



October 13, 2015

Ms. Tonya Crowchild  
Consultation Director  
Tsuut'ina Nation  
9911 Chiila Blvd Tsuut'ina AB T2W 6H6  
ttnconsultation@tsuutina.com

Dear Ms. Crowchild:

**Re:** Town of Canmore Cougar Creek Debris Flood Retention Structure

The Aboriginal Consultation Office has directed the Town of Canmore to notify you of our proposed Cougar Creek Debris Flood Retention Structure (the Project). The Project has been assessed as a Level 3 extensive consultation and we have prepared the attached Information Package for your review.

Heavy rains in the Bow Valley in 2013 caused a debris flood on Cougar Creek that resulted in widespread damage to municipal infrastructure, flood protection works, homes, property, businesses, the Trans-Canada Highway, Highway 1a and the Canadian Pacific Railway. Immediately following this flood event, the Town of Canmore implemented short-term mitigation measures and initiated planning for long-term hazard mitigation on Cougar Creek. Based on the results of an extensive hazard and risk assessment and options analysis, the Town is proposing to construct an approximately 30 m high debris flood retention structure designed to provide significant risk reduction to the 4,000 residents and one third of Canmore's business activity that exist on Cougar Creek alluvial fan.

The Town of Canmore is not aware of any specific short-or long-term adverse impacts to First Nations rights and traditional use resulting from the Project and is seeking input from you to identify any potential impacts to your community.

Construction on the Project is expected to begin as soon as regulatory approvals have been granted. The Town of Canmore has set an aggressive schedule for this Project as its primary aim is to increase public safety. We are working to secure key regulatory approvals in 2016 with construction complete in late 2018 to mid-2019.

Please review the enclosed information and let us know whether this Project may adversely impact your Treaty rights and traditional uses in the area within 20 business days of receiving this information. If you state that there are potential impacts, please specify the site-specific concerns and their location, in writing, that your First Nation may have.

If you wish to meet to discuss this Project further, please contact me at 403.678.1512 to arrange a meeting at your earliest convenience.

Sincerely,

Félix Camiré, E.I.T.  
Town of Canmore Engineering Services  
fcamire@canmore.ca  
403.678.1512

Town of Canmore

Cougar Creek Debris Flood Retention Structure Project

**Project Information Package**

October 13, 2015



## **Introduction**

Heavy rains in the Bow Valley in 2013 caused a debris flood on Cougar Creek that resulted in widespread damage to municipal infrastructure, flood protection works, homes, property, businesses, the Trans-Canada Highway, Highway 1a and the Canadian Pacific Railway. Immediately following this flood event, the Town of Canmore (the Town) implemented short-term mitigation measures on Cougar Creek including channel armouring and the installation of a debris net. These short-term mitigation measures are designed to reduce the amount of debris travelling from the watershed onto the alluvial fan and to reduce bank erosion in the creek channel if another flood event occurs prior to the implementation of long-term mitigation plans.

The Town conducted an extensive hazard and risk assessment and options analysis for long-term hazard mitigation on Cougar Creek. Multiple location and design options were evaluated for mitigating debris-flood hazards on Cougar Creek while protecting the Bow Valley Regional Wildlife Corridor, maintaining recreational access and fitting aesthetically with the natural landscape. This assessment resulted in the selection of a proposed debris flood retention structure (the Project) designed to provide significant risk reduction to the 4,000 residents and businesses on the Cougar Creek alluvial fan.

Completion of an Environmental Impact Assessment (EIA) Report is required for the Project so Level 3 extensive consultation is required. A Pre-Consultation Assessment provided by the Aboriginal Consultation Office on August 11, 2015 confirmed that the Tsuut'ina Nation will be consulted on the Project.

## **Project Location**

The proposed Project location (LSD 14-34-24-10W5) is at the site of an existing debris net on Cougar Creek, approximately two kilometres northwest of the Trans-Canada Highway. The Project is located within the Bow Valley Wildland Park. Alberta Parks is pursuing the potential re-classification of a small section of the Project area to a provincial park (conditional on approval of the EIA). Alberta Parks will conduct First Nation consultation and public engagement on the re-classification of this area separately from the Town of Canmore's efforts regarding this Project.

