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CITY OF NEW WESTMINSTER

Stage 1 Preliminary Site Investigation

224 Front Street, New Westminister, BC

BOOK 1 of 3

09216

October 5, 2011

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EXECUTIVE SUMMARY

WorleyParsons Canada Services Ltd. (WorleyParsons) was retained by the City of New Westminster (the CoNW) to conduct a Stage 1 Preliminary Site Investigation (PSI) of the property located at 224 Front Street (previously known as 610 Front Street) in the City of New Westminster, British Columbia (BC) (the Site). The area of the Site is approximately 3.8 hectares comprising a land lot (approximately 1 hectare) and a water lot (approximately 2.8 hectares). The Site is owned by the City of New Westminster.

The CoNW requested the completion of a Stage 1 PSI to evaluate whether the Site has been or is likely to have been contaminated by current or historical activities on the Site or surrounding lands. It is understood that this report will be submitted to the BC Ministry of Environment (MOE) in support of an application for a regulatory instrument.

The objective of the Stage 1 PSI was to identify apparent or potential environmental areas of concern on the Site through review of historical records, interviews, and site reconnaissance. It is understood that the CoNW requires the completion of this Stage 1 PSI to identify potentially contaminated media (soil, soil vapour, groundwater, surface water, and/or sediments) that would require, as determined by the provincial contaminated sites management regime, investigation, remediation, or other risk management activities.

Based on the information reviewed for this Stage 1 PSI, WorleyParsons has identified 21 on- and off-Site areas of potential environmental concern (APECs) and has concluded there are areas of potential contamination noted in previous reports and/or risks of environmental contamination on the Site due to historical land use that warrant further investigation. These are summarized in the table below and have been presented on Figure 3. Levels of actual contamination are to be assessed through the Stage 2 process and presented in a Detailed Site Investigation report to follow. A list of acronyms used in the following table can be found on page xiv of this report.

PROJECT 09216 - STAGE 1 PRELIMINARY SITE INVESTIGATION							
FILE LOC.: BURNABY							
REV	DESCRIPTION	ORIG	REVIEW	WORLEY- PARSONS APPROVAL	DATE	CLIENT APPROVAL	DATE
1	Issued as final	J Schuett	T Todoruk	R Bracken	05-Oct-11		05-Oct-11



Table A On- and Off-Site Areas of Potential Environmental Concern (APECs)

APEC # / Description	Primary PCOCs	Secondary PCOCs
APEC 1 Freight Sheds, Warehouses, Cannery, Coal Sheds, Machine Works	Soil: BTEX, VPH, LEPH, HEPH, metals, VOCs, PAHs Groundwater: BTEX, VPH, LEPH, HEPH, metals, VOCs, PAHs Soil Vapour: BTEX, VPH, VOCs, naphthalene Sediment: BTEX, VPH, LEPH, HEPH, VOCs, PAHs	Soil: PCBs, oil and grease Groundwater: PCBs, oil and grease Soil Vapour: none Sediment: PCBs, oil and grease
APEC 2 Warehouse, Coal Shed, Fuelling Area	Soil: BTEX, VPH, LEPH, HEPH, PAHs, metals, VOCs, pH, MTBE Groundwater: BTEX, VPH, MTBE, LEPH, HEPH, PAHs, metals, VOCs, pH Soil Vapour: BTEX, VPH, VOCs, naphthalene Sediment: BTEX, VPH, MTBE, LEPH, HEPH, PAHs, metals, VOCs, pH	Soil: Glycols, PCBs Groundwater: Glycols, PCBs Soil Vapour: none Sediment: PCBs
APEC 3 Cannery, Coal Shed, Warehouse	Soil: none Groundwater: none Soil Vapour: none Sediment: BTEX, VPH, LEPH, HEPH, metals, VOCs, PAHs	Soil: none Groundwater: none Soil Vapour: none Sediment: oil and grease
APEC 4 Machine Works, Blacksmith	Soil: none Groundwater: none Soil Vapour: none Sediment: LEPH, HEPH, metals, VOCs, PAHs	Soil: none Groundwater: none Soil Vapour: none Sediment: PCBs
APEC 5 Freight Shed	Soil: BTEX, VPH, LEPH, HEPH, metals, VOCs, PAHs Groundwater: BTEX, VPH, LEPH, HEPH, metals, VOCs, PAHs Soil Vapour: BTEX, VPH, VOCs, naphthalene	Soil: none Groundwater: none Soil Vapour: none Sediment: none

