

June 15, 2015

10-3970.200

Suncor Energy Products Partnership  
P.O. Box 100  
1155 Glenayre Drive  
Port Moody, British Columbia  
V3H 3E1

Attention: Mr. P. Gordon  
Senior Advisor, Site Remediation

Dear Mr. Gordon:

Re: Performance Verification Plan  
City Management Area  
Site ID 16206  
Adjacent to 5955 Kingsway  
Burnaby, British Columbia

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Further to your request, Parsons Canada Ltd. ("Parsons") is pleased to provide this Performance Verification Plan (PVP) in support of an application for a risk-based Certificate of Compliance (CofC) for the City of Burnaby (the "City") lands located adjacent to 5955 Kingsway in Burnaby, British Columbia (the "Property"). The risk-based CofC is being sought for the areas of City-owned road right-of-ways as indicated on Drawing No. 1, hereafter referred to collectively as the City Management Area. The PVP presents the principal risk management measures that must be applied at the City Management Area for the City Management Area CofC to remain valid (i.e. the key risk management controls of Schedule B of the CofC which must remain in place at the City Management Area). The PVP was prepared in accordance with British Columbia Ministry of Environment (BCMOE) Procedure 12: Procedures for preparing and issuing contaminated sites legal instruments ("Procedure 12").



## **BACKGROUND**

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The City Management Area is made up of two land parcels located adjacent to 5955 Kingsway, in Burnaby, British Columbia, as indicated on Drawing No. 1. The boundary descriptions of the two areas of the City Management Area are provided in Appendix A.

As detailed in the Detailed Site Investigation report (DSI), soil and/or potential groundwater contamination was identified beneath the City Management Area. The remaining soil contamination was identified at a depth of approximately 4.3 metres below ground surface (mbgs). The minimum depth to potential groundwater contamination is 6.7 mbgs. Based on vapour investigations conducted between September 2010 and September 2014, conservatively attenuated vapour concentrations did not exceed the Schedule 11 industrial land use (IL) standards for outdoor air.

## **PRINCIPAL RISK ASSESSMENT MANAGEMENT CONTROLS**

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A human health and ecological risk assessment (HHERA) was conducted for the City Management Area and the Property, with the results presented in the Parsons report, "Detailed Risk Assessment, 5955 Kingsway, Burnaby, British Columbia (June 15, 2015)". The principal risk management measures for the City Management Area on which the detailed risk assessment was based, as presented in Schedule B of the CofC, are as follows:

- (a) The City Management Area is to remain a roadway (i.e. buildings with foundation greater than 2.9 mbgs are not to be constructed)
- (b) Drinking water wells are not to be installed within the City Management Area
- (c) In the event that a trench is excavated deeper than 3.6 mbgs and intended for human entry within the City Management Area, an appropriate worker health and safety plan must be implemented to address potential exposure to petroleum hydrocarbons in soil vapours.

## **DETERMINATION OF PROCEDURE 12 REMEDIATION TYPE**

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Based on the risk management measures for the City Management Area, (i.e. the use of institutional controls to mitigate/eliminate risks in the City Management Area and lack of

imminent risks in the event that controls were not implemented) the Remediation Type applicable for the City Management Area is considered to be Type 2.

Under a Remediation Type 2 scenario, Procedure 12 indicates that a PVP is required, while an operations and maintenance plan may be required.

## **PERFORMANCE VERIFICATION PLAN**

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A PVP is required to document the principal risk management measures, upon which the HHERA is based, that must be met for the City Management Area.

Based on consideration of current and future land use at the City Management Area and the results of the environmental investigations performed for the Property and City Management Area, including the detailed risk assessment, the following performance verification actions for the City Management Area are recommended:

- (a) Communication with the owner of the City Management Area that buildings must not extend deeper than 2.9 mbgs.

The assumptions in the vapour assessment and the risk assessment regarding future development were based on, and are consistent with, the expected future land use for the City Management Area. As the City Management Area is currently comprised of road right-of-ways, the construction of a future building in the City Management Area is considered an unlikely scenario.

