

STAGE 1 PRELIMINARY SITE INVESTIGATION 1 PORT DRIVE, NANAIMO, BRITISH COLUMBIA



PRESENTED TO
City of Nanaimo

OCTOBER 2014
ISSUED FOR REVIEW
FILE: ENVIND03511-01.001

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EXECUTIVE SUMMARY

Tetra Tech EBA Inc. (Tetra Tech EBA) was retained by the City of Nanaimo (CON) to conduct a Stage 1 Preliminary Site Investigation (Stage 1 PSI) for a site located at 1 Port Drive, in Nanaimo, BC (herein referred to as “the Property”). Tetra Tech EBA understands this Stage 1 PSI is required to assist with future development of the Property. The purpose of this Stage 1 PSI is to investigate the potential presence of contaminants, hazardous materials, or waste materials of a deleterious nature on the Property. Based on the information reviewed by Tetra Tech EBA during this Stage 1 PSI, much of the Property was occupied by the Nanaimo Harbour, and was gradually infilled with coal waste, dredged sand, and other fills in the late 1800's and early 1900's. The majority of the filling at the site predates the earliest aerial photographs obtained from 1947. In the 1950s, the Property was developed into the Wellcox yard for rail and truck shipping. The present uses of the Property are: transportation of freight by Seaspan and SVI; pallet storage and construction by Island Pallet Solutions and former pile driving and marine construction company.

During the preparation of this Stage 1 PSI, Tetra Tech EBA considered the information reviewed to assess the present conditions and historical activities at the Property and at adjacent sites in the context of evaluating potential environmental concerns.

Based on the information reviewed by Tetra Tech EBA during this Stage 1 PSI, much of the Property was occupied by the Nanaimo Harbour, and was gradually infilled with coal waste, dredged sand, and other fills in the late 1800s and early 1900s. The majority of the filling at the site predates the earliest aerial photographs obtained from 1947. The approximate location of the original shoreline, based on 1891 mapping, is shown on Figure 6. This filling likely consisted of end dumping of coal waste or hydraulic placement of dredged sand. In the 1950s, the Property was developed into the Wellcox yard for rail and truck shipping. The present uses of the Property are: transportation of freight by Seaspan and SVI, pallet storage and construction by Island Pallet Solutions, and former pile driving and marine construction company.

During the preparation of this Stage 1 PSI, Tetra Tech EBA considered the information reviewed to assess the present conditions and historical site activities at the Property and at adjacent sites in the context of evaluating potential environmental concerns. Based on the findings described in this Stage 1 PSI, certain potential environmental concerns were identified. The following table lists the known areas of environmental concern (AECs) based on existing analytical data from the existing reports and some additional areas of potential environmental concern (APECs) identified during this Stage 1 PSI and the associated known contaminants of concern (COCs) and potential contaminants of concern (PCOCs):

Stage 1 PSI Findings

AECs	Issue and Location	COCs >CSR Standards
AEC 1	Imported Fill / Middle of Property within Seaspan lease area.	Fill soils with metals concentrations above CSR CL and IL standards.
AEC 2	Former Locomotive Fuelling Facilities and Barrel Storage and Swale Beneath Crace Street Viaduct/Portion on Property of SVI lease area.	Soils with LEPH/HEPH concentrations above CSR CL and IL standards. Groundwater with LEPHw concentrations and PAHs above CSR AW standards.
AEC 3	Former sawmill / Portion on 25 m wide road dedication within former CIPA lease area	Soils with chlorinated phenols concentrations above CSR CL and IL standard. Groundwater with chlorinated phenols concentrations above CSR AW standards.

AECs	Issue and Location	COCs >CSR Standards
AEC 4	Former sawmill / Portion on southern end of 25 m wide road dedication on north end of Western Forest Products lease area.	Soils with chlorinated phenols and metals concentrations above CSR CL and IL standards.
AEC 7	Imported Fill / Portion on middle of Property within Seaspan lease area near existing dock	Fill soils with metals above CSR IL and CL standards.
Marine AEC 1	Water lot on Property / Seaspan Lease Area.	Sediments with PAHs above CSR typical (TCS) and sensitive sediment criteria (SSC).
APECs	Location	Suspect PCOCs and Environmental Media
APEC 8	Former Locomotive Engine House located on Property.	Soil and groundwater: LEPH, HEPH, PAHs and metals
APEC 9	Heating Oil UST adjacent to Seaspan office on the Property.	Soil, groundwater and vapour: with VPH, LEPH, HEPH, PAHs, and parameters listed in Schedule 11 of the CSR associated with this APEC.
APEC 10	Former Machine Shop at former Gadd Marine Site on the Property.	Soil, groundwater and vapour: LEPH, HEPH, PAHs, metals, and parameters listed in Schedule 11 of the CSR associated with this APEC.
APEC 11	Former heating oil UST at Island Pallet Solutions on the Property.	Vapour: heating oil related vapour parameters listed in Schedule 11 of the CSR.
APEC 12	Miscellaneous Industrial Activities	Soil, groundwater, vapour: BTEX, VPH, LEPH, HEPH, PAHs, metals and parameters listed in Schedule 11 of the CSR.
APEC 13	Former Sawmill	Chlorinated phenols and metals.

CSR – Contaminated Sites Regulation
 CL – Commercial Land Use
 IL – Industrial Land Use
 AW – Aquatic Life Water Use
 EPH - Extractable Petroleum Hydrocarbons;
 LEPH - Light Extractable Petroleum Hydrocarbons;
 HEPH - Heavy Extractable Petroleum Hydrocarbons;
 PAHs - Polycyclic Aromatic Hydrocarbons;
 BTEX – Benzene, Toluene, Ethylbenzene and Xylene; and
 VPH – Volatile Petroleum Hydrocarbons

Tetra Tech EBA recommends that a Detailed Site Investigation (DSI) be conducted for the Property in order to determine more accurately the concentrations and extent of impacts within each known AEC and also to investigate the quality of all environmental media at the newly identified APECs.

Hazardous Building Materials

Prior to the discovery of their potentially hazardous effects on human health and/or the environment, Special Attention Items were historically used in certain building materials. These Special Attention Items consist of, but may not be limited to include, polychlorinated biphenyls, asbestos-containing building materials, lead, urea formaldehyde foam insulation, ozone-depleting substances, mould, and/or elemental mercury.

Based on the age of the buildings on the Property (constructed prior to 1982), the potential exists for hazardous building materials to be located at the Property. Hazardous building materials may include:

- Polychlorinated biphenyls (PCBs) containing electrical equipment;
- Asbestos-containing materials (ACMs);
- Lead from lead-based paints and lead pipes;
- Chlorofluorocarbons (CFCs) previously found in coolants used in refrigerators;
- Urea foam formaldehyde insulation (UFFI); and
- Mercury sourced from old thermostats and high intensity fluorescent lamps.

In the event of renovation or demolition of any of the buildings located on the Property, the above-mentioned substances will have to be addressed according to applicable WorkSafeBC, Contaminated Sites Regulation (CSR), and Hazardous Waste Regulation (HWR) requirements.

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LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of the City of Nanaimo and their agents. Tetra Tech EBA Inc. (Tetra Tech EBA) does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than the City of Nanaimo or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Use of this report is subject to the terms and conditions stated in Tetra Tech EBA's Services Agreement. Tetra Tech EBA's General Conditions are provided in Appendix A of this report.

1.0 INTRODUCTION

Tetra Tech EBA Inc. (Tetra Tech EBA) was retained by the City of Nanaimo (CON) to conduct a Stage 1 Preliminary Site Investigation (Stage 1 PSI) for a site located at 1 Port Drive, in Nanaimo, BC (herein referred to as “the Property”). Tetra Tech EBA understands this Stage 1 PSI is required to assist with future development of the Property.

The purpose of this Stage 1 PSI is to investigate the potential presence of contaminants, hazardous materials, or waste materials of a deleterious nature on the Property. The present and past activities at the Property and at the surrounding sites were reviewed to establish the potential for adverse impacts on the environmental status of the Property. This review was limited to the activities presented in the following sections of this report. Much of this review involved the interpretation of acquired historical documents and discussions with individuals with purported knowledge of the subject Property. Such sources of information are not exhaustive or reliable to a level of certainty. Moreover, while Tetra Tech EBA is skilled at preparing the technical aspects of Stage 1 PSI's, we do not consider ourselves to be expert in assessing the reliability of witnesses or the accuracy, availability, completeness or reliability of historical documents and information.

In this report, Tetra Tech EBA refers to potential sources of contamination as ‘issues’. Any issues that have a moderate or high potential to result in soil or groundwater concentrations exceeding the applicable B.C. Ministry of Environment (MOE) Contaminated Sites Regulation (CSR) standards are termed areas of potential environmental concern (APECs). The areas on the Property that were found to contain contaminant concentrations above the current CSR standards are identified as areas of environmental concern (AECs). The regulated chemicals associated with contamination sources in each APECs or AECs are termed potential contaminants of concern (PCOCs) or contaminants of concern (COCs), respectively.

Tetra Tech EBA received authorization from Mr. Bill Corsan, Manager, Real Estate, for the CON, to proceed with the Stage 1 PSI on July 31, 2014 under Purchase Order 527694.

1.1 Scope of Work

Scope of work for the Stage 1 PSI included the following tasks:

- Reviewing historical site use and records, aerial photos, archival information, etc. to assess current and past activities relating to potential contamination at the Property and surrounding sites;
- Reviewing the results of available previous environmental reports completed for the Property and adjacent sites;
- Collecting information pertaining to environmental concerns about the Property from the CON and Ministry of Environment (MOE);
- Reviewing available published geological and hydrogeological information;
- Completing a site visit to visually observe the Property and the surrounding sites, including buildings and other developments, to identify any additional areas of potential environmental concern on the Property not found previously;
- Interviewing individuals who are purportedly familiar with the Property or surrounding sites to obtain background information on past and current operations and operating practices; and

- Providing a report that summarizes our opinion respecting the likelihood of contamination at the Property based on our review of the information detailed within this report.

The scope of work for the Stage 1 PSI specifically excluded the sampling of soil and groundwater for environmental purposes. The protocol followed to complete the Stage 1 PSI generally conformed to the requirements of the BC CSR, current best practice guidelines and CSR Technical Guidance #10.

2.0 PROPERTY DESCRIPTION

2.1 Location

The Property is located in Nanaimo, BC. The civic address for the Property is 1 Port Drive. The Property is zoned CS3 for mixed commercial service use (zone provides for transportation terminals, depots, corridors and other required infrastructure) and W2 for waterfront use (zone provides for active marine uses, such as ship yards, fishing fleet support, float homes, moorage and water-based transportation).

The cartographic co-ordinates for the approximate centre of the Property are:

- Latitude: 49° 09' 50.3" North
- Longitude: 123° 55' 50.7" West

A Property Location Plan is presented as Figure 1.

2.2 Current Legal Description

The legal description for the Property is as follows:

- Parcel Identification Number (PID): 029-036-500
- Lot A, Section 1, and Part of the Bed of the Public Harbour of Nanaimo, Nanaimo District Plan EPP27507

The current legal title for the Property and legal lot plan are attached as Appendix B. Tetra Tech EBA ordered the legal lot plan from the Land Title and Survey Authority.

2.3 Potable Water Supply

Potable drinking water is supplied to occupants of the CON from a reservoir that is located approximately 6 km south of the Property. The reservoir is managed by the CON and is supplied through a piped water distribution system.

2.4 Current Property Layout

Tetra Tech EBA's representative, Ms. Kristy Gabelhouse, completed an inspection of the Property on August 5, 6 and 27, 2014. The current site managers from Southern Railway of Vancouver Island (SVI), Mr. Al Kutja, and Seaspan Marine Corporation (Seaspan), Mr. Roger Todd, accompanied Ms. Gabelhouse on the site inspection and were interviewed for their knowledge of the historical usage of the Property. The former site manager for Gadd Marine Construction Ltd. Mr. Dave Gadd, was interviewed via phone on August 23, 2014 for information on historical usage on this portion of the Property. Selected photographs taken during the Property inspection are presented in Appendix C. Photographs 1 to 10 show the Property, while Photographs 11 and 12 show the surrounding sites. The Property layout as observed during the site inspection is shown on the attached Figure 2.

The site inspection involved a visual inspection of the surface of the Site, including an assessment for the presence of any soil staining, above or underground storage tanks, suspect materials or stressed vegetation. During the site visit, Tetra Tech EBA also conducted a cursory inspection of the sites adjacent to the Property to assess for the presence of any potential environmental concerns which could adversely impact the environmental status of the Property. The general layout of the Property, as observed during the site inspection, is shown on the attached Figure 2.

The Property is part of what was historically considered the Wellington-Comox (Wellcox) Yard. The Property was subdivided off from the larger CPR Wellcox Yard by the CON after their purchase in 2013 but still contains a portion of an active rail yard plus a number of associated freight transportation and distribution related commercial and industrial operations, including Seaspan. The Property also contains an area formerly occupied by Gadd Marine Constructors Ltd (Gadd Marine), the SVI administration building, and Island Pallet Solutions Ltd. (Island Pallet Solutions) operations. Figure 2 shows the locations of these operations. The site is relatively level, ranging from approximate elevations of 13 m to 0 m, as well as including a portion of the Nanaimo Harbour. Tetra Tech EBA did not observe any large areas of staining (greater than 1 m²) within the areas of the Property observed during the site inspection.

Seaspan Lease Area

The Seaspan site is used for freight distribution and transportation. The site is entirely paved with one building present. There are four oil/water separators, connected to the municipal storm sewer system, located on site (Figure 2). According to Mr. Roger Todd, the oil/water separators are checked regularly by BC Hazmat and, if catch basins are full at inspection time, they are subsequently pumped out and trucked to a licensed BC Hazmat location in Saanich, BC.

The Seaspan office building is one floor and is constructed of concrete cinder blocks. The floors throughout the building, where exposed, appear to be in good condition with minor surficial cracks. The Seaspan office building is heated by an electric furnace and serviced with City water and sewer.

Domestic waste is picked up by BFI Canada. Storage of creosote-treated lumber was observed on this site as well there was a locker observed with paint and other chemical supplies in domestic quantities.

A large docking area is located on the marine portion of this site that is associated with freight transportation via barges. Goods arrive and are distributed by trucks and rail. No fueling or truck maintenance is performed onsite and onsite vehicle used by personnel to move around the site is an electric golf cart. The dock was historically constructed with creosote treated wood pilings, but has now been almost entirely converted to contain steel pilings.

Mr. Roger Todd indicated that this portion of the Property has been occupied by Seaspan for marine distribution activities since the early 1970s to present for freight shipping activities and prior to being occupied by Seaspan the yard was part of the WellCox land and used by CPR for railway shipment.

Former Gadd Marine Lease Area

The former Gadd Marine site was most recently used from the early 1990s to the present for marine piling construction activities. The site is partly covered in asphalt with sections of bare earth exposed. This portion of the Property is mostly cleared with one abandoned building on the upland portion and metal debris observed on the foreshore.

The current onsite building was a former marine equipment repair shop and was constructed of a metal roof and siding. The building could not be accessed but was observed to be empty through cracks in the siding. Through the phone conversation with Mr. Gadd it was understood that the current building had been moved to its current location from the adjacent former CIPA lumber mill.

Metal debris observed on the foreshore during the site inspection was reported to have been in place before Gadd Marine operated at the site, according to Mr. Gadd. The metal debris observed is likely metal lathe chip debris generated from a former machine shop that had been present on the site, prior to use by GADD Marine. The former machine shop building was constructed on pilings and was removed prior to Gadd Marine occupying the site. Also observed on the foreshore were metal and concrete pilings that were likely part of the overall historical former machine shop operations. The location of the metal debris pile is shown on the attached Figure 2.

SVI Lease Area

The SVI site is currently used for rail shipping and is occupied by one administration building and railway tracks to the west. The outside portions of this site are mostly paved, with some sections of exposed bare ground. One oil/water separator for the SVI area is located outside of the Property boundary to collect the drainage. The oil/water separator is connected to the municipal storm sewer system and maintained and pumped out by Hetherington Industries Ltd. No fueling and/or railway car maintenance is reported to be performed on this lease site. Figure 2 shows the section of railway tracks on the west side of the site that connect the Seaspan yard to the SVI site. Latex products for pulp and paper production, fly ash, and propane are offloaded from barges from the Seaspan yard and then loaded onto railcars on the SVI site.

The SVI building is one floor constructed of concrete cinder blocks. The floors throughout the building, where exposed, appeared to be in good condition with minor surficial cracks. The building was reported to have formerly been a Canadian Pacific Railway (CPR) building for the Wellcox railyard and was moved to its current location in circa 1995. CPR had the building gutted and renovated in 1995. The SVI office building is heated with electric baseboard and serviced with City water and sewer.

Domestic waste was picked up by Progressive Waste Solutions. Storage of creosote-treated crossties and lumber was observed on this site as well there was a shop area observed with paint and other chemical supplies in domestic quantities.

Mr. Kutja of SVI indicated that this portion of the Property was occupied by SVI from the late 1990s to present for rail shipping activities and prior to being occupied by SVI the yard was part of the overall WellCox Yard and used for CPR railway shipment and trucking transportation and fuelling (CP Transportation).

Island Pallet Solutions Lease Area

The interior of the Island Pallet Solutions building was not visited during the site inspection at the request of the CON. This area was formerly 190 Front Street before combining to become part of 1 Port Drive. The hazardous building materials survey (Appendix D), provided by CON, stated that the site currently operates as a warehouse used for pallet storage, office and washroom. The warehouse uses mobile equipment and hazardous materials such as used motor oil, antifreeze, fuels, paints, etc., may be present.

The survey identified the building to be mainly an open warehouse reported to be 7,000 square feet in floor area and is approximately seventy years old. The east section of the building is a single level slab on grade structure with metal framework on concrete lower walls, metal panels on walls and the peaked roof. The interior is unfinished with bare concrete floor and unpainted walls. Lighting is provided by metal halide lamps and fiberglass roof panels. No heating is provided. The west section of the building is additional warehouses space over a

basement area. Walls in this area are painted cinder block and yellow brick. The basement area has bare concrete walls and floor. The northwest corner of the basement contains an office with sheet vinyl flooring and painted concrete walls and ceiling. The northwest corner of the building over the office area has a flat roof which is tar and gravel.

2.4.1 Above-Ground or Underground Storage Tanks

Tetra Tech EBA inspected the Property for indications of above ground storage tanks (ASTs) and/or underground storage tanks (USTs), which included suspect vent or filler pipes, fuel lines, stained areas, and field evidence of stressed vegetation. No visual evidence suggesting the presence of ASTs and/or USTs was noted at the Property during the inspection.

Verbal discussions, however, with personnel at the Seaspan site office indicated that a heating oil steel UST had previously been used to run the oil furnace for the site office and is still located in the subsurface on the north side of the Seaspan site building. This UST was reported to have been pumped out in the 1980s, but is reported to not have been removed. The approximate location of this feature, based on verbal discussion, is indicated on Figure 2.

There was also a heating oil UST reported to have been located at the former Front Runner Freight Ltd. lease area (the current Island Pallet Solutions lease area (190 Front Street)). The UST was previously removed.

2.4.2 Property Drainage

Surface drainage from the covered portions of the Property drains into the municipal storm sewer system through oil/water separators. The locations of the oil/water separators are shown on Figure 2. In the unpaved areas of the Property, water drains naturally into the underlying soils.

2.5 Hazardous Building Materials

In the past, Special Attention Items were commonly used in certain building materials prior to the discovery of the items' potentially hazardous effects on human health and/or the environment. The age of a structure can be used as an indication to the likelihood of Special Attention Items being present.

Four buildings are currently located on the Property at Seaspan lease area, SVI lease area, Island Pallet Solutions lease area, and on the former Gadd marine lease area. Based on an aerial photograph review detailed in Section 4.1.1, the buildings were all constructed prior to circa 1982. The building in the SVI area was renovated in 1995.

A hazardous building materials survey was completed by Pacific EHS in May 2014 to determine whether Special Attention Items were present in the building currently occupied by Island Pallet Solutions (see Appendix D). The presence of mercury containing thermostats, ODS, PCBs, radioactive sources, silica, rodent feces and mould was determined by visual inspection. No asbestos was reported to be present in the survey, but mercury in fluorescent light tubes and lead in paint was identified in this structure.

During the site visit, the potential for these Special Attention Items to be present was assessed. Based on the existing hazardous building material survey, visual observations and building history the potential for Special Attention Items to be present at the Property, are listed in the following table.

Table 1 – Special Attention Items

Special Attention Item	Potential Sources	Potential to be on Property	Documented Presence on Property
Polychlorinated Biphenyls (PCBs)	Commonly used in electrical equipment. Potential sources include, but are not limited to, capacitors in fluorescent light ballasts, transformers, and/or other electrical capacitors.	Yes (see following discussion)	Yes, Island Pallet Solutions
Asbestos-Containing Materials (ACMs)	Commonly present in materials used in the construction of structural, mechanical and architectural finishes. Potential sources include, but are not limited to, vinyl floor tiles and vinyl sheet flooring, ceiling tiles, plaster, drywall joint compounds, spray-applied and blown-in insulations, electric wiring insulation, pipe insulation, elevator equipment panels, and as insulation on mechanical systems.	Yes (see following discussion)	No
Lead	Potential sources include, but are not limited to, lead-based paint, lead pipes, welding beads, and lead metal sound absorbers.	Yes	No
Ozone-Depleting Substances (ODS)	Chlorofluorocarbons (CFCs), which were used in refrigerants in refrigerators and air-conditioners (FREON, CRC-113, or R-12), propellants in aerosol spray cans, blowing agents in the manufacture of foams, and cleaning agents for electronic equipment. Hydrochlorofluorocarbons (HCFSs), which were used as substitutes for CFC refrigerants and blowing agents. Carbon tetrachloride and methyl chloroform, which are used as cleaning solvents for metals. Halon, which are used in fire extinguishing systems. Methyl bromide, which are used as an agricultural pesticide and to fumigate agricultural commodities.	Yes	Yes, Island Pallet Solutions
Urea Foam Formaldehyde Insulation (UFFI)	Made of urea-formaldehyde resin, a foaming agent, and compressed air. Used to insulate hard-to-reach cavities in building walls.	Yes	No
Elemental Mercury	Potential sources include, but are not limited to, mercury-containing thermostats, paint and as vapour in fluorescent lamps.	Yes	Yes, Island Pallet Solutions

Polychlorinated Biphenyls

The past use of polychlorinated biphenyls (PCBs) in electrical equipment; such as transformers, fluorescent lamp ballasts, and capacitors, was common prior to 1980. The federal *Environmental Contaminants Act*, 1976, prohibited the use of PCBs in heat transfer and electrical equipment installed after September 1, 1977, and in transformers and capacitors installed after July 1, 1980. In addition, the storage and disposal of PCB waste materials is regulated.

Based on the findings and limitations of our assessment, and on the age of the Property buildings (prior to circa 1982), the potential exists for PCBs to be present on the Property.

Asbestos-Containing Materials

Asbestos-containing materials (ACMs) were commercially used in North America since the late 1800's. Canadian regulations restricting the use of ACMs were enacted between 1978 and 1980. ACM may become a health concern if the material deteriorates or is disturbed and the asbestos fibres become airborne and are subsequently inhaled.

Based on the findings and limitations of our assessment, and on the age of the Property buildings (prior to circa 1982), the potential exists for ACMs to be present on the Property.

NOTE: WorkSafeBC requirements presume suspect ACMs in the workplace to contain asbestos until demonstrated otherwise through appropriate analytical testing.

Lead

In 1976, the lead content in certain interior and exterior paint was limited to 0.5% by weight under the federal *Hazardous Products Act*.

In April 2005, the Governor General in Council, on the recommendation of the Minister of Health, and pursuant to Section 5 of the *Hazardous Products Act*, annexed the *Surface Coating Materials Regulation*. The annexed *Surface Coating Materials Regulation* identifies that previously considered "safe" lead levels pose a significant risk to the public, especially to children and pregnant women. As such, the previous acceptable level of lead in paint has been amended from 0.5% by weight to 600 mg/Kg.

Additionally, lead may also be present in plumbing solder and old pipes as well as other products such as wall shielding (x-ray rooms).

Based on the findings and limitations of our assessment, and on the age of Property buildings (prior to circa 1982), lead-based building materials may be present on the Property.

Ozone-Depleting Substances

Chlorofluorocarbons (CFCs) are a common category of ozone-depleting substances (ODS) that were often found in coolants used in refrigerators and air conditioners manufactured prior to the mid-1990s. Based on the findings and limitations of our assessment, and on the age of the Property buildings (prior to circa 1982), the potential exists for CFCs to be present on the Property.

Urea Foam Formaldehyde Insulation

Urea form formaldehyde insulation (UFFI) was developed in Europe in the 1950s, and has been installed in Canadian homes until it was banned in 1980. Based on the findings and limitations of our assessment, and on the age of the Property buildings (prior to circa 1982), the potential exists for UFFI to be present on the Property.

Based on the above, the potential exists for hazardous building materials to be located at the Property and some hazardous building materials at the Island Pallet Solutions building has already been identified. Hazardous building materials may include:

- Polychlorinated biphenyls (PCBs) containing electrical equipment;
- Asbestos-containing materials (ACMs);
- Lead from lead-based paints and lead pipes;
- Chlorofluorocarbons (CFCs) previously found in coolants used in refrigerators;
- Urea foam formaldehyde insulation (UFFI); and
- Mercury sourced from old thermostats and high intensity fluorescent lamps.

In the event of renovation or demolition of any of the buildings currently located on the Property, the above-mentioned substances will have to be assessed for and any hazardous material found managed according to applicable WorkSafeBC, Contaminated Sites Regulation (CSR), and Hazardous Waste Regulation (HWR) requirements.

2.6 Surrounding Site Observation

During the Property inspection, publicly accessible or visible portions of surrounding sites were viewed by Tetra Tech EBA to identify potential environmental concerns capable of impacting the environmental status of the Property.

The following table lists the current land use or occupants and environmental observations made during an assessment of the Property's surrounding sites with environmental concerns bolded.

Table 2 – Current Surrounding Sites

Direction	Address	Current Land Use / Occupant & Environmental Observations
North to North West	620, 648 and 650 Terminal Avenue	Casino Nanaimo and Port Place Shopping Centre. These sites are located approximately 200 m north west of the Property and 20 m north west of the Property, respectively. The sites are inferred to be upgradient to cross gradient relative to the Property. Tetra Tech EBA observed a number of light commercial businesses at this site. The current usage of this site is not considered by Tetra Tech EBA to pose an environmental concern to the Property.
	180 Front Street	Seaspan Ferries Corporation. This site is adjacent to the Property and makes up part of the Seaspan area of the Property. The current usage of this site is not considered by Tetra Tech EBA to pose an environmental concern to the Property.
	9 to 35 Nicol Street	TD Canada Trust, Salvation Army, Sandy's Ukrainian Kitchen, and Speedy Glass. These sites are located approximately 85 m west of the Property and are inferred to be upgradient relative to the Property. The current usage of these sites is not considered by Tetra Tech EBA to pose an environmental concern to the Property.

Direction	Address	Current Land Use / Occupant & Environmental Observations
West	10 to 78 Esplanade Street	Various commercial properties including Sundown Diving, Tidal Transport, and Harbour Chandler. These commercial sites are located approximately 20 m west of the Property and are inferred to be upgradient relative to the Property. The current usage of these sites is not considered by Tetra Tech EBA to pose an environmental concern to the Property.
	84 to 104 Esplanade Street	Residential homes. These sites are located to the south to south west of the Property and are inferred to be upgradient. The current usage of these residential sites is not considered by Tetra Tech EBA to pose an environmental concern to the Property.
South to South West	955 Crace Street	Coast Mountain Truck and Marine Sales. This commercial site is located approximately 30 m south west of the Property and is inferred to be upgradient relative to the Property. The current usage of this site is not considered by Tetra Tech EBA to pose an environmental concern to the Property.
	7 Port Drive	Southern Rail of Vancouver Island Limited. Active locomotive maintenance performed. This site is located adjacent to the south of the Property and is inferred to be up gradient to cross gradient relative to the Property. The current usage of this site is considered by Tetra Tech EBA to be of environmental concern to the Property.
	11 and 21 Port Drive	Nanaimo Port Authority cruise ship terminal and assembly wharf. This site is located approximately 10 m south east of the Property and is inferred to be downgradient/crossgradient relative to the Property. The current usage of this site is not considered by Tetra Tech EBA to pose an environmental concern to the Property.
	31 Port Drive	Western Forest Products Lease. This site is located adjacent to the south of the Property and is inferred to be down gradient to cross gradient relative to the Property. The current usage of this site is considered by Tetra Tech EBA to be of environmental concern to the Property.
	1 and 5 Irwin Street	Empty commercial lots. These sites are located to the south to south west of the Property and are inferred to be crossgradient. The current usage of these sites is not considered by Tetra Tech EBA to be of environmental concern to the Property.
	7 to 21 Irwin Street	Residential homes. These sites are located to the south to south west of the Property and are inferred to be crossgradient. The current usage of these residential sites is not considered by Tetra Tech EBA to pose an environmental concern to the Property.
	1150 Milton Street	Residential home. This site is located to the south to south west of the Property and are inferred to be upgradient. The current usage of this residential site is not considered by Tetra Tech EBA to pose an environmental concern to the Property.
	1150 Milton Street	Van Kam Freightways Ltd. Commercial site used as a truck transportation depot. This site is located to the south of the Property and is inferred to be down gradient to cross gradient relative to the Property. The current usage of this site is not considered by Tetra Tech EBA to pose an environmental concern to the Property.

The locations of these surrounding sites identified above are shown on Figure 2.

An inspection of the Property's surrounding areas identified the presence of two sites with current operations that were considered to have the potential to adversely impact the Property. The two active sites, and any significance to the environmental integrity of the Property, are discussed further in Section 5.2.

The current usage of the remaining surrounding sites were not considered to pose an environmental risk to the Property and therefore, did not warrant further discussion.

2.7 Previous Environmental Investigations - Property

The following table lists previous environmental investigations conducted on the Property that pertained to soil, soil vapour and groundwater.

Table 3 – Previous Environmental Investigations

Report / Document Number	Title	Date
1	Stage 1 Preliminary Site Investigation, CPR Wellcox Yard, Nanaimo, BC – Clifton Associates Ltd (Clifton)	February 11, 2003
2	Comprehensive Environmental Site Investigation, CPR Wellcox Yard, Nanaimo, BC – SNC Lavalin Environmental (SNC)	June 26, 2009
3	Preliminary Remedial Options Analysis, CPR Wellcox Yard, Nanaimo, BC – SNC Lavalin Environmental (SNC)	June 18, 2009

Tetra Tech EBA reviewed each above listed report for information relevant to this Stage 1 PSI report. The above listed reports were completed for the entire former CPR Wellcox Lands which includes 7 Port Drive and 1 Port Drive (the Property), which was subdivided from 7 Port Drive in 2013. The reports were reviewed to identify potential sources of contamination that could result in soil, groundwater and/or soil vapour contamination at the Property only (i.e., 1 Port Drive). The purpose of the review was not to comment or confirm the adequacy of previous investigations or reports and/or whether they conformed to current provincial standards. A discussion of each report is presented in the below sections. Tetra Tech EBA only completed a cursory review of the older reports (pre 2003) available, since a comprehensive review of most of these documents was provided in the 2009 SNC reports and some of the documents did not provide any additional information on the environmental status of the Property.

2.7.1 Report #1 – Stage 1 Preliminary Site Investigation – Clifton, 2003

According to the information in the Stage 1 PSI completed by Clifton in 2003, the south end of the Former CPR Wellcox Yard, including the Property, was first developed for an underground coal mine in the late 1800's by Vancouver Coal Mining and then operated by a succession of other mining firms until 1953, when the mine ceased operations. The main entrance shaft for this former underground mine is located within the southern end of the rail yard and not within the boundaries of the Property. The primary environmental concern to the Property from these historical coal mining and ore distribution activities is the presence of coal waste that was deposited across most of the Former CPR Wellcox lands, including the Property, and adjacent sites as fill over time. The extent of coal waste fill both on the subject Property and across the entire Former CPR Wellcox land parcel has not been delineated either vertically or horizontally to date.

CPR purchased all the subject lands in 1953 and developed it into the Wellcox Yard which included a number of rail related transportation and distribution operations, which continue to the present day. The primary environmental impacts expected by Clifton in 2003 from the rail yard related activities would be related to potential leakage and/or spillage of hydrocarbon based substances from equipment fuelling and maintenance activities. Some offsite operations identified by Clifton that could also pose an environmental concern to the former CPR Wellcox lands included historical sawmill activities, located to the east and south of the subject lands, which included past usage of wood treatment chemicals.

Based on the history, Clifton identified a number of APECs for the Former CPR owned Wellcox lands, including the Property, that required further investigation and also some known AECs found during previous investigations by other parties along with a list of PCOCs and/or COCs. All the identified APECs, AECs, PCOCs and COCs are reviewed and discussed further in the follow-up reports completed by SNC in 2009 and listed in our review sections below.

2.7.2 Report #2 – Comprehensive Environmental Site Investigation – SNC, 2009

In 2009, SNC completed a review of the 2003 Stage 1 PSI by CAL and other reports completed for the former CPR Wellcox lands prior to 2003. From this review, SNC identified the following APECs/AECs and associated PCOCs across the entire CPR parcel. The APECs presented in the table below that are located within the Property boundaries are bolded.

Table 4 – APECs/AECs and PCOCs from SNC 2009 Report (Report #2)

APEC ID	Description	Operator/Lease Area	PCOCs		
			Soil	Groundwater	Sediment
A	Former Locomotive Fuelling Facilities and Barrel Storage	SVI lease and CPR-owned (within rail ROW)	BTEX, VPH, MTBE, LEPH, HEPH, PAH, VOC, Metals	BTEX, VPH, MTBE, LEPH, PAH, VOC, Metals	n/a
B	CIPA Mill and Leased Lands at 21 Port Drive	Former Gadd Marine area and currently CPR (Former CIPA Lease)	LEPH, HEPH, PAH, Metals, Chlorophenols	LEPH, PAH, Metals, Chlorophenols	n/a
C	Storage Tanks and Oil/Water Separator	CPR-owned (within rail ROW)	BTEX, VPH, MTBE, LEPH, HEPH, PAH, VOC, Metals	BTEX, VPH, MTBE, LEPH, PAH, VOC, Metals	n/a
D	Fuel and Oil Storage Areas	CPR-owned (within rail ROW)	BTEX, VPH, MTBE, LEPH, HEPH, PAH, VOC, Metals	BTEX, VPH, MTBE, LEPH, PAH, VOC, Metals	n/a
E	Dumpsite	CPR-owned	VPH, LEPH, HEPH, PAH, Metals, Chlorophenols	VPH, LEPH, PAH, Metals, Chlorophenols	n/a
F	Crosstie Storage	CPR-owned	VPH, LEPH, HEPH, PAH, Metals, Chlorophenols	VPH, LEPH, PAH, Metals, Chlorophenols	n/a
G	Historic Coal Mine Facilities	CPR-owned (within rail ROW)	Metals, pH, Sulfates, PAH	Metals, pH, Sulfates, PAH	n/a
H	Dredged Marine Sediments	CPR-owned (possible former Mayo Forest Products liability)	VPH, LEPH, HEPH, PAH, Metals, Chlorophenols	BTEX, VPH, MTBE, LEPH, PAH, VOC, Metals, Chlorophenols	n/a

APEC ID	Description	Operator/Lease Area	PCOCs		
			Soil	Groundwater	Sediment
I	Storm Water Drainage Near Helipad	CPR-owned	BTEX, VPH, EPH, Metals	BTEX, VPH, EPH, Metals	BTEX, VPH, EPH, Metals
J	Doman Western Lumber (now Western Forest) Products)	Western Forest Products Lease	LEPH, HEPH, PAH, Metals, Chlorophenols	LEPH, PAH, Metals, Chlorophenols	n/a
K	Former Mayo Mix (off site)	n/a (off site)	LEPH, HEPH, PAH, Metals	LEPH, PAH, Metals	n/a
L	USTs at Front Runner Freight Ltd. Lease Area – 190 Front Street	Current Island Pallet Solutions Lease	VPH, EPH	LEPH, PAH	n/a
M1	Imported Fill	Seaspan Lease Area / Former Gadd Marine area	VPH, LEPH, HEPH, PAH, Metals, Chlorophenols	VPH, LEPH, PAH, Metals, Chlorophenols	n/a
M2	Perimeter of Rail Right-of- Way	CPR-owned (within rail ROW)	BTEX, VPH, EPH, PAH, Metals	BTEX, VPH, EPH, PAH, Metals	n/a
N	Swale Beneath Crace Street Viaduct (near SVI)	Formerly Doman Lumber SRW	BTEX, VPH, LEPH, HEPH, PAH, VOC, Metals	BTEX, VPH, LEPH, PAH, VOC, Metals	n/a
O	Biocell	CPR-owned (within rail ROW)	BTEX, VPH, LEPH, HEPH, PAH, VOC, Metals	n/a	n/a
P	Foreshore Sediments	Seaspan Lease Area / Former Gadd Marine area	n/a	n/a	PAH, Metals, Grain Size, TOC

BTEX – Benzene, Toluene, Ethylbenzene and Xylene
 EPH - Extractable Petroleum Hydrocarbons;
 HEPH - Heavy Extractable Petroleum Hydrocarbons;
 LEPH - Light Extractable Petroleum Hydrocarbons;
 MTBE - Methyl tert-butyl ether
 PCP – pentachlorophenol;
 PAHs - Polycyclic Aromatic Hydrocarbons;
 TOC – Total Organic Carbon;
 VOC – Volatile Organic Compound;
 VPH – Volatile Petroleum Hydrocarbons

Based on the review of the 2003 Clifton report and others, a further subsurface investigation of all the above listed APECs/AECs was conducted by SNC in 2009. The results of the subsurface investigation are summarized in the following subsections:

2.7.2.1 Soils

SNC documented soils with metal parameters above the BC CSR residential (RL) standards across the majority of the CPR owned lands related to fill placement. Scattered areas with hydrocarbon and metal contamination in soils, above the CSR industrial (IL) and commercial (CL) standards, were also identified by SNC. Soil contamination has not been delineated either vertically or horizontally to date.

