



November 7, 2022

Ms. Julie Sandusky  
BC Ministry of Transportation and Infrastructure  
4B – 940 Blanshard Street  
PO Box 9850 Stn Prov Govt  
Victoria, BC V8W 9T5  
Via email: [Julie.Sandusky@gov.bc.ca](mailto:Julie.Sandusky@gov.bc.ca)

Dear Ms. Sandusky:

**Re: Performance Verification Plan for Certificate of Compliance  
51 Francois Lake Drive, Burns Lake, BC  
Project No. 12897**

Keystone Environmental Ltd. (Keystone Environmental) has prepared this Performance Verification Plan (PVP) in support of an application for a risk-based Certificate of Compliance (CofC) for the property located at 51 Francois Lake Drive, Burns Lake, BC (the "Site").

The PVP presents the principal risk management measures (i.e., the Schedule B key risk management controls) that apply and must remain in place at the Site to ensure that the Site CofC remains valid. The PVP was prepared in accordance with BC Ministry of Environment and Climate Change Strategy (ENV) guidance (BC ENV, 2022). The PVP was based on the findings of the Keystone Environmental (2022) report titled *Report of Findings – Human Health and Ecological Risk Assessment, 51 Francois Lake Drive, Burns Lake, BC*.

## **DETERMINATION OF SITE TYPE**

The principal risk controls which must be maintained at the Site includes the following:

- The engineered soil cap located within Risk Management Area #1 must remain intact, as shown and described by metes and bounds in Figure 1.
- Contaminated soils located within Risk Management Area #2 but beyond Risk Management Area #1, as shown and described by metes and bounds in Figure 1, must remain at depths of at least one metre below surface grade or covered by intact pavement or building foundations
- Groundwater from the Site must not be used as drinking water
- Buildings at the site must not be constructed within Risk Management Area #1, as shown and described by metes and bounds in **Figure 1**.

These risk controls were put in place to prevent exposure to soil, groundwater, and vapour contamination by human and/or terrestrial ecological receptors at the Site. The metes and bounds of the risk management areas are presented in **Figure 1**.

Based on these risk control measures for the Site, the Site is considered to be a Type 2 site. A Type 2 site is one that meets risk-based standards under current and future uses through use of institutional or engineered risk controls, apart from the risk controls included for Type 1 sites<sup>1</sup>.

## REQUIRED ACTIONS TO IMPLEMENT THE REQUIRED RISK CONTROL

The following actions are required by BC Ministry of Transportation and Infrastructure (MOTI) to implement the risk controls:

- Mandatory notification provided to the Site owner/operator and workers involved in site redevelopment that soil contamination must remain at least 1.0 mbgs or beneath the engineered soil cap unless covered by pavement or building foundations. The engineered soil cap and soil management areas are defined by metes and bounds in **Figure 1**.
- Mandatory notification provided to the Site owner/operator that groundwater drinking water wells are not to be installed on the Site.
- Mandatory notification provided to the Site owner/operator that future Site buildings are not to be constructed within the building exclusion zone defined by metes and bounds in **Figure 1**.
- Mandatory annual inspection of Site by a site operator to ensure risk controls within Risk Management Areas #1 and #2 are being maintained.
- Mandatory notification provided to the Site owner/operator and workers involved in site redevelopment that if soil contamination is to be removed through excavation, a qualified environmental professional should be retained to characterize the material and advise on proper soil management and disposal.
- Mandatory notification provided to the Site owner/operator to keep and maintain records of risk control maintenance as these records may need to be submitted to BC ENV upon request in the future.
- Mandatory notification provided to the Site owner/operator that the Director must be notified if performance verification actions indicate that there is a failure of the risk control.

Records of risk control maintenance by the Site owner/operator should include the following:

- Scheduled construction activities that have occurred within a risk management area.

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<sup>1</sup> Type 1 sites include those that have an institutional control for limiting the presence of future drinking water wells where the site is serviced by a treated municipal water supply and/or have an engineered control of a maintained and a paved cap covering soil contamination in a municipal roadway or sidewalk.

- Description and schedule of inspection and maintenance works conducted within a risk management area.
- Detailed specifications on any engineering work to be implemented within a risk management area.
- Quantity and quality of soil or waste managed or disposed of as part of the engineered works.
- Any identified failures in risk control performance along with the measures taken to restore the risk control.

