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September 25, 2015

Filed Electronically

National Energy Board
517 Tenth Avenue SW
Calgary, Alberta T2R 0A8

Attention: Ms. Sheri Young, Secretary of the Board

Dear Ms. Young:

Re: Foothills Pipe Lines Ltd. (Foothills)
Application for Approval to Decommission a Section of the Foothills Zone 8 Segment 2 Lateral Loop Pursuant to Section 45.1 of the *Onshore Pipeline Regulations*

Foothills encloses for filing with the National Energy Board (Board) an application pursuant to section 45.1 of the *Onshore Pipeline Regulations* for approval to decommission a 9.1 km segment of the Foothills Zone 8 Segment 2 lateral loop in British Columbia.

If the Board requires additional information with respect to this filing, please contact Matt Quail by phone at (403) 920-7470 or by email at matt_quail@transcanada.com.

Yours truly,
Foothills Pipe Lines Ltd.

Original signed by

Carolyn Shaw
Manager, Facilities Applications, Gas Projects
Regulatory Services

Enclosures

NATIONAL ENERGY BOARD

IN THE MATTER OF the *National Energy Board Act*, R.S.C. 1985, c. N-7, as amended, and the Regulations made thereunder; and

IN THE MATTER OF an application by Foothills Pipe Lines Ltd. pursuant to section 45.1 of the *National Energy Board Onshore Pipeline Regulations* for the decommissioning of lateral pipeline facilities.

FOOTHILLS PIPE LINES LTD.

ZONE 8 SEGMENT 2 PIPELINE (LEACH CREEK SEGMENT) DECOMMISSIONING

DECOMMISSIONING APPLICATION

September 2015

To: The Secretary
National Energy Board
517 Tenth Avenue SW
Calgary, Alberta
T2R 0A8

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APPLICATION OVERVIEW

Foothills Pipe Lines Ltd. (Foothills) applies to the National Energy Board (Board or NEB), pursuant to section 45.1 of the *National Energy Board Onshore Pipeline Regulations* (OPR), for approval to decommission a 9.1 km section of the 914 mm (NPS 36) Foothills Zone 8 Segment 2 (Leach Creek Segment) lateral loop.

Applicant

1. Foothills is a wholly owned subsidiary of TransCanada PipeLines Limited (TransCanada). Foothills is a "company" as that term is defined in the *National Energy Board Act*, R.S.C. 1985, c. N-7, as amended (NEB Act).

2. Foothills is a natural gas transmission system comprising approximately 1,241 km of pipeline and associated compression and other facilities (Foothills System).

3. TransCanada operates the Foothills System pursuant to an operating agreement between TransCanada and Foothills. TransCanada applies its corporate policies in its operation of the Foothills System that are common to TransCanada's operation of its other federally regulated pipelines.

4. The Foothills System is subject to federal jurisdiction and regulation by the Board.

Project Description and Purpose

5. Foothills seeks Board approval to decommission a 9.1 km section of the 914 mm (NPS 36, constructed in 1981) Foothills Zone 8 Segment 2 (Leach Creek Segment) lateral loop (Project) between the start and end points shown in Table 1. The section of pipe is located in the East Kootenay Regional District of British Columbia (BC) and extends from approximately 17 km south of Sparwood, BC to approximately 18 km east of Fernie, BC. For further details on the location of the Project facilities, see Appendix A: Location Map.

Table 1: Decommissioning Start and End Points

Decommissioning Points	Kilometre Post	NTS Coordinates	Latitude/Longitude
Decommissioning Start	15.3	b 13 F/82 G 10	49.5940258/-114.78748
Decommissioning End	24.4	a 25 C/82 G 10	49.5174034/-114.81315

6. The Project facilities have not been in operation for more than 12 months. Foothills has determined that they will not be returned to active service and is therefore applying for approval to decommission the facilities.

7. Section 45.1(1) of the OPR requires that, if a company proposes to decommission a pipeline or part of one, the company shall submit an application for decommissioning to the Board.

8. Section 45.1(2) of the OPR requires that the company shall include in the application the reasons, and the procedures that are to be used, for decommissioning.

9. The facilities Foothills proposes to decommission are planned to be physically isolated from operations in Q2 2016, pending regulatory approval.

10. The Project facilities share a right-of-way (ROW) with two adjacent Foothills Zone 8 pipelines, the British Columbia Mainline (NPS 36, constructed in 1961) and British Columbia Mainline Leach Creek Loop (NPS 48, constructed in 2002).

11. The Project decommissioning will have no impact on existing customers or service on the Foothills Zone 8 System. While the Project facilities will be decommissioned in place, Foothills will continue to own the adjacent NEB-regulated pipelines, operated by TransCanada, and the Board will continue to have jurisdiction over the decommissioned segment that remains in place.

CODES AND STANDARDS

12. The Project decommissioning will be carried out in accordance with *Canadian Standards Association* (CSA) Z662-15 and the OPR.

ENGINEERING

13. The decommissioning work will physically isolate the Project facilities from the Foothills Zone 8 System and will include the following activities:

- complete a hazard assessment on the facility areas to be decommissioned to ensure proper handling, storage and/or disposal of any onsite infrastructure or materials
- clean pipeline with mechanical cleaning pigs, using temporary pigging facilities
- purge the pipeline of all gas
- leave pipeline in place filled with air at atmospheric pressure
- test any received solids or liquids from the first pig run
- maintain cathodic protection (CP) by reconnecting CP across the cut points to ensure coverage (CP will be maintained along the entire pipeline route while the facilities are in a decommissioned state to ensure structural integrity of the pipeline is maintained for road and rail crossings)

For the locations and scope of decommissioning activities, see Table 2.

Table 2: Decommissioning Activities

Kilometre Post	Type of Activity	Scope Description
15.300 – Valve Site	Isolation	Following pigging, physically separate pipeline from gas sources by removing valve operator, cutting and removing launcher assembly, and installing caps and flanges. Reconnect CP across the separation.
16.102 to 16.200 – Road and Rail Crossing	Decommission in place.	Maintain CP to maintain structural integrity of the pipeline.
16.673 – Unnamed Creek Crossing	Decommission in place.	No work required.
17.100 – Carbon Creek Crossing	Decommission in place.	No work required.
17.450 – Unnamed Creek Crossing	Decommission in place.	No work required.
17.570 – Unnamed Creek Crossing	Decommission in place.	No work required.
18.000 – Unnamed Creek Crossing	Decommission in place.	No work required.
18.156 – Byron Creek Meter Station	Isolation	Physically separate pipeline from gas sources by cutting and installing flanges, and removing valve operators. Remove the sales tap above-ground facilities. Reconnect CP across the separation.
18.909 – Unnamed Creek Crossing	Decommission in place.	No work required.
19.740 – Secondary Road Crossing	Decommission in place.	Maintain CP to maintain structural integrity of the pipeline.
20.956 – Unnamed Creek Crossing	Decommission in place.	No work required.
21.981 to 22.500 – Leach Creek and Beaver Pond	Decommission in place.	No work required.
23.508 – Unnamed Creek Crossing	Decommission in place.	No work required.
24.400 – Valve Site	Isolation	Install temporary receiver for cleaning operations. Remove receiver after pigging and reinstall cap. Reconnect CP across the separation.

14. For schematics of the Project facilities, see Appendix B. The areas where decommissioning work will occur and where applicable above-ground facilities will be removed are denoted with a red revision cloud.

15. Alignment sheets, plot plans, and process and instrumentation diagrams will be as-built to reflect in-field decommissioning work, once completed, and will be retained by TransCanada.

16. Removal of the pipe would essentially replicate many of the activities associated with constructing a new pipe. Decommissioning in place, however, would minimize ground disturbance, mitigating potential environmental effects and safety risks in a cost-effective manner.

In addition, the proposed decommissioned pipeline is located between two adjacent Foothills pipelines that will continue to provide service, and any proposed removal activities would have to be planned to avoid impact on the operation of those pipelines. As the entire ROW will continue to be subject to routine operational maintenance, there is less risk posed to the existing facilities by decommissioning the pipe in place.

LAND MATTERS

17. The Project facilities are located entirely on freehold land. Two landowners are directly affected by the decommissioning activities. Details on engagement activities with landowners are provided below.

18. Foothills will use existing land rights for the work associated with decommissioning. General construction activities related to the use of excavation equipment will occur within the gravelled yard sites and extend approximately 50 m in either direction from the valve site boundaries. These areas include an approximately 10 x 10 m excavation to complete cutting and capping of the pipeline. Foothills does not anticipate the need for temporary work space (TWS), but if it is required, TWS will be acquired from landowners and occupants under a work permit.

STAKEHOLDER ENGAGEMENT

Shippers

19. Potentially affected commercial third parties and Foothills shippers were notified about the Project and Application at a semi-annual Foothills shippers meeting on October 9, 2014. Foothills confirms that all potentially affected commercial third parties have been notified and that to date, no comments or concerns have been received.