The cause of the majority of the soil contamination appears to primarily be the result of past filling of this former marine foreshore to current grade with poor quality soils including abundant amounts of coal waste that was deposited from the former mining and ore distribution operations. Since coal waste was commonly used as fill material in the Nanaimo area it cannot be determined that the source of all poor quality fill across the entire CPR land parcel is from the historical mining activities alone, however, it is likely the primary source. Secondary sources of contamination are other fills from unknown sources and various spills and leakage of hydrocarbons (primarily Extractable Petroleum Hydrocarbons (EPH)) over time within the active rail yard and also some other areas of the land parcel with associated rail and freight transportation related facilities. Additionally, pentachlorophenol (PCP), a common wood preservative that was in use at the former CIPA mill, that had historically operated offsite to the east of the CPR lands, was found in soils at concentrations exceeding the BC CSR CL/IL standards on the Property. The impacts from sawmill activities are situated onsite on a portion of the CPR lands that CIPA had leased from CPR in the past.

2.7.2.2 Sediments

SNC documented sediments with PAH parameters above both the CSR typical (TCS) and sensitive sediment criteria (SSC) within the foreshore areas on the northeast portion of the Property. The identified sediment contamination was not delineated either vertically or horizontally.

2.7.2.3 Groundwater

No non-aqueous phase liquid (NAPL) hydrocarbons were found in groundwater within any of the monitoring wells on the CPR lands during the SNC 2009 sampling program. Several of the wells which were sampled had concentrations of hydrocarbons (specifically LEPHw) within the rail maintenance yard and chlorinated phenols near the former CIPA lease area in groundwater, were above the CSR Standards for marine aquatic life (AW), which were applied by SNC and likely would apply owing to the marine foreshore area located to the immediate east of the CPR lands.

2.7.2.4 Soil Vapours

A limited soil vapour investigation was completed by SNC during their 2009 investigation through direct soil vapour sampling from four on-site monitoring wells (00-02, 00-04, 01-17, 09-9). This preliminary investigation was completed to assess potential soil vapours in APECs A and C within the railyard, where some volatile hydrocarbon parameters had been measured and documented in previous investigations that were completed by other parties for CPR between 2003 and 2009.

SNC reviewed the soil vapour results and screened them against the current CSR vapour standards and found that all measured hydrocarbons would not result in unacceptable vapour concentrations in outdoor air and offsite indoor air for either residential or commercial land use. SNC could not predict; however, if soil vapour concentrations would meet on-site indoor air if the Property was re-developed for residential land use in the future, since no specific development plan has been completed to date showing all proposed building locations and types. It is noted that not all vapour PCOCs were investigated in 2009.

2.7.3 Report #3 – Preliminary Remedial Options Analysis – SNC, 2009

At the completion of Report #2, SNC completed a review of all the historical analytical testing data and the new data they collected in 2009 and identified specific known areas of environmental concern (AECs) and also the associated known contaminants of concern (COCs) for each identified AEC.

From the Tetra Tech EBA review of SNC Reports # 2 and #3 and interpretation of what SNC identified as the primary AECs on the overall CPR lands, Tetra Tech EBA compiled the table below outlining all identified AECs, their specific locations on the Property, and all specific COCs for each location. Please refer to Figures 3 to 5 attached for the AEC locations and analytical results presented in the table below.

Table 5 – AECs/COCs From Review of SNC 2009 (Report #3)

AEC ID	Issue and Location	Description of Environmental Media with COCs >CSR Standards	Depths of Soil Contamination
AEC 1 (Former APEC M1)	Imported Fill / Middle of Property within Seaspan lease area	Soils with metals concentrations above CSR CL and IL standards (chromium).	0 -1 mbg
AEC 2 (Former APEC A and N)	Former Locomotive Fuelling Facilities and Barrel Storage and Swale Beneath Crace Street Viaduct / Portion on Property	Soils with LEPH/HEPH concentrations above CSR CL and IL standards. Groundwater with LEPHw concentrations and PAH above CSR AW standards.	3 - 6 mbg
AEC 3 (Former APEC B)	Former sawmill / Portion on 25 m wide road dedication within former CIPA lease area	Soils with PCP concentrations above CSR CL and IL standard. Groundwater with 2,4,5-trichlorophenol, 2,3,4,6-trichloropheno and PCP concentrations above CSR AW standards.	0 - 3.5 mbg
AEC 4 (Former APEC B)	Former sawmill / Portion on southern end of 25 m wide road dedication on north end of Western Forest Products lease	Soils with PCP and metals (arsenic) concentrations above CSR CL and IL standards.	0 – 1 mbg
AEC 5	Not located on the Property.	--	--
AEC 6	Not located on the Property.	--	--
AEC 7 (Former APEC M1)	Imported Fill / Portion on middle of Property within Seaspan lease area	Fill soils with metals (chromium) above CSR IL and CL standards.	1 – 3.5 mbg
No AEC # assigned by SNC (Former APEC P)	Water lot on Property	Sediments with PAHs above CSR typical (TCS) and sensitive sediment criteria (SSC).	Unknown – only grab samples analysed

LEPH — light extractable petroleum hydrocarbon
 HEPH — heavy extractable petroleum hydrocarbon
 PAH — polycyclic aromatic hydrocarbons
 PCP — pentachlorophenol
 AEC — area of environmental concern
 COC — contaminant of concern
 mbg — meters below grade
 CL/IL — commercial and industrial
 AW — aquatic life
 CSR — contaminated sites regulation

2.8 Previous Environmental Investigations – Offsite

The following table lists one previous environmental investigation conducted on adjacent lands that was considered to pose potential impacts to soil, soil vapour and groundwater on the Property.

Table 6 – Previous Environmental Investigations

Report / Document Number	Title	Date
4	Review of Environmental Reports and Regulatory Status, Former CIPA Lumber Mill Lands, Foot of Crace Street, Nanaimo, BC – Tetra Tech EBA	March 14, 2007

2.8.1 Report #4 – Review of Environmental Reports and Regulatory Status – Tetra Tech EBA 2007

In 2007 EBA completed and submitted a formal application to the BC MOE to obtain and review the following reports and other correspondence regarding the subject lands:

- Stage 1 and 2 Preliminary Site Investigation and Detailed Site Investigation, CIPA Lumber Co. Ltd., Nanaimo, BC, prepared by Pottinger Gaherty Environmental Consultants Ltd.(PGL) and dated July, 2001;
- Remediation and Human Health and Tier 1 Ecological Risk Assessment Report, CIPA Lumber Co. Ltd., Crace Street Nanaimo, BC, prepared by PGL and dated February , 2002;
- Risk Assessment Addendum, CIPA Sawmill, Nanaimo, BC, prepared by PGL and dated October 1, 2002; and,
- Response to Comments – Review of Stage 1 and 2 Preliminary Site Investigation and Detailed Site Investigation and Remediation and Human Health and Tier 1 Ecological Risk Assessment Report, CIPA Lumber Co. Ltd., Nanaimo, BC, prepared by PGL and dated November 25, 2002.

From our review the existing environmental reports for the former CIPA site the following summary of our findings in 2007 are provided:

- The subject lands that included the former CIPA site had been used for industrial activities first as a coal mine (No. 1 Mine shaft reportedly onsite) since the 1880's until approximately the 1938 and later for various sawmills from the 1940's until the CIPA Mill shut down in late 2002.
- The subsurface of the subject CIPA lease area was found to contain soils with contamination concentrations exceeding the CSR IL standards and Hazardous Waste Regulation (HWR). Groundwater was also found to be contaminated at levels exceeding CSR standards for protection of marine habitat (Nanaimo Harbour). The contamination found in soils and groundwater was primarily related chlorinated phenols with some minor hydrocarbon and metals impacts.
- The remediation program of summer/fall 2000 included excavation and offsite disposal of some highly contaminated soils from select site areas. All contaminated soils left onsite that contained chlorinated phenol and hydrocarbon concentrations exceeding both the BC CSR IL standards and HWR standards were then risk assessed. Groundwater with chlorinated phenols concentrations that exceeded the CSR standards was also present onsite and extended offsite to the west and onto the former Canadian Pacific Railway (CPR) lands which was also included in the risk assessment area.

- A Conditional Certificate of Compliance (CCoC) was issued by BC MOE in April, 2004 that was based on the remediation and risk assessment program completed by PGL on the subject lands and also offsite to the west onto the CPR lands, based on with continued industrial land use at the surface.
- Neither the CCoC nor the authorization to operate an in-situ hazardous waste (formerly called Special Waste) management facility that were issued in April, 2004, based on the remediation and risk assessment works by PGL in 2000, were considered valid at the time of Tetra Tech EBA's review since BC provincial crown lands never registered a covenant on land titles, that was a required condition of both approvals.
- Even if a new CoC and authority to operate an in-situ hazardous waste management facility are reinstated, potential future redevelopment of the site that includes any new infrastructure, other than paved above ground parking or vacant lots, would require that the MOE be contacted, the CoC revisited and likely either some additional risk assessment works completed or a further removal of contaminated materials undertaken, at the new owner's costs.

3.0 NATURAL SETTING

3.1 Geological Information

The Ministry of Environment Technical Report 17 "Soils of Southern Vancouver Island" indicated that the soil geology in the area of the Property consists of Qualicum soils. Qualicum soils are very gravelly to gravelly loamy sand and are considered to be relatively permeable and could facilitate groundwater flow.

The borehole logs from previous reports detailed in Section 2.7 were reviewed. Soil conditions at the site consist of variable fills, and generally include discrete layers of and/or intermixed:

- Coal Waste: Typically described as consisting of low grade coal, shale waste rock, and granular material, with a loose to compact consistency; and
- Sand Fill: Typically described as SAND, trace to some silt, poorly graded, fine grained, loose, brown to grey, with occasional shells and organic material.

When native soils were encountered, they were typically described as marine sediments, including:

- Sands: Typically described as SAND, trace to some silt, poorly graded, fine grained, loose, brown to grey, with occasional shells and organic material; and
- Silt: Typically described as SILT, moist to wet, soft, brown to black, some organic inclusions.

Of the boreholes completed, Tetra Tech EBA notes:

- Where native soils were encountered, fill depths average 4.2 m;
- No boreholes encountered native materials at ground surface;
- Of the 28 boreholes completed, 9 did not encounter native materials and were terminated in fills;
- Native soils, which were encountered in 16 of the 28 boreholes completed, typically consist of marine deposits including silts and sands below the fill layer;
- The remaining 3 boreholes encountered bedrock below the fill materials; and

- Due to the local source of the sand fill materials, Tetra Tech EBA expects that it would be difficult to determine if soils are fill or native material, and there may be some inaccuracy in the reported depths of native materials.

3.2 Topography and Hydrogeology

The topography in the region near the Property slopes to the northeast towards the marine harbour area.

Because the topography at the Property and surrounding area has been heavily influenced by anthropogenic filling activities, Tetra Tech EBA suspects that local groundwater flows in the direction of the regional topography in a northeast direction towards the nearest surface water receptor (the Nanaimo Harbour). In addition, catch basins, drainage systems, underground service trenches, and other subsurface structures in the area may influence the local groundwater flow direction.

A review of groundwater conditions at the monitoring wells across the Property available from previous reports reviewed in Section 2.7, indicated that groundwater levels are expected to be closely linked to tidal levels, and fluctuate in response to changing tides, precipitation events, as well as seasonally. Groundwater levels may rise above the levels reported by the previous investigations.

3.3 Streams and Adjacent Water Bodies

The nearest surface water body is the Nanaimo Harbour, located adjacent of the Property to the northeast. A portion of the Property includes the Public Harbour of Nanaimo.

3.4 Rainfall Records

Historical climate information for this region was based on data from Environment Canada for the Nanaimo City Yard Weather Station.

Climate information was provided for the period between 1971 and 2000. According to the information, the rainfall, precipitation, and snowfall records were as follows:

- Annual Rainfall: 1098 mm
- Highest Monthly Rainfall: 184.4 mm (November)
- Annual Precipitation: 1140.8 mm
- Highest Monthly Precipitation: 189.9 mm (November)
- Annual Snowfall: 42.4 cm
- Highest Monthly Snowfall: 12.2 cm (January)

A copy of the historical climate information is provided in Appendix E.

3.5 Drinking Water Wells

Tetra Tech EBA searched the MOE aquifer and water well database for points of diversion (POD) or water wells near the Property. There were no wells identified within a 500 m radius of the Property. One well was indicated to be within 500 m radius of the Property; however, this well location is referenced incorrectly and in the incorrect location.

A copy of the water well search results for this area, obtained from the MOE online aquifer and water well database, is included in Appendix F.

4.0 HISTORICAL REVIEW

4.1 Property

In order to assess the history of the Property, Tetra Tech EBA reviewed historical land uses, municipal records, and assessed whether Schedule 2 activities have occurred on the Site.

4.1.1 Historical Property Land Uses

The Property history was reviewed in more detail including a comprehensive review of all former mining activities and the use of chemicals, other than those tested for previously, which could have added to the documented environmental impacts across the Property. Additionally, in order to fully assess for all PCOCs in the fill soils used to build up the Property to its current grade, a comprehensive review of the historical filling sequence and potential sources of the fill material was completed.

Information reviewed included the following:

- Fire insurance maps, Images courtesy of Nanaimo Community Archives Society (Appendix G);
- Pacific Spatial Systems Ltd., 2004, Coal Mine Underground Working Atlas (Appendix G);
- New Vancouver Coal Mining and Land Company, 1891, Map of the City of Nanaimo, BC;
- City of Nanaimo animated map, “Then and Now – Evolution of Nanaimo’s Downtown Waterfront, 1854-1997” <http://www.nanaimo.ca/assets/Departments/Community~Planning/Heritage~Planning/Then~and~Now/TimeTravel.gif> ;
- Nanaimo’s Downtown Waterfront, 1854-1997, compiled and published by the Island Blue Print and Map Co., Richard Davenport obtained from the Nanaimo Community Archives (Appendix G);
- Historic photographs obtained from the Nanaimo Community Archives, photo numbers 2004046A-P1 (circa 1880), 1996027A-P2 (circa 1940), 2001001A-P305 (circa 1970) and 1992026A-P5650 (circa 1970) (Appendix G);
- Lawrence Rieper, undated, “History of the Nanaimo Assembly Wharf” and “A Short History of the WELLCOX Yards”, obtained from the Nanaimo Community Archives;
- Aerial photographs (Appendix H);
- A query of City of Nanaimo Fire and Rescue Department records;
- A query of building permit data from the CON; and
- City directories.

According to previous reports (listed in Section 2.7 and 2.8), the Property has a long history of industrial activity. The Property was developed by the Vancouver Coal Mining and Land Company in the late 1800’s as a coal processing and shipping terminal. At this time, much of the current site was occupied by the Nanaimo Harbour, and waste from mining activities was placed into the harbour to expand and fill the site.

The Property changed ownership several times during the early 1900's, and continued to be utilized for coal processing and export until 1953, when coal operations were ceased and the property was sold to CP Rail (CPR). CPR developed the property for use as a central hub for freight on Vancouver Island by constructing a ferry transport service at the Wellcox Yard. CPR leased several parcels of land to sawmills, marine industry, and other tenants during their ownership of the Property and other parcels since development of the site.

As development at the Property continued, the shoreline has been modified for industrial purposes by filling with coal mining waste, dredged fills from the Nanaimo Harbour, and other fills over time. The shoreline, as mapped in 1891, is shown on Figure 6. It is expected that this shoreline profile corresponds to the natural shoreline, with possible minor filling in the area of the coal terminal that existed along the northern property boundary. The entire site, except for two small areas located along the northern property boundary and the southwestern corner of the Property, was occupied by the Nanaimo Harbour in 1891. It is likely that the only original ground on site is located at the southwestern corner (as shown in Figure 6) along Esplanade St., and that this native ground has had fill placed to elevate and bring the site to current grade.

Nanaimo Community Archives Society

Tetra Tech EBA reviewed copies of Fire Insurance Maps and Coal Working Maps from the Nanaimo Community Archives Society.

The 1939 and 1951 Fire Insurance map (Appendix G), viewed at the Nanaimo Community Archives, show historical buildings on the Property labelled as two machine shops, welding shop, engine house, car repairs, and a sawmill. The 1957 Fire Insurance map (Appendix G), also viewed at the Nanaimo Community Archives, shows the machine shop location on the GADD Marine site has changed and shows an addition to the sawmill that was shown on the 1951 fire insurance map. See Figure 7 for approximate location on the Property.

Available coal mine workings maps (Appendix G) indicate that the eastern and southern perimeters of the original lands before the CON subdivision that created the Property are underlain by coal workings in the lower coal seam, and as follows:

- Along the south edge (approximately 5,900 square meters undermined);
- At the south end of the southern right-of-way (approximately 1,600 square meters undermined);
- At the north end of the southern right-of-way (approximately 600 square meters undermined); and
- Along the northeast edge of the site (approximately 15,700 square meters undermined).

Approximately 23,800 square meters of the original Wellcox lands are reportedly undermined by coal workings. Coal mining records indicate these areas were mined between 1883 and 1938. The depths of these workings are in the order of 140 m to 180 m below sea level, based on the spot elevations provided on the available mapping.

Aerial Photograph Review and Mapped Shoreline Drawings

Historic aerial photographs, extending from 1947 onwards, show the later stages of this filling activity (attached as Appendix H). The aerial photographs indicate that much of the site was filled prior to 1947, with significant filling activity concentrated to the south at the Nanaimo Assembly Wharf after this date.

The following table details the results of a review of available aerial photographs of the Property. Copies of the historical aerial photographs are attached in Appendix H. Shoreline mapping over the years in Appendix G and Figure 6 shows the progression of filled areas at the Property.

Table 7 – Summary of Historical Aerial Photographs for the Property

Year	Observations
1947	This aerial photograph shows the Property with railway extending to coal bunkers (as detailed in fire insurance maps). The trestle is present and multiple buildings are present (details of buildings included in fire insurance maps).
1951	This aerial photograph shows the Property in a similar configuration as observed in the 1947 aerial photograph.
1958	This aerial photograph shows the area on the Property near the coal bunkers observed in the 1947 and 1951 aerial photographs to not be filled (the coal bunkers are observed to have been removed and the area dredged). There is observed to be a wharf at the Gadd Marine site.
1967	This aerial photograph shows the Property in a similar configuration as observed in the 1958 aerial photograph.
1972	This aerial photograph shows the Property in a similar configuration as observed in the 1967 aerial photograph.
1976	This aerial photograph shows the Property in a similar configuration as observed in the 1967 and 1972 aerial photographs.
1982	This aerial photograph shows the Property in a similar configuration to the present day with the present buildings observed with the exception of one additional building situated on the Gadd Marine site is observed in this aerial photograph.
1986	This aerial photograph shows the Property in a similar configuration as observed in the 1982 aerial photograph.
1990	This aerial photograph shows the Property in a similar configuration as observed in the 1982 aerial photograph.
1991	This aerial photograph shows the Property in a similar configuration as observed in the 1990 aerial photograph.
1998	This aerial photograph shows the Property in a similar configuration as observed in the 1991 aerial photograph.
2006	This aerial photograph shows the Property in a similar configuration as observed in the 1998 aerial photograph.

According to the information reviewed, the Property has generally been used for the following purposes:

- Vacant and undeveloped, prior to circa 1862;
- Coal mining and shipping from the late 1800s to circa 1950; and,
- Commercial and Industrial development, from circa 1950 to the present.

Vacant and Undeveloped – Prior to Circa 1862

Mapped shoreline drawings of 1854 showed the Site as vacant and undeveloped with the natural shoreline before filling in the area began.

Coal Mining and Shipping – Late 1800s to circa 1950

The 1862 mapped shoreline drawings show railways on the Property and show some filling in the area. From the circa 1939 until circa 1976 aerial photographs show multiple buildings present on the Property similar to what is shown on the 1939 and 1951 Fire Insurance records.

Commercial and Industrial Land – Circa 1950 to the Present

The 1960 mapped shoreline drawing shows the Property and surrounding area has been filled and resembles the present day configuration. The 1982 to 2006 aerial photographs show the presence of the present day building configuration with the exception of an additional building that was located on the former Gadd Marine site by circa 1982.

City Directories Review

The only address of the Property available in city directories was 21 Esplanade St. The 1961 to 1985 city directories list 21 Esplanade as a service garage under Can Pac Mdse Service in 1961 and 1965, CPR Transport garage in 1970 and 1975, Smith Transport garage in 1980 and CPR Express and Transport Garage in 1985.

4.1.2 Fire Department Records and Municipal Records

The Nanaimo Fire and Rescue Department was contacted by Tetra Tech EBA to investigate whether USTs or ASTs were historically or are currently located at the Property, and if any records exist of environmental concerns relating to the Property or surrounding area. The information received indicates that the fire department currently has no records of USTs, ASTs or other environmental concerns on file for the Property. The letter received from the Nanaimo Fire and Rescue Department is included in Appendix I.

Tetra Tech EBA contacted the CON to review any building permits and plans on file for the Property. According to the CON, there are currently no records of permits, building or other permits, building or other plans for 1 Port Drive or 7 Port Drive (previous address before a recent subdivision by the CON of the CPR Wellcox Yard to form the subject Property).

4.1.3 Schedule 2 Activities

Schedule 2 of the BC CSR lists a number of activities that have a potential to cause contamination. If a zoning, development, removal of soil or a demolition permit is ever required for the development of the Property then completion of a form called a Site Profile will be required by the CON. When Schedule 2 activities have historically occurred, the requested municipal permit application may trigger a review by the MOE. If a review were necessary, then either a BC MOE release from the Site Profile process or a legal instrument (e.g., Certificate of Compliance or release) would be required.

The historical review identified the following Schedule 2 activities that have been conducted within the Property:

Table 8 – Summary of Schedule 2 Activities

Tenant	Schedule 2 Activity
Seaspan	C6 – welding or machine shops (repair or fabrication) D3 – coal shipping G6 – rail car or locomotive maintenance, cleaning, salvage or related uses, including railyards G7 – truck, rail or marine bulk freight handling H14 – mine tailings disposal I9 – sawmills
Former Gadd Marine	C6 – welding or machine shops (repair or fabrication) D3 – coal shipping H14 – mine tailings disposal I9 – sawmills
SVI	D3 – coal shipping G6 – rail car or locomotive maintenance, cleaning, salvage or related uses, including railyards G7 – truck, rail or marine bulk freight handling H14 – mine tailings disposal
Island Pallet Solutions	H14 – mine tailings disposal

Tetra Tech EBA recommends that a qualified environmental consultant be consulted before any future submission of a Site Profile for future development permits to ensure its proper completion and that all required future environmental investigation and remediation works are completed to meet the COC requirements under the BC CSR.

4.2 Surrounding Sites

The historical uses of the Property's surrounding sites, based on historical aerial photographs (Appendix H), city directories, and observations made during the Property inspection, are outlined in the following table. Historical activities with potential contaminant sources are bolded.

Table 9 – Historical Surrounding Site Usage

Distance and Direction from Property	Address	Historical Activities
Approximately 20 m to the North to North West	620 and 650 Terminal Avenue	In the 1947 aerial photograph a sports field is observed in this location. In the 1958 aerial photograph there is no sports field observed and some development on the site. The 1967 aerial photograph shows buildings present. The 1982 aerial photograph shows multiple larger commercial buildings present. The 1970 to 2000 city directory list 650 Terminal as Harbour Park Mall. Locations include Harbour Park Cleaners in 1970, 1975 and 1980 city directories, Harbour Park Martinizing in 1985 city directories. Boat Basin Laundromat and Dry Cleaning Depot in 1994 and 2000 city directories.
	180 Front Street	In the 1947 to the 1982 aerial photographs this area appears to be used for shipping operations. The 1985 to 1994 city directories show this address as CPR Coastal Marine. City directories in 2000 show this location as Seaspan Coastal Intermodal. The 1955 to 1985 city directories have no listing for this location
	9 Nicol Street	This location was reported by Nanaimo Community Archives and through historical photographs taken circa 1880 to be occupied by a Texaco gas station . The 1955 city directories have no listing for this location. The 1961 and 1965 city directories lists this location as Fountain Service Station . The 1970 city directory lists this location as Lone Star Texaco Service Station . The 1975 city directory lists this location as Tyee Fountain Services . The 1985 city directory lists this location as City Centre Self Serve . The 2000 city directories list this address as The Loan Arranger.
Approximately 20 m to the West	10 to 52 Esplanade Street	In the 1947 to the 1982 aerial photographs this area is occupied by commercial and residential buildings. The 1955 city directories list these addresses as residential with the exception of 52 Esplanade which is BC Auto Association. The 1965 to 1985 city directories list varies commercial businesses at 22 to 52 Esplanade including CHUB radio, Budget Tax Services and Andrew Sheret Ltd. The 1990 and 1994 city directories list 11 Esplanade as the Nanaimo Assembly Wharf, 46 Esplanade is NCG Bulk Systems, and 52 Esplanade as the Harbour Chandler. 2000 city directory listings show 11 Esplanade Westcan Terminals, 22 Esplanade as Sundown Diving, 23 Esplanade as E&N Railway, 52 Esplanade as Harbour Chandler.
Approximately 20 m to the South to South West	955 Crace Street	In the 1947 to the 1982 aerial photographs this site is occupied by residential buildings.
	7 Port Drive	In the 1947 to the 1982 aerial photographs this site is the assembly wharf with sawmills and lumber storage and a railway
	21 Port Drive	In the 1947 to the 1982 aerial photographs this site is has sawmills and lumber storage.
	5 to 24 Irwin Street	In the 1947 to the 1982 aerial photographs this area is occupied by residential buildings. City directories from 1955 to 2000 list these addresses as residential.

Based on our review of the historical operation of surrounding sites, of 620 and 650 Terminal Avenue, 9 Nicol Street, 7 Port Drive and 21 Port Drive were identified as potential sites of environmental concern and any significance to the environmental integrity of the Property are discussed further within Section 5.2.

4.3 BC Online Site Registry Search

The MOE maintains a database called the Site Registry that contains environmental information pertaining to contaminated or potentially contaminated sites. The Site Registry documents milestones in the cleanup process of a site. The Site Registry contains information on sites that have been investigated and cleaned up in BC since 1988 (when MOE began recording this activity). All of the information is accessible to the public.

The Site Registry is *not* a registry solely of contaminated sites. Some sites in the registry are contaminated, but most are simply being investigated and require little, if any, cleanup or they have already been cleaned up to government standards. The lack of information on a particular site does not indicate an absence of contamination, but only an absence of MOE documentation.

The database can be searched on the basis of geographic location or PID. Tetra Tech EBA conducted the following Site Registry searches:

- A PID search for the Property; and
- An area search for registered sites in a 0.5 km radius of the Site.

The PID search for 029-036-500 resulted in two records.

Table 10 – Site Registry Detailed Reports – PID Search

Site ID / Registered Site	Environmental Status	Summary of Site
6813 / Foot of Crace Street Nanaimo	Active – Remediation Complete	The CIPA Lumber Co. Ltd. reports reviewed in Section 2.8 are listed on the site registry report for this Site ID which is currently offsite at the newer address of 21 Port Drive. Conditional Certificate of Compliance Issued. No activities were reported for this site.
11687 / 190 Front Street	Inactive – No Further Action	The SNC reports reviewed in Section 2.7 above are listed on the site registry report for this Site ID. 190 Front Street was combined with other civic addresses to form 1 Port Drive. The former 190 Front Drive address was for the Island Pallet Solutions lease area.

Note:

As defined by MOE “Fact Sheets on Contaminated Sites #23 *The Use of Site Registry Status Codes*” revised August 2005, the synopsis/detail report status codes are defined as follows:

Active – Remediation Complete: This code usually means that cleanup is complete under the risk assessment/risk management approach. All risk management works at a site have been constructed, appropriate permits and approvals have been obtained, official sign-off has been issued, and requirements such as treatment, monitoring, or maintenance are ongoing. This code is also sometimes applied to sites whose cleanup has been completed under the numerical standards approach.

Inactive – No Further Action: This code means that: a site may not have gone through the entire remediation process and the ministry currently requires no additional information or action; or a site may be considered not to require further action or it is considered to have been remediated by the site owner or operator through independent remediation, but formal confirmation of remediation has not been provided by the ministry.

An area search conducted using this online database resulted in fifteen registered sites. A detailed report was obtained from the Site Registry for six of the fifteen registered sites and is listed in the following table. The remaining nine of the registered sites were not considered to pose an environmental risk to the Site based on the significant distance from these sites to the closest extent of the Property (greater than 300 m).

Table 11 – Site Registry Detailed Reports – Area Search

Site ID / Registered Site Address	Location in Relation to the Property	Environmental Status	Summary of Site
0001918 / 9 Nicol Street	85 m west	Inactive – No Further Action	Certificate of compliance issued using risk based standards. No activities were reported for this site.
0003953 / 21 Esplanade Street	On the Property – currently Island Pallet Solutions	Active - Under Remediation	Tombstone data only for site registry. Federal land.
0008998 / 19 Nicol Street	105 m west	Active - Under Remediation	125 m ³ of metals contaminated soils to be removed.
0011063 / 620 Terminal Avenue	24 m west – Port Place Mall	Active - Under Assessment	Mine tailings waste disposal and above ground fuel tanks.
0012024 / 650 Terminal Avenue	160 m west – Port Place Mall	Active – Remediation Complete	Certificate of compliance issued using risk based standards. Due to a drinking water use exemption, there is no longer a potential for offsite migration of contamination. Contaminated fill and an underground storage tank.
0015235 / Terminal/Nicol St Corridor	140 m west	Inactive – No Further Action	No activities were reported for this site.

Note:

As defined by MOE “Fact Sheets on Contaminated Sites #23 *The Use of Site Registry Status Codes*” revised August 2005, the synopsis/detail report status codes are defined as follows:

Active - Under Assessment: The site is currently under assessment.

Active – Remediation Complete: This code usually means that cleanup is complete under the risk assessment/risk management approach. All risk management works at a site have been constructed, appropriate permits and approvals have been obtained, official sign-off has been issued, and requirements such as treatment, monitoring, or maintenance are ongoing. This code is also sometimes applied to sites whose cleanup has been completed under the numerical standards approach.

Active – Under Remediation: This code usually means that cleanup is complete under the risk assessment/risk management approach. All risk management works at a site have been constructed, appropriate permits and approvals have been obtained, official sign-off has been issued, and requirements such as treatment, monitoring, or maintenance are ongoing. This code is also sometimes applied to sites whose cleanup has been completed under the numerical standards approach.

Inactive – No Further Action: This code means that: a site may not have gone through the entire remediation process and the ministry currently requires no additional information or action; or a site may be considered not to require further action or it is considered to have been remediated by the site owner or operator through independent remediation, but formal confirmation of remediation has not been provided by the ministry.

All surrounding sites that were registered on the Site Registry sites located at 21 Port Drive, 620 and 650 Terminal Avenue and 9 and 19 Nicol Street are discussed further for any significance to the environmental integrity of the Property, within Section 5.2. Copies of the Site Registry search results are included in Appendix I.

5.0 DISCUSSION

The following two subsections discuss the findings of the historical review of the Property and surrounding areas, respectively, based on the findings of the Stage 1 PSI.

Activities with potential sources of contamination are termed as ‘issues’. Any issues that present a moderate or high likelihood of causing soil and/or groundwater contamination above the applicable provincial standards are termed as Areas of Potential Environmental Concern (APECs). Any areas with identified contamination of soil and/or groundwater are termed known Areas of Environmental Concern (AECs). Further investigation of any

identified APECs or AECs would then be recommended. No further investigation is recommended for issues that are considered to present a low likelihood of causing contamination above the applicable provincial standards.

5.1 Property

During the Stage 1 PSI, Tetra Tech EBA identified fourteen environmental issues on the Property. Six of the environment issues were identified as areas containing concentrations of exceeding the standards during previous environmental investigations and were thus considered by Tetra Tech EBA to be AECs. Six additional APECs were identified for the Property. The AECs and APECs are described below. See Figure 8 for locations.

