Ministry of
Forests, Lands and
Natural Resource Operations

Terms and Conditions
for *Water Sustainability Act* Changes in and about a Stream as specified by Ministry of Forests, Lands & Natural Resource Operations (FLNRO) Habitat Officers, Northeast Region

Upon submission of a signed Authorized Change for works in and about a stream, the proponent has agreed to be compliant with all applicable terms and conditions detailed in this document and ensured that the project meets all requirements and will comply with Section 11 of the *Water Sustainability Act* and Part 3 of the Water Sustainability Regulation.

The proponent must also comply with all applicable provincial and federal legislation, municipal enactments, and applicable Ministry of Environment *Instream Works Best Management Practices* (http://www.env.gov.bc.ca/wld/instreamworks/index.htm).

As per Section 38 of the Water Sustainability Regulation a person must not make a change in and about a stream unless that person notifies a habitat officer 45 days prior to the commencement of the change and complies with the applicable terms and conditions provided in this document. The Habitat Officer may specify additional conditions to ensure the protection of habitat. If additional conditions are required you will be contacted within 45 days. If a person is not contacted by a habitat officer within 45 days after the notice is received by a habitat officer, the person may proceed with the authorized change that is the subject of the notice.

An Authorized Change is only applicable for activities described in Section 39 of the Water Sustainability Regulation. If the proposed activity does not meet these requirements or the requirements of these Terms and Conditions, a Section 11 *Water Sustainability Act* Approval application will be required. Applications are available, and must be submitted to FrontCounter BC.

Please note*:* The *Water Sustainability Act* definition of a “stream” differs from the definition in other provincial statutes and legislation such as the *Forests and Range Practices Act* and the *Oil and Gas Activities Act.*

Important Definitions:

Section 1, *Water Sustainability Act:*

*"**stream**" means*

> *(a) a natural watercourse, including a natural glacier course, or a natural body of water, whether or not the stream channel of the stream has been modified, or*
>
> *(b) a natural source of water supply, including, without limitation, a lake, pond, river, creek, spring, ravine, gulch, wetland or glacier, whether or not usually containing water, including ice, but does not include an aquifer*

*"**stream channel**" means the bed of the stream and the banks of the stream, both above and below the natural boundary and whether or not the channel has been modified, and includes side channels of the stream*

*"**aquatic ecosystem**" means the natural environment of the stream, including*

> *(a) the stream channel, the vegetation in the stream and the water in the stream, and*
>
> *(b) fish, wildlife and other living organisms insofar as their life processes*
>
> > *(i) are carried out in the stream, and*
> >
> > *(ii) depend on the natural environment of the stream*

Section 44, Water Sustainability Regulation*:*

***"Timing Windows"** in relation to a stream, means a period of the calendar year, specified under Section 44 of the Water Sustainability Regulation by a habitat officer, during which changes in and about the stream can be made without causing a risk of significant harm to fish, wildlife or the aquatic ecosystem of the stream.*

Timing windows are one of the measures applied to protect fish from impacts of works or undertakings in and around water during spawning migrations and other critical life history stages. Works in and about watercourses must be undertaken at a time of year when the threat of negative impacts to aquatic organisms is low, in accordance with Terms and Conditions. The timing of instream work(s) also extends to tributaries where there is a risk of depositing sediment into fish-bearing waters. Proponents must ensure that instream works minimize the impacts to all aquatic organisms including fish, wildlife, aquatic invertebrates and species at risk.

Section 44 of the Water Sustainability Regulation gives authority to a Habitat Officer to add specific conditions to ensure the protection of the aquatic ecosystem in addition to the conditions of general application. Under this authority, FLNRO Habitat Officers, Northeast Region, require the following mandatory terms and conditions:

(a) The timing window during which the change may be made;

The timing window during which changes in and about a stream can be made without causing a risk

of significant harm to fish, wildlife or the aquatic ecosystem of a stream must be applied to all activities in fish streams as well as tributaries that have any risk of deleterious effects (eg. depositing sediment into fish streams). Timing windows are designed to protect all fish species known to occur in a stream. One way fish presence can be confirmed is through a fish inventory database[1]. If using this database, the lack of fish records for a particular area is not equivalent to fish absence. All streams are assumed to have both spring and fall spawners until proven otherwise.