Landowners, Occupants, Land Users and Regional Personnel

20. In addition to the commercial third parties, Foothills identified and consulted with the following potentially affected stakeholder groups:

- landowners
- occupants
- land users (guides and outfitters)
- regional elected officials and staff
- regional emergency responders
- provincial and federal departments
- Byron Creek Collieries c/o Teck Resources Limited

21. On January 9, 2015 and May 6, 2015 (second mailout accounted for newly identified stakeholders), Foothills distributed to potentially affected stakeholders a notification package containing Project-specific materials, TransCanada corporate information and NEB materials, including:

- a stakeholder letter, including map

- Project-specific decommissioning information
- Stakeholder Engagement Brochure
- Stakeholder Engagement Commitment Statement
- Aboriginal Relations Policy
- *Your Safety, Our Integrity* pamphlet
- NEB brochure *Information for Proposed Pipeline or Power Line Projects that Do Not Involve a Hearing*

22. In addition to notification and provision of Project information, engagement with the directly affected landowners and occupants included a follow-up phone call to discuss any questions they might have had, and to help determine whether further engagement was required. No issues were raised during this consultation. If any issues or concerns arise, Foothills will work with the stakeholder, community or organization to address them.

ABORIGINAL ENGAGEMENT

23. The Project sites are located entirely in the Province of BC, on previously disturbed land, and are subject to existing freehold land lease agreements. The Project does not cross any lands that are defined as a reserve, or that have been designated for reserve, under the *Indian Act*.

24. All Project sites are in the existing pipeline ROW on freehold land and have restricted access. Potential interests were considered in light of Foothills' engagement criteria (e.g., project scope and size, nature of the affected lands and current use by Aboriginal communities). As decommissioning activities will take place on existing, previously disturbed ROW, and within leased boundaries, decommissioning the Project facilities will have limited, if any, adverse effects on current traditional uses or interests.

    Because of the existing relationship with the Aboriginal community in the area, however, Foothills chose to provide notice of the Project to Ktunaxa Nation. Foothills provided a notification package via Xpresspost, with a signature required on delivery, which contained Project-specific materials, TransCanada corporate information and NEB materials, including:

    - a stakeholder letter, including map
    - Project-specific decommissioning information
    - NEB brochure: *Information for Proposed Pipeline or Power Line Projects That Do Not Involve a Hearing*
    - Aboriginal Relations Policy

25. On December 18, 2014, Foothills emailed Ktunaxa Nation to introduce the Project and advised that Foothills plans to file the Application with the NEB in 2015. On January 9, 2015, Foothills sent out a Project notification package via registered mail and on February 2, 2015, emailed Ktunaxa Nation to confirm they had received the mailout package. Ktunaxa acknowledged receipt of the package on the same day.

    Ktunaxa Nation requested further information regarding economic opportunities as well as information on the Environmental and Socio-Economic Assessment (ESA). On February 16, 2015, Foothills called Ktunaxa Nation to follow up on the ESA and economic opportunities. On April 29, 2015, Foothills called Ktunaxa Nation with an update on environmental documentation. Foothills committed to providing Ktunaxa Nation with the Interactions Table from the Application (Appendix D) on filing.

26. Foothills remains available to discuss the Project with Ktunaxa Nation as needed.

ENVIRONMENTAL AND SOCIO-ECONOMIC ASSESSMENT

27. The goal of the Project is to avoid or minimize disturbance to the environment during decommissioning activities. The scope of the activities associated with the Project is limited. The environmental impact is expected to be not significant.

    Baseline data collection for the Project included an environmental assessment prepared for the Westpath Expansion (Board File 3400-T054-3) in 2002, and a desktop study and pre-Project onsite reconnaissance (March 11, 2015 and May 14, 2015) to confirm no incidental environmental features would be affected by decommissioning activities. The Project is located in a shared ROW on land zoned as Forest Land Reserve in the Regional District of East Kootenay and the Cranbrook Forest District in southeastern BC. For additional information, see Appendix C: Aerial Overview Map and Appendix D: Interactions Table. The Interactions Table includes determination of significance for potential residual effects associated with biophysical and socio-economic elements outlined in the NEB *Filing Manual*.

28. There are no known areas of contamination in the Project footprint.

29. Foothills will conduct post-decommissioning monitoring to assess the effectiveness of mitigation and reclamation measures on soils and vegetation disturbed during decommissioning activities during the first growing season following decommissioning. Foothills will monitor the excavation sites for soil subsidence and other concerns, and determine the potential for additional remediation and reclamation after decommissioning. Additionally, the ROW is shared with two other pipelines and as such, will be monitored on an ongoing basis in accordance with ROW monitoring procedures for the remaining active pipelines.

30. As previously noted, Foothills initially notified stakeholders January 9, 2015 via mail with details on the Project scope (see Stakeholder Engagement section).

Foothills also contacted the following environmental regulatory authorities:

- BC Oil and Gas Commission (BCOGC) – November 3, 2014, February 5 and March 19, 2015
- Ministry of Forests, Lands and Natural Resource Operations (MFLNRO) – January 28, March 12, March 19, March 24 and April 7, 2015
- Department of Fisheries and Oceans (DFO) – April 7, 2015

No concerns were expressed during these communications. Foothills will continue communication with these stakeholders and provide notification of any changes to the Project.

31. Detailed analysis of the Project concluded that decommissioning activities will not result in significant adverse environmental or socio-economic effects.

ECONOMICS AND FINANCE

Funding

32. Foothills confirms that funding will be available for the Project. As shown in Table 4, Foothills proposes to fund the majority of the decommissioning costs from the Abandonment Trust.[1] For decommissioning costs not proposed to be funded from the Abandonment Trust, Foothills would continue its historical practice of capitalizing these costs. Foothills would also capitalize any decommissioning costs not approved for disbursement from the Abandonment Trust.

    Foothills proposes to provide interim funding for all costs associated with the Project. For costs proposed to be funded through the Abandonment Trust, Foothills will subsequently file an application to access funds from the trust. That application will follow the Board's guidance for this application type provided in the MH-001-2013 Decision, and will include a discussion of:

    - alternative funding sources to finance decommissioning activities
    - future costs for remaining activities to complete to the abandonment stage
    - an abandonment funding plan

[1] Foothills sets aside funds to pay for pipeline abandonment costs in an Abandonment Trust in compliance with the NEB direction in MH-001-2013 Decision and Order MO-095-2014. To access funds for pipeline abandonment, decommissioning and deactivation activities, Foothills would request approval from the Board to approve the release of funds from the Abandonment Trust to pay the costs associated with abandonment activities.

The work proposed in this Application was part of the Abandonment Cost Estimate (ACE) approved for Foothills. Because the facilities being decommissioned do not represent a material portion of the total system, roughly 1% of Foothills' total ACE, no changes to the ACE or Annual Contribution Amount (ACA) are required at this time. The cumulative impact of a number of decommissioning and abandonment applications, if required, could be addressed in periodic reviews as mandated by the Board, or through annual abandonment surcharge filings.

33. A preliminary Decommissioning Cost and Risk Assessment (see Table 3) itemizes potential liabilities that would be addressed during decommissioning and post-decommissioning phases. The annual cost of performing decommissioning monitoring and remediation work is not expected to be material.

Table 3: Preliminary Decommissioning Cost and Risk Assessment

Costs and Risks	Identified and Addressed During Decommissioning	Post-Decommissioning	
		Identified During Monitoring Program	Addressed Through Remediation Activity
Third-party damage	✓	✓	✓
Ground subsidence	✓	✓	✓
Return ROW to natural state	✓	✓	✓

Decommissioning Costs

34. The anticipated cost of the Project is $2.3 million. For a summary of costs associated with the Project, and proposed funding sources, see Table 4.

Table 4: Decommissioning Cost Estimate

Cost Categories	Estimate	Funding Source
Decommissioning Activities	$2.3M	Abandonment Trust
Post-Decommissioning Monitoring Activities	Not Material	Included in O&M
Post-Decommissioning Remediation Activities	Not Material	Abandonment Trust
Reconnection – in-service facilities	$0	Capitalize to Rate Base

Accounting Treatment

35. The costs associated with Project decommissioning work will be treated as ordinary retirements in accordance with the NEB's Gas Pipeline Uniform Accounting Regulations (GPUAR). Consequently, the costs of the proposed Project decommissioning program will not have a significant impact on tolls.

POST-DECOMMISSIONING AND ABANDONMENT PLANNING

36. As part of its post-decommissioning activities, Foothills will continue to:

- provide first call services
- maintain appropriate signs for the facilities

- administer third-party crossings of the decommissioned pipeline
- maintain internal facility location databases, such as geographical information systems (GIS)
- carry out its Public Awareness Program

37. As part of the monitoring program for the other two pipelines in the Foothills System corridor, Foothills will continue to follow TransCanada's Integrity Management Program. Any issues identified via TransCanada's ongoing monitoring programs will be addressed and resolved in a timely manner.

38. A project-specific Environmental Protection Plan (EPP) will be developed and will contain contingency plans to address the potential discovery of soil and water contamination, spills, loss of depth of cover or extreme weather events affecting the integrity of the decommissioned facilities. Mitigation measures outlined in the Interactions Table (Appendix D) will be included in the EPP.

39. The Project facilities will remain in a decommissioned state until remaining pipelines in the pipeline corridor reach the end of their service lives. An application for abandonment will be filed with the Board at that time.

40. When the abandonment phase is reached, CP will be disconnected and all crossings intersecting the ROW will be evaluated using industry best practices. The work scope at that time will also take into account abandonment of the adjacent pipelines.

RELIEF REQUESTED

41. Foothills requests that the Board:

- issue an approval, pursuant to section 45.1 of the OPR, for Foothills to decommission the Project facilities as proposed in this Application
- grant such further and other relief as Foothills might request or the Board might consider appropriate

Respectfully submitted,

Calgary, Alberta
September 25, 2015

Foothills Pipe Lines Ltd.

