



VILLAGE OF BELCARRA
2018 Environmental Projects
Final Environmental Monitoring Reports -
Letts Environmental (attached)



In 2018 the Village of Belcarra completed two projects. Because of the proximity to creeks, the projects required environmental permits and monitoring for the Ministry of Forest Lands and Natural Resource Operations. The two projects were the Senkler logging bridge removal and Watson Trail Phase 2 with the Tatlow Trail reconfiguration. Letts Environmental were contracted by the Village. They applied for the permits, monitored the works and completed the required Final Monitoring Reports.

The Senkler bridge had an old logging bridge structure upstream of the road bridge. This project was identified to be removed in the 2017 KWL, Windermere Creek drainage study. In August during low flows, the logging bridge was removed and, in the Fall, compensation planting was completed.

Watson Trail Phase 2 and Tatlow Trail were near Avalon creek. Watson Trail required a culvert crossing of the Creek, which was installed in August by Sandpiper Contracting Ltd. Park Solutions then completed trail construction in September.

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LETTS
ENVIRONMENTAL
CONSULTANTS LTD.

**FINAL ENVIRONMENTAL MONITORING REPORT**

Village of Belcarra
C/O Bernie Serné
4084 Bedwell Bay Rd,
Belcarra, BC, V3H 4P8

December 18, 2018

Attention: Bernie Serné

Dear Mr. Serné

Re: Bridge removal and Riparian Planting at Senkler Road in Belcarra BC.

Please consider this our Final Report involving the removal of an old free span bridge within Windemere Creek at Senkler Road in Belcarra BC. Letts Environmental Consultants Ltd. (Letts), were retained by the Village of Belcarra to monitor the works, which involved the removal of the free span bridge, armouring of the bank where the bridge caused a void and replanting of the access to the site.

A Notification application was made to Ministry of Forests, Lands and Natural Resource Operations (MoFLNRO) on April 4, 2018. Works were to occur following the Bridge Debris Removal Plan and the Senkler Bridge Debris Removal Rehabilitation Details that were submitted with the application.

Works commenced on August 7, 2018 under clear conditions. Low flows were noted within the watercourse. A cotton boom was set up within the creek downstream of the workzone to ensure any sediment laden water generated as part of these works did not migrate downstream.

Works were completed by Spence Excavation using a CAT 308E 2 CR excavator. The excavator was used to create an access road along the east bank of the watercourse and worked from above the top of the bank only. Debris was systematically removed, placed above the highwater mark and hauled offsite to be disposed of appropriately. A few pieces were left in the riparian zone as large woody debris.

The removal of the debris caused a void along the west bank of the watercourse, adjacent to the road crossing. This void was backfilled with rock that was placed from the bridge deck of the Senkler Road.

Instream works were completed on August 7, 2018. Exposed soils along the east bank were covered in a thick layer of straw until riparian planting could be completed in the fall. Rehabilitation (replanting works) were completed November 14, 2018.

Works were completed following the terms outlined in the MoFLNRO Notification application (Tracking number 100239493).

Please do not hesitate to contact the undersigned should you have any questions or require further information.

Yours Truly,

LETTS ENVIRONMENTAL CONSULTANTS LTD.

