

July 19, 2024

Coastal GasLink Pipeline Ltd.
450-1st Street SW
Calgary, AB T2P5H1

Attention: Coastal GasLink Pipeline Ltd.

RE: Amendment of Application Determination Number 100084230

Permit holder: Coastal GasLink Pipeline Ltd.
Amendment Date of Issuance: July 19, 2024
Amendment Effective Date: July 19, 2024
Application Submission Date: June 04, 2024
Amendment Application Number: 100119632
Approved Disturbance Footprint: 0.0 ha

Amendment Details

Changes In and About a Stream: 3282	Adding authorized changes in and about a stream at four (4) locations within the existing pipeline right of way (ROW) and an existing shoofly access for the purpose of permanently leaving piled blasted rocks in place north of the ROW (approximately at KP 626.7 to KP 628.1), as applied for under amendment application 100119632
--	---

General Permissions, Authorizations and Conditions

Permissions

Energy Resource Activities Act

1. The BC Energy Regulator, under section 31(7) of the *Energy Resource Activities Act*, hereby grants an amendment to the permit issued for the above referenced Application Determination Number, any associated authorizations subject to the original permit, any subsequent amendments and any additional or revised conditions as set out herein, as per the Amendment Details table above and, if required, as detailed in the Technical Specification Details and/or Activity Details table(s) below.
2. The permissions and authorizations granted under this amendment are limited to the area identified in the spatial data submitted to the BC Energy Regulator in the amendment application as identified and dated above; herein after referred to as the 'activity area'.

Conditions

Notification

3. The Permit Holder must notify the First Nation(s) copied on this permit/authorization at least 5 (five) working days prior to project commencement.

Clearing/Forest Act

4. The permit holder is permitted to fell any trees located on Crown land within 1.5 tree lengths of the activity area that are considered to be a safety hazard according to Workers Compensation Act regulations and must be felled in order to eliminate the hazard.


Watercourse Crossings and Works

5. Stream, lake and wetland crossings must be constructed in accordance with the methods and any mitigations, as specified in the application.
6. Construction or maintenance activities within a fish bearing stream or wetland must occur:
 - a. during the applicable reduced risk work windows as specified in the Skeena Region - Reduced Risk Window;
 - b. in accordance with alternative timing and associated mitigation recommended in a plan prepared by a qualified professional and accepted by the BC Energy Regulator; or
 - c. in accordance with an authorization or letter of advice from Fisheries and Oceans Canada that is provided to the BC Energy Regulator;

If activities are to occur in accordance with b or c above, the documentation must be submitted to the BC Energy Regulator at postpermitrequests@bc-er.ca prior to commencement of activities.

7. At any time, the BC Energy Regulator may suspend instream works authorized under this permit. Suspensions on instream works will remain in place until such time as the BC Energy Regulator notifies permit holders that works may resume. Reasons for suspension of works may include, but are not limited to, drought conditions and increased environmental or public safety risks.
8. Equipment used for activities under this Permit must not be situated in a stream channel unless it is dry or frozen to the bottom at the time of the activity.

All pages included in this permit and any attached documents form an integral part of this permit.



Norberto Pancera
Authorized Signatory
BC Energy Regulator Delegated Decision Maker

Copied to:
First Nations – Haisla Nation Council

July 27, 2022

Coastal GasLink Pipeline Ltd.
450 - 1st Street SW
Calgary, AB T2P 5H1

Attention: Coastal GasLink Pipeline Ltd.

RE: Determination of Application Number 100116271

Permit Holder: Coastal GasLink Pipeline Ltd.
Date of Issuance: July 27, 2022
Effective Date: July 27, 2022
Application Submission Date: July 19, 2022
Application Determination Number: 100084230

AUTHORIZATIONS and CONDITIONS

AUTHORIZATIONS

Forest Act

1. The Commission, pursuant to section 47.4 of the *Forest Act*, hereby authorizes the removal of Crown timber from the activity area under the cutting permit(s) associated with the Master Licence(s) as follows:

Master Licence to Cut No.: M02616
Cutting Permit No.: 35
Timber Mark No.: MTD646
Total New Cut: 233.67
Forest District: (DND) Nadina Natural Resource District
Region: Interior

Master Licence to Cut No.: M02617
Cutting Permit No.: 25
Timber Mark No.: MTD647
Total New Cut: 476.25
Forest District: (DKM) Coast Mountains Natural Resource District
Region: Interior

2. The cutting permit(s) are deemed spent upon the submission of the post-construction plan or upon either the cancellation or expiry of the activities authorized under the permit.

CONDITIONS

Notification

3. A notice of construction start must be submitted, as per the relevant Commission process at the time of submission, at least 48 hours prior to the commencement of activities under this permit.

Clearing/Forest Act

4. The permit holder is permitted to fell any trees located on Crown land within 1.5 tree lengths of the activity area that are considered to be a safety hazard according to Workers Compensation Act regulations and must be felled in order to eliminate the hazard. Trees or portions of these trees that can be accessed from the activity area without causing damage to standing timber may be harvested.
5. The holder of the cutting permit must pay to the government, stumpage and any waste billing determined in accordance with the terms of this authorization.
6. The authorized cutting permit does not grant the permit holder the exclusive right to harvest Crown timber from the activity area. Authority to harvest some or all of the timber may be granted to other persons. The permit holder's right to harvest timber applies to any timber found on the site at the time they undertake harvesting activities.
7. All harvested Crown Timber must be marked with the cutting permit's associated Timber Mark.
8. Any waste assessments applied under the Master Licence to Cut are subject to the merchantability specifications and monetary waste billing requirements in the Provincial Logging Residue and Waste Manual specific to the region associated with the Cutting Permit authorization.
9. Stumpage will be calculated in accordance with the Interior Appraisal Manual as amended from time to time. In the current version of the Interior Appraisal Manual, stumpage will be determined in accordance with Table 6-3.
10. Stumpage will be calculated in accordance with the Coast Appraisal Manual (volume based).

ADVISORY GUIDANCE

1. Unless a condition or its context suggests otherwise, terms used in this approval have the same meaning as the Environmental Protection and Management Regulation under the Oil and Gas Activities Act.

All pages included in this permit and any attached documents form an integral part of this permit.



Corey Scofield
Authorized Signatory
Commission Delegated Decision Maker

Copied to:

Land Agent – CWL Energy Management Ltd.
Ministry of Forests District Office - (DND) Nadina Natural Resource District
Ministry of Forests District Office - (DKM) Coast Mountains Natural Resource District



May 29, 2020

Coastal GasLink Pipeline Ltd.
450 - 1st Street SW
Calgary, Alberta T2P 5H1

Attention: Coastal GasLink Pipeline Ltd.

RE: Amendment to Application Determination Number 100084230, OGC Legacy # 9708372

Permit Holder: Coastal GasLink Pipeline Ltd.
Amendment Date of Issuance: May 29, 2020
Amendment Effective Date: May 29, 2020
Application Submission Date: April 23, 2020
Amendment Application Number: 100110933

AMENDMENT DETAILS

Pipeline Project No.: 000023852	Extension of pipeline right of way and Segment 2.
--	---

GENERAL PERMISSIONS, AUTHORIZATIONS and CONDITIONS

PERMISSIONS

Oil and Gas Activities Act

The BC Oil and Gas Commission (the "Commission"), under section 31(7) of the *Oil and Gas Activities Act*, hereby grants an amendment to the permit issued for the above referenced Application Determination Number, any associated authorizations subject to the original permit, any subsequent amendments and any additional or revised conditions as set out herein, as per the Amendment Details table above.

ACTIVITY SPECIFIC DETAILS, PERMISSIONS AND CONDITIONS

PIPELINE

Pipeline Project Number: 000023852

TECHNICAL ACTIVITY DETAILS

Seg No.: 2	From: a-77-A / 103-I-02 To: d-25-B / 103-I-02
Flow Direction: Uni-Directional	Maximum Operating Pressure (kpa): 13375
Product: Natural Gas - Sweet	Max H₂S (mol%): 0.002
Installation Number(s): 002, 003	

Technical Pipeline Permissions

1. Piping & Instrumentation Diagram(s) submitted by Coastal GasLink Pipeline Ltd.: 1 6442-01-ML-02-221 Revision 02, dated February 21, 2020, Changes may be made to pigging design, and to above ground valves and piping, provided that:
 - a. the changes do not affect direct connections to pipelines and facilities;
 - b. there are no changes to approved pressure protection, H2S protection or isolation;
 - c. there is no substantive impact to any aspect of the project that was included in the consultation; and
 - d. the design and operation of the pipeline continues to meet all regulatory requirements and the requirements of CSA Z662.

ADVISORY GUIDANCE

1. Construction plans submitted as part of the application are for the Permit Holder's internal reference only and were not reviewed as a decision tool for this permit, nor does it form an integral part of this permit.

This amendment forms an integral part of your permit(s) and should be attached thereto.



James O'Hanley
Vice President, Permit Adjudication
Authorized Signatory
Commission Delegated Decision Maker

CC: First Nations (Haisla Nation)
WorkSafe BC
OGC File: 9708372
BC Environmental Assessment Office



January 31, 2020

Coastal GasLink Pipeline Ltd.
450 - 1st Street SW
Calgary, Alberta T2P 5H1

Attention: Coastal GasLink Pipeline Ltd.

RE: Amendment to Application Determination Number 100084230, OGC Legacy # 9708372

Permit Holder: Coastal GasLink Pipeline Ltd.
Amendment Date of Issuance: January 31, 2020
Amendment Effective Date: January 31, 2020
Application Submission Date: October 23, 2019
Amendment Application Number: 100109587

AMENDMENT DETAILS

Pipeline Project No.: 000023852	Replace permit condition 46
---------------------------------	-----------------------------

GENERAL PERMISSIONS, AUTHORIZATIONS and CONDITIONS

PERMISSIONS

Oil and Gas Activities Act

The BC Oil and Gas Commission (the "Commission"), under section 31(7) of the *Oil and Gas Activities Act*, hereby grants an amendment to the permit issued for the above referenced Application Determination Number, any associated authorizations subject to the original permit, any subsequent amendments and any additional or revised conditions as set out herein, as per the Amendment Details table above.

CONDITIONS

Wildlife

The Commission replaces condition 46:

When using aircraft to undertake activities associated with the permit, the permit holder must provide written instructions to the pilot specifying that flights must not, except in the event of an emergency situation:

- a) directly approach, hover over, circle, or land near mountain goats, moose, elk, or caribou;
- b) directly approach, hover over or circle near, or land within 500 metres of known wolverine den between February 1 and June 30;
- c) occur within 2000 metres horizontal distance of U-6-001 between November 1 and June 15 except:
 - i. where there is no line of sight; or
 - ii. within unit numbers MG-212, MG-213, and MG-216 of UWR U-6-001, flights may occur between February 1, 2019 and April 30, 2019.

- iii. within areas associated with unit numbers 12, 13, and 14 of UWR U-6-003, flights may occur between February 1, 2019 and June 15, 2019.
- d) occur below 400 metres elevation when flying directly above UWR U-6-001 and U-6-003 except within unit 13 of UWR U-6-003 flights may occur between February 1, 2019 and June 15, 2019; and
- e) occur within 500 metres vertical distance or 2000 metres horizontal distance of where caribou are observed within WHA 6-333.

With the following condition:

When using aircraft to undertake activities associated with the permit, the permit holder must provide written instructions to the pilot specifying that flights must not, except in the event of an emergency situation:

- a) directly approach, hover over, circle, or land near mountain goats, moose, elk, or caribou;
- b) directly approach, hover over or circle near, or land within 500 metres of known wolverine den between February 1 and June 30;
- c) *occur within 2000 metres horizontal distance of U-6-001 and U-6-003 while conducting helicopter logging activities between November 1 and June 15 except:*
 - i. *where there is no line of sight; or*
 - ii. *within unit numbers MG-212, MG-213, and MG-216 of UWR U-6-001, flights may occur between February 1, 2020 and June 15, 2020.*
 - iii. *within areas associated with unit numbers 11, 12, 13, 14, 15, 339, 349, 353, 359, 361, 364 and 366 of UWR U-6-003, flights may occur between February 1, 2020 and June 15, 2020.*
- d) *occur below 400 metres elevation when flying directly above UWR U-6-001 and U-6-003 except within MG-216 of UWR U-6-001 and unit 13 of UWR U-6-003, flights may occur between February 1, 2020 and June 15, 2020;*
- e) occur within 500 metres vertical distance or 2000 metres horizontal distance of where caribou are observed within WHA 6-333.

ADVISORY GUIDANCE

1. Construction plans submitted as part of the application are for the Permit Holder's internal reference only and were not reviewed as a decision tool for this permit, nor does it form an integral part of this permit.
2. It is requested that the permit holder record all mountain goat sightings within UWR U-6-001 and within 2000m of UWR U-6-001, and that the results are shared with Haisla Nation and Kitselas First Nation annually on or before August 15, during construction activities.
3. It is requested that the permit holder record all mountain goat sightings within UWR U-6-003 and within 2000m of UWR U-6-003, and that the results are shared with the Wet'suwet'en First Nation, the Office of the Wet'suwet'en, Dark House, and Skin Tyee Nation annually on or before August 15, during construction activities.

This amendment forms an integral part of your permit(s) and should be attached thereto.



James O'Hanley
Vice President, Permit Adjudication
Authorized Signatory
Commission Delegated Decision Maker

Permit Holder: Coastal GasLink Pipeline Ltd.
Application Determination Number: 100084230

Application Submission Date: October 23, 2019
Date Issued: January 31, 2020

Copied to:

First Nations – Haisla Nation, Kitselas First Nation, Nee Tahi Buhn Indian Band, Skin Tyee Nation,
Office of the Wet'suwet'en, Wet'suwet'en First Nation, Ya'tsalkas/Dark House



June 4, 2019

Coastal GasLink Pipeline Ltd.
450 - 1st Street SW
Calgary, Alberta T2P 5H1

Attention: Coastal GasLink Pipeline Ltd.

