



# Pipeline Crossing and Proximity Guide

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## Introduction

Are you a landowner, contractor or project planner for the forestry, mining and petroleum or construction industries or anyone planning or undertaking works that will include ground disturbance in British Columbia?

For everyone's safety and to protect pipeline assets, the *Pipeline Act Regulations* state written permission is required from pipeline and utility companies before any person undertakes activity that may result in loss of cover over the pipe or may pose a risk to the pipeline due to the proposed activity. As such, this Pipeline Crossing and Proximity Guide has been assembled by Pacific Northern Gas Ltd. (PNG) to assist you in successfully and safely planning your work near PNG pipelines and facilities.

This guide includes regulatory requirements as well as industry and PNG standard best practices.

## BC One Call

BC One Call, established in 1994, is a province-wide non-profit organization which provides the excavating community, including contractors and homeowners, with a means to request information on the location of underground facilities which may be on their worksite prior to any ground disturbance or digging activities.

The objective of BC One Call is to minimize the risks associated with accidents involving buried facilities. BC One Call members wish to ensure the safety of contractors and homeowners during ground disturbance activities, as well as prevent damage to their property, the environment, or possible disruption of their service to the general community.

The BC One Call must be used to properly locate pipelines and associated facilities prior to any soil-disturbing activity. This is required to be completed prior to submitting a written application to PNG. This request should ideally be made well in advance of the proposed works, and as a part of the project planning process.

The BC One Call request is required to be made within a minimum of three (3) days prior to the soil-disturbing activity commencing, which for planning purposes saves significant time, effort, and potential costs.

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## Did You Know?

The PNG system is an extensive network of buried pipelines as well as above-and-underground facilities. As such, the system crosses thousands of properties as it travels across the province. PNG rights-of-way (ROW's) exist in various locations including river crossings, fields, urban areas, and rural areas. Pipeline ROW's are acquired from landowners, other utilities, or government entities by obtaining an easement, permit, license, or, in limited cases, through purchase. The ROW is a strip of land of varying widths that may contain one or more pipelines. Pipelines are also sometimes in shared or common ROWs such as Ministry of Transport and Infrastructure ROWs or municipal utility corridors. While these land rights are managed differently, the pipeline safety regime stays the same.

The ROW:

- Allows our workers access facilities for inspection, maintenance, testing or emergency situations.
- Identifies an area where certain activities are prohibited to protect public safety and the integrity of the pipeline.

Pipeline ROW's can be identified by the pipeline markers—located at roads, railways, and other intervals along the ROW—which include the name of the operator, emergency contact information, and a general description of the product in the pipeline.

**Markers indicate the general location of buried pipelines only and *should never be used* as a reference for the exact location of a pipeline.**

## Information for Landowners Containing Pipelines

As a landowner you may have a pipeline or some above ground structure that is related to the pipeline system. The requirements for activities around these facilities and pipelines remains consistent with regards to ground disturbance.

A ROW or Surface lease document will define the rights and obligations of both the landowner and PNG. These agreements are “carried with the land” until PNG no longer needs the asset. This means a charge is on the land title for the ROW or surface lease, and these rights transfer to a new owner if the property is sold.

As a landowner it is requested that you place the BC One Call to kickoff the PNG internal review as well as complete the PNG application form and provide a sketch plan. If additional information is required a PNG representative will be in contact.

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A copy of the Land Owner's Information Guide provided by the BC Oil and Gas Commission please refer to <https://www.bcogc.ca/node/11033/download>

## **Disturbance Activities**

Permission is required from PNG for any ground disturbance within the ROW as well as the proposed activity within 30 metres of the ROW. Permission is also required from PNG for any activity considered potentially hazardous to the pipeline.