Table 12 – Moderate to High Potential Environmental Issue Rationale – Property

AEC ID	Issue and Location	Supporting Rationale	COCs
AEC1	Imported Fill / Middle of Property within Seaspan lease area.	<ul style="list-style-type: none"> Soils with metals concentrations above CSR CL and IL standards as reported in previous SNC reports 	<ul style="list-style-type: none"> Metals in soils
AEC 2	Former Locomotive Fuelling Facilities and Barrel Storage and Swale Beneath Crace Street Viaduct/Portion on Property of SVI lease area.	<ul style="list-style-type: none"> Fill soils with LEPH/HEPH concentrations above CSR CL and IL standards as reported in former SNC reports Groundwater with LEPHw concentrations and PAHs above CSR AW standards as reported in former SNC reports 	<ul style="list-style-type: none"> LEPH/HEPH, PAHs in soils and groundwater
AEC 3	Former sawmill / Portion on 25 m wide road dedication within former CIPA lease area	<ul style="list-style-type: none"> Soils with chlorinated phenols concentrations above CSR CL and IL standard as reported in former SNC reports Groundwater with chlorinated phenols concentrations above CSR AW standards as reported in former SNC reports 	<ul style="list-style-type: none"> Chlorinated Phenols in soils and groundwater
AEC 4	Former sawmill / Portion on southern end of 25 m wide road dedication on north end of Western Forest Products lease area.	<ul style="list-style-type: none"> Soils with PCP and metals concentrations above CSR CL and IL standards as reported in former SNC reports 	<ul style="list-style-type: none"> Chlorinated Phenols and metals in soils
AEC 7	Imported Fill / Portion on middle of Property within Seaspan lease area near the existing dock	<ul style="list-style-type: none"> Fill soils with metals above CSR IL and CL standards as reported in former SNC reports 	<ul style="list-style-type: none"> Metals in soils
Marine AEC 1	Water lot on Property / Seaspan lease area	<ul style="list-style-type: none"> Sediments with PAHs above CSR typical (TCS) and sensitive sediment criteria (SSC) as reported in former SNC reports 	<ul style="list-style-type: none"> PAHs
APEC ID	Issue and Location	Supporting Rationale	PCOCs
APEC 8	Former Locomotive Engine House / Portion on middle of Property within Seaspan lease area	<ul style="list-style-type: none"> Observed on 1951 Fire Insurance maps to be located on the Property. 	<ul style="list-style-type: none"> Soil and groundwater: LEPH, HEPH, PAHs and metals in soils and groundwater

Table 12 – Moderate to High Potential Environmental Issue Rationale – Property

AEC ID	Issue and Location	Supporting Rationale	COCs
APEC 9	Heating Oil UST adjacent to Seaspan office on the Property	<ul style="list-style-type: none"> Reported to have been pumped out in the 1980s but still located in the ground adjacent to the Seaspan office. 	<ul style="list-style-type: none"> VPH, LEPH, HEPH, PAHs, and parameters listed in Schedule 11 of the CSR associated with this APEC in soils, groundwater and vapour
APEC 10	Former Machine Shop / Former Gadd Marine site on the Property	<ul style="list-style-type: none"> Observed on 1951 Fire Insurance maps to be located on the Property and metal lathe chip debris observed on the foreshore during the site visit. 	<ul style="list-style-type: none"> LEPH, HEPH, PAHs, metals, and parameters listed in Schedule 11 of the CSR associated with this APEC in soils, groundwater and vapour
APEC 11	Former Heating Oil UST / Island Pallet Solutions lease area on the Property	<ul style="list-style-type: none"> A soil vapour investigation was not performed in previous reports at this location. 	<ul style="list-style-type: none"> Heating oil related vapour parameters listed in Schedule 11 of the CSR in vapour
APEC 12	Miscellaneous Industrial Activities	<ul style="list-style-type: none"> Observed on 1939, 1951 and 1957 Fire Insurance maps to be located on the Property 	<ul style="list-style-type: none"> BTEX, VPH, LEPH, HEPH, PAHs, metals and parameters listed in Schedule 11 of the CSR in soils, groundwater and vapour
APEC 13	Former Sawmill	<ul style="list-style-type: none"> Observed on 1939, 1951 and 1957 Fire Insurance maps to be located on the Property 	<ul style="list-style-type: none"> Chlorinated phenols and metals in soils and groundwater

AEC – Area of Environment Concern

APEC – Area of Potential Environment Concern

BTEX – Benzene, Toluene, Ethylbenzene and Xylene

COCs – Contaminants of Concern

HEPH - Heavy Extractable Petroleum Hydrocarbons;

LEPH - Light Extractable Petroleum Hydrocarbons;

PAHs - Polycyclic Aromatic Hydrocarbons;

PCOCs – Potential Contaminants of Concern

VPH – Volatile Petroleum Hydrocarbons

The locations of the AECs and APECs are shown on the attached Figure 8.

The remaining two environmental issues identified on the Property were considered to present a low likelihood of contamination to the Property and are outlined in the following table along with the associated rationale.

Table 13 – Low Potential Environmental Issue Rationale – Property

Low Risk Potential Contaminant Sources	Rationale
Oil/Water Separators	<ul style="list-style-type: none"> Four Oil/water separators were observed to be located on the Seaspan site. Oil/water separators were reported to be checked regularly by BC Hazmat and if catch basins were full at inspection time they were subsequently pumped out and shipped offsite. No fuelling or maintenance performed on the site.
Storage of creosote-treated crossties and lumber	<ul style="list-style-type: none"> Investigated in previous reports and not carried forward in this Stage 1 PSI as an APEC.

5.2 Surrounding Area

During this Stage 1 PSI, three AECs were identified that could be considered to have caused impacts to the Property from offsite sources. The three AECs are included in the Table 12 above and listed below:

- AEC 2 – Contaminants likely migrated onto the Property from nearby railyard activities
- AEC 3 and 4 – Contaminants likely migrated onto the Property from former CIPA Mill site and/or activities on the former CIPA lease area.

All other surrounding sites were considered to only constitute low environmental issues for the Property and are outlined in Table 14 below.

Table 14 – Low Potential Environmental Issue Rationale – Surrounding Sites

Low Risk Potential Contaminant Sources	Rationale
31 Port Drive	<ul style="list-style-type: none"> Western Forest Products sawmill. This site is located approximately 370 m from the southern top of the road right-of-way of the Property and is inferred to be down to crossgradient relative to the Property. Based on the distance away from the main portion of the Property and its crossgradient location, this site is not considered to constitute an offsite APEC.
620 Terminal Avenue	<ul style="list-style-type: none"> Detailed Site registry search reported this site to be active and under assessment. The site is located approximately 200 m northwest and crossgradient of the Property. Presently this site has been redeveloped and is a Nanaimo Casino. Based on the distance away from the Property and its crossgradient location, this site is not considered to constitute an offsite APEC.

Low Risk Potential Contaminant Sources	Rationale
650 Terminal Avenue	<ul style="list-style-type: none"> Formerly drycleaning operations were present at this location as and documented in city directories from 1970 to 1985. Detailed Site registry search reported this site to be active with remediation complete. Certificate of compliance issued using risk based standards. This site is located approximately 20 m north west of the Property and is inferred to be upgradient to cross gradient relative to the Property. Presently this site there is no dry cleaner and this location was renovated within the last year at the time of this report. Based on the distance away from the Property and its upgradient to crossgradient location, this site is not considered to constitute an offsite APEC.
9 Nicol Street	<ul style="list-style-type: none"> Formerly Texaco operations were present at this location as documented in historical photographs circa 1880 and documented in city directories from 1961 to 1985. Detailed Site Registry search indicated this site was inactive with no further action required. Certificate of compliance issued using risk based standards. This site is located approximately 85 m west of the Property and is inferred to be upgradient relative to the Property. Presently this site is a TD Canada Trust bank. Based on the distance away from the Property and its upgradient location, this site is not considered to constitute an offsite APEC.
19 Nicol Street	<ul style="list-style-type: none"> Detailed Site registry search reported this site to be active and under remediation. The site is located approximately 110 m west of the Property and inferred to be upgradient from the Property. Presently this site is a Salvation Army. Based on the distance away from the Property and its upgradient location, this site is not considered to constitute an offsite APEC.

All remaining onsite and offsite activities not discussed above were considered to present a low likelihood of having caused soil, soil vapour and/or groundwater contamination to the Property.

6.0 CONCLUSIONS AND RECOMMENDATIONS

During the preparation of this Stage 1 PSI, Tetra Tech EBA considered the information reviewed to assess the present conditions and historical activities at the Property and at adjacent sites in the context of evaluating potential environmental concerns.

Based on the information reviewed by Tetra Tech EBA during this Stage 1 PSI, much of the Property was occupied by the Nanaimo Harbour, and was gradually infilled with coal waste, dredged sand, and other fills in the late 1800s and early 1900s. The majority of the filling at the site predates the earliest aerial photographs obtained from 1947. The approximate location of the original shoreline, based on 1891 mapping, is shown on Figure 6. This filling likely consisted of end dumping of coal waste or hydraulic placement of dredged sand. In the 1950s, the Property was developed into the Wellcox yard for rail and truck shipping. The present uses of the Property

are: transportation of freight by Seaspan and SVI; pallet storage and construction by Island Pallet Solutions and former pile driving and marine construction company.

During the preparation of this Stage 1 PSI, Tetra Tech EBA considered the information reviewed to assess the present conditions and historical site activities at the Property and at adjacent sites in the context of evaluating potential environmental concerns. Based on the findings described in this Stage 1 PSI, certain potential environmental concerns were identified. The following table lists the known areas of environmental concern (AECs) based on existing analytical data from the existing reports and some additional areas of potential environmental concern (APECs) identified during this Stage 1 PSI and the associated known contaminants of concern (COCs) and potential contaminants of concern (PCOCs):

Table 15 – Stage 1 PSI Findings

AECs	Issue and Location	COCs >CSR Standards
AEC 1	Imported Fill / Middle of Property within Seaspan lease area.	Fill soils with metals concentrations above CSR CL and IL standards.
AEC 2	Former Locomotive Fuelling Facilities and Barrel Storage and Swale Beneath Crace Street Viaduct/Portion on Property of SVI lease area.	Soils with LEPH/HEPH concentrations above CSR CL and IL standards. Groundwater with LEPHw concentrations and PAHs above CSR AW standards.
AEC 3	Former sawmill / Portion on 25 m wide road dedication within former CIPA lease area	Soils with chlorinated phenols concentrations above CSR CL and IL standard. Groundwater with chlorinated phenols concentrations above CSR AW standards.
AEC 4	Former sawmill / Portion on southern end of 25 m wide road dedication on north end of Western Forest Products lease area.	Soils with chlorinated phenols and metals concentrations above CSR CL and IL standards.
AEC 7	Imported Fill / Portion on middle of Property within Seaspan lease area near existing dock	Fill soils with metals above CSR IL and CL standards.
Marine AEC 1	Water lot on Property / Seaspan Lease Area.	Sediments with PAHs above CSR typical (TCS) and sensitive sediment criteria (SSC).
APECs	Location	Suspect PCOCs and Environmental Media
APEC 8	Former Locomotive Engine House located on Property.	Soil and groundwater: LEPH, HEPH, PAHs and metals
APEC 9	Heating Oil UST adjacent to Seaspan office on the Property.	Soil, groundwater and vapour: with VPH, LEPH, HEPH, PAHs, and parameters listed in Schedule 11 of the CSR associated with this APEC.
APEC 10	Former Machine Shop at former Gadd Marine Site on the Property.	Soil, groundwater and vapour: LEPH, HEPH, PAHs, metals, and parameters listed in Schedule 11 of the CSR associated with this APEC.
APEC 11	Former heating oil UST at Island Pallet Solutions on the Property.	Vapour: heating oil related vapour parameters listed in Schedule 11 of the CSR.
APEC 12	Miscellaneous Industrial Activities	Soil, groundwater, vapour: BTEX, VPH, LEPH, HEPH, PAHs, metals and parameters listed in Schedule 11 of the CSR.
APEC 13	Former Sawmill	Chlorinated phenols and metals.

EPH - Extractable Petroleum Hydrocarbons;
LEPH - Light Extractable Petroleum Hydrocarbons;
HEPH - Heavy Extractable Petroleum Hydrocarbons;
PAHs - Polycyclic Aromatic Hydrocarbons;
BTEX – Benzene, Toluene, Ethylbenzene and Xylene; and
VPH – Volatile Petroleum Hydrocarbons

Tetra Tech EBA recommends that a Detailed Site Investigation (DSI) be conducted for the Property in order to determine more accurately the concentrations and extent of impacts within each known AEC and also to investigate the quality of all environmental media at the newly identified APECs.

7.0 QUALIFICATIONS OF ASSESSORS

Kristy Gabelhouse, B.I.T. – Report Author

Ms. Gabelhouse has six years of contaminated sites experience including Stage 1 and 2 Preliminary Site Investigations, Phase I and II Environmental Site Assessments, and various field-based projects. Ms. Gabelhouse has authored over 15 environmental investigation reports.

Ms. Gabelhouse conducted the records review, interviews and site visit portions of the project and wrote the appropriate sections within this report.

Lora Paul, P.Eng. – Peer Review

Ms. Paul has over 14 years of consulting experience as a Project Engineer/Project Manager specializing in contaminated site investigations of commercial and industrial sites, regulatory approvals for property development, and due diligence for property transfer. Ms. Paul has investigated soil, groundwater, and vapour issues related to various commercial and industrial activities including former service stations, dry cleaning facilities, landfills, automotive recycling yards, highway works yards, former shipyards, and airports.

Ms. Paul project managed and peer reviewed the report.

Martin Jarman, P.Geo., CSAP – Senior Review

Mr. Jarman is a Senior Environmental Scientist with 20 years of experience in conducting the investigation and remediation of contaminated sites and overall environmental management. As a Member of the BC Contaminated Sites Approved Professional Society (CSAP), Mr. Jarman has been involved in the detailed review of all stages of environmental reports and completed over 20 recommendations to the Ministry of Environment for legal instruments for various sites across BC since 2007.

Mr. Jarman provided senior input and senior review for the report.

8.0 CLOSURE

Conclusions and recommendations presented herein are based on a visual site inspection, discussion with personnel and historical information that was reviewed at the time of this investigation. This report has been prepared based on the scope of work and for the use of the City of Nanaimo, which includes distribution as required for the purposes for which this assessment was commissioned. The assessment has been carried out in accordance with generally accepted engineering practice. No other warranty is made, either expressed or implied. Professional judgment has been applied in developing the recommendations in this report.

This report was prepared by personnel with professional experience in investigations of this nature and who specifically conducted the investigations at this Property. Reference should be made to Tetra Tech EBA's General Conditions attached in Appendix A that forms a part of this report.

Tetra Tech EBA trusts that this report satisfies your present requirements. Should you have any questions or comments, please contact our office at your convenience.

Respectfully submitted;
Tetra Tech EBA Inc.

ISSUED FOR REVIEW

Prepared by:
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Environment Practice
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ISSUED FOR REVIEW

Reviewed by:
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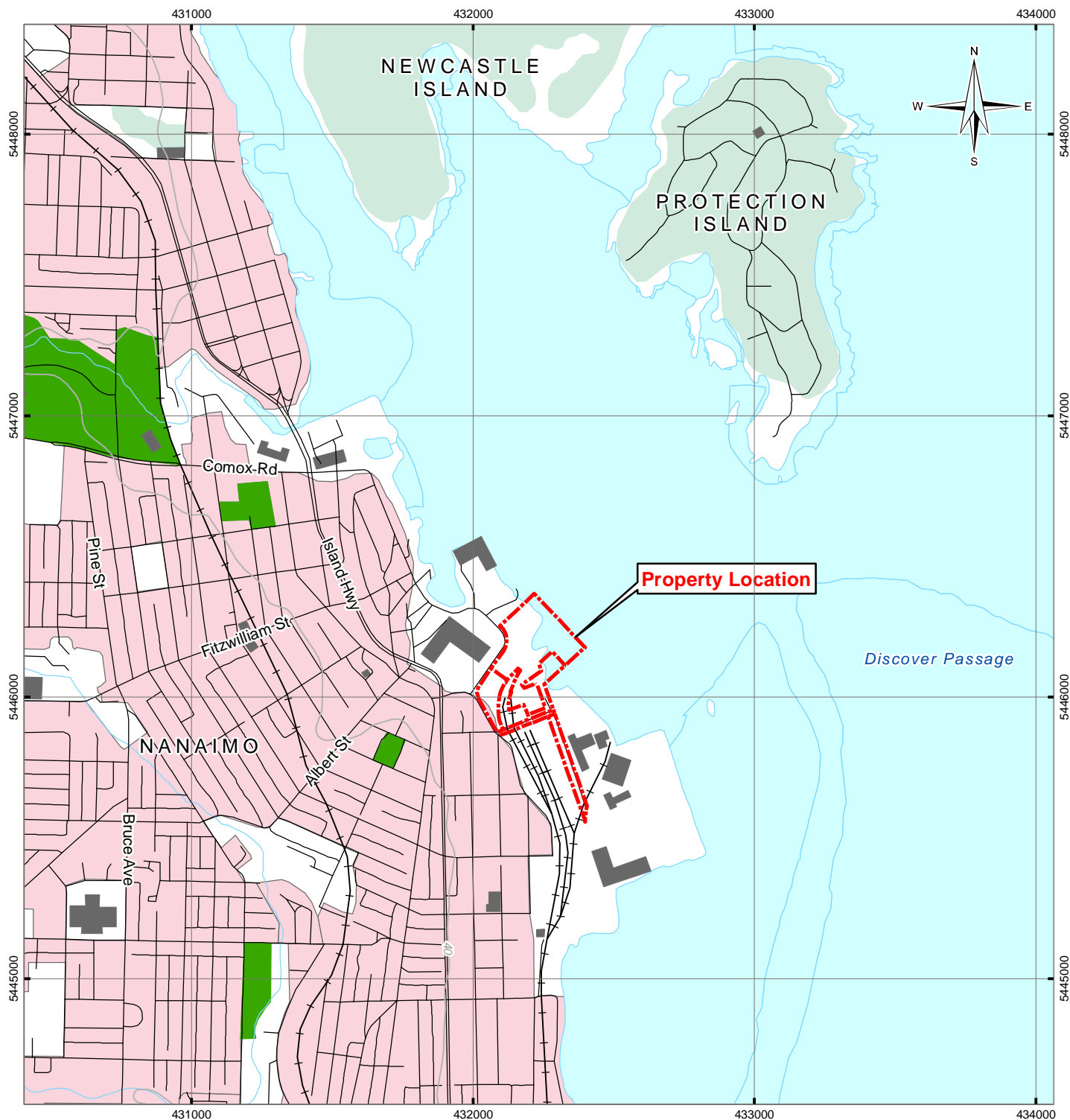
ISSUED FOR REVIEW

Senior Reviewed by:
Martin Jarman, P.Geo., CSAP
Senior Environmental Consultant
Direct Line: 250.797.0282
jarmanm@shaw.ca

FIGURES

Figure 1	Location Plan
Figure 2	Site and Surrounding Use Plan
Figure 3	Historical Soil Analytical Results
Figure 4	Historical Sediment Analytical Results
Figure 5	Historical Groundwater Analytical Results
Figure 6	Historical Shoreline Location
Figure 7	Historical Site Plan
Figure 8	AEC and APEC Plan

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LEGEND

- Subject Property
- Park
- Road
- ~ Contour (40 m)
- + Railway
- ~ Watercourse
- Building
- Waterbody
- Residential Area
- Vegetation

NOTES

Property boundaries are approximate.
Base data source:
CanVec 1:50,000 (Sheet 092G04).

STATUS
ISSUED FOR REVIEW

STAGE 1 PSI UPDATE PORTION OF 7 PORT DRIVE NANAIMO, BC

Property Location Plan

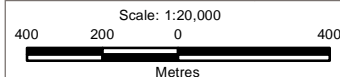
PROJECTION

UTM Zone 10

DATUM

NAD83

CLIENT



FILE NO.

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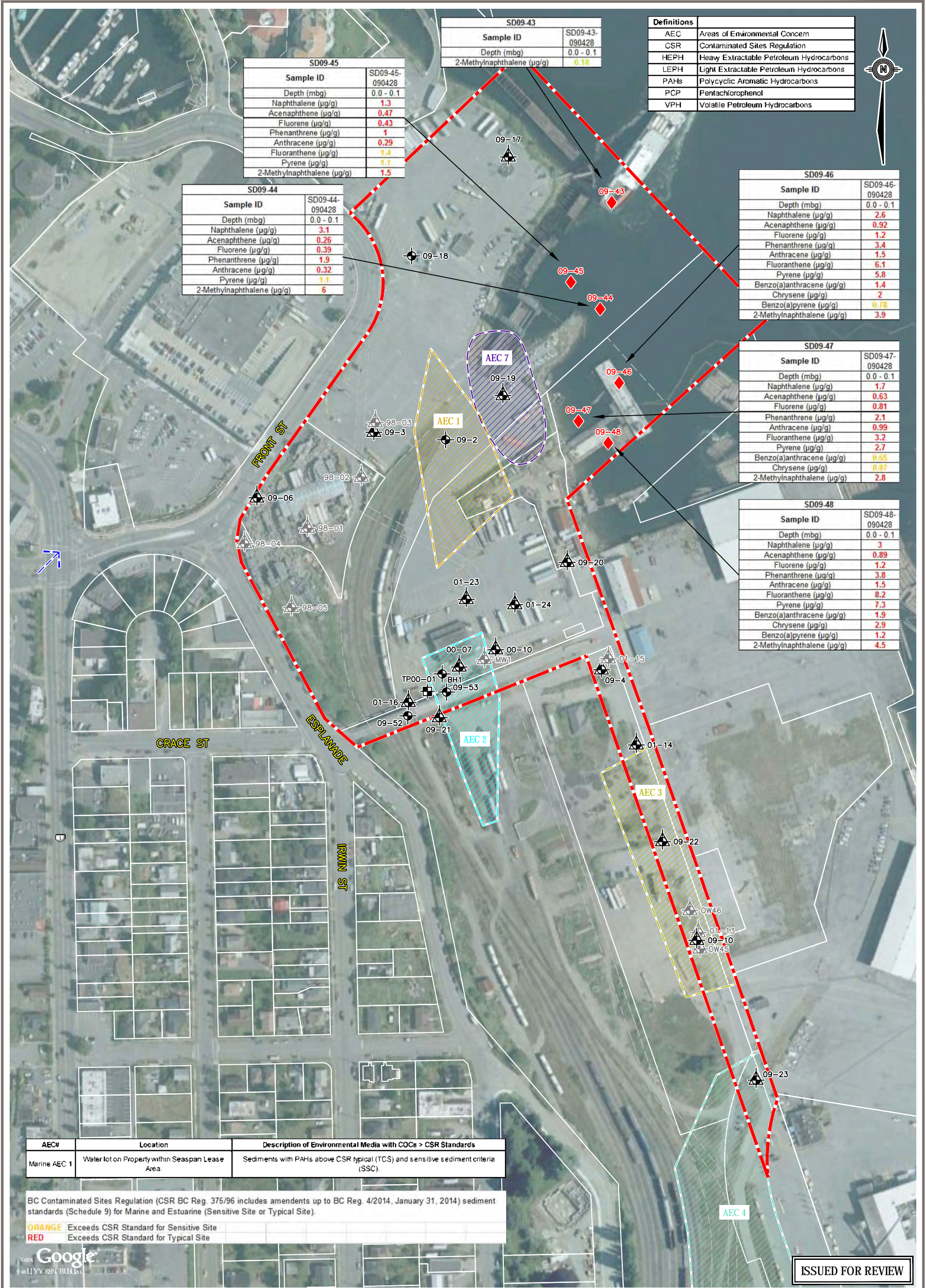
T1 EBA-VANC

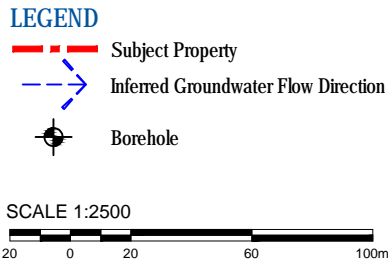
DATE

August 27, 2014



Figure 1

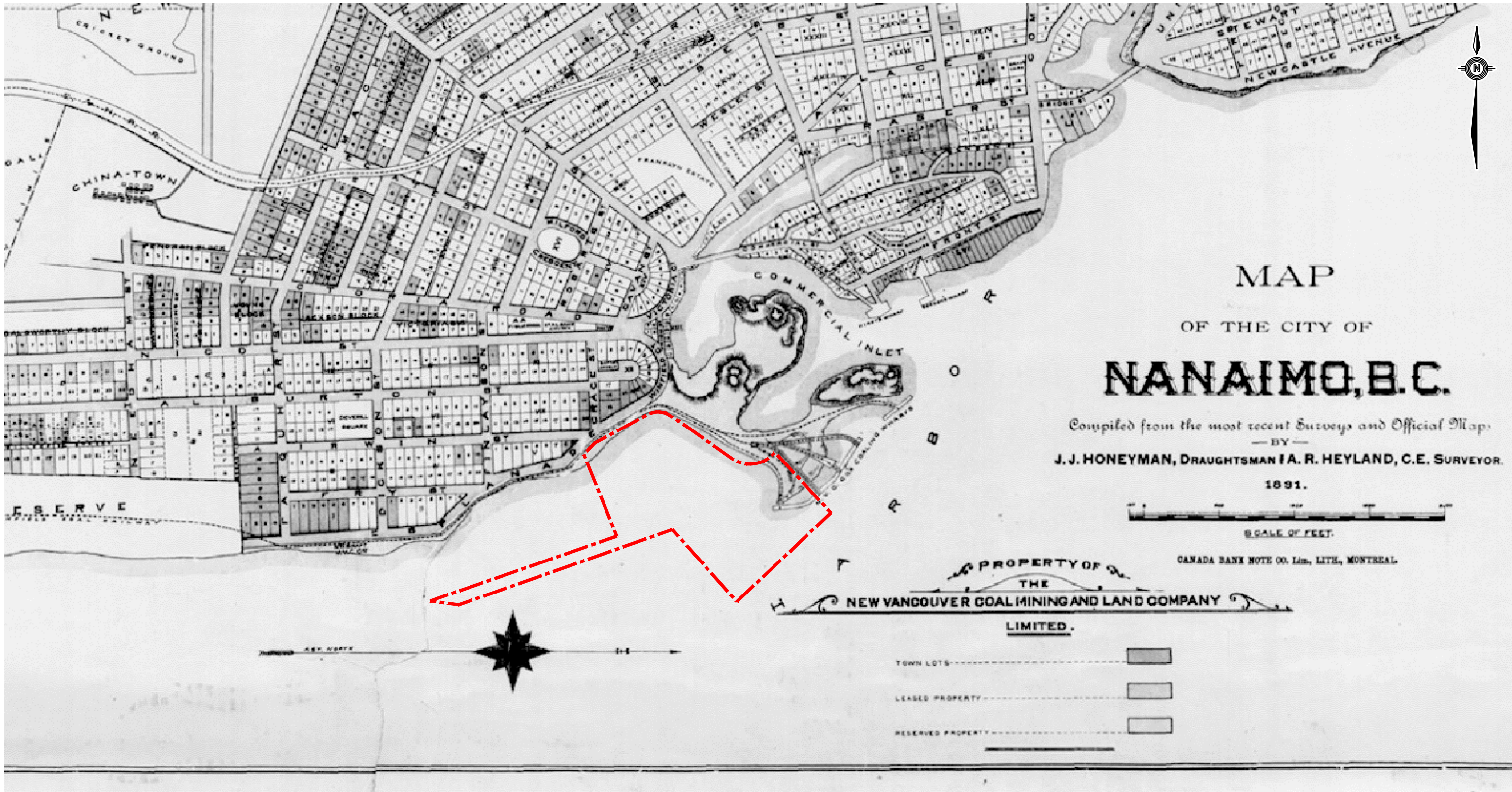




NOTE
LOCATIONS SHOWN ARE APPROXIMATE.



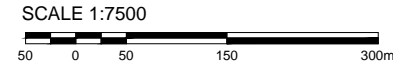
STAGE 1 PSI			
1 PORT DRIVE, NANAIMO, BC			
HISTORICAL GROUNDWATER ANALYTICAL RESULTS			
PROJECT NO.	DWN	CKD	REV
ENVIND03511-01	SF	KG	0
OFFICE	DATE		
VANC	January 29, 2015		



LEGEND

--- Property Boundary - Portion of 1 Port Drive

--- Current Shoreline (based off aerial imagery taken in 2009)



NOTE

SHORELINES SHOWN ARE SCALED FROM GOOGLE EARTH IMAGERY AND ARCHIVED MAPS. THIS FIGURE SHOULD BE USED ONLY AS A GUIDE FOR THE READER TO HAVE A GENERAL UNDERSTANDING OF THE SHORELINE CHANGES WITH LIMITATIONS OF ACCURACY.



STAGE 1 PSI
1 PORT DRIVE, NANAIMO, BC

HISTORICAL SHORELINE LOCATION				
PROJECT NO. ENVIND03511-01	DWN SF	CKD KG	REV 0	Figure 6
OFFICE VANC	DATE January 29, 2015			

Q:\Vancouver\Drafting\Environmental\ENVIND03511-01\sk-001\ENVIND03511-01_001_FIG 2-7_R0_Preliminary Site Investigation.dwg [FIGURE 7] January 29, 2015 - 1:40:06 pm (BY: FOURNIER, SAMUEL)



LEGEND

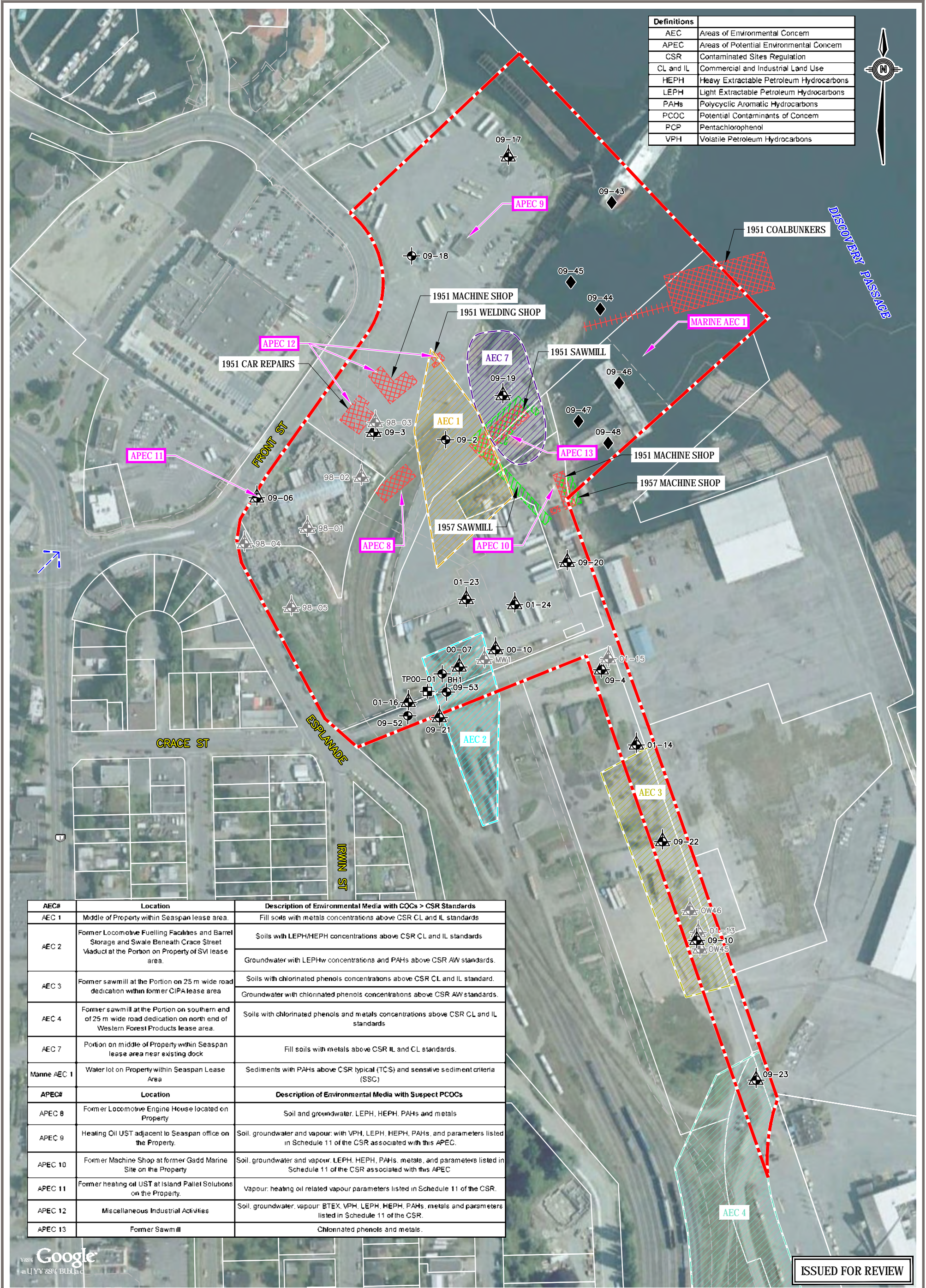
- Subject Property
- Inferred Groundwater Flow Direction
- 1951 Historical Buildings (Approximate)
- 1957 Historical Buildings (Approximate)

SCALE 1:2500

20 0 20 60 100m

NOTE
LOCATIONS SHOWN ARE APPROXIMATE.

CLIENT		STAGE 1 PSI 1 PORT DRIVE, NANAIMO, BC			
CITY OF NANAIMO THE HARBOUR CITY		HISTORICAL SITE PLAN			
TETRA TECH EBA	PROJECT NO. ENVIND03511-01	DWN SF	CKD KG	REV 0	Figure 7
	OFFICE VANC	DATE January 29, 2015			



LEGEND

- Subject Property
- Inferred Groundwater Flow Direction
- 1951 Historical Buildings (Approximate)
- Borehole
- Monitoring Well
- Sediment Sample
- Test Pit
- SNC AEC Boundary

SCALE 1:2500

20 0 20 60 100m

NOTE
LOCATIONS SHOWN
ARE APPROXIMATE.

CLIENT

CITY OF NANAIMO
THE HARBOUR CITY

TETRA TECH EBA

STAGE 1 PSI
1 PORT DRIVE, NANAIMO, BC

AEC AND APEC PLAN

PROJECT NO. ENVIND03511-01	DWN SF	CKD KG	REV 0
OFFICE VANC	DATE January 29, 2015		

Figure 8

APPENDIX A

TETRA TECH EBA'S GENERAL CONDITIONS

GENERAL CONDITIONS

GEOENVIRONMENTAL REPORT

This report incorporates and is subject to these “General Conditions”.

1.0 USE OF REPORT AND OWNERSHIP

This report pertains to a specific site, a specific development, and a specific scope of work. It is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site or proposed development would necessitate a supplementary investigation and assessment.

This report and the assessments and recommendations contained in it are intended for the sole use of Tetra Tech EBA's client. Tetra Tech EBA does not accept any responsibility for the accuracy of any of the data, the analysis or the recommendations contained or referenced in the report when the report is used or relied upon by any party other than Tetra Tech EBA's Client unless otherwise authorized in writing by Tetra Tech EBA. Any unauthorized use of the report is at the sole risk of the user.

This report is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of Tetra Tech EBA. Additional copies of the report, if required, may be obtained upon request.

2.0 ALTERNATE REPORT FORMAT

Where Tetra Tech EBA submits both electronic file and hard copy versions of reports, drawings and other project-related documents and deliverables (collectively termed Tetra Tech EBA's instruments of professional service), only the signed and/or sealed versions shall be considered final and legally binding. The original signed and/or sealed version archived by Tetra Tech EBA shall be deemed to be the original for the Project.

Both electronic file and hard copy versions of Tetra Tech EBA's instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except Tetra Tech EBA. The Client warrants that Tetra Tech EBA's instruments of professional service will be used only and exactly as submitted by Tetra Tech EBA.

Electronic files submitted by Tetra Tech EBA have been prepared and submitted using specific software and hardware systems. Tetra Tech EBA makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

3.0 NOTIFICATION OF AUTHORITIES

In certain instances, the discovery of hazardous substances or conditions and materials may require that regulatory agencies and other persons be informed and the client agrees that notification to such bodies or persons as required may be done by Tetra Tech EBA in its reasonably exercised discretion.

4.0 INFORMATION PROVIDED TO TETRA TECH EBA BY OTHERS

During the performance of the work and the preparation of the report, Tetra Tech EBA may rely on information provided by persons other than the Client. While Tetra Tech EBA endeavours to verify the accuracy of such information when instructed to do so by the Client, Tetra Tech EBA accepts no responsibility for the accuracy or the reliability of such information which may affect the report.

