

# **City of Nanaimo**

## **REPORT TO COUNCIL**

DATE OF MEETING: 2015-FEB-16

AUTHORED BY: BILL CORSAN, MANAGER OF REAL ESTATE

RE: 1 PORT DRIVE: DETAILED SITE INVESTIGATION – RESULTS SUMMARY

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### **STAFF RECOMMENDATION:**

That Council receives this report for information.

### **PURPOSE:**

The purpose of this Staff report is to provide Council with a summary of the results associated with the recently completed Detailed Site Investigation (DSI) on the City-owned property at 1 Port Drive and to outline next steps in the process.

### **SUMMARY:**

In the summer of 2014, Tetra Tech EBA (EBA) was engaged by the City of Nanaimo to complete two environmental studies for the City-owned waterfront lands at 1 Port Drive.

EBA completed a Stage 1 Preliminary Site Investigation and a Detailed Site Investigation to identify the location and type of contamination present on the property.

The results of the work have shown that the majority of the site meets the Ministry of Environment's Contaminated Sites Regulations for future industrial or commercial development. A residential development would be permitted on the property if it is built above the first storey of a commercial or industrial building.

Approximately 2.8 acres of the 19.9 acre upland has contamination that will require remedial options. The 6.8 acre waterlot requires further investigation to determine how best to move forward. The 2015 environmental work plan will address both of these items.

### **BACKGROUND:**

The City of Nanaimo acquired the lands at 1 Port Drive from CP Rail in March 2013. The lands comprise 10.8 ha of land and water (26.7 acres).

The site is located immediately south of the downtown core of Nanaimo. The parcel is bounded by Front Street and Esplanade Street to the west, and the Port Drive trestle to the south. The Nanaimo Harbour is the eastern boundary of the property. The Gabriola Island ferry terminal forms the northern boundary. The site is essentially flat and is a few meters above the elevation of the high tide mark.

The lands were originally created by the distribution of sand, silt, gravel and the coal waste from the Vancouver Coal Mining Company's operations south of the property. The mine ceased operations in 1953 and the lands were sold to CP Rail who developed the property into the

Wellcox Yard. The rail yard included a number of rail-related transportation and distribution operations.

The majority of the lands are currently in active industrial use. Seaspan Ferries Corporation occupies 15.5 acres of land and water via a statutory right of way agreement. Island Corridor Foundation and Southern Rail occupy 2.53 acres of land for a rail right of way and an operations building. The City recently terminated the lease of a 1 acre parcel of land on Front Street to Island Pallet Solutions Ltd. and undertook demolition and site grading work. The City has a tentative lease with Island Ferry Services Ltd. for a foot passenger ferry terminal within a 2.35 acre lease area.

The City has a Memorandum of Understanding to provide up to 3 acres of land to the Regional District of Nanaimo for a transportation hub.

The City acquired the lands with the goal of revitalizing this area of the downtown.

The vision set out by the South Downtown Waterfront Initiative (SDWI) Committee is for these lands to be seen as an integral piece of the urban fabric of Nanaimo. The Committee believe that future activity should present a sense of place, with a well-articulated and well-integrated land use pattern that encourages and promotes complementary uses.

A key step in advancing the revitalization of the site is the need to better understand the environmental conditions of the property. This information is needed to inform future detailed site planning and to assist in the approvals process with the Ministry of Environment (MoE) to permit redevelopment/subdivision of the parent parcel.

To move forward with the redevelopment of these lands, the City issued a Request for Qualifications (RFQ) in June 2014. The RFQ sought the services of an environmental consultant to prepare an updated Stage 1 Report and to conduct a DSI at 1 Port Drive.

Eleven submissions were received as part of the process. The work was awarded to Tetra Tech EBA (EBA) at a cost of \$230,000.00. This study was partially funded by the Federation of Canadian Municipalities (FCM) who provided a matching grant of \$115,000.00 with the City responsible for \$115,000.00.

### **Stage 1 PSI Report: Results**

The Stage 1 Preliminary Site Investigation (PSI) Report examined the potential for the presence of contaminants, hazardous materials, or waste materials of a deleterious nature on the property.

By reviewing historical site records, aerial photos, archival information and the previous reports that had been undertaken on the site EBA identified twelve areas that would have the potential for contamination. Work completed by SNC-Lavalin in 2009 on the entire Wellcox Railyard provided a good base and source of data to identify potential contamination hotspots.

Attachment A illustrates the areas of the site that were identified as Areas of Environmental Concern (AECs) where there are known contaminants based on previous studies, and 6 Areas of Potential Environmental Concern (APECs) that had not been investigated in the past and warranted investigation.

A copy of the Stage 1 PSI Report is available on the City website.

### **Detailed Site Investigation: Results**

The DSI was undertaken to more accurately determine the concentrations and locations of potential contamination in each of the AECs and APECs. The work involved testing the soil, groundwater, vapour and sediment in those specific areas. The test results were then compared against the standards set out by MoE in the Contaminated Sites Regulations (CSR). A copy of the DSI is available on the City website.

