

<b>Project Name</b>	Coastal GasLink Project	<b>Inspection Status</b>	Final
<b>EA Certificate #</b>	E14-03	<b>Inspection No.</b>	IR2020-057
<b>Project Status</b>	Certified	<b>Inspection Start</b>	2020-11-13
<b>Sector</b>	Energy	<b>UTM</b>	n/a
<b>Trigger</b>	Planned Inspection	<b>Inspection Type</b>	Administrative
<b>Project Description</b>	The Coastal GasLink Project (Project) is an approximately 650-kilometre natural gas pipeline.		
<b>Location Description</b>	The Project initiates near the community of Groundbirch in northeast BC and terminates at the LNG Canada facility near Kitimat.		
<b>Inspection Summary</b>	<p>On November 13, 2020, Shayla Frechette, Environmental Assessment Office (EAO) Compliance and Enforcement Officer (EAO C&amp;E) initiated an administrative inspection of the Project against the requirements of EAC E14-03 (Appendix 1-4).</p> <p>The Project was in Construction at the time of inspection.</p> <p>After review of observations and information obtained during the inspection, the following compliance determinations have been made:</p> <ol style="list-style-type: none"> <li>1. NON-COMPLIANT with Condition 26 with respect to the Environmental Management Plan – Appendix C.3 (Revision 4, December 14, 2018), Flood and Excessive Flow Contingency Plan</li> </ol> <p>Additional detail regarding these findings may be found in the sections below.</p> <p>The compliance determinations in this report reflect the findings from the inspection dates noted above. These determinations can change at any time upon information gathered through future inspections or if new information is obtained by EAO C&amp;E.</p>		
<b>In Attendance</b>	n/a		
<b>Certificate Holder</b>	Coastal GasLink Pipeline Limited		
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## INSPECTION DETAILS

### Requirement 1: Condition 26 of the Schedule B

The Holder must develop and implement an Environmental Management Plan (EMP) in accordance with Section 25 and Appendix 2A of the Application.

The Holder must develop the EMP in consultation with the Relevant Regulatory Authorities and Aboriginal Groups for the approval of EAO per Appendix A to this EAC.

The Holder must not commence Construction until the EMP has been approved. The EMP approved must be submitted to OGC prior to the Holder's planned date to commence Construction.

The Holder must carry out a Post-Construction Monitoring Program to monitor and report on the effectiveness of the mitigation set out in the EMP.

**Environmental Management Plan – Appendix C.3 (Appendix 5- Revision 4, December 14, 2018)**

**Flood and Excessive Flow Contingency Plan**

The weather conditions will be monitored by the Environmental Inspector(s) on a daily basis. If a major storm is predicted or occurs, qualified personnel will inspect all watercourse crossings where construction is in progress or has been completed, to determine whether any corrective actions need to be implemented. The appropriate regulatory agencies will be notified when required, as soon as practical, by the Environmental Inspector(s) or Construction Manager, that contingency measures have been implemented. At watercourses where an isolated crossing method is recommended, the proposed isolation crossing techniques may not be practical during periods of excessive flow or unusually wet seasons. The following contingency measures will be implemented progressively or individually, as warranted, if excessive flow or flood conditions are anticipated prior to commencing watercourse crossing construction.

- Assess the capability to handle the expected flow rate with the proposed crossing method. If use of the proposed crossing method is determined to be practical by Coastal GasLink, the crossing will proceed.
- Defer water crossing construction to a later time when flows have subsided, if it is determined by Coastal GasLink that the proposed crossing method is not practical.
- Alternatively, where the expected flow rates and window limitations combine to preclude the proposed crossing method, request approval from the appropriate regulatory agencies to use an alternate crossing method. The following contingency measures will be implemented progressively or individually, as warranted, if excessive flow or flood conditions should occur during watercourse crossing construction.
- Assess the capability to handle the anticipated flow rate with the proposed crossing method. If use of the proposed crossing method is determined to be practical by Coastal GasLink, the crossing will proceed.
- Increase the quantity of materials to perform the crossing as needed. Reinforce or replace the isolation and/or bypass structure(s) if necessary.
- Withdraw all equipment or tanks containing fuel, oil or other hazardous materials from potential flood areas.
- Remove all stationary and mobile equipment deployed at the crossing site to a safe area above the anticipated high water level.
- Remove any instream flume or dam equipment that may impede streamflow, a safe work conditions allow.
- Relocate all topsoil/surface material piles at the direction 1 of the Environmental Inspector(s).
- Relocate spoil piles, to the extent practical, to a position above the anticipated high water level.
- Evaluate vehicle crossing structure to determine whether adequate free-board is present on bridges and adequate capacity is available in culverts. Take corrective measures as appropriate to avoid flooding of adjacent lands.
- Import sandbags and place strategically to help stabilize and add height to banks to prevent flooding of nearby areas, especially where vegetation has been removed.

