

VIA ELECTRONIC SUBMISSION

August 18, 2020

Canada Energy Regulator
Suite 210, 517 Tenth Avenue S.W.
Calgary, Alberta T2R 0A8

To: M. Jean-Denis Charlebois Secretary of the Commission

Dear M. Charlebois,

**Re: Trans Mountain Pipeline ULC (“Trans Mountain”)
Trans Mountain Expansion Project (“Project”)
OC-065
Condition 110: Authorizations under the Fisheries Act and Species at Risk permits
CER File: OF-Fac-Oil-T260-2013-03 61**

In accordance with Condition 110 a) and b), Trans Mountain advises that the following Authorizations pursuant to s 35(2)(b) of the *Fisheries Act* have been received from Department of Fisheries and Oceans for pipeline construction in Spreads 3 and 7, respectively:

Swift Creek BC-32 (Spread 3) – reference to C 110 a)
20-HPAC-00149 (C 110 a)**Brunette River** BC-783a2 and BC-783a4 (Spread 7) – reference to C 110 b)
19-HPAC-00570 – SARA- Compliant Fisheries Authorization

Copies of the permits are attached and filed with the CER in compliance with Condition 110 a) and b).

Should you have any questions or wish to discuss this matter further, please contact the undersigned at regulatory@transmountain.com or (403) 514-6400.

Yours truly,

*Original signed by*Scott Stoness
Vice President, Regulatory and Compliance
Trans Mountain Canada Inc.Enclosure
DFO Authorizations 20-HPAC-00149 and 19-HPAC-00570



PARAGRAPH 35(2)(b) FISHERIES ACT AUTHORIZATION ALSO ACTING AS A PERMIT UNDER THE SPECIES AT RISK ACT

Authorization issued to

Trans Mountain Pipeline ULC (*hereafter referred to as the "Proponent"*)

Attention to: Scott Stoness, VP, Regulatory and Compliance

Trans Mountain Pipeline ULC
300 – 5 Avenue SW., Suite 2700,
Calgary, AB T2P 5J2 Canada

Location of Proposed Project

Nearest community (city, town, village): New Westminster
Province: British Columbia (BC)
Name of watercourse, waterbody: Brunette River
Longitude and latitude, UTM Coordinates: 10 U 508629 E 5453581 N

Description of Proposed Project

The proposed project described herein involves clearing vegetation along the north bank of the Brunette River east of the Brunette Avenue Interchange in New Westminster, BC, designated as riparian critical habitat for the Nooksack dace (*Rhinichthys cataractae*), which is listed as Endangered under Schedule 1 of the *Species At Risk Act*. Vegetation clearing is required to accommodate temporary workspaces for construction of a trenchless pipeline crossing that extends under two tributaries to the Brunette River (Keswick Park Creek and Unnamed Channel). The proposed project is part of the larger Trans Mountain Expansion (TMX) Project.

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

- Land-based site preparation activities including clearing of riparian vegetation designated as Nooksack dace riparian critical habitat to accommodate two temporary workspaces ('eastern workspace' and 'western workspace');
- Construction of an access road;
- Excavation of bore entry and exit points and stockpiling of material;
- Completion of one trenchless auger bore crossing that extends underneath two tributaries to the Brunette River;
- Backfilling of excavated areas following pipeline tie-ins;
- Restoring and replanting of cleared areas following completion of construction; and
- Incidental capture, handling and relocation of Nooksack dace individuals during fish salvage activities for the purpose of constructing the offsetting works.

Description of Authorized work, undertaking or activity likely to result in serious harm to fish:

The work, undertaking or activity associated with the proposed project described above, that is likely to result in serious harm to fish, is:

- Clearing of riparian vegetation designated as Nooksack dace riparian critical habitat to accommodate two temporary workspaces ('eastern workspace' and 'western workspace').

Description of the Authorized work, undertaking or activity likely to result in prohibited impacts to Nooksack dace and their critical habitat:

The activity associated with the proposed project described above, that is likely to result in prohibited impacts to Nooksack dace and their critical habitat, is:

- Clearing of riparian vegetation located within designated Nooksack dace riparian critical habitat, to accommodate two temporary workspaces ('eastern workspace' and 'western workspace'); and
- Incidental capture, handling and relocation of Nooksack dace individuals for the purpose of fish salvage prior to construction or recommencement of construction of offsetting works.

The serious harm to fish likely to result from the proposed work, undertaking, or activity, and covered by this authorization is:

- Destruction of 970 m² ('eastern workspace') and 19 m² ('western workspace') of riparian critical habitat for the Endangered Nooksack dace.

The prohibited impacts to Nooksack dace and their critical habitat likely to result from the proposed works, undertakings, or activities and covered by this authorization are:

- Destruction of 970 m² ('eastern workspace') and 19 m² ('western workspace') of riparian critical habitat for the Endangered Nooksack dace.
- Incidental capture, handling and relocation of Nooksack dace individuals for the purpose of fish salvage prior to construction or recommencement of construction of offsetting works.

Death of fish is not authorized here-in.

Conditions of Authorization

The above described work, undertaking or activity must be carried on in accordance with the following conditions.

1. Conditions that relate to the period during which the work, undertaking or activity can be carried on

The work, undertaking or activity is authorized to be carried on during the following period:

From October 1, 2020 to June 30, 2021

If the Proponent cannot complete the work, undertaking or activity during this period, the Proponent must notify Fisheries and Oceans Canada (DFO) 20 days in advance of the expiration of the above time period.

The periods during which other conditions of this authorization must be complied with are provided in their respective sections below. The Proponent must notify DFO 30 days in advance of any relevant expiration dates if a given condition cannot be met within the set timeframe.

- 2. Conditions that relate to measures and standards to avoid and mitigate impacts to fish and fish habitat, including impacts to Nooksack dace critical habitat**
- 2.1 The Proponent shall ensure that the location and design of the work, undertaking or activity is consistent with the information included in the document titled, “Application for Paragraph 35(2)(b) *SARA-Compliant Fisheries Act* Authorization for the Brunette River” (revised on October 7, 2019), and referred to hereafter as ‘the Application’), or as agreed upon in consultation with DFO.
- 2.2 The Proponent shall implement the following measures and standards to avoid and mitigate impacts to fish and fish habitat:
- 2.2.1 A minimum 15 m buffer of existing riparian vegetation located directly adjacent to the instream critical habitat of the Brunette River will be left undisturbed. The boundary of the riparian vegetation buffer will be marked with signage to ensure that the area remains undisturbed.
- 2.2.2 Effective sediment and erosion control measures (e.g., silt fencing and sheet pile shoring) must be in place prior to the start of construction, and shall be upgraded and maintained throughout the duration of construction, such that the release of sediment into any fish-bearing watercourse is avoided.
- 2.2.3 Water quality measurements to document turbidity and total suspended solids (TSS) in the Brunette River will be collected throughout the period of construction at an upstream control site, adjacent to construction, and from an appropriate number of representative sites downstream from construction. If levels of turbidity or total suspended solids exceed the Canadian Council of Ministers of Environment [CCME] Canadian Water Quality Guidelines for the Protection of Aquatic Life [CCME 2016], construction activities will be ceased immediately and corrective action will be taken if the source is from the authorized works, undertakings or activities.
- 2.2.4 All cleared areas will be re-seeded using native and non-invasive plant species and contoured to pre-construction conditions.
- 2.2.5 Riparian critical habitat that is disturbed as a result of construction activities will be replanted immediately following completion of construction activities using native and non-invasive plant species and the criteria for sites with a ‘high habitat function’ as identified in Section 5.2.5 of the “*Riparian Habitat Management Plan for the Trans Mountain Pipeline ULC Trans Mountain Expansion Project NEB Condition 71*”, dated May 2017 (hereafter referred to as ‘Riparian Habitat Management Plan’).
- 2.2.6 Temporary structures (e.g., sheet pile shoring, work pads, and road widening infrastructure) shall be decommissioned and removed when they are no longer being used for construction purposes.
- 2.3 If the monitoring measures required in Condition 3 indicate that the measures and standards to avoid and mitigate impacts to fish and fish habitat including impacts to Nooksack dace critical habitat are not effective, the Proponent must identify and implement contingency measures to avoid or limit impacts to fish and fish habitat including impacts to Nooksack dace critical habitat.
- 2.4 In the event that monitoring indicates that the contingency measures implemented are not effective at preventing prohibited impacts to fish and fish habitat beyond what is authorized, the Proponent must provide a report to DFO and the Indigenous Advisory and Monitoring Committee (IAMC; refer to Condition 3 for reporting requirements), which details the outstanding issues affecting fish and fish habitat including impacts to Nooksack dace critical habitat, reasons for failure of the measures implemented, and any potential alternate solutions to address outstanding issues.