Original signed by

Carolyn Shaw
Manager, Facilities Applications, Gas Projects
Regulatory Services

Please direct all communication relating to this Application to:

Matt Quail
Regulatory Project Manager
Regulatory Services
TransCanada PipeLines Limited
Tel: (403) 920-7470
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Kevin Thrasher
Legal Counsel
Law and Regulatory Affairs
TransCanada PipeLines Limited
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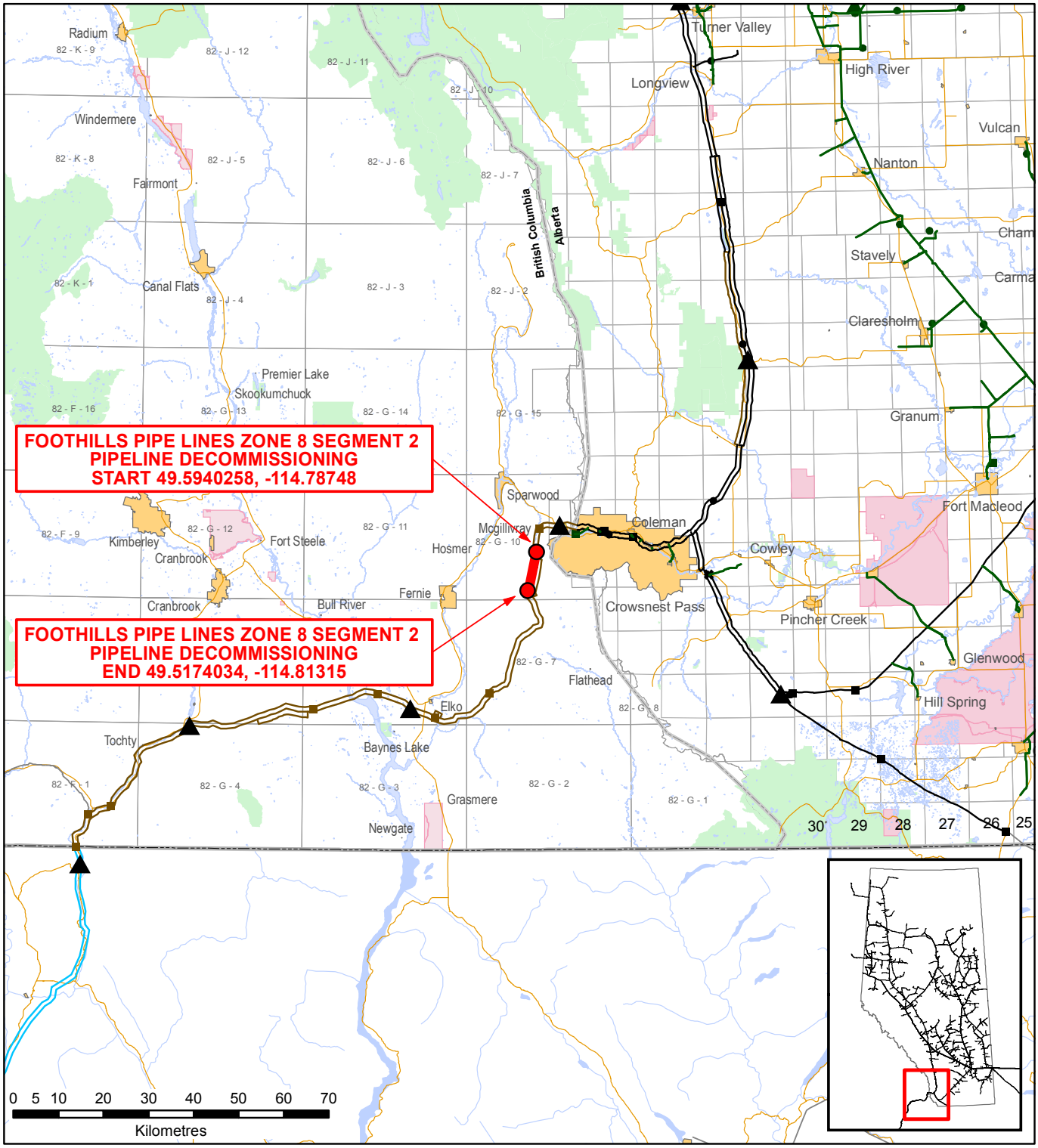
Appendix A

Location Map



Legend

- Existing NGTL Pipeline
- ATCO Pipeline
- Foothills Pipeline
- Gas Transmission Northwest
- Compressor
- Valve Site
- Receipt Meter Station
- Sales Meter Station
- Railway
- Primary Highway
- Secondary./Gravel Road/Trail
- River / Lake
- Protected Area
- City / Town
- First Nation Reserve
- Metis Settlement
- Department of Defence
- Project

Start of segment
Chainage: 15+290
Lat: 49.5940258
Long: -114.78748

End of Segment
Chainage: 24+400
Lat: 49.5174034
Long: -114.81315

N

FOOTHILLS PIPE LINES ZONE 8 SEGMENT 2 PIPELINE DECOMMISSIONING

FILE: T0125_20150526_Leach_Creek_Decommissioning_Fig_1_Map_2.mxd	LOCATION 82 - G - 10
SOURCE: IHS, TCPL	
Map 2 (Regional)	

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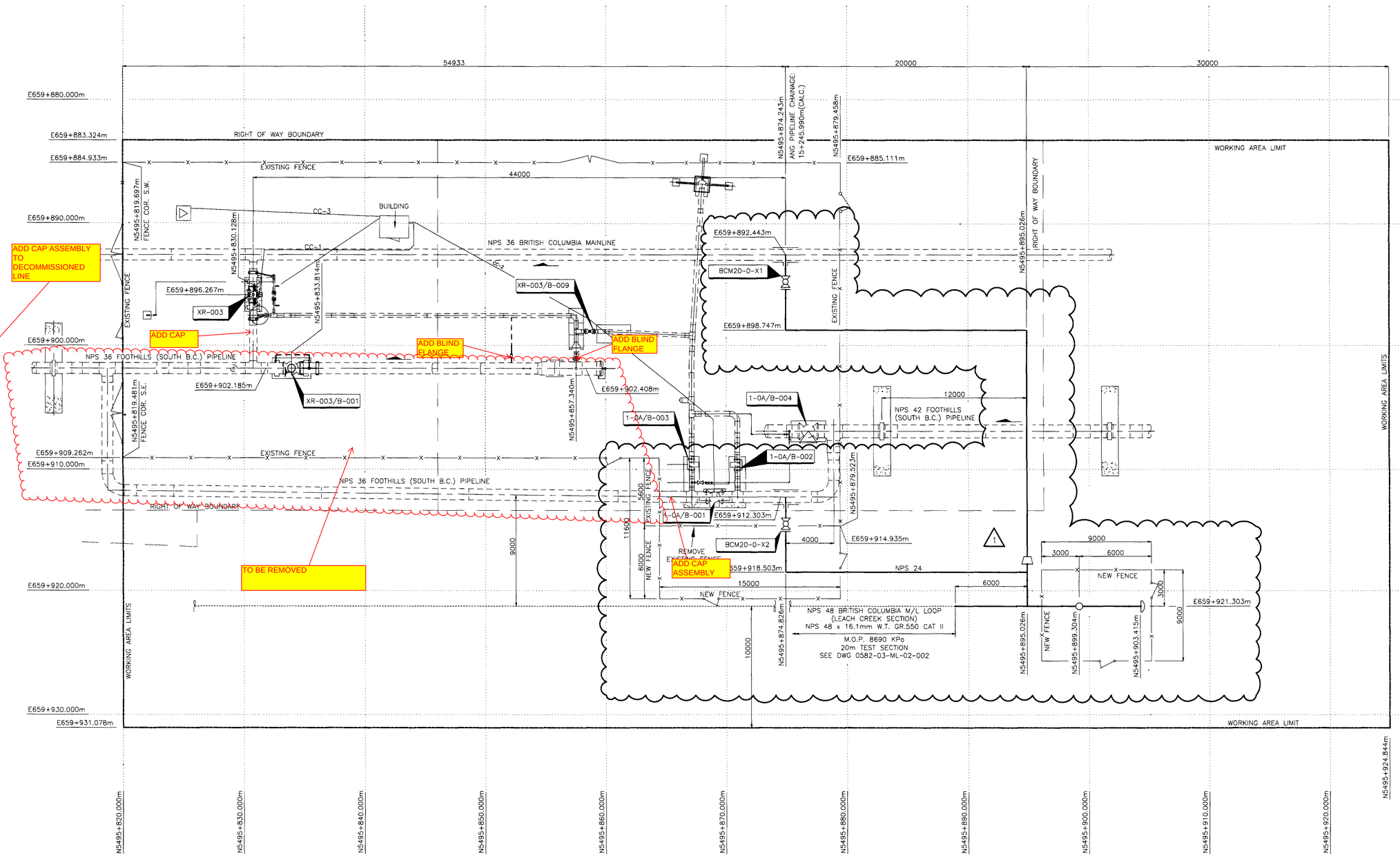
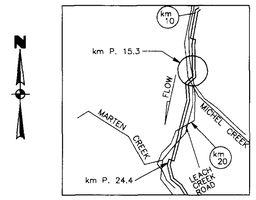
DESIGN	HAO	May 28 2015

Appendix B

Facility Schematics

ITEM	QTY	UOM	MATERIAL REQ'N	MATERIAL ID	DESCRIPTION
1	2	EA		1-204-286	CHAINLINK FENCING: SINGLE GATE PANEL, 3000mm WIDE, 1220mm GATE,
					CSA STANDARDS, NGTL SPECIFICATION DIVISION 2, SECTION 02830
					c/w 1 POUNDING ROD, 1 SWIVEL SUPPORT, JOINING HARDWARE,
					AND PANIC HARDWARE.
2	19	EA		1-204-287	CHAINLINK FENCING: STANDARD PANEL, 3000mm WIDE,
					CSA STANDARDS, NGTL SPECIFICATION DIVISION 2, SECTION 02830
					c/w 1 POUNDING ROD, 1 SWIVEL SUPPORT, AND JOINING HARDWARE,





LOCATION PLAN
SCALE 1:250,000

B.M.1: TOP OF SPIKE (1003)
E659882.575, N5495812.272
ELEV. 1322.69 m.