This may include but is not limited to:

- Operating heavy equipment
- Any excavation
- Sub-soiling (deep ploughing)
- Ground leveling
- Installing drainage systems
- Planting shrubs
- Auguring
- Fencing
- Piling
- Drilling and blasting shallow and deep utility installation
- Powerline construction which may induce current on the pipeline
- Seismic exploration
- Pipeline crossings including any cathodic protection
- Logging (including arborist activities)
- Mining or quarrying
- Construction and maintenance of logging or access roads

Permission is not required for normal farming activity over the ROW. If in doubt, please give us a call at 1-800-667-2297.

Certain activities are prohibited within the ROW.

- No buildings or placed structures are permitted on the ROW.
- No burning is permitted on the ROW.
- No material storage such as soil, logs etc. is permitted on the ROW.
- No trees are permitted to be planted except in special case where engineered measures may allow trees to be planted in certain urban settings. (Figure 2.1)

## **Planting Trees or Shrubs**

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Planting trees or shrubs within PNG's ROW is prohibited unless written authorization is granted, and special measures are agreed upon. These situations are reviewed case by case by PNG and typically, trees are only considered in urban locations such as common boulevards. If plantings are allowed and subsequently planted, it is however at the planter's risk; PNG will not compensate for the loss of shrubs in the event they are damaged or removed for pipeline activities.

If it has been determined through the authorization process that trees or shrubs are acceptable, the gas pipeline in and near the area of excavation must be located. This is to ensure that enough clearance is maintained through out the life span of the tree or shrub.

For all PNG high pressure pipelines, a minimum horizontal clearance of 1.2 m (4 ft.) is recommended to be maintained between the edge of the root ball or open bottom container and adjacent edge of the existing gas pipeline. In cases where the recommended clearance of 1.2 m (4 ft.) cannot be achieved, PNG may specify the installation of a root deflector.

**Root Deflectors** A root deflector is a physical barrier placed between tree roots and pipelines to prevent damage to the pipelines. A root deflector can be made from ¼ in. thick rigid plastic, fiberglass or other non-degradable material. The root deflector is intended to prevent the root tips from attaching to the gas main.

Typically root deflectors are installed 0.6 m (2 ft.) from the pipeline on the tree-side of the pipeline and extend 1.2 m (4 ft.) from the center of the tree trunk, parallel to the pipeline, in both directions, or encircle the tree. Root deflectors usually have a collar to keep the top of the deflector at ground level and extend down to the bottom of the root-ball as shown in *Figure 2-1: Root Deflector*.

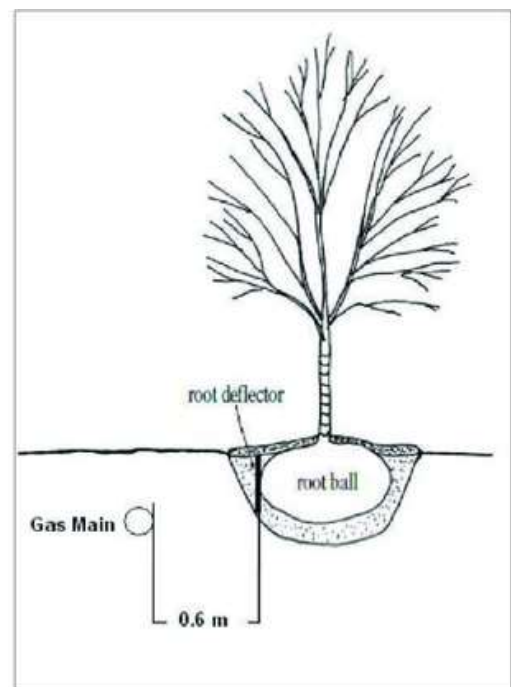


Figure 2-1: Root Deflector

Typical root deflector and offset

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## **Administration Fees & Associated Costs – implemented September 2020** **(Private Landowners are excluded)**

PNG charges an administration fee for each crossing application;

1. Standard Crossing - \$675
2. Major Project or Complex Crossing \$1200

Major Project or Complex Crossing – A proposal that requires a high degree of internal and external coordination, activities requiring but not limited to sustained site monitoring, CEPA crossing assessments, HDD's, large equipment and/or iterative designs.

