms**

Soils will be disturbed during removal of the existing berm and excavation for the armoring of the new berm. Laydown areas will be located on existing gravel-surfaced, pull through sites. Construction access will be through a gravel-surface, pull through site.

### **Vegetation**

A number of lodgepole pine trees will be removed to widen the road and to construct the berm. No rare plant species are expected in the area because it has been previously disturbed.

### **Aquatic Resources**

The work will be conducted within ten metres of the Bow River and there is a potential for sediment to enter the water. The Bow River is a fish bearing stream.

### **Views and Soundscapes**

The project will be completed in the campground during the summer season when construction sights and noise could affect campers.

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### **Visitor Access & Services**

Access to the construction area and adjacent campsites will be temporarily closed. A temporary walking path will route visitors around the site. The installation of flood control measures will improve visitor access during high flow periods.

### **Visitor Safety**

Flood control measures will improve visitor safety during high flow periods.

### **Cultural Resources**

The construction area has been identified by Parks Canada staff as having good archeological potential.

## **10. EFFECTS ANALYSIS**

The project will have minor negative effects on visitor experience, wildlife, and air quality during the construction phase. In the absence of mitigation measures, the project could have a negative effect on soils, aquatic resources, and vegetation. The potential effect on cultural resources will be determined prior to the start of the project. The net effect of the project will be positive on visitor safety and visitor access.

## **11. MITIGATION MEASURES**

### **Air Quality**

- Vehicle and equipment operators will follow a no idling policy.

### **Wildlife**

- Trees will be examined by the ESO for nesting birds before removal.
- Food and food waste will be stored inside a vehicle or within heavy equipment. Garbage will be disposed of in a bear-proof container at the end of each day.
- Work will be conducted during daylight hours and will be completed as quickly as possible.
- Workers will be educated not to harass or feed wildlife.
- Potential problem and/or habituated wildlife will be reported to Parks Canada Dispatch at (403) 762-1470.
- Local speed limits will be observed.

### **Soil and Landforms**

- Only predetermined access routes will be used for vehicles and equipment to minimize soil disturbance and compaction.
- Equipment must be operated in a manner that minimizes damage to vegetation and soils.
- An environmental protection plan (EPP) including a sediment and erosion control plan must be prepared by the project contractor and provided to parks Canada for review prior to implementation.
- All erosion and sediment controls must be in place prior to construction commencing and must be inspected and maintained regularly to ensure effectiveness. Erosion and sediment controls must be designed to provide adequate protection until vegetation has become established in the area disturbed by the project.
- The EPP will also include emergency response procedures to avoid potential leaks and/or spills and to adequately address and clean up spills should they occur.
- The contractor will ensure that equipment is in good working order and free of leaks. Equipment will be checked daily. Drip trays will be placed under equipment overnight.
- Refuelling will take place on a hardened surface at least 100 m from any water body, drainage channel, or storm water drain.





- A spill kit will be kept on-site and the contractor will be familiar with spill prevention/clean up measures. Any spills will be reported to Parks Canada immediately.

#### ***Vegetation***

- Only predetermined access routes will be used for vehicles and equipment to minimize disturbance of vegetation.
- Heavy equipment will be cleaned prior to entering the park to prevent the spread of non-native plants and seeds.
- Equipment must be operated in a manner that minimizes damage to vegetation and root structures.
- Laydown areas will be well defined and will be located on gravel/dirt surfaces and will not damage or bury vegetation.
- Vegetation removal will be kept to a minimum.
- Any tree removal must be approved by the ESO and will require replacement trees to be planted.
- Reseeding will be completed with a Parks Canada approved grass seed mix as soon as possible following completion of construction.

#### ***Aquatic Resources***

- There will be no temporary or permanent increase in existing footprint below the High Water Mark.
- There will be no new temporary or permanent fill placed below the High Water Mark.
- Work will be conducted during the dry season, and no work will be conducted in the Bow River. It is recommended that the work take place in May, when the river is lowest.
- Sediment and erosion control measures will be used to prevent sediment from entering the Bow River.
- Clearing of riparian vegetation should be kept to a minimum: use existing trails, roads or cut lines wherever possible to avoid disturbance to the riparian vegetation and prevent soil compaction. When practicable, prune or top the vegetation instead of grubbing/uprooting.
- Vegetation removed within 15 m from the high water mark of a water body or watercourse shall be replaced with new plantings.
- Remove all construction materials from site upon project completion.

#### ***Viewscapes and Soundscapes***

- Construction activities will take place during daylight hours only.

#### ***Visitor Safety***

- Access to the site will be restricted and vehicles and equipment will be appropriately stored and locked out overnight.
- Clear signage will indicate alternate walkways.

#### ***Cultural Resources***

- An archeological impact analysis will be performed prior to the start of the project.
- The results of the archeological impact analysis will determine whether or not further mitigations are necessary.