Figure 1 presents the location of the Project and includes the Bow Valley Wildland Park boundary. Figure 2 presents the location of the Project in relation to Treaty 7 First Nation reserves.

## **Project Description**

### ***Design***

The proposed Project consists of a debris flood retention structure on Cougar Creek that will be approximately 30 m high and will span a bedrock confined channel. The structure will be rock and earth filled with a reinforced concrete central sealing wall and will include an open outflow and debris rake. During normal weather conditions water and sediment will flow unimpeded through the structure. The structure has been designed to protect residents, business and infrastructure on the Cougar Creek alluvial fan and will be capable of holding back up to 600,000 cubic meters of water and debris with an outlet discharge rate of 45 cubic metres per second. The structure will not permanently hold water and is designed to allow water to pass through in a controlled manner. The structure includes a spillway to release water during a major event that is beyond design parameters, during which evacuation procedures would be initiated. The Project includes considerations for ensuring that wildlife movement and human access to Cougar Creek are not impeded. The structure will be a permanent installation and will not be decommissioned. A maintenance road will be constructed to access the structure.

The Public Disclosure Summary Table that was provided to the Government of Alberta by the Town of Canmore on January 27, 2015 is attached. The Public Disclosure Summary Table contains information that has changed since the January submission and reflects project design and schedule at that time.

### ***Project Footprint***

The footprint of the debris flood retention structure is approximately 1.3 ha. For a maximum probable flood scenario the footprint of the inundation area behind the structure would be approximately 6 ha. A 0.5 km maintenance road with a footprint of 0.3 ha is also required. The Project footprint is shown on Figure 1. A preliminary upstream view of the structure is provided in Figure 3.

### ***Construction and Maintenance***

Construction on the Project is expected to begin as soon as regulatory approvals have been granted. The Town of Canmore has set an aggressive schedule for this Project as its primary aim is to increase public safety. The Town is working to secure key regulatory approvals and begin construction in 2016. Project construction will take up to two years and is expected to be complete in late 2018 to mid-2019. Construction activities will include installing a sub-surface grout curtain under the structure, installation of a concrete sealing wall and outlet structure, building up the structure with rock and soil and then re-vegetating the surface. Construction areas will be reclaimed as part of the overall reclamation and landscaping planned for Cougar Creek. A 0.5 km maintenance road will be constructed to remove debris from behind the structure as needed.

### **Historical Resources**

There are no known archaeological or paleontological resources within the Project footprint but there are sites in the area. The Project team has reviewed historical resource impact assessments for other developments in the area (e.g., adjacent residential developments) and is working with the Historic Resources Management Branch of Alberta Culture and Tourism to determine what additional work is required to identify and mitigate any potential impacts to historical resources.

### **Potential Impacts to First Nations Rights and Traditional Uses**

The Town of Canmore is seeking project specific concerns from each Treaty 7 First Nation regarding potential impacts to First Nations rights and traditional uses. Recognizing that consultation activities have not been initiated and an EIA has not been completed, at this time the Town of Canmore is not aware of any specific short-or long-term adverse impacts to First Nations rights and traditional uses resulting from the Project. For consideration in your assessment of potential impacts, the Town of Canmore provides the following information:

- the debris-flood retention structure and flood event inundation area are located in a highly scoured steep mountain creek bed with limited potential for vegetation or wildlife habitat;
- the topography and hydrology of Cougar Creek minimize the likelihood of historical features in the debris-flood retention structure and flood event inundation area;
- the debris flood retention structure will be designed to maintain access for recreational and traditional activities in Cougar Creek;
- the debris flood retention structure will be designed to minimize potential effects on the Bow Valley Regional Wildlife Corridor and wildlife movement up and across Cougar Creek will be maintained; and
- Cougar Creek is not a fish bearing waterway and the Project is not expected to alter fish habitat.

**Regulatory Approvals Required**

The Project requires an EIA under the *Environmental Protection and Enhancement Act (EPEA)*. Technical specialists at Alberta Environment and Parks (AEP) will review the EIA and the Natural Resources Conservation Board (NRCB) will make a Project decision based on that review. If Project approval is granted by the NRCB, required *Water Act* and *Provincial Parks Act* approvals and dispositions will be secured prior to construction.