Suitable forms of record documentation include inspection records, site photographic documentation, engineering drawings/details, communication documents, and related information. This documentation should be recorded at least annually.

## **SUMMARY RATIONALE**

### ***The engineered soil cap located within Risk Management Area #1 must remain intact***

Soil contamination exceeding the CSR Schedule 3.1 commercial land use (CL) soil standards relevant to human and terrestrial ecological health are currently present in soils beneath the engineered soil cap installed at the Site. The risk assessment assumed that the soil cap would remain intact, which would prevent potential exposures and risks to humans and/or on-site terrestrial ecological receptors.

Maintaining communication and inspection records, at least annually, is considered a suitable risk management measure.

### ***Contaminated soils located within Risk Management Area #2 but beyond Risk Management Area #1 must remain at depths of at least one metre below surface grade or covered by intact pavement or building foundations***

Soil contamination exceeding the CSR Schedule 3.1 commercial land use (CL) soil standards relevant to human and terrestrial ecological health are currently present in soils at depths of at least 1.0 mbgs, not including the area covered by the engineered cap. The risk assessment assumed that the identified soil contamination would remain at depths of at least 1.0 mbgs or covered by pavement or building foundations, which would prevent potential exposures and risks to humans and/or on-site terrestrial ecological receptors. Furthermore, retaining a qualified environmental professional to advise on the proper soil management during excavation would prevent contaminated soils from being relocated to surface and mitigate future unacceptable risks to human health and the environment.

Maintaining communication and inspection records, at least annually, is considered a suitable risk management measure.

***Groundwater from the Site must not be used as drinking water***

Groundwater contamination exceeding the CSR Schedule 3.2 standards for drinking water use is present at the Site. Buildings suitable for habitation are not currently present on the Site, and groundwater at the Site is not currently used as a drinking water source. The risk assessment assumed that groundwater drinking water wells would not be installed at the Site in the future.

Maintaining communication and inspection records, at least annually, is considered a suitable risk management measure.

***Buildings at the site must not be constructed within Risk Management Area #1***

Vapour contamination specific to indoor air exposure exceeding the CSR Schedule 3.3 standards for commercial land use is present at the Site. Buildings suitable for habitation are not currently present on the Site, and are not expected to be located within the footprint of the identified soil vapour contamination per the Site development plans. The risk assessment assumed that future Site buildings would not be constructed over areas of identified vapour contamination.

Maintaining communication and inspection records, at least annually, is considered a suitable risk management measure.

**CONCLUSION**

It is our opinion that the actions identified in this report are sufficient to ensure performance verification of the risk controls required for this Site. As such, a contingency plan is not considered necessary and therefore is not provided.

**GENERAL LIMITATIONS**

The findings presented in this report are based upon the field work conducted by Keystone Environmental for BC Ministry of Transportation and Infrastructure. Keystone Environmental has prepared this document in good faith and has relied upon information provided by others. Keystone Environmental has assumed that the information provided by third parties is both complete and accurate. This report was completed in a manner consistent with that level of care and skill normally exercised by other environmental professionals, practicing under similar circumstances in the same locale at the time of the performance of the work.

This report has been prepared solely for the internal use of BC Ministry of Transportation and Infrastructure and for review by the BC Ministry of Environment and Climate Change Strategy pursuant to the agreement between Keystone Environmental Ltd. and BC Ministry of Transportation and Infrastructure. A copy of the general terms and conditions associated with this agreement is attached to the end of this report. By using this report, BC Ministry of Transportation and Infrastructure and the BC Ministry of Environment and Climate Change Strategy agree that they will review and use the report in its entirety. Any use which other parties make of this report, or any reliance on or decisions made based on it, are the responsibility of such parties. Keystone

Environmental Ltd. accepts no responsibility for damages, if any, suffered by other parties as a result of decisions made or actions based on this report.