**Findings:**

On October 3, 2020 EAO C&E received an anonymous complaint which included a photograph of Coastal GasLink's right of way (ROW) at approximately Kilometre point 666+667, north of the Kitimat River (Photo 1).

On October 13, 2020 Dan WYMAN emailed EAO C&E with the following statement:

*"From September 23-28 the Kitimat area received approximately 140mm of rain, raising the water level of the Kitimat River by 4m in less than 24hrs peaking just before noon on Sept 28th. Within 24hrs (September 29) the water had receded enough that the ROW was no longer flooded and MSJV was able to return to the area and clean-up the site without issue. As this was overland flooding, we don't consider this to be an ESC issue and any ESC mitigation measures affected by the flood have since been repaired or replaced.*

*Following a post-flood inspection of the site, Coastal Gas Link confirmed that no non-compliances had occurred and therefore no reporting to regulators was required. The OGC independently inspected the site on Oct 6 and also did not identify any compliance issues. I disclosed this event to both the EAO and OGC during the October 1, 2020 weekly liaison call. As discussed by Tracy in last week's liaison call, construction of some watercourse crossings in the Kitimat area have been somewhat delayed while we wait for the ground to stabilize."*

On October 13, 2020 EAO C&E requested additional information from WYMAN including:

- Records of weather monitored by the EI from September 20 to 30, 2020;
- Copies of all water course crossing inspections prior to storm event;
- If any contingency measures were completed prior to the flooding;
- If any watercourse crossings were in construction at the time of the flood; and,
- Why the equipment was not moved to high ground during the 24 hour period of raising water.

On October 26, 2020 Tracy YOUNG provided EAO C&E with the following information:

*"No other pipeline watercourse crossings have been installed in this area other than the Kitimat River Direct Pipe Installation (DPI) and that crossing was completed on August 9, 2020. Prior to the storm event there was limited activities at the Kitimat River crossing (spreading of mulch and welding but no earthwork activity), therefore inspection resources were focused on other areas.*

*Once it was recognized that the water level in the Kitimat River was rising quickly, crews removed smaller pieces of equipment such as generators and pumps as well as jerry cans and other small pieces containing fuel, oil or other hazardous materials from the site. These pieces were prioritized over the larger pieces of equipment as the smaller items were more likely to be negatively impacted by flood waters. Crews continued to remove items from site until the District of Kitimat announcing an evacuation of the area at approximately 2am on September 28th. The hydrograph for the Kitimat River is attached showing the spike observed in water level and discharge rate on September 27th - September 28th (Appendix 6). The highest water level/discharge rate recorded during this storm event was at 10am on September 28th.*

*As noted in the weather records above, precipitation was recorded each day leading up to the storm event on the 27th. Although there was a heavy rainfall warning for September 27th, this area has received similar volumes of precipitation previously that did not result in overland flow. This storm event also affected further upstream on the Kitimat River (North Kitimat area). This precipitation that fell there, in addition to the rainfall received at site, resulted in the flood event shown in the photo."*

On November 6, 2020 YOUNG also provided EAO C&E with Daily Environmental Reports for September 25- 28, 2020 which include current weather and upcoming weather predictions (Appendix 7-10). The Daily Environmental Reports notes the following each day:

September 25, 2020: *"Continued inspecting RW 160.3 below km 50.0 as the rain began to fall again this afternoon."* And; *"Large rain event of possibly 100 mm of rain forecasted for the next few days. MSJV was preparing, however more urgency and preparation is needed."* (Appendix 7).