APEC # / Description	Primary PCOCs	Secondary PCOCs
	Sediment: none	
APEC 6 Possible Historical ASTs	Soil: BTEX, VPH, MTBE, LEPH, HEPH, metals, VOCs, PAHs, pH Groundwater: BTEX, VPH, MTBE, LEPH, HEPH, metals, VOCs, PAHs, pH Soil Vapour: BTEX, VPH, VOCs, naphthalene Sediment: none	Soil: glycols, PCBs Groundwater: glycols, PCBs Soil Vapour: none Sediment: none
APEC 7 Historical UST #1 (20,000 L) (Trow, 2005b)	Soil: BTEX, VPH, MTBE, LEPH, HEPH, metals, VOCs, PAHs, pH Groundwater: BTEX, VPH, MTBE, LEPH, HEPH, metals, VOCs, PAHs, pH Soil Vapour: BTEX, VPH, VOCs, naphthalene Sediment: none	Soil: glycols, PCBs Groundwater: glycols, PCBs Soil Vapour: none Sediment: none
APEC 8 Historical UST #2 (2,000 L) (Trow, 2005b)	Soil: BTEX, VPH, MTBE, LEPH, HEPH, metals, VOCs, PAHs, pH Groundwater: BTEX, VPH, MTBE, LEPH, HEPH, metals, VOCs, PAHs, pH Soil Vapour: BTEX, VPH, VOCs, naphthalene Sediment: BTEX, VPH, MTBE, LEPH, HEPH, metals, VOCs, PAHs, pH	Soil: glycols, PCBs Groundwater: glycols, PCBs Soil Vapour: none Sediment: glycols, PCBs
APEC 9 Possible Historical AST	Soil: BTEX, VPH, LEPH, HEPH, metals, VOCs, PAHs Groundwater: BTEX, VPH, LEPH, HEPH, metals, VOCs, PAHs Soil Vapour: BTEX, VPH, VOCs, naphthalene Sediment: none	Soil: glycols, PCBs Groundwater: glycols, PCBs Soil Vapour: none Sediment: none



APEC # / Description	Primary PCOCs	Secondary PCOCs
APEC 10 Railway Spur Lines #1	Soil: none Groundwater: none Vapour: none Sediment: BTEX, VPH, LEPH, HEPH, metals, VOCs, PAHs	Soil: none Groundwater: none Soil Vapour: none Sediment: PCBs
APEC 11 Railway Spur Lines #2	Soil: BTEX, VPH, LEPH, HEPH, metals, VOCs, PAHs, phenols, herbicides Groundwater: BTEX, VPH, LEPH, HEPH, metals, VOCs, PAHs, phenols, herbicides Vapour: BTEX, VPH, VOCs, naphthalene Sediment: BTEX, VPH, LEPH, HEPH, metals, VOCs, PAHs, phenols	Soil: glycols, PCBs, dioxins, furans Groundwater: glycols, PCBs Soil Vapour: none Sediment: glycols, PCBs, dioxins, furans
APEC 12 Possible Historical AST, Possible Auto Service	Soil: none Groundwater: none Vapour: none Sediment: BTEX, VPH, MTBE, LEPH, HEPH, metals, VOCs, PAHs, pH	Soil: none Groundwater: none Soil Vapour: none Sediment: glycols, PCBs
APEC 13 Pile of Soil and Creosote Rail Ties	Soil: LEPH, HEPH, metals, PAHs Groundwater: LEPH, HEPH, metals, PAHs Vapour: naphthalene Sediment: none	Soil: none Groundwater: none Soil Vapour: none Sediment: none
APEC 14 Possible Historical AST	Soil: none Groundwater: none Vapour: none Sediment: BTEX, VPH, MTBE, LEPH, HEPH, metals, VOCs, PAHs, pH	Soil: none Groundwater: none Soil Vapour: none Sediment: glycols, PCBs
APEC 15	Soil: LEPH, HEPH, metals, VOCs, PAHs	Soil: PCBs Groundwater: PCBs