An initial drilling program was undertaken with 36 new boreholes and 1 test pit dug. Soil samples were collected from each of these boreholes and 19 of the boreholes were converted to groundwater wells and 6 were converted to wells for vapour probes. The analysis was complemented by the borehole and soil sample analysis undertaken in 2009 by SNC-Lavalin which added to the density of the investigation locations.

Hydrological information and drinking well information was collected to support an exemption from having to meet the CSR Drinking Water standards. MoE granted the City a Drinking Water Exemption which enabled the site to be evaluated against less stringent criteria.

The consultants also investigated the sediment from the property's waterlot. Eighteen sediment samples were taken with an additional four samples from a perceived 'hot spot' of contamination.

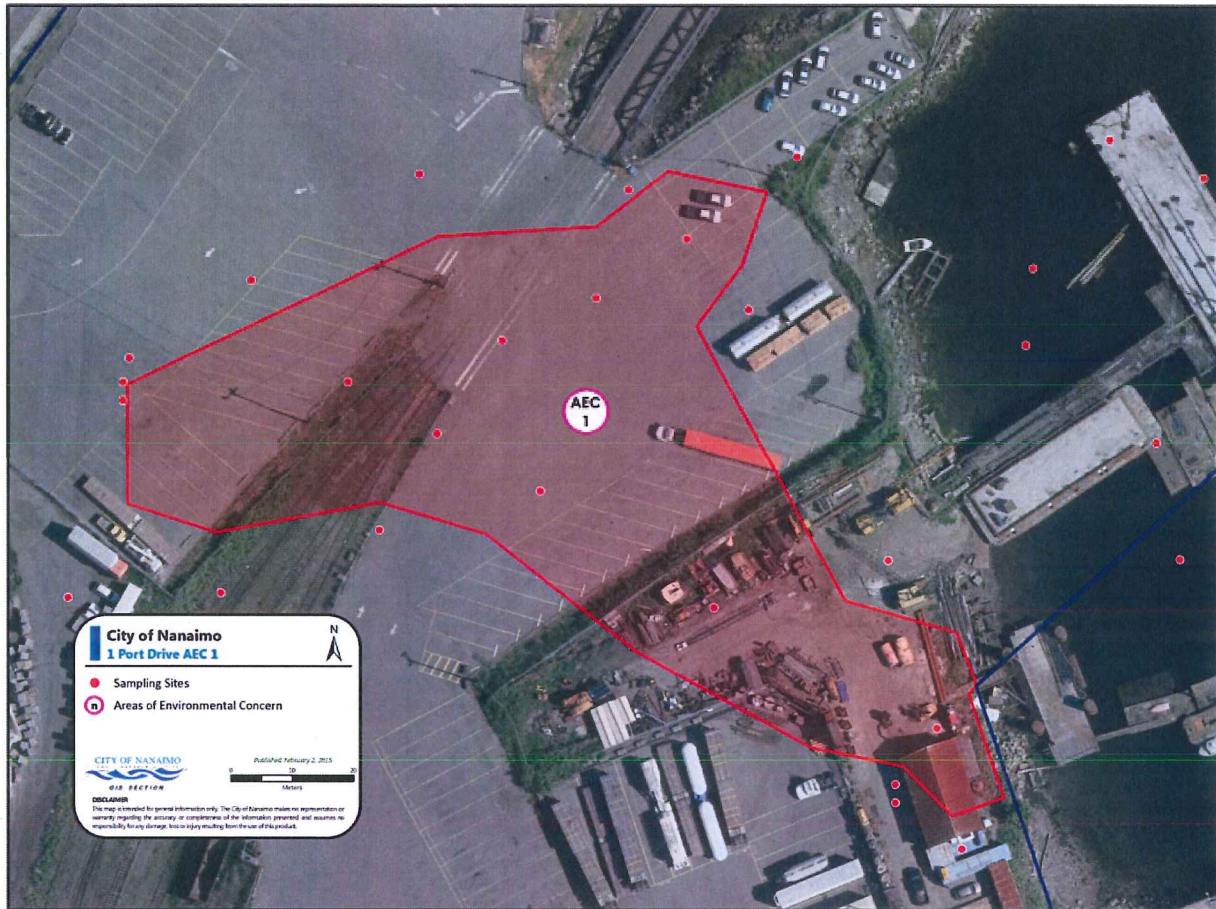
The results were filtered through a preliminary Screening Level Risk Assessment (SLRA), a tool used to evaluate whether contamination at a specific site poses acceptable or unacceptable risks to human health and the environment.

The data collected was evaluated against the CSR Industrial (IL) and Commercial (CL) standards. Given the nature of the sites fill characteristics, the data was not reviewed to a Residential (R) standard.

Upon completion of the DSI, contamination on the site has been defined as being concentrated in five discreet locations on the upland and the entire waterlot. The remainder of the site meets the standards set out by the CSR.

The results of the DSI have been summarized and illustrated on the following pages. Please note the AEC identification numbers in this Staff report are different from the consultants work. This was done to illustrate the contamination through an area approach rather than by showing it by type of contamination.