RE: Amendment to Application Determination Number 100084230, OGC Legacy # 9708372

Permit Holder: Coastal GasLink Pipeline Ltd.
Amendment Date of Issuance: June 4, 2019
Amendment Effective Date: June 4, 2019
Application Submission Date: April 28, 2019
Amendment Application Number: 100108265

AMENDMENT DETAILS

Pipeline Project No.: 000023852	Replace permit condition 46
---------------------------------	-----------------------------

GENERAL PERMISSIONS, AUTHORIZATIONS and CONDITIONS

PERMISSIONS

Oil and Gas Activities Act

The BC Oil and Gas Commission (the "Commission"), under section 31(7) of the *Oil and Gas Activities Act*, hereby grants an amendment to the permit issued for the above referenced Application Determination Number, any associated authorizations subject to the original permit, any subsequent amendments and any additional or revised conditions as set out herein, as per the Amendment Details table above.

CONDITIONS

Wildlife

The Commission replaces condition 46:

When using aircraft to undertake activities associated with the permit, the permit holder must provide written instructions to the pilot specifying that flights must not, except in the event of an emergency situation:

- a) directly approach, hover over, circle, or land near mountain goats, moose, elk, or caribou;
- b) directly approach, hover over or circle near, or land within 500 metres of known wolverine den between February 1 and June 30;
- c) occur within 2000 metres horizontal distance of UWR U-6-003 and U-6-001 between November 1 and June 15 except:
 - i. where there is no line of sight; or
 - ii. within areas associated with unit numbers 12, 13, and 14 of UWR U-6-003 and unit numbers MG-212, MG-213, and MG-216 of UWR U-6-001, flights may occur between February 1, 2019 and April 30, 2019.

- d) occur below 400 metres elevation when flying directly above UWR U-6-001 and U-6-003 except within unit 13 of UWR U-6-003 flights may occur between February 1, 2019 and April 30, 2019; and
- e) occur within 500 metres vertical distance or 2000 metres horizontal distance of where caribou are observed within WHA 6-333.

With the following condition:

When using aircraft to undertake activities associated with the permit, the permit holder must provide written instructions to the pilot specifying that flights must not, except in the event of an emergency situation:

- a) directly approach, hover over, circle, or land near mountain goats, moose, elk, or caribou;
- b) directly approach, hover over or circle near, or land within 500 metres of known wolverine den between February 1 and June 30;
- c) occur within 2000 metres horizontal distance of U-6-001 between November 1 and June 15 except:
 - i. where there is no line of sight; or
 - ii. within unit numbers MG-212, MG-213, and MG-216 of UWR U-6-001, flights may occur between February 1, 2019 and April 30, 2019.
 - iii. within areas associated with unit numbers 12, 13, and 14 of UWR U-6-003, flights may occur between February 1, 2019 and June 15, 2019.
- d) occur below 400 metres elevation when flying directly above UWR U-6-001 and U-6-003 except within unit 13 of UWR U-6-003 flights may occur between February 1, 2019 and June 15, 2019;
- e) occur within 500 metres vertical distance or 2000 metres horizontal distance of where caribou are observed within WHA 6-333.

ADVISORY GUIDANCE

1. Construction plans submitted as part of the application are for the Permit Holder's internal reference only and were not reviewed as a decision tool for this permit, nor does it form an integral part of this permit.
2. It is requested that the permit holder record all mountain goat sightings within UWR U-6-001 and within 2000m of UWR U-6-001, and that the results are shared with Haisla Nation and Kitselas First Nation annually on or before August 15, during construction activities.
3. It is requested that the permit holder record all mountain goat sightings within UWR U-6-003 and within 2000m of UWR U-6-003, and that the results are shared with Wet'suwet'en First Nation, the Office of the Wet'suwet'en, Dark House, and Skin Tyee Nation annually on or before August 15, during construction activities.

This amendment forms an integral part of your permit(s) and should be attached thereto.



James O'Hanley
Vice President, Permit Adjudication
Authorized Signatory
Commission Delegated Decision Maker

Copied to:

Land Agent – Roy Northern Land Service Ltd.
First Nations – Skin Tyee Nation, Office of the Wet'suwet'en, Wet'suwet'en First Nation



March 19, 2019

Coastal GasLink Pipeline Ltd.
450 - 1st Street SW
Calgary, Alberta T2P 5H1

Attention: Coastal GasLink Pipeline Ltd.

RE: Amendment to Application Determination Number 100084230, OGC Legacy # 9708372

Permit Holder: Coastal GasLink Pipeline Ltd.
Amendment Date of Issuance: March 19, 2019
Amendment Effective Date: March 19, 2019
Application Submission Date: January 22, 2019
Amendment Application Number: 100106483

AMENDMENT DETAILS

Pipeline Project No.: 000023852	Replace permit condition 46
---------------------------------	-----------------------------

GENERAL PERMISSIONS, AUTHORIZATIONS and CONDITIONS

PERMISSIONS

Oil and Gas Activities Act

The BC Oil and Gas Commission (the "Commission"), under section 31(7) of the *Oil and Gas Activities Act*, hereby grants an amendment to the permit issued for the above referenced Application Determination Number, any associated authorizations subject to the original permit, any subsequent amendments and any additional or revised conditions as set out herein, as per the Amendment Details table above.

CONDITIONS

Wildlife

The Commission replaces condition 46:

When using aircraft to undertake activities associated with the permit, the permit holder must provide written instructions to the pilot specifying that flights must not, except in the event of an emergency situation:

- a) directly approach, hover over, circle, or land near mountain goats, moose, elk, or caribou;
- b) directly approach, hover over or circle near, or land within 500 metres of known wolverine den between February 1 and June 30;
- c) occur within 2000 metres horizontal distance of UWR U-6-001 and U-6-003 between November 1 and June 15 except where there is no line of sight;
- d) occur below 400 metres elevation when flying directly above UWR U-6-001 and U-6-003; and
- e) occur within 500 metres vertical distance or 2000 metres horizontal distance of where caribou are observed within WHA 6-333.

With the following condition:

When using aircraft to undertake activities associated with the permit, the permit holder must provide written instructions to the pilot specifying that flights must not, except in the event of an emergency situation:

- a) directly approach, hover over, circle, or land near mountain goats, moose, elk, or caribou;
- b) directly approach, hover over or circle near, or land within 500 metres of known wolverine den between February 1 and June 30;
- c) occur within 2000 metres horizontal distance of UWR U-6-003 and U-6-001 between November 1 and June 15 except:
 - i. where there is no line of sight; or
 - ii. within areas associated with unit numbers 12, 13, and 14 of UWR U-6-003 and unit numbers MG-212, MG-213, and MG-216 of UWR U-6-001, flights may occur between February 1, 2019 and April 30, 2019.
- d) occur below 400 metres elevation when flying directly above UWR U-6-001 and U-6-003 except within unit 13 of UWR U-6-003 flights may occur between February 1, 2019 and April 30, 2019; and
- e) occur within 500 metres vertical distance or 2000 metres horizontal distance of where caribou are observed within WHA 6-333.

ADVISORY GUIDANCE

1. Construction plans submitted as part of the application are for the Permit Holder's internal reference only and were not reviewed as a decision tool for this permit, nor does it form an integral part of this permit.
2. It is requested that the permit holder record all mountain goat sightings within UWR U-6-001 and within 2000m of UWR U-6-001, and that the results are shared with Haisla Nation and Kitselas First Nation annually on or before August 15, during construction activities.
3. It is requested that the permit holder record all mountain goat sightings within UWR U-6-003 and within 2000m of UWR U-6-003, and that the results are shared with Wet'suwet'en First Nation, the Office of the Wet'suwet'en, Dark House, and Skin Tyee Nation annually on or before August 15, during construction activities.

This amendment forms an integral part of your permit(s) and should be attached thereto.



James O'Hanley
Vice President, Permit Adjudication
Authorized Signatory
Commission Delegated Decision Maker

Copied to:

Land Agent – Roy Northern Land Service Ltd.
First Nations – Haisla Nation, Kitselas First Nation, Skin Tyee Nation, Office of the Wet'suwet'en, Wet'suwet'en First Nation, Ya'tsalkas/Dark House



November 5, 2018

Coastal GasLink Pipeline Ltd.
450 - 1st Street SW
Calgary, Alberta T2P 5H1

Attention: Coastal GasLink Pipeline Ltd.

RE: Pipeline Permit (Section 8)

Permit Holder: Coastal GasLink Pipeline Ltd.
Date of Issuance: November 5, 2018
Effective Date: November 5, 2018
Application Submitted Date: January 31, 2015
Application Determination Number: 100084230
Legacy OGC File Number: 9708372

GENERAL PERMISSIONS, AUTHORIZATIONS and CONDITIONS

PERMISSIONS

Oil and Gas Activities Act

1. The BC Oil and Gas Commission (the Commission), under section 25 (1) of the *Oil and Gas Activities Act*, hereby permits the Permit Holder referenced above to carry out the following activities, indicated in the Approved Activities table above, subject to the conditions contained herein, any applicable exemptions and authorizations:
 - a) To construct and operate a pipeline as detailed in the Technical Specification Details tables below.

Seg No.: 1	From: c-6-J/93-L-4 To: a-77-A/103-I-02
Flow Direction: Uni-Directional	Maximum Operating Pressure (kpa): 13375
Product: Natural Gas - Sweet	Max H₂S (mol%): 0.002
Seg No.: 2	From: a-77-A/103-I-02 To: a-35-B/103-I-2
Flow Direction: Uni-Directional	Maximum Operating Pressure (kpa): 13375
Product: Natural Gas - Sweet	Max H₂S (mol%): 0.002

2. The permissions and authorizations granted under this permit are limited to the areas described in the following construction plans by McELHANNEY submitted January 31, 2015:

McELHANNEY Document: CGW4703-MCSL-G-MP-425-001, Revision 0, Sheet 1 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-002, Revision 0, Sheet 2 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-003, Revision 0, Sheet 3 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-004, Revision 0, Sheet 4 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-005, Revision 0, Sheet 5 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-006, Revision 0, Sheet 6 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-007, Revision 0, Sheet 7 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-008, Revision 0, Sheet 8 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-009, Revision 0, Sheet 9 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-010, Revision 0, Sheet 10 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-011, Revision 0, Sheet 11 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-012, Revision 0, Sheet 12 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-013, Revision 0, Sheet 13 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-014, Revision 0, Sheet 14 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-015, Revision 0, Sheet 15 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-016, Revision 0, Sheet 16 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-017, Revision 0, Sheet 17 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-018, Revision 1, Sheet 18 of 20, dated February 5, 2015.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-019, Revision 0, Sheet 19 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-020, Revision 1, Sheet 20 of 20, dated February 5, 2015.

3. The permission to occupy and use Crown land excludes the area within *Land Act* section 16 map reserve 6408359 and 6407596.

Land Act

4. The Commission, pursuant to section 39 of the *Land Act*, hereby authorizes the occupation and use of any Crown land located within the activity area.
 - a) A licence authorized under section 39 of the *Land Act* for the Crown land portion of this application will follow. The Permit Holder is subject to the conditions contained in the Licence.
 - b) The authorization to occupy and use Crown land under the Licence expires two years from the date of issuance, unless the Commission has received notice of construction start, or this permit is otherwise extended, suspended, cancelled, surrendered or declared spent.
 - c) The authorization to occupy and use Crown land does not entitle the Permit Holder to exclusive possession of the activity area.

AUTHORIZATIONS

Forest Act

5. The Commission, pursuant to section 47.4 of the *Forest Act*, hereby authorizes the removal of Crown timber from the activity area under the cutting permits associated with the Master Licence(s) as follows:

Master Licence to Cut No.: M02343

Cutting Permit No.: 10

Timber Mark No.: MTB 443

Total New Cut: 223.67

Forest District: (DND) Nadina Natural Resource District

Region: Interior

Master Licence to Cut No.: M02344

Cutting Permit No.: 8

Timber Mark No.: MTB 442

Total New Cut: 476.25

Forest District: (DKM) Coast Mountains Natural Resource District

Region: Interior

6. The cutting permits are deemed spent upon the submission of the post-construction plan or upon either the cancellation or expiry of the activities authorized under the permit.
7. The cutting permit does not include any areas that are located within:
 - a) a Community Forest Agreement, First Nations Woodland Licence, Tree Farm Licence, Timber Licence, Occupant Licence to Cut or Woodlot Licence unless there is an agreement with the Agreement or Licence holder to harvest the timber located within the Agreement or Licence area under the relevant Master Licence to Cut and associated cutting permit indicated below, or
 - b) a subsisting cutting permit issued to another party.

CONDITIONS

Notification

8. At least 30 days prior to commencing any construction activities under this permit, the permit holder must provide the Carrier Sekani Tribal Council, Haisla Nation, Kitselas First Nation, Moricetown Band, Office of the

Wet'suwet'en, Skin Tyee Nation, Wet'suwet'en First Nations and Ya'tsalkas/Dark House the proposed construction schedule.

9. At least one week prior to the beginning of each month, the permit holder must submit a schedule to the Commission indicating the location and timing of horizontal directional drilling, microtunnelling or in-stream work planned to commence the following month.
10. Unless a submission has been made under condition 11, the permit holder must annually, on or before March 31 of each year, submit to the Commission a Post Construction Plan map showing the location and nature of any construction activities completed under this permit during the previous calendar year.
11. Within 60 days of completion of construction activities under this permit, the permit holder must submit to the Commission a Post Construction Plan as a shape file and PDF plan accurately identifying the location of the total area actually disturbed under this permit, and a written statement indicating whether the permit holder has complied with the permit conditions and applicable legislation relating to the design and construction of the activities authorized under this permit. The written statement must be signed by the permit holder and specify the date on which it was made. The shapefile and plan must be submitted via eSubmission.
12. A notice of maintenance activities must be submitted, as per the relevant Commission process at the time of submission, at least two (2) working days prior to the commencement of any changes in or about a stream associated with maintenance activities.
13. At least ten (10) working days prior to the commencement of any changes in or about a stream associated with maintenance activities, the Permit Holder must provide a notice of works to any First Nation(s) who may have Aboriginal Interests identified, as per the BC First Nations Consultative Areas Database, within the area in which the works are to occur.