**12. CONSIDERATION OF THE NEED FOR PUBLIC PARTICIPATION & ABORIGINAL CONSULTATION**

**12 a)** Indicate whether opportunity for public participation should be offered:

No  Yes

**12 b)** Indicate whether there is a requirement for Aboriginal Consultation in relation to project impacts:

No  Yes

**13. EFFECT SIGNIFICANCE**

Provided the above mitigation measures are implemented, residual impacts to valued ecosystem components are expected to be negligible or low in magnitude. Significant adverse effects are not anticipated.

**14. SURVEILLANCE**

Document whether surveillance (also referred to as compliance monitoring or site inspection) will be required while the project is underway, to verify that required mitigation measures are implemented.

Surveillance required (there are templates on the [EA intranet tools & guidance page](#))  
 Surveillance not required

**15. SPECIES AT RISK MONITORING**

Project will not affect any SARA listed species.

**16. SARA NOTIFICATION**

Project will not affect any SARA listed species.

**17. EXPERTS CONSULTED**

*Include Parks Canada experts. Add as many entries as necessary for the project.*

Department/Agency/Institution: Parks Canada	Date of Request: 2015-02-16
Expert's Name: Shelley Humphries	Title: Aquatic Specialist
Contact Information: shelley.humphries@pc.gc.ca	
Expertise Requested: fish habitat	
Response: Incorporated into the BIA	
Department/Agency/Institution: Parks Canada	Date of Request: 2015-02-13
Expert's Name: Bill Perry	Title: Archeologist
Contact Information: bill.perry@pc.gc.ca	
Expertise Requested: cultural resources	
Response: Incorporated into the BIA	

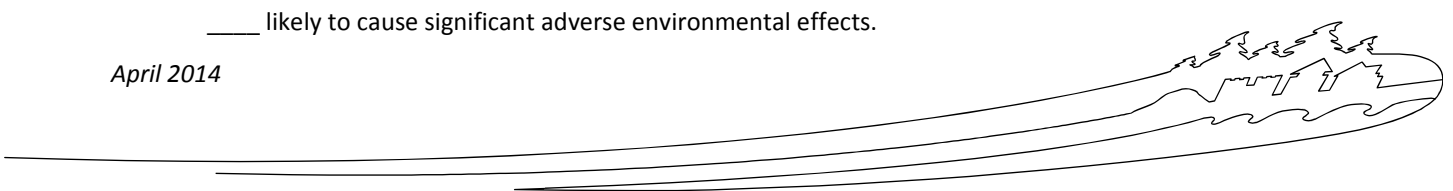
**18. DECISION**

Taking into account implementation of mitigation measures outlined in the analysis, the project is:

not likely to cause significant adverse environmental effects.

likely to cause significant adverse environmental effects.

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*NOTE: If the project is identified as likely to cause significant adverse effects, CEAA 2012 prohibits approval of the project unless the Governor in Council (Cabinet) determines that the effects are justified in the circumstances. A finding of significant effects therefore means that the project CANNOT go ahead.*

**19. SIGNATURES AND APPROVAL**

**EA Author** (Add additional signature blocks for multiple authors as required)

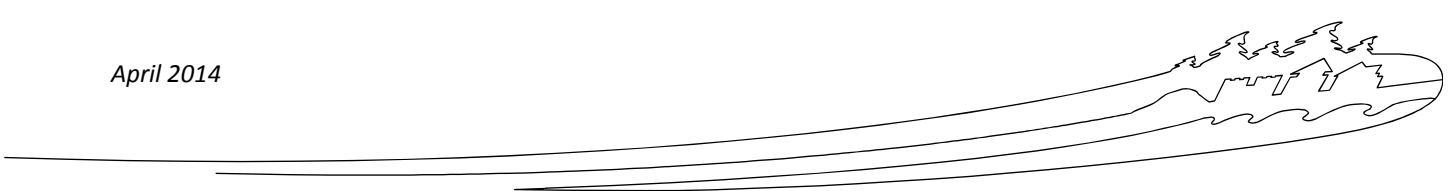
Name: Rachelle Ormond	Date: 2015-03-31
Position: Environmental Assessment Scientist	
Signature:	

**Decision Approval**

Name: Alex Kolesch	Date:
Position: Manager, Integrated Land Use Planning and Policy	
Signature:	

**20. REFERENCE LIST**

Department of Fisheries and Oceans Canada. *Projects Near Water*. <http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html> Accessed: Feb 2015





**Appendix 1 Environmental Impact Analysis Tools: Effects Identification Matrix**

A. Direct Effects (during preparation/construction phases)														
		Components potentially directly affected by the proposed project												
		Natural Resources					Cultural Resources		Visitor Experience					
		Air	Soil & landforms	Water (surface, ground, crossings, etc.)	Flora (native vegetation)	Flora (specify, including SAR)	Not Applicable	Not Applicable	Visitor access & services	Recreational/Accomm. opportunities	Viewscaapes and soundscapes	Visitor Safety	Essence of place	
Phase	Associated Activities													
Project Components	Preparation / construction	Supply and storage of materials	<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"/>
		Clearing	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Disposal of waste	<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	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Grading	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Backfilling	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Use of machinery	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Transport of materials/equipment	<input type="checkbox"/>	<input checked="" 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"/>	

SAR- species at risk