CITY OF NEW WESTMINSTER
 STAGE 1 PRELIMINARY SITE INVESTIGATION
 224 FRONT STREET, NEW WESTMINSTER, BC

APEC # / Description	Primary PCOCs	Secondary PCOCs
Scrap Iron Pile	Groundwater: LEPH, HEPH, metals, VOCs, PAHs Vapour: VOCs, naphthalene Sediment: LEPH, HEPH, metals, VOCs, PAHs	Soil Vapour: none Sediment: PCBs
APEC 16 Fill From Unknown Origins (Entire Land Portion)	Soil: LEPH, HEPH, metals, PAHs Groundwater: LEPH, HEPH, metals, PAHs Vapour: naphthalene Sediment: none	Soil: none Groundwater: none Soil Vapour: none Sediment: none
APEC 17 Sediment Area (Water Lot)	Soil: none Groundwater: none Vapour: none Sediment: LEPH, HEPH, metals, VOCs, PAHs, PCBs (near outfalls)	Soil: none Groundwater: none Soil Vapour: none Sediment: none
APEC 18 Off-Site Activities of Concern to North	Soil: BTEX, VPH, LEPH, HEPH, VOCs, PAHs Groundwater: BTEX, VPH, MTBE, LEPH, HEPH, metals, VOCs, PAHs, pH, phenols, herbicides Soil Vapour: BTEX, VPH, VOCs, naphthalene Sediment: LEPH, HEPH, metals, PAHs	Soil: glycols, PCBs, dioxins, furans Groundwater: glycols, PCBs, dioxins, furans Soil Vapour: none Sediment: glycols, PCBs, dioxins, furans
APEC 19 Off-Site Photo Shops (to north of Site)	Soil: none Groundwater: metals, diethylene glycol Vapour: none Sediment: none	Soil: none Groundwater: trichloroethanoic acid Soil Vapour: none Sediment: none
APEC 20 Off-Site Activities of Concern to Northwest and West	Soil: BTEX, VPH, LEPH, HEPH, metals, PAHs Groundwater: BTEX, VPH, MTBE, LEPH, HEPH, metals, VOCs, PAHs, pH, phenols, chlorophenols,	Soil: glycols, PCBs, dioxins, furans Groundwater: glycols, PCBs, dioxins, furans Soil Vapour: none



APEC # / Description	Primary PCOCs	Secondary PCOCs
	herbicides, cyanide, nitrate, chloride, sulphur Vapour: VOCs, BTEX, VPH, naphthalene Sediment: none	Sediment: none
APEC 21	Soil: none Groundwater: none	Soil: none Groundwater: none
Off-Site Activities of Concern to Northeast and East	Vapour: none Sediment: BTEX, VPH, MTBE, LEPH, HEPH, metals, VOCs, PAHs, pH	Soil Vapour: none Sediment: glycols, tributyltin (TBT)

Based on the results of this Stage 1 PSI and the future potential development of the Site for use as a public park, WorleyParsons recommends that further site assessment involving intrusive investigations be completed to assess the presence of soil, groundwater, vapour, and/or sediment contamination on the Site. This will improve the understanding of environmental Site conditions from which the associated risk(s) at the Site can then be evaluated.

This executive summary is intended only as a synopsis of the investigation undertaken. The entire report should be read in order to fully understand the environmental condition of the Site.