Site Photographs

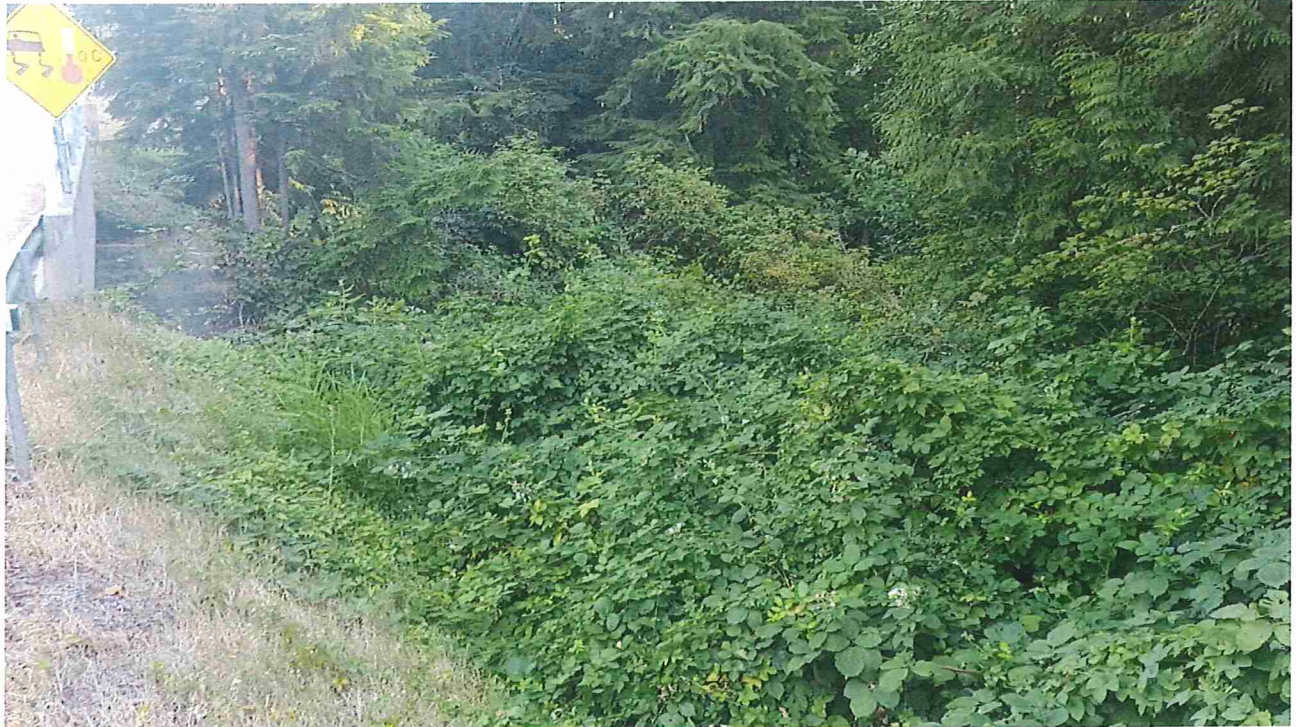


Photo 1: Site prior to works occurring.