B.M.2: TOP OF SPIKE (1004)
E659912.751, N5495818.149
ELEV. 1323.14 m.

NOTES:

1. CARE SHALL BE TAKEN TO AVOID OVER-EXCAVATION. IN THE EVENT OF OVER-EXCAVATION, ADEQUATE SUPPORT OF THE ASSEMBLY AND ADJACENT PIPE SHALL BE PROVIDED USING COMPACTED GRANULAR FILL.
2. UNLESS OTHERWISE NOTED THE SOIL UNDER ALL NEW PIPING, AND UNDER AND AROUND ALL ELBOWS AND TEES SHALL BE WELL COMPACTED. FILL SHALL BE COMPACTED IN LAYERS WITH A MAXIMUM THICKNESS OF 150mm.

REFERENCE DRAWINGS	
DRAWING No	TITLE
0582-03-MV-06-050	NPS 24 X-OVER VALVE ASSEMBLIES AND TIE-IN AT 15.3Km ISOMETRIC PLAN
0582-03-MV-12-001	PILE SUPPORT DETAILS FOR NPS 24 X-OVER VALVE BCM20-0-X1
0582-03-MV-12-002	PILE SUPPORT DETAILS FOR NPS 24 X-OVER VALVE BCM20-0-X2
0582-03-MV-12-003	PILE SUPPORT DETAILS FOR NPS 48 BLOWDOWN ASSEMBLY WITH NPS 12 BLOWDOWN
STDS-03-MV-06-228	NPS 24 VALVE ASSEMBLY DESIGNATION: VA-240
B1-AL-002	ANG & FOOTHILLS GAS PIPELINES ALIGNMENT SHEET(STA. 8+570.7 TO STA. 17+732)
A1-PD-012	km P. 15.3 MAINLINE VALVE ASSEMBLY FENCING PLAN
B1-PD-009	km P. 15.3 MAINLINE VALVE ASSEMBLY PLAN & SECTION

REVISION			APPROVAL						
REV No	DATE	DESCRIPTION	PROJECT CODE	DRAFTER	DRAFTING CHECKER	DESIGNER	DESIGN CHECKER	PROJECT MANAGER	COMPANY
0	2002-04-11	ISSUED FOR BID	2020283	JD/SNC					SLI
1	2002-05-15	ISSUED FOR CONSTRUCTION	2020283	JD/SNC	HL/SNC	[illegible]	[illegible]	[illegible]	SLI

PROFESSIONAL ENGINEER/RPT | PERMIT/ ENG. APPROVAL

DATE

REV. NO. | DATE | PERMIT NUMBER:

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BRITISH COLUMBIA MAINLINE LOOP LEACH CREEK SECTION NPS 48 (2002)

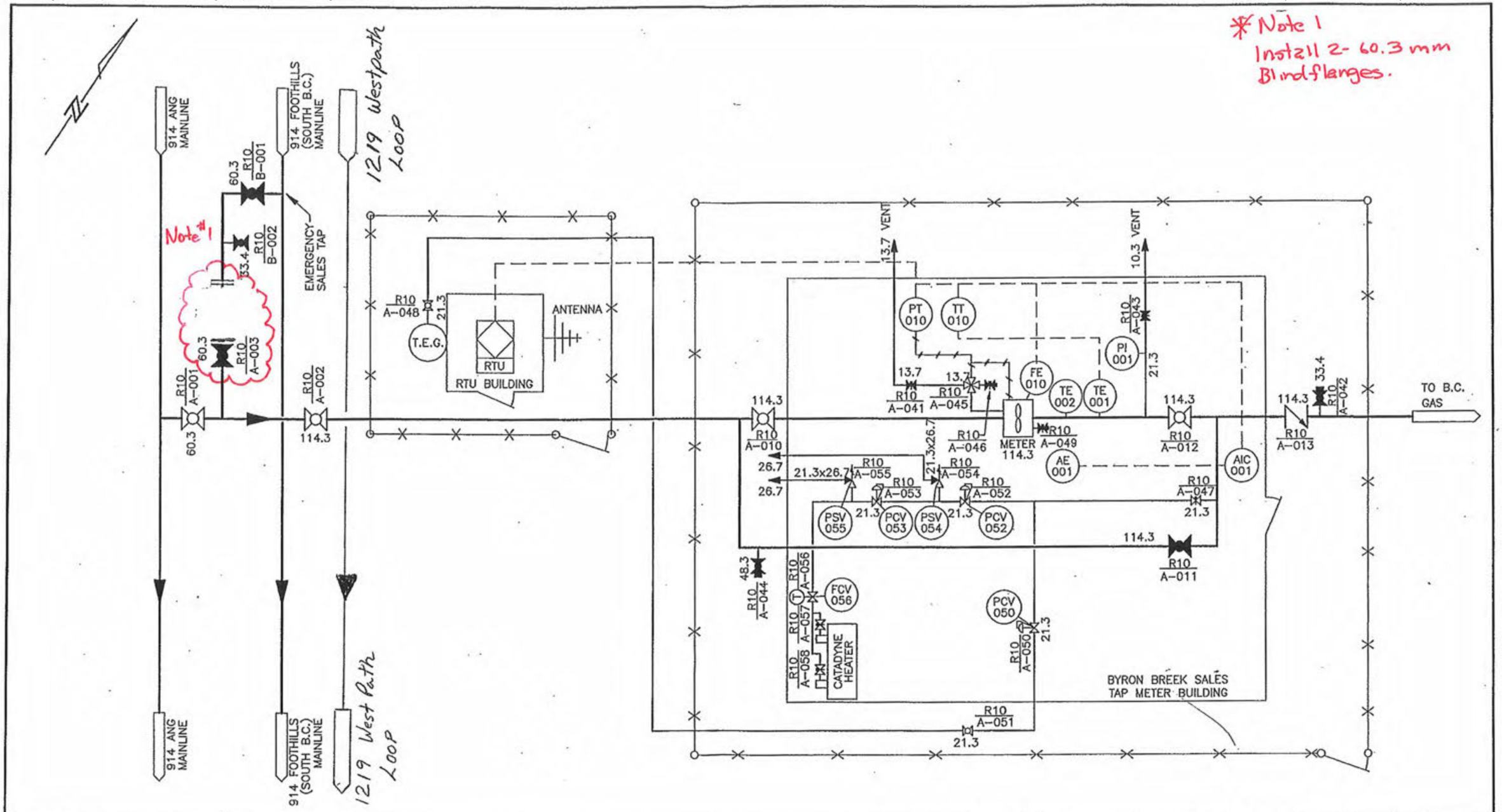
WORK AREA LIMIT AND FENCE DETAILS FOR X-OVER VALVE ASSEMBLIES AT 15.3km

SCALE 1:150 | DRAWING No 0582-03-MV-06-060 | REV 1

E:\PIPELINE\LEACH CREEK SECTION\KM 15.3\0582-03-MV-06-060.DWG MAY/15/2002 8:00 a.m.

TB_BDR_B1.DWG 663X940

CADD DRAWING: DO NOT MAKE MANUAL REVISIONS



REFERENCE DRAWINGS:

NOTES
1. THIS PIPING & INSTRUMENTATION DIAGRAM IS FOR PIPELINE VALVE NUMBERING.
2. ALL SIZES GIVEN ARE OUTSIDE DIAMETERS IN MILLIMETRES.
3. M.O.P. 6280 kPa.