As such, the following advisory for the City Management Area is considered appropriate to meet this risk management measure: future buildings must not extend deeper than 2.9 mbgs in the portion of the City roadways defined as the City Management Area. The listing of this risk management measure in Schedule B of the CofC meets this requirement.

- (b) Communication with the owner of the City Management Area that drinking water wells must not be installed within the City Management Area.

Imminent risks to drinking water receptors are not anticipated based on the following:

- the absence of drinking water wells in the City Management Area and developments in the immediate vicinity of the City Management Area;

- adjacent properties obtain their potable water from a piped distribution system that sources water from North Vancouver, and this is also the expected future source of potable water in the area; and
- the land use at the City Management Area is industrial (road right-of-ways).

As such, an advisory for the City Management Area that “drinking water wells must not be constructed within the City Management Area boundaries” is considered sufficient to meet this risk management measure. The listing of the risk management measure in Schedule B of the CofC meets this requirement.

- (c) Communication with the owner of the City Management Area that in the event that a trench or excavation is conducted to greater than 3.6 mbgs (and intended for human entry) within the City Management Area, an appropriate worker health and safety plan must be implemented to address potential exposure to petroleum hydrocarbons in soil vapours.

As the maximum depth of existing underground utilities in the near vicinity of the City Management Area is 2.4 mbgs, the excavation of a trench deeper than 3.6 mbgs is an unlikely scenario. As such, the following advisory for the City Management Area is considered appropriate to meet this risk management measure: an appropriate worker health and safety plan to address potential petroleum hydrocarbon contaminated soil vapours must be implemented in the event that a trench exceeding 3.6 mbgs is excavated and intended for human entry within the City Management Area. The listing of this risk management measure in Schedule B of the CofC meets this requirement.

In summary, it is our opinion that the advisories listed in Schedule B of the CofC are sufficient to address the principal risk management measures required for this City Management Area.

We trust that the foregoing information is satisfactory for your present requirements. Should you have any questions, please do not hesitate to contact the undersigned.

Respectfully submitted,

PARSONS CANADA LTD.

A handwritten signature in black ink, appearing to read "D.J. Williams". The signature is written in a cursive style with a large initial "D" and "W".

D.J. Williams, P.Geol.

DJW/cer

## **LIMITATION OF LIABILITY, SCOPE OF REPORT AND THIRD PARTY RELIANCE**

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### **BRITISH COLUMBIA MINISTRY OF ENVIRONMENT'S RELIANCE**

Notwithstanding the above, the British Columbia Ministry of Environment is permitted to rely on this report and the information contained herein to the extent necessary to confirm that Suncor has met their statutory obligations with respect to the Performance Verification Plan.

U:\3000s\3970\Drawings\2015-07-000(PVP\_Offsite)\3970\_PLAN.dwg  
0A/00: 2014/07/31 VM/DJW