First Nations

14. At the completion of construction activities the permit holder must restore any identifiable trails traditionally used by First Nations that were impacted by construction, to the level of access that existed prior to construction, if the location of the trail is made known to the permit holder by a First Nation or the Commission prior to the permit holder's notice of construction start.
15. Prior to commencement of construction activities on any portion of the pipeline right of way or work space, the permit holder must consider relevant information made available by a First Nation in the development of site specific mitigation plans. Relevant information includes culturally modified trees, cache pits, house pits, grave sites, pictograph sites, smoke houses, cabins, artifacts and areas traditionally used on a recurring basis for camping, intensive fishing and berry picking located within the pipeline right of way or work space.

The permit holder must submit, at least 30 days prior to the commencement of construction, the information, along with site-specific mitigation plans for any of the specified items identified that may be impacted by construction activities, to the satisfaction of the Commission.

Clearing

16. Clearing and site preparation must:
 - a) be limited to areas needed for the pipeline right of way and work space;
 - b) inclusive of work space, be confined to the construction corridor; and
 - c) not exceed 903.83 ha on Crown land.
17. Except with leave of the Commission, clearing and site preparation, inclusive of work space, must not occur within:
 - a) 100 metres of where water is diverted by a waterworks, water supply well or water storage reservoir;
 - b) an area containing a mineral lick, bald eagle, osprey, goshawk or great blue heron nest unless the mineral lick or nest is not damaged by activities authorized under this permit;
 - c) a permanent sample site on Crown Land used as a snow course;
 - d) an area that would require harvest or disturbance of whitebark pine trees;
 - e) research installation EP0813.61.14; or

- f) a wetland classified as W2, except WL-1274, WL-1279, WL-1289, WL-1294, WL-1305, WL-1339, WL-1349, WL-1378, WL-1379, WL-1391, WL-1397, WL-1399, WL-1403, WL-1411, WL-1434, WL-1439, WL-1453, WL-1456, WL-1466, WL-1478, WL-1484, WL-1493, WL-1494, WL-1517, WL-1528, WL-1539, WL-1547A, WL-1548, WL-1559, WL-1563, WL-2323, WL-1979, WL-1997, WL-1998, WL-2006, WL-2009, WL-2296, WL-2297, WL-2319, WL-2320, WL-2615, WL-2619, WL-2627, WL-2641, WL-2642, and WL-2647, as identified in the construction plans, or to facilitate crossing of that wetland.
18. Clearing and site preparation must not occur within a RMA except:
- the pipeline right of way, temporary workspace and shooflies, as shown on the construction plans;
 - to facilitate a stream or wetland crossing;
 - where it does not involve new clearing and existing clearings do not have a reestablished vegetative cover; or
 - with leave of the Commission.
19. Clearing and site preparation, inclusive of work space, must not occur within a wildlife tree retention area except:
- as shown on the construction plans; or
 - with leave of the Commission.
20. Except as shown on the construction plans or with leave of the Commission, incremental clearing for additional work space is not permitted within:
- a wildlife habitat area;
 - an ungulate winter range; or
 - old growth management areas.
21. Except with leave of the Commission, incremental clearing for additional work space is not permitted within the riparian reserve zone of streams with a riparian classification of S1-S3.
22. Clearing and site preparation, except shooflies identified in the construction plans referenced in Permissions, must be confined to the area approved in the Certified Project Description of the associated Environmental Assessment Certificate.
23. Clearing and site preparation must be limited to the area necessary to safely construct the pipeline, taking into account the influence of terrain, safe equipment operations, clearing debris, worker safety and egress, protection of adjacent infrastructure, and other conditions relevant to safe construction operations.
24. Clearing and site preparation, other than those identified in the construction plans referenced in Permissions, must be located on any previously disturbed areas located within the construction corridor unless:
- a previously disturbed area is less than 2 hectares;
 - such clearing and site preparation is required to avoid one or more of the areas or features identified in Conditions 17, 18, 19, or 20; or
 - the permit holder is granted leave by the Commission to carry out such clearing and site preparation.
25. The permit holder must maintain vegetation and minimize stumping or ground disturbance within 10 metres of the high water mark of a fish bearing watercourse and delay grading of the banks of watercourses until immediately before construction of either pipeline crossings or crossings for vehicle access, except where necessary to address terrain related constraints, safe equipment operations, clearing debris, worker safety and egress, protection of adjacent infrastructure or environmental values, and other conditions relevant to safe construction operations. Appropriate erosion and sediment control structures must be installed as necessary to ensure debris and soil are not deposited into watercourses.
26. The permit holder must fall any tree that is harvested within its tree length of a stream or a wetland away from the stream or wetland, and must immediately remove any debris or soil deposited below the high water mark.
27. The Permit Holder is permitted to fell any trees located on Crown land within 1.5 tree lengths of the activity area that are considered to be a safety hazard according to *Workers Compensation Act* regulations and must

be felled in order to eliminate the hazard. Trees or portions of these trees that can be accessed from the activity area without causing damage to standing timber may be harvested.

28. All harvested Crown Timber must be marked with the cutting permit's associated Timber Mark.
29. Timber harvesting under the above cutting permits must not commence until the Permit Holder has submitted the relevant appraisal documents to the Ministry of Forests, Lands and Natural Resource Operations and Rural Development and received confirmation of the stumpage rate.
30. Any timber removed from the Permit Area must be scaled in accordance with scaling requirements of the *Forest Act*.
31. Stumpage for Cutting Permit No. 10 will be calculated in accordance with the Interior Appraisal Manual, as amended from time to time. In the current version of the Manual, stumpage will be determined in accordance with Table 6-3.
32. Stumpage for Cutting Permit No. 8 will be calculated in accordance with the Coast Appraisal Manual.
33. Any waste assessments applied under the Master Licence to Cut are subject to the merchantability specifications and monetary waste billing requirements in the Provincial Logging Residue and Waste Manual specific to the region associated with the Cutting Permit authorization.

Wildlife

34. Except with leave of the Commission, the permit holder must not undertake clearing activities between May 1 and July 31 unless pre-clearing surveys are completed and, where appropriate, mitigation is implemented as per the methods outlined in the Wildlife and Wildlife Habitat Management Plan.
35. Except with leave of the Commission, the permit holder must implement the setbacks that are identified in Table 4-1-Section 10 of the Wildlife and Wildlife Habitat Management Plan (Summary of Mitigation for Wildlife and Wildlife Habitat-Bird Nests) for any clearing or significant maintenance activities within a wetland where an active waterfowl nest is present.
36. Except with leave of the Commission or in accordance with condition 37, the permit holder must not undertake clearing activities from KP630 to KP660 between April 1 and September 15 or within 30 metres of any active marbled murrelet nest that was identified during construction preparation surveys.
37. For any clearing activities that occur between KP630 and KP660 between April 1 and September 15, a qualified specialist must be on site to assess the risk to marbled murrelet. If a marbled murrelet or its active nest is determined to be at risk, construction operations must be suspended in the vicinity of the occupied site or nest until a site specific mitigation plan has been developed to the satisfaction of the Commission. All subsequent clearing activities in the vicinity of the occupied site or nest must be conducted in accordance with that plan.
38. Except with leave of the Commission, the permit holder must not undertake clearing or significant maintenance activities within WHA 6-283 between September 1 and June 15.
39. Except with leave of the Commission, the permit holder must not undertake clearing or significant maintenance activities within 1000 metres of UWR U-6-001 and U-6-003 between October 31 and June 15.
40. Except with leave of the Commission, the permit holder must not undertake clearing or significant maintenance activities within UWR U-6-009 between November 1 and May 1.
41. Except with leave of the Commission, the permit holder must not undertake clearing or significant maintenance activities within WHA 6-333 between May 15 and July 15.
42. The permit holder must implement the mitigation methods that are identified in the Caribou Mitigation and Monitoring Plan for any clearing or significant maintenance activities within WHA 6-333.
43. Except with leave of the Commission, the permit holder:
 - a) must not undertake clearing or significant maintenance activities within 200 metres of any active grizzly bear or black bear den that was identified by the survey conducted in accordance with condition 72, between December 1 and April 30; and

- b) must implement the mitigations outlined in the Wildlife and Wildlife Habitat Management Plan and section 7 of the Environmental Management Plan.
44. Except with leave of the Commission, the permit holder:
- a) must not undertake clearing or significant maintenance activities within 500 metres of any active wolverine den that was identified by the survey conducted in accordance with condition 72, between February 1 and August 1; and
 - b) must implement the mitigations outlined in the Wildlife and Wildlife Habitat Management Plan and section 7 of the Environmental Management Plan.
45. Except with leave of the Commission, the permit holder must not:
- a) undertake clearing or significant maintenance activities within 200 metres of any fisher den that was identified by the survey conducted in accordance with condition 72;
 - b) undertake clearing or significant maintenance activities within 400 metres of any active fisher den that was identified by the survey conducted in accordance with condition 72, between March 15 and July 31; and
 - c) must implement the mitigations outlined in the Wildlife and Wildlife Habitat Management Plan and section 7 of the Environmental Management Plan.
46. When using aircraft to undertake activities associated with the permit, the permit holder must provide written instructions to the pilot specifying that flights must not, except in the event of an emergency situation:
- a) directly approach, hover over, circle, or land near mountain goats, moose, elk, or caribou;
 - b) directly approach, hover over or circle near, or land within 500 metres of known wolverine den between February 1 and June 30;
 - c) occur within 2000 metres horizontal distance of UWR U-6-001 and U-6-003 between November 1 and June 15 except where there is no line of sight;
 - d) occur below 400 metres elevation when flying directly above UWR U-6-001 and U-6-003; and
 - e) occur within 500 metres vertical distance or 2000 metres horizontal distance of where caribou are observed within WHA 6-333.
47. The permit holder must implement appropriate measures to minimize the obstruction of wildlife movement across the pipeline right of way during construction and operations.
48. The permit holder must collect and store garbage in a manner that does not attract bears or other wildlife.
49. The permit holder must, to the satisfaction of the Commission, construct line of sight barriers across the width of the pipeline right of way within WHA 6-333.

Terrain Stability, Acid Rock Drainage and Mineral Leaching

50. Prior to operating the pipeline, the permit holder must submit a report, to the satisfaction of the Commission, for the monitoring and maintenance of ground and slope stability on areas where the stability:
- a) may be affected by clearing or construction of the pipeline; or
 - b) may affect the safe operation of the pipeline.
- The report must be prepared by a qualified professional and must include an assessment of and monitoring plan for any areas where karst or ground subsidence may be located.
51. Prior to construction, the permit holder must submit an acid rock assessment and mitigation plan, to the satisfaction of the Commission, with respect to potentially acid generating (PAG) rock along the proposed pipeline route. The assessment and mitigation plan must include:
- a) the criteria used to classify acid rock drainage/metal leaching potential;
 - b) the process used to delineate PAG rock including desktop and field/laboratory assessments;
 - c) results of engineering evaluation of expected PAG rock locations and associated construction-related quantities;

- d) additional planned characterization to complement initial assessment results;
- e) protocols to be followed during construction to verify results of PAG characterization and engineering assessments;
- f) a flowchart outlining material handling steps for confirmed PAG rock;
- g) associated mitigation and monitoring programs for exposed in situ and disposed PAG rock;
- h) mitigation selection criteria;
- i) typical drawings and typical specifications for mitigation such as soil covers and rock slope face barriers (e.g., shotcrete and synthetic spray cover); and
- j) gradational specifications for cover layer barriers composed of glacial till and/or other materials.

The assessment and mitigation plan must be prepared by a qualified professional. The permit holder must implement any protocols, steps, mitigation measures, monitoring, or recommended specifications in the assessment and mitigation plan that relate to items (e) through (j) above.

Stream, Wetland and Lake Crossings

- 52. Subject to sections 11 and 12 of the EPMR, crossings of non-fish bearing streams and wetlands must be constructed in accordance with the methods and any mitigations that are specified in the Construction Section 8 Supplemental Stream Crossings Submission that has been submitted to the satisfaction of the Commission.
- 53. Subject to sections 11 and 12 of the EPMR, crossings of fish bearing streams and wetlands must be constructed in accordance with the timing, methods and any mitigations that are specified in the Construction Section 8 Supplemental Stream Crossings Submission that has been submitted to the satisfaction of the Commission. Any contingency method specified in Construction Section 8 Supplemental Stream Crossings Submission may only be utilized with leave of the Commission.
- 54. Following initial construction, stream, lake and wetlands crossings are authorized for necessary pipeline maintenance activities on the activity area except for:
 - a) works within the boundary of a provincial park;
 - b) stream bank or stream bed revetment works in a stream classified as S1, S2, S3, S4 or S5;
 - c) pipe replacement within the stream channel where the original application specified a trenchless crossing method and the planned works involve a trenched crossing method;
 - d) permanent alteration of a stream bank;
 - e) works within a Temperature Sensitive Stream established by order under s. 27 of the Environmental Protection and Management Regulation; or
 - f) works within a Fisheries Sensitive Watershed established by order under s. 28 of the Environmental Protection and Management Regulation.
- 55. The Permit Holder must ensure any instream works related to pipeline maintenance are planned and overseen by a qualified professional. This individual must assess and determine whether planned works pose a risk to any of the features listed below, and is responsible for developing and implementing mitigation measures to reduce any potential impacts on these features, as required:
 - a) fish or important fisheries habitat;
 - b) species identified as special concern, threatened, or endangered under the federal *Species at Risk Act*; or
 - c) species identified by Order as a species at risk under the *Forest and Range Practices Act* or the *Oil and Gas Activities Act*.

This assessment must be provided to the Commission upon request.

- 56. Notwithstanding condition 57 a, construction activities at crossings 616 (Clore River), 677 (Kitimat River), 57C2A and 716 (Hirsch Creek Tributaries) must be carried out in accordance with the timing, methods and

mitigations specified in the site specific crossing plans that have been submitted to the satisfaction of the Commission for each of these crossings.