<b>Regulatory Approvals Required</b>			
<b>Regulatory Body</b>	<b>Relevant Legislation</b>	<b>Application / Submission</b>	<b>Contact</b>
Alberta Environment and Parks and Natural Resources Conservation Board	<i>Environmental Protection and Enhancement Act</i>	Environmental Impact Assessment Report	Environmental Assessment Environment and Parks Main fl Twin Atria Building 4999 - 98 Avenue Edmonton, AB T6B 2X3 780.643.3853
Alberta Environment and Parks	<i>Water Act</i>	Dam Safety and Water Act Approval Application	Dam Safety Alberta Environment and Parks 8th fl Oxbridge Place 9820 - 106 Street Edmonton, AB T5K 2J6 780.644.7437
Alberta Culture and Tourism	<i>Historical Resources Act</i>	Archaeological and Paleontological Impact Assessment or Clearance Application	Historic Resources Management Branch Alberta Culture and Tourism Old St. Stephen's College 8820 - 112 Street NW Edmonton AB T6G 2P8 780.431.2300
Alberta Environment and Parks	<i>Provincial Parks Act</i>	Application for disposition (dependent on project approval and re-classification of project area to Provincial Park).	Parks Kananaskis Region Environment and Parks 2nd fl Provincial Building 800 Railway Avenue Canmore, AB T1W 1P1 403.678,5508

### Consultation Process

As per the ACO Level 3 extensive consultation requirements, delivery of this notification letter and information package initiates the 20 day review period for the Tsuut'ina Nation (20 working days beginning on the Government of Alberta working day following verified receipt of notification). The Town of Canmore will follow-up with the Tsuut'ina Nation if a response has not been received within 10 days and a second follow-up will occur after 15 days.

The Tsuut'ina Nation is requested to provide feedback on potential Project specific impacts to Treaty rights and traditional uses within the 20 day review period. If any potential impacts are identified, site-specific concerns should be described along with their location. Feedback should be in writing and can be provided to:

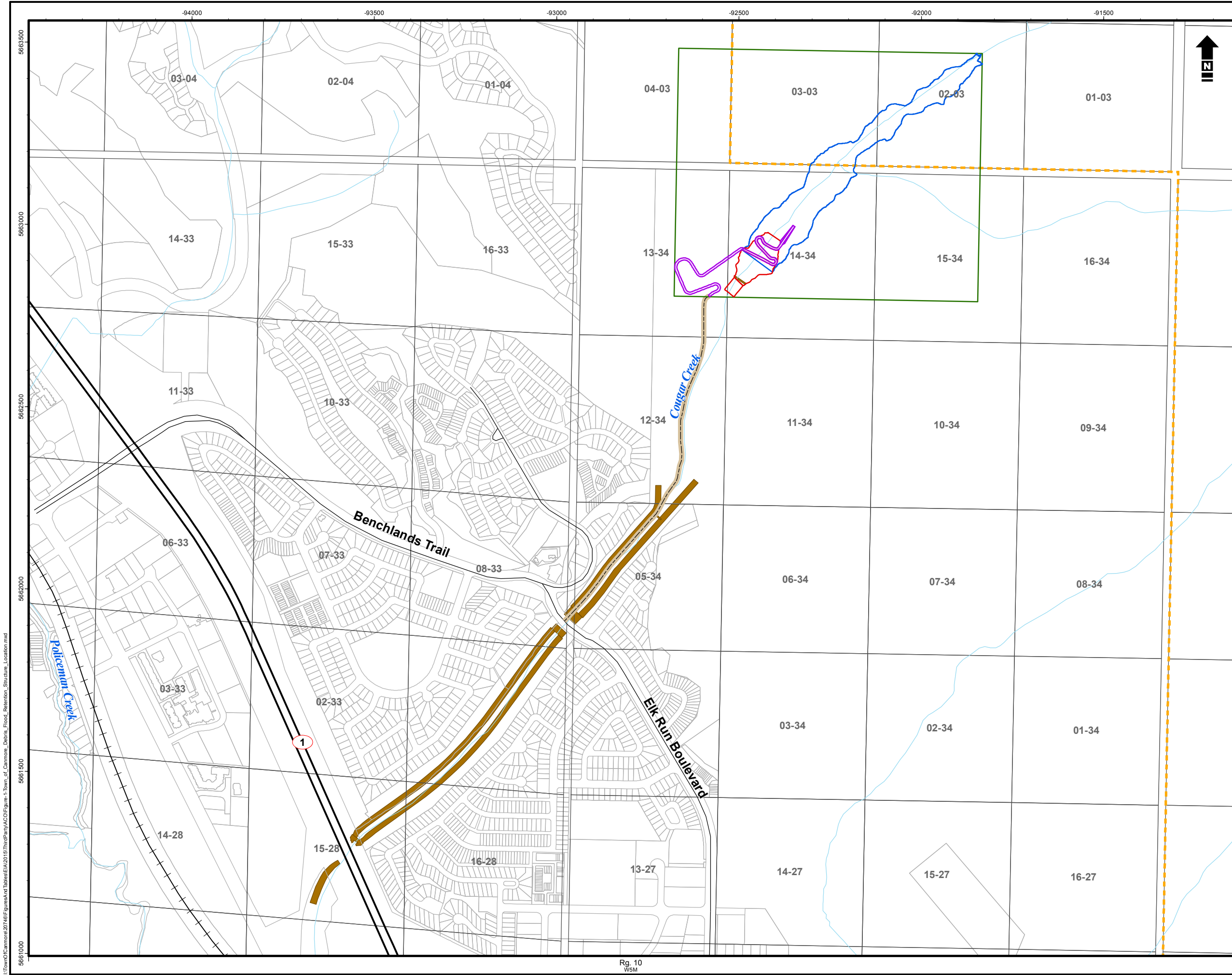
Mr. Félix Camiré, E.I.T.  
 Town of Canmore Engineering Services  
 902 7th Avenue  
 Canmore, AB T1W 3K1  
 403.678.1512  
[fcamire@canmore.ca](mailto:fcamire@canmore.ca)