3. Conditions that relate to monitoring and reporting of measures and standards to avoid and mitigate impacts to fish and fish habitat including impacts to Nooksack dace critical habitat

- 3.1 A Qualified Environmental Professional (QEP) must be on-site during the carrying on of the work, undertaking or activity, and shall monitor the work, undertaking or activity on an on-going basis to ensure that the standards and measures to avoid and mitigate impacts to fish and fish habitat including impacts to Nooksack dace critical habitat are effective, and that unauthorized impacts to fish and fish habitat are avoided.
- 3.2 An Indigenous Monitor, hired by the Proponent, must be present on-site to monitor the work, undertaking or activity on an on-going basis, and provide Indigenous Knowledge, as appropriate, to support the Proponent's carrying on of the work, undertaking or activity.
- 3.3 The Proponent shall monitor the implementation of avoidance and mitigation measures referred to in Condition 2 of this Authorization and submit monthly reports to DFO for the duration of the work, undertaking or activity. The construction monitoring reports must indicate whether the measures and standards to avoid and mitigate impacts to fish and fish habitat including impacts to Nooksack dace critical habitat were conducted according to the conditions of this Authorization. This shall be done, by providing:
 - 3.3.1 A concise summary of the work, undertaking or activity carried out during that reporting period.
 - 3.3.2 Commentary on the work, undertaking or activity, and the work area from an environmental perspective (e.g., wildlife observations including fish in the Brunette River, weather conditions, water quality measurements, including any measured exceedances of the CCME guidelines).
 - 3.3.3 Dated photographs and inspection reports to demonstrate whether the mitigation measures and standards described in Condition 2 are effectively being implemented and functioning as intended.
 - 3.3.4 Photographic documentation and a succinct summary of any environmental issues (e.g., potential non-compliance events) or impacts that arose or occurred in relation to fish and fish habitat, including impacts to Nooksack dace critical habitat, and details of any contingency measures that were taken to prevent impacts greater than those covered by this Authorization in the event that mitigation measures did not function as intended.
 - 3.3.5 A summary of compliance with relevant Environmental Protection Plans (EPPs) pertaining to fish and fish habitat including impacts to Nooksack dace critical habitat.
 - 3.3.6 A description of any contingency measures implemented as per Condition 2.3 and an evaluation of their effectiveness to avoid or limit impacts to fish and fish habitat including impacts to Nooksack dace critical habitat.
 - 3.3.7 A table summarizing unforeseen issues with respect to fish and fish habitat including impacts to Nooksack dace critical habitat that remain outstanding and must be addressed (i.e., those without on-the-spot solutions or those requiring follow-up to ensure corrective measures are being taken), proposed or planned mitigation measures, priority, and anticipated dates of implementation and/or completion.
- 3.4 The Proponent shall provide a post-construction monitoring report to DFO within 90 days of completion of the work, undertaking or activity and indicate whether the work, undertaking or activity was conducted according to the conditions of this Authorization by providing 'as-built' drawings, dated photographs, and a summary of the completed work, undertaking or activity (including any issues that arose pertaining to fish and fish habitat in relation to Nooksack dace critical habitat, and how these issues were addressed).
- 3.5 Following replanting of disturbed areas located within riparian critical habitat post-construction, the Proponent will monitor the effectiveness of riparian replanting for five (5) years using the sampling methods described in Section 6.0 of the Riparian Habitat Management Plan. Monitoring must occur on an annual basis during the peak growing season and planted vegetation must achieve greater than 90% survival (for shrubs) and 100% survival (for trees) for each monitoring year. Invasive plant

species observed within replanted areas within riparian critical habitat must be removed during each monitoring event. On or before December 31 following each monitoring event, the Proponent will submit a monitoring report to DFO that includes:

- 3.5.1 A description of the replanted riparian habitat (e.g., plant species, density, survival rates, evidence of disease or grazing, presence and removal of invasive plant species);
 - 3.5.2 Monitoring methods and results;
 - 3.5.3 Dated photographs to demonstrate the current status of the replanted habitat; and
 - 3.5.4 Corrective measures taken to address any deficiencies and future corrective action plans and monitoring schedules.
- 3.6 If monitoring indicates that the work, undertaking or activity will result or is resulting in unauthorized prohibited impacts, the Proponent has a duty to notify DFO immediately. The Proponent will report any unauthorized prohibited impacts to DFO's Observe, Record, and Report line (1-800-465-4336).
- 3.7 All monitoring reports are to be submitted to ReferralsPacific@dfo-mpo.gc.ca, referencing DFO file: **19-HPAC-00570**.

4. Conditions that relate to offsetting

- 4.1 In order to offset prohibited impacts to fish and fish habitat including impacts to Nooksack dace critical habitat and/or the residences of their individuals resulting from the work, undertaking or activity authorized herein, the Proponent shall create a total of **1,020 m²** of Nooksack dace instream riffle habitat at three sites in the Brunette River. The Proponent will also install a series of large woody debris structures (log/root wads) at each site to enhance habitat complexity. The offsetting measures will be implemented as described in the Proponent's Offsetting Plan (Section 6.0 of the Application), and in accordance with the specifications included in Schedule A (Figures 1-4) of this Authorization. The implementation of all fish and fish habitat offsetting measures shall be completed by **September 30, 2021**.
- 4.2 The Offsetting habitat shall be constructed between August 15, 2021 and September 30, 2021 so as to avoid the spawning and incubation period of the Nooksack dace.
- 4.3 Effective sediment and erosion control measures (e.g., silt fencing) must be in place prior to the start of construction of the offsetting measures, and shall be upgraded and maintained throughout the duration of construction, such that the release of sediment into the Brunette River is avoided.
- 4.4 During construction of the offsetting measures, work areas will be isolated from flowing water, but the downstream flow of the watercourse will be maintained at all times. If adult migrating salmon are found holding downstream of the isolated work area, these fish will be captured and released to an area of the Brunette River upstream of the work site.
- 4.5 Water intakes of any pumps shall be designed and screened in accordance with the *Interim Code of Practice: End-of-pipe fish protection screens for small water intakes in freshwater*.
- 4.6 Prior to the commencement or recommencement of construction of the offsetting, fish salvage will be conducted so as to avoid and minimize adverse impacts to fish including avoiding impacts to Nooksack dace and migrating adult salmon. Salvaged fish will be released at a suitable location outside of the work area and within the Brunette River.
- 4.7 Capture and handling of Nooksack dace will be conducted between August 15, 2021 and September 30, 2021 by or under the direct supervision of an individual who is qualified to capture and release Nooksack dace individuals.
- 4.8 Activities shall be conducted in a manner whereby any individuals of the Nooksack dace shall be handled only in the circumstance authorized under this permit and with the least amount of harm.
- 4.9 Salvage activities should be conducted in accordance with the applicable guidance provided in the *Guidelines for the Capture, Handling, Scientific Study, and Salvage of the Nooksack Dace (Rhinichthys cataractae)*, Pearson (2015).
- 4.10 The holder of this Authorization is responsible for ensuring field crews have sufficient training and materials to properly implement the best practices and procedures outlined in Pearson (2015).