**PNG will also invoice the Grantee for costs occurred associated with crossing agreements which could include but not limited to, inspections, monitoring and third-party contractors.**

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## How to Apply for PNG Authorization

The *Pipeline Act Regulations* require that written authorization be obtained from PNG prior to any construction or excavation within 30 metres of a pipeline. The BC One Call is always the first step in this process.

### Determining What Authorization is Required

After the BC One Call has been made and PNG representative reviews the information. PNG may require a coordinated site visit, and if so, the PNG representative will complete a HP Pipeline Locate Request Form, documenting the existing site conditions and any considerations or recommendations. This site review will determine what sort of written authorization is required. The HP Pipeline Locate Request Form will then be returned to the applicant to be included in the written request package.

Once PNG receives the applicant's information from BC One Call, and if the applicant's project is crossing or within proximity to a PNG high pressure (HP) gas line, it will be determined which protocols should be followed and what authorizations are required in order for a permit to be granted.

Upon review, if it is determined to be low pressure distribution (DP) gas, a PNG representative may specify conditions on site and supply written instructions at that time.

### Requesting an Authorization

If it is determined that a written authorization is required, the applicant must submit an application package via email or regular mail which includes:

- A written request letter (refer to Figure A)
- A completed PNG Application Form (refer to Figure B)
- A copy of the HP Pipeline Locate Request Form (refer to Figure C)
- The applicable mapping and plans (refer to Figure D)
- A Vehicle Crossing Information Form (VCIF) (refer to Figure E)

#### References:

- Drawing Requirements – Schedule A
- Loading Requirements – Schedule B

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## Vehicle Crossing Information Form (VCIF)

The Vehicle Crossing Information Form (VCIF) is to be completed for both crossing and proximity requests if the proposed activity crosses or falls within 5m of PNG's ROW.

A Vehicle Crossing Information Form indicates what type of equipment will be crossing, including the vehicle make & model, total maximum loaded vehicle weight (kg), and the maximum loaded weight per axle group (kg).

## Drawings and Plans

The drawings and plans must be prepared in accordance with the drawing requirements noted in this document. If you require assistance or guidance with this, please email [Crossings@PNG.ca](mailto:Crossings@PNG.ca)

## Review process

After submitting your documentation, PNG will review the proposal in detail. Some applications may require further engineering review which will require additional time dependant on complexity or need for 3rd party experts.

Please ensure that you allow for sufficient time for this review to be completed, at a minimum 21 days. If additional information is required, a PNG representative will be in contact.

## Authorization Acceptance

Once written authorization is granted by PNG, the applicant must review, and if the terms and conditions are acceptable, fully execute the agreement and return to the [Crossings@PNG.ca](mailto:Crossings@PNG.ca). In turn, a copy of the agreement will be executed by PNG and returned to the applicant. A copy of the agreement must be present at the work site, fully executed by both parties.

It is the applicant's responsibility to ensure all workers, including contractors, are aware of the terms and conditions, and always have access to the authorization.

## Starting to Work

Three (3) working day notification must be completed prior to commencement of the proposed activity to allow PNG to coordinate a site visit or long-term presence with you. Upon confirmation of a coordinated site visit, an authorized PNG field representative will locate and mark the pipeline.

**The exact location of a buried pipeline can only be verified by an authorized PNG field representative. The depth or location may vary within the boundaries of the right-of-way.**

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## Crossing and Proximity Protocols

