



November 5, 2021

Mr. Ken Woodward
City of Surrey
13450 104 Avenue
Surrey, BC V3T 1V8
Via email: kswoodward@surrey.ca

Dear Mr. Wright:

**Re: Performance Verification Plan for Certificate of Compliance (City Lands)
Adjacent to 12850 112B Avenue, Surrey, BC
Project No. 14955**

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 two off-site affected areas on City of Surrey property (collectively referred to as the "City Lands") impacted by historical activities from the property located at 12850 112B Avenue, Surrey, BC (the "Site"). The two off-site areas comprising the City Lands are located to the north/east (Management Area 1) and southwest (Management Area 2) of 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 City Lands to ensure that the City Lands CofC remains valid. The PVP was prepared in accordance with BC Ministry of Environment and Climate Change Strategy (ENV) guidance (BC ENV, 2021). The PVP was based on the findings of the Keystone Environmental (2021) report titled *Report of Findings – Human Health and Ecological Risk Assessment, 12850 112B Avenue, Surrey, BC, Surrey, BC*.

DETERMINATION OF SITE TYPE

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

- Soils contaminated with light extractable petroleum hydrocarbons (LEPHs) and volatile petroleum hydrocarbons (VPHs) must remain at depths of at least 1.0 metre below ground surface (mbgs) or below pavement
- City Lands groundwater must not be used for drinking water purposes

These risk controls were put in place to prevent exposure to soil and groundwater contamination by human and/or terrestrial ecological receptors at the City Lands. The metes and bounds of the soil contamination is presented in **Figure 1**.

Based on these risk control measures for the City Lands, the City Lands 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 sites¹.

REQUIRED ACTIONS TO IMPLEMENT THE REQUIRED RISK CONTROL

The following actions are required by the City of Surrey to implement the risk controls:

- Mandatory notification provided to the relevant City of Surrey departments that soil contamination must remain at depths of at least 1.0 metre below surface grade or below pavement.
- Mandatory notification provided to the relevant City of Surrey departments that groundwater drinking water wells are not to be installed on the City Lands.
- Mandatory notification provided to the relevant City of Surrey departments that if the 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 relevant City of Surrey departments to keep and maintain records of risk control maintenance as these records may be submitted to BC ENV upon request in the future.
- Mandatory notification provided to the relevant City of Surrey departments 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 City of Surrey should include the following:

- Scheduled construction activities that have occurred within the metes and bounds.
- Description and schedule of inspection and maintenance works conducted within the metes and bounds.
- Detailed specifications on any engineering work to be implemented within the metes and bounds.
- Quantity and quality of soil or waste managed or disposed of as part of the engineered works.

¹ 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.

- 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

Soils contaminated with LEPHs and VPHs must remain at depths of at least 1.0 metre below surface grade or below pavement

Soil LEPHs and VPHs 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. The risk assessment assumed that the identified soil contamination would remain at depths of at least 1.0 mbgs or covered by pavement, which would prevent potential exposures and risks to humans and terrestrial ecological receptors. Furthermore, retaining a qualified environmental professional to advise on the proper soil management during excavation would 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 must not be used as drinking water.

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

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 the City Lands. 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 Loon Properties (Bridgeview) Inc. 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 Loon Properties (Bridgeview) Inc. and for review by the BC Ministry of Environment and Climate Change Strategy pursuant to the agreement between Keystone Environmental Ltd. and Loon Properties (Bridgeview) Inc. A copy of the general terms and conditions associated with this agreement is attached to the end of this report. By using this report, Loon Properties (Bridgeview) Inc. 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:

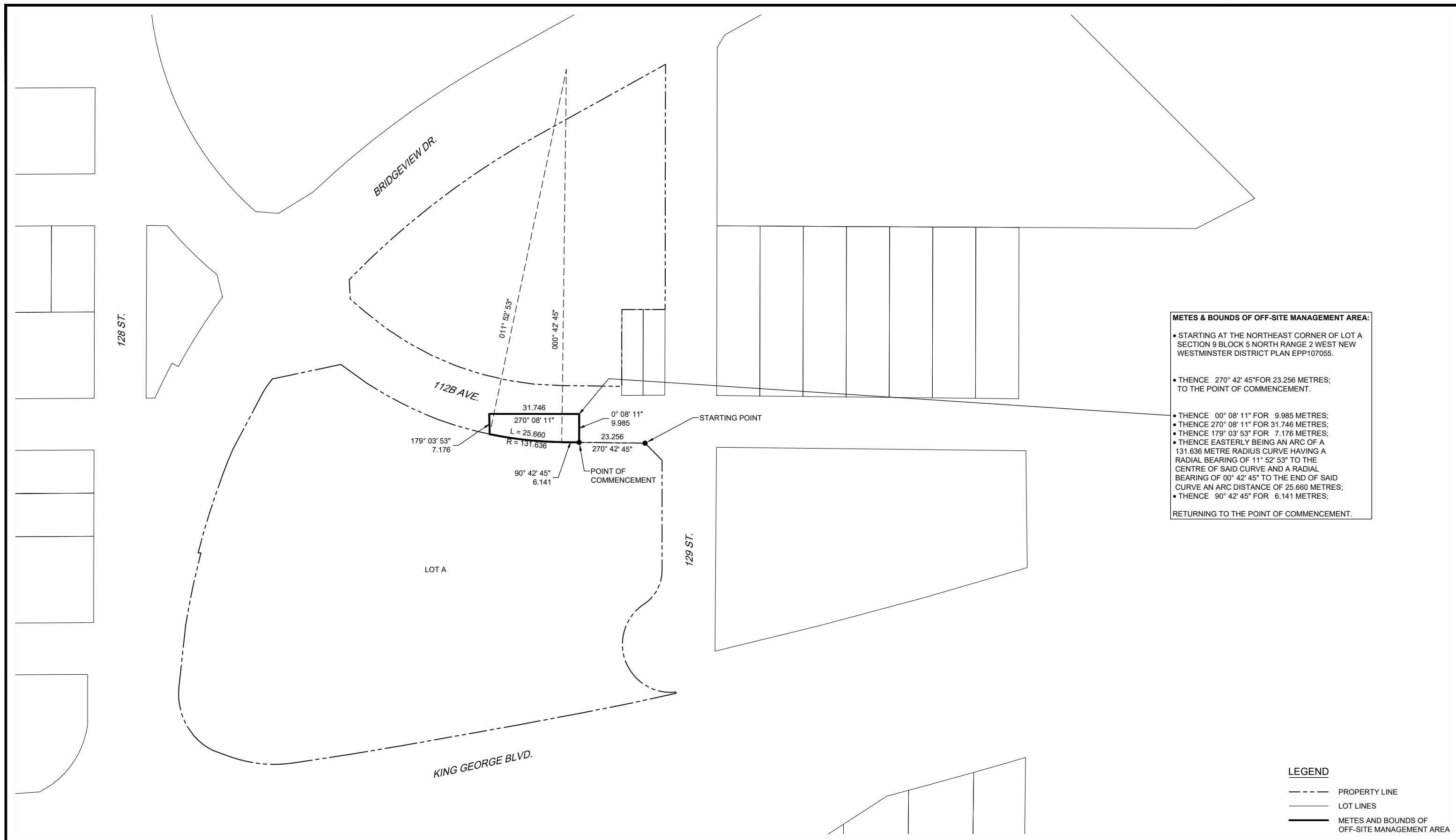
- References
- Metes and Bounds Figure

REFERENCES

REFERENCES

- BC ENV. (2021). BC Ministry of Environment and Climate Change Strategy. *Performance Verification Plans*. Retrieved November 4, 2021, from <https://www2.gov.bc.ca/gov/content/environment/air-land-water/site-remediation/guidance-resources/performance-verification-plans>
- Keystone Environmental Ltd. (2021). *Report of Findings – Human Health and Ecological Risk Assessment, 12850 112B Avenue, Surrey, BC*. Burnaby, BC: Keystone Environmental Ltd. October 2021.

METES AND BOUNDS FIGURE



METES & BOUNDS OF OFF-SITE MANAGEMENT AREA:

- STARTING AT THE NORTHEAST CORNER OF LOT A SECTION 9 BLOCK 5 NORTH RANGE 2 WEST NEW WESTMINSTER DISTRICT PLAN EPP107055.
- THENCE 270° 42' 45" FOR 23.256 METRES; TO THE POINT OF COMMENCEMENT.
- THENCE 00° 08' 11" FOR 9.985 METRES;
- THENCE 270° 08' 11" FOR 31.746 METRES;
- THENCE 179° 03' 53" FOR 7.176 METRES;
- THENCE EASTERLY BEING AN ARC OF A 131.636 METRE RADIUS CURVE HAVING A RADIAL BEARING OF 11° 52' 53" TO THE CENTRE OF SAID CURVE AND A RADIAL BEARING OF 00° 42' 45" TO THE END OF SAID CURVE AN ARC DISTANCE OF 25.660 METRES;
- THENCE 90° 42' 45" FOR 6.141 METRES;

RETURNING TO THE POINT OF COMMENCEMENT.

LEGEND

- PROPERTY LINE
- LOT LINES
- METES AND BOUNDS OF OFF-SITE MANAGEMENT AREA

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

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

12850 112B Avenue
 Surrey, B C

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

CLIENT Bosa Properties to Loon Properties (Bridgeview) Inc.	SHEET No. 1 of 1
Metes and Bounds of Off-Site Management Area	PROJECT No. 14955-04
	REVISION No. 00
	DRAWING No. 21-14955-01

No.	DATE	DESCRIPTION	BY	APPROVED
00	11/01/21	Issued for Client Review		
REVISIONS				