REV	DATE	DESCRIPTION	WO	DR	CHK	APPROVALS
		REVISIONS				
5	98.05.12	UPDATED TITLE BLOCK & ADDED FOOTHILLS DWG No.	62601	KJR	EM	DV
4	96.01.05	AS-BUILT, RTU UPGRADE	4157	KJR	GK	
3	93.07.19	REDRAWN, ADDED FOOTHILLS TIE-IN	2178	GOK	RJ	WTP

ALBERTA NATURAL GAS
AGENTS FOR
FOOTHILLS PIPE LINES (SOUTH B.C.) LTD.

km P. 18.2

PIPING & INSTRUMENTATION DIAGRAM
FOR BYRON CREEK SALES TAP

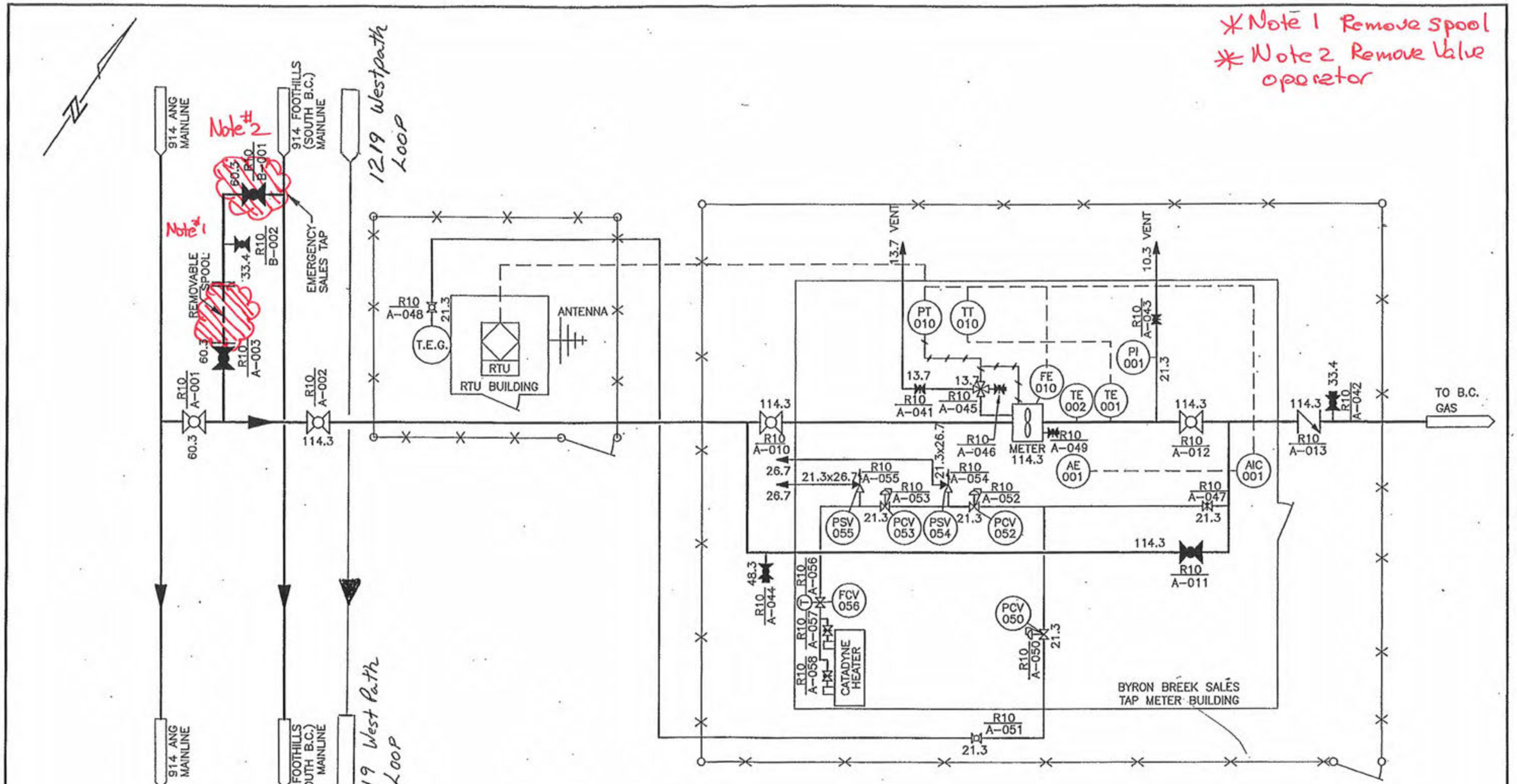
SHEET: 1 OF 1
SCALE: NONE

FOOTHILLS DRAWING No.

RGN	ZONE	FACILITY	NO.	DWG TYPE	DRAWING NO.	REV
5	08	02	06	0M	0010	5

ANG DRAWING No. R10-D-A-001

R10-D-A-001.Dwg



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REV	DATE	DESCRIPTION	WO	DR	CHK	APPROVALS
5	98.05.12	UPDATED TITLE BLOCK & ADDED FOOTHILLS DWG No.	62601	KJR	EM	DV
4	96.01.05	AS-BUILT, RTU UPGRADE	4157	KJR	GK	
3	93.07.19	REDRAWN, ADDED FOOTHILLS TIE-IN	2178	GOK	RJ	WTP

REVISIONS

ALBERTA NATURAL GAS
AGENTS FOR
FOOTHILLS PIPE LINES (SOUTH B.C.) LTD.

km P. 18.2
PIPING & INSTRUMENTATION DIAGRAM
FOR BYRON CREEK SALES TAP

SHEET: 1 OF 1
SCALE: NONE

FOOTHILLS DRAWING No.												REV
RGN	ZONE	FACILITY		NO.		DWG TYPE	DRAWING NO.					
5	0	8	0	2	0	6	0	M	0	0	1	0	5

ANG DRAWING No. R10-D-A-001

R10-D-A-001.Dwg

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE SPECIFIED.
2. ASSEMBLY SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE CSA STANDARD Z662, AS PER THE FOLLOWING TABLE:

DESIGN PRESSURE	DESIGN FACTOR	LOCATION FACTOR
8690 kPa	0.8	0.750

3. ASSEMBLIES SHALL BE SHOP TESTED TO A MINIMUM HYDROSTATIC PRESSURE OF 10900 kPa AND A MAXIMUM HYDROSTATIC PRESSURE OF 11200 kPa FOR A PERIOD OF ONE HOUR.
4. WELDING PROCEDURE SHALL BE SUITABLE FOR -45°C FOR ALL SHOP WELDS AND ABOVE GROUND FIELD WELDS, -5°C FOR BELOW GROUND WELDS.
5. FITTING AND PIPE DIMENSIONS ARE FOR REFERENCE ONLY. ASSEMBLY OVERALL DIMENSIONS GOVERN.
6. UNDERGROUND GIRTH WELDS COMPLETED IN THE FIELD SHALL BE COATED AS PER TRANSCANADA COATING TES-COAT-EPU.
7. UNDERGROUND PORTIONS OF PIPING ASSEMBLY SHALL BE COATED IN ACCORDANCE WITH TRANSCANADA SPECIFICATION TES-COAT-EPU.
8. ALL ABOVE GROUND PIPING PORTION OF ASSEMBLY SHALL BE COATED AS PER TES-COAT-P1.
9. OPEN PIPE ENDS SHALL BE COVERED AND PROTECTED.
10. CONTRACTOR TO LOCATE ALL UNDERGROUND UTILITIES WITHIN THE WORKING AREA PRIOR TO CONSTRUCTION.
11. CARE SHALL BE TAKEN TO AVOID OVER-EXCAVATION. IN THE EVENT OF OVER-EXCAVATION, ADEQUATE SUPPORT OF THE ASSEMBLY AND ADJACENT PIPE SHALL BE PROVIDED USING COMPACTED GRANULAR FILL.
12. UNLESS OTHERWISE NOTED THE SOIL UNDER ALL NEW PIPING, AND UNDER AND AROUND ALL ELBOWS AND TEES SHALL BE COMPACTED AS PER TRANSCANADA SPEC. TES-PROJ-COM. FILL SHALL BE COMPACTED IN LAYERS WITH A MAXIMUM THICKNESS OF 150mm.
13. ALLOW 1.0m EXTRA PIPE AT FABRICATION FOR FIELD FIT AT FIELD WELDS EXCEPT AT TRANSITION TIE-INS.
14. LOCATION OF ALL EXISTING BELOW GRADE FACILITIES WITHIN THE WORKING AREA MAY BE DIFFERENT FROM THOSE SHOWN ON THE DRAWING.
15. VALVE ASSEMBLY FABRICATION AND TESTING SHALL FOLLOW TRANSCANADA PROCEDURE TEP-VALV-FAB.
16. SOCKET WELD VALVES MUST BE DISASSEMBLED BEFORE WELDING.
17. FLANGE, NUT AND STUD TO BE LEFT BARE AND FIELD COATED AS PER TES-COAT-PET.
18. INSTALL SONOTUBE AROUND VALVE STEM EXTENSION AS PER DRAWING STDS-01-ML-06-101.
19. INSTALL ETHAFOAM AS PER DRAWING STDS-02-ML-02-001.
20. INSTALL TEMPORARY SUPPORT FOR HOT TAP VALVES.
21. FABRICATION SHOP TO ENSURE PIPING IS FULLY SUPPORTED BY SUPPORT BEAM.

LOCATION PLAN
BLOCK C 83-G-10
SCALE 1:250,000

BILL OF MATERIALS
SHOWN ON DWG. 0510-01-ML-BM-001

TEMPORARY RECEIVER TO BE INSTALLED, REMOVED AFTER PIGGING AND RECAPPED.

DETAIL 2 TRANSITION DETAIL
60° TO 75°
COUNTERBORE AND TAPER JOINT DESIGN FOR TRANSITION WELD JOINING PIPE OF UNEQUAL WALL THICKNESS 100mm COUNTERBORE REQUIRED AT FINAL TIE-IN

DETAIL 1 NPS 1 1/2 EQUALIZING LINE ISOMETRIC DETAIL

NAD83 (ORIGINAL) UTM-ZONE 11
F&IS. (AGM 10)
N 5487258.31
E 658268.66
ELEVATION = 1447.71m
GEODETIC DATUM

ISOMETRIC PLAN
SCALE: N.T.S.