- 4.11 Electrofishing shall only be used to salvage Nooksack dace if other sampling methods prove unsuccessful. It shall only be undertaken by an experienced individual who possesses a valid Electrofishing Certification, while under supervision of an individual who is qualified to capture and release Nooksack dace individuals.
- 4.12 If site isolation methods used to prevent fish from entering the work areas are breached during construction of the offsetting habitat, works will stop and will not re-commence until site isolation is re-established and additional fish salvages are undertaken to ensure fish are not within the work area.
- 4.13 Killing of Nooksack dace individuals is not authorized. If accidental mortality of Nooksack dace individuals occurs, it shall be reported to DFO at Referrals.Pacific@dfo-mpo.gc.ca and to the DFO's Observe, Record, and Report line (1-800-465-4336). To prevent further mortality, assessment of the cause of mortality shall be investigated and contingency measures implemented prior to continuing fish salvage.
- 4.14 Water quality measurements to document turbidity and total suspended solids (TSS) in the Brunette River will be collected throughout the period of construction of the offsets at an upstream control site, at the construction site, and from an appropriate number of representative sites downstream from construction. If levels of turbidity or total suspended solids exceed the Canadian Council of Ministers of Environment [CCME] Canadian Water Quality Guidelines for the Protection of Aquatic Life [CCME 2016], construction activities will be ceased immediately and corrective action will be taken.
- 4.15 In the event that the Proponent fails to implement the Offsetting Plan, DFO may draw upon funds set aside by the Proponent through the irrevocable standby letter of credit (No. S101117, issued by The Toronto Dominion Bank), to cover the costs of implementing and maintaining the proposed offsetting, including the associated monitoring measures included in Condition 5 of this Authorization.
- 4.16 If during any reporting period identified in Condition 5.2, monitoring of the effectiveness of offsetting measures indicates that the offsetting measures are deficient and/or unlikely to function as intended, the Proponent shall undertake remedial measures at the earliest time feasible to correct any deficiencies in the offsetting measures, and ensure impacts to fish and fish habitat are mitigated or avoided.
- 4.17 If the results of monitoring as required in Condition 5 indicate that the offsetting measures are not completed by the date specified or are not functioning as intended, the Proponent shall give written notice to DFO and shall implement the contingency measures and associated monitoring measures identified within the Offsetting Plan. The Proponent shall meet the following requirements:
- 4.17.1 The Proponent will determine the reason for failure(s) and develop and implement a contingency Offsetting Plan to address the failure(s) within one calendar year to bring offsetting measures to a level agreed upon in consultation with DFO.
- 4.17.2 The contingency plan(s) (including any associated monitoring measures) to address deficiencies in offsetting measures shall be submitted to DFO, and the IAMC as defined in Condition 6.1, for review, and approval by DFO at least 120 days prior to implementation of the contingency plan(s).
- 4.17.3 Following implementation of the contingency plan(s), the Proponent will monitor the contingency offsetting measures constructed and/or implemented in accordance with standards stated in Condition 5 below.
- 4.18 The Proponent shall not carry on any work, undertaking or activity that will adversely impact the offsetting measures.
- 5. Conditions that relate to monitoring and reporting of implementation of offsetting measures (described in section 4):**
- 5.1 The Proponent shall undertake monitoring and report to DFO on whether the offsetting measures were implemented according to the conditions of this Authorization by submitting a post-construction monitoring report to DFO within 90 days of completion of construction of the offsetting measures. The post-construction monitoring report must include:

- 5.1.1 As-built drawings of the completed offsetting measures;
 - 5.1.2 A summary of the condition of the offsetting measures;
 - 5.1.3 Dated photographs of the completed offsetting measures;
 - 5.1.4 A tally of any salvaged fish including information on species, size, date and location of capture and release, and any incidental mortality observed. For Nooksack dace, additional information on the capture location (UTM coordinates) and fork lengths (nearest mm) of all Nooksack dace captured during fish salvage activities;
 - 5.1.5 Confirmation that mitigation measures and standards to avoid and mitigate impacts on Nooksack dace were implemented during construction of the offsetting as identified in this Authorization;
 - 5.1.6 A summary of the effectiveness of mitigation measures and standards implemented during the construction of the offsetting measures, as identified in this Authorization (Condition 4.2 to Condition 4.14) and referred to in Section 6.1 of the Application; and
 - 5.1.7 Details of any unanticipated adverse impacts and contingency measures that were followed to prevent impacts to Nooksack dace not authorized under this Authorization.
- 5.2 The Proponent shall undertake five (5) consecutive years of habitat effectiveness monitoring following the construction of the offsetting measures and submit annual effectiveness monitoring reports to DFO to document changes in the effectiveness and functioning of the offsetting measures. Each report must include:
- 5.2.1 Geo-referenced photographs of the offsetting measures;
 - 5.2.2 An assessment of the apparent effectiveness or success of the offsetting measures considering utilization of the offsetting measures by Nooksack dace, relative abundance of Nooksack dace and other fishes, and physical stability of the offsetting measures;
 - 5.2.3 Measurements of environmental variables during monitoring, including ambient temperature and water quality metrics; and
 - 5.2.4 Any concerns regarding the functioning of the offsetting measures and a description of any remedial measures implemented and their effectiveness.
- 5.3 All effectiveness monitoring reports are to be submitted no later than December 31st of each year referenced in Condition 5.2 to ReferralsPacific@dfo-mpo.gc.ca, referencing DFO file: **19-HPAC-00570**.

6. Conditions that relate to reporting and engagement with the IAMC:

- 6.1 In recognition of the importance of the health of the Brunette River and the conservation of species-at-risk to Indigenous communities, monitoring reports, plans and notifications letters submitted to DFO under Conditions 2.4, 3, 4.17.2 and 5 of this Authorization shall be shared concurrently by the Proponent with the IAMC and DFO.
- 6.2 If the IAMC communicates concerns to DFO or to the Proponent related to the content of the monitoring reports (e.g., monitoring criteria, measures of success), the Proponent shall, at the request of DFO and, in a timely manner, meet with DFO and the IAMC to discuss the concerns.
- 6.3 If monitoring activities and/or reports indicate non-compliance with any conditions of this Authorization and/or the provisions of the *Fisheries Act*, the Proponent must identify the reasons for non-compliance, remedial actions or measures taken or to be taken, a timeline for their implementation and the effectiveness of any implemented remedial measures. This information shall be provided in a report to DFO and the IAMC concurrently, and in a timely manner.

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, undertaking and/or activity that are likely to result in serious harm to fish as described herein.

The holder of this authorization is also authorized under the authority of subsections 73(1) and 74 of the *Species at Risk Act* S.C. 2002, c. 29 to carry on the work, undertaking and/or activity that is likely to capture Nooksack dace and destroy the critical habitat of Nooksack dace as described herein.

This authorization may be revoked or amended to ensure the survival or recovery of Nooksack dace. Without limiting the generality of the foregoing, DFO may:

- suspend any authorized activities to avoid or mitigate additional adverse direct or indirect effects to Nooksack dace and any part of its critical habitat;
- amend or revoke this authorization; and
- direct the Proponent to carry out at the Proponent's expense any modifications or actions deemed necessary by DFO to avoid or mitigate existing impacts or to avoid further adverse direct and indirect impacts to Nooksack dace individuals.

This authorization does not purport to release the Proponent 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, or harassment 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).

In accordance with *An Act to amend the Fisheries Act and other Acts in consequence*, this Authorization is deemed to have been issued under the authority of paragraphs 34.4(2)(b) and 35(2)(b) of the *Fisheries Act* as those paragraphs read after the day on which section 22 of *An Act to amend the Fisheries Act and other Acts in consequence* came into force, on August 28, 2019. This authorization has the same effect as a permit issued under subsection 73(1) of the *Species at Risk Act*, as described in section 74 of that Act.

The failure to comply with any condition of this authorization constitutes an offence under Paragraphs 40(3)(a) of the *Fisheries Act* and 97(1)(c) of the *Species at Risk Act*, and may result in charges being laid under said Acts.

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, undertaking or activity 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, undertaking or activity, the Proponent named in this authorization shall advise DFO in advance.