APPENDIX B

CURRENT LEGAL TITLES

TITLE SEARCH PRINT

2014-08-01, 09:22:22

Requestor: TeresaLee

****CURRENT INFORMATION ONLY - NO CANCELLED INFORMATION SHOWN****

Land Title District	VICTORIA
Land Title Office	VICTORIA
Title Number	CA3049626
From Title Number	CA3049625
Application Received	2013-03-27
Application Entered	2013-04-05
Registered Owner in Fee Simple	
Registered Owner/Mailing Address:	CITY OF NANAIMO 455 WALLACE STREET NANAIMO, BC V9R 5J6
Taxation Authority	CITY OF NANAIMO
Description of Land	
Parcel Identifier:	029-036-500
Legal Description:	LOT A SECTION 1 AND PART OF THE BED OF THE PUBLIC HARBOUR OF NANAIMO NANAIMO DISTRICT PLAN EPP27507
Legal Notations	
	NOTICE OF INTEREST, BUILDERS LIEN ACT (S.3(2)), SEE CA3049787 FILED 2013-03-27
	PERSONAL PROPERTY SECURITY ACT NOTICE, SEE EM112094
Charges, Liens and Interests	
Nature:	STATUTORY RIGHT OF WAY
Registration Number:	J6271
Registration Date and Time:	1979-12-03 13:30
Registered Owner:	NANAIMO PORT AUTHORITY
Transfer Number:	CA1696213
Remarks:	PART SHOWN OUTLINED IN RED ON PLAN 3756 RW FOR CHANGE OF ADDRESS SEE CA3413191

TITLE SEARCH PRINT

2014-08-01, 09:22:22

Requestor: TeresaLee

Nature: STATUTORY RIGHT OF WAY
Registration Number: J6272
Registration Date and Time: 1979-12-03 13:30
Registered Owner: NANAIMO PORT AUTHORITY
Transfer Number: CA1696214
Remarks: PART SHOWN OUTLINED IN RED ON PLAN 719 RW
FOR CHANGE OF ADDRESS SEE CA3413192

Nature: STATUTORY RIGHT OF WAY
Registration Number: EM109875
Registration Date and Time: 1998-11-18 09:55
Registered Owner: SEASPAN FERRIES CORPORATION
INCORPORATION NO. C902665
Transfer Number: CA1907768
Remarks: PART SHOWN ON PLAN VIP68067
MODIFIED BY ET1322
MODIFIED BY EW7033

Nature: STATUTORY RIGHT OF WAY
Registration Number: EN2815
Registration Date and Time: 1999-01-12 11:49
Registered Owner: ISLAND CORRIDOR FOUNDATION
Transfer Number: FB229230
Remarks: INTER ALIA
PART IN PLAN VIP68412

Nature: STATUTORY RIGHT OF WAY
Registration Number: ET1322
Registration Date and Time: 2002-01-04 14:43
Remarks: MODIFICATION OF EM109875

Nature: MORTGAGE
Registration Number: ET60234
Registration Date and Time: 2002-05-31 11:03
Registered Owner: THE BANK OF NOVA SCOTIA
Remarks: INTER ALIA
AS TO THE MORTGAGE OF SRW EN2815

Nature: ASSIGNMENT OF RENTS
Registration Number: ET60235
Registration Date and Time: 2002-05-31 11:03
Registered Owner: THE BANK OF NOVA SCOTIA
Remarks: INTER ALIA
AS TO SRW EN2815

TITLE SEARCH PRINT

2014-08-01, 09:22:22

Requestor: TeresaLee

Nature: STATUTORY RIGHT OF WAY
Registration Number: EW7033
Registration Date and Time: 2004-01-20 11:49
Remarks: MODIFICATION OF EM109875

Nature: STATUTORY RIGHT OF WAY
Registration Number: FB15111
Registration Date and Time: 2007-02-15 14:33
Registered Owner: CITY OF NANAIMO
Remarks: INTER ALIA
CANCELLED AS TO ALL EXCEPT PART IN PLAN VIP84293
BY FB131821 21/12/2007

Nature: MORTGAGE
Registration Number: CA2919316
Registration Date and Time: 2012-12-17 12:38
Registered Owner: COMPUTERSHARE TRUST COMPANY OF CANADA
INCORPORATION NO. A-52313
Remarks: INTER ALIA
OF EM109875
EXTENSION OF EV14868

Nature: ASSIGNMENT OF RENTS
Registration Number: CA2919317
Registration Date and Time: 2012-12-17 12:38
Registered Owner: COMPUTERSHARE TRUST COMPANY OF CANADA
INCORPORATION NO. A-52313
Remarks: INTER ALIA
OF EM109875
EXTENSION OF EV14869

Nature: EASEMENT
Registration Number: CA3049628
Registration Date and Time: 2013-03-27 13:24
Remarks: PART IN PLAN EPP28939; APPURTENANT TO LOT 1, PLAN
6675, EXCEPT PLANS 19380, 30712 AND EPP27507

Duplicate Indefeasible Title

NONE OUTSTANDING

Transfers

NONE

Pending Applications

NONE

>

*** NO MISC NOTES FOUND

PARCEL IDENTIFIER (PID): 029-036-500

SHORT LEGAL DESCRIPTION: S/EPP27507/////A

MARG:

TAXATION AUTHORITY:

1 CITY OF NANAIMO

FULL LEGAL DESCRIPTION: CURRENT

LOT A SECTION 1 AND PART OF THE BED OF THE PUBLIC HARBOUR OF NANAIMO
NANAIMO DISTRICT PLAN EPP27507

MISCELLANEOUS NOTES:

ASSOCIATED PLAN NUMBERS:

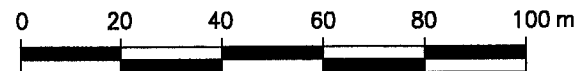
EASEMENT PLAN EPP28939

REFERENCE PLAN EPP27507

AFB/IFB: MN: N PE: 0 SL: 1 TI: 1

REFERENCE PLAN OF PART OF LOT 1 OF SECTION 1 AND OF THE BED OF THE PUBLIC HARBOUR OF NANAIMO, NANAIMO DISTRICT, PLAN 6675, EXCEPT THOSE PARTS IN PLANS 19380 AND 30712

PURSUANT TO SECTION 99(1)(h)(ii) OF THE LAND TITLE ACT
BCGS 92G.011



ALL DISTANCES ARE IN METRES UNLESS OTHERWISE NOTED

THE INTENDED PLOT SIZE OF THIS PLAN IS 560 mm IN WIDTH BY 864 mm IN HEIGHT (D-SIZE) WHEN PLOTTED AT A SCALE OF 1:1500

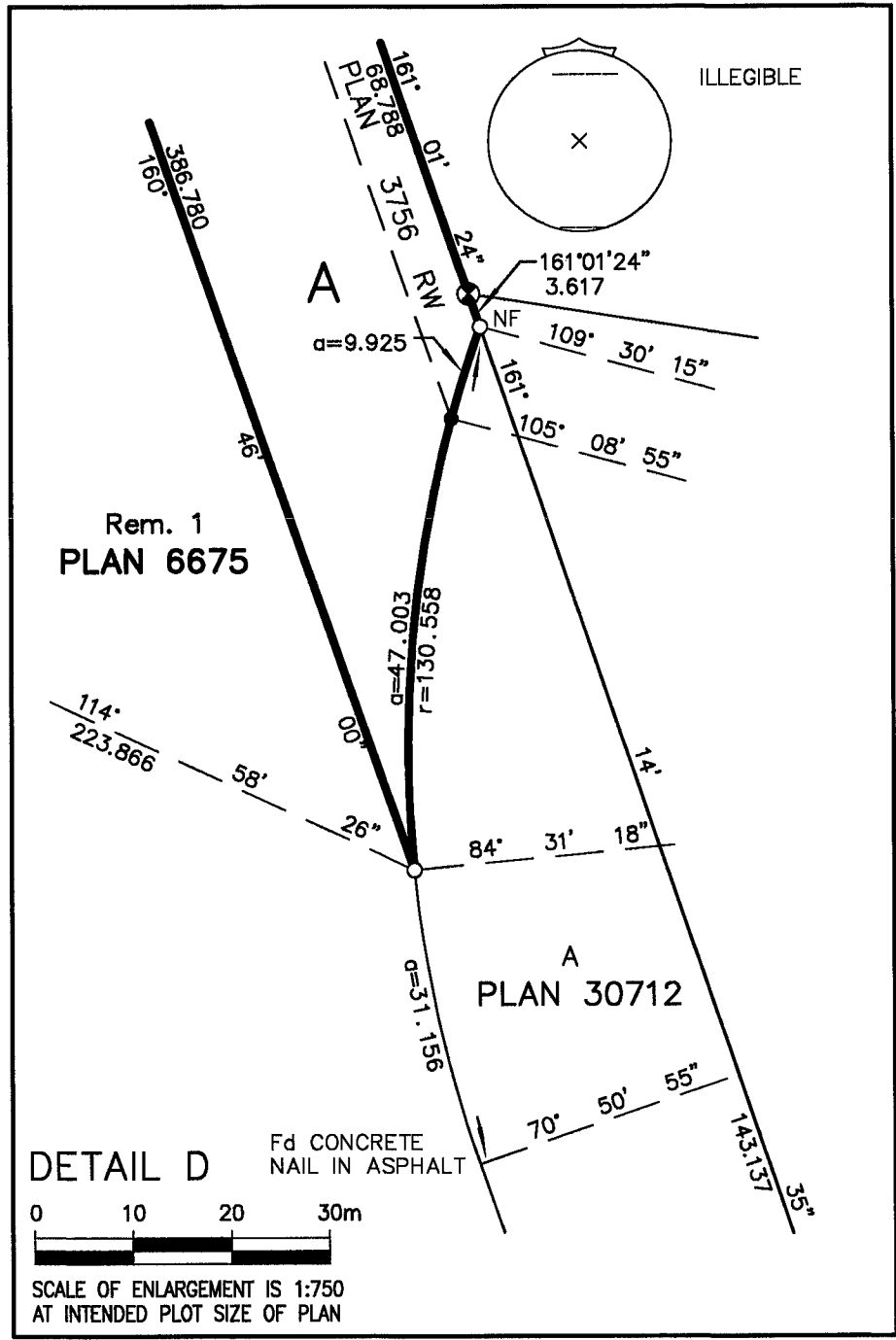
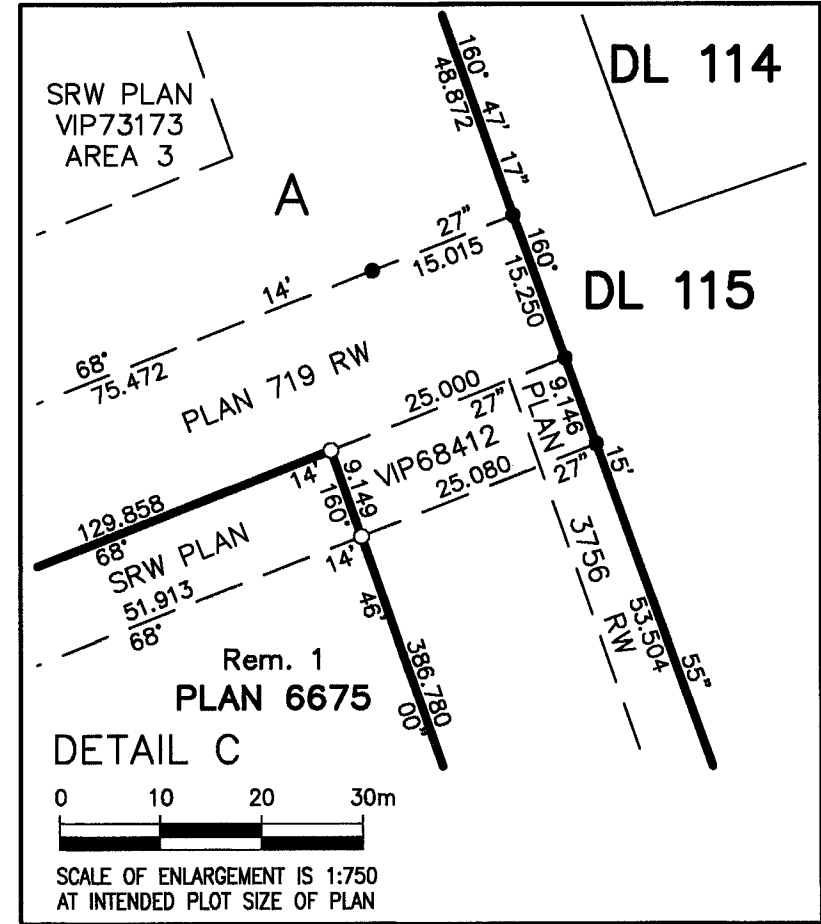
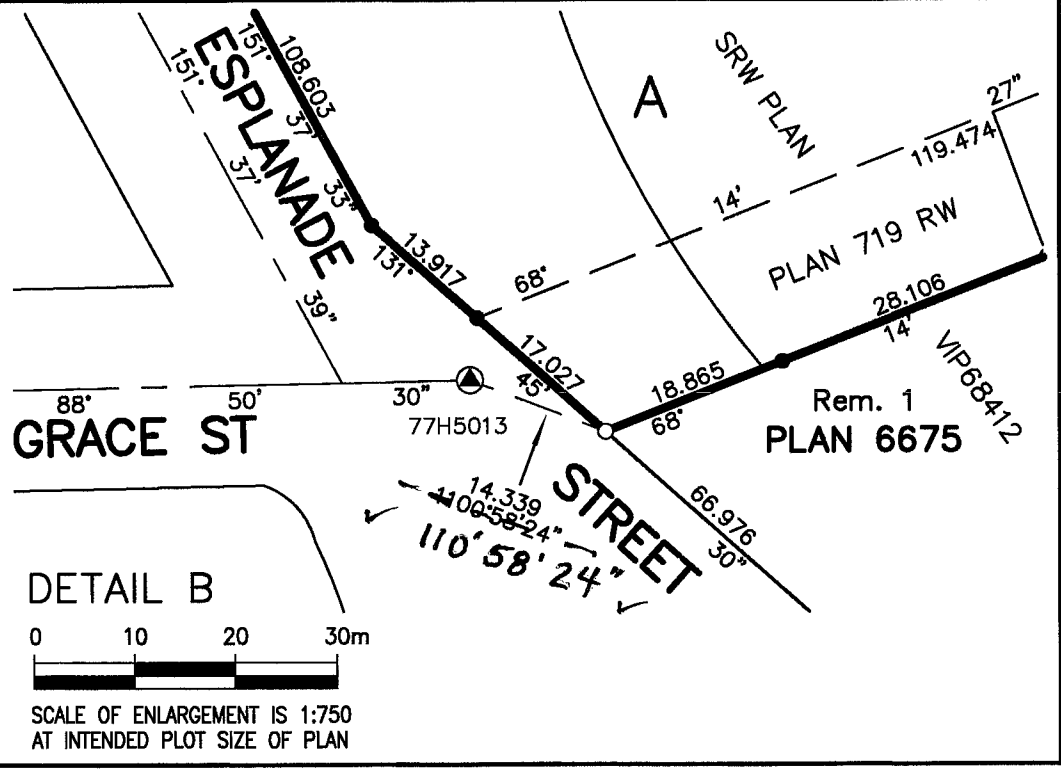
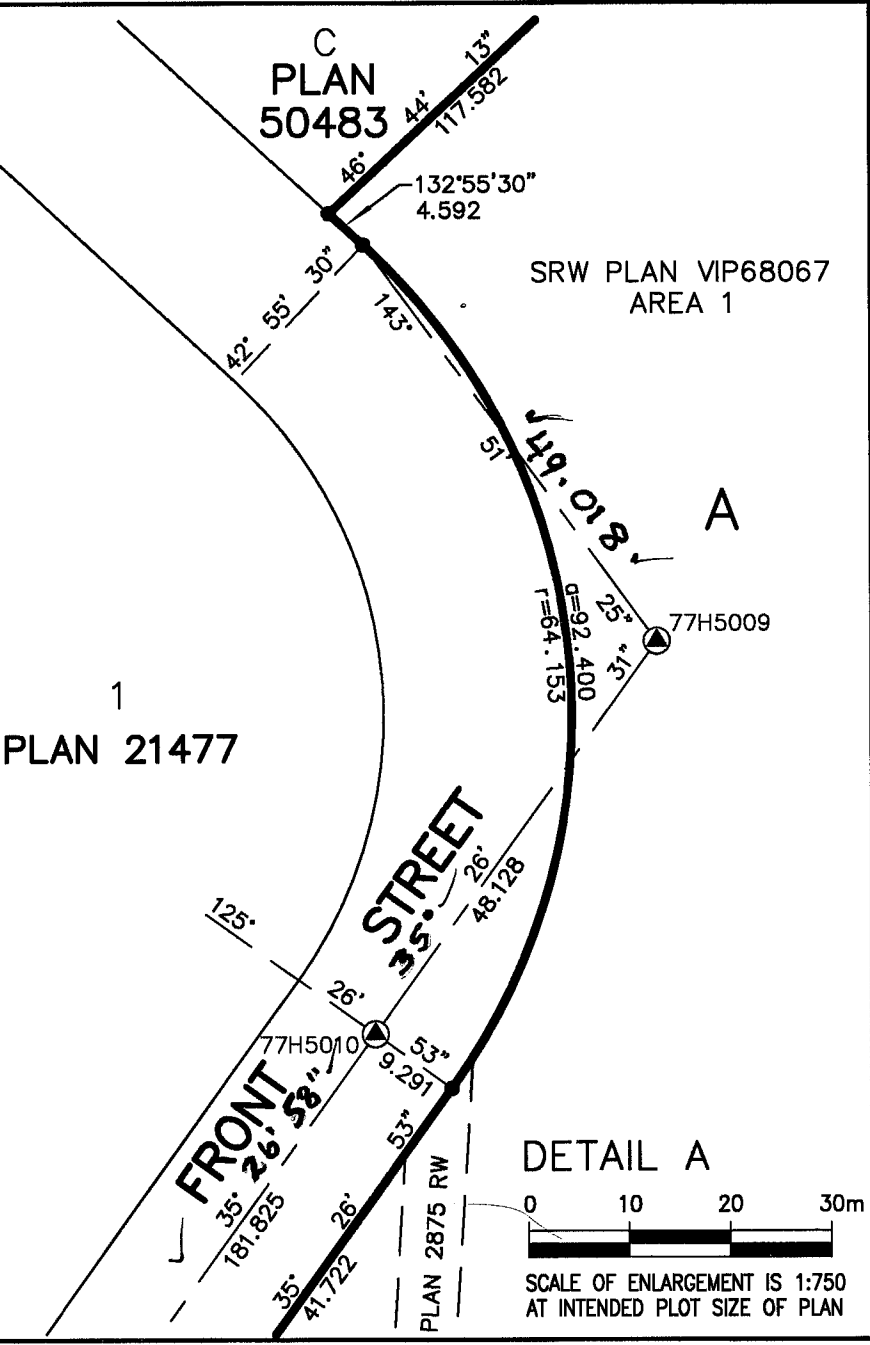
LEGEND

INTEGRATED SURVEY AREA No. 20, CITY OF NANAIMO, NAD 83 (CSRS)

GRID BEARINGS ARE DERIVED FROM OBSERVATIONS BETWEEN GEODETIC CONTROL MONUMENTS 77H5009 AND 77H5011. THIS PLAN SHOWS HORIZONTAL GROUND-LEVEL DISTANCES UNLESS OTHERWISE SPECIFIED. TO COMPUTE GRID DISTANCES, MULTIPLY GROUND-LEVEL DISTANCES BY THE AVERAGED COMBINED FACTOR OF 0.99965815 WHICH HAS BEEN DERIVED FROM GEODETIC CONTROL MONUMENTS 77H5009 AND 77H5084.

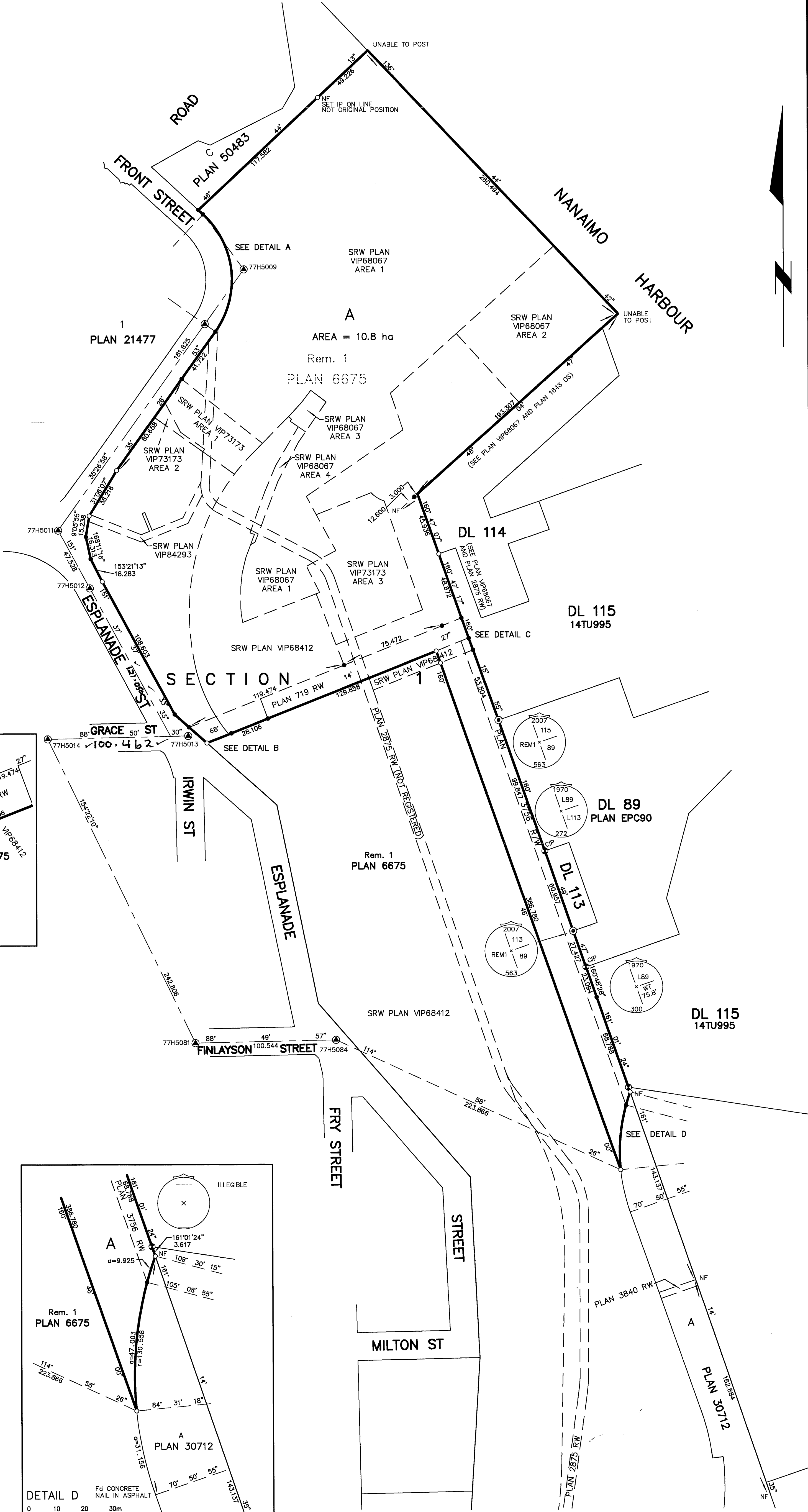
- DENOTES STANDARD IRON POST FOUND
- DENOTES STANDARD IRON POST SET
- DENOTES STANDARD CAPPED POST FOUND
- ⊗ DENOTES STANDARD CAPPED POST SET
- ⊕ DENOTES CONTROL MONUMENT FOUND
- ⊙ DENOTES STANDARD CONCRETE POST FOUND
- ⊖ DENOTES OLD STYLE CAPPED IRON POST

Corrected March 5, 2014
See CA 3619169
C. MacDonald per A.C.



MCLHANNAY ASSOCIATES
LAND SURVEYING LTD.
SUITE 1, 1351 ESTEVAN ROAD
NANAIMO, B.C. V8S 3Y3
TEL: 250-716-3336
FAX: 250-716-3339
OUR FILE NO. 2232-71635-1
OUR DRAWING NO. 71635-1 REF.DWG

PLAN EPP27507



THIS PLAN LIES WITHIN THE REGIONAL DISTRICT OF NANAIMO
THE FIELD SURVEY REPRESENTED BY THIS PLAN WAS COMPLETED ON
THE 4TH DAY OF JANUARY, 2013.
BRIAN DAVID WARDROP, BCLS

APPENDIX C

PHOTOGRAPHS



Photo 1: On Site facing north– view of the SVI office building



Photo 2: On Site facing south – view of the SVI rail tracks on the Property



Photo 3: On Site facing west- view of Island Pallet Solutions



Photo 4: On Site facing north – view of
Seaspan office building



Photo 5: On Site facing west – view of Seaspan site

Photo 6: On Site facing north- view of
25 m access road





Photo 7: On Site facing east
- view of former Gadd Marine foreshore



Photo 8: On Site facing east
- view of former Gadd Marine
foreshore

Photo 9: On Site facing south – view of former Gadd Marine building



Photo 10: On Site facing south – view of former Gadd Marine site and offsite building to the south



Photo 11: Off Site facing south - view of SVI site to the south of the Property



Photo 12: Off Site facing west – view of commercial buildings to the west of the Property

APPENDIX D

HAZARDOUS MATERIALS REPORT

May 14, 2014

Project Ref: N1240 – HMS R02

City of Nanaimo
Engineering & Public Works
2020 Labieux Road
Nanaimo, BC
V9t 6J9

Attention: **Mr. Jan Mongard**
Jan.Mongard@nanaimo.ca

Reference: **Hazardous Materials Survey of the warehouse building at 190 Front Street**
Nanaimo, BC

Executive Summary

Pacific EHS, A Total Safety Company (Pacific) completed a hazardous materials survey of the warehouse building at 190 Front Street (currently Island Pallet Solutions Ltd.), on April 17, 2014. One (1) bulk sample of sheet vinyl flooring from the office was collected for asbestos analysis. A second site visit took place May 5 to collect a sample of tar and gravel roofing from the flat roof over the office area. **No asbestos was present in either sample. No other suspected asbestos containing materials were observed at the site.**

Three (3) bulk samples of paint were collected for analysis to determine lead content. Paint samples contained lead at concentrations **above** the WorkSafeBC criteria of 0.009%. Mercury containing thermostats were not observed in the areas surveyed. Fluorescent light fixtures that may have PCB containing ballasts were present in the office. Equipment that may contain ozone depleting substances was not observed. Smoke detectors which may contain radioactive substances were not observed in the areas surveyed. Fungal growth was not observed. Vermiculite was not observed in a broken section of cinder block wall. No attic space is present. Potential silica-containing building materials such as concrete and cinder block were present. The site currently operates as a warehouse using mobile equipment and hazardous materials such as used motor oil, antifreeze, fuels, paints, etc., may be present.

Introduction

Pacific EHS, A Total Safety Company (Pacific) completed a hazardous materials survey of the warehouse building at 190 Front Street (currently Island Pallet Solutions Ltd.), on April 17, 2014. At the time of inspection the warehouse was being used for pallet storage, office and washroom. The purpose of the survey was to identify hazardous materials such as asbestos containing materials, lead containing paint, PCBs, mercury, mould, ozone depleting substances (ODS), silica, rodent/pigeon feces and/or radioactive sources prior to demolition of the building. A second site visit took place on May 5, 2014, to collect a sample of roofing tar and gravel from the flat roof over the office.

Scope of Work

The scope of this hazardous materials survey included all areas of the building.

Facility Description

The building at 190 Front Street is mainly an open warehouse reported to be 7,000 square feet in floor area. We understand the building may be seventy (70) years old. The east section of the building is a single level slab on grade structure with metal framework on concrete lower walls, metal panels on walls and the peaked roof. The interior is unfinished with bare concrete floor and unpainted walls. Lighting is provided by metal halide lamps and fiberglass roof panels. No heating is provided. The west section of the building is additional warehouses space over a basement area. Walls in this area are painted cinder block and yellow brick. No vermiculite was observed at a broken section of west cinder block wall. The basement area has bare concrete walls and floor. The northwest corner of the basement contains an office with sheet vinyl flooring and painted concrete walls and ceiling. The northwest corner of the building over the office area has a flat roof which is tar and gravel.

Methodology

Asbestos-Containing Material

Two (2) bulk samples of materials suspected of containing asbestos were collected including white sheet vinyl from the basement office and tar & gravel roofing. No other potentially asbestos containing materials were observed in the building. Sample numbers and materials sampled were selected based on our experience and guidelines provided by WorkSafeBC (Safe Work Practices for Handling Asbestos). All the bulk samples were analyzed at the in-house laboratory of Pacific EHS in accordance with the National Institute for Occupational Safety and Health (NIOSH) Analytical Method 9002, "Asbestos (bulk) by Polarized Light Microscopy."

Pacific EHS laboratories are deemed proficient by the American Industrial Hygiene Association (AIHA) and participate in the quarterly rounds of proficiency testing to maintain registration. All samples will be stored at our laboratory for a period of one month before being disposed of. Should you wish to keep these samples for longer please notify us within this period.

Lead

Three (3) representative samples of paint were collected to test for the presence of lead. The samples were submitted in labelled and sealed containers to Maxxam Laboratories for lead analysis using Inductively Coupled Plasma Spectroscopy (ICP) and/or Inductively Coupled Plasma/Mass Spectroscopy (ICP/MS).

Other Hazardous Materials

The presence of mercury containing thermostats, ODS, PCBs, radioactive sources, silica, rodent feces and mould was determined by visual inspection. No sampling of these materials was carried out.

Findings

Asbestos-Containing Materials

WorkSafeBC considers asbestos containing materials, those materials (other than vermiculite) that contain at least 0.5% asbestos. For vermiculite, WorkSafeBC determines that it is asbestos containing if it contains any detectable amount of asbestos. **No asbestos was found in the sheet vinyl sample or the tar & gravel roofing material.** For a complete record of analysis refer to Appendix A for the Bulk Sample Report.

Hazardous MetalsLead

Sampling results identified all paint samples collected to have a concentration above 0.009% (90 µg/g) lead (Table 2). As WorkSafeBC defines lead paint, as paint that contains in excess of 0.009% (90µg/g) of lead, all of the paint is considered to be lead containing. Appendix B presents the laboratory report.

Table 2 – Summary of Lead in Paint Analysis

Sample No.	Location	Material	Lead (Pb) Concentration	
			µg/g	%
N1240 - Pb 1	Southwest corner of warehouse	Peeling blue paint on cinder block wall	<u>1880</u>	<u>0.188</u>
N1240 – Pb 2	Stairwell to basement	Green on white paint on concrete	<u>11400</u>	<u>1.14</u>
N1240 – Pb 3	Basement office	Blue on white paint on concrete	<u>3400</u>	<u>0.340</u>

Bold and underlined indicates results above WorkSafeBC guideline

Mercury

Mercury thermostats were not observed in the areas surveyed. Fluorescent light tubes that contain mercury vapour were present in the office.

Ozone Depleting Substances (ODS)

Equipment that may contain ozone depleting substances was not observed.

Polychlorinated Biphenyls (PCBs)

Fluorescent light fixtures, which may contain PCBs in the ballasts, were present in the office.

Radioactive Materials

Smoke detectors, which may contain radioactive materials, were not observed in the areas surveyed.

Rodent/Avian Feces

Rodent or avian feces were not observed in the areas surveyed.

Mould

Suspected mould growth was not observed

Silica

Concrete and cinder block walls were present and may contain silica.

Other Hazardous Materials

The site is currently occupied and operating as a warehouse with forklifts and other industrial equipment present. It is likely that motor oil, antifreeze, fuels, paint and other materials typically found in industrial workplaces are present onsite.

Discussion and Recommendations

Asbestos Containing Materials

The only potentially asbestos containing materials observed onsite were sheet vinyl in the basement office and tar & gravel roofing material. These were both found to be non-containing.

It is unlikely that asbestos containing materials are present in other inaccessible locations however if materials suspected of containing asbestos are discovered during demolition all work should stop until the material can be analyzed.

Heavy Metals

Mercury

Fluorescent light tubes contain mercury vapour and should be disposed of in accordance with B.C. Ministry of Environment Regulations.

Lead

Lead containing paint was identified on concrete block in all areas sampled. We recommend that all paint at the site be considered to be lead containing.

Prior to demolition of the building we recommend that loose paint on cinder block walls in the west half of the warehouse be removed using a vacuum equipped with a High Efficiency Particulate Air (HEPA) filter. (see Photo 1, Appendix C). The contractor carrying out the work should have an Exposure Control Plan for lead and specific safe work procedures for the proposed work.

If materials coated with lead containing paint are to be disposed of in a landfill we recommend that Toxicity Characteristic Leachate Procedure (TCLP) testing be performed on samples of the painted material. This testing will determine where in the waste stream these materials should be classified (Hazardous Waste or regular demolition debris) and ensure compliance with the BC Ministry of Environment Regulations.

Polychlorinated Biphenyls (PCB's)

Fluorescent light fixtures were observed and may contain PCB's within the light ballasts. Prior to disposal of ballasts they must be inspected to determine whether or not PCBs are present. Non-PCB containing ballasts must have a label affixed which states they do not contain PCBs. It may also be possible to determine PCB content by using guidelines in Environment Canada's document, "Identification of Light Ballasts Containing PCBs" (EPS 2/CC/2, revised August 1991). If no determination can be made the ballasts must be assumed to contain PCBs. If they are determined to contain PCB's they must be disposed of at an approved disposal facility.

Silica

Silica-containing materials including concrete and cinder block, were present at the site. During demolition appropriate controls must be implemented to protect workers from exposure to crystalline silica. The demolition contractor should have an Exposure Control Plan for Silica and specific safe work procedures for demolition of the building.

Other Hazardous Materials

The site is currently occupied and operating as a warehouse with forklifts and other industrial equipment present. It is likely that motor oil, antifreeze, fuels, paint and other materials typically found in industrial workplaces are present onsite. These materials should be recycled or disposed of as hazardous waste prior to demolition of the building.

Limitations

This report is intended for the exclusive use of the City of Nanaimo and designates to assist in the determination of the likely locations of hazardous materials prior to demolition of the building. The use of this document for any other purpose is at the sole risk of the user.

This report is not a Specification or Scope of Work and the use of this document as such will be at the sole risk of the user.

The contents of this report were based on a site visit conducted by Pacific EHS personnel. Please note that some asbestos products may not have been accessible on the day of our survey, and may remain unidentified following our survey. Asbestos products are sometimes used behind wall partitions or on mechanical systems located in pipe chases or other concealed areas.

Statement of Qualifications

Pacific EHS has been providing consulting services in the environmental and industrial hygiene fields since 1990. Our industrial hygiene expertise ensures that all projects are performed in accordance with the WorkSafeBC BC Occupational Health and Safety Regulation. Our staff includes the following:

- Professional Engineers (PEng)
- Certified Industrial Hygienists (CIH)
- Registered Professional Biologist (RPBio.)
- Canadian Registered Safety Professionals (CRSP)
- Applied Science Technologists (AScT)
- Registered Occupational Hygiene Technologists (ROHT)

Pacific EHS also carries Environmental Errors & Omissions Liability Insurance and Comprehensive General Liability Insurance.

We thank you for the opportunity of performing this work on your behalf. Should you have any outstanding questions or require any additional information, please contact the writer.

Yours truly,

Pacific EHS, A Total Safety Company



Gordon Wedman, CIH, ROH
Branch Manager, Nanaimo
Field Work and Report
Ref: N1240-R02

Appendix A

Bulk Sample Analysis Reports

PACIFIC EHS - RECORD OF ANALYSIS

Report Number: N1240-29694

Client: City of Nanaimo

Address: 190 Front Street
Nanaimo BC

Reference:

Report Date: 29-Apr-14

Contact:

Please find enclosed our laboratory's results for the bulk sample(s) submitted to our office for identification.

Sample examination was conducted in accordance with the NIOSH 9002 analytical method using polarized light microscopy and dispersion staining techniques.

A result of 'Asbestos–Not detected' means no asbestos fibres were detected. When asbestos is detected, the minimum quantitation limit is 1%. Levels of asbestos present but below 1% based on visual estimation will be described as TRACE.

This test report relates only to the items tested and any extrapolation by the client of the results is the responsibility of the client. For samples not collected by Pacific EHS, the accuracy of locations and material(s) is the responsibility of the client. Samples will be disposed of after one month, unless we are instructed otherwise.

If asbestos products are identified in this report they should be remediated safely in accordance with the requirements of Part 6.0 of the Worksafe B.C. Occupational Health and Safety Regulation. In general this will require the completion of a Risk Assessment (Part 6.6.1) completed by a “Qualified Person” as defined in Part 6.1.