VALVE DATA: 1-1/B-1SV0-BCM
MAKE : --
SERIAL No. : --
MODEL No. : --

VALVE DATA: 1-1/B-ST
MAKE : CAMERON
SERIAL No. : --
MODEL No. : T-32

OPERATOR DATA: 1-1/B-ST
MAKE : --
SERIAL No. : --
MODEL No. : --

REFERENCE DRAWINGS

DRAWING No	TITLE
0510-01-ML-BM-001	NPS 36 LAUNCHER BOWER TRAP 1-1/B-ST AND NPS 12 VALVE ASSEMBLY 1-1/B-1SV0-BCM BILL OF MATERIALS
0510-01-ML-06-001	NPS 36 LEFT HAND LAUNCHING SCRAPER BARREL WITH NPS 12 KICKER LINE
0510-01-ML-08-001	NPS 36 LAUNCHER SCRAPER TRAP 1-1/B-ST AND NPS 12 VALVE ASSEMBLY 1-1/B-1SV0-BCM SITE PLAN
0510-02-ML-03-001	PILE LOCATION PLAN FOR NPS 36 LAUNCHER BOWER TRAP 1-1/B-ST AND NPS 12 VALVE ASSEMBLY 1-1/B-1SV0-BCM
81-AL-003	AHD & FOOTHILLS GAS PIPELINES ALIGNMENT SHEET STA. 17+732 TO STA. 25+210
81-PD-072	MAINLINE VALVE ASSEMBLY CROSSOVER/BLOW-OFFS
STDS-03-MV-06-223	NPS 12 VALVE ASSEMBLY DESIGNATION: VA-120

REVISION

REV No	DATE	DESCRIPTION
00	2013-05-08	ISSUED FOR FABRICATION

APPROVAL

PROJECT CODE	DRAFTER	DRAWING CHECKER	DESIGNER	DESIGN CHECKER	PROJECT MANAGER	COMPANY
XXXXXXX	MT					STARCO

PROFESSIONAL ENGINEER/EPT — PERMIT/ EXEL APPROVAL — DATE

R. H. M. LUC
#22201
PROFESSIONAL ENGINEER
PROVINCE OF ALBERTA

REV NO. | DATE | PERMIT NUMBER

TransCanada — Starco Engineering

BRITISH COLUMBIA MAINLINE LOOP NPS 36 (1993) CROWSNEST SECTION

PA # 0510 | CHANGE: | DISCIPLINE # 01

NPS 36 LAUNCHER SCRAPER TRAP
1-1/B-ST AND NPS 12 VALVE ASSEMBLY
1-1/B-1SV0-BCM ISOMETRIC

SCALE AS SHOWN | DRAWING No 0510-01-ML-04-001 | REV 00

CADD DRAWING: DO NOT MAKE MANUAL REVISIONS

Appendix C

Aerial Overview

Rge.6

Twp.7

Start of segment
Chainage: 15+290
Lat: 49.5940258
Long: -114.78748

NPS 36 B.C. MAINLINE

NPS 36 FOOTHILLS ZONE 8 SEGMENT 2 (LEACH CREEK SEGMENT) LATERAL LOOP

NPS 48 B.C. MAINLINE LOOP

Byron Creek Sales Tap
Chainage: 18+156
Lat: 49.5703740
Long: -114.79467

MLV-1-1
Chainage: 24+400
Lat: 49.5174034
Long: -114.81315

WHEELER CREEK
CARBON CREEK
LEACH CREEK
MICHEL CREEK
MARTEN CREEK
BRAY CREEK

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, Swisstopo, and the GIS User Community

Legend

- Primary Highway
- Secondary Highway
- Minor Roads
- Railways
- Parks / Protected Areas
- City Town
- Lake / Water Body
- Decomissioning Work Site
- Telus Trenches
- Power Transmission Line
- Gas Co-Op
- NPS 36 B.C. MAINLINE
- NPS 36 FOOTHILLS ZONE 8 SEGMENT 2 (LEACH CREEK SEGMENT) LATERAL LOOP
- NPS 48 B.C. MAINLINE LOOP
- Licensed Pipeline (Foreign)
- Access Route

REVISION	DESCRIPTION
4	Revised Pipeline Names, August 25, 2015

1:15,000 0 250 500 1,000 1,500 Meters

MIDWEST SURVEYS

TransCanada
In business to deliver

ZONE 8 SEGMENT 2 PIPELINE

Zone 8 Segment 2 Pipeline Decommissioning
Overview Map

REV 4

Route Reference: Page 4 of 4

Document Control: Aug 25, 2015

MIDWEST_M:\projects\2015\IB-0002-15\MAPPING\MXD\IB-0002-15_J1_TCPL_Decom_OverviewMap_Rev4.mxd

Appendix D

NEB InteractionsTable

Table 1: NEB Interactions Table

Element	Interaction (Y/N)	Description of Interaction(s) (If no interaction is predicted, provide a justification)	Status of Element-specific study or survey (complete, underway, date expected, or N/A)	Description of Potential Effects	Mitigation will be implemented to resolve potential adverse effect (Y/N)	Specify the mitigation	Residual Effects after Mitigation (Y/N/U (Uncertain))	Description of the Cumulative Effects	Monitoring Plan/Details
Physical and Meteorological Environment	N	None. Project is not in an area of unstable terrain or permafrost.	N/A	None	N/A	None	N	None	N/A
Soil and Soil Productivity	Y	Strippings salvage of excavation sites (Byron Creek sales tap approximately 10 m x 10 m). Valve sites are gravel pads. Cleanup and post-construction reclamation.	Complete	Soil loss or admixing due to soil handling, transport, replacement following removal of vegetation and disturbance during cut and cap operations. Disturbance of previously contaminated soils. Compaction and rutting during general construction activities. Wind and water topsoil erosion during general construction activities. Decrease in soil productivity due to compaction from heavy machinery during soil replacement and reclamation activities.	Y	Strippings Salvage Machinery appropriate to the season and conditions will be used for all soil salvage operations. Do not conduct strippings salvage except where excavation is required. The area stripped is to correspond to the area to be excavated. Salvage the organic layer (i.e., leaf litter layer) where strippings salvage is required. Stabilize exposed strippings and subsoil where potential for erosion exists (see the *Soil Erosion Contingency Plan*). Ensure strippings storage areas are in approved right-of-way and temporary workspace, if required. If wet/thawed soil conditions occur, implement the *Wet Soils Contingency Plan*. Sites are located in proximity to all-weather roads – no soil disturbance required for access. Potential Contaminated Soils Site records show there are no known contaminated sites. In the event that contaminated soils are encountered during construction, follow guidelines in the Foothills Pipe Lines' Waste and *Hazardous Materials Management Manual*. Compaction and Rutting Restrict all construction activities to the existing lease boundaries, designated access routes and boundaries of the work area. All construction traffic will adhere to safety and road closure regulations. Limit heavy equipment travel to machinery and vehicles equipped with low ground pressure tires or wide tracks to reduce the risk of compaction and rutting. In the event of adverse weather that could result in rutting and/or compaction, the *Adverse Weather Contingency Plan and Wet Soils Contingency Plan* will be implemented. Postpone replacement of strippings/topsoil during wet weather or high winds to prevent erosion and/or damaging soil structure. Re-grade areas with vehicle ruts or erosion gullies.	Y	Negligible temporary loss of forest land on right-of-way (ROW).	Monitoring/inspection will occur during construction

Table 1: NEB Interactions Table (cont'd)

Element	Interaction (Y/N)	Description of Interaction(s) (If no interaction is predicted, provide a justification)	Status of Element-specific study or survey (complete, underway, date expected, or N/A)	Description of Potential Effects	Mitigation will be implemented to resolve potential adverse effect (Y/N)	Specify the mitigation	Residual Effects after Mitigation (Y/N/U (Uncertain))	Description of the Cumulative Effects	Monitoring Plan/Details
Soil and Soil Productivity (cont'd)						Schedule final cleanup to occur under non-frozen conditions, when soil moisture conditions permit. Wind and Water Erosion Stabilize exposed strippings/topsoil and subsoil piles where potential for erosion exists. Postpone replacement of strippings/topsoil during wet weather or high winds to prevent erosion and/or damaging soil structure. Implement *Adverse Weather Contingency Plan, Wet/Thawed Soils Contingency Plan and Soil Erosion Contingency Plan*, as warranted. Cleanup activities will follow completion of backfill operations as closely as possible. Cleanup/Post-Construction Reclamation The Contractor will collect all construction debris and other waste materials and dispose of daily at an approved facility and in accordance with the *Chemical and Waste Management Plan and the Spill Contingency Plan* unless otherwise authorized by the Environmental Inspector or designate. If wet soil conditions occur, implement the *Wet/Thawed Soil Contingency Plan.* Backfill the excavation without mixing the spoil with strippings/topsoil/gravel pile. Recontour the site and restore the pre-excavation grades. Replace topsoil evenly over all portions of the Project site where topsoil salvage was conducted. Replace gravel where gravel pad was removed.			
Vegetation	Y	At Byron Creek sales tap, vegetation surrounding the gravel pad within 10 m x 10 m of previously disturbed land will be disturbed. Existing access roads will be used.	Complete	Loss or alteration of vegetation on previously disturbed right-of-way. Introduction or spread of noxious weeds (BC *Weed Control Act.)*	Y	Vegetation Alteration/Loss There is no vegetation in the valve site gravel pads. Do not clear vegetation beyond Project boundaries. To assist in maintaining an intact ground surface in areas where excavation is not necessary (i.e., access), implement minimum surface disturbance (MSD) techniques (site access in right-of-way). Complete reclamation and revegetation as soon as feasible following construction. Seeding will follow as close as possible to final cleanup and surface material replacement pending seasonal or weather conditions. Use only Certified No.1 seed, unless Certified No.1 is not available for select reclamation seed species (i.e., native species). Apply seed to all disturbed surfaces (except cultivated fields and wetlands), unless otherwise directed by the Foothills Pipe Lines representative. Weeds	Y	Negligible loss or alteration of previously disturbed ROW. Negligible introduction or spread of weeds.	Monitoring/Inspection will occur during construction