Date of Issuance: March 20, 2020

<Original signed by>

Approved by: — _____
Rebecca Reid
Regional Director General
Pacific Region
Fisheries and Oceans Canada

Schedule A – Figures

Figure 1: Locations of Proposed Offsetting in the Brunette River – Riffle Creation and Habitat Complexing

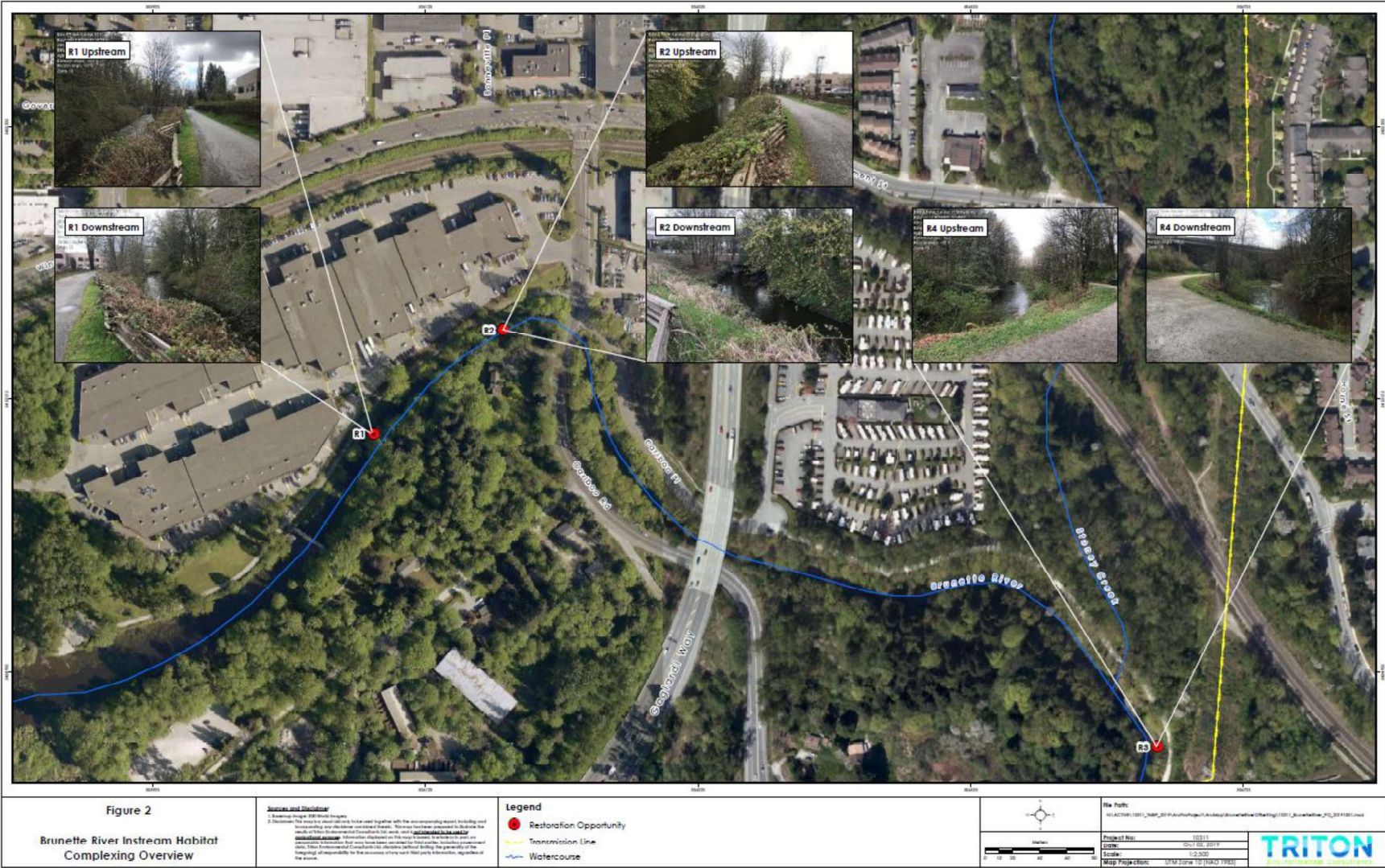


Figure 2: Brunette River Offsetting Area R1



Figure 3: Brunette River Offsetting Area R2

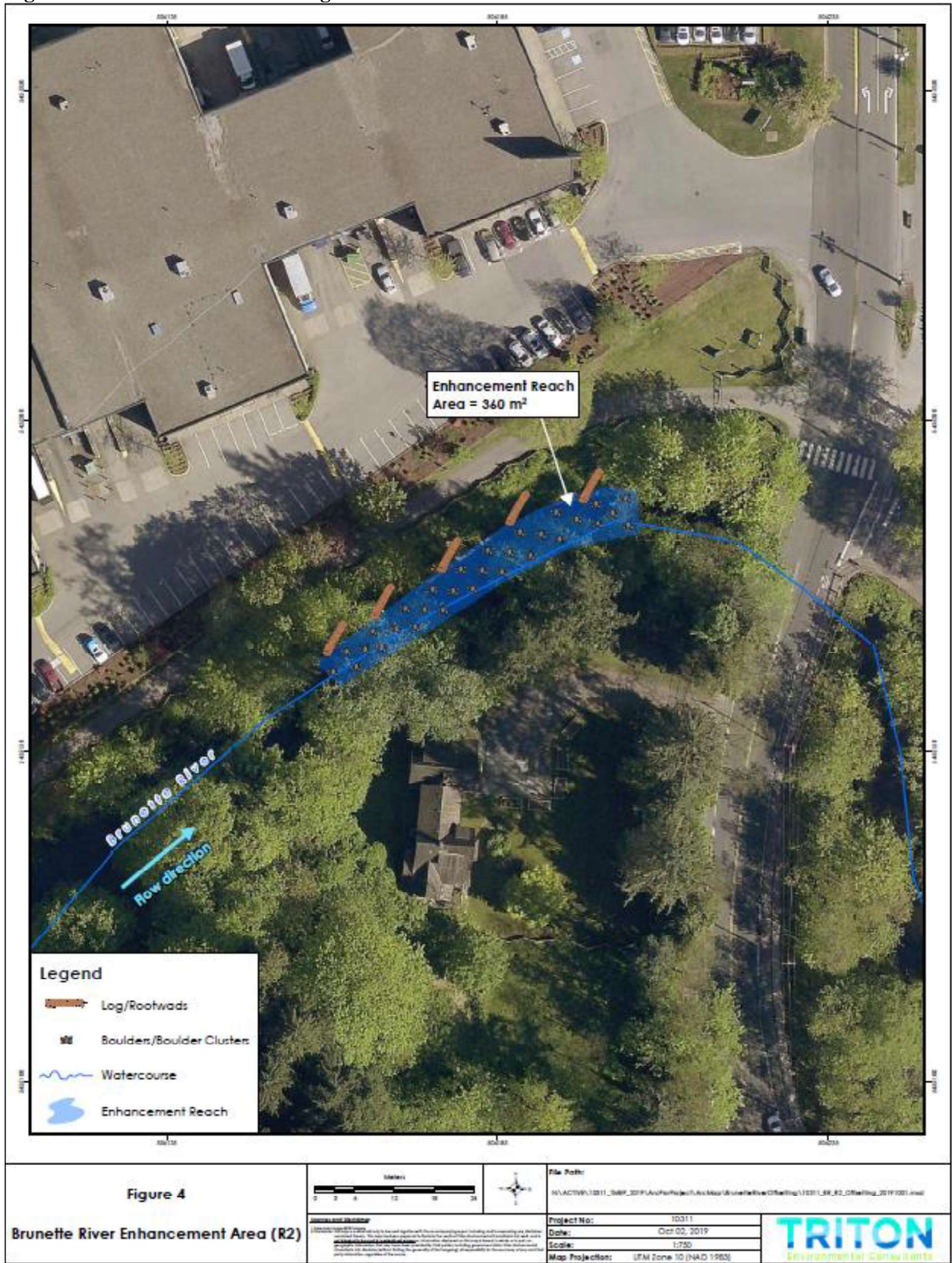
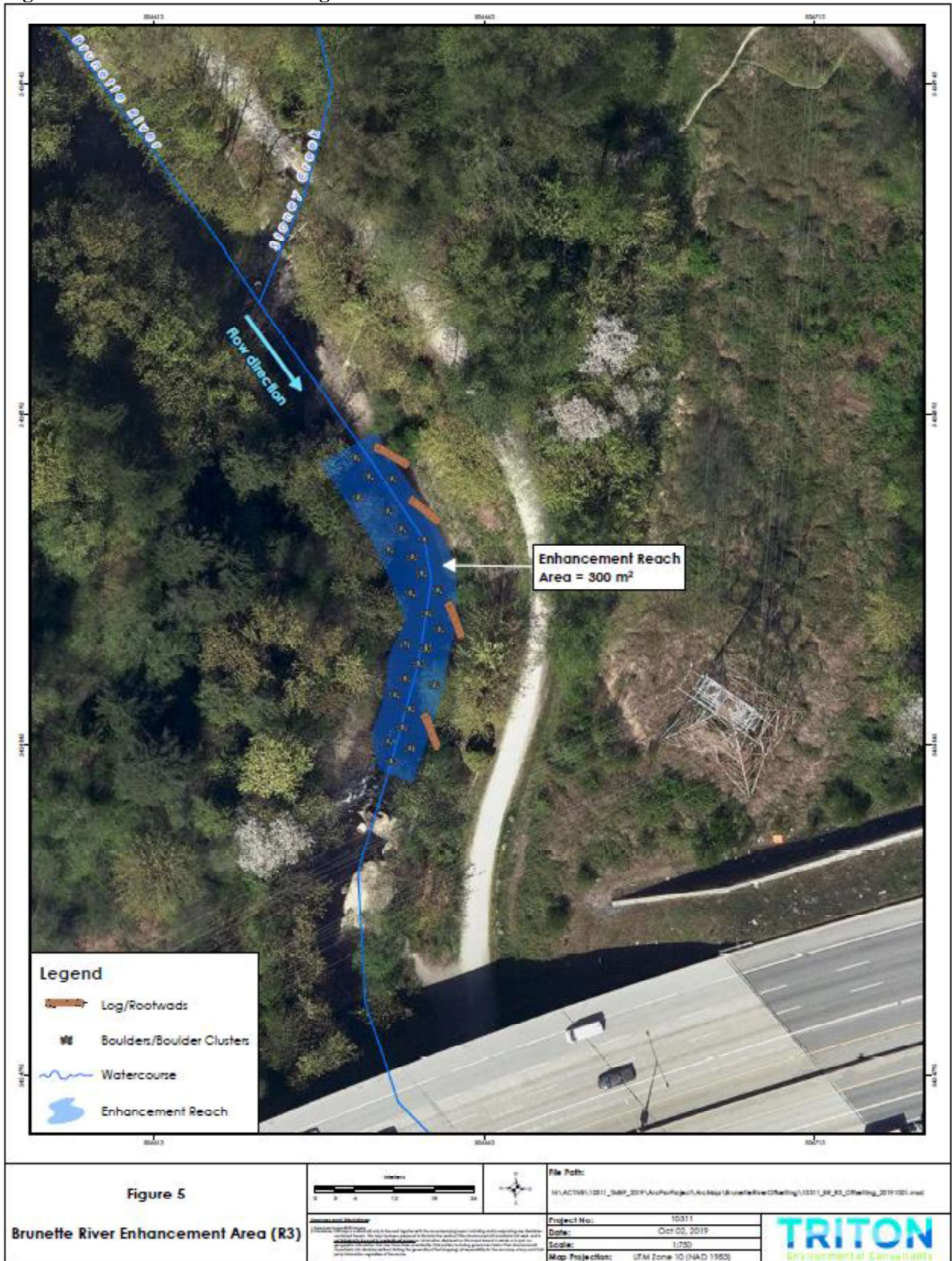