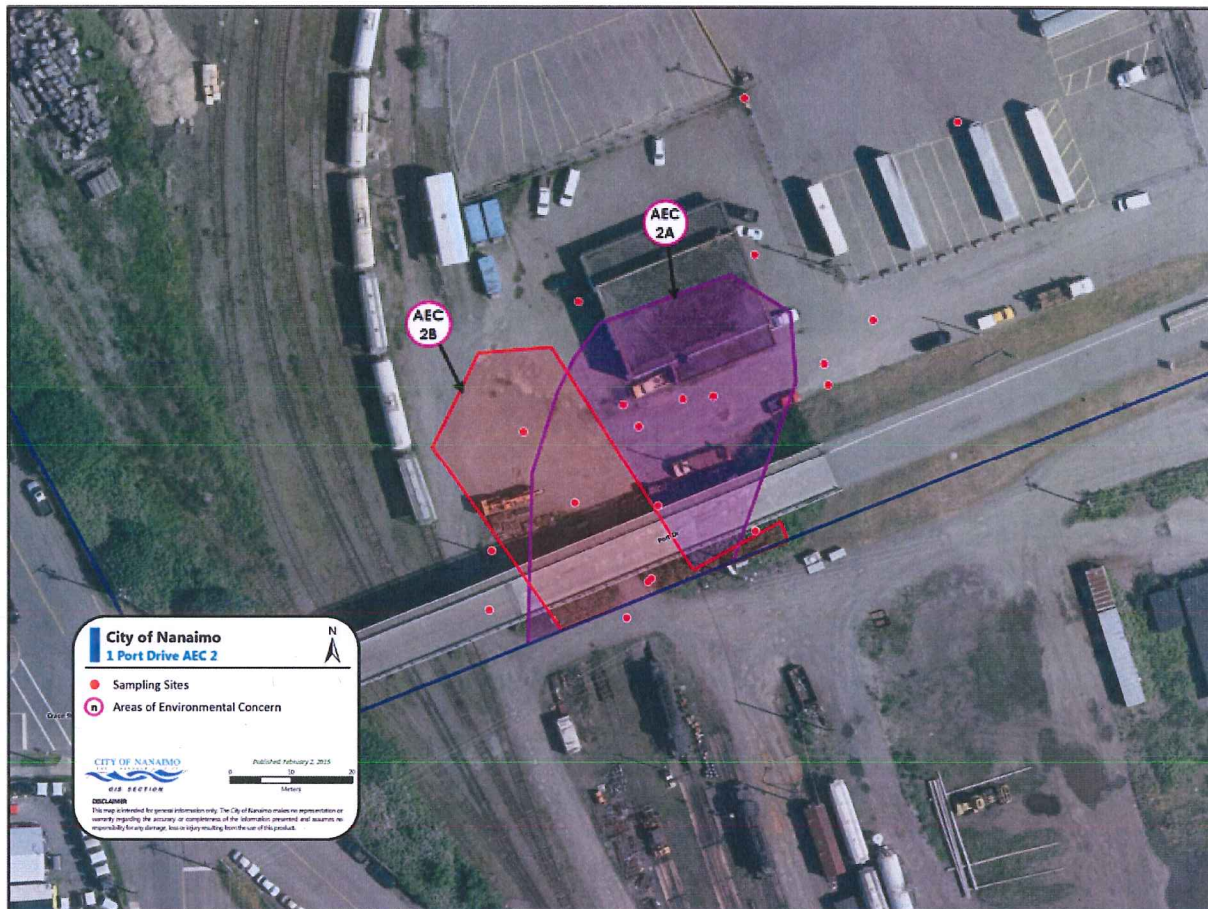
## AEC1



Location	South East of Seaspun Dock
Soils	Chromium in exceedance of the CSR CL/IL Standards and Protocol 4 Background
Groundwater	Meets MoE Standards
Vapour	Meets MoE Standards
Extent	Area 1: 6,500m <sup>2</sup> Volume: 13,000m <sup>3</sup>
Comments	Soil impacts related to coal waste in fill soils.
Development Considerations	Using a SLRA approach, these soils can remain in-situ with no need for remediation.