Table 1: NEB Interactions Table (cont'd)

Element	Interaction (Y/N)	Description of Interaction(s) (If no interaction is predicted, provide a justification)	Status of Element-specific study or survey (complete, underway, date expected, or N/A)	Description of Potential Effects	Mitigation will be implemented to resolve potential adverse effect (Y/N)	Specify the mitigation	Residual Effects after Mitigation (Y/N/U (Uncertain))	Description of the Cumulative Effects	Monitoring Plan/Details
Vegetation (cont'd)						All equipment must arrive at the Project site clean and free of soil or vegetative debris. Equipment will be inspected by the Foothills Pipe Lines representative(s), or designate, and if deemed to be in appropriate condition will be identified with a suitable marker or tag. Any equipment that arrives in dirty condition will not be allowed on the right-of-way until it has been cleaned. Post-construction monitoring will be conducted as part of the monitoring program for the remaining two in-service pipelines and treatment of weed infestation on the excavation sites will be implemented as needed. Conduct shovel and sweep or compressed air cleaning before moving equipment from any locations identified as having a noxious weed infestation.			
Water Quality and Quantity	Y	Destabilized soils encountered in strippings, salvage, excavation and backfilling. Dewatering could be required during excavation due to high water table around excavation site at KP 15.3.	N/A	Reduction of surface water quality due to suspended solids during construction activities. Dewatering.	Y	Reduction of Surface Water Quality No activities will occur in proximity to watercourse crossings or wetlands. Decommission pipeline in place under watercourse crossings to ensure minimal surface disturbance. Do not allow fording of watercourses. Plan activities near water such that construction materials do not enter the watercourse. Spoil piles will be located away from the watercourse and stabilized to prevent sediment from entering any watercourse. Dewatering Monitor water levels at all excavation sites. The location of all discharge areas must be approved by the Environmental Inspector(s). If the excavation site requires dewatering, pump water onto stable, well-vegetated areas, tarpaulins, sheeting, rocks, sand bags, or into settling ponds, filter bags or other appropriate sediment-filtering devices. Ensure dewatering is completed in a manner that does not cause erosion or allow sediment to re-enter a watercourse. Do not permit pumped excavation water to flow directly into any watercourse. The Contractor will ensure the pump intake is elevated from the bottom of the excavation site to reduce pumping of sediment. The Contractor will ensure hoses and pumps are of sufficient length and capacity to transfer excavation water to the desired location. The Contractor will ensure hoses are in good working condition, and hoses with tears or ruptures will be repaired or replaced.	Y	Negligible reduction in surface water quality.	Monitoring/Inspection will occur during construction

Table 1: NEB Interactions Table (cont'd)

Element	Interaction (Y/N)	Description of Interaction(s) (If no interaction is predicted, provide a justification)	Status of Element-specific study or survey (complete, underway, date expected, or N/A)	Description of Potential Effects	Mitigation will be implemented to resolve potential adverse effect (Y/N)	Specify the mitigation	Residual Effects after Mitigation (Y/N/U (Uncertain))	Description of the Cumulative Effects	Monitoring Plan/Details
Fish and Fish Habitat	N	No instream activities are planned.	N/A	None	N/A	Decommissioning in place is the preferred method under watercourses because disturbance to watercourses is reduced and no instream work is required. Crossing of watercourses is not required for access to excavation areas.	N	None	N/A
Wetlands	N	Construction activities will not take place in wetlands.	N/A	None	N/A	No construction will take place in wetland areas.	N	None	N/A
Wildlife and Wildlife Habitat	Y	General construction activities related to use of equipment and excavation at 3 approximately 10 m x 10 m cut and cap sites in existing right-of-way and gravel pads.	Complete	Changes to wildlife habitat during construction activities. Changes to wildlife movement during construction activities. Potential wildlife mortality at construction sites.	Y	Wildlife Habitat No vegetation removal is required to access excavation areas. In the event that construction activities are scheduled within the Primary Nesting Period for migratory birds (Zone A3: April 16 to August 6) for this bird conservation region and in keeping with Environment Canada's Avoidance Guidance, a Wildlife Specialist will conduct a non-intrusive field survey for evidence of nesting (e.g., presence of singing birds, territorial males, alarm calls, distraction displays, carrying of food or nesting material). In the event that an active nest is found, it will be subject to site-specific mitigation measures (e.g., clearly marked species-specific protective buffer around the nest). The field survey will be conducted within seven days of the start of construction. Changes to Wildlife Movement Activities associated with the Project will be short duration, and are not expected to have a lasting effect on wildlife movement. Ensure that noise abatement equipment on machinery is in good working order. Wildlife Mortality Risk Do not harass or feed wildlife or livestock. Do not permit construction personnel to have dogs on the right-of-way. Firearms are not permitted in project vehicles, on the right-of-way or at associated Project facilities. In addition, prohibit the recreational use of all-terrain vehicles (ATVs) or snowmobiles by construction personnel on the right-of-way. Report any incidents with nuisance wildlife or collisions with wildlife to provincial regulators and the local police detachment, if applicable. Project personnel are not permitted to hunt or fish on the work site. Follow established speed limits on public roadways. On access roads, speeds will be reduced as appropriate to reduce the risk of collisions with wildlife.	Y	Negligible loss of an area of wildlife habitat. Localized loss of wildlife movement through project site.	Monitoring/Inspection will occur during construction

Table 1: NEB Interactions Table (cont'd)

Element	Interaction (Y/N)	Description of Interaction(s) (If no interaction is predicted, provide a justification)	Status of Element-specific study or survey (complete, underway, date expected, or N/A)	Description of Potential Effects	Mitigation will be implemented to resolve potential adverse effect (Y/N)	Specify the mitigation	Residual Effects after Mitigation (Y/N/U (Uncertain))	Description of the Cumulative Effects	Monitoring Plan/Details
Species at Risk, or Species of Special Status, and related habitat	Y	General construction activities related to use of equipment and excavation at 3 approximately 10 m x 10 m cut and cap sites in existing right-of-way and gravel pads.	Complete	Potential effect on species at risk because of change in vegetation cover, wildlife habitat, movement or mortality.	Y	No Schedule 1 listed plant or wildlife species, or rare ecological communities were observed during vegetation and wildlife survey on May 14, 2015. If rare plants or rare ecological communities are found on the right-of-way before construction, implement the *Plant Species and Ecological Communities of Concern Discovery Contingency Plan*. If listed or sensitive species are identified during Project construction, implement the *Wildlife Species of Concern Discovery Contingency Plan*. All observations of Species of Management Concern will be reported to the appropriate regulatory agency. For species at risk, all vehicle-wildlife collisions will be reported to the appropriate regulatory agency. Work will be carried out in existing right-of-way and facility gravel yards.	Y (N for rare plants)	Negligible loss of an area of potential wildlife habitat. Localized loss of area for wildlife movement through project site.	Monitoring/Inspection will occur during construction
Sensitive Habitat for Migratory Birds	Y	General construction activities related to use of equipment and excavation at 3 approximately 10 m x 10 m cut and cap sites in existing right-of-way and gravel pads.	Complete	Potential effects on habitat availability and suitability for migratory birds during construction due to alteration of habitat, movement or mortality.	Y	In the event that construction activities are scheduled within the Primary Nesting Period for migratory birds (Zone A3: April 16 to August 6) for this bird conservation region and in keeping with Environment Canada's Avoidance Guidance, a Wildlife Specialist will conduct a non-intrusive field survey for evidence of nesting (e.g., presence of singing birds, territorial males, alarm calls, distraction displays, carrying of food or nesting material). In the event that an active nest is found, it will be subject to site-specific mitigation measures (e.g., clearly marked species-specific protective buffer around the nest). The field survey will be conducted within seven days of the start of construction.	Y	Negligible loss of potential migratory bird habitat.	Monitoring/Inspection will occur during construction
Air Emissions and GHG emissions	Y	Emission of criteria air contaminants (including dust) and GHG.	Complete	Potential effects on air quality and GHG emissions during construction activities.	Y	Where practical and applicable, use multi-passenger vehicles to transport crews to and from job sites. The Contractor will ensure equipment is well-maintained. Reduce idling of equipment, where possible.	Y	Negligible Project contribution to CACs and GHGs from vehicle exhaust during construction.	Monitoring/Inspection will occur during construction

Table 1: NEB Interactions Table (cont'd)