Figure 4: Brunette River Offsetting Area R3





Paragraphs 34.4(2)(b) and 35(2)(b) *Fisheries Act* Authorization

Authorization issued to

Trans Mountain Pipeline ULC (*hereafter referred to as the "Proponent"*)

Attention: Scott Stoness, VP, Regulatory and Compliance

Trans Mountain Pipeline ULC
300 – 5th Avenue SW., Suite 2700,
Calgary, AB T2P 5J2 Canada

Location of Proposed Project

Nearest community (city, town, village): Valemount
Province: British Columbia
Name of watercourse, waterbody: Swift Creek
UTM Coordinates: 11U; 345890 E; 5856607 N

Description of Proposed Project

The proposed project described herein involves an isolated trench crossing of Swift Creek (BC-32) to install a new section of pipeline associated with the Trans Mountain Expansion (TMX) Project. The proposed project includes the following works, undertakings or activities ("the construction works"):

- Placement of spawning deterrent mats instream;
- Removal of riparian vegetation along both banks;
- Installation of the pipeline using an isolated trench crossing method; and
- Placement of riprap armouring along the north bank of the crossing.

Description of the Authorized work, undertaking or activity likely to result in the harmful alteration, disruption or destruction of fish habitat:

The work, undertaking, or activity associated with the proposed project described above, that is likely to result in the harmful alteration, disruption or destruction of fish habitat, is:

- Temporary installation of spawning deterrent mats instream at the site of the Swift Creek crossing (BC-32) prior to the installation of a section of pipeline using an isolated trench method.

The authorized work, undertaking, or activity is likely to result in the following impacts to fish and fish habitat:

- Harmful alteration, disruption or destruction of 400 m² of spawning habitat associated with the temporary installation of spawning deterrent mats in Swift Creek.

Conditions of Authorization

The above described works, undertakings or activities (i.e., the construction works) must be carried on in accordance with the following conditions.

1. Conditions that relate to the period during which the works, undertakings or activities can be carried on

The works, undertakings or activities are authorized to be carried on during the following period:

From July 15, 2020 to February 28, 2021.

If the Proponent cannot complete the works, undertakings or activities during this period, Fisheries and Oceans Canada (DFO) must be notified 10 days in advance of the expiration of the above time period. An application for amendment, suspension or cancellation of the authorization should be submitted to DFO.

The periods during which other conditions of this authorization must be complied with are provided in their respective sections below. The Proponent must notify DFO 10 days in advance of any relevant expiration dates if a given condition cannot be met within the set timeframe.

2. Conditions that relate to measures and standards to avoid and mitigate impacts to fish and fish habitat

- 2.1 The Proponent must ensure that the location and design of the works, undertakings or activities is consistent with the information included in the document titled, “Application for Paragraph 35(2)(b) *Fisheries Act* Authorization Isolated Trenched Crossing of Swift Creek” (dated March 3, 2020, and referred to hereafter as ‘the Application’), and other information and documentation included in Schedule A of this Authorization, or as agreed upon in consultation with DFO.
- 2.2 The Proponent must implement the following measures and standards to avoid and mitigate impacts to fish and fish habitat:
 - 2.2.1 Standard mitigation measures included in the Trans Mountain Pipeline Environmental Protection Plan (EPP) are to be implemented so as to avoid or mitigate impacts to fish and fish habitat during construction activities.
 - 2.2.2 Spawning deterrent mats must be installed by July 31 and prior to the arrival of adult Chinook spawners so as to minimize direct mortality of incubating eggs and larvae that may be present during construction. Spawning deterrent mats must be removed following the fall spawning season and prior to freeze-up.
 - 2.2.3 All instream construction works at the Swift Creek crossing, with the exception of the installation of spawning deterrent mats, must only be carried out between December 31, 2020 and February 28, 2021. This timing window will enable construction to occur during a period that avoids key spawning and migration periods and coincides with lower flow conditions that are suitable for flow isolation.
 - 2.2.4 The placement of spawning deterrent mats is to be conducted by hand, using clean material (e.g., snow matting and anchoring material) that is free of debris or contaminants. Any gear that has been in contact with other waterbodies must be disinfected as appropriate to prevent the spread of disease, prior to entry into Swift Creek.
 - 2.2.5 Spawning deterrent mats must be installed in a manner that does not impede the migration of fish.
 - 2.2.6 Spawning deterrent mats must only be placed over suitable spawning habitat located immediately upstream of the location of the proposed watercourse crossing (as identified in Figure 1 of the Application) and are not to exceed a total area of 400 m².
 - 2.2.7 Effective sediment and erosion control measures (e.g., silt fencing) must be in place prior to the start of construction works (e.g., land-based preparation activities), as appropriate, such