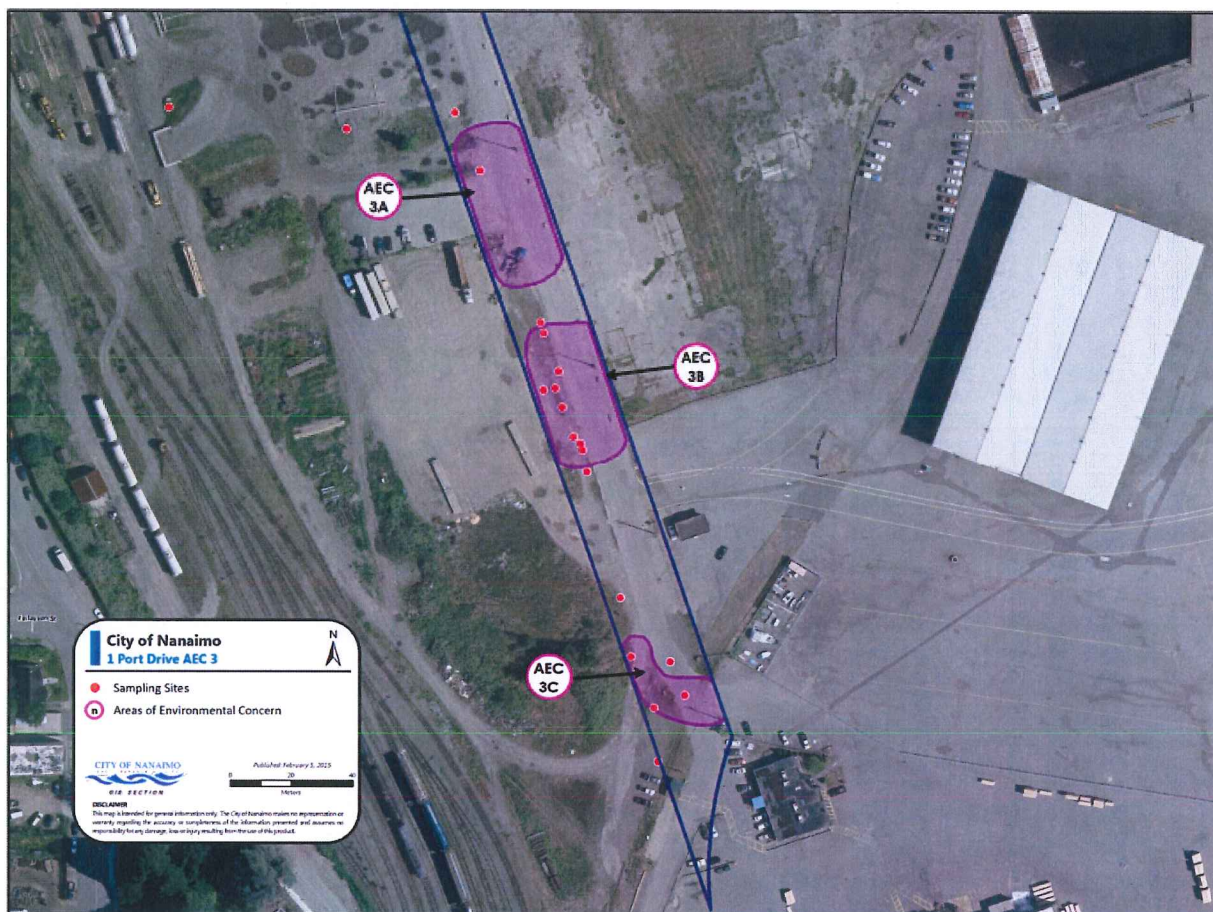
## AEC2



Location	South of Southern Rail Building
Soils	2a: Light Extractable Petroleum Hydrocarbons and Heavy Extractable Petroleum Hydrocarbons in exceedance of the CSR CL/IL Standards 2b: Chromium in exceedance of the CSR CL/IL Standards
Groundwater	Meets MoE Standards
Vapour	Meets MoE Standards
Extent	Area 2a: 1,800m <sup>2</sup> Volume: 5,400m <sup>3</sup> Area 2b: 1,200m <sup>2</sup> Volume: 2,400m <sup>3</sup>
Comments	Hydrocarbons in the soils are not migrating. Chromium impacts related to coal waste in fill soils.
Development Considerations	Using a SLRA approach, these soils can remain in-situ with no need for remediation.