*Protocols for works in proximity or over a HP asset;*

- **If the site is >30m** from the pipeline, no permit is required unless the works are proposed in an area with identified geotechnical or hydrotechnical concerns that could impact the pipeline. If within 30m PNG engineering will conduct an internal review.
- **If the site is 10m to 30m** from the pipeline, a line locate will be performed by PNG and a written authorization will be provided. A conditional email may be provided, and an onsite PNG representative may be required.
- **If the site is 5m to 10m** from the pipeline, a line locate will be performed by PNG and a written authorization will be provided. An onsite PNG representative **may** be required while ground activity is taking place.
- **If the site is 1m to 5m** from the pipeline, a line locate will be performed by PNG and a written authorization will be provided. An onsite PNG representative **will** be required while ground activity is taking place.
  - The pipeline will be positively identified by PNG;
  - The pipeline will be hand exposed or by hydrovacing at the Proponent's cost to confirm its depth and location
- **If the site is <1m** from the pipeline, a line locate will be performed by PNG and a written authorization will be provided. An onsite PNG representative **will** be required while ground activity is taking place.
  - The pipeline will be positively identified by PNG;
  - The pipeline will be hand exposed or by hydrovacing at the Proponent's cost to confirm its depth and location.
  - No mechanical excavation is permitted within 1m of the pipeline.

**Table 1: Pipeline location verification requirements**

Location of work relative to Pipeline	Required Verification of Pipe Location by hand digging or Hydro-vac
Work within 5m, but not crossing main	Top and sides of pipeline
Crossing below pipeline (open excavation)	All sides of pipeline including 0.6m below pipeline
Crossing above pipeline (open excavation)	Top of pipeline and all sides or 0.6m below the proposed installation
Work parallel to pipe, within 1m of edge of pipe	Spacing of daylight holes must not exceed 5m
Work parallel to pipe, 1m to 5m from edge of pipe	Spacing of daylight holes must not exceed 10m

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## Submitting a BC One Call



### **Applicants will need the following information when submitting a request:**

- Name and contact information
- The exact location of your planned excavation
- How deep will you be digging?
- When you plan to begin work?
- Are you digging on public or private property, or both?

### **Process of Request:**

- Once an application is received, BC One Call Damage Prevention Agent will then determine if a PNG pipeline is within proximity to the applicant's requested site.
- If it is determined that there is a pipeline in the requested location, PNG will be notified by BC One Call of the applicant's request.
- The applicant will then receive a confirmation, and a ticket number from BC One Call will be assigned, this process will kick off PNG's internal review.
- PNG will then determine whether their pipeline is dangerously near or across the applicant's site and the type of pipeline.
- Meanwhile, after three (3) days has lapsed since the applicant has completed the BC One Call, the applicant can then add the BC One Call ticket number that was assigned and complete their written request application package and forward to PNG.
- Ensure that the BC One Call ticket number is included in the written request package, include on the PNG application form.

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## Appendix A: Written Consent Letter

DATE

Via Email

Doc No.:

Company

Address

Attention:

RE: **TRA Pipeline Ltd.**  
Proposed <Project>  
File: 192496  
Lands:  
Crossing and Proximity Request

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On behalf of our client TRA Pipeline Ltd., we hereby request your consent to conduct the following as shown on the attached Schedule "A".

The proposed construction will take place between Fourth Quarter 2020 and Second Quarter 2021.

**Please issue your consent in the name of:**

TRA Pipeline Ltd.  
P.O. Box 2000, Station "E"  
400 – 2<sup>nd</sup> Street SW, Calgary, Alberta T2P 4K9  
Attention: Surface Land

Please email your consent to Jane Doe at [jane.doe@gmail.com](mailto:jane.doe@gmail.com) for further handling. If you have any questions or concerns please contact Jane Doe at 250-001-0000.

Sincerely,  
**XYZ Land**

Name

Title

Enclosures

cc: TRA Pipeline Ltd.