### Consultation Schedule

The following tables provide a preliminary consultation schedule for the project and a description of the consultation activities that will occur during the regulatory process.

Preliminary Consultation Schedule	2015												2016					2017	
	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	
ACO Pre-Consultation Assessment Received	◆																		
Consultation Plan Approved																			
Proposed Terms of Reference Provided to Each First Nation				◆															
Information Package Provided to Each First Nation (20 days)				◆															
First Follow Up (10 days)				◆															
Second Follow Up (15 days)					◆														
Project Specific Consultation Meetings and Follow Up Actions																			
Anticipated Submission of EIA												◆							
Bi-Monthly Reporting																			
Submission of ROC and Request for Consultation Adequacy																			
Consultation Adequacy																			
Regulatory Review and SIR Process																			
Project Approval																			

<b>Consultation Activities and Timing</b>		
<b>Consultation Milestone</b>	<b>Activities</b>	<b>Timing</b>
<b>Pre-Consultation</b>		
Consultation Plan Development and Approval	Town of Canmore working with the ACO to develop a Consultation Plan for the Project.	Q2/Q3 2015
<b>Pre-Application Consultation</b>		
Project Information Packages	The Town of Canmore will provide each First Nation with a plain language Project Information Package that meets ACO requirements.	October 2015
	The Town of Canmore will follow up with each First Nation to confirm community interest in the Project	October / November 2015
Proposed Terms of Reference	The Town of Canmore will provide each First Nation with a copy of the Proposed Terms of Reference (PTOR) that includes information on how the community can provide comment on the PTOR	October 2015
	First Nations will have an opportunity to provide comments on the PTOR during the 45-day public review period.	October to December 2015
	AEP will consider First Nation input into the PTOR	December to March 2015
Project Specific Consultation Meetings and Follow Up Actions	The Town of Canmore will schedule and participate in consultation meetings with interested First Nations. These meetings will include information on the effects assessment conducted by the Town of Canmore and will seek to gather First Nations input into the mitigation of potential project effects.	Ongoing after November 2015
	The Town of Canmore will conduct necessary follow-up actions arising from the consultation meetings (e.g., provision of additional information).	Ongoing after November 2015
	The Town of Canmore will provide each First Nation with bi-monthly consultation reports.	Ongoing after November 2015
<b>Post-Application Consultation (Application Review)</b>		
Notification of Submission	The Town of Canmore will notify each First Nation when the EIA report is submitted and provide access to the EIA report in a format acceptable to each First Nation. This notification will include a description of the process and deadline for submitting Statements of Concern.	May 2016
Project Specific Consultation Meetings and Follow Up Actions	The Town of Canmore will continue to schedule and participate in consultation meetings with First Nations who have ongoing interest in the Project. These meetings will include discussions on mitigation for potential project effects and accommodation if required.	Ongoing after November 2015
Record of Consultation	The Town of Canmore will provide each First Nation with a Record of Consultation for their review at an appropriate time.	TBD