57. Open cut crossings of watercourses must be planned and conducted in accordance with the relevant detail in the Construction Section 8 Supplemental Stream Crossings Submission that has been submitted to the satisfaction of the Commission, and the following requirements:
- a) an open cut of a stream classified as S1, S2, S3, S4, S5 or S6 may only occur with leave of the Commission, unless the stream is frozen to its bed or is completely dry with no evidence of subsurface flow;
 - b) where the streambed consists of rocks, pebbles or coarse gravel overlaying finer material, this material must be removed and stockpiled separately above the high water mark of the stream for replacement during restoration;
 - c) unless otherwise authorized by Fisheries and Oceans Canada, spawning gravels must not be disturbed when redds that contain eggs or alevins are present. The authorization must be provided to the Commission;
 - d) excavated materials must be contained using appropriate techniques, so that sediment-laden water and spoil do not re-enter the watercourse;
 - e) any sediment-laden trench water must be pumped onto stable surfaces in a manner that does not cause erosion of soils or release of suspended sediments to watercourses;
 - f) where feasible, aquatic vegetation and organic debris removed from the construction area must be salvaged and returned following trench backfilling; and
 - g) channels, banks and beds of streams or wetlands, including any disturbed stable natural material must be restored, to the extent practicable, to the structure and conditions that existed before the crossing construction was initiated. Fish streams must be restored based on pre-construction surveys, including restoration of areas containing rearing potential with adequate stream depth and in-stream structures and restoration of spawning areas with gravel placement.
58. Open cut crossings of wetlands must be planned and conducted in accordance with the relevant detail in the Construction Section 8 Supplemental Stream Crossings Submission that has been submitted to the satisfaction of the Commission, and the following requirements:
- a) where the wetland substrate consists of rocks, pebbles or coarse gravel overlaying finer material, this material must be removed and stockpiled separately above the high water mark of the wetland for replacement during restoration;
 - b) materials referred to in (a) must be excavated and stockpiled in a manner that minimizes sediment dispersal within the wetland and must be replaced in a manner that minimizes disturbance to the wetland following pipeline installation;
 - c) channels, banks and beds of wetlands, including any disturbed stable natural material, must be restored, to the extent practicable, to the structure and conditions that existed before the crossing construction was initiated;
 - d) excavated materials must be contained using appropriate techniques, so that that sediment-laden water and spoil do not re-enter the wetland; and
 - e) any sediment-laden trench water must be pumped onto stable surfaces in a manner that does not cause erosion of soils or release of suspended sediments to watercourses.
59. Flow isolation crossings must be planned and conducted in accordance with the relevant detail in the Construction Section 8 Supplemental Stream Crossings Submission that has been submitted to the satisfaction of the Commission, and in accordance with (b) to (g) of condition 57 and the following additional requirements:
- a) crossings of fish-bearing streams may commence only after confirming that sufficient equipment and supplies are available to complete the crossing in an efficient and timely manner;

- b) after the installation or removal of flow isolation works, crossing construction within the stream channel, including the location and operation of any equipment, must be isolated from water flowing in the stream;
 - c) activities must be assessed by a qualified professional for suspension if high stream flows present an increased risk to effectively completing the intended crossing installation technique;
 - d) welding, coating, weighting and, where applicable testing, of the pipe must be completed prior to commencement of trenching within fish-bearing water bodies;
 - e) water from flumes, pump-arounds, diversions, or other methods must be released to downstream areas using dissipation structures to avoid causing erosion or sediment release;
 - f) except with leave of the Commission, pump intakes must not disturb beds of streams or wetlands except as necessary to ensure safe installation and operation of equipment and must be screened with maximum mesh sizes and approach velocities in accordance with the Fisheries and Oceans Canada "Freshwater Intake End-of-Pipe Fish Screen Guideline", as amended from time to time;
 - g) water flows downstream of in-stream construction sites must be maintained consistent with upstream flows; and
 - h) ditch plugs must be maintained at or near the banks of the crossing and left in place until the crossing has been initiated.
60. Construction or maintenance activities within a fish bearing stream or wetland must occur:
- a) during the applicable reduced risk work windows as specified in the Skeena Region Reduced Risk In-stream Work Windows and Measures, May 2005;
 - b) in accordance with alternative timing and associated mitigation recommended by a qualified professional and accepted by the Commission; or
 - c) in accordance with an authorization or letter of advice from Fisheries and Oceans Canada that is provided to the Commission.
61. Equipment to be used in or adjacent to a stream, lake or wetland must be clean or otherwise free of external grease, oil or other fluids, excessive muds, soil and vegetation, prior to entering the waterbody.
62. Within the RMA, generators and other stationary equipment that require refueling must be situated in secondary containment capable of containing the fuel capacity of the generators.
63. Except with leave of the Commission, prior to construction activities in a stream classified as S1, S2, S3 or S4; or the RRZ of a stream classified as S1, S2, or a S3 stream, the permit holder must develop a Water Quality Monitoring Program to the satisfaction of the Commission. The Water Quality Monitoring Program must:
- a) be developed, implemented and supervised by a qualified professional;
 - b) be consistent with the Ministry of Environment's approved water quality guidelines, as amended from time to time (the BC Water Quality Guidelines);
 - c) include environmental water quality monitoring, including field monitoring of turbidity, pH and total suspended solids for potential exceedance of BC Water Quality Guidelines for the protection of aquatic life or, where they exist, the Water Quality Objectives for a specific watercourse, as they may be amended from time to time;
 - d) require pre and post construction monitoring upstream (baseline) and downstream of the location of potential disturbance from construction activities;
 - e) require sampling that is representative of water quality variation across the stream; and
 - f) require documentation of pre and post construction monitoring completed under e.
64. Except with leave of the Commission, prior to construction activities in a wetland, the permit holder must develop a wetland Water Quality Monitoring Program to the satisfaction of the Commission. The wetland Water Quality Monitoring Program must:
- a) be developed, implemented and supervised by a qualified professional;

- b) be consistent with the BC Water Quality Guidelines;
 - c) include environmental water quality monitoring for potential exceedance of the BC Water Quality Guidelines for the protection of aquatic life or, where they exist, the Water Quality Objectives for a specific wetland, as they may be amended from time to time;
 - d) where appropriate, require pre and post construction monitoring proximal to the location of potential disturbance from construction activities;
 - e) require sampling that is representative of water quality variation across the pipeline right of way through wetlands with a riparian classification of W1; and
 - f) require documentation of pre and post construction monitoring completed under (d).
65. The permit holder must implement the Water Quality Monitoring Programs developed as per conditions 63 and 64 and do each of the following:
- a) provide records of documentation of all pre and post construction monitoring to the Commission;
 - b) immediately report to the Commission any exceedance of the BC Water Quality Guidelines for aquatic life or, where they exist, the Water Quality Objectives for a specific watercourse or wetland that persist for a period of 24 hours or greater, relative to the baseline; and
 - c) immediately take steps to address the factors producing any exceedance of the BC Water Quality Guidelines for aquatic life, relative to the baseline, should any exceedance persist for a period of 24 hours or greater, and where such steps do not result in addressing the turbidity exceedance, promptly suspend construction operations at the site of activities causing the exceedance until effective solutions, satisfactory to the Commission, have been developed and implemented.
66. As part of the post construction monitoring program, the permit holder must, for all watercourse and wetland crossings:
- a) inspect and provide a report to the Commission that includes assessment of:
 - i. RMA stability;
 - ii. erosion risk to the watercourse;
 - iii. vegetation re-establishment within the RMA, including species composition, percent establishment, and presence of invasive plant species; and
 - iv. identify where contingency measures may be required to address the items in (i), (ii) or (iii).
- Where contingency measures are required, the permit holder must develop and implement an appropriate plan to the satisfaction of the Commission.
67. Prior to commencing construction on any pipeline stream crossing, the permit holder must:
- a) identify any new streams not described in the Construction Section 8 Supplemental Stream Crossings Submission;
 - b) for new streams or where there was outstanding fieldwork required for a stream described in the Construction Section 6 Supplemental Stream Crossings Submission, conduct the field work needed to complete stream classifications and identify the fish species presence for that stream, including any required confirmation of fish species presence in streams that were surveyed prior to issuance of this permit; and
 - c) submit the results of any field work required under (b) to the satisfaction of the Commission. The results must clearly describe the management and mitigation measures that will be employed in order to minimize impacts to the species present and their habitat.
68. The permit holder must construct, maintain, and deactivate all mechanical stream crossings constructed for access within the operating area according to the following requirements, as applicable:
- a) To facilitate construction of a crossing, a machine is permitted to ford the stream a maximum of one time in each direction at the crossing location.
 - b) Only bridges, culverts, ice bridges, snow fills, or log fills may be constructed at stream crossings;

- c) Notwithstanding (b), matting or steel plates may be used to cross streams classified as NCD, S4 or S6;
- d) Permanent bridges must be designed and fabricated in compliance with:
 - i. the Canadian Standards Association Canadian Bridge Design Code, CAN/CSA-S6; and
 - ii. soil property standards, as they apply to bridge piers and abutments; set out in the Canadian Foundation of Engineering Manual.
- e) Except with leave of the Commission,
 - i. any culverts used must be designed and fabricated in compliance with the Canadian Standards Association CSA G401, Corrugated Steel Pipe Products; or the Canadian Standards Association Standard CSA B1800, Section B182.2, Plastic Non-pressure Pipe Compendium, as applicable; and
 - ii. Any pipe installed in lieu of a culvert must be of at least equivalent standard and strength as any culvert specified above.
- f) Except with leave of the Commission, bridges and culverts must meet the criteria set out in (i), (ii), or (iii) below:
 - i. the bridge or culvert is designed to pass the highest peak flow of the stream that can reasonably be expected within the return periods set out in column 2 the table below for the period the permit holder anticipates the crossing structure will remain on site, as set out in column 1 in the table below.

Column 1	Column 2
Anticipated period crossing structure will remain on site	Peak flow period
Bridge or culvert, 3 years or less	10 years
Bridge other than a bridge within a community watershed, more than 3 years but less than 15	50 years
Bridge within a community watershed, more than 3 years	100 years
Bridge, 15 years or more	100 years
Culvert, more than 3 years	100 years

- ii. the bridge, or any component of the bridge:
 - 1. is designed to pass expected flows during the period the bridge is anticipated to remain on the site;
 - 2. is constructed, installed and used only in a period of low flow; and
 - 3. is removed before any period of high flow begins.
- iii. the culvert:
 - 1. is a temporary installation, and the permit holder does not expect to subsequently install a replacement culvert at that location;
 - 2. is not installed in a stream, when the stream contains fish;
 - 3. is sufficient to pass flows that occur during the period the culvert remains on the site;
 - 4. is installed during a period of low flow; and
 - 5. is removed before any period of high flow begins.
- g) Snow fills must consist of clean snow and may only be located on streams that are dry or frozen to the bottom during the period of construction, maintenance and use. Where periodic thaws are anticipated, measures must be in place to allow meltwater to pass through the snow fill, to ensure movement of fish is not impeded, and to prevent pooling on the upstream side of the snow fill. Snow fill and any installed culverts must be removed prior to spring snow melt.

- h) Ice bridges on fish bearing streams may only be constructed where sufficient water depth and stream flows prevent the bridge structure from coming in contact with the stream bottom.
- i) Water applied to construct an ice bridge on a water body must be sourced in accordance with the Water Sustainability Act unless:
 - i. the water body is a stream with a stream channel width of at least 5 metres and is not designated as a sensitive stream under the Fish Protection Act, or has a riparian class of W1, W3, or L1;
 - ii. the water is sourced from the same water body proximal to the location on which the ice bridge is constructed;
 - iii. the water body is not within the boundaries of a public park;
 - iv. pump intakes do not disturb beds of streams or wetlands except as necessary to ensure safe installation and operation of equipment and are screened with a maximum mesh size and approach velocity in accordance with the Fisheries and Oceans Canada Freshwater Intake End-of-Pipe Fish Screen Guideline; and
 - 1. where the water body is a stream, the flow of water in the stream at the time and location of pumping exceeds 60 litres per second and the instantaneous pumping rate does not exceed 1% of the water flowing in the water body at the time and location the pumping occurs; or
 - 2. where the water body is a lake or pond, the cumulative volume of water withdrawn does not exceed 10 cm of lake or pond depth, calculated as the product of lake or pond surface area x 10 cm;
 - v. records of water withdrawal and corresponding streamflow measurements are maintained and provided to the Commission upon request.
- j) Bridge or culvert abutments, footings and associated scour protection must be located outside the wetted stream channel and must not constrict the channel width.
- k) Log fill stream crossings must be planned and conducted in accordance with the following requirements:
 - i. log fill crossings are authorized to be used in streams with a riparian classification of S6 only;
 - ii. must not occur unless the stream is frozen to its bed or is completely dry;
 - iii. a separation layer of clean snow or geotextile must be placed in the stream prior to installation of log bundles;
 - iv. the crossing does not impede melt water from periodic thaws;
 - v. log fills must be removed prior to spring snow melt; and
 - vi. logs must be free from dirt and debris.
- l) Wetland crossings must be constructed, maintained and removed in accordance with the following:
 - i. organic cover within and adjacent to the wetland must be retained;
 - ii. minimize erosion or release of sediment within the wetland;
 - iii. any padding materials must be placed on the wetland surface only and must not be used for infilling;
 - iv. any padding materials must be removed as soon as practicable following construction, considering weather and ground conditions; and
 - v. the wetland, including banks and bed, must be restored, to the extent practicable, to the condition that existed before the crossing was initiated.

Archaeology

- 69. An Archaeological Impact Assessment (AIA) must be completed for all pipeline right of way and work space areas prior to commencement of construction activities.

70. The permit holder must, as soon as practicable, submit an AIA report to the Commission and provide a copy of the AIA report to the First Nations listed in condition 8.
71. If artifacts, features, materials or things protected under section 13(2) of the *Heritage Conservation Act* are identified the permit holder must, unless the permit holder holds a permit under section 12 of the *Heritage Conservation Act* issued by the Commission in respect of that artifact, feature, material or thing:
 - a) immediately cease all work in the vicinity of the artifacts, features, materials or things;
 - b) immediately notify the Commission; and
 - c) refrain from resuming work in the vicinity of the artifacts, features, materials or things except in accordance with an appropriate mitigation plan that has been prepared in accordance with the *Heritage Conservation Act* and approved by the Commission.