Element	Interaction (Y/N)	Description of Interaction(s) (If no interaction is predicted, provide a justification)	Status of Element-specific study or survey (complete, underway, date expected, or N/A)	Description of Potential Effects	Mitigation will be implemented to resolve potential adverse effect (Y/N)	Specify the mitigation	Residual Effects after Mitigation (Y/N/U (Uncertain))	Description of the Cumulative Effects	Monitoring Plan/Details
Acoustic Environment	Y	The Project may result in noise levels above existing ambient levels during construction activities.	Complete	Temporary change in existing acoustic environment.	Y	Ensure that noise abatement equipment on machinery (e.g., mufflers) is in good working order.	Y	Negligible additional noise arising from Project activities during construction.	Monitoring/Inspection will occur during construction
Human Occupancy and Resource Use	Y	Temporary disruption to access.	Complete	Short-term disruption in access to hunting and trapping activities. Project activities would be conducted in Hunting Management Unit 4-23.	Y	Clearly delineate areas that have access restrictions. Restrict access to essential construction personnel only. Direct all other personnel to the right-of-way via alternate access routes.	N	Negligible temporary loss of an area of forest land or recreation area.	Monitoring/Inspection will occur during construction
Heritage Resources	N	Low potential for heritage resources to be present in the previously disturbed right-of-way and gravel yards.	Complete	N/A	N/A	Follow the *Historical Resources Discovery Contingency Plan* if historic resources are discovered during Project construction.	U Project site is in an area of low archaeological potential	Potential contribution to heritage resource knowledge for the area.	Monitoring/Inspection will occur during construction
Navigation and Navigation Safety	N	No instream activities are planned.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aboriginal Traditional Land and Resource Use	N	Excavation sites are on existing right-of-way and existing access will be used. No issues have been identified by Aboriginal communities to date.	Complete	N/A	N/A	N/A	N/A	N/A	N/A
Socio and Cultural Well-Being	N	The construction activity has limited scope, small workforce requirements (10 workers), and short duration (<2 months). There are no anticipated social and cultural wellbeing effects.	Complete	N/A	N/A	N/A	N/A	N/A	N/A

Table 1: NEB Interactions Table (cont'd)

Element	Interaction (Y/N)	Description of Interaction(s) (If no interaction is predicted, provide a justification)	Status of Element-specific study or survey (complete, underway, date expected, or N/A)	Description of Potential Effects	Mitigation will be implemented to resolve potential adverse effect (Y/N)	Specify the mitigation	Residual Effects after Mitigation (Y/N/U (Uncertain))	Description of the Cumulative Effects	Monitoring Plan/Details
Human Health or Aesthetics	N	The construction activity has limited scope and no anticipated effects on water quality and quantity or sensory conditions. Effects on air quality are not significant.	Complete	N/A	N/A	N/A	N/A	N/A	N/A
Infrastructure and Services	Y	Construction activities such as surface disturbance and cleanup will occur in an existing, previously disturbed right-of-way and gravel pads, in close proximity to high-grade road crossings.	Complete	Temporary increase in waste flow.	Y	In the event that contaminated soils or materials are encountered, contact the regional environmental specialist or Environmental Engineering. After appropriate testing of pipe and coatings, dispose of excavated pipe segments at an approved waste or recycling facility. Use the *Waste and Hazardous Materials Management Manual* as a reference. After appropriate testing, dispose of building materials and unwanted instrumentation at an approved waste or recycling facility. Use the *Waste and Hazardous Materials Management Manual* as a reference. After appropriate testing, dispose of any contaminated soil at an approved waste facility. Contractor must meet or exceed Foothills Pipe Lines specifications and TOPs if any contaminated soil is detected whether by colour, odour or appearance (e.g., *Waste and Hazardous Material Management Manual*).	Y	Negligible temporary increase in traffic on highway and local roads used to access Project site during construction. Negligible temporary increase in waste flow to regional landfill site.	Monitoring/Inspection will occur during construction
Employment and Economy	N	Construction activities will require a small workforce sourced from existing Foothills Pipe Lines employees and contractors over a brief period of time.	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 1: NEB Interactions Table (cont'd)

Element	Interaction (Y/N)	Description of Interaction(s) (If no interaction is predicted, provide a justification)	Status of Element-specific study or survey (complete, underway, date expected, or N/A)	Description of Potential Effects	Mitigation will be implemented to resolve potential adverse effect (Y/N)	Specify the mitigation	Residual Effects after Mitigation (Y/N/U (Uncertain))	Description of the Cumulative Effects	Monitoring Plan/Details
Accidents and Malfunctions	Y	General construction activities related to use of equipment, excavation and pipeline cleaning.	N/A	Accidental spills. Transportation accidents. Damage to existing pipelines in shared right-of-way. Damage to foreign utilities during construction and operations. Fire during construction activities.	Y	General Measures In the event of a spill, refer to the *Spill Contingency Plan*. Conduct refuelling at least 100 m away from any watercourse or waterbody when feasible. Empty the hydrovac truck at approved locations. Ensure that hydrovac material is contained in the designated release area (see the *Hydrovac Cutting Handling Plan*). Place an impervious tarp underneath equipment/vehicles when servicing equipment/vehicles with the potential for accidental spills (e.g., oil changes, servicing hydraulic systems). The Contractor will ensure equipment is well-maintained and free of fluid leaks. Ensure that operators or onsite construction foremen are trained to contain spills or leaks from equipment. Report spills immediately to Foothills Pipe Lines and, if reportable, appropriate government agencies (see the *Spill Contingency Plan*). Implement the *Fire Suppression Contingency Plan* in the event of a fire. Ensure that personnel are made aware of proper disposal methods for welding rods, cigarette butts and other hot or burning material. Smoke only in designated areas. Water Quality Employ the following measures to reduce the risk of fuel spills in water. Where equipment refuelling is required within 100 m of a watercourse ensure that: all containers, hoses and nozzles are free of leaks all fuel nozzles are equipped with automatic shutoffs have operators stationed at both ends of the hose during fuelling Do not wash equipment or machinery in watercourses or waterbodies. Equipment to be used in or adjacent to a watercourse or waterbody will be clean or otherwise free of external grease, oil or other fluids, mud, soil and vegetation, before entering the waterbody. Traffic Where practical and applicable, use multi-passenger vehicles to transport crews to and from job sites. Existing Infrastructure	Y	Negligible loss of soil, water, vegetation and wildlife habitat until cleanup is complete. Negligible interruption of services depending on the location and severity of the rupture as well as fires	Monitoring/Inspection will occur during construction

Table 1: NEB Interactions Table (cont'd)

Element	Interaction (Y/N)	Description of Interaction(s) (If no interaction is predicted, provide a justification)	Status of Element-specific study or survey (complete, underway, date expected, or N/A)	Description of Potential Effects	Mitigation will be implemented to resolve potential adverse effect (Y/N)	Specify the mitigation	Residual Effects after Mitigation (Y/N/U (Uncertain))	Description of the Cumulative Effects	Monitoring Plan/Details
Accidents and Malfunctions (cont'd)						Mark and locate all neighbouring active pipelines in the right-of-way following Foothills Pipe Lines ground disturbance policy. Place decking or rig matting over temporary workspaces, if required, where equipment will be sited over active pipelines. Mark and locate all foreign lines and cables using BC One-Call services before start of construction to ensure the safety of workers and public. Use flagging and signs at overhead line crossings to alert equipment operators of hazards. Conduct construction activities in the vicinity of adjacent pipelines in compliance with all requirements of CSA Z662 15 and the NEB OPRs for work near an operating pipeline. Before equipment works on, or crosses over an adjacent pipeline, obtain a crossing permit from the operator for each specific location, detailing the conditions and limitations for each crossing.			
Effects of the Environment on the Project	Y	Spring freshet and periods of heavy rain (flooding). Severe weather events. Wildfire.	N/A	Alteration of natural surface water flow patterns and stream scour. Severe weather including high wind speeds, heavy/persistent precipitation or extreme temperatures and lightning. Severe weather including high wind speeds, heavy/persistent precipitation or extreme temperatures and lightning.	Y	The decommissioned pipeline in place and right-of-way will remain the responsibility of Foothills Pipe Lines. Pipeline right-of-way (shared facilities) will be routinely monitored through the life of the Project. Watercourse crossing maintenance will be completed as required. Implement the *Adverse Weather Contingency Plan* in the event of severe weather events. Ensure the Contractor has the necessary fire-fighting equipment on hand that is capable of controlling any fire that might occur as a result of their activities. Follow the regulations under the *BC Wildfire Act* and Regulations before start of construction, as required. Before start of construction, the Contractor will designate one of his staff as Fire Boss. The Fire Boss will be familiar with fire-fighting techniques and equipment. Necessary firefighting equipment will be onsite in accordance with the *BC Wildfire Act and Regulations*.	N	N/A	Monitoring/Inspection will occur during construction
Other, please specify	--	--	--	--	--	--	--	--	--

Note:
[1] Foothills Pipe Lines Ltd. confirms that all the standard environmental mitigation noted in the above table, as well as the following contingency plans and management plans will be included in a Project-specific *Environmental Protection Plan: Spill Contingency Plan, Adverse Weather Contingency Plan, Wet Soils Contingency Plan, Fire Suppression Contingency Plan, Soil Erosion Contingency Plan, Wildlife Species of Concern Discovery Contingency Plan, Heritage Resource Discovery Contingency Plan, Hydrovac Cutting Handling Plan, and Chemical and Waste Management Plan*.