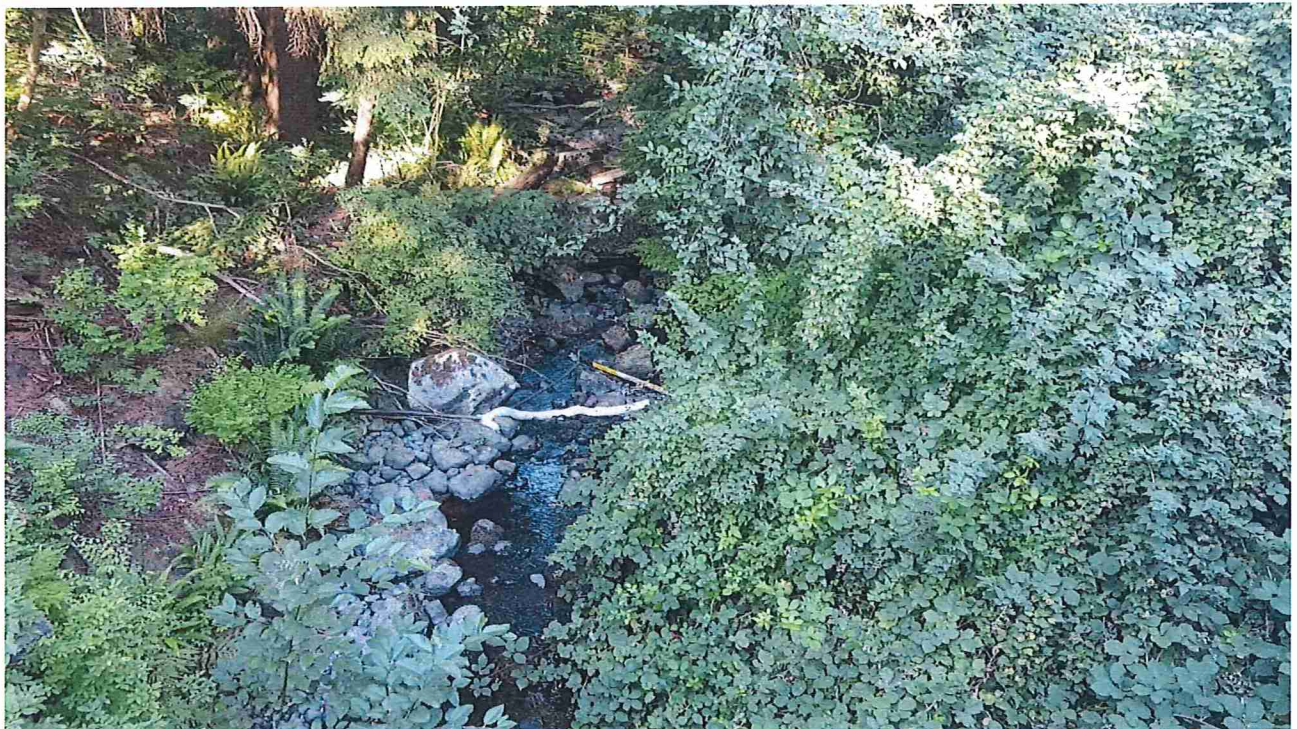


Photo 2: Installation of sediment control measures downstream.

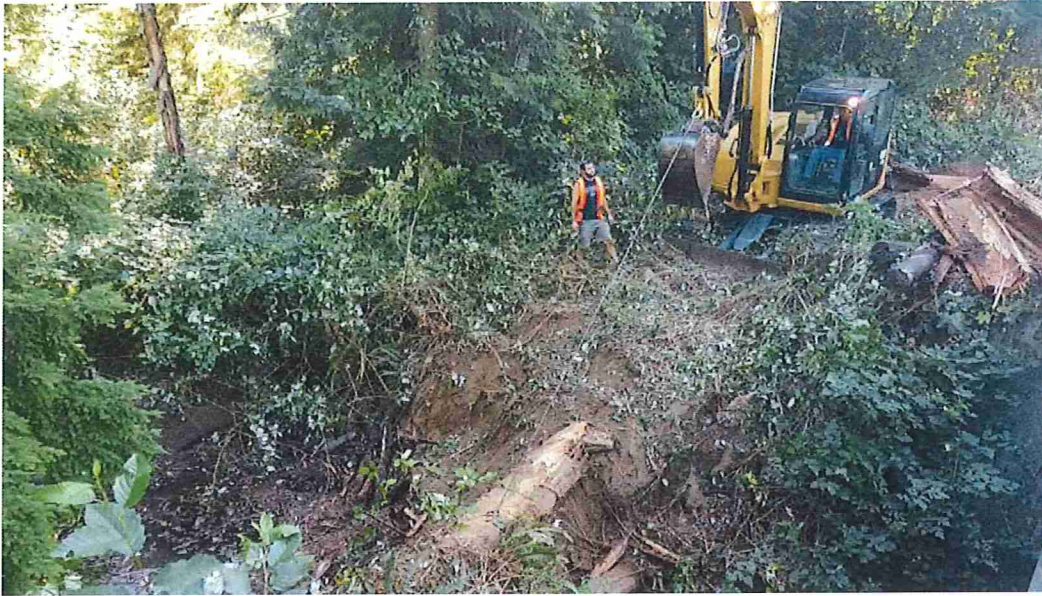


Photo 3: Systematic removal of old footbridge and excavator working from the top of bank.