PACIFIC EHS - RECORD OF ANALYSIS

Report Number: N1240-29694

Address: 190 Front Street, Nanaimo

Sampled By: Pacific EHS

Client Name: City of Nanaimo

Date Sampled: 17-Apr-14

Reference:

Date Analyzed: 29-Apr-14

Analyst: KS

NO.	SAMPLE INFORMATION	LAYER	ASBESTOS	OTHER MATERIALS
N1240-29694-001	Sheet vinyl flooring Basement / Office	White vinyl sheet 30% Foam core 30% White fibrous layer 40%	Not Detected Not Detected Not Detected	Non-Fibrous 100% Non-Fibrous 100% Cellulose 50%, Non-Fibrous 40%, Fibreglass 10%

Total Number of Samples: 1

Report Reviewed By: Elizabeth Camacho



PACIFIC EHS - RECORD OF ANALYSIS

Report Number: N1240-35872
Client: City of Nanaimo
Address: 190 Front Street
Nanaimo BC

Reference:
Report Date: 14-May-14
Contact:

Please find enclosed our laboratory's results for the bulk sample(s) submitted to our office for identification.

Sample examination was conducted in accordance with the NIOSH 9002 analytical method using polarized light microscopy and dispersion staining techniques.

A result of 'Asbestos–Not detected' means no asbestos fibres were detected. When asbestos is detected, the minimum quantitation limit is 1%. Levels of asbestos present but below 1% based on visual estimation will be described as TRACE.

This test report relates only to the items tested and any extrapolation by the client of the results is the responsibility of the client. For samples not collected by Pacific EHS, the accuracy of locations and material(s) is the responsibility of the client. Samples will be disposed of after one month, unless we are instructed otherwise.

If asbestos products are identified in this report they should be remediated safely in accordance with the requirements of Part 6.0 of the Worksafe B.C. Occupational Health and Safety Regulation. In general this will require the completion of a Risk Assessment (Part 6.6.1) completed by a “Qualified Person” as defined in Part 6.1.

PACIFIC EHS - RECORD OF ANALYSIS

Report Number: N1240-35872

Address: 190 Front Street, Nanaimo

Sampled By: Pacific EHS

Client Name: City of Nanaimo

Date Sampled: 05-May-14

Reference:

Date Analyzed: 14-May-14

Analyst: SM

NO.	SAMPLE INFORMATION	LAYER	ASBESTOS	OTHER MATERIALS
N1240-35872-001	Tar and Gravel 2 Roof Over southwest building	Black fibrous tar 60% Brown fibrous layer 30% Gravel 10%	Not Detected Not Detected Not Detected	Cellulose 50%, Non-Fibrous 50% Cellulose 80%, Non-Fibrous 20% Non-Fibrous 100%

Total Number of Samples: 1

Report Reviewed By: Karen Soothill



Appendix B

Maxxam Laboratory Report for Lead in Paint

Your Project #: N1240
Your C.O.C. #: 42823205

Attention: Gordon Wedman

PACIFIC ENVIRONMENTAL EHS
Lantzville (Nanaimo)
PO Box 298
12-7217 Lantzville Road
Lantzville, BC
CANADA V0R 2H0

Report Date: 2014/04/23
Report #: R1556717
Version: 1

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B430893

Received: 2014/04/21, 07:55

Sample Matrix: Solid
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by ICP-AES (acid extr. solid)	3	2014/04/23	2014/04/23	BBY7SOP-00018	EPA 6010c

* Results relate only to the items tested.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Amandeep Nagra, Account Specialist
Email: ANagra@maxxam.ca
Phone# (604) 639-2602

=====

This report has been generated and distributed using a secure automated process.
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1



Maxxam Job #: B430893
Report Date: 2014/04/23

PACIFIC ENVIRONMENTAL EHS
Client Project #: N1240

LEAD IN PAINT CHIPS (SOLID)

Maxxam ID		JK2241	JK2242	JK2243		
	UNITS	N1240-PB1 BLUE PAINT	N1240-PB2 WHITE ON GREEN	N1240-PB3 BLUE ON WHITE	RDL	QC Batch
Total Metals by ICP						
Total Lead (Pb)	ug/g	1880	11400	3400	3.0	7460832

RDL = Reportable Detection Limit



Maxxam Job #: B430893
Report Date: 2014/04/23

Success Through Science®

PACIFIC ENVIRONMENTAL EHS
Client Project #: N1240

General Comments

Maxxam Job #: B430893
Report Date: 2014/04/23

PACIFIC ENVIRONMENTAL EHS
Client Project #: N1240

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Method Blank		RPD		QC Standard	
			Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7460832	Total Lead (Pb)	2014/04/23	<3.0	ug/g	13.4	35	101	80 - 120

N/A = Not Applicable

RPD = Relative Percent Difference

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.


QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Validation Signature Page

Maxxam Job #: B430893

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

A handwritten signature in black ink, appearing to read "Andy Lu", is written over a horizontal line.

Andy Lu, Data Validation Coordinator

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

APPENDIX E

HISTORICAL CLIMATE DATA

Climate

[Home](#) > [Data](#) > [Climate Normals & Averages](#)

Canadian Climate Normals 1981-2010 Station Data

The minimum number of years used to calculate these Normals is indicated by a [code](#) for each element. A "+" beside an extreme date indicates that this date is the first occurrence of the extreme value. Values and dates in bold indicate all-time extremes for the location.

Data used in the calculation of these Normals may be subject to further quality assurance checks. This may result in minor changes to some values presented here.

NANAIMO CITY YARD BRITISH COLUMBIA					
Latitude:	49°11'56.932" N	Longitude:	123°59'16.262" W	Elevation:	114.00 m
Climate ID:	10253G0	WMO ID:		TC ID:	

▼ Precipitation

Precipitation														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	Code
Rainfall (mm)	172.3	107.0	112.0	71.7	52.7	46.8	25.4	28.8	37.0	99.2	179.1	167.8	1099.6	C
Snowfall (cm)	14	8	3	0	0	0	0	0	0	0	6	10	41	C
Precipitation (mm)	185.8	114.9	114.8	71.7	52.7	46.8	25.4	28.8	37.0	99.6	185.5	177.4	1140.4	C
Snow Depth at Month-end (cm)	0	0	0	0	0	0	0	0	0	0	0	0	0	D
Extreme Daily Rainfall (mm)	72.8	70.4	93.6	40.2	24.2	41.0	20.2	48.4	31.0	56.2	76.4	65.0		
Date (yyyy/dd)	1999/28	1983/10	1997/17	2005/15	1984/25	2000/11	1989/01	1991/29	1983/01	2003/16	1983/14	2001/15		
Extreme Daily Snowfall (cm)	20	24	13	0	0	0	0	0	0	7	20	36		
Date (yyyy/dd)	1990/31	1995/14	1991/01	1982/01	1982/01	1982/01	1982/01	1981/01	1981/01	1984/31	1985/26	1996/28		
Extreme Daily Precipitation (mm)	72.8	70.4	93.6	40.2	24.2	41.0	20.2	48.4	31.0	56.2	76.4	65.0		
Date (yyyy/dd)	1999/28	1983/10	1997/17	2005/15	1984/25	2000/11	1989/01	1991/29	1983/01	2003/16	1983/14	2001/15		
Extreme Snow Depth (cm)	6	24	14	0	0	0	0	0	0	0	0	8		
Date (vvvv/dd)	2000/12	1995/15	2002/15	1982/01	1982/01	1982/01	1982/01	1981/01	1981/01	1981/01	1981/01	1996/04		

▼ Days with Rainfall

Days with Rainfall														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	Code
>= 0.2 mm	19	14.5	17.4	14.9	13.6	11.6	7.6	6.9	8.1	15.5	19.9	19.7	168.7	A
>= 5 mm	9	6	6.4	5.2	3.9	3.4	2.2	1.8	2.3	6	10.6	9.3	66	A
>= 10 mm	5.5	3.8	3.4	2	1.3	1.3	0.64	0.88	1.1	3.5	6.5	5.8	35.7	A
>= 25 mm	1.9	0.88	0.68	0.28	0	0.04	0	0.08	0.27	0.62	1.8	2	8.5	A

► Days With Snowfall

► Days with Precipitation

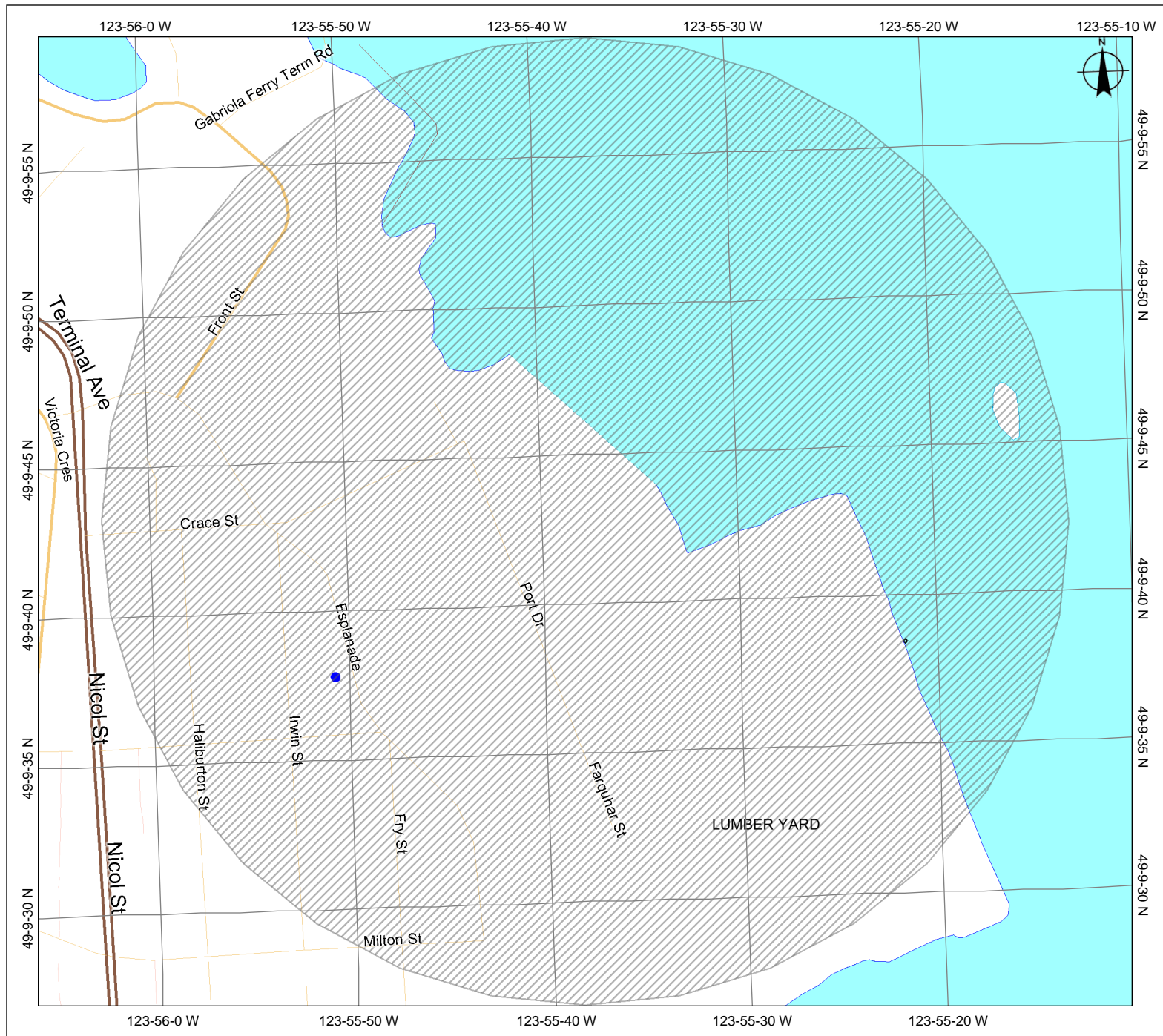
Legend

- A = WMO "3 and 5 rule" (i.e. no more than 3 consecutive and no more than 5 total missing for **either** temperature **or** precipitation)
- B = At least 25 years
- C = At least 20 years
- D = At least 15 years

Date modified: 2014-05-15

APPENDIX F

WATER WELL MAP



Water Wells and PODs - 500 m

Legend

Map Text - Cultural - Pit, School, etc. (1:20,000)

Water - Rivers, Creeks, Shorelines, etc. (1:20,000)

- Glacier
- Icefield
- Canal
- Dam
- Dam - Beaver
- Ditch
- Falls
- Flume
- Rapids
- River or Stream - Definite
- River or Stream - Dry
- River or Stream - Indefinite
- River or Stream - Left Bank
- River or Stream - Right Bank
- Dam - section Base
- Flooded Land - Inundated
- Lake - Definite
- Lake - Indefinite
- Lake - Intermittent
- Reservoir - Definite
- Reservoir - Indefinite
- Reservoir - Intermittent
- Marsh
- Swamp
- Breakwall or Breakwater - Large
- Dyke or Levee

0 80 160 m.

Scale: 1:5,800

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CAUTION: Maps obtained using this site are not designed to assist in navigation. These maps may be generalized and may not reflect current conditions. Uncharted hazards may exist. DO NOT USE THESE MAPS FOR NAVIGATIONAL PURPOSES.

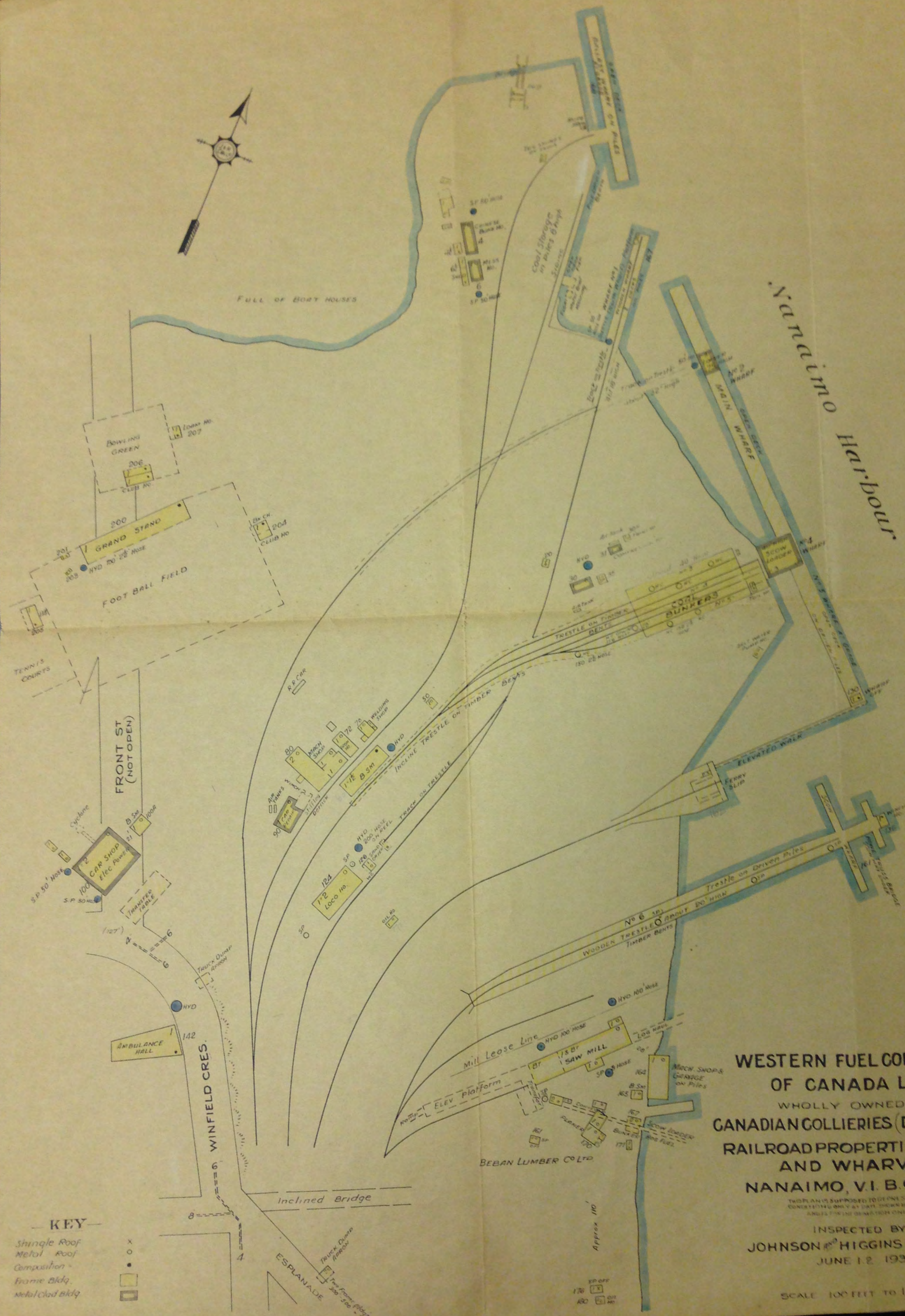
Datum/Projection: NAD83, Albers Equal Area Conic

Key Map of British Columbia



APPENDIX G

HISTORICAL DATA



**WESTERN FUEL CORPORATION
OF CANADA LTD**
WHOLLY OWNED BY
CANADIAN COLLIERIES (DUNSMUIR) LTD
**RAILROAD PROPERTIES, SHOPS
AND WHARVES**
NANAIMO, V.I. B.C. CAN.

THIS PLAN IS SUPPOSED TO BE ONE SET
CONCEIVED ONLY AS DATA, THEREFORE
ANGLES FROM THE DIRECTION ONLY

INSPECTED BY
JOHNSON & HIGGINS (CANADA) LTD
JUNE 12, 1939

SCALE 100 FEET TO 1 INCH

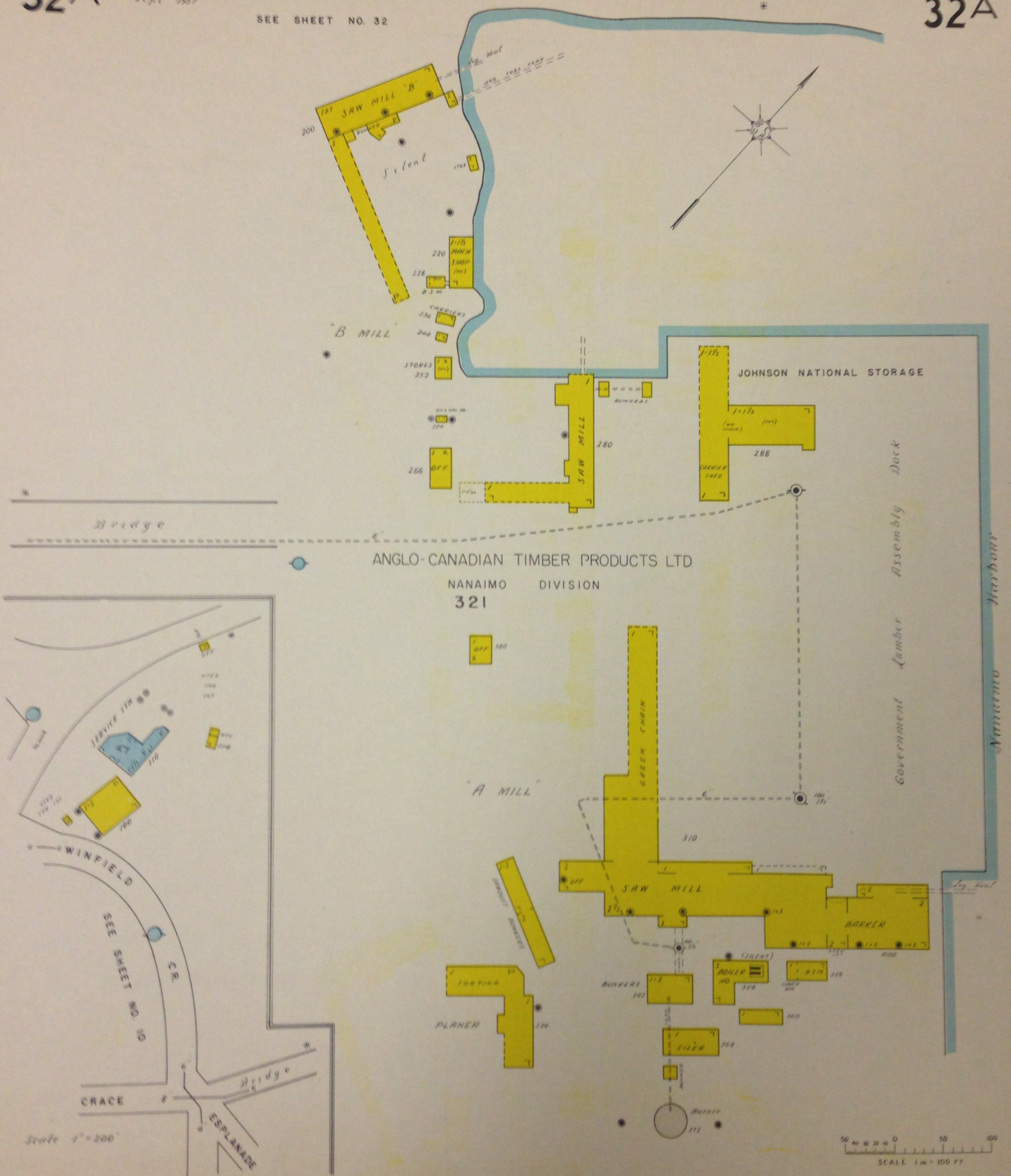


32A

NANAIMO BC
Sept 1957

SEE SHEET NO. 32

32A

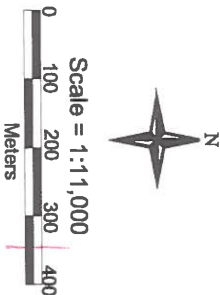


Coal Mine Underground Workings

Legend

- Roads
 - Dirt Road
 - Highway
 - Landmarks (Bridge, Tunnel)
 - Main Roads
 - E & N Railway
 - Roads
 - Rough Road
 - Transportation (Airport, Ferry)
- Planimetric Features
 - Wapshet Boundary
 - Coastline
 - Rivers
 - Wetlands
 - Water Features
- Lower Workings
 - Underground Coal
 - Mine Workings
- Upper Workings
 - Underground Coal
 - Mine Workings
- Overlapping Workings
- Shafts
 - Entrance (Shaft)
 - Entrance (Slope)
 - Spot Depth (-feet)
 - 239 Datum of Elevations: Geodetic B.M.'s
 - Old Railway Routes

Map 9



The Mining Data is taken from several old data sources. Due to the lack of access to the mines and the possibility of unrecorded workings, the actual locations of the mine workings cannot be confirmed. This data is intended as a 'Guide' only and no responsibility relating to the locations of the mine workings can be accepted.

Pacific Spatial Systems Ltd.
Environmental Mapping
and GIS Consulting
Est. 1988

2B - 4488 Wellington Rd
Nanaimo, B.C. V9T-2H3
(250) 756-9831

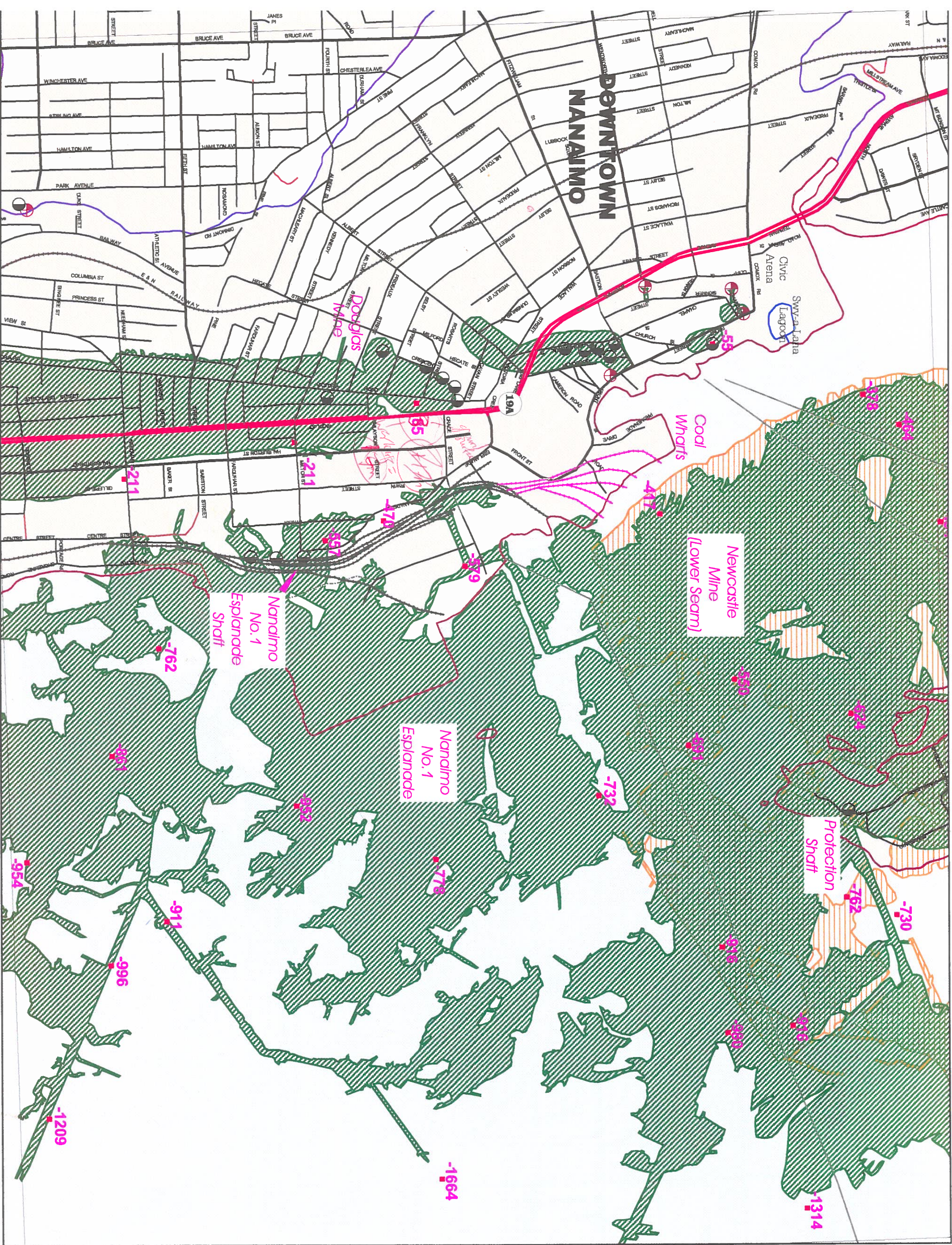




Photo 1: Photograph showing site area in circa 1880, prior to significant filling (Property located in harbour on left of photo)
Nanaimo Archives Photo: 2004046A-P1



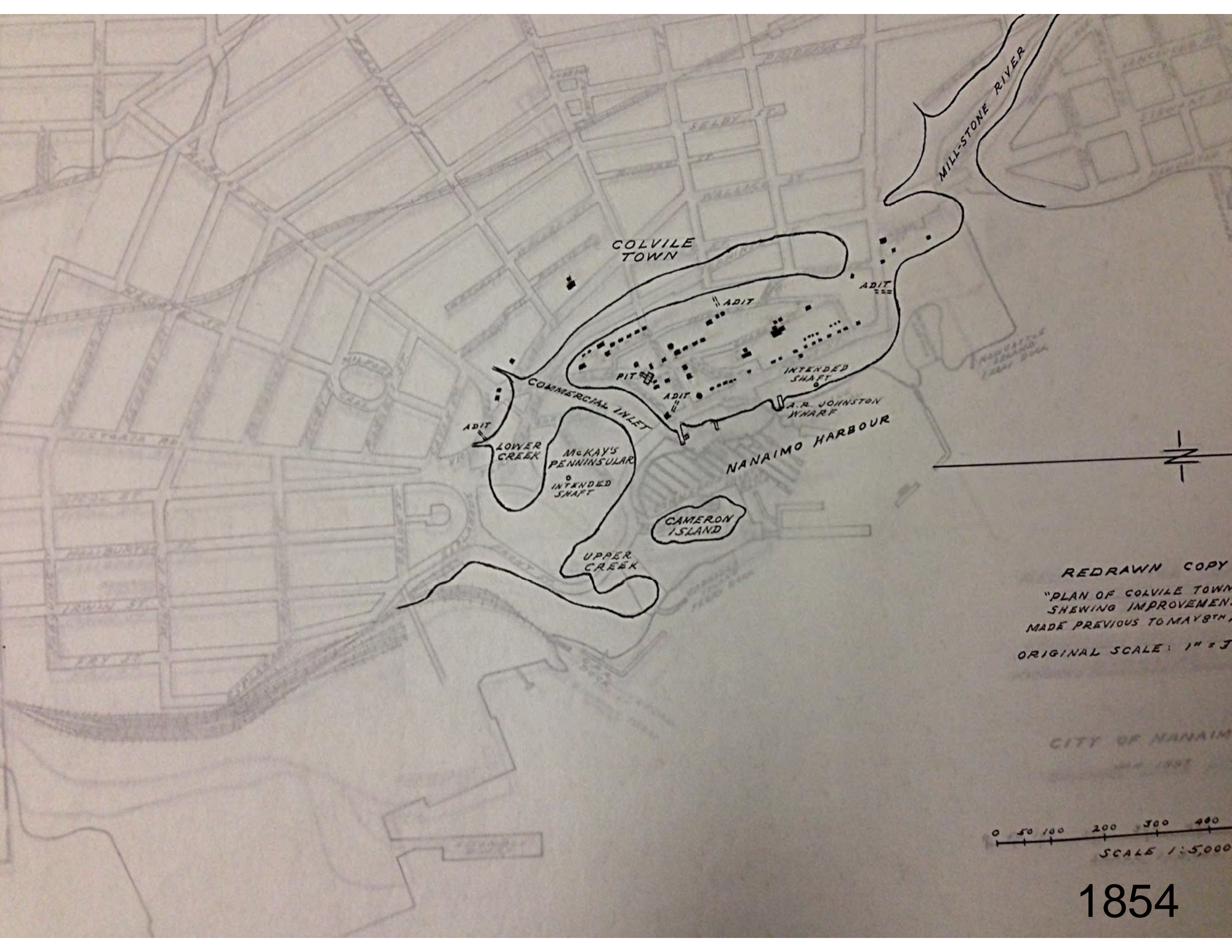
Photo 2: Photograph showing oblique aerial view of site in circa 1940.
Nanaimo Archives Photo: 1996027A-P2



Photo 3: Photograph showing view of site in a westward direction in circa 1970.
Nanaimo Archives Photo: 2001001A-P305



Photo 4: Photograph showing oblique aerial view of site in circa 1970.
Nanaimo Archives Photo: 1992026A-P5650



COLVILLE TOWN

MILLSTONE RIVER

COMMERCIAL INLET

ADIT

LOWER CREEK

McKAY'S PENINSULAR

INTENDED SHAFT

UPPER CREEK

CAMERON ISLAND

NANAIMO HARBOUR

A.R. JOHNSTON WHARF

INTENDED SHAFT

PIT

ADIT

ADIT

REDRAWN COPY
"PLAN OF COLVILLE TOWN
SHEWING IMPROVEMENTS
MADE PREVIOUS TO MAY 8TH
ORIGINAL SCALE: 1" = 3'

CITY OF NANAIMO

0 50 100 200 300 400
SCALE 1" = 5,000'