Environment

72. Prior to commencing clearing or site preparation on any portion of the pipeline right of way or work space, the permit holder must conduct a survey identifying any:
 - a) Bear, fisher or wolverine dens located within 200 metres of the pipeline right of way and work space, and within the construction corridor;
 - b) Western Toad breeding areas located within 100 metres of the pipeline right of way or workspaces, and any associated migration corridors;
 - c) vascular plants, mosses or lichens listed under the *Species at Risk Act* as endangered, threatened or special concern and located within the construction corridor; and
 - d) individual plants, plant communities or residences species identified as species at risk in a subsisting order issued under the *Forest and Range Practices Act* or the *Oil and Gas Activities Act* and located within or adjacent to the construction corridor.

The permit holder must submit the survey results, along with site-specific mitigation plans for any of items identified in a to d that may be impacted by construction activities, to the satisfaction of the Commission prior to notice of construction start.

73. Construction activities must not result in rutting, compaction or erosion of soils that cannot be reasonably rehabilitated to similar levels of soil productivity that existed on the site prior to the construction activities taking place.
74. The permit holder must, as soon as practicable, restore recreation sites, recreation trails or recreation facilities established or authorized under the *Forest and Range Practices Act* that are affected by construction activities to their pre-construction condition to the Commission's satisfaction.
75. The permit holder must, as soon as practicable, restore range developments defined under the *Forest and Range Practices Act* that are affected by construction activities to their pre-construction condition to the Commission's satisfaction.
76. At the completion of construction activities the permit holder must restore any identifiable trails used by trappers that were impacted by pipeline construction, to the level of access that existed prior to construction, if the location of the trail is made known to the permit holder by the registered trapper for the area specific to the trail or by the Commission prior to the permit holder's notice of construction start.
77. In all locations where run-off from the area of the pipeline right of way or work space may flow into a watercourse, the permit holder must contour and stabilize banks and approach slopes and install berms, silt fences, cross ditches, or implement other alternative effective measures as appropriate to minimize erosion and avoid sediment deposit into the watercourse.
78. The permit holder must undertake dust control measures to ensure that dust resulting from construction activities does not affect safe travel on a road or significantly impair the use and enjoyment of lawfully occupied permanent dwellings, significant public use areas or other similar areas.
79. The permit holder must undertake reasonable measures to mitigate noise from construction activity that has the potential to affect public safety or significantly impair the use and enjoyment of lawfully occupied permanent dwellings, significant public use areas during periods of use or other similar areas.

80. Upon completion of construction activities authorized under this permit, the permit holder must:
- re-vegetate, using seed or vegetative propagules of an ecologically suitable species or implement other measures, to the satisfaction of the Commission, that promote the restoration of the wildlife habitat that existed on the area before the commencement of any works authorized under this permit, and stabilize the soil if it is highly susceptible to erosion;
 - within WHA 6-333, and within UWR U-6-009, implement human and predator access control such as higher density planting of tree species and restoration of disturbed areas with fast-growing species not preferred for browse;
 - within UWR U-6-001 and U-6-003, implement human access control measures along the right of way and work space; and
 - take reasonably practicable measures to limit or prevent vehicular access to and along, and to reduce sightlines along the pipeline right of way.
81. The permit holder must adhere to all timber hauling restrictions pertaining to the management of beetle infested timber recommended by the BC Ministry of Forests, Land, and Natural Resource Operations unless otherwise specified by the Commission.
82. The permit holder must ensure shooflies are constructed in a manner that provides for proper surface drainage, prevents pooling on the surface, and maintains slope integrity.

ACTIVITY SPECIFIC DETAILS PERMISSIONS, and CONDITIONS

PIPELINES

Pipeline Project Number: 000023852

Technical Pipeline Permissions

83. The permit holder is authorized to construct and operate the pipeline segments 001 and 002 to transmit natural gas under a maximum operating pressure of 13375 kPa, and under a maximum concentration of H₂S of 0.002¹ mol% unidirectionally in a 1219 mm (48 inch) diameter pipe, and in accordance with Piping & Instrumentation Diagram(s), 4703-03-_A-0S-003, revision RE-IFP1, dated October 10th, 2014.

Changes may be made to pigging design, and to above ground valves and piping, provided that:

- the changes do not affect direct connections to pipelines and facilities;
- there are no changes to approved pressure protection, H₂S protection or isolation;
- there is no substantive impact to any aspect of the project that was included in a consultation under the Consultation and Notification Regulation;
- there is no likelihood of substantive additional dust, noise or odours; and
- the design and operation of the pipeline continues to meet all regulatory requirements including the requirements of CSA Z662, as amended from time to time.

All permissions for this activity are subject to the following conditions:

Pipeline Conditions:

84. Before beginning construction activities on any crossing of a road by the pipeline, the permit holder must submit, to the satisfaction of the Commission information, in tabular or other format, describing:
- the crossing location;

¹ Note: 0.002 mol% means 0.0016, mol%, rounded.

- b) summary, including any outcomes, of engagement with the road tenure holder, primary road user or road owner;
 - c) whether the crossing will be constructed using trenchless methods;
 - d) the approximate dates and maximum time that traffic at the crossing is expected to be restricted or obstructed;
 - e) pipeline specifications at the crossings, including pipeline diameter, wall thickness, depth of cover and grade; and
 - f) maximum vehicular weights expected at the crossing location.
85. The permit holder must construct any road crossing consistent with information accepted by the Commission under condition 84.
86. At least 45 days prior to commencement of welding, the permit holder must submit to the Commission's satisfaction, a fracture arrest and mitigation program.
87. Where the hoop stress during the pressure test exceeds 100% SMYS, the permit holder must submit to the Commission the P-V test and the pressure test results before beginning operation of a pipeline.
88. At least 90 days prior to pipe-stringing activities in areas where geohazards are present, the permit holder must submit, to the satisfaction of the Commission:
- a) a geohazard assessment that includes:
 - i. a description of the geohazard(s) identified that have reasonable probability of impacting the pipeline, with the location of each geohazard illustrated on either a map or in a table; and
 - ii. specific design measures, such as materials to be used, installation procedures, protective structures, depth of cover, and monitoring that will be implemented to mitigate the geohazard(s) identified in (i); and
 - b) a field changes manual for geohazards that includes:
 - i. criteria for measures, including those identified in a(ii) above, that will be implemented to mitigate any additional geohazards identified during construction; and
 - ii. qualification requirements for field staff who will implement the field changes manual.
89. Except with leave of the Commission, within 12 months of commencement of gas transmission to the Kitimat Metering Station, the permit holder must submit to the Commission the results and interpretation of a high resolution in-line inspection tool run to establish an accurate position of the pipeline (GEOPIG) and to detect pipe deformation and defects.

ADVISORY GUIDANCE

1. Instructions for submitting notice of construction start, as required by regulation, can be found in the Oil and Gas Activity Operations Manual on the Commission's website.
2. The permit holder should be aware that there may be First Nation's traditional, cultural, or spiritual activities occurring concurrently with maintenance activities, as well as areas of current use or cultural resources that overlap the activity area. All reasonable efforts should be made to minimize interference with those activities while carrying out the activities authorized herein.
3. Appropriate tenure may be issued upon acceptance of the post-construction plan. Submission of the original application and submission of the post-construction plan is considered an application for all subsequent applicable *Land Act* tenures. Upon the Commission's acceptance of the post-construction plan no further applications for replacement tenure are required.
5. The permit holder must provide notices required by the Pipeline Regulation prior to beginning construction, maintenance or repair of the pipeline.
6. As required by section 4 of the Pipeline Regulation, the permit holder must design, construct, operate and maintain the pipeline in accordance with CSA Z662, as amended from time to time.

7. As required by section 4(2) of the Pipeline Regulation, the permit holder must submit to the Commission the pipe and component specifications and the as-built drawings for the pipeline within 3 months after completion of construction of a pipeline.
8. As required by section 24(1) of the *Oil and Gas Activities Act* General Regulation, the permit holder must complete the surveying and posting of the pipeline right of way within 16 months after completing construction of the pipeline.
9. As required by section 7 of the Pipeline Regulation, the permit holder must include the pipeline authorized by this permit in its Integrity Management Plan and Damage Prevention Program.
10. Trenchless crossing must be planned and conducted in accordance with the Directional Drilling Procedures and Drilling Mud Release Contingency Plan and the relevant detail in the Typical Drawings of the Environmental Management Plan and any plans accepted by the Commission under condition 63 and 64 above.
11. The permit holder must avoid all archaeology sites unless issued a site alteration permit by the Commission, pursuant to section 12 of the *Heritage Conservation Act*.
12. All archaeological reports submitted to the Commission must also be provided to the archaeology branch of the Ministry of Forests, Lands and Natural Resource Operations.

DEFINITIONS

Unless the condition or its context indicates otherwise, the terms in this permit have the same meaning as defined in the *Oil and Gas Activities Act* or the regulations under that Act.

“additional work space” work space, other than temporary work space, needed to facilitate pipeline construction. These include shooflies, log decks, log storage sites, laydown areas and stockpile sites.

“construction activities” or “construction” means clearing, site preparation, trench excavation, pipe installation and any other activities required to construct a pipeline.

“construction corridor” means, the area of land extending on either side of the centerline of the pipeline as indicated in the application for this permit, and is labelled as either “construction corridor” or “review corridor” on the construction plans.

“environmental management plan” means, the environmental management plan as revised, that supports the application for this permit, the relevant components of which are acceptable to the Commission.

“qualified professional” means a member in good standing of a profession regulated in British Columbia and who is recognized by that profession as being qualified to work in area of practice for which an opinion or advice is required.

“qualified specialist” means a person who possesses an appropriate combination of formal education, knowledge, skills, and experience to conduct a technically sound and rational assessment for the area of practice, and be familiar with applicable regulations, standards, policies, protocols and guidelines.

“residence” means a dwelling-place, such as a den, nest or other similar area or place, that is occupied or habitually occupied by one or more individuals during all or part of their life cycles, including breeding, rearing, staging, wintering, feeding or hibernating.

“road” means, an existing road:

- a) that is a highway as defined in the Transportation Act and is currently being maintained by an agency of the provincial government or a local government, either directly or by agreement,
- b) that is a Forest Service Road,
- c) for which there is a subsisting permit under the Forest Act, Land Act or Oil and Gas Activities Act,
- d) that is an industrial road as defined under the Industrial Roads Act, or
- e) that is privately owned.

“temporary work space” means the work space that runs adjacent to the pipeline right of way (generally 13 – 15 meters wide along the length of either side of the pipeline right of way), which may be used to accommodate vehicle traffic as well as stringing, welding and placing pipe.

Permit Holder: Coastal GasLink Pipeline Ltd.
Application Determination number: 100084230

Application Submission Date: January 31, 2015
Date Issued: November 5, 2018

“**work space**” includes both temporary work space and additional work space.

All pages included in this permit and any attached documents form an integral part of this permit.



James O'Hanley
Vice President, Permit Adjudication
Authorized Signatory
Commission Delegated Decision Maker

CC: Roy Northern Land Services Ltd.

MFLNRO, Coast Mountains Forest District, Nadina Forest District

First Nations (Carrier Sekani Tribal Council, Haisla Nation, Kitselas First Nation, Moricetown Band, Office of the Wet'suwet'en, Skin Tyee Nation, Wet'suwet'en First Nations and Ya'tsalkas/Dark House)

WorkSafe BC

OGC File: 9708372

BC Environmental Assessment Office

April 18, 2018

Coastal GasLink Pipeline Ltd.
450 - 1st Street SW
Calgary, Alberta T2P 5H1

Attention: Coastal GasLink Pipeline Ltd.

Re: Correction of Application Determination Number 100084230, OGC Legacy # 9708372

Permit Holder: Coastal GasLink Pipeline Ltd.

Date of Permit Issuance: April 29, 2016

Date of Correction: April 18, 2018

Job No.: 014331873-001

The BC Oil and Gas Commission hereby corrects the Permissions section of permit identified and dated above as follows:

- *Land Act* section 16 reserve number 6408359 is incorrect and should be 6408539.
- The reference to *Land Act* section 16 reserve 6407596 reserve should be to Sheet 18 instead of Sheet 20.

The Permit Holder must comply with any permissions, authorizations, approvals and conditions set out in the original permit, any subsequent amendments to the permit and any additional corrections as set out herein.

This letter forms an integral part of your permit and should be attached thereto.



Lori Phillips
Authorized Signatory
Commission Delegated Decision Maker

Copied to:

First Nations (Carrier Sekani Tribal Council, Haisla Nation, Kitselas First Nation, Moricetown Band, Office of the Wet'suwet'en, Skin Tyee Nation, Wet'suwet'en First Nations and Ya'tsalkas/Dark House)

April 16, 2018

Coastal GasLink Pipeline Ltd.
450 – 1st Street SW
Calgary, AB T2P 5H1

Attention: Coastal GasLink Pipeline Ltd.

RE: Permit Extension for Application Determination Number 100084230, OGC Legacy #9708372

Permit Holder: Coastal GasLink Pipeline Ltd.
Permit Date of Issuance: April 29, 2016
Extension Effective Date: April 29, 2018
Extended Expiration Date: April 29, 2019
Application Determination No.: 100084230
Pipeline Project No.: 23852

PERMISSIONS

Oil and Gas Activities Act

1. The BC Oil and Gas Commission (the "Commission"), under section 32(5) of the *Oil & Gas Activities Act*, hereby extends the permit and any associated authorizations to construct, maintain and operate a pipeline.
2. This permit extension is subject to the original permit, authorizations, subsequent amendments and any additional conditions as set out herein.
3. The prescribed period of this permit has been extended for one year and will expire on April 29, 2019 if the Permit Holder has not begun the activity by this date.