Resources Information Standards Committee (RISC) provides documents pertaining to aquatic ecosystem assessment standards: http://www.for.gov.bc.ca/hts/risc/pubs/aquatic/index.htm

The timing windows for the Northeast Region are as follows:

Fish/Wildlife Presence	Window of Least Risk
Both spring and fall spawners*; or unknown	**July 15 – August 15**
Fall spawners* (eg bull trout, kokanee)	**June 15 – August 15**
Spring spawners (eg rainbow trout, walleye)	**July 15 – March 31**
Anadromous salmon (eg chum)	**Please contact Fisheries and Oceans Canada (DFO) for site-specific timing**
Beavers	**July 15 – September 14**

* Includes winter spawning burbot (*Lota lota*).

Notwithstanding the above, if any one of the following conditions is met, the timing window is not applicable:

- If the stream channel is naturally dry (no flow) or frozen to the bottom at the worksite and the instream activity will not adversely impact fish habitat (eg. result in the introduction of sediment into fish habitat).

- If construction of a winter crossing is proposed and such works does not adversely impact the stream channel (including stream banks), fish habitat or fish passage.

- The structure does not encroach below the high water mark, no work is proposed below the high water mark of a fish stream, and measures will be taken to prevent the delivery of sediments or contaminants into fish habitat.

- Work is in a non-fish stream and measures will be taken to prevent the delivery of sediments into downstream fish habitat or the stream is not fish-bearing and discontinuous with no connection to downstream fish habitat.

If your work is proposed outside of the timing window, you must retain a qualified environmental professional (such as an RPBio). The professional will be responsible for providing a written technical rationale that assesses and addresses the risks of the proposed changes in and about a stream, including proposing site specific mitigation (eg. an Erosion Control Plan that identifies contingency measures and emergency procedures related to the proposal) and onsite monitoring of their implementation. This document must be submitted to the Habitat Officer via FrontCounter B.C.

1 Fisheries Inventory site http://www.env.gov.bc.ca/fish/

with reference to your file number (shown on top of this document).

If proceeding outside the timing window in accordance with recommendations by your qualified environmental professional, you must comply with any measures specified by that professional to prevent impacts on the stream channel (including stream bed and banks) or fish, wildlife or the aquatic ecosystem of the stream, as well as any additional Habitat Officer terms and conditions specified in the confirmation of receipt of your original Notice.

(b) The minimum instream flow or the minimum flow of water that must remain in the stream while the change is being made,

- The original rate of water flow in the stream (existing prior to commencing work) must be maintained upstream and downstream of the worksite during all phases of instream activity associated with the work to ensure natural downstream streamflow is maintained at all times. All instream activities must be conducted in the dry and the worksite must be isolated from flowing waters in the stream channel. Downstream reaches are not to be dewatered due to site isolation activities.

(c) The removal of material from the stream or stream channel in connection with the change,

- In fish streams, the permanent removal of stable, naturally occurring material from the stream or stream channel is not permitted.

- The channel width of the stream must not change.

- In non-fish streams, the permanent or temporary removal of stable, naturally occurring material must be minimized and completed only as necessary to make the change in accordance with Part 3 of the Water Sustainability Regulation.

- The removal of material must not lead to stream channel instability or increase the risk of sediment delivery to the watercourse.

- Any spoil materials must be placed in a location which ensures that sediment or debris does not enter the watercourse.

(d) The addition of substance, sediment, debris or material to the stream or stream channel in connection with the change,

- If possible, work must be conducted on, and equipment located and operated from, dry land (no water present) and the worksite must be isolated from flowing water.

- Any equipment used in conducting work must be in good mechanical condition and, when operating in close proximity to the wetted perimeter of a stream, the operator must prevent entry of any substance, sediment, debris or material (eg. hydrocarbons, silt) into the stream so as to prevent harm to fish, wildlife or the aquatic ecosystem of a stream. Note that it is an offence under Section 46 of the *Water Sustainability Act* which prohibits the introduction of foreign matter into a stream. Failure to comply may result in a remediation order.

- During work onsite, erosion and sediment control materials must be available onsite at all times and must be installed if sedimentation is likely to occur into the stream. A contingency plan must be developed outlining the measures to be taken by workers when carrying out any work to control erosion and sediment.