1854

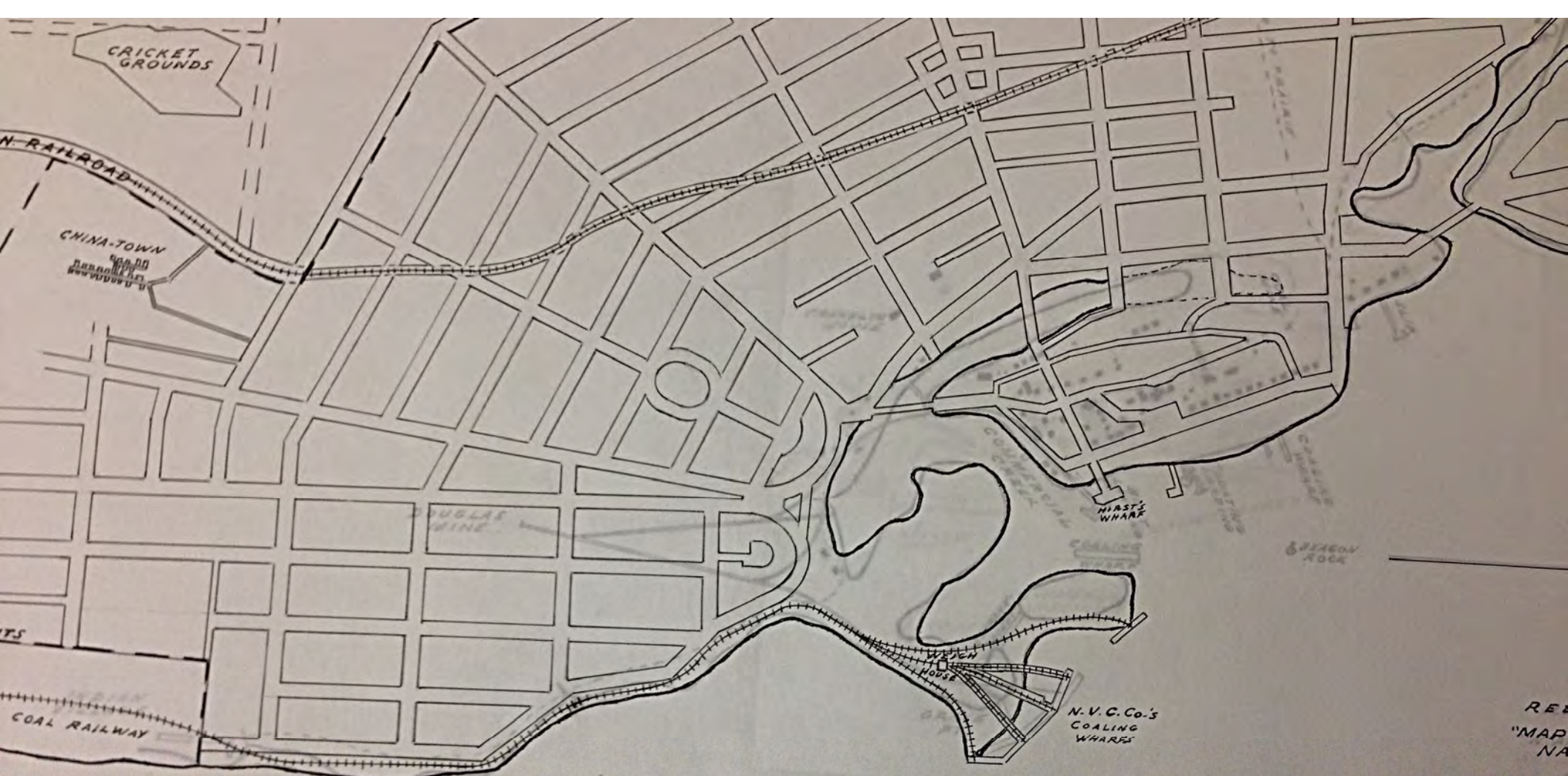


REDRAWN
"N. AMERICA - W.
VANCOUVER
NANAIMO H.
SURVEYED BY CAPT. G.
AND THE OFFICERS OF
1862

ORIGINAL SCALE
CITY OF NANAIMO

1862

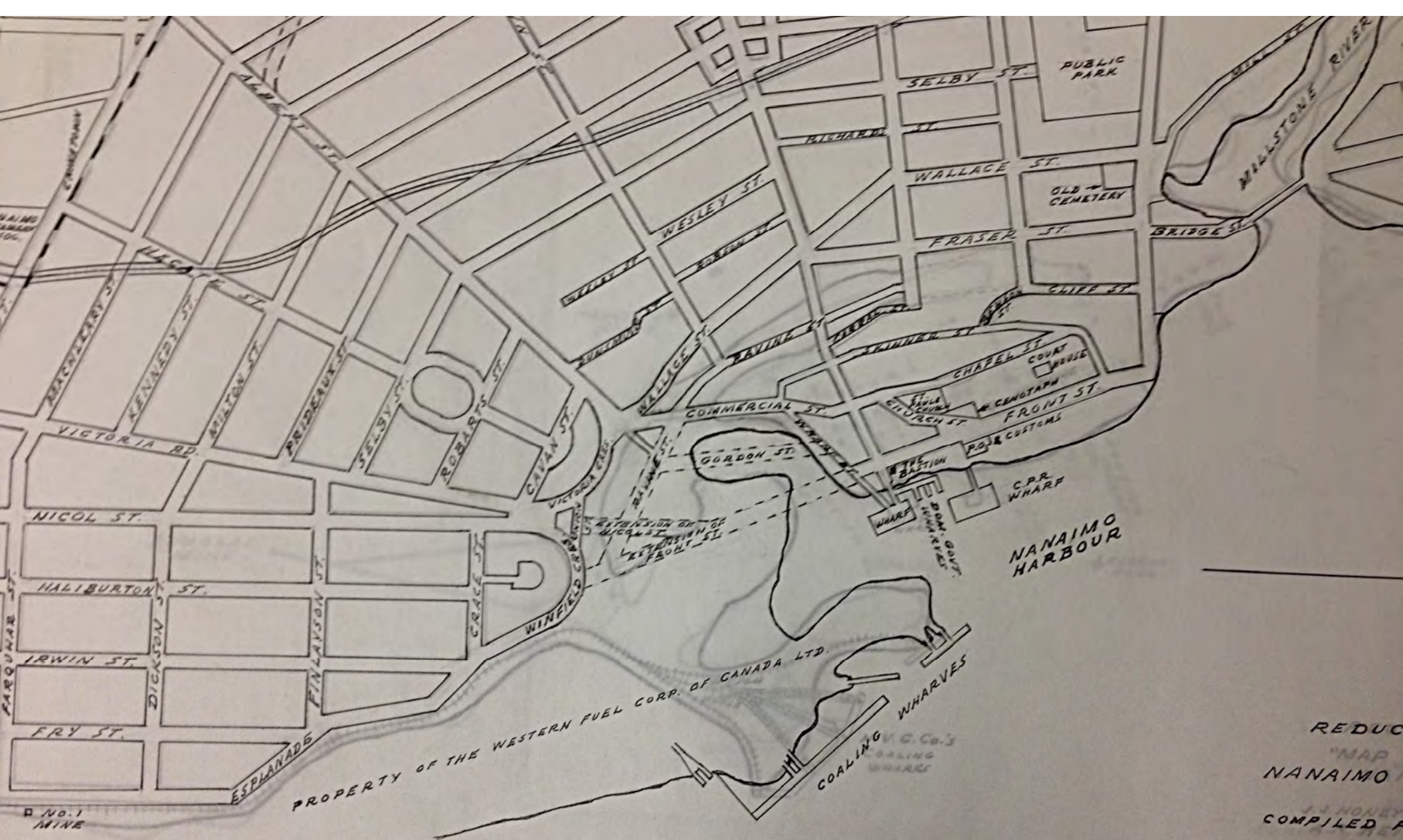
0 50 100 150 200 250 300



RE
"MAP
NA
J. J. HONE
A. R. HE
AND THE
NEW VAN
AN.
ORIG

0 50 100 200

1891

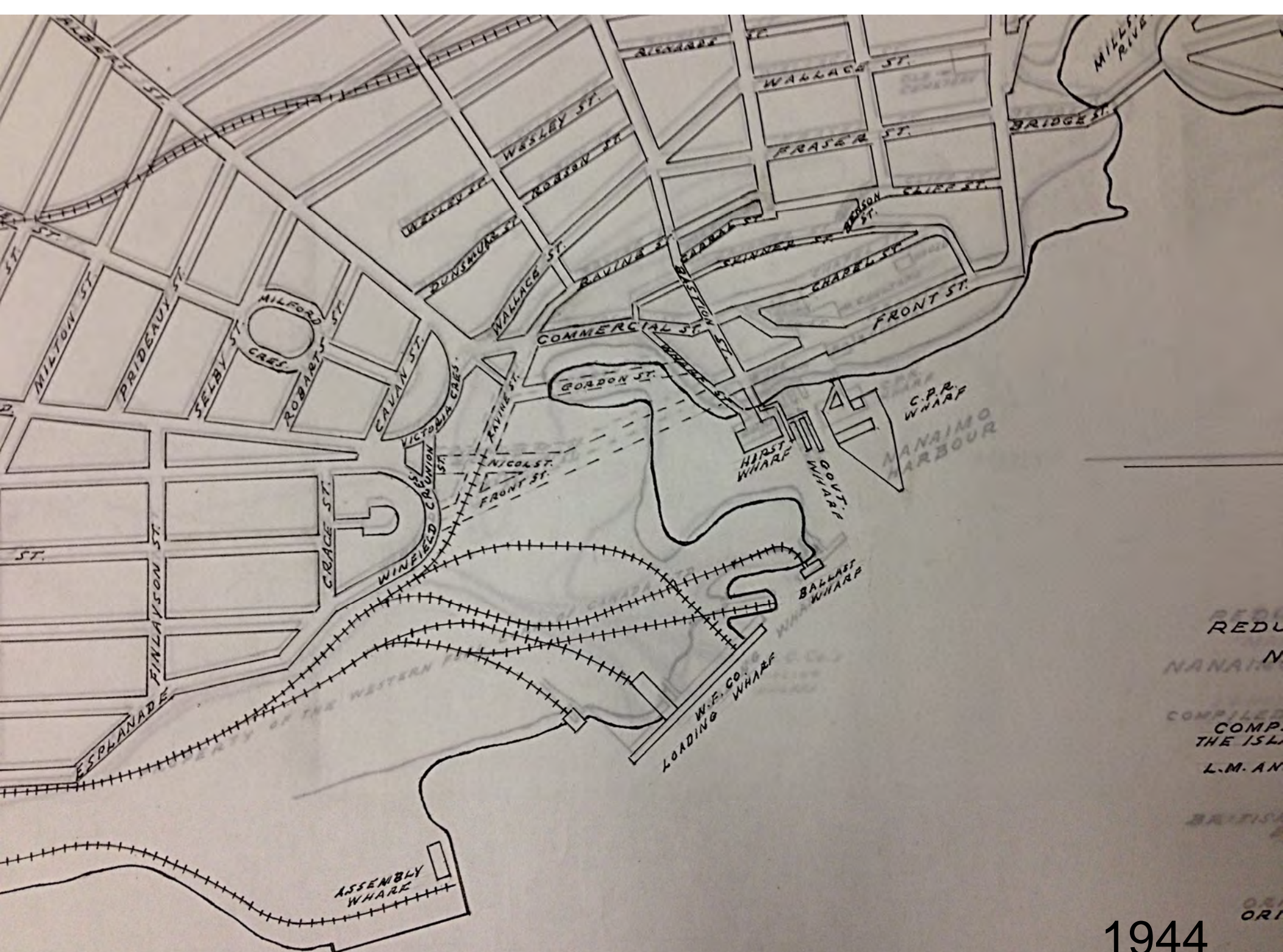


REDUCED
"MAP"
NANAIMO
J. J. HONEY
COMPILED

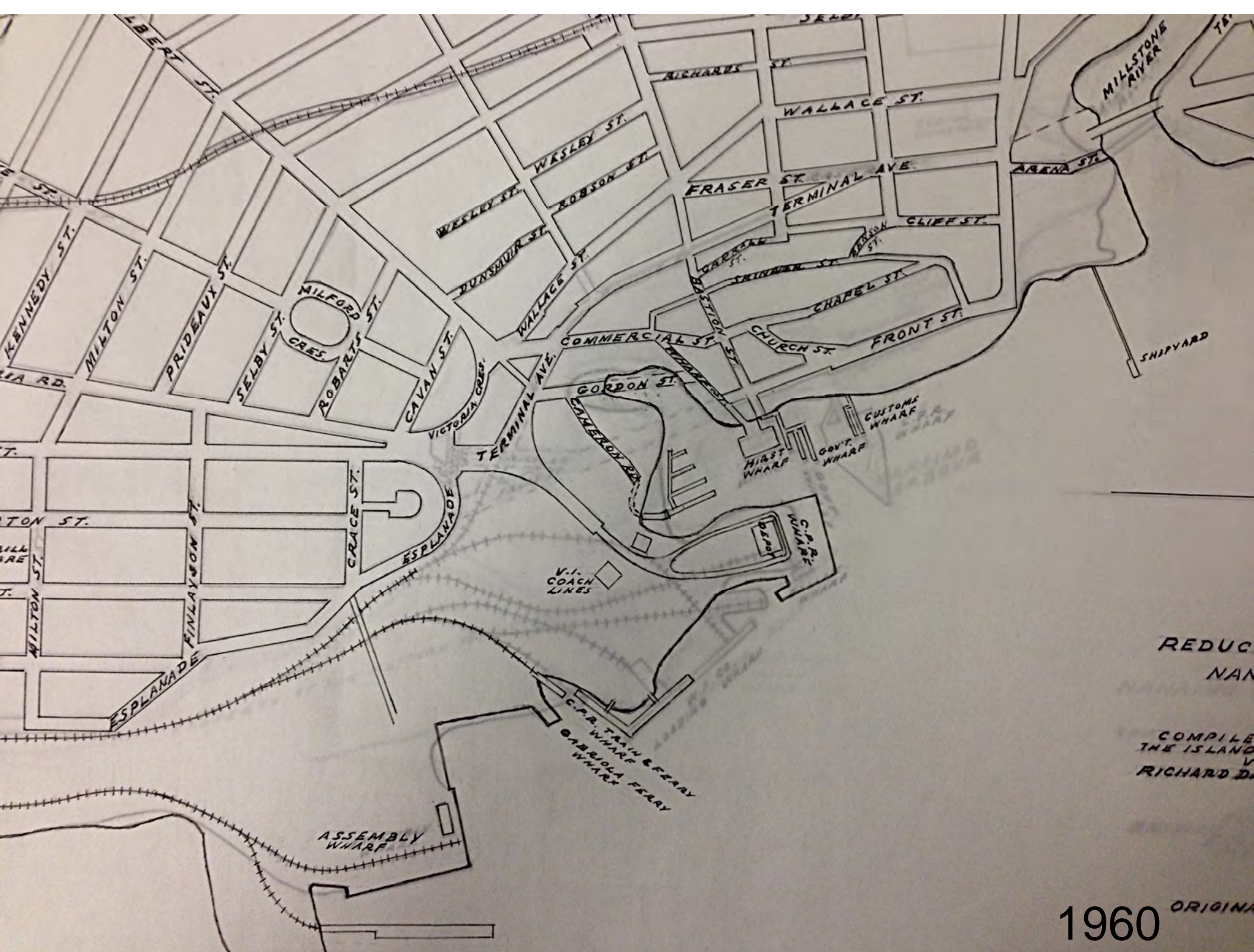
PUBLISHED BY
BRITISH COLUMBIA
ENGINEERING
VANCOUVER

ORIGINAL

1928

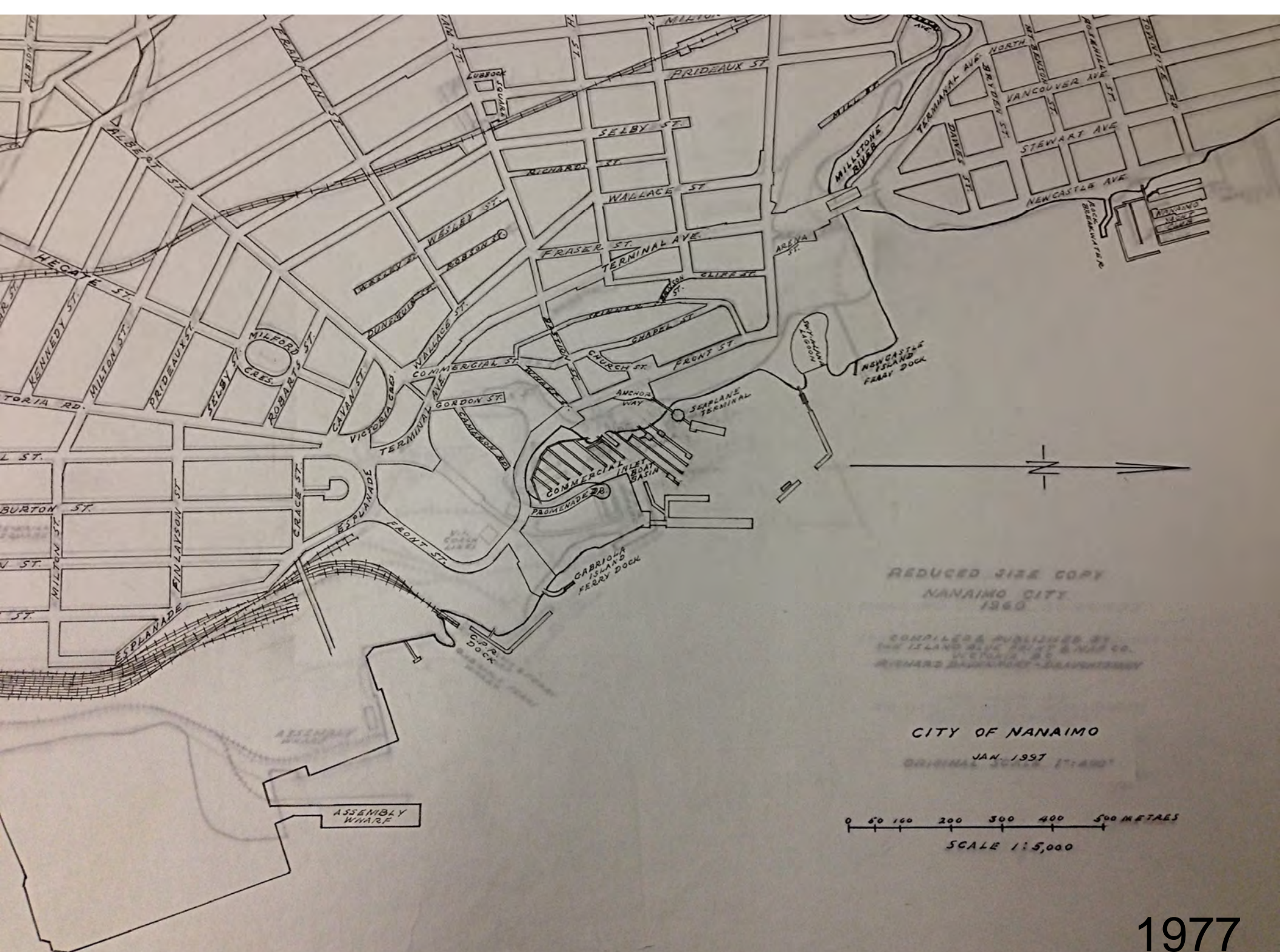


1944



1960

ORIGINAL



REDUCED SIZE COPY
NANAIMO CITY
1960

COMPILED & PUBLISHED BY
THE ISLAND BLUE PRINT & MAP CO.
VICTORIA, B.C.
RICHARD B. BAKER - DRAUGHTSMAN

CITY OF NANAIMO

JAN. 1997

ORIGINAL SCALE 1:5,000

0 40 160 200 300 400 500 METRES
SCALE 1:5,000

1977

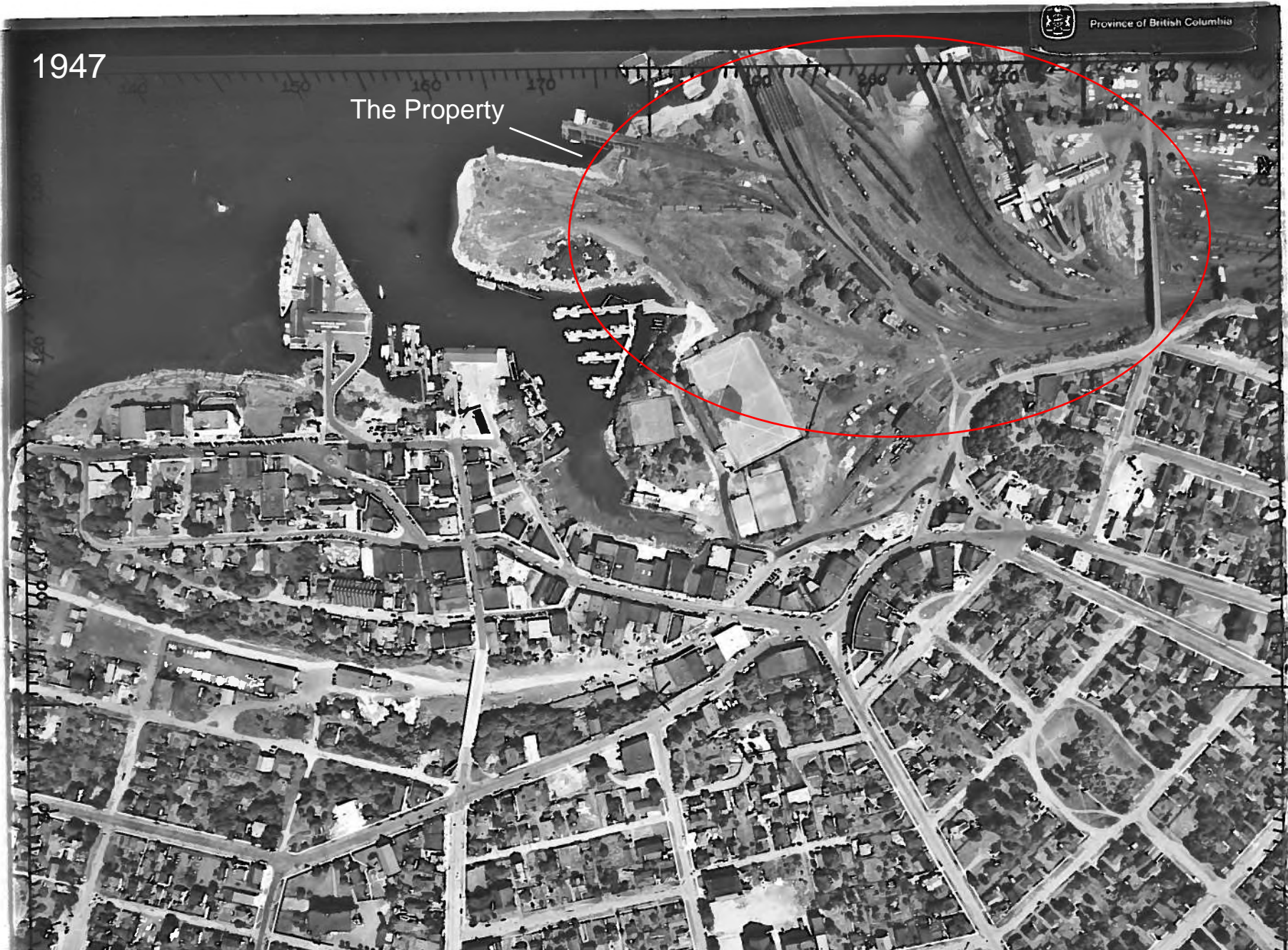
APPENDIX H

HISTORICAL AERIAL PHOTOGRAPHS



1947

The Property



1951

The Property



1958

The Property



1967



1972

The Property



425

BC7408 N 183

1976

The Property





UA9 1064 152.28

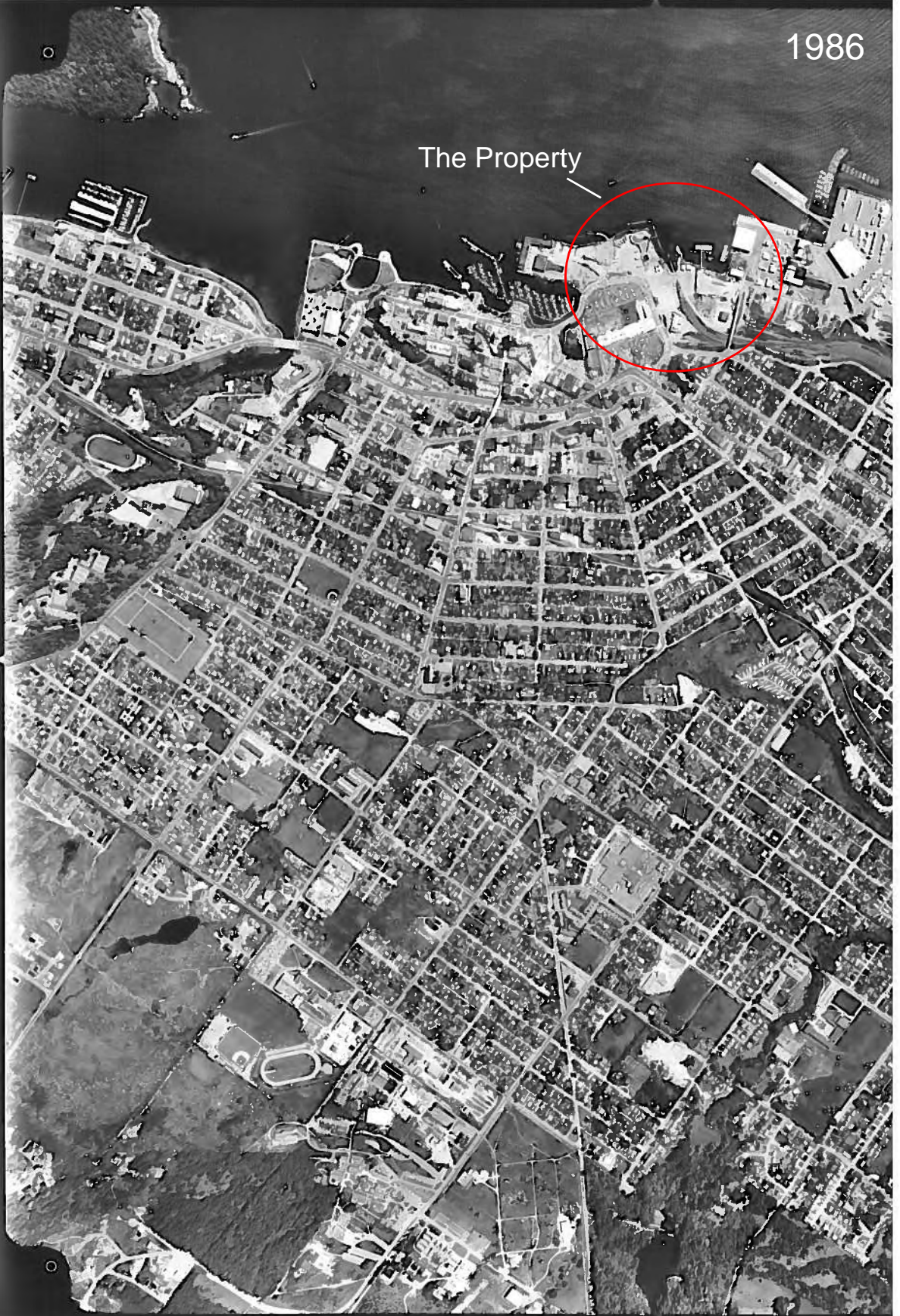
The Property



BC82047 M 019

1986

The Property



1990

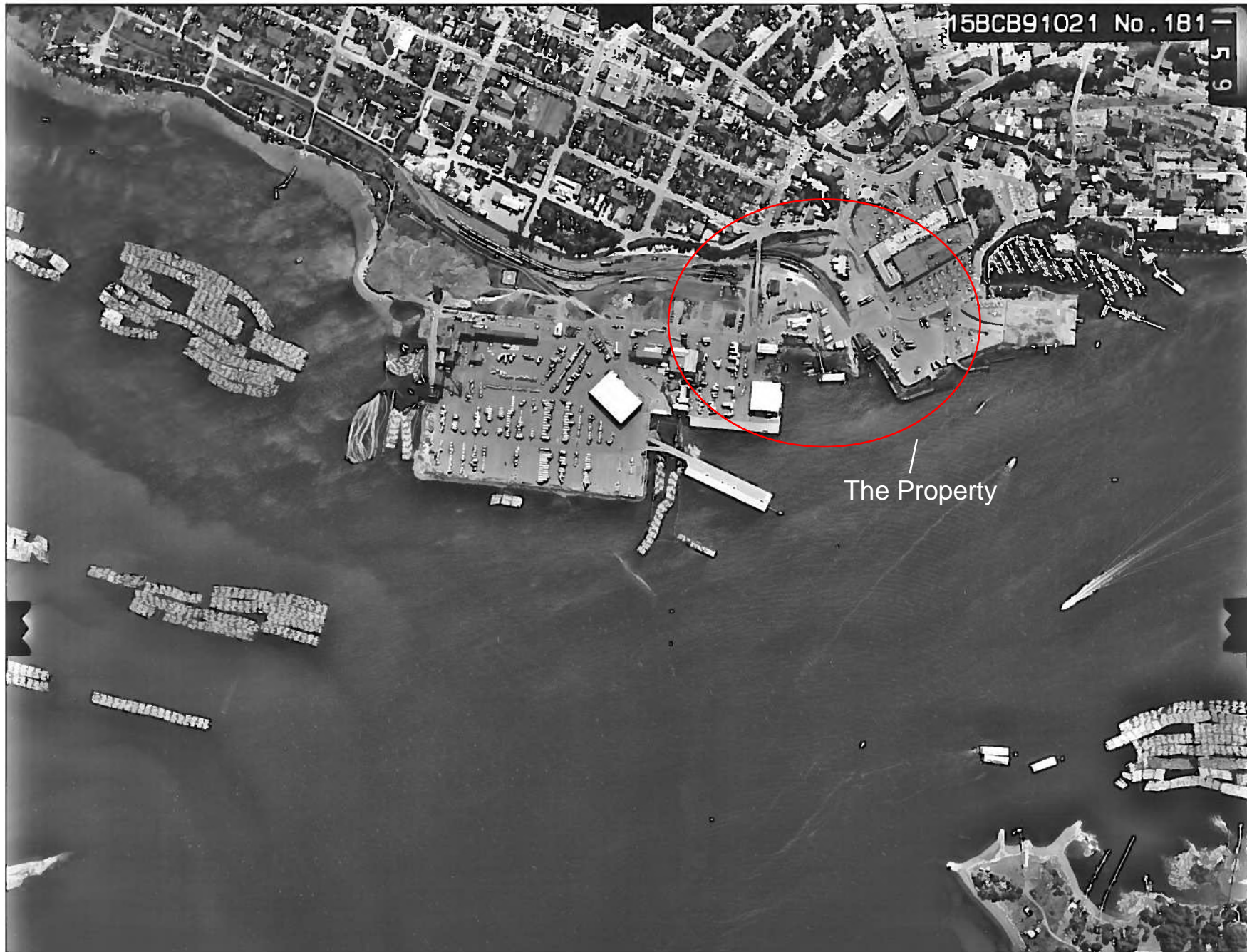
The Property



15BCB91021 No. 181

159

1991



The Property



1998

The Property



2006

The Property



APPENDIX I

MOE SITE REGISTRY SEARCH RESULT

SiteRegSearch.txt

As Of: AUG 24, 2014 BC Online: Site Registry 14/08/25
For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 14:38:13
Folio: ENVIND03511-01 Page 1
2 records selected for PID 029036500

Site Id	Lastupd	Address / City
0006813	13MAR14	FOOT OF CRACE STREET NANAIMO
0011687	13FEB14	190 FRONT STREET NANAIMO

As of: AUG 24, 2014 BC Online: Site Registry 14-08-25
For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 14: 39: 52
Folio: ENVIND03511-01 Page 1

Detail Report

SITE LOCATION

Site ID: 6813 Latitude: 49d 09m 27.0s
Victoria File: 26250-20/6813 Longitude: 123d 55m 40.0s
Regional File: 26250-20/6813
Region: NANAIMO, VANCOUVER ISLAND

Site Address: FOOT OF CRACE STREET
City: NANAIMO Prov/State: BC
Postal Code: N/A

Registered: NOV 17, 2000 Updated: MAR 14, 2013 Detail Removed: MAR 13, 2013

Notations: 7 Participants: 15 Associated Sites: 0
Documents: 9 Susp. Land Use: 0 Parcel Descriptions: 8

Location Description: PL 039 - LOT 89, LEASED FROM NANAIMO HARBOUR COMMISSION
LAT/LONG COULD NOT BE VERIFIED IN ICIS. MMARCAKIS OCT. 7/10

Record Status: ACTIVE - REMEDIATION COMPLETE
Fee category: LARGE SITE, COMPLEX CONTAMINATION

=====

NOTATIONS

Notation Type: LAND TITLE COVENANT REGISTERED
Notation Class: ADMINISTRATIVE
Initiated: DEC 04, 2007 Approved: DEC 04, 2007

Ministry Contact: SKELLY, KERRI L

Notation Participants Notation Roles
NANAIMO PORT AUTHORITY SUBMITTED BY

Note: COVENANT NUMBER FB126012

Notation Type: REQUIREMENT(S) IMPOSED IN CERTIFICATE OF COMPLIANCE
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: APR 23, 2004 Approved: APR 23, 2004

Ministry Contact: SKELLY, KERRI L

Required Actions: SCHEDULE B - THE SITE OWNER WILL REGISTER A RESTRICTIVE COVENANT AGAINST TITLE IDENTIFYING THE RESIDUALCONTAMINATION AND ASSOCIATED DEVELOPMENT RESTRICTIONS.

- - - - -
Notation Type: CONDITIONAL CERTIFICATE OF COMPLIANCE ISSUED (WMA 27.6(3))
Notation Class: WASTE MANAGEMENT ACT: CONTAMINATED SITES NOTATIONS
Initiated: APR 23, 2004 Approved: APR 23, 2004

Ministry Contact: HARRIS, GLENN E

Notation Participants Notation Roles

As of: AUG 24, 2014 BC Online: Site Registry 14-08-25
For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 14:39:52
Folio: ENVIND03511-01 Page 2
NOTATIONS

HARRIS, GLENN E
CIPA LUMBER CO LTD (HEAD OFFICE FOR BC)
CITY OF NANAIMO - DEVELOPMENT SERVICES
WALTON, DOUG G
REVIEWED BY
REQUESTED BY
RECEIVED BY
ISSUED BY

- - - - -
Notation Type: NOTICE OF INDEPENDENT REMEDIATION COMPLETION SUBMITTED (WMA 28(2))
Notation Class: WASTE MANAGEMENT ACT: CONTAMINATED SITES NOTATIONS
Initiated: JAN 24, 2002 Approved: JAN 24, 2002

Ministry Contact: COLLISON-BAKER, JOHN

Notation Participants

POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD
(WEST PENDER STREET)

Notation Roles

SUBMITTED BY

Notation Type: PRELIMINARY SITE INVESTIGATION REPORT: INTERNAL REVIEW REQUESTED

Notation Class: WASTE MANAGEMENT ACT: CONTAMINATED SITES NOTATIONS

Initiated: JUL 20, 2001

Approved: JUL 20, 2001

Ministry Contact: BOLLANS, RON A

Notation Participants

POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD
(WEST GEORGIA STREET)

Notation Roles

SUBMITTED BY

Notation Type: DETAILED SITE INVESTIGATION REPORT: INTERNAL REVIEW REQUESTED

Notation Class: WASTE MANAGEMENT ACT: CONTAMINATED SITES NOTATIONS

Initiated: JUL 20, 2001

Approved: JUL 20, 2001

Ministry Contact: BOLLANS, RON A

Notation Participants

POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD
(WEST GEORGIA STREET)

Notation Roles

SUBMITTED BY

Notation Type: NOTICE OF INDEPENDENT REMEDIATION INITIATION SUBMITTED (WMA 28(2))

Notation Class: WASTE MANAGEMENT ACT: CONTAMINATED SITES NOTATIONS

Initiated: JUL 31, 2000

Approved: JUL 31, 2000

Ministry Contact: BOLLANS, RON A

Notation Participants

POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD
(WEST PENDER STREET)

Notation Roles

SUBMITTED BY

Required Actions: UNDER SECTION 28(3)(D) OF THE WASTE MANAGEMENT ACT, THE MINISTRY REQUIRES THAT A DETAILED SITE INVESTIGATION BE UNDERTAKEN PRIOR TO ANY SALE OR LEASE TRANSFER OF THE PROPERTY

As of: AUG 24, 2014 BC Online: Site Registry 14-08-25
 For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 14:39:52
 Folio: ENVIND03511-01 Page 3

=====

SITE PARTICIPANTS

Participant:	BOLLANS, RON A	
Role(s):	ALTERNATE MINISTRY CONTACT	
Start Date:	JUL 31, 2000	End Date: MAR 29, 2002

Participant:	CANADIAN PACIFIC RAILWAY COMPANY (VANCOUVER)	
Role(s):	PROPERTY OWNER	
Start Date:	JUL 16, 2001	End Date:
Notes:	WEST PORTION OF SITE	

Participant:	CIPA LUMBER CO LTD (HEAD OFFICE FOR BC)	
Role(s):	LEASEE/RENTER/TENANT	
Start Date:	JUL 20, 2001	End Date:

Participant:	CITY OF NANAIMO - DEVELOPMENT SERVICES	
Role(s):	MUNICIPAL/REGIONAL CONTACT	
Start Date:	APR 23, 2004	End Date:

Participant:	COLLISON-BAKER, JOHN	
Role(s):	MAIN MINISTRY CONTACT	
Start Date:	JAN 24, 2000	End Date:

Participant:	HARRIS, GLENN E	
Role(s):	ALTERNATE MINISTRY CONTACT	
Start Date:	APR 23, 2004	End Date:

Participant:	MACKENZIE FUJISAWA BREWER STEVENSON (VANCOUVER)	
Role(s):	ENVIRONMENTAL CONSULTANT/CONTRACTOR	
Start Date:	MAY 13, 2003	End Date:

Participant:	MCCAMMON, ALAN (SURREY) W	
Role(s):	ALTERNATE MINISTRY CONTACT	
Start Date:	APR 27, 2004	End Date:

Participant: NANAIMO HARBOUR COMMISSION

Role(s): PROPERTY OWNER

Start Date: JUL 31, 2000

End Date:

Notes: EAST PORTION OF SITE

Participant: POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD

Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR

Start Date: JUL 01, 2001

End Date:

Participant: POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD (PANDORA STREET)

Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR

Start Date: JUL 01, 2001

End Date:

Participant: POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD (WEST GEORGIA STREET)

Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR

As of: AUG 24, 2014

BC Online: Site Registry

14-08-25

For: PK71787 EBA ENGINEERING CONSULTANTS LTD.