SCHEDULE "A"

Crossing and Proximity Locations:

Type of Activity	Plan/Crown Disposition/Licence	Legal Location	Crossing ID / Map Number

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## Appendix B: PNG Application Form

### Pipeline and/or right of way works application

(Pursuant to the Oil and Gas Activities Act of British Columbia)

#### Applicant Information

Applicant name			BC One Call Ticket Number	
Contact		Title		
Address		City	Province	Postal code
Telephone number	Fax number	Cellular number	E-mail address	
Applicant's representative (contractor/consultant) name		Contact	Title	
Address		City	Province	Postal code
Telephone number	Fax number	Cellular number		
E-mail address		Landowner name (if not applicant)	Landowner consent to Works obtained <input type="checkbox"/> Yes	

The Applicant hereby applies for authorization to construct Works crossing under, over or near a PNG gas pipeline or within the limits of a PNG gas pipeline right of way, and in accordance with the Oil and Gas Activities Act of British Columbia. The proposed Works are as follows:

#### Works Details

<input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		Duration if temporary: Date from (Yr/Mth/Day): _____ Date to (Yr/Mth/Day): _____	
Crossing or Proximity Works		<input type="checkbox"/> Road <input type="checkbox"/> Rail <input type="checkbox"/> Blasting <input type="checkbox"/> Piling <input type="checkbox"/> Pole <input type="checkbox"/> Underground <input type="checkbox"/> Other	
Vehicle / Equipment Crossings			
Within legal highway load limits <input type="checkbox"/> Yes <input type="checkbox"/> No		# of loads/usage per month _____ <i>see Schedule A</i>	
Underground Installations			
<input type="checkbox"/> Steel Pipe/Conduit <input type="checkbox"/> Plastic Pipe/Conduit <input type="checkbox"/> Buried Cables <input type="checkbox"/> Buried Pipeline		Cathodic Protection to be Applied: <input type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> Other			
Electrical Installations			
<input type="checkbox"/> Overhead <input type="checkbox"/> Underground _____ kV		Grounding: <input type="checkbox"/> Yes <input type="checkbox"/> No Pole: <input type="checkbox"/> New <input type="checkbox"/> Replacement	
Within 10 m of pipeline <input type="checkbox"/> Yes <input type="checkbox"/> No		_____ ground fault current _____ ground resistivity measurements	

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Description of Works to be completed and the procedures to be followed (attach extra pages as required to give full description):

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Location of Works (e.g. road/street or legal description of property) *see Schedule A Drawing Requirements*

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Zone Coordinates: UTM ☐ 9 \_\_\_\_\_ ☐ 10 \_\_\_\_\_ GPS (Nad 83) \_\_\_\_\_  
E (x) \_\_\_\_\_ N (y) \_\_\_\_\_

Applicant will complete Works in accordance with the technical requirements of Drawing No. \_\_\_\_\_

(or sketch) attached hereto, prepared for the PNG Drawing Requirements for Third-Party Crossings (see Schedule A).

This form constitutes an **APPLICATION ONLY**. The Works applied for shall not commence until a Permit has been issued and must be constructed in accordance with the conditions set forth in the Permit. Please allow a **minimum of 21 working days** for processing this application.

PNG may assess third party charges to the Applicant for inspections and onsite representation as required.

**NOTE: for purposes of this application 'Pacific Northern Gas (PNG) includes PNG, and PNG (N.E.)**

Name of applicant or applicant's representative (PRINT)  
representative

Date (Yr/Mth/Day)

Signature of applicant or applicant's

**Please Remit To:**

Email:  
Crossings@png.ca

## Appendix C: Line Locate Request Form

FORM NUMBER

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## HP LINE LOCATE REQUEST

TRANSMISSION <input type="checkbox"/> LATERAL <input type="checkbox"/> VALVE <input type="checkbox"/> FACILITY <input type="checkbox"/> OTHER <input type="checkbox"/>		Name:
LOCATION		
BC 1 CALL TICKET NUMBER		APPOINTMENT KEPT BY THE PARTY YES <input type="checkbox"/> NO <input type="checkbox"/> REQUESTING THE LOCATE?
REQUESTED BY:	NAME OF CALLER	DATE
COMPANY NAME:		TIME
DATE REQUIRED:	TIME REQUIRED: <input type="checkbox"/> AM <input type="checkbox"/> PM	CALL TAKEN BY
NAME OF CONTACT ON SITE:		PHONE NUMBER
TO BE COMPLETED BY	DATE	TIME <input type="checkbox"/> AM <input type="checkbox"/> PM
MILE POST	DEPTH OF COVER (M)	
M/L OR LATERAL NAME	PIPELINE SIZE	