Sincerely,

**Keystone Environmental Ltd.**

Kevin Hall, B.Sc., R.P.Bio.  
Risk Assessor

Adam Radlowski, M.Sc., R.P.Bio.  
Senior Environmental Risk Assessor

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**ATTACHMENTS:**

- References
- Metes and Bounds Figure

## REFERENCES

## REFERENCES

- BC ENV. (2022). BC Ministry of Environment and Climate Change Strategy. *Performance Verification Plans*. Retrieved October 14, 2022, from <https://www2.gov.bc.ca/gov/content/environment/air-land-water/site-remediation/guidance-resources/performance-verification-plans>
- Keystone Environmental Ltd. (2022). *Report of Findings – Human Health and Ecological Risk Assessment, 51 Francois Lake Drive, Burns Lake, BC*. Burnaby, BC: Keystone Environmental Ltd. November 2022.

## METES AND BOUNDS FIGURE





**METES & BOUNDS OF RISK MANAGEMENT AREA #2: SOIL MANAGEMENT AREA:**

STARTING AT THE SOUTH CORNER OF BLOCK A DISTRICT LOT 5402 RANGE 5 COAST DISTRICT

- THENCE 5° 14' 02" FOR 29.597 METRES; TO THE POINT OF COMMENCEMENT.
- THENCE 05° 42' 50" FOR 13.467 METRES;
- THENCE 31° 09' 47" FOR 56.962 METRES;
- THENCE 25° 25' 02" FOR 22.284 METRES;
- THENCE 302° 09' 22" FOR 12.867 METRES;
- THENCE 212° 09' 22" FOR 35.607 METRES;
- THENCE 302° 09' 22" FOR 13.020 METRES;
- THENCE 212° 09' 22" FOR 11.462 METRES;
- THENCE 302° 09' 22" FOR 12.685 METRES;
- THENCE 34° 25' 21" FOR 16.883 METRES;
- THENCE 302° 09' 22" FOR 12.676 METRES;
- THENCE 215° 56' 32" FOR 21.277 METRES;
- THENCE 279° 48' 00" FOR 23.225 METRES;
- THENCE 237° 16' 46" FOR 9.927 METRES;
- THENCE 212° 09' 22" FOR 4.914 METRES;
- THENCE 151° 48' 33" FOR 1.621 METRES;
- THENCE 150° 00' 02" FOR 8.845 METRES;
- THENCE 149° 57' 14" FOR 5.897 METRES;
- THENCE 148° 13' 34" FOR 15.130 METRES;
- THENCE 150° 37' 42" FOR 3.607 METRES;
- THENCE 150° 25' 12" FOR 6.773 METRES;
- THENCE 142° 53' 43" FOR 6.031 METRES;
- THENCE 134° 17' 51" FOR 6.040 METRES;
- THENCE 135° 31' 35" FOR 7.012 METRES;
- THENCE 141° 50' 45" FOR 6.365 METRES;
- THENCE 145° 46' 34" FOR 9.617 METRES;
- THENCE 148° 00' 51" FOR 1.735 METRES;
- THENCE 79° 41' 42" FOR 20.838 METRES;