ADVISORY GUIDANCE

1. Appropriate *Land Act* tenure will be issued upon acceptance of the post-construction plan. Submission of the original application and submission of the post-construction plan is considered application for all subsequent *Land Act* tenures; no further applications for replacement tenure is required.

This extension forms an integral part of the permit and should be attached thereto.



James O'Hanley
Vice President, Applications

Pc: OGC Compliance & Enforcement



April 29, 2016

Coastal GasLink Pipeline Ltd.
450 - 1st Street SW
Calgary, Alberta T2P 5H1

Attention: Coastal GasLink Pipeline Ltd.

RE: Pipeline Permit (Section 8)

Date of Issuance: April 29, 2016
Commission File No: 9708372
Job No.: 014331873-001

NOTE: This permit was amended and replaced on November 5, 2018 under Section 26(1)(d) of the Oil & Gas Activities Act

PERMISSIONS

1. The BC Oil and Gas Commission (the "Commission"), under section 25(1) of the *Oil and Gas Activities Act*, hereby permits the holder to construct and operate a pipeline for the purpose of conveying natural gas subject to the following conditions, any applicable exemptions and authorizations:
 - a. The permissions and authorizations granted under this permit are limited to the areas described in the following construction plans by McELHANNEY as submitted to the Commission January 31, 2015 (hereinafter referred to as the "operating area"):

McELHANNEY Document: CGW4703-MCSL-G-MP-425-001, Revision 0, Sheet 1 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-002, Revision 0, Sheet 2 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-003, Revision 0, Sheet 3 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-004, Revision 0, Sheet 4 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-005, Revision 0, Sheet 5 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-006, Revision 0, Sheet 6 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-007, Revision 0, Sheet 7 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-008, Revision 0, Sheet

8 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-009, Revision 0, Sheet 9 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-010, Revision 0, Sheet 10 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-011, Revision 0, Sheet 11 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-012, Revision 0, Sheet 12 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-013, Revision 0, Sheet 13 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-014, Revision 0, Sheet 14 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-015, Revision 0, Sheet 15 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-016, Revision 0, Sheet 16 of 20, dated October 20, 2014.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-017, Revision 0, Sheet 17 of 20, dated October 20, 2014, except <i>Land Act</i> section 16 reserve 6408359.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-018, Revision 1, Sheet 18 of 20, dated February 5, 2015 except <i>Land Act</i> section 16 reserve 6408359.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-019, Revision 0, Sheet 19 of 20, dated October 20, 2014 except <i>Land Act</i> section 16 reserve 6408359.
McELHANNEY Document: CGW4703-MCSL-G-MP-425-020, Revision 1, Sheet 20 of 20, dated February 5, 2015 except <i>Land Act</i> section 16 reserve 6408359 and <i>Land Act</i> section 16 reserve 6407596.

2. Pursuant to section 138(1) of the *Petroleum and Natural Gas Act*, the permit holder is permitted to enter, occupy and use any unoccupied Crown land located within the operating area to carry out the oil and gas activity and related activities permitted under this permit. The permission to occupy and use Crown land does not entitle the permit holder to exclusive possession of the area. The permission to occupy and use Crown land expires if this permit expires, or is suspended, cancelled, surrendered or declared spent.
3. The permit holder is authorized to construct and operate the pipeline segments 001 and 002 to transmit natural gas under a maximum operating pressure of 13375 kPa, and under a maximum concentration of H₂S of 0.002¹ mol% unidirectionally in a 1219 mm (48 inch) diameter pipe, and in accordance with Piping & Instrumentation Diagram(s), 4703-03- A-0S-003, revision RE-IFP1, dated October 10th, 2014.
4. Changes may be made to pigging design, and to above ground valves and piping, provided that:
 - a. the changes do not affect direct connections to pipelines and facilities;
 - b. there are no changes to approved pressure protection, H₂S protection or isolation;

¹ Note: 0.002 mol% means 0.0016, mol%, rounded.

- c. there is no substantive impact to any aspect of the project that was included in a consultation under the Consultation and Notification Regulation;
- d. there is no likelihood of substantive additional dust, noise or odours; and
- e. the design and operation of the pipeline continues to meet all regulatory requirements including the requirements of CSA Z662, as amended from time to time.

AUTHORIZATIONS

Cutting Permit under Master Licence to Cut under section 47.4 of the Forest Act Authorization

- 5. Subject to Master Licence to Cut M02343, Nadina Forest District, the permit holder is hereby authorized, under Cutting Permit No. 10, and under Master Licence to Cut M02344, Coast Mountain Forest District, under Cutting Permit No. 8, to harvest timber on the Crown land portion shown on survey plan associated with this approval.
- 6. These Cutting Permits are deemed spent upon the submission of the Post-Construction Plan or upon either the cancellation or expiry of the permissions to construct and operate a pipeline under this permit.

CONDITIONS

Notification and Reporting

- 7. At least 30 days prior to commencing any construction activities under this permit, the permit holder must provide the Carrier Sekani Tribal Council, Haisla Nation, Kitselas First Nation, Moricetown Band, Office of the Wet'suwet'en, Skin Tyee Nation, Wet'suwet'en First Nations and Ya'tsalkas/Dark House the proposed construction schedule.
- 8. At least one week prior to the beginning of each month, the permit holder must submit a schedule to the Commission indicating the location and timing of horizontal directional drilling, microtunnelling or in-stream work planned to commence the following month.
- 9. Unless a submission has been made under condition 10, the permit holder must annually, on or before March 31 of each year, submit to the Commission's KERMIT system, a Post Construction Plan map showing the location and nature of any construction activities completed under this permit during the previous calendar year.
- 10. Within 60 days of completion of construction activities under this permit, the permit holder must submit to the Commission a Post Construction Plan as an ePASS shape file accurately identifying the location of the total area actually disturbed under this permit, and a written statement indicating whether the permit holder has complied with the permit conditions and applicable legislation relating to the design and construction of the activities authorized under this permit. The written statement must be signed by the permit holder and specify the date on which it was made.

First Nations

- 11. At the completion of construction activities the permit holder must restore any identifiable trails traditionally used by First Nations that were impacted by construction, to the level of access that existed prior to construction, if the location of the trail is made known to the permit holder by a First Nation or the Commission prior to the permit holder's notice of construction start.

12. Prior to commencement of construction activities on any portion of the pipeline right of way or work space, the permit holder must consider relevant information made available by a First Nation in the development of site specific mitigation plans. Relevant information includes culturally modified trees, cache pits, house pits, grave sites, pictograph sites, smoke houses, cabins, artifacts and areas traditionally used on a recurring basis for camping, intensive fishing and berry picking located within the pipeline right of way or work space.

The permit holder must submit, at least 30 days prior to the commencement of construction, the information, along with site-specific mitigation plans for any of the specified items identified that may be impacted by construction activities, to the satisfaction of the Commission.

Clearing

13. Clearing and site preparation must:
 - a. be limited to areas needed for the pipeline right of way and work space;
 - b. inclusive of work space, be confined to the construction corridor; and
 - c. not exceed 903,83 ha on Crown land.
14. Except with leave of the Commission, clearing and site preparation, inclusive of work space, must not occur within:
 - a. 100 metres of where water is diverted by a waterworks, water supply well or water storage reservoir;
 - b. an area containing a mineral lick, bald eagle, osprey, goshawk or great blue heron nest unless the mineral lick or nest is not damaged by activities authorized under this permit;
 - c. a permanent sample site on Crown Land used as a snow course;
 - d. an area that would require harvest or disturbance of whitebark pine trees;
 - e. research installation EP0813.61.14; or
 - f. a wetland classified as W2, except WL-1274, WL-1279, WL-1289, WL-1294, WL-1305, WL-1339, WL-1349, WL-1378, WL-1379, WL-1391, WL-1397, WL-1399, WL-1403, WL-1411, WL-1434, WL-1439, WL-1453, WL-1456, WL-1466, WL-1478, WL-1484, WL-1493, WL-1494, WL-1517, WL-1528, WL-1539, WL-1547A, WL-1548, WL-1559, WL-1563, WL-2323, WL-1979, WL-1997, WL-1998, WL-2006, WL-2009, WL-2296, WL-2297, WL-2319, WL-2320, WL-2615, WL-2619, WL-2627, WL-2641, WL-2642, and WL-2647, as identified in the construction plans, or to facilitate crossing of that wetland.
15. Clearing and site preparation must not occur within a RMA except:
 - a. the pipeline right of way, temporary workspace and shooflies, as shown on the construction plans;
 - b. to facilitate a stream or wetland crossing;
 - c. where it does not involve new clearing and existing clearings do not have a reestablished vegetative cover; or
 - d. with leave of the Commission.

16. Clearing and site preparation, inclusive of work space, must not occur within a wildlife tree retention area except:
 - a. as shown on the construction plans; or
 - b. with leave of the Commission.
17. Except as shown on the construction plans or with leave of the Commission, incremental clearing for additional work space is not permitted within:
 - a. a wildlife habitat area;
 - b. an ungulate winter range; or
 - c. old growth management areas.
18. Except with leave of the Commission, incremental clearing for additional work space is not permitted within the riparian reserve zone of streams with a riparian classification of S1-S3.
19. Clearing and site preparation, except shooflies identified in the construction plans referenced in Permissions, must be confined to the area approved in the Certified Project Description of the associated Environmental Assessment Certificate.
20. Clearing and site preparation must be limited to the area necessary to safely construct the pipeline, taking into account the influence of terrain, safe equipment operations, clearing debris, worker safety and egress, protection of adjacent infrastructure, and other conditions relevant to safe construction operations.
21. Clearing and site preparation, other than those identified in the construction plans referenced in Permissions, must be located on any previously disturbed areas located within the construction corridor unless:
 - a. a previously disturbed area is less than 2 hectares;
 - b. such clearing and site preparation is required to avoid one or more of the areas or features identified in Conditions 14, 15, 16, or 17; or
 - c. the permit holder is granted leave by the Commission to carry out such clearing and site preparation.
22. The permit holder must maintain vegetation and minimize stumping or ground disturbance within 10 metres of the high water mark of a fish bearing watercourse and delay grading of the banks of watercourses until immediately before construction of either pipeline crossings or crossings for vehicle access, except where necessary to address terrain related constraints, safe equipment operations, clearing debris, worker safety and egress, protection of adjacent infrastructure or environmental values, and other conditions relevant to safe construction operations. Appropriate erosion and sediment control structures must be installed as necessary to ensure debris and soil are not deposited into watercourses.
23. The permit holder must fall any tree that is harvested within its tree length of a stream or a wetland away from the stream or wetland, and must immediately remove any debris or soil deposited below the high water mark.
24. All harvested Crown timber within Master License to Cut (MLTC) M02343, Nadina Forest District, must be marked with Timber Mark Number MTB 443.
25. All harvested Crown timber within MLTC M02344, Coast Mountain Forest District, must be marked with Timber Mark Number MTB 442.

26. Cutting Permit No. 8 under MLTC M02344 and Cutting Permit No.10 under MLTC M02343 do not grant the permit holder the exclusive right to harvest Crown timber from the operating area. Authority to harvest some or all of the timber may be granted to other persons. The permit holder's right to harvest timber applies to any timber found on the operating area at the time they undertake harvesting activities.
27. Stumpage for Cutting Permit No. 10 will be calculated in accordance with the Interior Appraisal Manual, as amended from time to time. In the current version of the Manual, stumpage will be determined in accordance with Table 6-3.
28. Stumpage for Cutting Permit No. 8 will be calculated in accordance with the Coast Appraisal Manual.
29. The interior timber merchantability specifications and monetary waste billing requirements in the *Provincial Logging Residue and Waste Measurement Procedures Manual*, as amended from time to time, apply to any waste assessments required under Master License to Cut M02343.
30. The coast timber merchantability specifications and monetary waste Billing requirements in the *Provincial Logging Residue and Waste Measurement Procedures Manual*, as amended from time to time, apply to any waste assessments required under Master License to Cut M02344.
31. The holder of Cutting Permit No. 8 and Cutting Permit No. 10 must pay to the Province stumpage and any waste billing determined in accordance with the terms of this permit.
32. The permit holder must not harvest more than 699.92 ha within the operating area.
33. The permit holder is permitted to fell any trees located on Crown land within 1.5 tree lengths of the operating area that are considered to be a safety hazard under the *Workers Compensation Act*, as amended from time to time, and must be felled in order to eliminate the hazard. Trees or portions of these trees that can be accessed from the operating area without causing damage to standing timber may be harvested.

Wildlife

34. Except with leave of the Commission, the permit holder must not undertake clearing activities between May 1 and July 31 unless pre-clearing surveys are completed and, where appropriate, mitigation is implemented as per the methods outlined in the Wildlife and Wildlife Habitat Management Plan.
35. Except with leave of the Commission or in accordance with condition 36, the permit holder must not undertake clearing activities from KP630 to KP660 between April 1 and September 15 or within 30 metres of any active marbled murrelet nest that was identified during construction preparation surveys.
36. For any clearing activities that occur between KP630 and KP660 between April 1 and September 15, a qualified specialist must be on site to assess the risk to marbled murrelet. If a marbled murrelet or its active nest is determined to be at risk, construction operations must be suspended in the vicinity of the occupied site or nest until a site specific mitigation plan has been developed to the satisfaction of the Commission. All subsequent clearing activities in the vicinity of the occupied site or nest must be conducted in accordance with that plan.
37. Except with leave of the Commission, the permit holder must implement the setbacks that are identified in Table 4-1-Section 10 of the Wildlife and Wildlife Habitat Management Plan (Summary of Mitigation for Wildlife and Wildlife Habitat-Bird Nests) for any clearing or significant maintenance activities within a wetland where an active waterfowl nest is present.

38. Except with leave of the Commission, the permit holder must not undertake clearing or significant maintenance activities within WHA 6-283 between September 1 and June 15.
39. Except with leave of the Commission, the permit holder must not undertake clearing or significant maintenance activities within 1000 metres of UWR U-6-001 and U-6-003 between October 31 and June 15.
40. Except with leave of the Commission, the permit holder must not undertake clearing or significant maintenance activities within UWR U-6-009 between November 1 and May 1.
41. Except with leave of the Commission, the permit holder must not undertake clearing or significant maintenance activities within WHA 6-333 between May 15 and July 15.