SOIL TYPE*: <b>CHOOSE ALL THAT APPLY</b>
GRAVELS <input type="checkbox"/> SANDS <input type="checkbox"/> SILTS <input type="checkbox"/> CLAY <input type="checkbox"/> ORGANIC <input type="checkbox"/> PEAT <input type="checkbox"/> OTHER <input type="checkbox"/>

	Y	N	N/A
SITE CONCERNS			
GEOTECHNICAL			
HYDRO TECHNICAL			
ALIGNMENT			
CP			

OTHER CONCERNS:

SKETCH PLAN OF PROPOSED EXCAVATION AND PLANT LOCATION:



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**SPECIAL INSTRUCTIONS:**

☐ HP CROSSING OR PROXIMITY REQUIRED

☐ EXPOSE PLANT BY HAND DIGGING ☐ or HYDROVAC

**COMMENTS:**

LOCATOR'S SIGNATURE		METHOD OF MARKING <input type="checkbox"/> FLAGS <input type="checkbox"/> PAINT      OTHER _____	
ACCEPTED & WITNESSED BY	TITLE	COMPANY	

FORMT9124 (REV.03/19)

DISTRIBUTION: WHITE – Office

YELLOW – Customer

PINK – Lands

**REGULATIONS FOR EXCAVATION**

1. It shall be the responsibility of the excavator, as the work progresses, to maintain and keep visible the markings place by Pacific Northern Gas which identify the location of the gas installation. Where such maintenance is not feasible, the excavator shall make other arrangements to ensure that the location of the gas installation is obvious to any person.
2. A Safe Work Permit may be required.

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## **Appendix D: Samples of Required Mapping**

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## Appendix E: Vehicle Crossing Information Form

To:  
 Company: **Pacific Northern Gas Ltd**  
 Email:  
 Phone:

This information is required **prior to initiating a crossing agreement**. Please ensure the form is completed accurately. Incomplete information will result in a delay in issuing the crossing agreement.

### GENERAL INFORMATION

1) Requesting Company/Applicant: \_\_\_\_\_  
 Legal Location/UTM: \_\_\_\_\_  
 Requesting Company/ Applicant File # (if applicable): \_\_\_\_\_ Requesting Company/Applicant Drawing # (if applicable): \_\_\_\_\_

2) Duration of use? Temporary (Less than 1 year): \_\_\_\_\_  
 Permanent (Greater than 1 year): \_\_\_\_\_

3) Work Start Date: \_\_\_\_\_ Work End Date: \_\_\_\_\_

4) Please complete the following tables for **ALL** the vehicles you will be crossing with:

### WHEELED VEHICLES

Vehicle Make & Model	Total Maximum Loaded Vehicle Weight (kg)	Maximum Loaded Weight per Axle Group (kg)	Drawing Showing Tire Configurations (See <i>example below</i> )
		Front (steering): Single (if necessary): Tandem (2 axles): Tridem (3 axles): Other (specify):	
		Front (steering): Single (if necessary): Tandem (2 axles): Tridem (3 axles): Other (specify):	
		Front (steering): Single (if necessary): Tandem (2 axles): Tridem (3 axles): Other (specify):	