Twp. 25

Twp. 24

Rg. 10  
WSM

- Existing Flood Mitigation Measure
- ACO Boundary
- Cadastral Fabric
- Town of Canmore Municipal Boundary
- Watercourse
- Highway
- Road
- Site Access Route (1.02 km)
- Railway

**Proposed Project Footprint**

- Debris Flood Retention Structure
- Road
- Inundation Area

Reference: Data obtained from Alta.LIS © Government of Alberta used under license.  
GDM transportation infrastructure data provided by IHS © 2015 used under license.  
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NAD 1983 3TM 114

**Town of CANMORE**

Cougar Creek Debris Flood Retention Structure

**Town of Canmore Debris Flood Retention Structure Location**

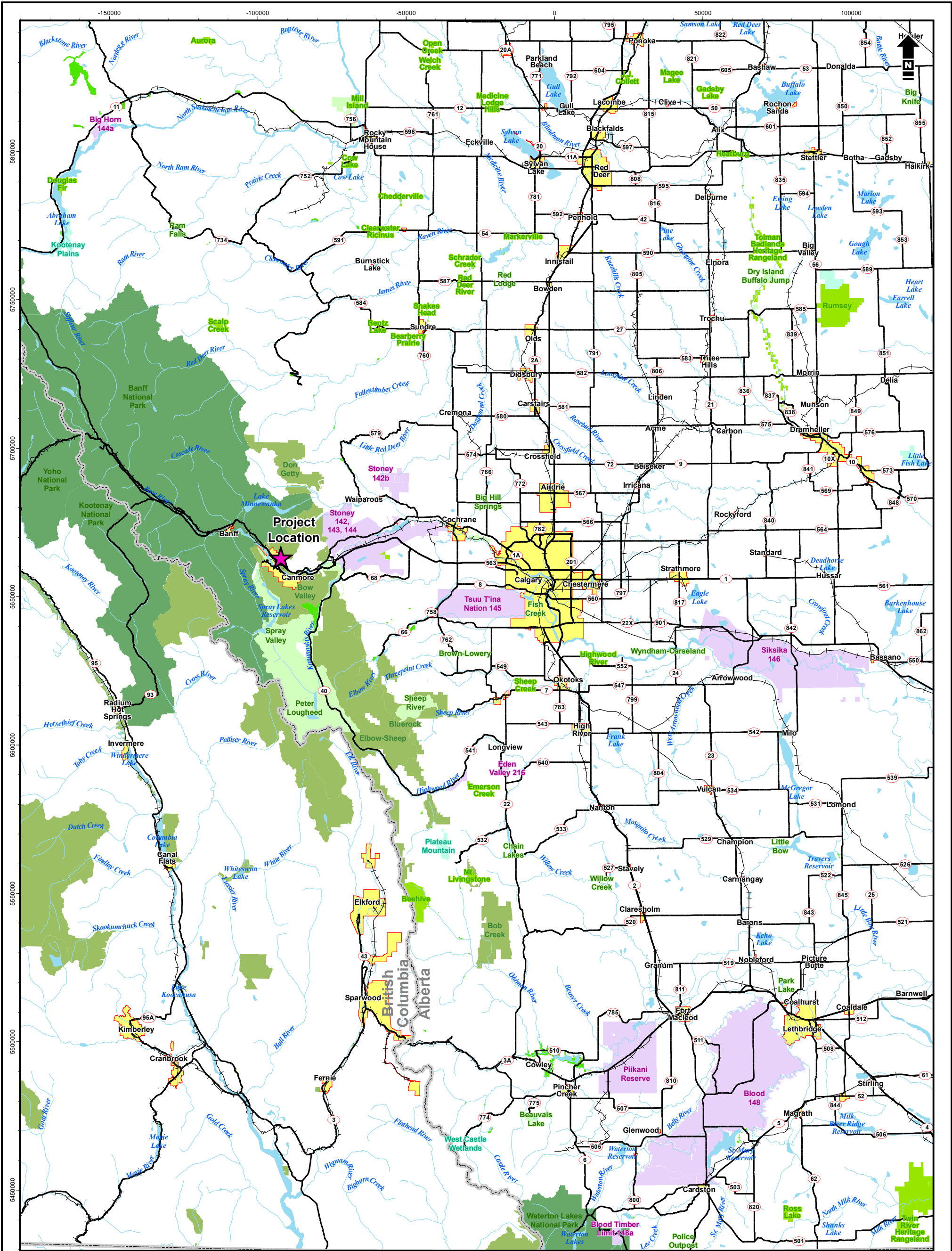
Date: 28 Sep 2015		Project: 20746-514	
Technical: I. Trimble	Reviewer: R. Harding	Drawn: C. Beaumont	