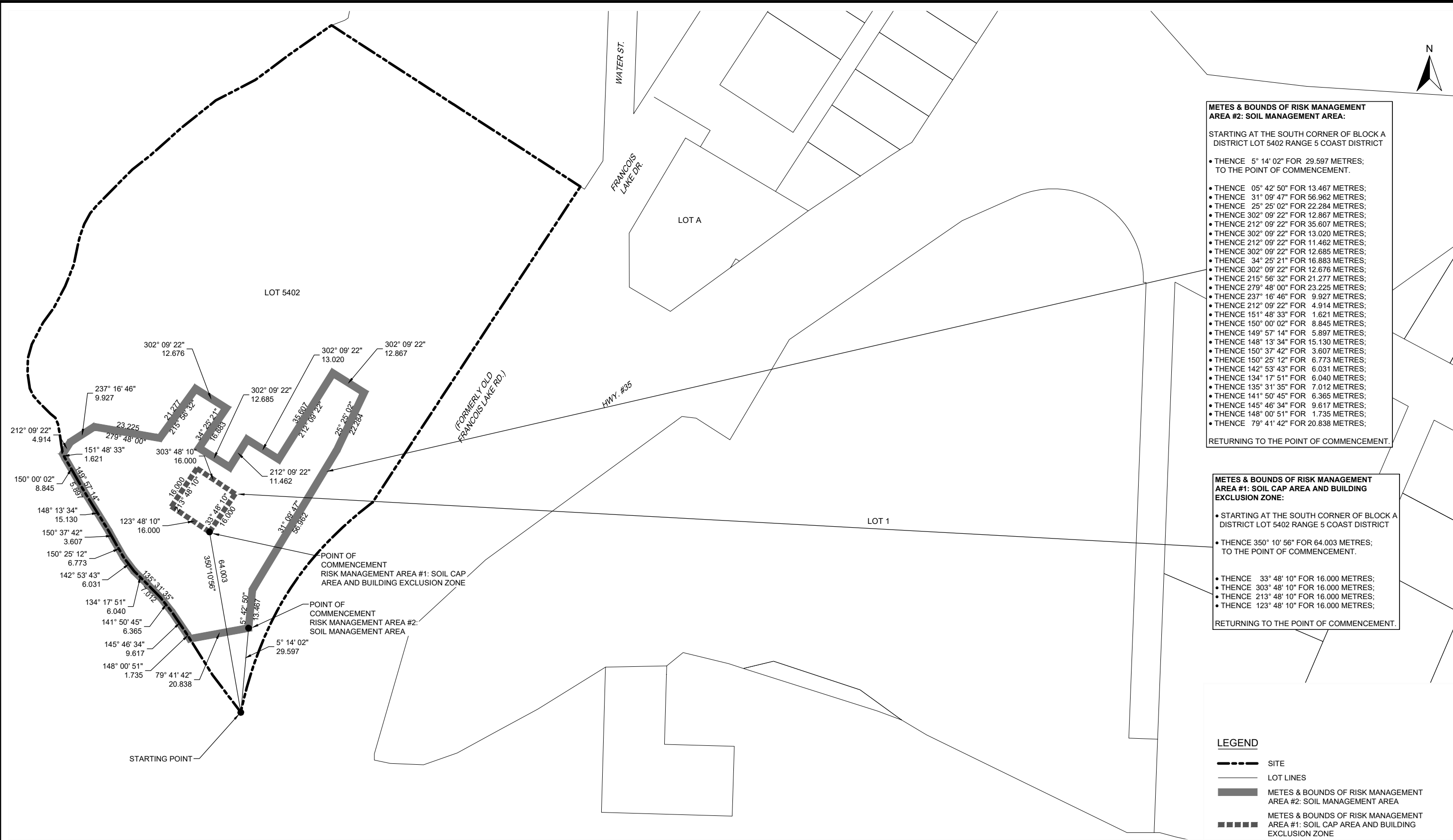
RETURNING TO THE POINT OF COMMENCEMENT.

**METES & BOUNDS OF RISK MANAGEMENT AREA #1: SOIL CAP AREA AND BUILDING EXCLUSION ZONE:**

• STARTING AT THE SOUTH CORNER OF BLOCK A DISTRICT LOT 5402 RANGE 5 COAST DISTRICT

- THENCE 350° 10' 56" FOR 64.003 METRES; TO THE POINT OF COMMENCEMENT.
- THENCE 33° 48' 10" FOR 16.000 METRES;
- THENCE 213° 48' 10" FOR 16.000 METRES;
- THENCE 123° 48' 10" FOR 16.000 METRES;

RETURNING TO THE POINT OF COMMENCEMENT.



**LEGEND**

- SITE
- LOT LINES
- METES & BOUNDS OF RISK MANAGEMENT AREA #2: SOIL MANAGEMENT AREA
- METES & BOUNDS OF RISK MANAGEMENT AREA #1: SOIL CAP AREA AND BUILDING EXCLUSION ZONE

**NOTES:**  
 1. THIS DRAWING IS FOR GENERAL INFORMATION ONLY. LOT BOUNDARIES AND FEATURES ARE APPROXIMATE.

No.	DATE	DESCRIPTION	BY	APPROVED
00	12/21/22			
REVISIONS				

**Keystone Environmental**

Keystone Environmental Ltd.  
 Ste. 320 4400 Dominion Street  
 Burnaby, British Columbia

Former Burns Lake Maintenance Yard  
 51 Francois Lake Drive, Burns Lake, B C

DESIGN	APPROVED
DRAWN T.L.	CHECKED
SCALE	
 SCALE: 1:1250(approx.)	

CLIENT	Ministry of Transport and Infrastructure
DATE	12/21/22
SHEET No.	1 of 1
PROJECT No.	12897-04
REVISION No.	00
DRAWING No.	21-12897-01

**Metes and Bounds of Princial Risk Controls**