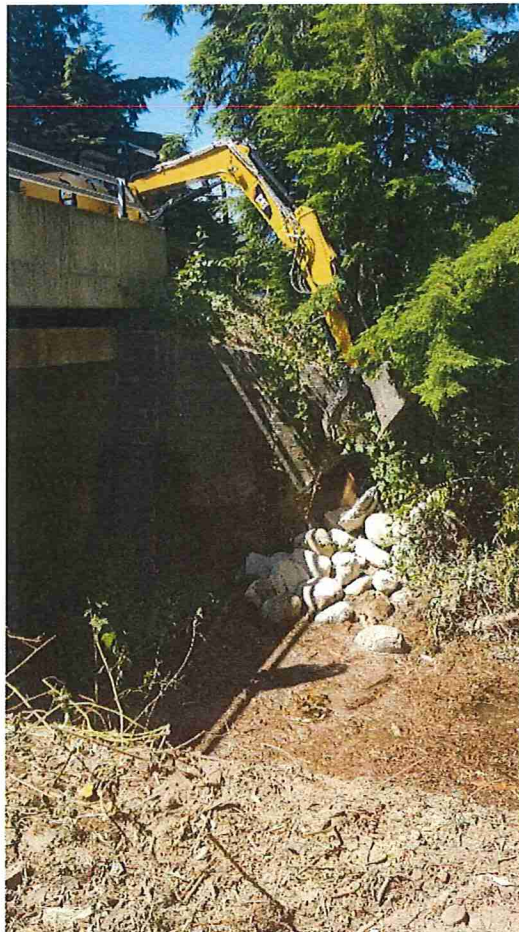


Photo 4: Placing of rock within the void created from the removal of the foot bridge.



Photo 5: Viewing east along the final riparian planting.



Photo 6: Viewing west along the final riparian planting.

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C/O Bernie Serné
4084 Bedwell Bay Rd,
Belcarra, BC, V3H 4P8

December 18, 2018

Attention: Bernie Serné

Dear Mr. Serné

Re: Culvert installation within Avalon Creek as part of the Tatlow Trail construction between Watson Road and Marine Avenue in Belcarra BC.

Please consider this our Final Report involving the construction of Tatlow Trail including the installation of a culvert within Avalon Creek in Belcarra BC. Letts Environmental Consultants Ltd. (Letts), were retained by the Village of Belcarra to monitor the works, which involved the installation of a 900mm diameter concrete culvert between two existing concrete weirs and armouring of the headwalls to allow for a public trail and stream crossing. Sandbags headwalls and a wooden fence was constructed along the stream crossing to ensure public safety.

A Notification application was made to Ministry of Forests, Lands and Natural Resource Operations (MoFLNRO) on April 4, 2018. Works were to occur following the "Village of Belcarra Proposed Tatlow Road Trail Works Crossing Avalon Creek From Marine Avenue to Bedwell Bay Road", that was submitted with the application.

Works commenced on August 9, 2018 under clear conditions. No flows were noted within the watercourse and all works were conducted in the dry. No dewatering was required.

Works were completed by Sandpiper Contracting LLP using a KOMATSU PC 138 US LC excavator. The excavator worked from the top of the bank only and did not enter the watercourse. Excavation of the channel at the location of the culvert occurred and structural material was placed. All removed soils and debris were hauled off site and disposed of appropriately. The culvert was installed and then the crossing backfilled. Sandbag headwalls were constructed at the ends of the culvert.

Instream works were completed on August 9, 2018. Exposed soils along the east bank from excavator tracking were covered in a thick layer of straw until trail construction was completed. All works were completed by September 20, 2018.

Works were completed following the terms outlined in the MoFLNRO Notification application (Tracking number 100239493).

Please do not hesitate to contact the undersigned should you have any questions or require further information.

Yours Truly,

LETTS ENVIRONMENTAL CONSULTANTS LTD.

Site Photographs



Photo 1: Site prior to works occurring.



Photo 2: Excavator and haul trucks working from outside the top of the bank.



Photo 3: Placing of structural materials.



Photo 4: Installation of culvert.



Photo 5: Completed stream crossing.



Photo 6: Final trail construction and viewing at the stream crossing.