- Within the work area, standing water that contains sediment must be pumped to a vegetated area or settling pond that is sufficiently far from the stream to allow for suspended fine particles to settle or be filtered out, prior to reintroducing stream flow to the work area. The return water must not cause erosion that result in sediment delivery to the stream.

- Any materials, such as riprap or gabion rock, placed within the stream channel must be free of silt, overburden, or other substances deleterious to aquatic life. Rock used as riprap must be angular in shape and suitably sized to resist movement by stream flows. Rock placement should be designed to minimize the potential for failure of riprap bank protection and displacement of riprap to the stream bed.

(e) The salvage or protection of fish or wildlife while the change is being made or after the change has been made,

- When work requires de-watering or isolation of the worksite in the stream, a permit for the salvage of fish and wildlife must be obtained prior to commencing work. All required salvage permits must be obtained from FrontCounter BC: http://www.frontcounterbc.gov.bc.ca/guides/fish-wildlife/general-permit/overview/

- Any salvage must be carried out by a qualified environmental professional (such as an RPBio).

- If an area is de-watered as a result of beaver dam removal or modification and results in the stranding of fish, then these fish must be salvaged and returned to the stream.

- Measures must be taken to ensure that equipment (e.g. screened water pump intakes) does not harm aquatic life. Refer to the Freshwater Intake End-of-Pipe Fish Screen Guideline. Available from: http://www.dfo-mpo.gc.ca/Library/223669.pdf

- Proponents are responsible for complying with the BC *Wildlife Act*, and must not disturb wildlife and/or their residences (eg. beaver lodges[2], eagle, osprey and heron nests) within the project area.

2 Beaver may only be removed by the registered trapline holder or contract problem beaver trappers (contact BC Trappers Association, c/o Trappers International (250-561-1602)). A permit issued by the Fish, Wildlife Science and Allocation Section Head is required to remove beaver outside the trapping season.

(f) The protection of natural materials and vegetation that contribute to habitat or stream channel stability, and

- Consider whether removal of object(s) or material from the stream would cause more damage to fish and wildlife populations and habitats than would result if the object(s)/materials are left. If the object is large and is more than one-third buried in the stream substrates, its removal may result in a large amount of sediment being re-suspended, discharged or may result in significant changes to in-channel habitats.

- Trees on the work site or clearing width adjacent to streams must be felled away from the stream to the fullest extent possible. All the tree(s) and all resultant debris must be removed from the channel concurrently with felling.

- Minimize disturbance to natural materials (eg. embedded woody debris) and vegetation that contribute to habitat or stream channel stability.

- The disturbance of stream bank vegetation must not occur or be minimized as much as possible.

Beaver Dam or House Alteration or Removal

Complete beaver dam removal should be avoided and only considered after all other beaver management tools have been exhausted, an emergency situation has arisen or where measures can be taken to ensure no harmful alteration of fish habitat. When planning your project develop designs and select locations to minimize potential impacts to fish and fish habitat. The project must comply with the Ministry of Environment Instream Works Best Management Practices Beaver Dam Removal Guidelines.

As per Section 9(1) of the provincial Wildlife Act, a person commits an offence if the person disturbs, molests or destroys (a) a muskrat house or den, except on diked land, or (b) a beaver house or den or beaver dam.

Applications to modify or remove a beaver dam or house are available from the Permit and Authorization Service Bureau (PASB): http://www.env.gov.bc.ca/pasb/applications/process/wildlife.html#beaver-dam

Requests to modify or remove a dam or house outside of the Window of Least Risk (July 15 – September 14) must be accompanied by a detailed rationale.

(g) The restoration of the work site after the change has been made.

- Undertake activities that result in the restoration of natural pre-disturbance site condition that will not contribute deleterious materials into any aquatic habitat at any time of year.

- Any areas that are disturbed during the work (such as exposed soil) must be promptly restored at a minimum to the pre-disturbance condition. Any soil exposed at the worksite must be promptly re-vegetated.

- Following de-watering or isolation of the worksite, stream flow must be returned gradually to the de-watered or isolated area within the stream and not in a single sudden rush so as to

avoid erosion of the stream channel and sediment delivery to the stream.