The permit holder must implement the mitigation methods that are identified in the Caribou Mitigation and Monitoring Plan for any clearing or significant maintenance activities within WHA 6-333.

42. Except with leave of the Commission, the permit holder:
 - a. must not undertake clearing or significant maintenance activities within 200 metres of any active grizzly bear or black bear den that was identified by the survey conducted in accordance with condition 75, between December 1 and April 30; and
 - b. must implement the mitigations outlined in the Wildlife and Wildlife Habitat Management Plan and section 7 of the Environmental Management Plan.
43. Except with leave of the Commission, the permit holder:
 - a. must not undertake clearing or significant maintenance activities within 500 metres of any active wolverine den that was identified by the survey conducted in accordance with condition 75, between February 1 and August 1; and
 - b. must implement the mitigations outlined in the Wildlife and Wildlife Habitat Management Plan and section 7 of the Environmental Management Plan.
44. Except with leave of the Commission, the permit holder must not:
 - a. undertake clearing or significant maintenance activities within 200 metres of any fisher den that was identified by the survey conducted in accordance with condition 75;
 - b. undertake clearing or significant maintenance activities within 400 metres of any active fisher den that was identified by the survey conducted in accordance with condition 75, between March 15 and July 31; and
 - c. must implement the mitigations outlined in the Wildlife and Wildlife Habitat Management Plan and section 7 of the Environmental Management Plan.
45. When using aircraft to undertake activities associated with the permit, the permit holder must provide written instructions to the pilot specifying that flights must not, except in the event of an emergency situation:
 - a. directly approach, hover over, circle, or land near mountain goats, moose, elk, or caribou;
 - b. directly approach, hover over or circle near, or land within 500 metres of known wolverine den between February 1 and June 30;
 - c. occur within 2000 metres horizontal distance of UWR U-6-001 and U-6-003 between November 1 and June 15 except where there is no line of sight;

- d. occur below 400 metres elevation when flying directly above UWR U-6-001 and U-6-003; and
 - e. occur within 500 metres vertical distance or 2000 metres horizontal distance of where caribou are observed within WHA 6-333.
46. The permit holder must implement appropriate measures to minimize the obstruction of wildlife movement across the pipeline right of way during construction and operations.
47. The permit holder must collect and store garbage in a manner that does not attract bears or other wildlife.
48. The permit holder must, to the satisfaction of the Commission, construct line of sight barriers across the width of the pipeline right of way within WHA 6-333.

Terrain Stability, Acid Rock Drainage and Mineral Leaching

49. Prior to operating the pipeline, the permit holder must submit a report, to the satisfaction of the Commission, for the monitoring and maintenance of ground and slope stability on areas where the stability:
- a. may be affected by clearing or construction of the pipeline; or
 - b. may affect the safe operation of the pipeline.

The report must be prepared by a qualified professional and must include an assessment of and monitoring plan for any areas where karst or ground subsidence may be located.

50. Prior to construction, the permit holder must submit an acid rock assessment and mitigation plan, to the satisfaction of the Commission, with respect to potentially acid generating (PAG) rock along the proposed pipeline route. The assessment and mitigation plan must include:
- a. the criteria used to classify acid rock drainage/metal leaching potential;
 - b. the process used to delineate PAG rock including desktop and field/laboratory assessments;
 - c. results of engineering evaluation of expected PAG rock locations and associated construction-related quantities;
 - d. additional planned characterization to complement initial assessment results;
 - e. protocols to be followed during construction to verify results of PAG characterization and engineering assessments;
 - f. a flowchart outlining material handling steps for confirmed PAG rock;
 - g. associated mitigation and monitoring programs for exposed in situ and disposed PAG rock;
 - h. mitigation selection criteria;
 - i. typical drawings and typical specifications for mitigation such as soil covers and rock slope face barriers (e.g., shotcrete and synthetic spray cover); and
 - j. gradational specifications for cover layer barriers composed of glacial till and/or other materials.

The assessment and mitigation plan must be prepared by a qualified professional. The permit holder must implement any protocols, steps, mitigation measures, monitoring, or recommended specifications in the assessment and mitigation plan that relate to items (e) through (j) above.

Stream, Wetland and Lake Crossings

51. Subject to sections 11 and 12 of the EPMR, crossings of non-fish bearing streams and wetlands must be constructed in accordance with the methods and any mitigations that are specified in the Construction Section 8 Supplemental Stream Crossings Submission that has been submitted to the satisfaction of the Commission.
52. Subject to sections 11 and 12 of the EPMR, crossings of fish bearing streams and wetlands must be constructed in accordance with the timing, methods and any mitigations that are specified in the Construction Section 8 Supplemental Stream Crossings Submission that has been submitted to the satisfaction of the Commission. Any contingency method specified in Construction Section 8 Supplemental Stream Crossings Submission may only be utilized with leave of the Commission.
53. Notwithstanding condition 54 a, construction activities at crossings 616 (Clare River), 677 (Kitimat River), 57C2A and 716 (Hirsch Creek Tributaries) must be carried out in accordance with the timing, methods and mitigations specified in the site specific crossing plans that have been submitted to the satisfaction of the Commission for each of these crossings.
54. Open cut crossings of watercourses must be planned and conducted in accordance with the relevant detail in the Construction Section 8 Supplemental Stream Crossings Submission that has been submitted to the satisfaction of the Commission, and the following requirements:
 - a. an open cut of a stream classified as S1, S2, S3, S4, S5 or S6 may only occur with leave of the Commission, unless the stream is frozen to its bed or is completely dry with no evidence of subsurface flow, or as authorized under condition 53;
 - b. where the streambed consists of rocks, pebbles or coarse gravel overlaying finer material, this material must be removed and stockpiled separately above the high water mark of the stream for replacement during restoration;
 - c. unless otherwise authorized by Fisheries and Oceans Canada, spawning gravels must not be disturbed when redds that contain eggs or alevins are present. The authorization must be provided to the Commission;
 - d. excavated materials must be contained using appropriate techniques, so that sediment-laden water and spoil do not re-enter the watercourse;
 - e. any sediment-laden trench water must be pumped onto stable surfaces in a manner that does not cause erosion of soils or release of suspended sediments to watercourses;
 - f. where feasible, aquatic vegetation and organic debris removed from the construction area must be salvaged and returned following trench backfilling; and
 - g. channels, banks and beds of streams or wetlands, including any disturbed stable natural material must be restored, to the extent practicable, to the structure and conditions that existed before the crossing construction was initiated. Fish streams must be restored based on pre-construction surveys, including restoration of areas containing rearing potential with adequate stream depth and in-stream structures and restoration of spawning areas with gravel placement.
55. Open cut crossings of wetlands must be planned and conducted in accordance with the relevant detail in the Construction Section 8 Supplemental Stream Crossings Submission that has been submitted to the satisfaction of the Commission, and the following requirements:

- a. where the wetland substrate consists of rocks, pebbles or coarse gravel overlaying finer material, this material must be removed and stockpiled separately above the high water mark of the stream for replacement during restoration;
 - b. materials referred to in (a) must be excavated and stockpiled in a manner that minimizes sediment dispersal within the wetland and must be replaced in a manner that minimizes disturbance to the wetland following pipeline installation;
 - c. channels, banks and beds of wetlands, including any disturbed stable natural material, must be restored, to the extent practicable, to the structure and conditions that existed before the crossing construction was initiated;
 - d. excavated materials must be contained using appropriate techniques, so that that sediment-laden water and spoil do not re-enter the wetland; and
 - e. any sediment-laden trench water must be pumped onto stable surfaces in a manner that does not cause erosion of soils or release of suspended sediments to watercourses.
56. Flow isolation crossings must be planned and conducted in accordance with the relevant detail in the Construction Section 8 Supplemental Stream Crossings Submission that has been submitted to the satisfaction of the Commission, and in accordance with (b) to (f) of condition 54 and the following additional requirements:
- a. crossings of fish-bearing streams may commence only after confirming that sufficient equipment and supplies are available to complete the crossing in an efficient and timely manner;
 - b. crossing construction within the stream channel, including the location and operation of any equipment, must be isolated from water flowing in the stream;
 - c. activities must be assessed by a qualified professional for suspension if high stream flows present an increased risk to effectively completing the intended crossing installation technique;
 - d. welding, coating, weighting and, where applicable testing, of the pipe must be completed prior to commencement of trenching within fish-bearing water bodies;
 - e. water from flumes, pump-arounds, diversions, or other methods must be released to downstream areas using dissipation structures to avoid causing erosion or sediment release;
 - f. except with leave of the Commission, pump intakes must not disturb beds of streams or wetlands except as necessary to ensure safe installation and operation of equipment and must be screened with maximum mesh sizes and approach velocities in accordance with the Fisheries and Oceans Canada "Freshwater Intake End-of-Pipe Fish Screen Guideline", as amended from time to time;
 - g. water flows downstream of in-stream construction sites must be maintained consistent with upstream flows; and
 - h. ditch plugs must be maintained at or near the banks of the crossing and left in place until the crossing has been initiated.
57. Construction or maintenance activities within a fish bearing stream or wetland must occur:
- a. during the applicable reduced risk work windows as specified in the Skeena Region Reduced Risk In-stream Work Windows and Measures, May 2005, as amended from time to time;

- b. in accordance with alternative timing and associated mitigation recommended by a qualified professional and accepted by the Commission; or
 - c. in accordance with an authorization or letter of advice from Fisheries and Oceans Canada that is provided to the Commission.
58. Equipment to be used in or adjacent to a stream, lake or wetland must be clean or otherwise free of external grease, oil or other fluids, excessive muds, soil and vegetation, prior to entering the waterbody.
59. Within the RMA, generators and other stationary equipment that require refueling must be situated in secondary containment capable of containing the fuel capacity of the generators.
60. Except with leave of the Commission, prior to construction activities in a stream classified as S1, S2, S3 or S4; or the RRZ of a stream classified as S1, S2, or a S3 stream, the permit holder must develop a Water Quality Monitoring Program to the satisfaction of the Commission. The Water Quality Monitoring Program must:
- a. be developed, implemented and supervised by a qualified professional;
 - b. be consistent with the Ministry of Environment's approved water quality guidelines, as amended from time to time (the BC Water Quality Guidelines);
 - c. include environmental water quality monitoring, including field monitoring of turbidity, pH and total suspended solids for potential exceedance of BC Water Quality Guidelines for the protection of aquatic life or, where they exist, the Water Quality Objectives for a specific watercourse, as they may be amended from time to time;
 - d. require pre and post construction monitoring upstream (baseline) and downstream of the location of potential disturbance from construction activities;
 - e. require sampling that is representative of water quality variation across the stream; and
 - f. require documentation of pre and post construction monitoring completed under e.
61. Except with leave of the Commission, prior to construction activities in a wetland, the permit holder must develop a wetland Water Quality Monitoring Program to the satisfaction of the Commission. The wetland Water Quality Monitoring Program must:
- a. be developed, implemented and supervised by a qualified professional;
 - b. be consistent with the BC Water Quality Guidelines;
 - c. include environmental water quality monitoring for potential exceedance of the BC Water Quality Guidelines for the protection of aquatic life or, where they exist, the Water Quality Objectives for a specific wetland, as they may be amended from time to time;
 - d. where appropriate, require pre and post construction monitoring proximal to the location of potential disturbance from construction activities;
 - e. require sampling that is representative of water quality variation across the pipeline right of way through wetlands with a riparian classification of W1; and
 - f. require documentation of pre and post construction monitoring completed under (d).
62. The permit holder must implement the Water Quality Monitoring Programs developed as per conditions 60 and 61 and do each of the following:
- a. provide records of documentation of all pre and post construction monitoring to the Commission;

- b. immediately report to the Commission any exceedance of the BC Water Quality Guidelines for aquatic life or, where they exist, the Water Quality Objectives for a specific watercourse or wetland that persist for a period of 24 hours or greater, relative to the baseline; and
 - c. immediately take steps to address the factors producing any exceedance of the BC Water Quality Guidelines for aquatic life, relative to the baseline, should any exceedance persist for a period of 24 hours or greater, and where such steps do not result in addressing the turbidity exceedance, promptly suspend construction operations at the site of activities causing the exceedance until effective solutions, satisfactory to the Commission, have been developed and implemented.
63. As part of the post construction monitoring program, the permit holder must, for all watercourse and wetland crossings:
- a. inspect and provide a report to the Commission that includes assessment of:
 - i. RMA stability;
 - ii. erosion risk to the watercourse;
 - iii. vegetation re-establishment within the RMA, including species composition, percent establishment, and presence of invasive plant species; and
 - iv. identify where contingency measures may be required to address the items in (i), (ii) or (iii).

Where contingency measures are required, the permit holder must develop and implement an appropriate plan to the satisfaction of the Commission.

64. Prior to commencing construction on any pipeline stream crossing, the permit holder must:
- a. identify any new streams not described in the Construction Section 8 Supplemental Stream Crossings Submission;
 - b. for new streams or where there was outstanding fieldwork required for a stream described in the Construction Section 8 Supplemental Stream Crossings Submission, conduct the field work needed to complete stream classifications and identify the fish species presence for that stream, including any required confirmation of fish species presence in streams that were surveyed prior to issuance of this permit; and
 - c. submit the results of any field work required under (b) to the satisfaction of the Commission. The results must clearly describe the management and mitigation measures that will be employed in order to minimize impacts to the species present and their habitat.
65. The permit holder must construct, maintain, and deactivate all mechanical stream crossings constructed for access within the operating area according to the following requirements, as applicable:
- a. Only bridges, culverts, ice bridges, or snow fills may be constructed at stream crossings.
 - b. Permanent bridges must be designed and fabricated in compliance with:
 - i. the Canadian Standards Association Canadian Bridge Design Code, CAN/CSA-S6; and

- ii. soil property standards, as they apply to bridge piers and abutments; set out in the Canadian Foundation of Engineering Manual.
- c. Except with leave of the Commission,
 - i. any culverts used must be designed and fabricated in compliance with the Canadian Standards Association CSA G401, Corrugated Steel Pipe Products; or the Canadian Standards Association Standard CSA B1800, Section B182.2, Plastic Non-pressure Pipe Compendium, as applicable; and
 - ii. Any pipe installed in lieu of a culvert must be of at least equivalent standard and strength as any culvert specified above.
- d. Except with leave of the Commission, bridges and culverts must meet the criteria set out in (i), (ii), or (iii) below:
 - i. the bridge or culvert is designed to pass the highest peak flow of the stream that can reasonably be expected within the return periods set out in column 2 the table below for the period the permit holder anticipates the crossing structure will remain on site, as set out in column 1 in the table below.