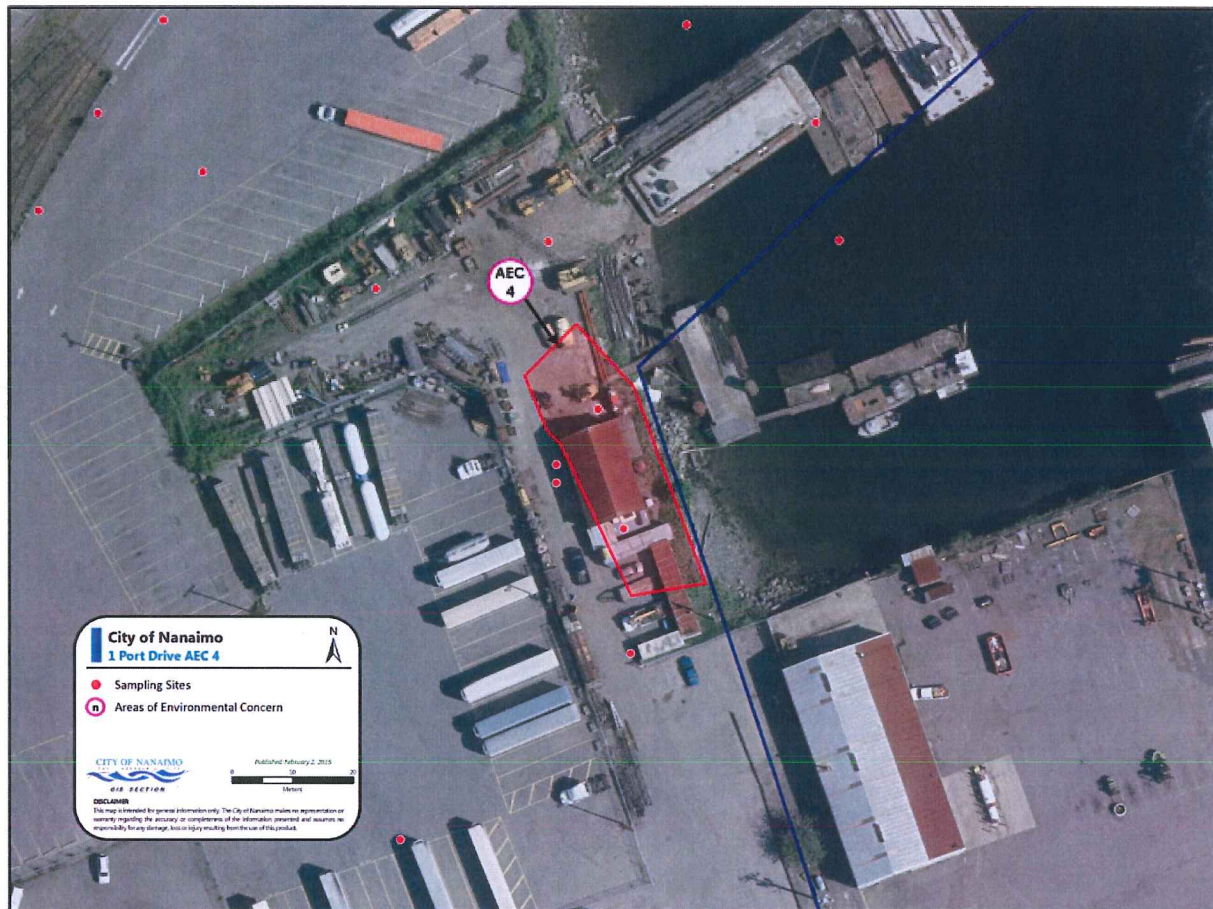


### AEC 3



Location	Panhandle of the lot, future roadway
Soils	3a: Chlorinated phenols exceed the CSR CL/IL Standard 3b: Chlorinated phenols and volatile petroleum hydrocarbon exceed the CSR CL/IL Standard 3c: Chlorinated phenols and arsenic exceed the CSR CL/IL Standard
Groundwater	Meets the MoE Standards
Vapour	Meets the MoE Standards
Extent	Area 3a: 1,800m <sup>2</sup> Area 3b: 1,000m <sup>2</sup> Area 3c: 1,000m <sup>2</sup> Volume: 9,100m <sup>3</sup>
Comments	3a, 3b, 3c: Contamination relates to former offsite sawmills. Requires hydrological assessment to obtain 'flow through site' status from MoE. Liability would be passed back to original polluter.
Development Considerations	Liability with original polluter who is known to MoE. All potential impacts to marine receptors cannot be fully assessed using SLRA since part of larger plume. SLRA requires paving or 1 m capping of soil. Future trenching work would require a 'trench worker assessment' prior to commencement of work.