September 26, 2020: *"A large rain event is forecasted to begin this evening that could bring over 100 mm of rain. ESC measures have to be prepared to handle a lot of run off."* And; *"The rain hasn't started to fall heavily and the streams and NCDs on this road are currently flowing clean and not impacted by construction. Current ESC measures seem to be working and keeping up. This could change quickly if it starts to rain harder."* (Appendix 8).

September 27, 2020: *"Large rain event expected today that could bring 100 mm of rain. Rain began at 10:15 AM At this point (around noon) the rain has begun to come down heavily and there was visibly turbid water from the road getting into most NCD's and some streams."* And; *"Rain expected to continue heavily overnight."* (Appendix 9).

September 28, 2020: *"Heavy rain event has stopped and there are multiple areas of severe flooding, especially at the DPI pad and LNC Canada site. The Kitimat River has completely flooded and covered the work site. 700 meeting with MSJV environment to discuss the plan to assess the RoW near the Kitimat River and the current flooding"* (Appendix 10).

WYMAN also provided photographs which were taken on October 6, 2020 of the site after the water had receded (Photos 2-4).

It appears that CGL did predict a heavy rain fall event the days prior to September 28, 2020. Although ESC measures were implemented to reduce the impacts on the nearby waterbodies CGL did not preform the following actions as required in the Plan above:

- Qualified personnel will inspect all watercourse crossings where construction is in progress or has been completed, to determine whether any corrective actions need to be implemented.
- Withdraw all equipment or tanks containing fuel, oil or other hazardous materials from potential flood areas.
- Remove all stationary and mobile equipment deployed at the crossing site to a safe area above the anticipated highwater level.
- Evaluate vehicle crossing structure to determine whether adequate free-board is present on bridges and adequate capacity is available in culverts. Take corrective measures as appropriate to avoid flooding of adjacent lands.
- Import sandbags and place strategically to help stabilize and add height to banks to prevent flooding of nearby areas, especially where vegetation has been removed.

The information provided above appears to provide evidence of non-compliance with respect to Condition 26 regarding Environmental Management Plan – Appendix C.3 (Revision 4, December 14, 2018), as CGL did not follow the Flood and Excessive Flow Contingency Plan.





Photo 1: Flooding of CGL ROW provided by anonymous complainant.



Photo 2: Photo provided by WYMAN of site condition after flooding.





Photo 3: Photo provided by WYMAN of site condition after flooding.




Photo 4: Photo provided by WYMAN of site condition after flooding.

**Compliance Determination: Out – WARNING**

**Actions Required by Certificate Holder & Additional Comments**

None at this time.

<b>Regulatory Considerations</b>	
None at this time.	
<b>Enforcement Summary</b>	
COASTAL GASLINK PIPELINE LIMITED IS WARNED THAT THE PROJECT IS NOT COMPLIANT WITH CONDITION 26 OF EAC# E14-03 WITH RESPECT TO FLOOD AND EXCESSIVE FLOW CONTINGENCY PLAN.	
<b>Inspection Conducted by</b>	
 Shayla Frechette Compliance & Enforcement Specialist	<b>Date Sent to Certificate Holder for Opportunity to Respond</b> 2020-11-30
	<b>Date Finalized</b> 2019-12-18
<b>Appendices</b>	
Appendix 1-CGL Certificate E14-03 Appendix 2- Schedule A Appendix 3- Schedule B Appendix 4- CGL Certificate E14-03 Amendment 1 Appendix 5- CGL EMP Appendix C - Contingency Plans 2018. Appendix 6- Kitimat River Flood Hydrograph Appendix 7- 25Sept20_DailyReport_Page Appendix 8- 26Sept20_DailyReport_Page Appendix 9- 27Sept20_DailyReport_Page Appendix 10- 28Sept20_DailyReport_Page	
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