14:39:52

Folio: ENVIND03511-01

Page 4

SITE PARTICIPANTS

Start Date: JUL 20, 2001

End Date:

Participant: POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD (WEST PENDER STREET)

Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR

Start Date: JUL 31, 2000

End Date:

Notes: NICK DAYAL OR WILL GAHERTY

Participant: SKELLY, KERRI L

Role(s): MINISTRY CONTACT

Start Date: APR 23, 2004

End Date:

Participant: WALTON, DOUG G
 Role(s): ALTERNATE MINISTRY CONTACT
 Start Date: APR 23, 2004

End Date:

DOCUMENTS

Title: AUTHORIZATION TO OPERATE AN IN-SITU SPECIAL WASTE MANAGEMENT FACILITY
 AT THE FORMER CIPA SAWMILL SITE, LOCATED AT FOOT OF CRACE STREET,
 NANAIMO, BC

Authored: APR 27, 2004

Submitted: APR 27, 2004

Participants
 MCCAMMON, ALAN (SURREY) W
 CIPA LUMBER CO LTD (HEAD OFFICE FOR BC)
 CITY OF NANAIMO - DEVELOPMENT SERVICES
 POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD
 (WEST GEORGIA STREET)

Role
 AUTHOR
 COMMISSIONER
 RECIPIENT
 RECIPIENT

Title: ADDITIONAL SITE INFORMATION - EMAIL

Authored: MAY 15, 2003

Submitted: MAY 15, 2003

Participants
 POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD
 (PANDORA STREET)

Role
 AUTHOR

Title: ADDITIONAL SITE INFORMATION - FORMER CIPA SAWMILL FACILITY

Authored: MAY 13, 2003

Submitted: MAY 13, 2003

Participants
 MACKENZIE FUJISAWA BREWER STEVENSON (VANCOUVER)

Role
 AUTHOR

Title: RESPONSE TO COMMENTS - REVIEW OF STAGE 1 AND 2 PRELIMINARY SITE
 INVESTIGATION AND DETAILED SITE INVESTIGATION AND REMEDIATION AND
 HUMAN HEALTH

Authored: NOV 25, 2002

Submitted: NOV 25, 2002

Participants
 POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD
 (PANDORA STREET)

Role
 AUTHOR

Title: RISK ASSESSMENT ADDENDUM

Authored: OCT 01, 2002

Submitted: OCT 01, 2002

Participants

Role

As of: AUG 24, 2014 BC Online: Site Registry 14-08-25
For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 14:39:52
Folio: ENVIND03511-01 Page 5
DOCUMENTS

POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD AUTHOR
(PANDORA STREET)

Title: RESPONSE TO URS COMMENTS-REVIEW OF STAGE 1 AND 2 PRELIMINARY SITE
INVESTIGATION AND DETAILED SITE INVESTIGATION
Authored: FEB 15, 2002 Submitted: FEB 15, 2002

Participants Role
POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD AUTHOR
(PANDORA STREET)

Title: REMEDIATION AND HUMAN HEALTH AND TIER 1 ECOLOGICAL RISK ASSESSMENT
REPORT
Authored: FEB 01, 2002 Submitted: FEB 01, 2002

Participants Role
POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD AUTHOR
(PANDORA STREET)

Title: STAGE 1 AND 2 PRELIMINARY SITE INVESTIGATION AND DETAILED SITE
INVESTIGATION, CIPA LUMBER CO. LTD., NANAIMO
Authored: JUL 20, 2001 Submitted: JUL 23, 2001

Participants Role
POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD AUTHOR
(WEST GEORGIA STREET)
CIPA LUMBER CO LTD (HEAD OFFICE FOR BC) COMMISSIONER

Title: STAGE 1 AND 2 PRELIMINARY SITE INVESTIGATION AND DETAILED SITE
INVESTIGATION, CIPA LUMBER CO. LTD, NANAIMO BC
Authored: JUL 01, 2001 Submitted: JUL 01, 2001

Participants Role
POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD AUTHOR

PARCEL DESCRIPTIONS

Date Added: AUG 20, 2001

Crown Land PIN#:

LTO PID#:
Land Desc:

Crown Land File#: FL040

Date Added: AUG 20, 2001
LTO PID#:
Land Desc:

Crown Land PIN#:
Crown Land File#: PL039

Date Added: AUG 20, 2001
LTO PID#:
Land Desc:

Crown Land PIN#:
Crown Land File#: PL042

Date Added: AUG 20, 2001
LTO PID#:
Land Desc:

Crown Land PIN#:
Crown Land File#: PL050

Date Added: AUG 20, 2001
LTO PID#:

Crown Land PIN#:
Crown Land File#: PL103

As of: AUG 24, 2014

BC Online: Site Registry

14-08-25

For: PK71787 EBA ENGINEERING CONSULTANTS LTD.

14: 39: 52

Folio: ENVIND03511-01

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PARCEL DESCRIPTIONS

Land Desc:

Date Added: AUG 20, 2001
LTO PID#:
Land Desc:

Crown Land PIN#:
Crown Land File#: PL219

Date Added: AUG 20, 2001
LTO PID#: 005851882

Crown Land PIN#:
Crown Land File#:

Land Desc: LOT 1 OF SECTION 1 AND OF THE BED OF THE PUBLIC HARBOUR OF
NANAIMO, NANAIMO DISTRICT, PLAN 6675, EXCEPT THOSE PARTS IN PLANS
19380, 30712 AND EPP27507

SiteRegDetail SiteID6813Lat49Long123.txt

Date Added: APR 11, 2013

Crown Land PIN#:

LTO PID#: 029036500

Crown Land File#:

Land Desc: LOT A SECTION 1 AND PART OF THE BED OF THE PUBLIC HARBOUR OF
NANAIMO NANAIMO DISTRICT PLAN EPP27507

No activities were reported for this site

End of Detail Report

SiteRegDetail SiteID11687Lat49Long123. txt

As of: AUG 24, 2014 BC Online: Site Registry 14-08-25
For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 14: 40: 18
Folio: ENVIND03511-01 Page 1

Detail Report

SITE LOCATION

Site ID: 11687 Latitude: 49d 09m 00.3s
Victoria File: 26250-20/11687 Longitude: 123d 55m 00.4s
Regional File:
Region: NANAIMO, VANCOUVER ISLAND

Site Address: 190 FRONT STREET
City: NANAIMO Prov/State: BC
Postal Code: V9R 0B1

Registered: JUL 10, 2009 Updated: FEB 14, 2013 Detail Removed: FEB 14, 2013

Notations: 2 Participants: 5 Associated Sites: 1
Documents: 2 Susp. Land Use: 0 Parcel Descriptions: 2

Record Status: INACTIVE - NO FURTHER ACTION
Fee category: UNRANKED

=====

Notation Type: CASE MANAGEMENT ITEM
Notation Class: ADMINISTRATIVE
Initiated: FEB 07, 2012

Approved: FEB 07, 2012

Ministry Contact: HEWLETT, LUCY

Notation Participants Notation Roles
SLOMA, AMY REVIEWED BY

Note: REVIEW OF "ENVIRONMENTAL SITE ASSESSMENT AND REMEDIAL OPTION ANALYSIS
REPORTS DATE JUNE 2009 BY SNC-LAVALIN.

Required Actions: VARIOUS ITEMS OF FURTHER INVESTIGATION NEED TO BE ADDRESSED
BEFORE AN APPROVAL IN PRINCIPLE OR CERTIFICATE OF COMPLIANCE CAN BE ISSUED,

IN PARTICULAR THE AREA BENEATH THE RAIL TRACKS, THE POTENTIAL OFFSITE SOIL CONTAMINATION, FURTHER SEDIMENT ASSESSMENT, SEASONAL GROUNDWATER MONITORING, SURFACE WATER SAMPLING, FURTHER SOIL VAPOUR SAMPLING AND THE ASSOCIATED IMPLICATIONS OF THESE RESULTS ON A RISK ASSESSMENT/RISK MANAGEMENT APPROACH. THE REMEDIAL OPTIONS ANALYSIS PRESENTS THE MINIMAL COSTS ASSOCIATED WITH EACH REMEDIAL OPTION GIVEN THE CURRENT SITE INFORMATION. IF THERE ARE ADDITIONAL AREAS OF CONTAMINATION, ACID MINE DRAINAGE ISSUES, OR REMEDIAL ACTIVITIES ARE NOT CONDUCTED SIMULTANEOUSLY WITH DEVELOPMENT, THEN COSTS CAN BE SIGNIFICANTLY MORE.

Notation Type: SITE INVESTIGATION REPORT SUBMITTED
Notation Class: ADMINISTRATIVE
Initiated: JUL 07, 2009

Approved: JUL 07, 2009

Ministry Contact: HEWLETT, LUCY

Notation Participants

Notation Roles

As of: AUG 24, 2014 BC Online: Site Registry 14-08-25
For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 14: 40: 18
Folio: ENVIND03511-01 Page 2

NOTATIONS

CANADIAN PACIFIC RAILWAY SUBMITTED BY
=====

SITE PARTICIPANTS

Participant: CANADIAN PACIFIC RAILWAY
Role(s): PROPERTY OWNER
Start Date: JUL 07, 2009

End Date:

Participant: HEWLETT, LUCY
Role(s): MAIN MINISTRY CONTACT
Start Date: JUL 07, 2009

End Date:

Participant: SLOMA, AMY
 Role(s): MINISTRY CONTACT
 Start Date: FEB 07, 2012

End Date:

Participant: SNC-LAVALIN ENVIRONMENT INC.
 Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
 Start Date: JUN 18, 2009

End Date:

Participant: SNC-LAVALIN ENVIRONMENT INC.
 Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
 Start Date: JUN 18, 2009

End Date:

DOCUMENTS

Title: COMPREHENSIVE ENVIRONMENTAL SITE INVESTIGATION CPR WELLCOX YARD,
 NANAIMO, BC

Authored: JUN 26, 2009

Submitted: JUL 07, 2009

Participants
 SNC-LAVALIN ENVIRONMENT INC.

Role
 AUTHOR

Title: PRELIMINARY REMEDIAL OPTIONS ANALYSIS CPR WELLCOX YARD, NANAIMO, BC
 Authored: JUN 18, 2009

Submitted: JUL 07, 2009

Participants
 SNC-LAVALIN ENVIRONMENT INC.

Role
 AUTHOR

ASSOCIATED SITES

Site id: 6813

Date: JUL 07, 2009

Notes:

PARCEL DESCRIPTIONS

Date Added: AUG 20, 2001

Crown Land PIN#:

LTO PID#: 005851882

Crown Land File#:

Land Desc: LOT 1 OF SECTION 1 AND OF THE BED OF THE PUBLIC HARBOUR OF
 NANAIMO, NANAIMO DISTRICT, PLAN 6675, EXCEPT THOSE PARTS IN PLANS
 19380, 30712 AND EPP27507

Date Added: APR 11, 2013

Crown Land PIN#:

SiteRegDetail SiteID11687Lat49Long123.txt

As of: AUG 24, 2014 BC Online: Site Registry 14-08-25
For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 14:40:18
Folio: ENVIND03511-01 Page 3
PARCEL DESCRIPTIONS

LTO PID#: 029036500 Crown Land File#:
Land Desc: LOT A SECTION 1 AND PART OF THE BED OF THE PUBLIC HARBOUR OF
NANAIMO NANAIMO DISTRICT PLAN EPP27507
No activities were reported for this site

End of Detail Report

SiteRegSearchLat49Long123 (3).txt

As Of: AUG 24, 2014 BC Online: Site Registry 14/08/25
 For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 15:03:49
 Folio: ENVIND0351-01 Page 1

15 records selected for 0.5 km from latitude 49 deg, 09 min, 50.3 sec
 and Longitude 123 deg, 55 min, 50.7 sec

Site Id	Lastupd	Address / City
0001787		110 NICOL STREET NANAI MO
0001798	03JAN31	60 GORDON STREET NANAI MO
0001918	11MAR24	9 NICOL STREET NANAI MO
0003176	08MAY09	104 FRONT STREET NANAI MO
0003953	03SEP24	21 ESPLANADE STREET NANAI MO
0005411	04MAR19	241 SKINNER STREET NANAI MO
0008600	04MAR23	60 VICTORIA CRESCENT NANAI MO
0008998		19 NICOL STREET NANAI MO
0009595		16 COMMERCIAL STREET NANAI MO
0009800	13JUL02	101 GORDON STREET NANAI MO
0010212	09FEB05	65 FRONT STREET NANAI MO
0011063	08JUL17	620 TERMINAL AVENUE NANAI MO
0012024	14JUL24	650 TERMINAL AVENUE & 9 NICOL STREET NANAI MO
0012093	10JUN10	100 BLK. FRONT STREET FROM NANAI MO
0015235	14JUN27	TERMINAL/NICOL CORRIDOR (MULTIPLE SITES) NANAI MO

SiteRegDetail SiteID15235Lat49Long123. txt

As of: AUG 31, 2014 BC Online: Site Registry 14-09-02
For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 11: 15: 57
Folio: IND03511-01.001 Page 1

Detail Report

SITE LOCATION

Site ID: 15235 Latitude: 49d 09m 55.0s
Victoria File: 26250-20/15235 Longitude: 123d 56m 12.0s
Regional File:
Region: NANAIMO, VANCOUVER ISLAND

Site Address: TERMINAL/NICOL CORRIDOR (MULTIPLE SITES)
City: NANAIMO Prov/State: BC
Postal Code: N/A

Registered: JUL 09, 2013 Updated: JUN 27, 2014 Detail Removed: JUN 27, 2014

Notations: 2 Participants: 4 Associated Sites: 0
Documents: 0 Susp. Land Use: 0 Parcel Descriptions: 0

Record Status: INACTIVE - NO FURTHER ACTION
Fee category: UNRANKED

=====

Notation Type: SITE RISK CLASSIFIED - SITE IS NON-HIGH RISK
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: JUL 09, 2013 Approved: JUL 09, 2013

Ministry Contact: O' GRADY, TYLER

Notation Participants	Notation Roles
GOLDER ASSOCIATES LTD	SUBMITTED BY

Notation Type: CASE MANAGEMENT ITEM	
Notation Class: ADMINISTRATIVE	
Initiated: MAY 01, 2013	Approved: MAY 01, 2013

Ministry Contact: JERADE, LILIANA

Notation Participants	Notation Roles
DOWNTOWN NANAIMO BUSINESS IMPROVEMENT ASSOCIATION	REQUESTED BY

Note: REQUEST FOR MINISTRY OF ENVIRONMENT ATTENDANCE AT OWNER'S MEETING.

=====

SITE PARTICIPANTS

Participant: DOWNTOWN NANAIMO BUSINESS IMPROVEMENT ASSOCIATION	
Role(s): PROPERTY OWNER	
Start Date: MAY 01, 2013	End Date:

Participant: GOLDER ASSOCIATES LTD	
Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR	

SiteRegDetail SiteID15235Lat49Long123.txt

Start Date: JUL 09, 2013

End Date:

Participant: JERADE, LILIANA

As of: AUG 31, 2014

BC Online: Site Registry

14-09-02

For: PK71787 EBA ENGINEERING CONSULTANTS LTD.

11: 15: 57

Folio: IND03511-01.001

Page 2

SITE PARTICIPANTS

Role(s): MINISTRY CONTACT

Start Date: MAY 01, 2013

End Date:

Participant: O' GRADY, TYLER

Role(s): MINISTRY CONTACT

Start Date: JUL 09, 2013

End Date:

No activities were reported for this site

End of Detail Report

As of: AUG 31, 2014 BC Online: Site Registry 14-09-02
For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 11:13:48
Folio: IND03511-01.001 Page 1

Detail Report

SITE LOCATION

Site ID: 1918 Latitude: 49d 09m 48.2s
Victoria File: 26250-20/1918 Longitude: 123d 56m 02.0s
Regional File: 26250-20/1918
Region: NANAIMO, VANCOUVER ISLAND

Site Address: 9 NICOL STREET
City: NANAIMO Prov/State: BC
Postal Code: V9R 7A5

Registered: JUN 01, 1998 Updated: MAR 24, 2011 Detail Removed: MAR 22, 2011

Notations: 11 Participants: 15 Associated Sites: 0
Documents: 3 Susp. Land Use: 2 Parcel Descriptions: 2

Location Description: LOCATION DERIVED FROM GPS PROJECT ENVIC RVR #P100521A

Record Status: INACTIVE - NO FURTHER ACTION
Fee category: UNRANKED

=====

NOTATIONS

Notation Type: NOTICE OF INDEPENDENT REMEDIATION COMPLETION SUBMITTED
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: MAR 21, 2011 Approved: MAR 21, 2011

Ministry Contact: SAMWAYS, JENNIFER

Notation Participants Notation Roles
PHH ARC ENVIRONMENTAL LTD. SUBMITTED BY

Note: COMPLETED: 2010-09-15

Notation Type: NOTICE OF INDEPENDENT REMEDIATION INITIATION SUBMITTED
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: MAR 21, 2011 Approved: MAR 21, 2011

Ministry Contact: SAMWAYS, JENNIFER

Notation Participants Notation Roles
PHH ARC ENVIRONMENTAL LTD. SUBMITTED BY

Note: START: 2010-08-10

Notation Type: SITE RISK CLASSIFIED - SITE IS NON-HIGH RISK
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: OCT 27, 2010 Approved: OCT 27, 2010

Ministry Contact: O' GRADY, TYLER

Notation Participants Notation Roles

As of: AUG 31, 2014 BC Online: Site Registry 14-09-02
For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 11:13:48
Folio: IND03511-01.001 Page 2
NOTATIONS

PHH ARC ENVIRONMENTAL LTD. SUBMITTED BY

Notation Type: NOTICE OF INDEPENDENT REMEDIATION INITIATION SUBMITTED
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: OCT 21, 2010 Approved: OCT 21, 2010

Ministry Contact: SAMWAYS, JENNIFER

Notation Participants Notation Roles
PHH ARCH ENVIRONMENTAL SUBMITTED BY

Note: START: 2010-08-10

Notation Type: NOTICE OF INDEPENDENT REMEDIATION COMPLETION SUBMITTED
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: OCT 21, 2010 Approved: OCT 21, 2010

Ministry Contact: SAMWAYS, JENNIFER

Notation Participants Notation Roles
PHH ARCH ENVIRONMENTAL SUBMITTED BY

Note: COMPLETED: 2010-09-15

Notation Type: REQUEST FOR DETERMINATION
Notation Class: WASTE MANAGEMENT ACT: CONTAMINATED SITES NOTATIONS
Initiated: OCT 27, 1999 Approved: AUG 04, 2000

Ministry Contact: BOLLANS, RON A

Notation Participants Notation Roles
THURBER ENVIRONMENTAL CONSULTANTS LTD (VICTORIA) SUBMITTED BY
426007 BC LTD. (VANCOUVER, B.C.) REQUESTED BY

Note: REQUEST WITHDRAWN BY APPLICANT

Notation Type: CONCENTRATION CRITERIA APPROACH USED
Notation Class: ADMINISTRATIVE
Initiated: JAN 27, 1993 Approved: JAN 27, 1993

Ministry Contact: PATTEN, BARRY

Notation Type: LETTER OF COMFORT ISSUED
Notation Class: ADMINISTRATIVE
Initiated: JAN 27, 1993 Approved: JAN 27, 1993

Ministry Contact: PATTEN, BARRY

Notation Participants Notation Roles
IMPERIAL OIL LIMITED (BURNABY) REQUESTED BY

As of: AUG 31, 2014 BC Online: Site Registry 14-09-02
For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 11:13:48
Folio: IND03511-01.001 Page 3
NOTATIONS

Note: PROPERTY IS SUITABLE FOR REDEVELOPMENT FOR COMMERCIAL USE

Notation Type: REMEDIATED TO COMMERCIAL/INDUSTRIAL LEVELS (DRAFT CMCS
21/11/89)
Notation Class: ADMINISTRATIVE
Initiated: JAN 27, 1993 Approved: JAN 27, 1993

Ministry Contact: PATTEN, BARRY

Notation Type: SITE INVESTIGATION REPORT SUBMITTED
Notation Class: ADMINISTRATIVE
Initiated: DEC 29, 1992 Approved: DEC 29, 1992

Ministry Contact: PATTEN, BARRY

Notation Participants Notation Roles
IMPERIAL OIL LIMITED (BURNABY) SUBMITTED BY

Note: FORMER TEXACO SERVICE STATION, 9 NICOL STREET, NANAIMO, BRITISH
COLUMBIA, STATION NO. 90324

Notation Type: SITE INVESTIGATION REPORT SUBMITTED
Notation Class: ADMINISTRATIVE
Initiated: DEC 29, 1992 Approved: DEC 29, 1992

Ministry Contact: PATTEN, BARRY

Notation Participants Notation Roles
IMPERIAL OIL LIMITED (BURNABY) SUBMITTED BY

Note: INITIAL ENVIRONMENTAL INVESTIGATION, FORMER TEXACO SERVICE STATION 324,
NANAIMO, B. C.

SITE PARTICIPANTS

Participant: BOLLANS, RON A
Role(s): ALTERNATE MINISTRY CONTACT
Start Date: OCT 27, 1999 End Date: MAR 29, 2002

Participant: CBR INTERNATIONAL CORP (SIDNEY)
Role(s): ANALYTICAL LAB
Start Date: AUG 03, 1990 End Date:

Participant: ENDACON INC. (VANCOUVER, B. C.)
Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
Start Date: DEC 07, 1992 End Date:
Notes: CONTACT: DAVID ALLEN

Participant: FIRST CAPITAL (PORT PLACE) CORPORATION INC
 Role(s): PROPERTY OWNER
 Start Date: MAR 21, 2011 End Date:

As of: AUG 31, 2014 BC Online: Site Registry 14-09-02
 For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 11:13:48
 Folio: IND03511-01.001 Page 4
 SITE PARTICIPANTS

Participant: IMPERIAL OIL LIMITED (BURNABY)
 Role(s): FORMER PROPERTY OWNER
 Start Date: JUL 12, 1991 End Date: SEP 24, 1993
 Notes: ESSO; CONTACT: P. P. DELEEUW

Participant: MCCOLL-FRONTENAC PETROLEUM INC (HEAD OFFICE FOR BC)
 Role(s): FORMER PROPERTY OWNER
 Start Date: NOV 04, 1981 End Date: JUL 12, 1991

Participant: O'CONNOR ASSOCIATES ENVIRONMENTAL INC (LANGLEY (92A AVENUE))
 Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
 Start Date: JUN 13, 1991 End Date:
 Notes: CONTACT: A. P. MICHELSSEN

Participant: PARK GEORGIA REALTY
 Role(s): REALTY COMPANY
 Start Date: DEC 22, 1992 End Date:

Participant: PATTEN, BARRY
 Role(s): MAIN MINISTRY CONTACT
 Start Date: DEC 29, 1992 End Date: MAR 31, 2003

Participant: PHH ARCH ENVIRONMENTAL
 Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
 Start Date: OCT 21, 2010 End Date:

Participant: SAMWAYS, JENNIFER
 Role(s): MAIN MINISTRY CONTACT
 Start Date: OCT 21, 2010 End Date:

Participant: SEAKEM ANALYTICAL SERVICES
 Role(s): ANALYTICAL LAB
 Start Date: AUG 03, 1990 End Date:

Participant: TEXACO CANADA CORPORATED (BURNABY, B.C.)
 Role(s): FORMER OPERATOR
 Start Date: JAN 01, 1985 End Date:
 Notes: HISTORICAL START DATE

Participant: THURBER ENVIRONMENTAL CONSULTANTS LTD (VICTORIA)
 Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
 Start Date: JUN 20, 1990 End Date:
 Notes: CONTACT: C. T. MABER

Participant: 426007 BC LTD. (VANCOUVER, B.C.)
Role(s): PROPERTY OWNER
Start Date: SEP 24, 1993

End Date:

As of: AUG 31, 2014 BC Online: Site Registry 14-09-02
Folio: IND03511-01.001 For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 11:13:48
DOCUMENTS Page 5

Title: FORMER TEXACO SERVICE STATION SITE AT 9 NICOL STREET, NANAIMO, B.C.
(NO. 90324)

Authored: DEC 07, 1992

Submitted: DEC 29, 1992

Participants
ENDACON INC. (VANCOUVER, B.C.)
PARK GEORGIA REALTY
PATTEN, BARRY

Role
AUTHOR
COMMISSIONER
REVIEWER

Notes: REVIEW OF DOCUMENTS DATED 90-08-01 AND 91-06-13

Title: FORMER TEXACO SERVICE STATION, 9 NICOL STREET NANAIMO, B.C. STATION
NO. 90324

Authored: JUN 13, 1991

Submitted: DEC 29, 1992

Participants
O'CONNOR ASSOCIATES ENVIRONMENTAL INC (LANGLEY
(92A AVENUE))
IMPERIAL OIL LIMITED (BURNABY)
PATTEN, BARRY

Role
AUTHOR
COMMISSIONER
REVIEWER

Title: INITIAL ENVIRONMENTAL INVESTIGATION, FORMER TEXACO SERVICE STATION
324, NANAIMO, B.C.

Authored: AUG 01, 1990

Submitted: DEC 29, 1992

Participants
THURBER ENVIRONMENTAL CONSULTANTS LTD (VICTORIA)
IMPERIAL OIL LIMITED (BURNABY)
PATTEN, BARRY

Role
AUTHOR
COMMISSIONER
REVIEWER

SUSPECTED LAND USE

Description: PETRO. PROD., /PRODUCE WATER STRG ABOVEGRND/UNDERGRND TANK
Notes:

Description: PETRO. PROD., DISPENSE FACILITY, INC. SERV STA. /CARDLOT
Notes:

PARCEL DESCRIPTIONS

Date Added: DEC 27, 1995 Crown Land PIN#:
LTO PID#: 004795806 Crown Land File#:
Land Desc: LOT A, SECTION 1, NANAIMO DISTRICT, AND OF THE BED OF THE PUBLIC
HARBOUR OF NANAIMO, PLAN 12624

SiteRegDetail SiteID1918Lat49Long123.txt
Date Added: JAN 13, 2011 Crown Land PIN#:
LTO PID#: 028426819 Crown Land File#:
Land Desc: LOT 2 SECTION 1 NANAIMO DISTRICT PLAN EPP10474
No activities were reported for this site

End of Detail Report

SiteRegDetail SiteID11063Lat49Long123. txt

As of: AUG 31, 2014 BC Online: Site Registry 14-09-02
For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 11:15:10
Folio: IND03511-01.001 Page 1

Detail Report

SITE LOCATION

Site ID: 11063 Latitude: 49d 09m 50.9s
Victoria File: 26250-20/11063 Longitude: 123d 56m 07.1s
Regional File:
Region: NANAIMO, VANCOUVER ISLAND

Site Address: 620 TERMINAL AVENUE
City: NANAIMO Prov/State: BC
Postal Code: V9R 5E2

Registered: JUN 11, 2008 Updated: JUL 17, 2008 Detail Removed: JUL 03, 2008

Notations: 4 Participants: 4 Associated Sites: 0
Documents: 0 Susp. Land Use: 1 Parcel Descriptions: 1

Record Status: ACTIVE - UNDER ASSESSMENT
Fee category: NOT APPLICABLE

=====

Notation Type: SITE PROFILE REVIEWED - FURTHER INVESTIGATION REQUIRED BY THE
MINISTRY
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: JUN 04, 2008 Approved:

Ministry Contact: HANEMAYER, VINCENT (SURREY) C

Required Actions: PRELIMINARY SITE INVESTIGATION.

Notation Type: SITE PROFILE - FURTHER INVESTIGATION REQUIRED BY THE MINISTRY
Notation Class: WASTE MANAGEMENT ACT: CONTAMINATED SITES NOTATIONS
Initiated: JUN 04, 2008 Approved:

Ministry Contact: HANEMAYER, VINCENT (SURREY) C

Required Actions: PRELIMINARY SITE INVESTIGATION.

Notation Type: SITE PROFILE RECEIVED
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: MAY 28, 2008 Approved:

Ministry Contact: HANEMAYER, VINCENT (SURREY) C

Notation Participants	Notation Roles
LEVELTON CONSULTANTS LTD	SITE PROFILE SUBMITTED
	BY
LEVELTON CONSULTANTS LTD	SITE PROFILE SUBMITTED
	BY

Notation Type: SITE PROFILE RECEIVED
Notation Class: WASTE MANAGEMENT ACT: CONTAMINATED SITES NOTATIONS

As of: AUG 31, 2014 BC Online: Site Registry 14-09-02
For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 11: 15: 10
Folio: IND03511-01.001 Page 2
NOTATIONS

Initiated: MAY 28, 2008

Approved:

Ministry Contact: HANEMAYER, VINCENT (SURREY) C

Notation Participants
LEVELTON CONSULTANTS LTD

Notation Roles
SITE PROFILE SUBMITTED
BY
SITE PROFILE SUBMITTED
BY

LEVELTON CONSULTANTS LTD

=====

SITE PARTICIPANTS

Participant: GREAT CANADIAN GAMING CORPORATION
Role(s): PROPERTY OWNER
Start Date: MAY 28, 2008

End Date:

Participant: HANEMAYER, VINCENT (SURREY) C
Role(s): MAIN MINISTRY CONTACT
Start Date: MAY 28, 2008

End Date:

Participant: LEVELTON CONSULTANTS LTD
Role(s): SITE PROFILE COMPLETOR
Start Date: MAY 28, 2008

End Date:

Participant: PIVOTAL PROJECTS INCORPORATED
Role(s): SITE PROFILE CONTACT
Start Date: MAY 28, 2008

End Date:

=====

SUSPECTED LAND USE

Description: MINE TAILING WASTE DISPOSAL
Notes: INSERTED FOR SITE PROFILE DATED 2008-05-13(described on Site
Profile dated 08-05-13)

=====

PARCEL DESCRIPTIONS

Date Added: MAY 13, 2008 Crown Land PIN#:
LTO PID#: 005596688 Crown Land File#:
Land Desc: LOT 1, SECTION 1, NANAIMO DISTRICT, AND OF THE BED OF THE
PUBLIC HARBOUR OF NANAIMO, PLAN 9246

=====

CURRENT SITE PROFILE INFORMATION (Sec. III to X)

Site Profile Completion Date: MAY 13, 2008

Local Authority Received: MAY 13, 2008

Ministry Regional Manager Received: MAY 28, 2008
Decision: INVESTIGATION REQUIRED

Decision: JUN 04, 2008

Site Registrar Received:

Entry Date:

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III COMMERCIAL AND INDUSTRIAL PURPOSES OR ACTIVITIES ON SITE
 Schedule 2

Reference	Description
H14	MINE TAILING WASTE DISPOSAL

AREAS OF POTENTIAL CONCERN

Petroleum, solvent or other polluting substance spills to the environment greater than 100 litres?..... NO
 Residue left after removal of piled materials such as chemicals, coal, ore, smelter slag, air quality control system baghouse dust?..... NO
 Discarded barrels, drums or tanks?..... NO
 Contamination resulting from migration of substances from other properties?..... NO

FILL MATERIALS

Fill dirt, soil, gravel, sand or like materials from a contaminated site or from a source used for any of the activities listed under Schedule 2?..... YES
 Discarded or waste granular materials such as sand blasting grit, asphalt paving or roofing material, spent foundry casting sands, mine ore, waste rock or float?..... NO
 Dredged sediments, or sediments and debris materials originating from locations adjacent to foreshore industrial activities, or municipal sanitary or stormwater discharges?..... NO

WASTE DISPOSAL

Materials such as household garbage, mixed municipal refuse, or demolition debris?..... NO
 Waste or byproducts such as tank bottoms, residues, sludge, or flocculation precipitates from industrial processes or wastewater treatment?..... NO
 Waste products from smelting or mining activities, such as smelter slag, mine tailings, or cull materials from coal processing?..... YES
 Waste products from natural gas and oil well drilling activities, such as drilling fluids and muds?..... NO
 Waste products from photographic developing or finishing laboratories; asphalt tar manufacturing; boilers, incinerators or other thermal facilities (eg. ash); appliance, small equipment or engine repair or salvage; dry cleaning operations (eg. solvents); or automobile and truck parts cleaning or repair?..... NO

TANKS OR CONTAINERS USED OR STORED

Underground fuel or chemical storage tanks?..... NO
 Above ground fuel or chemical storage tanks?..... YES

SPECIAL (HAZARDOUS) WASTES OR SUBSTANCES

PCB-containing electrical transformers or capacitors either at grade, attached above ground to poles, located within buildings, or stored?.... NO
 Waste asbestos or asbestos containing materials such as pipe wrapping,

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blown-in insulation or panelling buried?.....NO
Paints, solvents, mineral spirits or waste pest control products or pest
control product containers stored in volumes greater than 205 litres?...NO

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LEGAL OR REGULATORY ACTIONS OR CONSTRAINTS

Government orders or other notifications pertaining to environmental
conditions or quality of soil, water, groundwater or other
environmental media?.....NO
Liens to recover costs, restrictive covenants on land use, or other
charges or encumbrances, stemming from contaminants or wastes remaining
onsite or from other environmental conditions?.....NO
Government notifications relating to past or recurring environmental
violations at the site or any facility located on the site?.....NO

X ADDITIONAL COMMENTS AND EXPLANATIONS

End of Detail Report

As of: AUG 31, 2014 BC Online: Site Registry 14-09-02
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Detail Report

SITE LOCATION

Site ID: 8998 Latitude: 49d 09m 46.4s
Victoria File: Longitude: 123d 56m 02.7s
Regional File: 26250-20/8998
Region: NANAIMO, VANCOUVER ISLAND

Site Address: 19 NICOL STREET
City: NANAIMO Prov/State: BC
Postal Code:

Registered: MAY 26, 2004 Updated: Detail Removed:

Notations: 1 Participants: 3 Associated Sites: 0
Documents: 0 Susp. Land Use: 0 Parcel Descriptions: 0

Record Status: ACTIVE - UNDER REMEDIATION
Fee category: UNRANKED

=====

Notation Type: NOTICE OF INDEPENDENT REMEDIATION INITIATION SUBMITTED (WMA
28(2))
Notation Class: WASTE MANAGEMENT ACT: CONTAMINATED SITES NOTATIONS
Initiated: MAR 24, 2004 Approved:

Ministry Contact: PATTERSON, ROBERTA A

Notation Participants Notation Roles
SEACOR ENVIRONMENTAL ENGINEERING INC (NANAIMO) SUBMITTED BY
CITY OF NANAIMO RECEIVED BY

Note: 125M3 OF METALS CONTAMINATED SOILS TO BE REMOVED.

=====

SITE PARTICIPANTS

Participant: CITY OF NANAIMO
Role(s): MUNICIPAL/REGIONAL CONTACT
Start Date: MAR 24, 2004 End Date:

Participant: PATTERSON, ROBERTA A
Role(s): MAIN MINISTRY CONTACT
Start Date: MAR 24, 2004 End Date: DEC 05, 2006

Participant: SEACOR ENVIRONMENTAL ENGINEERING INC (NANAIMO)
Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
Start Date: MAR 24, 2004 End Date:

No activities were reported for this site

End of Detail Report

SiteRegDetail SiteID3953Lat49Long123.txt

As of: AUG 31, 2014 BC Online: Site Registry 14-09-02
For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 11:14:26
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Detail Report

SITE LOCATION

Site ID: 3953 Latitude: 49d 09m 44.7s
Victoria File: Longitude: 123d 55m 55.1s
Regional File: 26250-20/3953
Region: NANAIMO, VANCOUVER ISLAND

Site Address: 21 ESPLANADE STREET
City: NANAIMO Prov/State: BC
Postal Code:

Registered: OCT 30, 1998 Updated: SEP 24, 2003 Detail Removed: SEP 24, 2003

Notations: 0 Participants: 0 Associated Sites: 0
Documents: 0 Susp. Land Use: 0 Parcel Descriptions: 0

Location Description: * TOMBSTONE DATA ONLY FOR SITE REGISTRY * - FEDERAL
LAND. CLOSE FILE. LAT/LONG DERIVED BY MINISTRY REFERENCING THE
TRANSPORTATION CENTRELINE NETWORK (TCN), NAD 83.

Record Status: ACTIVE - UNDER REMEDIATION
Fee category: UNRANKED

No activities were reported for this site

End of Detail Report

As of: AUG 31, 2014 BC Online: Site Registry 14-09-02
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Detail Report

SITE LOCATION

Site ID: 12024 Latitude: 49d 09m 53.2s
Victoria File: 26250-20/12024 Longitude: 123d 56m 00.8s
Regional File:
Region: NANAIMO, VANCOUVER ISLAND

Site Address: 650 TERMINAL AVENUE & 9 NICOL STREET
City: NANAIMO Prov/State: BC
Postal Code: V9R 5E2

Registered: DEC 31, 2009 Updated: JUL 24, 2014 Detail Removed: JUL 22, 2014

Notations: 24 Participants: 28 Associated Sites: 1
Documents: 28 Susp. Land Use: 3 Parcel Descriptions: 4

Location Description: SITE CREATED BY SITE PROFILE, ENTERED 2009-12-18.
LAT/LONG VERIFIED USING GOOGLE EARTH 2009-12-18.

Record Status: ACTIVE - REMEDIATION COMPLETE
Fee category: UNRANKED

=====

Notation Type: SITE RISK CLASSIFIED - SITE IS NON-HIGH RISK
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: SEP 16, 2013 Approved: SEP 16, 2013

Ministry Contact: O'GRADY, TYLER

Notation Participants Notation Roles
PHH ARC ENVIRONMENTAL LTD SUBMITTED BY

Note: THE SITE HAS BEEN RECLASSIFIED AS NON-HIGH RISK, DUE TO THE REMEDIATION OF HIGH RISK CONDITIONS. AS PER REQUIREMENTS OUTLINED IN PROTOCOL 12 THE SRCR WAS SIGNED BY APPROVED PROFESSIONAL TADD BERGER.