- that the release of sediment into Swift Creek is avoided to the extent possible. Sediment and erosion control measures are to be upgraded and maintained, as appropriate, to maintain their effectiveness throughout the duration of the carrying on of construction works.
- 2.2.8 Prior to the excavation of the instream trench for the pipeline, work areas must be isolated from flowing water, but the downstream flow of the watercourse must be maintained at all times.
- 2.2.9 Water intakes of any pumps are to be designed and screened in accordance with the *Interim Code of Practice: End-of-pipe fish protection screens for small water intakes in freshwater*.
- 2.2.10 Isolated areas must be de-watered gradually to prevent sediment re-suspension and bank destabilization. Following isolation, any ice that is present must be carefully removed prior to or during the staged water withdrawal to limit fish mortality and sedimentation, and to allow fish salvage to occur.
- 2.2.11 Fish must be salvaged from the isolated work area and fish salvage is to be conducted by a Qualified Environmental Professional (QEP) (e.g., a Registered Professional Biologist) under the authority of a scientific fish collection permit. Salvaged fish are to be released at a suitable location outside of the work area and within Swift Creek.
- 2.2.12 If site isolation methods used to prevent fish from entering the work areas are breached during construction works, works must stop immediately and must not re-commence until site isolation is re-established and additional fish salvages are undertaken to ensure fish are not within the work area.
- 2.2.13 Sediment-laden water from within the isolated work area is to be pumped out into a well-vegetated terrestrial area located away from the watercourse, such that there is no risk of sediment re-entering Swift Creek.
- 2.2.14 A water quality monitoring program must be conducted during the carrying on of construction works in accordance with Trans Mountain's Water Quality Monitoring Management Plan. If levels of turbidity downstream of the work area exceed the Canadian Council of Ministers of Environment [CCME] Canadian Water Quality Guidelines for the Protection of Aquatic Life [CCME 2016], construction activities must be ceased immediately and corrective action is to be taken consistent with subsection 38(6) of the *Fisheries Act*. Construction must only recommence once turbidity levels have returned to background conditions.
- 2.2.15 Banks modified as a result of construction are to be contoured to pre-construction conditions immediately following completion of construction works, and disturbed areas of riparian vegetation are to be re-seeded using native and non-invasive plant species in accordance with the Trans Mountain Riparian Habitat Management Plan.
- 2.2.16 Following backfilling of the trench and rock armouring of the north bank, instream habitats (i.e., river bed and banks) located within the construction footprint must be restored to pre-construction contours and conditions using native gravel, cobble, and boulder substrate. Restoration is to be conducted on the advice and approval of a QEP and in accordance with the Trans Mountain Reclamation Management Plan, and should involve the restoration of disturbed spawning substrates, the strategic placement of boulder clusters, and anchoring of root wads or large woody debris along channel margins to enhance fish habitat where appropriate.
- 2.2.17 Temporary structures installed during construction must be decommissioned and removed when they are no longer being used for construction purposes.
- 2.2.18 If the monitoring measures required in Condition 3 below indicate that the measures and standards to avoid and mitigate impacts to fish and fish habitat are not effective, the Proponent must identify, in consultation with DFO, and implement contingency measures to avoid or limit residual impacts to fish and fish habitat.
- 2.2.19 In the event that monitoring indicates that the contingency measures implemented are not effective at preventing harm beyond what is authorized, the Proponent must provide a report to DFO (refer to Conditions 3 and 6.1 for reporting requirements) that details the outstanding issues affecting fish and fish habitat, reasons for failure of the measures implemented, and any potential alternate solutions to address outstanding issues.

3. Conditions that relate to monitoring and reporting of measures and standards to avoid and mitigate impacts to fish and fish habitat

- 3.1 A QEP must be present on site during the carrying on of all in-or near-water construction works, and is to monitor the works on an on-going basis to ensure that the standards and measures to avoid and mitigate impacts to fish and fish habitat are effective, and that unauthorized impacts to fish and fish habitat are avoided.
- 3.2 An Indigenous Monitor, hired by the Proponent, must be present on site to monitor the carrying on of all in- or near-water construction works on an on-going basis, and given the opportunity to acquire Indigenous Knowledge (e.g., from local Indigenous communities) and to provide Indigenous Knowledge, as appropriate, in relation to the Proponent's carrying on of the construction works.
- 3.3 A QEP must, at a frequency of at least once every 3 weeks inspect, maintain (e.g., re-positioning mats if altered due to flow conditions or sedimentation), and if necessary repair or replace the spawning deterrent mats so as to avoid impacts to fish and fish habitat resulting from the improper installation or improper maintenance of the mats. Inspection activities are to include, at a minimum:
 - 3.3.1 assessing the condition and functionality of the spawning deterrent mats;
 - 3.3.2 recording any maintenance or repairs/replacements that were conducted;
 - 3.3.3 recording any incidental observations or spawning behaviours within the construction footprint and surrounding area during inspection activities; and
 - 3.3.4 notifying DFO immediately if inspection activities show that spawning has occurred overtop of the spawning deterrent mats or within the construction footprint (i.e., in areas where mats were not installed).
- 3.4 During the year in which the spawning deterrent mats are installed, the Proponent must conduct a fall spawning survey at the crossing to document the number, location, and behaviour of adult spawners, as well as the location and number of potential and active redds.
- 3.5 Following removal of the spawning deterrent mats, the Proponent must submit a report to DFO by January 31, 2021, detailing the results of the effectiveness monitoring associated with installation of the spawning deterrent mats as described in the Application. This report must include, at a minimum:
 - 3.5.1 The location, footprint (m²), and timing of spawning deterrent mats installed in Swift Creek;
 - 3.5.2 A summary of the inspection, maintenance, and monitoring activities;
 - 3.5.3 A summary of any issues (e.g., vandalism) or impacts that arose or occurred in relation to installation of the spawning deterrent mats, and details of any contingency measures that were taken to address these issues;
 - 3.5.4 An assessment of the effectiveness of the spawning deterrent mats (e.g., based on the results of the fall spawning survey).
- 3.6 The Proponent must monitor the implementation of avoidance and mitigation measures referred to in Condition 2 of this Authorization and submit weekly reports to DFO for the duration of the construction works (i.e., works related to pipeline installation, bank armouring, and riparian vegetation clearing). The construction monitoring reports must indicate whether the measures and standards to avoid and mitigate impacts to fish and fish habitat were conducted according to the conditions of this Authorization. This is to be done, by providing:
 - 3.6.1 A concise summary of the construction works carried out during that reporting period.
 - 3.6.2 Commentary on the construction works and the work area from an environmental perspective (e.g., observations of fish, weather conditions, water quality summaries, any measured exceedances of the CCME guidelines).
 - 3.6.3 Dated photographs and monitoring reports to demonstrate whether the mitigation measures and standards described in Condition 2 are effectively being implemented and functioning as intended to limit the harm to fish to what is covered by this Authorization.
 - 3.6.4 A tally of any salvaged fish, including information on species, size, date and location of capture and release, and any incidental mortality observed.
 - 3.6.5 Photographic documentation and a succinct summary of any environmental issues (e.g., potential non-compliance events) or impacts that arose or occurred in relation to fish and fish habitat, and details of any contingency measures that were taken to prevent impacts

greater than those covered by this Authorization in the event that mitigation measures did not function as intended.

- 3.6.6 A summary of compliance with relevant Environmental Protection Plans (EPPs) pertaining to fish and fish habitat.
- 3.6.7 A table summarizing unforeseen issues with respect to fish and fish habitat that remain outstanding and must be addressed (i.e., those without on-the-spot solutions or those requiring follow-up to ensure corrective measures are being taken), proposed/planned mitigation measures, priority and anticipated dates of implementation and/or completion.
- 3.7 The Proponent must provide a post-construction monitoring report to DFO within 90 days of completion of the construction works and provide ‘as-built’ drawings, dated photographs, and a summary of the completed construction works (including any issues that arose pertaining to fish and fish habitat and how these issues were addressed).
- 3.8 If monitoring indicates that the construction works, including the installation of spawning deterrent mats, will result or is resulting in unauthorized prohibited impacts, the Proponent must notify DFO immediately. The Proponent must report any unauthorized prohibited impacts to DFO’s Observe, Record, and Report Line (1-800-465-4336).
- 3.9 All monitoring reports are to be submitted to ReferralsPacific@dfo-mpo.gc.ca, referencing DFO file **20-HPAC-00149**.

