



PARAGRAPH 35(2)(b) *FISHERIES ACT* AUTHORIZATION

Authorization issued to

Town of Cochrane
Attention to: Ray Predika
101 RancheHouse Road
Cochrane, Alberta
T4C 2K8

Location of Proposed Project

From the Town of Cochrane, take Griffin Road SE to the project site.

Nearest community (city, town, village): Cochrane

Province: Alberta

Name of watercourse, waterbody: Bow River

Longitude and latitude, UTM Coordinates: 11N 678490E 5672412N

Description of Proposed Project

The proposed project of which the work, undertaking or activity authorized is a part involves:

Construction of a 3-span, 2-pier bridge that aims to provide a second crossing point between north and south Cochrane. Construction of the bridge will require placement of an in-stream berm to be used as a working platform. The berm will include two phases, with work sequencing as follows:

- Placement of a 2,358 m² berm on the west side of the river that will remain in place for 8.5 months;
- Installation of the east bridge pier;
- Removal of 889 m² of the berm, leaving 1,469 m² in place for an additional 4.5 months;
- Installation of the west bridge pier and associated riprap (250 m²);
- Removal of the remainder of the berm.

Description of Authorized work(s), undertaking(s) or activity(ies) likely to result in serious harm to fish

The work(s), undertaking(s), or activity(ies) associated with the proposed project described above, that are likely to result in serious harm to fish, are:

- Installation and maintenance of an instream berm covering 1,469 m² – 2,358 m² for 13 months.

The serious harm to fish likely to result from the proposed work(s), undertaking(s), or activity(ies), and covered by this authorization includes

- The permanent alteration of up to 1,469 m² – 2,358 m² of fish habitat for a period of time that spans normal life history processes for resident fish species.

- Permanent alteration of habitat due to effect on hydraulics in 1,900 m² of the channel adjacent to the berm that will result in reduced functionality for the carrying on of normal life history processes for resident fish species.

Conditions of Authorization

The above described work, undertaking or activity that is likely to result in serious harm to fish must be carried on in accordance with the following conditions.

1. Conditions that relate to the period during which the work, undertaking or activity that will result in serious harm to fish can be carried on

The work, undertaking or activity that results in serious harm to fish is authorized to be carried on during the following period:

From: Date of Issuance To: September 30th, 2019

If the Proponent cannot complete the work, undertaking or activity during this period, Fisheries and Oceans Canada (DFO) must be notified in advance of the expiration of the above time period. DFO may, where appropriate, provide written notice that the period to carry on the work, undertaking or activity has been extended.

The periods during which other conditions of this authorization must be complied with are provided in their respective sections below. DFO may, where appropriate, provide written notice that these periods have been extended, in order to correspond to the extension of the period to carry on a work, undertaking, or activity.

2. Conditions that relate to measures and standards to avoid and mitigate serious harm to fish

2.1 Sediment and erosion control:

- 2.1.1 On-shore erosion and sediment control measures must be in place and shall be upgraded and maintained, such that release of sediment is avoided at the location of the authorized work, undertaking, or activity.
- 2.1.2 Effective on-shore erosion and sediment control measures shall be in place prior to, during, and after construction and until revegetation or other mitigation measures are sufficient to control erosion.
- 2.1.3 Total suspended sediment and turbidity monitoring shall adhere to the plan outlined in Application for Authorization supporting documentation (Appendix C of "2018 Aquatic Effects Assessment – James Walker Trail Bridge – Bow River, Cochrane SW ¼ 35-025-04 W5M" dated February 2018 by Matrix Solutions Inc).
- 2.1.4 All riprap shall:
 - 2.1.4.1 Be clean and free of fine materials and debris prior to placement and of sufficient size to resist displacement during design flood events; and,
 - 2.1.4.2 Not be obtained from areas below the ordinary high water mark of any fish- frequented waters.
- 2.1.5 Should the need for dewatering arise, water shall be released into a well-vegetated area or settling basin and not directly into fish- frequented waters. Water returning to fish-frequented waters shall be of equal or better quality than the water in the fish-frequented waters.

