



September 30, 2016

Mr. David Lane  
Clayburn Industries Ltd.  
33765 Pine Street  
Abbotsford, BC V2S 5C1

Dear Mr. Lane:

**Re: Performance Verification Plan for Certificate of Compliance  
33765 Pine Street, Abbotsford, BC  
Site ID: 4762  
Project No. 11749**

## 1. BACKGROUND

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 subject property located at the 33765 Pine Street, Abbotsford, BC (herein referred to as 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 (MOE) Administrative Guidance 14: Performance Verification Plans, Contingency Plans, and Operations and Maintenance Plans (MOE, 2015). The PVP was based on the findings of the following reports:

- Keystone Environmental Ltd. (2014). *Report of Findings – Stage 1 and Stage 2 (PSI 2), Detailed Site Investigation (DSI) and Confirmation of Remediation, 33765 Pine Street, Abbotsford, BC.* July 2014.
- Keystone Environmental Ltd. (2016a). *Report of Findings – Preliminary Site Investigation – Stage 1 Update, Remediation and Confirmation of Remediation, 33765 Pine Street, Abbotsford, BC.* September 2016.
- Keystone Environmental Ltd. (2016b). *Report of Findings – Human Health and Ecological Risk Assessment. 33765 Pine Street, Abbotsford, BC,* September 2016.

## 2. PERFORMANCE VERIFICATION PLAN

### 2.1 Determination of Remediation Type

Based on the risk management measures for the Site, the Remediation Type applicable at the Site is considered to be Type 2 (Case 2). Remediation Type 2 sites may require the use of engineering and institutional controls to mitigate/eliminate risks at the Site, but in the event that controls were either not implemented or were implemented but were rendered ineffective, there is a lack of imminent risks.

Under a Remediation Type 2 (Case 2) scenario, MOE (2015) indicates that a PVP is required and that an operations and maintenance plan may be required. A contingency plan is not required.

### 2.2 Required Risk Controls

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

- Site groundwater must not to be used as a drinking water source.
- Subsurface contaminated soils must remain at depths greater than or equal to 1.5 metres below present grade.
- Deep rooting vegetation (i.e., that which roots deeper than 1.5m) must not to be planted within the area described by the following metes and bounds and shown in the attached figure, unless contained within planter boxes or by a geotextile fabric suitable to restrict root penetration:
  - Starting at the Northwest Corner of Plan of Part of West 1/2 of Section 22, Township 16, New Westminster District, Plan 22150:
    - Thence 141° 40' 44" for 141.375 metres; to the point of commencement.
    - Thence 153° 26' 42" for 43.877 metres;
    - Thence 243° 26' 42" for 31.385 metres;
    - Thence 333° 26' 42" for 43.877 metres;
    - Thence 63° 26' 42" for 31.385 metres;
    - Returning to the point of commencement.

### 2.3 Required Actions to Implement the Required Risk Controls

The following actions are required to implement the risk controls:

- a) Mandatory notification provided to the owner/operator of the Site that Site groundwater is not to be used as a source of drinking water.
- b) Mandatory notification provided to the owner/operator of the Site that soil contamination must remain at depth and capped by clean/compliant soils and must not be redistributed as surface soils.

- c) Mandatory notification provided to the owner/operator of the Site regarding deep rooting vegetation planting restrictions.

Records of these actions should be maintained by the Site owner and submitted to the MOE if requested. Other reporting requirements for all performance verification records include the following:

- The Director must be notified promptly by the person(s) responsible for the Site if performance verification actions indicate that any of the required risk controls are not being met. The following information must be submitted to the Director with the notification, or as soon as practicable thereafter:
  - The time period over which risk controls were not in place or implemented
  - The nature of the excursion(s)
  - The temporary or permanent corrective measures implemented or to be implemented
  - An implementation schedule
  - Supporting documentation

## 2.4 Summary Rationale

Groundwater contamination is present at concentrations greater than applicable drinking water use standards. A drinking water use preclusion on groundwater at the Site is needed to prevent potential future human health risks associated with drinking water consumption of on-site groundwater.

Soil contamination is present at concentrations greater than the applicable soil standards for residential land use at depths of 1.5 m and greater below ground surface. The risk assessment assumed that the identified soil contamination would remain at depth. Re-distribution of contaminated sub-surface soils may result in potential health risks to humans and/or terrestrial wildlife, soil invertebrates, and plants.

Trees or plants with deep roots extending greater than 1.5m below ground surface may come into contact with sub-surface contaminated soils. Heavy extractable petroleum hydrocarbon (HEPHs) and benzo[a]anthracene concentrations in soils may pose risks to deep rooting vegetation. Use of aboveground planter boxes or a geotextile fabric, selected by a qualified professional, would limit the potential for root exposure.

It is of the opinion that the actions identified above are sufficient to mitigate potential risks to human health and the environment.