- Note: Guidance is provided in the Habitat Enhancement and Restoration Section of the *Best Management Practices Instream Works*.

- The Peace-Liard Re-Vegetation Manual contains re-vegetation best management practices and recommended seed mixes for the Northeast Region. In addition, the Peace River Regional District Invasive Plant Committee has developed invasive plant best management practices for various industrial sectors. Available here: http://prrd.bc.ca/wp-content/uploads/page/invasive-plants/2015IPCPRRD-Strategic-Plan-and-Profile.pdf

Final Note

It is the responsibility of persons intending to carry out changes in and about a stream, as described under Part 3 of the Water Sustainability Regulation:

- To ensure that all sections of the Notice form are properly completed;

- To comply with federal, provincial and municipal enactments, including but not limited to the *Water Sustainability Act* (and its regulations), *Fisheries Act* (Canada), *Wildlife Act* (BC) or the *Navigation Protection Act* (Canada), as well as local government bylaws and regulations, as may be applicable to proposed changes and related works or activities; and,

- To obtain the written consent of the landowner for proposed changes and related works or activities intended to take place on private land or premises or to use any privately owned works, before proceeding.

Supportive Information and Best Management Practices Documents

Instream works:
http://www.env.gov.bc.ca/wld/instreamworks/index.htm#

User's Guide to Working In and Around Water:
http://www.belcarra.ca/reports/User_Guide_To_Working_Around_Water.pdf

Water Licences and Approvals:
http://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-licensing-rights/water-licences-approvals

Working Around Water:
http://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-licensing-rights/working-around-water

Apply for a Change Approval or Submit Notification of Instream Work:
http://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-licensing-rights/water-licences-approvals/apply-for-a-change-approval-or-submit-notification-of-instream-work

Exemptions from approval or notification:
http://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-licensing-rights/working-around-water/exemptions-from-approval-or-notification

Standards and Best Management Practices for Instream Works:
http://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/water-rights/standards_bp_instream_work.pdf

Bank stabilization:
http://www.env.gov.bc.ca/wld/instreamworks/downloads/BankStabilization.pdf

Beaver dam management – Constructed ditch factsheet:
http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/agricultural-land-and-environment/water/500-series/543110-1_beaver_dam_management-drainage_guide_factsheet_no16.pdf

Beaver dam removal:
http://www.env.gov.bc.ca/wld/instreamworks/downloads/BeaverDamRemoval.pdf

Bridges:
http://www.env.gov.bc.ca/wld/instreamworks/downloads/Bridges.pdf

Channel maintenance:
http://www.env.gov.bc.ca/wld/instreamworks/downloads/ChannelMaintenance.pdf

Culverts:
http://www.env.gov.bc.ca/wld/instreamworks/downloads/Culverts.pdf

Habitat enhancement and restoration:
http://www.env.gov.bc.ca/wld/instreamworks/downloads/Habitat.pdf

Land development guidelines for the protection of aquatic habitat:
http://www.dfo-mpo.gc.ca/Library/165353.pdf

Miscellaneous works:
http://www.env.gov.bc.ca/wld/instreamworks/downloads/MiscellaneousWorks.pdf

Pipeline crossings:
http://www.env.gov.bc.ca/wld/instreamworks/downloads/PipelineCrossings.pdf

Public utility works:
http://www.env.gov.bc.ca/wld/instreamworks/downloads/PublicUtilityWorks.pdf

Resources Information Standards Committee (RISC):
http://www.for.gov.bc.ca/hts/risc/pubs/index.html

Riprap design and construction guide:
http://www.env.gov.bc.ca/wsd/public_safety/flood/pdfs_word/riprap_guide.pdf

Standard project considerations:

http://www.env.gov.bc.ca/wld/instreamworks/downloads/GeneralBMPs.pdf

Urban stormwater management:
http://www.env.gov.bc.ca/wld/instreamworks/downloads/UrbanStormwater.pdf

Wharf, pier, dock, boathouse and mooring:
http://www.env.gov.bc.ca/wld/instreamworks/downloads/Docks.pdf

Please be advised that these documents may contain information which may be the subject of change due to amendments to the federal *Fisheries Act* and/or to related processes by DFO. Current up-to-date information on DFO process and legislation can be found at: http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html