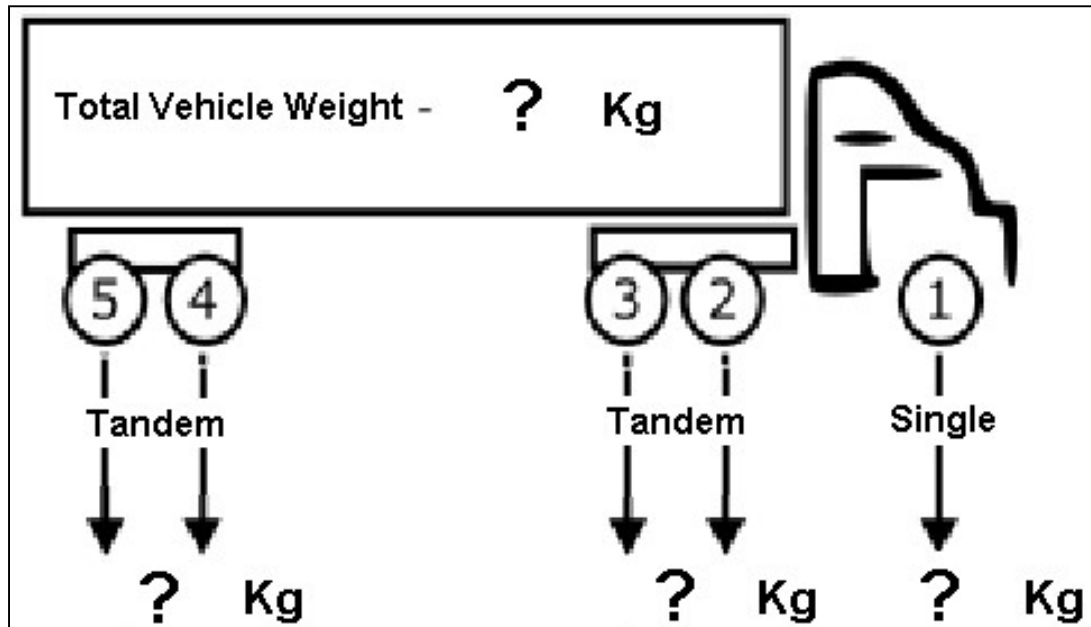
### TRACKED VEHICLES

Vehicle Make & Model	Total Vehicle Weight (kg)	Track Gauge (mm)	Track Width (Shoe Size) (mm)	Track Length in contact with the ground (mm)	Ground Pressure (psi)

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Example for Wheeled Vehicles:



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## **Appendix F: Drawing Requirements – Schedule A**

The following information is required when preparing technical drawings for crossing approvals. Dimensions on drawing(s) may be in imperial or metric (if metric, one decimal point).

**1. Drawing with revision number and date**

**2. North arrow**

**3. Complete land description:**

(a) Township, Range and Section;

(b) District Lot, PID

**4. Plan view: Show and identify:**

(a) gas pipeline(s), gas pipeline markers, and right-of-way; location of gas pipeline(s) within right-of-way;

(b) facilities with tie dimensions to lot or survey line (preferably along the PNG gas pipeline and/or right-of-way boundary) and crossing angle; crossing angle shall not be less than 45 degrees;

(c) lot lines, road limits;

(d) for parking lots, storage yards: nearest building with tie dimensions to nearest gas pipeline and/or right-of-way boundary; (e) for parking lots, storage yards: describe barrier preventing access to unaffected right-of-way (e.g., fence or concrete curb).

**5. Profile view:**

(a) for surface structures: along gas pipeline(s);

(b) for underground facilities: along facility;

(c) gas pipeline(s) and depth of cover;

(d) all underground facilities must maintain the same elevation across the entire width of the right-of-way (with the possible exception of gravity type facilities).

**6. Specifications of gas pipeline(s) being crossed:**

(a) give diameter(s);

(b) give diameter(s) of casing (if applicable); and

(c) details of any protective devices for gas pipeline (concrete slabs, casings, pads, temporary structures, etc.) if requested by the company and shown on the plan and profile.

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**7. Facilities description:**

- (a) roads, parking lots, storage yards: wheel loading, surface, subgrade, name or number designation of roads (if any), materials to be stored (if any);
- (b) ditches, open drainage systems: width - top and bottom (existing and proposed), name or designation (if any); and
- (c) underground facilities: materials; diameter; maximum voltage; pressure; conduit structure - duct size, use and configuration - size and reinforcement (if any).