4. Conditions that relate to offsetting

- 4.1 The Proponent must create, restore, and enhance a total of **7,350 m²** of instream salmonid rearing habitat within an abandoned side channel of the Blue River, in Blue River, BC, of which **400 m²** of instream habitat is to be used to offset prohibited impacts to fish and fish habitat resulting from the work, undertaking or activity authorized by this Authorization. The Proponent must also restore a total of **5,000 m²** of disturbed or non-functioning riparian habitat and enhance a total of **2,500 m²** of currently functional riparian habitat located within a 15 m buffer on either side of the channel to provide better instream cover for the side channel offsetting habitat (for a total area of 7,500 m² of riparian habitat). The offsetting must be implemented as described in the document cited in Schedule A and titled “Offsetting Plan – Blue River Side Channel” (revised on June 9, 2020, and referred to hereafter as ‘the Offsetting Plan’) and in accordance with specifications included in Schedule B of this Authorization.
- 4.2 Should other *Fisheries Act* authorizations be issued in the future to support construction and/or operation of the Trans Mountain Expansion Project or other works, undertakings or activities deemed appropriate by DFO, the remaining area (m²) of habitat constructed as part of the Offsetting Plan (i.e., 6,950 m² of instream habitat and 7,500 m² of riparian habitat) may be used to offset other impacts to fish and fish habitat associated with works, undertakings or activities requiring authorization under the *Fisheries Act*, as agreed upon with DFO. A habitat balance sheet attached as Schedule C will be used to track the remaining offsetting balance and will be updated in each successive *Fisheries Act* authorization where-in the Blue River offsetting is applied to counterbalance impacts to fish and fish habitat resulting from authorized works, undertakings or activities. The Offsetting Plan must be constructed in its entirety regardless of whether a positive habitat balance remains following the date of May 1, 2023, and any positive balance remaining following this date, will be forfeit (i.e., will not be applied to offset any authorized works, undertakings or activities that are to occur following this date).
- 4.3 Construction of the Offsetting Plan must occur no earlier than May 1, 2023 and must be completed by December 31, 2023.
- 4.4 All instream construction works associated with the Offsetting Plan must only be carried out between July 20, 2023 and August 15, 2023. Riparian vegetation planting must occur, to the extent practicable, during the Fall of 2023. Any additional planting must be completed in the Spring of 2024 with goal of maximizing survival of the plantings.
- 4.5 Prior to construction of the Offsetting Plan, the Proponent must conduct a detailed hydrological assessment for the offsetting site and use the results of the assessment to finalize the design of the side channel and the upstream intake structure, in consultation with DFO.

- 4.6 The Proponent must implement the following measures and standards to avoid and mitigate impacts to fish and fish habitat during construction of the Offsetting Plan:
- 4.6.1 Standard avoidance and mitigation measures identified in the construction environmental management plan, which is to be prepared by a QEP prior to construction of the Offsetting Plan.
 - 4.6.2 Effective sediment and erosion control measures (e.g., silt fencing) must be in place prior to the start of construction of the Offsetting Plan, and are to be upgraded and maintained throughout the duration of construction activities, such that the release of sediment into the Blue River side channel or the Blue River is avoided.
 - 4.6.3 Prior to instream construction activities, work areas must be isolated from flowing water, but the downstream flow of the watercourse must be maintained at all times.
 - 4.6.4 Water intakes of any pumps are to be designed and screened in accordance with the *Interim Code of Practice: End-of-pipe fish protection screens for small water intakes in freshwater*.
 - 4.6.5 Isolated areas must be de-watered gradually to prevent sediment re-suspension and bank destabilization. Following isolation, any ice that is present must be carefully removed prior to or during the staged water withdrawal to limit fish mortality and sedimentation, and to allow fish salvage to occur.
 - 4.6.6 Fish must be salvaged from the isolated work area and fish salvage is to be conducted by a Qualified Environmental Professional (QEP) under the authority of a scientific fish collection permit. Salvaged fish are to be released at a suitable location outside of the work area and within the Blue River.
 - 4.6.7 If site isolation methods used to prevent fish from entering the work areas are breached during construction, works must stop immediately and must not re-commence until site isolation is re-established and additional fish salvages are undertaken to ensure fish are not within the work area.
 - 4.6.8 Sediment-laden water from within the isolated work area is to be pumped out into a well-vegetated terrestrial area located away from the watercourse, such that there is no risk of sediment re-entering the Blue River.
 - 4.6.9 Water quality measurements to document turbidity and/or total suspended solids in the Blue River side channel and the Blue River must be collected, as appropriate, throughout the period of in-water construction at an upstream control site and from an appropriate number of representative sites downstream from construction. If levels of turbidity or total suspended solids exceed the Canadian Council of Ministers of Environment [CCME] Canadian Water Quality Guidelines for the Protection of Aquatic Life [CCME 2016] outside isolated work areas, construction activities must be ceased immediately and corrective action must be taken. Construction must only recommence once turbidity levels have returned to background conditions.
- 4.7 The Proponent must identify, in consultation with DFO, success criteria that align with the objectives of the habitat offsetting, on or before May 1, 2022. The success criteria will be used to verify that the habitat offsetting measures have been successful in meeting the objectives of the Offsetting Plan.
- 4.8 In the event that the Proponent fails to implement the Offsetting Plan as required under Condition 4.1, DFO may draw upon funds set aside by the Proponent through the irrevocable standby letter of credit (No. S101639, issued by The Toronto-Dominion Bank), to cover the costs of implementing and maintaining the proposed offsetting or alternate suitable offsetting, including the associated monitoring measures included in Condition 5 of this Authorization.
- 4.9 If during any reporting period identified in Condition 5, effectiveness monitoring of offsetting measures indicates that the offsetting measures are deficient and/or unlikely to function as intended, the Proponent must undertake remedial measures at the earliest time feasible to correct any deficiencies in the offsetting measures, and ensure impacts to fish and fish habitat are mitigated or avoided.
- 4.10 If the results of monitoring as required in Condition 5 indicate that the offsetting measures are not completed by the date specified or are not functioning as intended, the Proponent must give written notice to DFO and implement the contingency measures and associated monitoring measures identified within the Offsetting Plan. The Proponent must meet the following requirements:

- 4.10.1 The Proponent is to determine the reason for failure(s) and develop and implement a contingency Offsetting Plan to address the failure(s) within one calendar year to bring offsetting measures to a level agreed upon in consultation with DFO.
- 4.10.2 The contingency plan(s) (including any associated monitoring measures) to address deficiencies in offsetting measures are to be submitted to DFO and the Indigenous Advisory and Monitoring Committee (IAMC) as defined in Condition 6.1, for review, and approval by DFO at least 120 days prior to implementation of the contingency plan(s).
- 4.10.3 Following implementation of the contingency plan(s), the Proponent must monitor the contingency offsetting measures constructed and/or implemented in accordance with standards stated in Condition 5 below.
- 4.11 The offsetting measures will be considered successful if, by the last monitoring event (which is to occur 10 years following construction of the offsetting measures), the success criteria are met. Should the success criteria be met earlier than this time, then upon written notification from DFO, the Proponent may be released from the requirement to conduct further effectiveness monitoring (i.e., Condition 5.4 will cease to apply).
- 4.12 The Proponent must not carry on any work, undertaking or activity that will adversely impact the offsetting measures.