### 3. GENERAL LIMITATIONS AND CONFIDENTIALITY

Findings presented in this report were based upon the Preliminary Site Investigation – Stage 1 (PSI 1) and Stage 2 (PSI 2), Detailed Site Investigation (DSI) and Confirmation of Remediation report, the Preliminary Site Investigation – Stage 1 Update, Remediation and Confirmation of Remediation and the HHERA report, completed for the subject property located at 33765 Pine Street, Abbotsford, BC, (Keystone Environmental, 2014, 2016a; 2016b). This PVP 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 area at the time of the performance of the work.

This report must be read as a whole and sections thereof cannot be read out of such context. Keystone Environmental Ltd. accepts no responsibility, and denies any liability whatsoever, to parties other than Clayburn Industries Ltd. and the BC MOE, who may obtain access to this report for any injury, loss or damage suffered by such parties arising out of, reliance upon, or decisions or actions based on this report, except to the extent those parties have obtained a prior written consent of Keystone Environmental to use and rely upon this report and the information contained herein. Any injury, loss or damages arising from improper use of this report shall be borne by the party making such use.

### 4. CLOSURE

The opinions, advice and recommendations expressed in this performance verification plan are made in accordance with generally accepted principles and practices as recognized by members of the applicable profession or discipline practising at the same time and in the same or similar locations.

If you should have any questions, please do not hesitate to contact the signatories listed below.

Sincerely,

**Keystone Environmental Ltd.**

Original signed by

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

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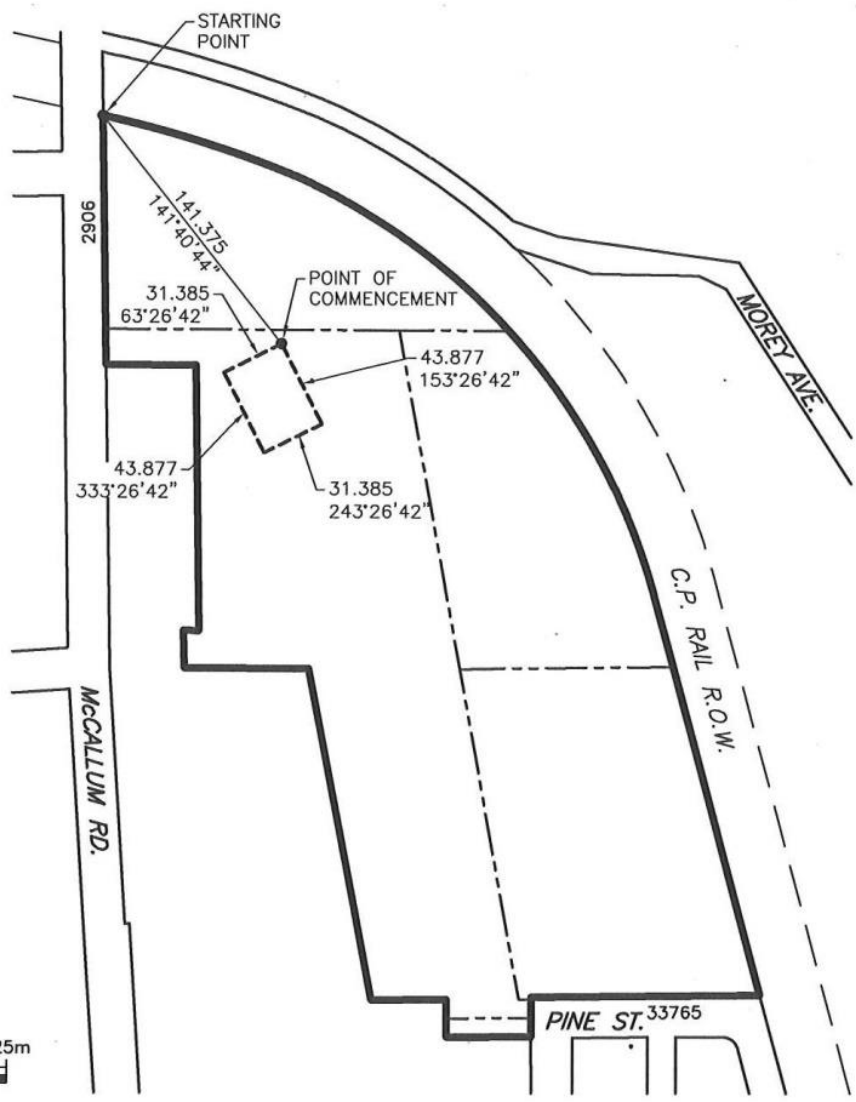
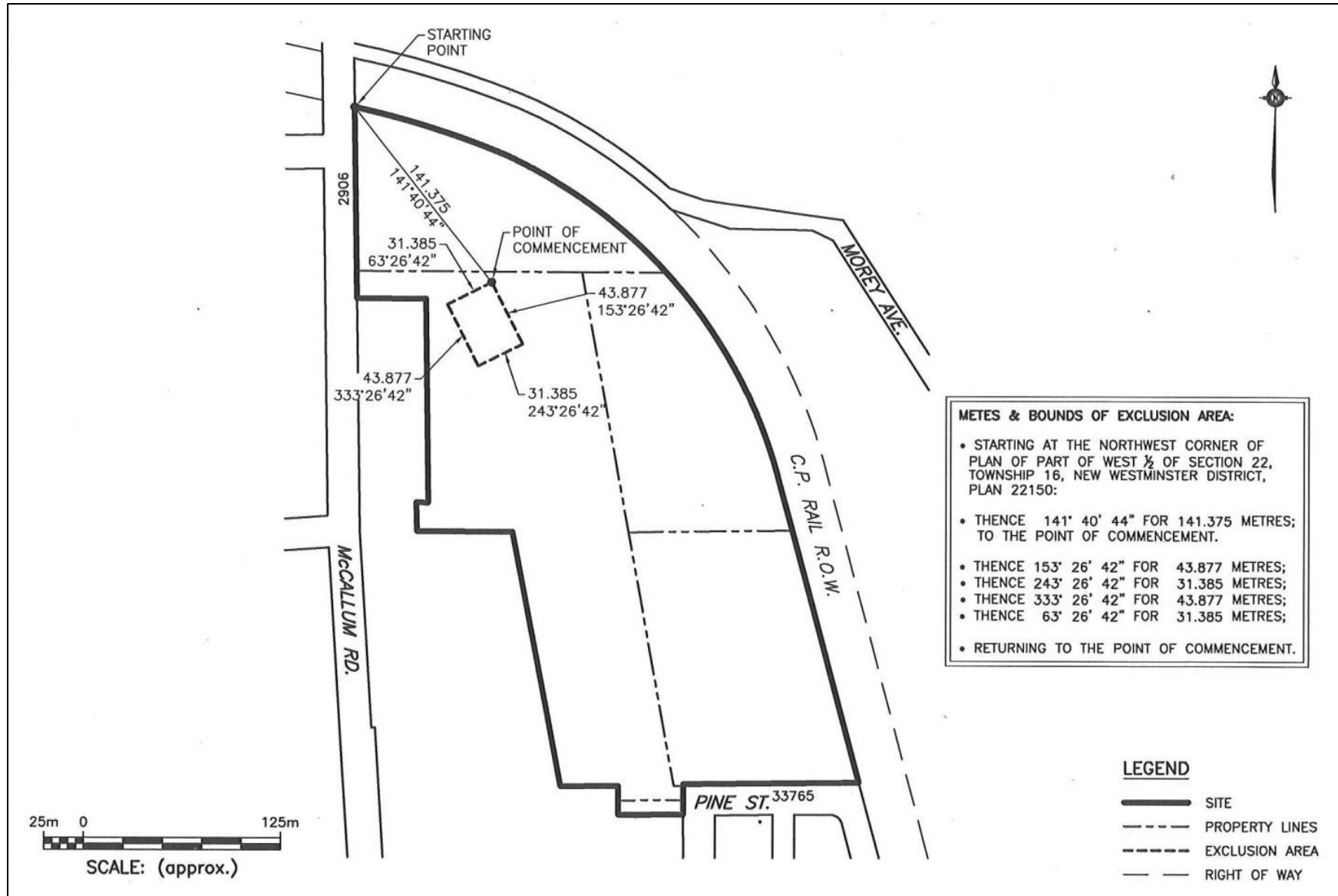
#### ATTACHMENT:

- Figure

## 5. REFERENCES

- British Columbia Ministry of Environment. Environmental Protection Division. (2015). *Administrative Guidance 14 on Contaminated Sites: Performance Verification Plans, Contingency Plans, and Operations and Maintenance Plans*. (Version 3.0). December 2015.
- Keystone Environmental Ltd. (2014). *Report of Findings Stage 1 and Stage 2 (PSI 2), Detailed Site Investigation (DSI) and Confirmation of Remediation, 33765 Pine Street, Abbotsford, BC*. July 2014.
- Keystone Environmental Ltd. (2016a). *Report of Findings – Preliminary Site Investigation – Stage 1 Update, Remediation and Confirmation of Remediation, 33765 Pine Street, Abbotsford, BC*. September 2016.
- Keystone Environmental Ltd. (2016b). *Report of Findings – Human Health and Ecological Risk Assessment. 33765 Pine Street, Abbotsford. BC*. September 2016.

**FIGURE**



**METES & BOUNDS OF EXCLUSION AREA:**

- STARTING AT THE NORTHWEST CORNER OF PLAN OF PART OF WEST ½ OF SECTION 22, TOWNSHIP 16, NEW WESTMINSTER DISTRICT, PLAN 22150:
- THENCE 141° 40' 44" FOR 141.375 METRES; TO THE POINT OF COMMENCEMENT.
- THENCE 153° 26' 42" FOR 43.877 METRES;
- THENCE 243° 26' 42" FOR 31.385 METRES;
- THENCE 333° 26' 42" FOR 43.877 METRES;
- THENCE 63° 26' 42" FOR 31.385 METRES;
- RETURNING TO THE POINT OF COMMENCEMENT.

**LEGEND**

- SITE
- - - - PROPERTY LINES
- - - - EXCLUSION AREA
- - - - RIGHT OF WAY

25m 0 125m

SCALE: (approx.)