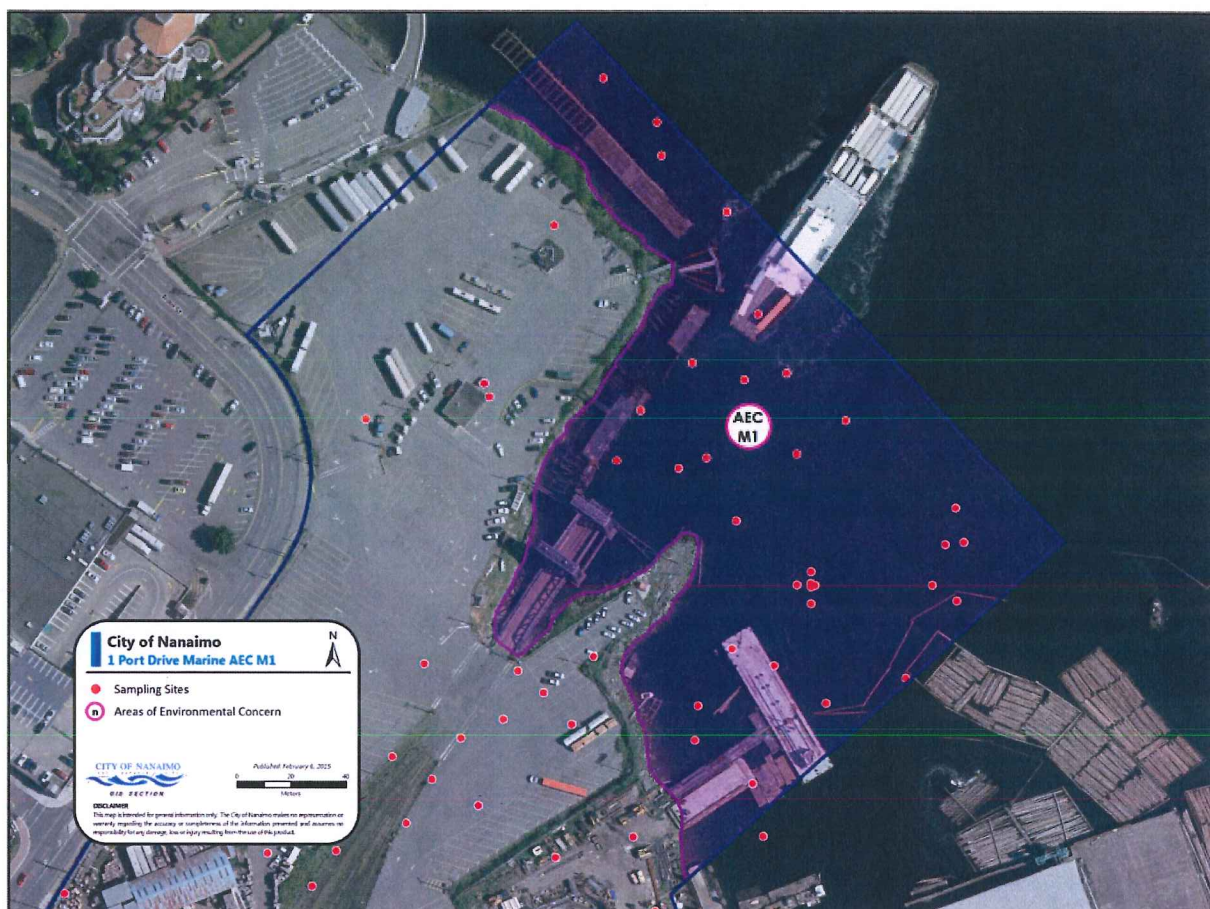
## AEC4



Location	Former machine shop building
Soils	Cadmium and zinc in exceedance of the CSR CL/IL Standards
Groundwater	Meets MoE Standards
Vapour	Meets MoE Standards
Extent	Area: 600m <sup>2</sup> Volume: 1,320m <sup>3</sup>
Comments	Presence of metals related to historical machine shop activities.
Development Considerations	Using a SLRA approach, these soils can remain in-situ with no need for remediation but would require either 1 m of clean fill or all areas to be paved to meet SLRA.



## Marine AEC M1



Location	Waterlot immediately east of upland
Soils	Polycyclic Aromatic Hydrocarbons in exceedance of the CSR Sediment Standards
Groundwater	NA
Vapour	NA
Extent	Area: 980m <sup>2</sup> Volume: 1,470m <sup>3</sup>
Comments	Detailed Ecological Risk Assessment required to assess sediment impacts and evaluate remediation options.
Development Considerations	Future redevelopment and/or subdivision of the property requires the DRA to be completed and possibly an approval in principle of a remediation plan from BC MoE.

### What Does This Mean for the Remainder of the Property?

The final AEC's occupy 2.83 acres of land and the entire 6.8 acre waterlot (Attachment B). The remaining 17 acres of land are deemed to have met the commercial and industrial standards set by MoE (CL/IL Standard) and will support a mix of industrial and commercial uses as well as residential if it is built above the ground level.

The impacted soils identified within the AECs can remain in-situ during future development if managed according to the SLRA.



### **Next Steps**

The DSI identified four key steps to be completed in 2015. These include:

- **Seasonal Sampling – Groundwater.** The existing groundwater wells need to be sampled in the spring of 2015 to compliment the work that was completed in 2014. By obtaining this data, the City will have the information necessary to obtain a legal instrument from MoE to enable future subdivision.
- **Seasonal Sampling – Soil Vapour.** Similar to groundwater, the consultants are recommending that seasonal sampling of the vapour wells be completed in the spring of 2015.
- **Obtain “Flow Through” Status for AEC3 from MoE.** By monitoring the movement of the contaminants from the former CIPA mill, the consultants will attempt to prove the contamination is flowing from neighbouring lands. Liability for those contaminants would be placed on the neighbouring property owners.
- **Marine Area AEC.** The consultants recommend the City conduct a detailed human health and ecological risk assessment (DRA) of sediment contamination identified at Marine AEC1. The objective of the DRA is to determine the human health and ecological risks, if any, posed by the existing sediment contamination within the water lot portion of the property and to support future remediation planning. This work is necessary as MoE requires landowners to address high risk areas before a release from the CSR will be approved.

A budget of \$210,000.00 has been identified for 2015, which includes the above work plan. The funding was approved in the early approval process by Council at the 2015-JAN-21 meeting and includes \$150,000.00 from general revenue and \$60,000.00 from the Federation of Canadian Municipalities Green Municipal Fund. The work is expected to be complete in the fall of 2015.

In 2016, final remediation work will take place and approvals using a SLRA approach will be sought from the MoE. A budget for this work will be brought to Council for consideration in the 2016-2020 budget discussions.