- 2.1.6 All spoil materials and debris shall be disposed of above the high water mark (HWM) such that it does not enter the watercourse. Any materials stored above the HWM shall be stabilized until properly disposed of.
- 2.1.7 Work that could result in sedimentation shall stop during periods of heavy or persistent rainfall.
- 2.2 List of measures and standards to avoid and mitigate serious harm to fish:
 - 2.2.1 Berm size, location, and timing of construction, alteration, and removal shall adhere to plan outlined in Application for Authorization and supporting documents. Any updates to these plans shall be reviewed and approved by DFO.
 - 2.2.2 In-water activity shall be timed to respect the restricted timing window of September 16 to April 15 of any year to protect spawning fish, their incubating eggs and the larval stages of fish. If work inside the restricted timing window is necessary, a qualified environmental professional for aquatic assessment shall be consulted and appropriate mitigation developed in consultation with DFO and the provincial fisheries management agency.
 - 2.2.3 Any natural structure that contributes to fish habitat before construction, including but not limited to; woody debris, root wads, and large boulders, shall be stockpiled and replaced as close to their original positions as possible after construction.
 - 2.2.4 The footprint of the berm shall be reduced in size after approximately 8.5 months from 2,358 m² to 1,469 m².
 - 2.2.5 For each phase of the berm, the footprint of the berm shall not exceed an area greater than 5% of the design area without prior notification to and approval by DFO.
 - 2.2.6 Stockpiles of berm material shall be placed on a clean surface, free of soils and debris to avoid contaminating clean material. Berm material shall be washed onsite if necessary, to ensure that it is free of fine material before placement instream.
 - 2.2.7 Each time berm material placement or removal occurs, the activity shall begin slowly in a manner that maximizes the ability of fish to leave the area.
 - 2.2.8 Placement and removal of berm material shall be performed in a manner that minimizes disturbance of sediment. Berm material shall be removed from the downstream side of the berm first, to maximize settling out of sediment.
 - 2.2.9 Placement or removal of either phase of the berm shall not exceed a 3 week in-water work period without prior notification to and approval by DFO.
 - 2.2.10 Pre-construction water depths within the berm footprint will be restored after the berm is removed.
- 2.3 Project managers shall seek and incorporate information provided by the operators of the upstream Ghost Dam in berm stability assessments.
- 2.4 Disturbed areas associated with the construction site shall be revegetated as soon as possible with native vegetation. Any areas to be protected shall be clearly delineated to prevent accidental encroachment.
- 2.5 Equipment shall arrive on site in a clean condition and be maintained free of fluid leaks, invasive species and noxious weeds. Alberta Environment and Parks' Interim Guidelines for the Disinfection of Fisheries Equipment to Reduce the Spread of Whirling Disease in Southern Alberta shall be followed.
- 2.6 Equipment operating in or near fish-frequented waters shall be operated, refuelled and serviced in a manner that prevents spills, leaks or wash water from entering fish-frequented waters.
- 2.7 A response plan shall be in place in the event of a sediment release or spill of a deleterious substance. A spill kit and spill containment provisions shall be kept on site at all times. Appropriate

- personnel at the worksite shall be familiar with the location and use of the spill kit and spill response plan.
- 2.8 Areas used for stockpiling construction materials or other equipment storage shall be above the average annual high water level and if possible, in areas which have already been disturbed or are devoid of vegetation.
 - 2.9 The following contingency measures shall be put in place if monitoring required in condition 3 below indicates that the measures and standards to avoid and mitigate serious harm to fish are not successful:
 - 2.9.1.1 On-shore erosion and sediment control measures shall be upgraded and maintained, such that release of sediment is avoided at the location of the authorized work, undertaking, or activity.
 - 2.9.1.2 Placement of additional armouring material shall occur if it is deemed that berm materials cannot withstand river flow velocities.
 - 2.9.1.3 The berm shall be increased in height if it is predicted that water or ice may overtop the berm.
 - 2.9.1.4 Work shall be stopped if total suspended solid and turbidity thresholds identified in 2.1.3 are reached.
 - 2.10 Dates by which these measures and standards shall be implemented: Measures and standards to avoid and mitigate serious harm to fish shall be implemented before, during, and following in-water work.
 3. **Conditions that relate to monitoring and reporting of measures and standards to avoid and mitigate serious harm to fish**
 - 3.1 Monitoring of avoidance and mitigation measures: The Proponent shall monitor the implementation of avoidance and mitigation measures referred to in section 2 of this authorization and report to DFO by September 30th, 2018; June 30th, 2019; and October 31st, 2019, and indicate whether the measures and standards to avoid and mitigate serious harm to fish were conducted according to the conditions of this authorization. This shall be done, by:
 - 3.1.1 Demonstration of effective implementation and functioning: Providing dated photographs and inspection reports to demonstrate effective implementation and functioning of mitigation measures and standards described above to limit the serious harm to fish to what is covered by this authorization.
 - 3.1.2 Contingency measures: Providing details of any contingency measures that were followed, to prevent impacts greater than those covered by this authorization in the event that mitigation measures did not function as described.
 4. **Conditions that relate to the offsetting of the serious harm to fish likely to result from the authorized work, undertaking or activity**
 - 4.1 Letter of credit: DFO may draw upon funds available to DFO as the beneficiary of the letter of credit, valued at \$200,000, provided to DFO as part of the application for this authorization, to cover the costs of implementing the offsetting measures required to be implemented under this authorization, including the associated monitoring and reporting measures included in section 5, in instances where the Proponent fails to implement these required measures.
 - 4.2 Scale and description of offsetting measures: A side channel approximately 7,800 m² that currently exists 225 m downstream from the project site will be re-graded to increase connectivity during low flow conditions from the upstream inlet through to the downstream outlet with the Bow River. Fish habitat enhancement features will also be installed. This work shall be completed according to the