Disclaimer: Prepared solely for the use of the Town of Canmore as specified in the accompanying report. No representation of any kind is made to other parties with which the Town of Canmore has not entered into contract.

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I:\Town\Canmore\2014\Figures\And Tables\EA\3015\ThePart\ACO\Figure 1-Town of Canmore Debris Flood Retention Structure Location.mxd





- Community
- Provincial Park
- Protected Area
- Provincial Recreation Area
- Natural Area
- Ecological Reserve
- National Park
- Indian Reserve
- Provincial Boundary
- Water Body
- Watercourse
- Highway
- Railway
- Project Location



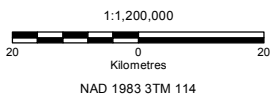
Cougar Creek Debris Flood Retention Structure

**Project Location**

Date: 20 Aug 2015 Project: 20746-514 Technical: J. Trimble Reviewer: R. Harding Drawn: C. Beaumont

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Figure 2



NAD 1983 3TM 114

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Reference: Data obtained from Atlas LIS © Government of Alberta and GeoGratis © Department of Natural Resources Canada (all rights reserved) used under license. GDM transportation infrastructure data provided by IHS © 2015 used under license.

**Figure 3 Town of Canmore Debris Flood Retention Structure Rendering**



**Upstream View of Preliminary Design**

<b>Project Summary Table</b>			
Proponent Name:	Town of Canmore	Date:	Original Submission: January 27, 2015 Updated: September 28, 2015
Project Name:	Cougar Creek Debris Flood Retention Structure	Company Contact Name and Information:	Felix Camire Project Engineer Town of Canmore 902-7 <sup>th</sup> Avenue Canmore, AB T1W 3K1 <a href="mailto:fcamire@canmore.ca">fcamire@canmore.ca</a> O: 403-678-1512 F: 403-618-1534
Name of Company that will hold Approval:	Town of Canmore	Company Website:	www.canmore.ca
Type of Project (e.g., in- situ, mine, quarry, upgrader, etc.):	Structure greater than 15m for flood control and sediment retention.	New Project, Expansion, Additional Phase or Modification:	New project
Projected Construction Start (Month/Year):	02/2017	Projected Operation Start (Month/Year):	09/2019
Life of Project (# years, YYYY – YYYY):	2019-indefinite Permanent Installation	Project Location (Legal Land Description and Longitude/Latitude) and Municipality:	NW 34-24-10-5 51° 05' N, 115° 19' W Town of Canmore
Total Project Area (ha):	Approximately 7.3 ha	Private, Federal or Provincial Land:	Provincial Wildland Park (area to be re-classified to Provincial Park pending approval of the EIA)
Nearest Residence(s) (km):	Nearest residences are 1 km away, not in the impoundment zone.	Types of Activity (major project processes, components including capacity/size, if available):	Temporary water retention structure, with a capacity of impoundment of 650,000 cubic meters.
Nearest First Nation Reserve(s) and Métis Settlements (name and km):	Stoney Nation, 20km	Project Products:	N/A
Power Source (if on site power generation describe quantity (MW) and facilities):	N/A	Method of Product Transport (e.g., pipeline, rail, truck, etc.):	N/A
Average Production Capacity per Year (specify units):	N/A	Infrastructure Requirements (e.g., roads, pipelines, water intake, storage, tankage, etc.):	Access road on the west bank of channel, diversion works for construction
Location of End Market:	N/A	Expected Types of Air Emissions (e.g., SO <sub>2</sub> , NO <sub>x</sub> , CO <sub>2</sub> , etc.):	Minor dust during construction, None during operation