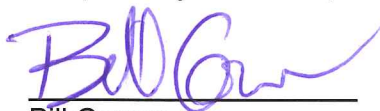
A copy of the Stage 1 and DSI report can be found on the City of Nanaimo website:  
<http://www.nanaimo.ca/EN/main/departments/RealEstate.html>

**Strategic Plan Considerations**

The environmental work at 1 Port Drive meets a number of the key priorities identified in the 2012-2015 Strategic Plan, including;

Strategy	
Waterfront Enhancement	<b>Outcomes Desired</b> <ul style="list-style-type: none"><li>• Enhanced public access and use.</li><li>• A continuous, uninterrupted and accessible waterfront trail/ connection from Departure Bay Beach to Nanaimo River Estuary.</li><li>• A working waterfront that supports business, marine industries, transportation, connectivity, entertainment and tourism.</li></ul>
Transportation and Mobility	<b>Potential Strategies and/or Initiatives</b> <ul style="list-style-type: none"><li>• Work with RDN, NEDC, Chamber of Commerce, Nanaimo Port Authority, BC Ferries, BC Transit, Airport Authority, Island Corridor Foundation, advocates for and supports improvement of external connections: inter-city bus, ferries, fast foot ferry to downtown Vancouver, float planes, enhanced air connections.</li><li>• Work with RDN on downtown transit exchange options that support overall outcomes, enhance waterfront connections, link to inter-city public transit options and support downtown development.</li></ul>
Taking Responsibility	<b>Potential Strategies and/or Initiatives</b> <ul style="list-style-type: none"><li>• Continuing to facilitate change and overall development consistent with vision and plans; taking action steps to be a catalyst or investment in the city's future.</li></ul>

Respectfully submitted,

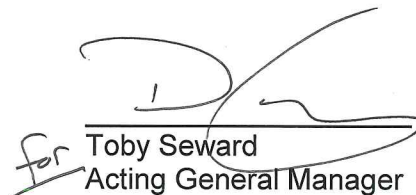


Bill Corsan  
Manager, Real Estate  
Community Development

Concurrence by:



Dale Lindsay  
Director  
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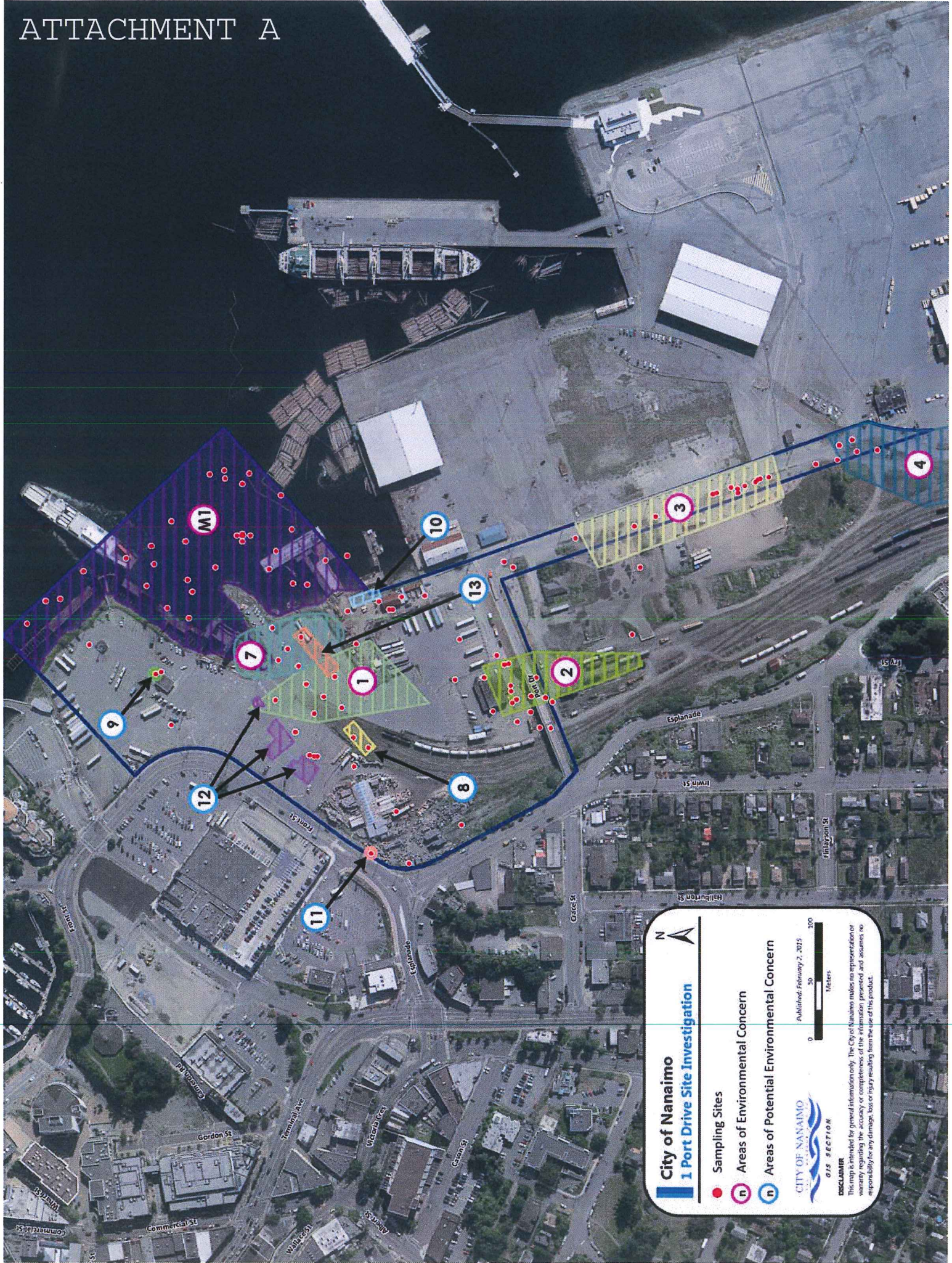
Toby Seward  
Acting General Manager  
Community Development & Protective Services

CITY MANAGER COMMENT:

I concur with the Staff recommendation.