**8. The applicant shall supply vehicle loading information to allow pipeline loading calculations to be completed (*see Schedule B attached*)**

Please ensure all drawing submissions are completed in full, per the requirements outlined above, items 1 through 7. **All incomplete and/or incorrect drawing submissions will be returned to the Applicant for completion, which can result in delays in processing this application.**

All approved drawings must be available on-site for reference.

## Appendix G: Loading Requirements – Schedule B

### *Surface Loading Calculator Vehicle Design Load Specifications*

#### **Vehicle – 2 axle, 4-wheel**

DESCRIPTION	DETAILS PROVIDED BY APPLICANT
Vehicle Information – pertinent information about the vehicle (brand, model, year, etc.)	
Axle Load 1 – the gross weight of the vehicle's front axle.	
Axle Load 2 – the gross weight of the vehicle's rear axle.	
Axle Width – the axle width of the vehicle, the width can be measured. For single tire axles, measure the distance along the axle between the centerlines of each tire. For dual tire axles, measure the distance along the axle from the space between the dual tires on one side of the axle to the space between the dual tires on the other side of the axle.	
Axle Separation – the axle separation of the vehicle. If this specification is not provided by the manufacturer, the separation can be measured as the perpendicular distance from the front axle to the rear axle.	
Contact Width 1 – the ground contact width of a front axle tire. If dual tires exist, treat them as one tire and enter the overall ground contact width of both tires including the space between the tires.	
Tire Pressure 1 – the tire pressure of the front axle tires.	
Contact Width 2 – the ground contact width of a rear axle tire. If dual tires exist, treat them as one tire and enter the overall ground contact width of both tires including the space between the tires.	
Tire Pressure 2 – the tire pressure of the rear axle tires.	

#### **Vehicle – 3 Axle, 6-wheel**

Vehicle Information – pertinent information about the vehicle (brand, model, year, etc.).	
Axle Load 1 – the gross weight of the vehicle's front axle.	
Axle Load 2 – the gross weight of the vehicle's middle axle.	
Axle Load 3 – the gross weight of the vehicle's rear axle.	
Axle Width – the axle width of the vehicle, the width can be measured. For single tire axles, measure the distance along the axle between the centerlines of each tire. For dual tire axles, measure the distance along the axle from the space between the dual tires on one side of the axle to the space between the dual tires on the other side of the axle.	
Axle Separation 1 – the axle separation between the front and middle axles of the vehicle. If this specification is not provided by the manufacturer, the separation can be measured as the perpendicular distance from the front axle to the middle axle.	
Axle Separation 2 – the axle separation between the middle and rear axles of the vehicle. If this specification is not provided by the manufacturer, the separation can be measured as the perpendicular distance from the middle axle to the rear axle.	

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Contact Width 1 – the ground contact width of a front axle tire. If dual tires exist, treat them as one tire and enter the overall ground contact width of both tires including the space between the tires.	
Tire Pressure 1 – the tire pressure of the front axle tires.	
Contact Width 2 – the ground contact width of a middle axle tire. If dual tires exist, treat them as one tire and enter the overall ground contact width of both tires including the space between the tires.	
Tire Pressure 2 – the tire pressure of the middle axle tires.	
Contact Width 3 – the ground contact width of a rear axle tire. If dual tires exist, treat them as one tire and enter the overall ground contact width of both tires including the space between the tires.	
Tire Pressure 3 – the tire pressure of the rear axle tires.	

### **Track Vehicle**

Vehicle Information – pertinent information about the vehicle (brand, model, year, etc.).	
Vehicle Load – the gross weight of the vehicle	
Track Length – the track length of the vehicle, the length can be measured as the distance along the track which is in direct contact with the ground. Note: Some manufacturers specify a ground pressure for their equipment. In this case an effective track length can be estimated based on the width and pressure.	
Track Separation – the track separation, the separation can be measured as the perpendicular distance from the centerline of the left track to the centerline of the right track.	
Contact Width – the ground contact width of a vehicle track.	

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