plans and design drawings included in the technical memorandum with subject "James Walker Trail Bridge DFO Offsetting – Side Channel Grading for Surface Connectivity – Bow River, Cochrane SW ¼ 35-025-04 W5M; DFO File No. 18 HCAA 00146" dated July 20th and authored by Matrix Environmental Solutions Inc., hereafter referred to as the Offsetting Plan.

- 4.3 Offsetting criteria to assess the implementation and effectiveness of the offsetting measures:
 - 4.3.1 An increase in surface water connectivity with the main stem of the Bow River during low flow conditions from the upstream inlet through to the downstream outlet of the side channel shall be achieved.
 - 4.3.2 Offsetting measures shall be carried out prior to November 30th, 2019.
- 4.4 Contingency measures: If the results of monitoring as required in condition 5 indicate that the offsetting measures are not completed by the date specified and/or are not functioning according to the above criteria in 4.3, the Proponent shall give written notice to DFO and shall implement the contingency measures and associated monitoring measures outlined in the Offsetting Plan.
 - 4.4.1 In the event that contingency measures are required and an adaptive management approach is adopted, details shall be reviewed and approved in writing by DFO prior to implementation.
- 4.5 The Proponent shall not carry on any work, undertaking or activity that will adversely disturb or impact the offsetting measures.
- 4.6 Other conditions related to offsetting: Any alterations to the plans identified in 4.2 shall be reviewed and approved in writing by DFO before implementation.
5. **Conditions that relate to monitoring and reporting of implementation of offsetting measures (described above in section 4):**
 - 5.1 Schedule(s) and criteria: The Proponent shall conduct monitoring of the implementation of offsetting measures according to the design criteria outlined in the Offsetting Plan.
 - 5.1.1 Detailed success criteria relating to fish and fish habitat metrics to support monitoring objectives shall be submitted to DFO as an update to Version 1.0 of the Offsetting Plan by no later than July 1st, 2019.
 - 5.2 The Proponent shall report to DFO on whether the offsetting measures were conducted according to the final approved version of the Offsetting Plan in two reports, to be submitted no later than **November 30th of 2020 and 2021**.
 - 5.3 Other monitoring and reporting conditions for offsetting: A post-construction monitoring report indicating successful implementation of mitigation and avoidance measures and detailing any contingency measures required for successful avoidance and mitigation and offsetting shall be submitted to DFO no later than **December 31st, 2019**.

Authorization Limitations and Application Conditions

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

The holder of this authorization is hereby authorized under the authority of Paragraph 35(2)(b) of the *Fisheries Act*, R.S.C., 1985, c.F. 14 to carry on the work(s), undertaking(s) and/or activity(ies) that are likely to result in serious harm to fish as described herein. This authorization does not purport to release the applicant from any obligation to obtain permission from or to comply with the requirements of any other regulatory agencies.

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

This authorization does not permit the killing, harming, harassment, capture or taking of individuals of any aquatic species listed under the *Species at Risk Act* (SARA) (s. 32 of the SARA), or the damage or destruction of residence of individuals of such species (s. 33 of the SARA) or the destruction of the critical habitat of any such species (s. 58 of the SARA).

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

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

This authorization must be held on site and work crews must be made familiar with the conditions attached.

This authorization cannot be transferred or assigned to another party. If the work(s), undertaking(s) or activity(ies) authorized to be conducted pursuant to this authorization are expected to be sold or transferred, or other circumstances arise that are expected to result in a new Proponent taking over the work(s), undertaking(s) or activity(ies), the Proponent named in this authorization shall advise DFO in advance.

Date of Issuance: AUG 17 2018

Approved by: 

Scott Gilbert

Regional Director General

Central and Arctic

Fisheries and Oceans Canada