5. Conditions that relate to monitoring and reporting of implementation of offsetting measures (described in section 4):

- 5.1 A QEP must be present on site during construction of the Offsetting Plan, and is to monitor construction on an on-going basis to ensure that the standards and measures to avoid and mitigate impacts to fish and fish habitat are effective, and that unauthorized impacts to fish and fish habitat are avoided.
- 5.2 An Indigenous Monitor, hired by the Proponent, must be present on site to monitor construction of the Offsetting Plan on an on-going basis, and given the opportunity to acquire Indigenous Knowledge (e.g., from local Indigenous communities) and to provide Indigenous Knowledge, as appropriate, in relation to the Proponent's carrying on of construction activities associated with the Offsetting Plan.
- 5.3 The Proponent must undertake monitoring and report to DFO on whether the offsetting measures were implemented according to the conditions of this Authorization by submitting a post-construction monitoring report to DFO within 90 days of completion of construction of the offsetting measures. The post-construction monitoring report must include:
 - 5.3.1 As-built drawings of the completed offsetting measures;
 - 5.3.2 A summary of the 'as-built' condition of the offsetting measures;
 - 5.3.3 Dated photographs of the completed offsetting measures;
 - 5.3.4 A tally of any salvaged fish including information on species, size, date and location of capture and release, and any incidental mortality observed; and
 - 5.3.5 A summary of the effectiveness of mitigation measures and standards implemented during the construction of the offsetting measures, as identified in this Authorization (Condition 4.6) and referred to in Section 5.0 of the Offsetting Plan.
- 5.4 The Proponent must undertake six (6) habitat effectiveness monitoring events over ten (10) years and monitoring must be conducted 1, 2, 4, 6, 8, and 10 years following construction of the offsetting measures. Each monitoring event is to be conducted during the summer to document the effectiveness and functioning of the offsetting, and in alignment with Section 6 of the Offsetting Plan. On or before December 31 following each monitoring event, the Proponent will submit a monitoring report to DFO that includes, at a minimum:
 - 5.4.1 Geo-referenced photographs of the offsetting measures;
 - 5.4.2 An assessment of the apparent effectiveness or success of the offsetting measures (e.g., annual sampling to indicate fish presence/absence and relative abundance);
 - 5.4.3 Measurements of environmental variables during monitoring, including ambient temperature and water quality metrics; and

- 5.4.4 Any concerns regarding the functioning of the offsetting measures and a description of any remedial measures implemented and their effectiveness.
- 5.5 All effectiveness monitoring reports are to be submitted to ReferralsPacific@dfo-mpo.gc.ca, referencing DFO file: **20-HPAC-00149**.

6. Conditions that relate to reporting and engagement with the IAMC:

- 6.1 In recognition of the importance of the health and conservation of Pacific salmon to Indigenous communities, monitoring reports, plans and notifications letters submitted to DFO under Conditions 2.2.19, 3, 4.10.2 and 5 of this Authorization must be shared concurrently by the Proponent with the IAMC and DFO.
- 6.2 If the IAMC communicates concerns to DFO or to the Proponent related to the content of the monitoring reports (e.g., monitoring criteria, measures of success), the Proponent must, at the request of DFO and, in a timely manner, meet with DFO and the IAMC to discuss the concerns.
- 6.3 If monitoring activities and/or reports indicate non-compliance with any conditions of this Authorization and/or the provisions of the *Fisheries Act*, the Proponent must identify the reasons for non-compliance, remedial actions or measures taken or to be taken, a timeline for their implementation and the effectiveness of any implemented remedial measures. This information must be provided in a report to DFO and the IAMC concurrently, and in a timely manner.

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 Paragraphs 34.4(2)(b) and 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 impacts to fish and fish habitat 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.

It is also your *Duty to Notify* DFO if you have caused, or are about to cause, the unauthorized death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat. Such notifications should be directed to (<http://www.dfo-mpo.gc.ca/pnw-ppe/CONTACT-eng.html>) or to the DFO-Pacific Observe, Record and Report phone line.

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 said Act.

A copy of this authorization should be kept on site while the work is in progress and upon request be provided to relevant federal or provincial officials. The authorization holder is responsible for ensuring work crews are familiar with, and able to adhere to, the conditions.

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

Date of Issuance: July 6, 2020

<Original signed by>

Approved by:
Rebecca Reid
Regional Director General
Pacific Region
Fisheries and Oceans Canada

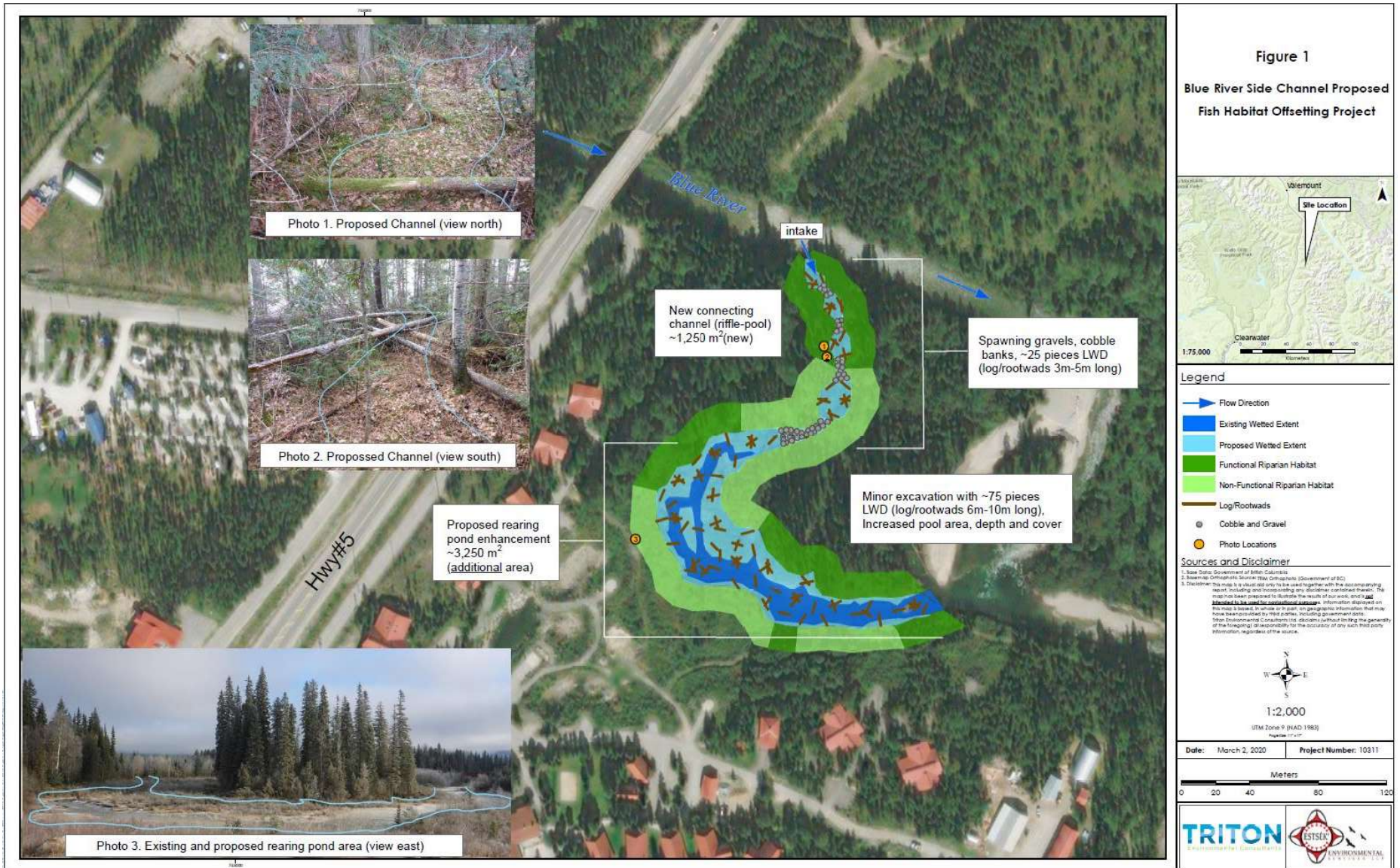
Schedule A: Reference Documents

“Application Form for the Issuance of an Authorization under Paragraphs 34.4(2)(b) and 35(2)(b) of the Fisheries Act (Non-Emergency Situations)”, signed by Mr. Scott Stoness of Trans Mountain Pipeline ULC, and dated March 3, 2020.

“Application for Paragraph 35(2)(b) Fisheries Act Authorization – Isolated Trenched Crossing of Swift Creek”, prepared for Trans Mountain Pipeline ULC and dated March 3, 2020.

“Offsetting Plan – Blue River Side Channel”, prepared for Trans Mountain Pipeline ULC and dated April 3, 2020 and revised June 9, 2020.

Schedule B: Blue River Side Channel Fish Habitat Offsetting Plan



Schedule C: Habitat Balance Sheet

<i>Fisheries Act</i> Authorization No.	Valid Dates of Authorization ¹	Offsetting Used		Offsetting Remaining	
		Instream salmonid habitat (m ²)	Riparian habitat (m ²)	Instream salmonid habitat (m ²)	Riparian habitat (m ²)
20-HPAC-00149	July 15, 2020 to February 28, 2021	400	0	6,950	7,500

¹Time period during which the authorized works, undertakings or activities must occur.