**LEGEND**

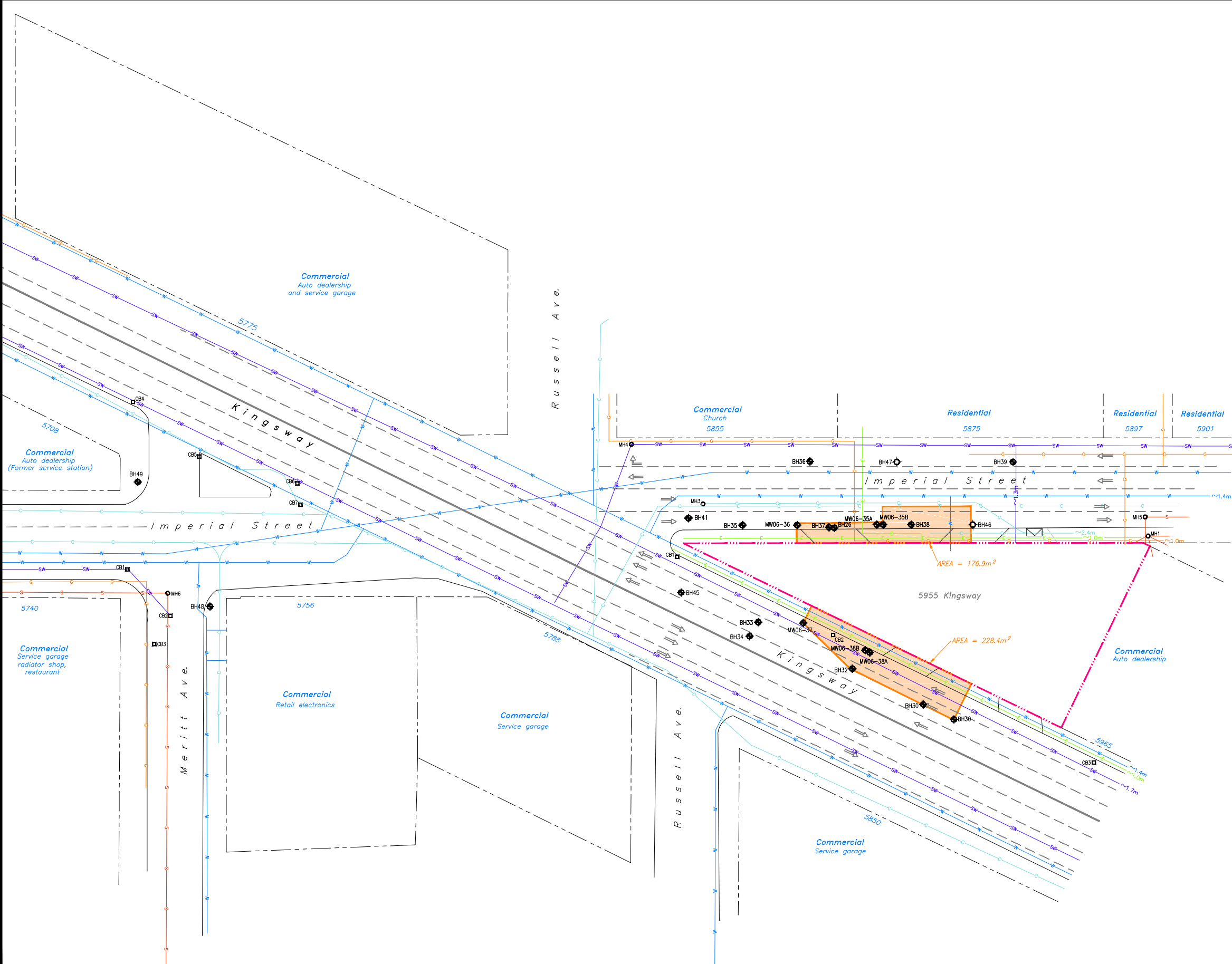
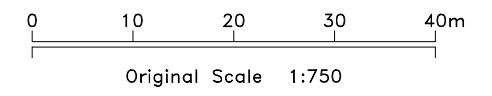
- - - - - Property line
- 2010/12/31 Date format: yyyy/mm/dd
- Monitoring well
- Borehole (well not installed)
- City management area

**Utilities**

All utility lines are underground unless noted as O/H - overhead.

- SW Storm sewer
- S Sanitary sewer
- G Gas
- W Water
- E Electricity
- C Communications
- Manhole
- Catch basin
- UP Utility pole

NOTE:  
1. All features are approximate.



<b>Borehole and Monitoring Well Location Plan for City of Burnaby Property</b>		
Suncor Energy Products Partnership 5955 Kingsway, Burnaby, British Columbia		
Drawn: VM	Page Size: 11 x 17 in.	Ref. No.: 10-3970
Reviewed: DJW	File No.: 3970 PLAN	Date: 2014/10/30
<b>PARSONS</b>		Drawing No.: 1