



**WorleyParsons**

resources & energy

EcoNomics™

CITY OF NEW WESTMINSTER

# Confirmation of Remediation

## 224 Front Street, New Westminster, BC

09216

23 December 2011

**WorleyParsons Canada**

600 - 4321 Still Creek Drive  
Burnaby, BC V5C 6S7 CANADA

Phone: +1 604 298 1616

Facsimile: +1 604 298 1625

[www.worleyparsons.com](http://www.worleyparsons.com)

© Copyright 2011 WorleyParsons

## **EXECUTIVE SUMMARY**

### **Introduction**

WorleyParsons Canada Services Ltd. (WorleyParsons) was retained by the City of New Westminster (the CoNW) to complete remediation activities for the property located at 224 Front Street (previously known as 610 Front Street) in the City of New Westminster, British Columbia (BC) (the Site) (Figure 1). 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 was purchased by the CoNW in 2009 and the intention is to improve the Site with the development of an urban park.

The CoNW requested that remediation of Site be completed for Areas of Environmental Concern (AECs) based on the findings from the Stage 2 Preliminary Site Investigation (PSI) and Detailed Site Investigation (DSI) (WorleyParsons 2011a and 2011b). Remediation and source control was required and completed on selected AECs as part of Site redevelopment efforts.

This Confirmation of Remediation (COR) report confirms the successful remediation and source control of contaminants in soil, groundwater, soil-vapour, and/or sediments. The COR addressed the entire Site, although only a portion is being developed (into a park) during this first phase of construction. Remaining concentrations of contaminants in media are assessed in the Risk Assessment (RA) and Risk Management (RM) reports (WorleyParsons 2011c and 2011d).

### **Site History**

Historically the Site was used for marine activities such as shipping operations, freight storage, rail use, and for other related industrial activities. Historical infrastructure between the 1880's and the early 1990's included warehouses, wharves, rail lines, coal storage, machine shops, freight sheds, underground storage tanks (USTs), above ground storage tanks (ASTs), a manufacturing plant and a helipad.

Properties surrounding the Site were mainly commercial and/or industrial. Neighbouring activities and infrastructure included rail lines, printing, wool milling, a junk yard, automotive shops, dry cleaners, radiator shops, auto wrecking, fertilizer manufacturing, sheet metal works, marine service stations, tire companies, a feed plant, used car dealers, a battery vendor and service, demolition contracting, and a medical laboratory.

### **Remedial Activities**

WorleyParsons' remediation works included excavation of contaminated soil and sediments, in situ containment of contaminated groundwater, soil vapour pathway control, and offsite removal of contaminated soils and sediments. Remediation was completed from May 2010 to June 2011.

Specific remediation field activities included:

- Excavation of approximately 6,500 tonnes of contaminated soils (primarily metals and PAHs) from AEC 1A, AEC 2 and AEC 16 (A, D, E, G).



- Excavation of approximately 3,000 tonnes of contaminated sediments (primarily metals, PAH, hydrocarbons and polychlorinated biphenyls) in AEC 1B, AEC 4 and AEC 17A.
- Excavation of 100 tonnes of hazardous waste (lead, PAH and polychlorinated biphenyl contaminated soils).
- Collection and analysis of confirmatory samples from excavation limits.
- Transportation and disposal of contaminated soils at permitted facilities.
- Installation of an engineered cap for sediments (sand and filter rock) in AEC 17.
- Installation of a jet grout containment wall for source control of groundwater solvent plume in AEC 22A.
- Removal of creosote soil contamination resulting from park development activities.
- Removal of other debris materials (railway ties, catch basins, etc.) and four underground / aboveground storage tanks from AEC 2, AEC 4, AEC 7, AEC 11 and AEC 13
- Re-use of approximately 1250 m<sup>3</sup> of jet grout spoils on Site as backfill,
- Disposal of approximately 1100 m<sup>3</sup> of un-useable spoils at a permitted facility.
- Installation of a soil vapour ventilation system under the foundation of the washroom / concession building.

## Conclusion/Recommendations

Remediation activities were successfully completed at the Site in support of addressing noted contamination areas of concern and related management of debris/waste removal in support of park development. The remaining AECs were reviewed and addressed using risk assessment and risk management such that the Site is considered acceptable for park land use. Details on risk assessment and risk management (WorleyParsons 2011c and 2011d) are provided for MoE review as separate documents.