Notation Type: CERTIFICATE OF COMPLIANCE ISSUED USING RISK BASED STANDARDS
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: SEP 05, 2013 Approved: SEP 05, 2013

Ministry Contact: JERADE, LILIANA

Notation Participants Notation Roles
PHH ARC ENVIRONMENTAL LTD REQUESTED BY
FIRST CAPITAL ASSET MANAGEMENT LP RECEIVED BY
CONDON, COLM ISSUED BY

Required Actions: ALSO SEE INSTRUMENT SCHEDULE B, CONDITION 1: ANY CHANGES IN LAND, VAPOUR, OR WATER USES MUST BE PROMPTLY IDENTIFIED BY THE RESPONSIBLE PERSON OR PERSONS IN A WRITTEN SUBMISSION TO THE DIRECTOR. AN APPLICATION FOR AN AMENDMENT OR NEW CERTIFICATE OF COMPLIANCE MAY BE NECESSARY. THE USE(S) TO

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NOTATIONS

WHICH THIS CONDITION APPLIES ARE DESCRIBED IN SCHEDULE C AND IN THE SITE INVESTIGATION DOCUMENTS LISTED IN SCHEDULE D. THE DOCUMENTS LISTED IN SCHEDULE D INDICATE THAT VAPOUR ATTENUATION FACTORS WERE APPLIED TO MEET CONTAMINATED SITE REGULATION NUMERICAL STANDARDS AT THE SITE. THESE VAPOUR ATTENUATION FACTORS WERE SELECTED BASED ON ASSUMPTIONS ABOUT THE STRUCTURES, LOCATIONS AND DEPTHS OF BUILDINGS AND TRENCHES EXISTING OR EXPECTED AT THE SITE. THESE ASSUMPTIONS INCLUDE THE FOLLOWING: A) ALL BUILDINGS PLACED ON SITE WILL BE OF SLAB-ON-GRADE DESIGN B) BUILDINGS EXIST ON SITE AS DEPICTED IN FIGURE 2 OF THE STAGE 1 PRELIMINARY SITE INVESTIGATION, STAGE 2 PRELIMINARY SITE INVESTIGATION, AND DETAILED SITE INVESTIGATION REPORT. ANY INCONSISTENCIES THAT ARISE BETWEEN THE STRUCTURES, LOCATIONS, AND DEPTHS OF PROPOSED OR CONSTRUCTED BUILDINGS OR TRENCHES ASSUMED IN THE SELECTION OF

Notation Type: REQUIREMENT(S) IMPOSED IN CERTIFICATE OF COMPLIANCE
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: SEP 05, 2013 Approved: SEP 05, 2013

Ministry Contact: OSACHOFF, HEATHER

Required Actions: ALSO SEE INSTRUMENT SCHEDULE B, CONDITION 8: A REPORT WITH THE RESULTS OF THE MONITORING PROGRAM DESCRIBED IN THE PROPOSED GROUNDWATER MONITORING PLAN LISTED IN SCHEDULE D MUST BE SUBMITTED TO THE DIRECTOR WITHIN 90 DAYS OF THE ANNIVERSARY OF THE DATE OF ISSUANCE OF THIS CERTIFICATE OF COMPLIANCE FOR THE FIRST 3 YEARS AND THEN ONCE IN YEAR 5 AND YEAR 10 OR AS OTHERWISE APPROVED BY THE DIRECTOR.

Notation Type: CASE MANAGEMENT ITEM
Notation Class: ADMINISTRATIVE
Initiated: JUL 24, 2013 Approved: JUL 24, 2013

Ministry Contact: O'GRADY, TYLER

Notation Participants Notation Roles
PHH ARC ENVIRONMENTAL LTD SUBMITTED BY

Note: DUE TO A DRINKING WATER USE EXEMPTION, THERE IS NO LONGER OFFSITE MIGRATION OF CONTAMINATION TO THE CITY OF NANAIMO PROPERTY. AFFECTED PARCEL WAS 100 BLOCK OF FRONT STREET, NANAIMO. SITE 14922.

Notation Type: CERTIFICATE OF COMPLIANCE REQUESTED
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: JUL 20, 2013 Approved: JUL 20, 2013

Ministry Contact: HEWLETT, LUCY

Notation Participants Notation Roles
PHH ARC ENVIRONMENTAL LTD. REQUESTED BY

Notation Type: CASE MANAGEMENT ITEM
Notation Class: ADMINISTRATIVE

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Ministry Contact: JERADE, LILIANA

Notation Participants
FIRST CAPITAL ASSET MANAGEMENT LP
EVANS, PEGGY L

Notation Roles
RECEIVED BY
ISSUED BY

Note: CONCENTRATIONS OF SELECTED HYDROCARBONS AND METALS ARE CONSISTENT WITH CONCENTRATIONS MEASURED IN FILL SOILS ON NEIGHBOURING PROPERTIES AND IN THE GENERAL AREA OF THE FORMER COMMERCIAL INLET.

Notation Type: CASE MANAGEMENT ITEM
Notation Class: ADMINISTRATIVE
Initiated: JUN 25, 2013

Approved: JUN 25, 2013

Ministry Contact: HEWLETT, LUCY

Notation Participants
FIRST CAPITAL ASSET MANAGEMENT LP
EVANS, PEGGY L

Notation Roles
RECEIVED BY
ISSUED BY

Note: WATER USE DETERMINATION LETTER ISSUED BY DIRECTOR. DW WATER USE DEEMED NOT TO APPLY TO SITE IN ACCORDANCE WITH TECHNICAL GUIDANCE DOCUMENT 6.

Notation Type: NOTICE OF INDEPENDENT REMEDIATION COMPLETION SUBMITTED
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: MAY 23, 2013

Approved: MAY 23, 2013

Ministry Contact: SAMWAYS, JENNIFER

Notation Participants
EBA A TETRA TECH COMPANY

Notation Roles
SUBMITTED BY

Note: COMPLETED: 2012-11-08 DGIR # 121510

Notation Type: SITE RISK CLASSIFIED - AFFECTED SITE IS NON-HIGH RISK
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: APR 03, 2013

Approved: APR 03, 2013

Ministry Contact: O'GRADY, TYLER

Notation Participants
PHH ARC ENVIRONMENTAL LTD

Notation Roles
SUBMITTED BY

Note: AFFECTED PARCEL IS 100 BLOCK OF FRONT STREET, NANAIMO. SITE 14922.

Required Actions: ****DUE TO A DRINKING WATER USE EXEMPTION, THERE IS NO
Page 3

SiteRegDetailSiteID12024Lat49Long123.txt
LONGER OFFSITE MIGRATION OF CONTAMINATION TO THE CITY OF NANAIMO PROPERTY.

Notation Type: CASE MANAGEMENT ITEM
Notation Class: ADMINISTRATIVE

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Initiated: FEB 18, 2013

Approved: FEB 18, 2013

Ministry Contact: HEWLETT, LUCY

Notation Participants
PHH ARC ENVIRONMENTAL LTD.
FIRST CAPITAL ASSET MANAGEMENT LP

Notation Roles
SUBMITTED BY
REQUESTED BY

Note: TG6 WATER USE DETERMINATION REQUESTED.

Notation Type: NOTIFICATION RECEIVED ABOUT LIKELY OR ACTUAL SUBSTANCE
MIGRATION TO NEIGHBOURING SITE

Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL

Initiated: FEB 14, 2013

Approved: FEB 14, 2013

Ministry Contact: SAMWAYS, JENNIFER

Notation Participants
PHH ARC ENVIRONMENTAL LTD

Notation Roles
SUBMITTED BY

Note: AFFECTED PARCEL IS 100 BLOCK OF FRONT STREET, NANAIMO. SITE 14922.

Required Actions: *****DUE TO A DRINKING WATER USE EXEMPTION, THERE IS NO
LONGER OFFSITE MIGRATION OF CONTAMINATION TO THE CITY OF NANAIMO PROPERTY.

Notation Type: CASE MANAGEMENT ITEM

Notation Class: ADMINISTRATIVE

Initiated: MAY 15, 2012

Approved: MAY 15, 2012

Ministry Contact: HEWLETT, LUCY

Notation Participants
PHH ARC ENVIRONMENTAL LTD
FIRST CAPITAL HOLDINGS TRUST

Notation Roles
SUBMITTED BY
REQUESTED BY

Note: REQUEST FOR AREA-WIDE DETERMINATION

Notation Type: SITE RISK CLASSIFICATION

Notation Class: ADMINISTRATIVE

Initiated: NOV 10, 2011

Approved: NOV 10, 2011

Ministry Contact: O'GRADY, TYLER

Note: SCHEDULE AND SUMMARY OF REMEDIAL METHODS WERE SUBMITTED CONCURRENTLY

SiteRegDetail SiteID12024Lat49Long123.txt
WITH THE SITE RISK CLASSIFICATION REPORT.

Notation Type: SITE RISK CLASSIFIED - SITE IS HIGH RISK
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: NOV 10, 2011 Approved: NOV 10, 2011

Ministry Contact: O' GRADY, TYLER

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Notation Participants
PHH ARC ENVIRONMENTAL LTD.

Notation Roles
SUBMITTED BY

Note: UPDATED SITE RISK CLASSIFICATION REPORT PROVIDED INDICATING THAT SITE IS HIGH RISK.

Notation Type: NOTICE OF INDEPENDENT REMEDIATION INITIATION SUBMITTED
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: JUL 20, 2011 Approved: JUL 20, 2011

Ministry Contact: SAMWAYS, JENNIFER

Notation Participants
PHH ARC ENVIRONMENTAL LTD.

Notation Roles
SUBMITTED BY

Note: START: 2011-07-21

Notation Type: CERTIFICATE OF COMPLIANCE ISSUED USING NUMERICAL STANDARDS
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: APR 29, 2011 Approved: APR 29, 2011

Ministry Contact: LOCKHART, DAVE

Notation Participants
FIRST CAPITAL HOLDINGS TRUST
WALTON, DOUG G
HEMMERA

Notation Roles
RECEIVED BY
ISSUED BY
APPROVED PROFESSIONAL

Note: ISSUED ON THE RECOMMENDATION OF AN APPROVED PROFESSIONAL (EVA GERENCHER) UNDER PROTOCOL 6 OF THE CONTAMINATED SITES REGULATION. THE LANDS COVERED BY THIS CERTIFICATE ARE LOCATED AT 9 NICOL STREET AND A PORTION OF 650 TERMINAL AVENUE, NANAIMO DESCRIBED BY METES AND BOUNDS.

Required Actions: ALSO SEE INSTRUMENT SCHEDULE B CONDITION 2 - "SOIL VAPOUR CONCENTRATIONS OF BENZENE AT THE SITE MEET GENERIC NUMERICAL VAPOUR STANDARDS FOR COMMERCIAL LAND USE IN SCHEDULE 11 OF THE CONTAMINATED SITES REGULATION WHEN AN ATTENUATION FACTOR IS APPLIED. THE VAPOUR ASSESSMENT WAS BASED ON THE CURRENT SITE CONDITIONS AND REDEVELOPMENT PLANS TO INCLUDE THE CONSTRUCTION OF A SINGLE STOREY COMMERCIAL STRUCTURE WITH ASSOCIATED GROUND LEVEL PARKING. NO BASEMENTS OR RESIDENTIAL UNITS ARE PLANNED WITHIN 30

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METERS OF THE SITE. THIS CERTIFICATE OF COMPLIANCE IS ONLY VALID WHEN THE
SITE DEVELOPMENT SCENARIO MAINTAINS THE ATTENUATION FACTOR. "

Notation Type: CERTIFICATE OF COMPLIANCE REQUESTED
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: APR 01, 2011 Approved: APR 01, 2011

Ministry Contact: HEWLETT, LUCY

Notation Participants

Notation Roles

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FIRST CAPITAL HOLDINGS TRUST REQUESTED BY
HEMMERA APPROVED PROFESSIONAL

Notation Type: NOTICE OF INDEPENDENT REMEDIATION INITIATION SUBMITTED
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: MAR 21, 2011 Approved: MAR 21, 2011

Ministry Contact: SAMWAYS, JENNIFER

Notation Participants
PHH ARC ENVIRONMENTAL LTD.

Notation Roles
SUBMITTED BY

Note: START: 2010-08-10

Notation Type: NOTICE OF INDEPENDENT REMEDIATION COMPLETION SUBMITTED
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: MAR 21, 2011 Approved: MAR 21, 2011

Ministry Contact: SAMWAYS, JENNIFER

Notation Participants
PHH ARC ENVIRONMENTAL LTD.

Notation Roles
SUBMITTED BY

Note: COMPLETED: 2010-09-15

Notation Type: SITE RISK CLASSIFIED - SITE IS NON-HIGH RISK
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: MAR 18, 2011 Approved: MAR 18, 2011

Ministry Contact: O'GRADY, TYLER

Notation Participants
PHH ARC ENVIRONMENTAL LTD.

Notation Roles
SUBMITTED BY

Note: ***** SITE RISK CLASSIFICATION HAS BEEN CHANGED TO HIGH RISK AFTER THE
SUBMISSION OF AN UPDATED SITE RISK CLASSIFICATION REPORT.

Notation Type: SITE PROFILE - FURTHER INVESTIGATION REQUIRED BY THE MINISTRY
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SiteRegDetailSiteID12024Lat49Long123.txt
Notation Class: WASTE MANAGEMENT ACT: CONTAMINATED SITES NOTATIONS
Initiated: DEC 18, 2009 Approved:

Ministry Contact: HANEMAYER, VINCENT (SURREY) C

Note: 2010-05-26: RELEASE OF THE DEVELOPMENT PERMITS FOR 9 NICOL STREET AND ADJOINING PORTION OF 650 TERMINAL AVENUE GRANTED BECAUSE IN THE OPINION OF THE DIRECTOR THE SITE DOES NOT POSE A SIGNIFICANT RISK.

Required Actions: PRELIMINARY SITE INVESTIGATION REQUIRED. A CERTIFICATE IS REQUIRED FOR 9 NICOL STREET AND ADJOINING PORTION OF 650 TERMINAL AVENUE AND AN AIP IS REQUIRED FOR THE REMAINDER OF 650 TERMINAL AVENUE PRIOR TO OCCUPANCY OF THE REDEVELOPMENTS AT 9 NICOL STREET AND ADJOINING PORTION OF

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650 TERMINAL AVENUE. SUBSEQUENTLY, A CERTIFICATE WILL BE REQUIRED FOR THE REMAINING PORTION OF 650 TERMINAL AVENUE PRIOR TO THE OCCUPATION OF THOSE REDEVELOPED LANDS.

Notation Type: SITE PROFILE REVIEWED - FURTHER INVESTIGATION REQUIRED BY THE
MINISTRY
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: DEC 18, 2009 Approved:

Ministry Contact: HANEMAYER, VINCENT (SURREY) C

Note: 2010-05-26: RELEASE OF THE DEVELOPMENT PERMITS FOR 9 NICOL STREET AND ADJOINING PORTION OF 650 TERMINAL AVENUE GRANTED BECAUSE IN THE OPINION OF THE DIRECTOR THE SITE DOES NOT POSE A SIGNIFICANT RISK.

Required Actions: PRELIMINARY SITE INVESTIGATION REQUIRED. A CERTIFICATE IS REQUIRED FOR 9 NICOL STREET AND ADJOINING PORTION OF 650 TERMINAL AVENUE AND AN AIP IS REQUIRED FOR THE REMAINDER OF 650 TERMINAL AVENUE PRIOR TO OCCUPANCY OF THE REDEVELOPMENTS AT 9 NICOL STREET AND ADJOINING PORTION OF 650 TERMINAL AVENUE. SUBSEQUENTLY, A CERTIFICATE WILL BE REQUIRED FOR THE REMAINING PORTION OF 650 TERMINAL AVENUE PRIOR TO THE OCCUPATION OF THOSE REDEVELOPED LANDS.

Notation Type: SITE PROFILE RECEIVED
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Initiated: DEC 10, 2009 Approved:

Ministry Contact: HANEMAYER, VINCENT (SURREY) C

Notation Participants	Notation Roles
GOLDER ASSOCIATES LTD.	SITE PROFILE SUBMITTED
	BY
GOLDER ASSOCIATES LTD.	SITE PROFILE SUBMITTED
	BY

Notation Type: SITE PROFILE RECEIVED

Notation Class: WASTE MANAGEMENT ACT: CONTAMINATED SITES NOTATIONS

Initiated: DEC 10, 2009

Approved:

Ministry Contact: HANEMAYER, VINCENT (SURREY) C

Notation Participants
GOLDER ASSOCIATES LTD.

Notation Roles
SITE PROFILE SUBMITTED
BY
SITE PROFILE SUBMITTED
BY

GOLDER ASSOCIATES LTD.

=====

Participant: AGRA EARTH & ENVIRONMENTAL LIMITED (NANAIMO (BOBAN DRIVE))
Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR

As of: AUG 31, 2014 BC Online: Site Registry 14-09-02
For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 11: 15: 31
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SITE PARTICIPANTS

Start Date: SEP 01, 1999	End Date:

Participant: CN RYZUK & ASSOCIATES LTD (VICTORIA, B. C.)	
Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR	
Start Date: JUL 01, 2007	End Date:

Participant: CORE6 ENVIRONMENTAL	
Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR	
Start Date: JUL 22, 2013	End Date:

Participant: CORE6 ENVIRONMENTAL LTD	
Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR	
Start Date: AUG 30, 2013	End Date:

Participant: E-PRO	
Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR	
Start Date: NOV 20, 2006	End Date:

Participant: EBA A TETRA TECH COMPANY	
Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR	
Start Date: MAY 23, 2013	End Date:

Participant: EDACON INC	
Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR	
Start Date: DEC 07, 1993	End Date:

Participant: ENKON ENVIRONMENTAL (VICTORIA)	
Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR	
Start Date: JUL 01, 2004	End Date:

Participant: ENVIRONMENTAL RESOURCES MANAGEMENT CANADA INC	
Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR	

Start Date: NOV 09, 2006 End Date:

Participant: EVANS, PEGGY L
Role(s): ALTERNATE MINISTRY CONTACT
Start Date: JUN 25, 2013 End Date:

Participant: FIRST CAPITAL ASSET MANAGEMENT LP
Role(s): PROPERTY OWNER
Start Date: FEB 18, 2013 End Date:

Participant: FIRST CAPITAL HOLDINGS TRUST
Role(s): PROPERTY OWNER
SITE PROFILE CONTACT
Start Date: DEC 10, 2009 End Date:

Participant: GOLDER ASSOCIATES LTD.
Role(s): SITE PROFILE COMPLETOR
Start Date: DEC 10, 2009 End Date:

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SITE PARTICIPANTS

Participant: HANEMAYER, VINCENT (SURREY) C
Role(s): MAIN MINISTRY CONTACT
Start Date: DEC 10, 2009 End Date:

Participant: HEMMERA
Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
Start Date: JAN 01, 2011 End Date:

Participant: HEWLETT, LUCY
Role(s): MINISTRY CONTACT
Start Date: APR 01, 2011 End Date:

Participant: JERADE, LILIANA
Role(s): MINISTRY CONTACT
Start Date: JUL 04, 2013 End Date:

Participant: LEVELTON ENGINEERING ASSOCIATES LTD (NANAIMO (BOLLINGER ROAD))
Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
Start Date: AUG 01, 1989 End Date:

Participant: LOCKHART, DAVE
Role(s): MINISTRY CONTACT
Start Date: APR 29, 2011 End Date:

Participant: MINISTRY OF ENVIRONMENT LANDS AND PARKS (OFFICIAL MAIL OUT)
Role(s): MINISTRY CONTACT
Start Date: JAN 27, 1993 End Date:

Participant: O' GRADY, TYLER
 Role(s): ALTERNATE MINISTRY CONTACT
 Start Date: DEC 10, 2009 End Date:

Participant: PHH ARC ENVIRONMENTAL LTD
 Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
 Start Date: FEB 14, 2013 End Date:

Participant: PHH ARC ENVIRONMENTAL LTD
 Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
 Start Date: MAY 11, 2012 End Date:

Participant: PHH ARC ENVIRONMENTAL LTD.
 Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
 Start Date: FEB 06, 2012 End Date:

Participant: PHH ARC ENVIRONMENTAL LTD.
 Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
 Start Date: MAR 18, 2011 End Date:

Participant: SAMWAYS, JENNI FER
 Role(s): ALTERNATE MINISTRY CONTACT

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 SITE PARTICIPANTS

Start Date: MAR 21, 2011 End Date:

Participant: THURBER ENVIRONMENTAL CONSULTANTS LTD (VICTORIA)
 Role(s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
 Start Date: AUG 01, 1990 End Date:

Participant: WALTON, DOUG G
 Role(s): ALTERNATE MINISTRY CONTACT
 Start Date: APR 29, 2011 End Date:

DOCUMENTS

Title: PROPOSED GROUNDWATER MONITORING - PORT PLACE MALL, NANAIMO, BC
 Authored: SEP 04, 2013 Submitted: SEP 04, 2013
 Participants Role
 CORE6 ENVIRONMENTAL AUTHOR

Title: MEMO: ADDITIONAL INFORMATION SUPPORTING AQUATIC ECOLOGICAL RISK
 CONCLUSION HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT PORT PLACE
 MALL, NANAIMO, BC
 Authored: AUG 30, 2013 Submitted: AUG 30, 2013
 Participants Role
 CORE6 ENVIRONMENTAL LTD AUTHOR

Title: MEMO: RESPONSE TO COMMENTS ON THE HUMAN HEALTH AND ECOLOGICAL RISK
 ASSESSMENT PORT PLACE MALL, NANAIMO, BC (CORE6 2013), SITE 12024
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Parti ci pants	Authored: AUG 20, 2013	Submitted: AUG 20, 2013
CORE6 ENVI RONMENTAL		Ro le AUTHOR

Ti tle: LATERAL GROUNDWATER FLOW WITHIN THE BEDROCK AQUI FER	Authored: AUG 15, 2013	Submitted: AUG 27, 2013

Parti ci pants		Ro le
PHH ARC ENVI RONMENTAL LTD		AUTHOR

Ti tle: MEMORANDUM RE. RESPONSE TO COMMENTS ON THE HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT PORT PLACE MALL, NANAIMO, BC (CORE6 2013), SITE 12024, FROM TH	Authored: AUG 06, 2013	Submitted: AUG 06, 2013

Parti ci pants		Ro le
CORE6 ENVI RONMENTAL		AUTHOR

Ti tle: MEMO: RESPONSE TO COMMENTS ON THE HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT PORT PLACE MALL, NANAIMO, BC (CORE6 2013), SITE 12024	Authored: JUL 31, 2013	Submitted: JUL 31, 2013

Parti ci pants		Ro le
CORE6 ENVI RONMENTAL		AUTHOR

Ti tle: HUMAN HEATH AND ECOLOGICAL RISK ASSESSMENT, PORT PLACE MALL, NANAIMO, BC	Authored: JUL 22, 2013	Submitted: JUL 25, 2013

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Parti ci pants	Ro le
CORE6 ENVI RONMENTAL	AUTHOR

Ti tle: CONTAMINANT FATE AND TRANSPORT ASSESSMENT REPORT, ADDENDUM TO DETAILED SITE INVESTIGATION ? PORT PLACE MALL, 650 TERMINAL, NANAIMO, BC	Authored: JUL 13, 2013	Submitted: JUL 13, 2013

Parti ci pants		Ro le
CORE6 ENVI RONMENTAL		AUTHOR

Ti tle: SUMMARY OF SITE CONDITIONS, 650 TERMINAL AVENUE, NANAIMO	Authored: JUL 09, 2013	Submitted: JUL 09, 2013

Parti ci pants		Ro le
PHH ARC ENVI RONMENTAL LTD		AUTHOR

Ti tle: STAGE 1 PRELI MI NARY SITE INVESTIGATION, STAGE 2 PRELI MI NARY SITE INVESTIGATION AND DETAILED SITE INVESTIGATION	Authored: JUN 20, 2013	Submitted: JUN 20, 2013

Parti ci pants		Ro le
PHH ARC ENVI RONMENTAL LTD.		AUTHOR

Ti tle: AREA WIDE DETERMI NATION OF CONTAMINATED FILL, PORT PLACE MALL, 650 TERMINAL AVENUE, NANAIMO, B.C.		

SiteRegDetail SiteID12024Lat49Long123.txt
 Authored: MAY 11, 2012 Submitted: MAY 15, 2012
 Participants Role
 PHH ARC ENVIRONMENTAL LTD. AUTHOR

 Title: WATER USE DETERMINATION, PORT PLACE MALL, 650 TERMINAL AVENUE,
 NANAIMO, BRITISH COLUMBIA
 Authored: FEB 06, 2012 Submitted: FEB 07, 2012
 Participants Role
 PHH ARC ENVIRONMENTAL LTD. AUTHOR

 Title: SITE INVESTIGATION AND REMEDIATION, CONFIRMATION REPORT. 9 NICOL
 STREET AND A PORTION OF 650 TERMINAL AVENUE, NANAIMO, BRITISH
 COLUMBIA
 Authored: JAN 31, 2011 Submitted: JAN 31, 2011
 Participants Role
 E-PRO AUTHOR

 Title: SUMMARY OF SITE CONDITION - SITE #12024
 Authored: JAN 01, 2011 Submitted: JAN 01, 2011
 Participants Role
 HEMMERA AUTHOR

 Title: REMEDIATION CLOSURE REPORT, PORT PLACE MALL, 650 SOUTH TERMINAL
 AVENUE NANAIMO, BC
 Authored: JAN 28, 2008 Submitted: JAN 28, 2008
 Participants Role
 E-PRO AUTHOR

As of: AUG 31, 2014 BC Online: Site Registry 14-09-02
 For: PK71787 EBA ENGINEERING CONSULTANTS LTD. 11: 15: 31
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 DOCUMENTS

Title: LIMITED STAGE 2 PRELIMINARY SITE INVESTIGATION, 9 NICOL AVENUE,
 NANAIMO, BC
 Authored: JUL 11, 2007 Submitted: JUL 11, 2007
 Participants Role
 ENVIRONMENTAL RESOURCES MANAGEMENT CANADA INC. AUTHOR

 Title: GEOTECHNICAL REPORT ON 9 NICOL AVENUE, NANAIMO, BC
 Authored: JUL 01, 2007 Submitted: JUL 01, 2007
 Participants Role
 CN RYZUK & ASSOCIATES LTD (VICTORIA, B.C.) AUTHOR

 Title: SOIL QUALITY ISSUES, PORT PLACE SHOPPING CENTRE, NANAIMO, BC
 Authored: NOV 21, 2006 Submitted: NOV 21, 2006
 Participants Role
 ENVIRONMENTAL RESOURCES MANAGEMENT CANADA INC. AUTHOR

 Title: SITE REMEDIATION WORK, PORT PLACE MALL, 650 SOUTH TERMINAL AVENUE,
 NANAIMO, BC
 Authored: NOV 20, 2006 Submitted: NOV 20, 2006
 Participants Role

E-PRO

AUTHOR

Title: RESULTS OF ADDITIONAL ENVIRONMENTAL INVESTIGATIONS, PORT PLACE
SHOPPING CENTRE, NANAIMO, - LETTER

Authored: NOV 17, 2006

Submitted: NOV 17, 2006

Participants

ENVIRONMENTAL RESOURCES MANAGEMENT CANADA INC

Role

AUTHOR

Title: STAGE 1 AND 2 PRELIMINARY SITE INVESTIGATION, PORT PLACE MALL, 650
TERMINAL AVENUE NANAIMO, BC

Authored: NOV 09, 2006

Submitted: NOV 09, 2006

Participants

ENVIRONMENTAL RESOURCES MANAGEMENT CANADA INC

Role

AUTHOR

Title: STAGE 1 PRELIMINARY SITE INVESTIGATION, PORT PLACE MALL (650
TERMINAL AVENUE)

Authored: JUL 01, 2004

Submitted: JUL 01, 2004

Participants

ENKON ENVIRONMENTAL (VICTORIA)

Role

AUTHOR

Title: GEOTECHNICAL ASSESSMENT OF STRUCTURAL DISTRESS, HARBOUR PARK MALL,
NANAIMO, BC

Authored: SEP 01, 1999

Submitted: SEP 01, 1999

Participants

AGRA EARTH & ENVIRONMENTAL LIMITED (NANAIMO
(BOBAN DRIVE))

Role

AUTHOR

Title: HARBOUR PARK MALL PHASE 1 & 2 SITE ASSESSMENT IN NANAIMO, BC

Authored: MAR 14, 1995

Submitted: MAR 14, 1995

Participants

THURBER ENVIRONMENTAL CONSULTANTS LTD (VICTORIA)

Role

AUTHOR

As of: AUG 31, 2014

BC Online: Site Registry

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DOCUMENTS

Title: FORMER TEXACO SERVICE STATION SITE AT 9 NICOL STREET, NANAIMO, BC

Authored: DEC 07, 1993

Submitted: DEC 07, 1993

Participants

EDACON INC

Role

AUTHOR

Title: LETTER OF COMFORT - MINISTRY OF ENVIRONMENT, LAND AND PARKS

Authored: JAN 27, 1993

Submitted: JAN 27, 1993

Participants

MINISTRY OF ENVIRONMENT LANDS AND PARKS (OFFICIAL
MAIL OUT)

Role

AUTHOR

Title: INITIAL ENVIRONMENTAL INVESTIGATION FORMER TEXACO SERVICE STATION
324, NANAIMO, BC

Authored: AUG 01, 1990

Submitted: AUG 01, 1990

Participants

THURBER ENVIRONMENTAL CONSULTANTS LTD (VICTORIA)

Role

AUTHOR

Title: SOIL INVESTIGATION AT SEARS AUTOMOTIVE CENTRE,
 Authored: AUG 01, 1989 Submitted: AUG 01, 1989
 Participants Role
 LEVELTON ENGINEERING ASSOCIATES LTD (NANAIMO AUTHOR
 (BOLLINGER ROAD))

ASSOCIATED SITES

Site id: 14922 Date: FEB 22, 2013
 Notes: SOURCE PARCEL 12024 AFFECTED PARCEL 14922

SUSPECTED LAND USE

Description: APPLIANCE/EQUIP OR ENGINE REPAIR/RECONDITION/CLEANING/SALVAG
 Notes: INSERTED FOR SITE PROFILE DATED 2009-09-24(described on Site
 Profile dated 09-09-24)

Description: DRY CLEANING FACILITIES/OPER & DRY CLEANING CHEM STORAGE
 Notes: INSERTED FOR SITE PROFILE DATED 2009-09-24(described on Site
 Profile dated 09-09-24)

Description: MEDICAL, CHEMICAL, RADIOLOGICAL OR BIOLOGICAL LABORATORIES
 Notes: INSERTED FOR SITE PROFILE DATED 2009-09-24(described on Site
 Profile dated 09-09-24)

PARCEL DESCRIPTIONS

Date Added: SEP 24, 2009 Crown Land PIN#:
 LTO PID#: 000550001 Crown Land File#:
 Land Desc: LOT 1 OF THE BED OF NANAIMO HARBOUR, NANAIMO DISTRICT, PLAN
 8767, EXCEPT THAT PART IN PLAN 12624

Date Added: SEP 24, 2009 Crown Land PIN#:

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 PARCEL DESCRIPTIONS

LTO PID#: 003393895 Crown Land File#:
 Land Desc: LOT 1, SECTION 1, NANAIMO DISTRICT AND OF THE BED OF THE PUBLIC
 HARBOUR OF NANAIMO, PLAN 21477, EXCEPT PART IN PLAN VIP61716

Date Added: SEP 24, 2009 Crown Land PIN#:
 LTO PID#: 004795873 Crown Land File#:
 Land Desc: LOT B, SECTION 1, NANAIMO DISTRICT, AND OF THE BED OF THE PUBLIC
 HARBOUR OF NANAIMO, PLAN 12624

Date Added: JUL 21, 2011 Crown Land PIN#:
 LTO PID#: 028426801 Crown Land File#:
 Land Desc: LOT 1 SECTION 1 NANAIMO DISTRICT AND PART OF THE BED OF THE
 PUBLIC HARBOUR OF NANAIMO PLAN EPP10474

Local Authority Received: SEP 28, 2009

Ministry Regional Manager Received: DEC 10, 2009 Decision: DEC 18, 2009
 Decision: INVESTIGATION REQUIRED

Site Registrar Received: Entry Date:

III COMMERCIAL AND INDUSTRIAL PURPOSES OR ACTIVITIES ON SITE
 Schedule 2

Reference	Description
E1	APPLIANCE/EQUIP OR ENGINE REPAIR/RECONDITION/CLEANING/SALVAG
E5	MEDICAL, CHEMICAL, RADIOLOGICAL OR BIOLOGICAL LABORATORIES
E9	DRY CLEANING FACILITIES/OPER & DRY CLEANING CHEM STORAGE

AREAS OF POTENTIAL CONCERN

Petroleum, solvent or other polluting substance spills to the environment
 greater than 100 litres?..... NO
 Residue left after removal of piled materials such as chemicals, coal,
 ore, smelter slag, air quality control system baghouse dust?..... NO
 Discarded barrels, drums or tanks?..... NO
 Contamination resulting from migration of substances from other
 properties?..... NO

FILL MATERIALS

Fill dirt, soil, gravel, sand or like materials from a contaminated site
 or from a source used for any of the activities listed under Schedule
 2?..... YES
 Discarded or waste granular materials such as sand blasting grit, asphalt
 paving or roofing material, spent foundry casting sands, mine ore,
 waste rock or float?..... NO
 Dredged sediments, or sediments and debris materials originating from
 locations adjacent to foreshore industrial activities, or municipal
 sanitary or stormwater discharges?..... NO

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WASTE DISPOSAL (QUESTIONS AS OF JANUARY 1 2009)

Materials such as household garbage, mixed municipal refuse, or demolition
 debris?..... NO
 Waste or byproducts such as tank bottoms, residues, sludge, or
 flocculation precipitates from industrial processes or wastewater
 treatment?..... NO
 Waste products from smelting or mining activities, such as smelter slag,
 mine tailings, or cull materials from coal processing?..... NO
 Waste products from natural gas and oil well drilling activities, such as
 drilling fluids and muds?..... NO
 Waste products from photographic developing or finishing laboratories;
 asphalt tar manufacturing; boilers, incinerators or other thermal
 facilities (eg. ash); appliance, small equipment or engine repair or

salvage; dry cleaning operations (eg. solvents); for from the cleaning or repair of parts of boats, ships, barges, automobiles or trucks, including sandblasting grit or paint scrapings?.....NO

TANKS OR CONTAINERS USED OR STORED, OTHER THAN TANKS USED FOR RESIDENTIAL HEATING FUEL

Underground fuel or chemical storage tanks other than storage tanks for compressed gases?.....YES
Above ground fuel or chemical storage tanks other than storage tanks for compressed gases?.....NO

HAZARDOUS WASTES OR HAZARDOUS SUBSTANCES

PCB-containing electrical transformers or capacitors either at grade, attached above ground to poles, located within buildings, or stored?...NO
Waste asbestos or asbestos containing materials such as pipe wrapping, blown-in insulation or panelling buried?.....NO
Paints, solvents, mineral spirits or waste pest control products or pest control product containers stored in volumes greater than 205 litres?...NO

LEGAL OR REGULATORY ACTIONS OR CONSTRAINTS

Government orders or other notifications pertaining to environmental conditions or quality of soil, water, groundwater or other environmental media?.....NO
Liens to recover costs, restrictive covenants on land use, or other charges or encumbrances, stemming from contaminants or wastes remaining onsite or from other environmental conditions?.....NO
Government notifications relating to past or recurring environmental violations at the site or any facility located on the site?.....NO

X ADDITIONAL COMMENTS AND EXPLANATIONS

End of Detail Report