Drafted: 2015-JAN-29  
CIL00363  
BC/cb





**City of Nanaimo**  
**1 Port Drive Site Investigation**

- Sampling Sites
- n Areas of Environmental Concern
- n Areas of Potential Environmental Concern

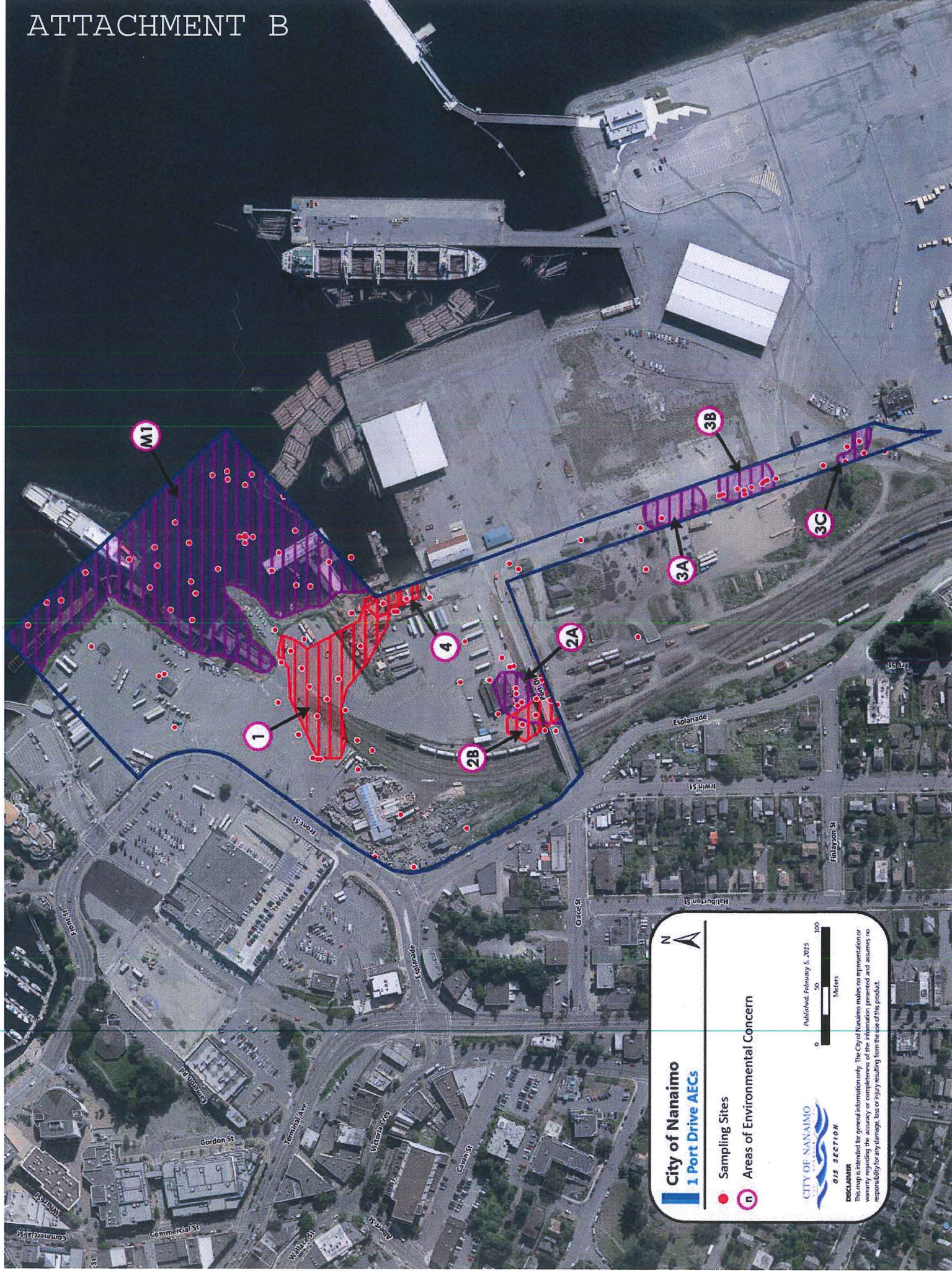
**CITY OF NANAIMO**  
 GIS SECTION

Published February 2, 2015

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**City of Nanaimo**  
**1 Port Drive AECs**

● Sampling Sites

○ Areas of Environmental Concern



Published February 5, 2015  
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