Column 1	Column 2
Anticipated period crossing structure will remain on site	Peak flow period
Bridge or culvert, 3 years or less	10 years
Bridge other than a bridge within a community watershed, more than 3 years but less than 15	50 years
Bridge within a community watershed, more than 3 years	100 years
Bridge, 15 years or more	100 years
Culvert, more than 3 years	100 years

- ii. the bridge, or any component of the bridge:
 - 1. is designed to pass expected flows during the period the bridge is anticipated to remain on the site;
 - 2. is constructed, installed and used only in a period of low flow; and
 - 3. is removed before any period of high flow begins.
- iii. the culvert:
 - 1. is a temporary installation, and the permit holder does not expect to subsequently install a replacement culvert at that location;
 - 2. is not installed in a stream, when the stream contains fish;
 - 3. is sufficient to pass flows that occur during the period the culvert remains on the site;
 - 4. is installed during a period of low flow; and
 - 5. is removed before any period of high flow begins.

- e. Snow fills must consist of clean snow and may only be located on streams that are dry or frozen to the bottom during the period of construction, maintenance and use. Where periodic thaws are anticipated, measures must be in place to allow meltwater to pass through the snow fill, to ensure movement of fish is not impeded, and to prevent pooling on the upstream side of the snow fill. Snow fill and any installed culverts must be removed prior to spring snow melt.
- f. Ice bridges on fish bearing streams may only be constructed where sufficient water depth and stream flows prevent the bridge structure from coming in contact with the stream bottom.
- g. Water applied to construct an ice bridge on a water body must be sourced in accordance with the Water Sustainability Act unless:
 - i. the water body is a stream with a stream channel width of at least 5 metres and is not designated as a sensitive stream under the Fish Protection Act, or has a riparian class of W1, W3, or L1;
 - ii. the water is sourced from the same water body proximal to the location on which the ice bridge is constructed;
 - iii. the water body is not within the boundaries of a public park;
 - iv. pump intakes do not disturb beds of streams or wetlands except as necessary to ensure safe installation and operation of equipment and are screened with a maximum mesh size and approach velocity in accordance with the Fisheries and Oceans Canada Freshwater Intake End-of-Pipe Fish Screen Guideline; and
 - 1. where the water body is a stream, the flow of water in the stream at the time and location of pumping exceeds 60 litres per second and the instantaneous pumping rate does not exceed 1% of the water flowing in the water body at the time and location the pumping occurs; or
 - 2. where the water body is a lake or pond, the cumulative volume of water withdrawn does not exceed 10 cm of lake or pond depth, calculated as the product of lake or pond surface area x 10 cm;
 - v. records of water withdrawal and corresponding streamflow measurements are maintained and provided to the Commission upon request; and
 - vi. bridge or culvert abutments, footings and associated scour protection must be located outside the natural stream channel and must not constrict the channel width.

Engineering

- 66. Before beginning construction activities on any crossing of a road by the pipeline, the permit holder must submit information, to the satisfaction of the Commission, in tabular or other format, describing:
 - a. the crossing location;
 - b. summary, including any outcomes, of engagement with the road tenure holder, primary road user or road owner;
 - c. whether the crossing will be constructed using trenchless methods;
 - d. the approximate dates and maximum time that traffic at the crossing is expected to be restricted or obstructed;

- e. pipeline specifications at the crossings, including pipeline diameter, wall thickness, depth of cover and grade; and
 - f. maximum vehicular weights expected at the crossing location.
67. The permit holder must construct any road crossing consistent with information accepted by the Commission under condition 66.
68. At least 45 days prior to commencement of welding, the permit holder must submit to the satisfaction of the Commission, a fracture arrest and mitigation program. The permit holder must implement the program.
69. Where the hoop stress during the pressure test exceeds 100% SMYS, the permit holder must submit to the Commission the P-V test and the pressure test results before beginning operation of a pipeline.
70. At least 90 days prior to pipe-stringing activities in areas where geohazards are present, the permit holder must submit, to the satisfaction of the Commission:
- a. a geohazard assessment that includes:
 - i. a description of the geohazard(s) identified that have reasonable probability of impacting the pipeline, with the location of each geohazard illustrated on either a map or in a table; and
 - ii. specific design measures, such as materials to be used, installation procedures, protective structures, depth of cover, and monitoring that will be implemented to mitigate the geohazard(s) identified in (i); and
 - b. a field changes manual for geohazards that includes:
 - i. criteria for measures, including those identified in a(ii) above, that will be implemented to mitigate any additional geohazards identified during construction; and
 - ii. qualification requirements for field staff who will implement the field changes manual.
71. Except with leave of the Commission, within 12 months of commencement of gas transmission to the Kitimat Sales Meter Station, the permit holder must submit to the Commission the results and interpretation of a high resolution in-line inspection tool run to establish an accurate position of the pipeline (GEOPIG) and to detect pipe deformation and defects.

Archaeology

72. An Archaeological Impact Assessment (AIA) must be completed for all pipeline right of way and work space areas prior to commencement of construction activities.
73. The permit holder must, as soon as practicable, submit an AIA report to the Commission and provide a copy of the AIA report to the First Nations listed in condition 7.
74. If artifacts, features, materials or things protected under section 13(2) of the *Heritage Conservation Act* are identified the permit holder must, unless the permit holder holds a permit under section 12 of the *Heritage Conservation Act* issued by the Commission in respect of that artifact, feature, material or thing:
- a. immediately cease all work in the vicinity of the artifacts, features, materials or things;
 - b. immediately notify the Commission; and

- c. refrain from resuming work in the vicinity of the artifacts, features, materials or things except in accordance with an appropriate mitigation plan that has been prepared in accordance with the *Heritage Conservation Act* and approved by the Commission.

Environment

75. Prior to commencing clearing or site preparation on any portion of the pipeline right of way or work space, the permit holder must conduct a survey identifying any:
 - a. Bear, fisher or wolverine dens located within 200 metres of the pipeline right of way and work space, and within the construction corridor;
 - b. Western Toad breeding areas located within 100 metres of the pipeline right of way or workspaces, and any associated migration corridors;
 - c. vascular plants, mosses or lichens listed under the *Species at Risk Act* as endangered, threatened or special concern and located within the construction corridor; and
 - d. individual plants, plant communities or residences species identified as species at risk in a subsisting order issued under the *Forest and Range Practices Act* or the *Oil and Gas Activities Act* and located within or adjacent to the construction corridor.

The permit holder must submit the survey results, along with site-specific mitigation plans for any of items identified in a to d that may be impacted by construction activities, to the satisfaction of the Commission prior to notice of construction start.

76. Construction activities must not result in rutting, compaction or erosion of soils that cannot be reasonably rehabilitated to similar levels of soil productivity that existed on the site prior to the construction activities taking place.
77. The permit holder must, as soon as practicable, restore recreation sites, recreation trails or recreation facilities established or authorized under the *Forest and Range Practices Act* that are affected by construction activities to their pre-construction condition to the Commission's satisfaction.
78. The permit holder must, as soon as practicable, restore range developments defined under the *Forest and Range Practices Act* that are affected by construction activities to their pre-construction condition to the Commission's satisfaction.
79. At the completion of construction activities the permit holder must restore any identifiable trails used by trappers that were impacted by pipeline construction, to the level of access that existed prior to construction, if the location of the trail is made known to the permit holder by the registered trapper for the area specific to the trail or by the Commission prior to the permit holder's notice of construction start.
80. In all locations where run-off from the area of the pipeline right of way or work space may flow into a watercourse, the permit holder must contour and stabilize banks and approach slopes and install berms, silt fences, cross ditches, or implement other alternative effective measures as appropriate to minimize erosion and avoid sediment deposit into the watercourse.
81. The permit holder must undertake dust control measures to ensure that dust resulting from construction activities does not affect safe travel on a road or significantly impair the use and enjoyment of lawfully occupied permanent dwellings, significant public use areas or other similar areas.
82. The permit holder must undertake reasonable measures to mitigate noise from construction activity that has the potential to affect public safety or significantly impair the use and enjoyment

of lawfully occupied permanent dwellings, significant public use areas during periods of use or other similar areas.

83. Upon completion of construction activities authorized under this permit, the permit holder must:
- a. re-vegetate, using seed or vegetative propagules of an ecologically suitable species or implement other measures, to the satisfaction of the Commission, that promote the restoration of the wildlife habitat that existed on the area before the commencement of any works authorized under this permit, and stabilize the soil if it is highly susceptible to erosion;
 - b. within WHA 6-333, and within UWR U-6-009, implement human and predator access control such as higher density planting of tree species and restoration of disturbed areas with fast-growing species not preferred for browse;
 - c. within UWR U-6-001 and U-6-003, implement human access control measures along the right of way and work space; and
 - d. take reasonably practicable measures to limit or prevent vehicular access to and along, and to reduce sightlines along the pipeline right of way.
84. The permit holder must adhere to all timber hauling restrictions pertaining to the management of beetle infested timber recommended by the BC Ministry of Forests, Land, and Natural Resource Operations unless otherwise specified by the Commission.
85. The permit holder must ensure shooflies are constructed in a manner that provides for proper surface drainage, prevents pooling on the surface, and maintains slope integrity.

General

86. The rights granted by this permit in relation to unoccupied Crown land are subject to all subsisting grants to or rights of any person made or acquired under the *Coal Act*, *Forest Act*, *Land Act*, *Mineral Tenure Act*, *Petroleum and Natural Gas Act*, *Range Act*, *Water Act* or *Wildlife Act*, or any extension or renewal of the same.
87. The permit holder must not assign, sublicense or transfer this permit or permit any person to use or occupy any Crown land within the operating area, other than its employees, contractors, or representatives, without the Commission's written consent.
88. The permit holder must ensure that any Crown land within the operating area is maintained in a condition so as to minimize hazards, including but not limited to hazards associated with storage of materials and equipment.
89. The permit holder must ensure that any Crown land within the operating area is maintained free of garbage, debris and unused equipment.

ADVISORY GUIDANCE

1. Appropriate *Land Act* tenure will be issued upon acceptance of the post construction plan. Submission of the original application and submission of the post construction plan is considered application for all subsequent *Land Act* tenures; no further applications for replacement tenure is required.
2. Trenchless crossing must be planned and conducted in accordance with the Directional Drilling Procedures and Drilling Mud Release Contingency Plan and the relevant detail in the Typical

Drawings of the Environmental Management Plan and any plans accepted by the Commission under condition 51 and 52 above.

DEFINITIONS

Unless the condition or its context indicates otherwise, the terms in this permit have the same meaning as defined in the *Oil and Gas Activities Act* or the regulations under that Act.

“additional work space” work space, other than temporary work space, needed to facilitate pipeline construction. These include shooflies, log decks, log storage sites, laydown areas and stockpile sites.

“construction activities” or “construction” means clearing, site preparation, trench excavation, pipe installation and any other activities required to construct a pipeline.

“construction corridor” means, the area of land extending on either side of the centerline of the pipeline as indicated in the application for this permit, and is labelled as either “construction corridor” or “review corridor” on the construction plans.

“EPMR” means the Environmental Protection and Management Regulation

“environmental management plan” means, the environmental management plan as revised, that supports the application for this permit, the relevant components of which are acceptable to the Commission.

“qualified professional” means a member in good standing of a profession regulated in British Columbia and who is recognized by that profession as being qualified to work in area of practice for which an opinion or advice is required.

“qualified specialist” means a person who possesses an appropriate combination of formal education, knowledge, skills, and experience to conduct a technically sound and rational assessment for the area of practice, and be familiar with applicable regulations, standards, policies, protocols and guidelines.

“residence” means a dwelling-place, such as a den, nest or other similar area or place, that is occupied or habitually occupied by one or more individuals during all or part of their life cycles, including breeding, rearing, staging, wintering, feeding or hibernating.

“RMA” means Riparian Management Area

“RRZ” means Riparian Reserve Zone

“road” means, an existing road:

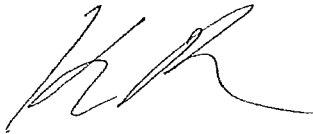
- a. that is a highway as defined in the *Transportation Act* and is currently being maintained by an agency of the provincial government or a local government, either directly or by agreement,
- b. that is a Forest Service Road,
- c. for which there is a subsisting permit under *the Forest Act, Land Act* or *Oil and Gas Activities Act*,
- d. that is an industrial road as defined under the *Industrial Roads Act*, or
- e. that is privately owned.

“temporary work space” means the work space that runs adjacent to the pipeline right of way (generally 13 – 15 metres wide along the length of either side of the pipeline right of way), which may be used to accommodate vehicle traffic as well as stringing, welding and placing pipe.

“UWR” means Ungulate Winter Range

“work space” includes both temporary work space and additional work space.

“WHA” means Wildlife Habitat Area



Ken Paulson, P. Eng.
Chief Operating Officer and Authorized Signatory
Commission Delegated Decision Maker

CC: Roy Northern Land Services Ltd.
MFLNRO, Coast Mountains Forest District, Nadina Forest District
First Nations (Carrier Sekani Tribal Council, Haisla Nation, Kitselas First Nation, Moricetown
Band, Office of the Wet'suwet'en, Skin Tyee Nation, Wet'swet'en First Nations and
Ya'tsalkas/Dark House)
WorkSafe BC
OGC File: 9708372
BC Environmental Assessment Office