Project By-Products:	N/A	Types of Wastes Generated:	Minor construction waste during construction, none during operation. Accumulation of debris post flooding that will need to be removed every few years.
Expected Types of Effluent Releases (note the water bodies the effluent will be released to):	None	Nearest Waterway/Waterbody (name and km):	Within Cougar Creek, flowing into the Bow River approximately 2.5km downstream.
Waste Management Facilities (i.e., Disposal Well, Salt Caverns, Landfill, or Third-Party):	None necessary, construction waste will be disposed at Francis Cook Regional Landfill, 15km east of project site	EPEA Approval Required (Y/N/Unknown):	Yes
Watercourse Crossings (type of crossing, any Class A to C waterbodies):	N/A	Water Act Licence Required (Y/N/Unknown. If yes, purpose, source and estimated volumes):	Yes
Regulatory Board(s) (ERCB/NRCB/AUC):	NRBC	Waterbodies Required (Y/N/Unknown/NA. If yes, # and ha):	None
Water Act Approval Required (Y/N/Unknown. If yes, purpose):	Yes	Will any of the components or activities associated with the project affect fish and/or fish habitat? (Y/N):	No, Cougar Creek is not fish bearing.
Identify applicable sections in the Schedule to the Federal Comprehensive Study List Regulations: (Y/N/Unknown):	No	Identify applicable federal legislative or regulatory requirements referred to in the Law List Regulations (i.e., permits, licenses, authorizations):	None
Are any works or undertakings proposed to take place in, on, over, under, through or across a navigable water? (Y/N):	No	Nearest Water Well (km) (Domestic and Commercial):	Nearest well is located 2km away from project in a westerly direction. Cougar Creek flows in a southerly direction.
Nearest Provincial Highway (# and distance):	Trans-Canada Hwy and Highway 1A (1.5km away)	Access Improvements to Provincial Highway:	None
Traffic Impact Assessment Required (Yes/No/Unknown):	No	Total Area to be Disturbed (ha):	Currently estimated at 7.3 ha
Identify Existing Land and Water Use(s), Resource Management, or Conservation Plans Within or Near the Project site:	Residential and Wildland Park uses.	Post-reclamation Land Use(s):	The infrastructure is permanent so only construction disturbance will be reclaimed as per AEP direction.

Decommissioning Start and End (YYYY-YYYY):	No Decommissioning	Reclamation Start and End (YYYY - YYYY):	2018-2019
Unique Environmental or Social Considerations (Describe or None):	Infrastructure to be built in a Provincial Wildland Park. Alberta Parks has been engaged for over a year.	Historic Resources Impact Assessment Required (Y/N/Unknown):	Yes
Estimated Construction Person-Years of Employment:	100	Estimated Operation Persons-Years of Employment:	1 part-time person, continuous.
Construction or Operation Camp Required (Y/N/Unknown. If yes, on-site or off-site):	No	Method of Transport of Employees to Site (Construction and Operation):	Pick-up trucks during construction, individual vehicle during operation.
Will the project involve the manufacture and storage of explosives (Y/N):	No	Is there any federal authority that is, or may be, providing financial support to the Project (Y/N. If yes, identify the federal authority):	No
Date Stakeholder Engagement Started (Public/Aboriginal):	Stakeholder (Alberta Transportation, CPR, Alberta Environment and Parks) engagement has been ongoing since June 2014.	Aboriginal Groups Involved in Stakeholder Engagement:	Aboriginal engagement not yet started. Anticipated to begin in Q4 2015.
Public Groups involved in Stakeholder Engagement:	Public engagement started in early October 2014.		

## Glossary of Terms

Alluvial Fan	A fan or triangle shaped deposit of gravel, sand or sediment that forms at the mouth of a mountain stream.
Debris Flood	A flood event that contains up to 20% solids that is triggered by excessive bank erosion, debris entrainment or landslide dam outbreak events.
Return Period	An estimate of the likelihood of an event occurrence (e.g., earthquake, flood or river discharge flow).
Spillway	A structure used for controlled release of water from a dam or retention structure to prevent damage to the structure during high water events.