Phase I Environmental Site Investigation

124 Dunlevy Avenue
Vancouver, BC

Prepared for:
City of Vancouver
Real Estate & Facilities Management
453 West 12th Avenue
Vancouver, BC
V5Y 1V4

Prepared by:
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PGL File: 38-23.01

January 2015

PGL

Executive Summary

Pottinger Gaherty Environmental Consultants Ltd. (PGL) conducted a Phase I Environmental Site Investigation – Site History and Inspection of 124 Dunlevy Avenue, Vancouver, BC (the Site). To look for risk of environmental contamination on the subject Site, we reviewed the history of the Site and area, visited the Site on January 8, 2015 and interviewed people familiar with it.

The Site is in a service commercial area of Vancouver, BC. The Site is improved with a six-storey apartment building known as Roddan Lodge that is operated by the City of Vancouver. The Site was developed in the 1880s with three single-family homes. Two of the homes fronted on Dunlevy Avenue and the other on Alexander Street. By 1910, the home on Alexander was reconfigured to include six small, one-storey structures and an adjacent two-storey structure that were all used as rooming houses. By the 1930s, the home was reconfigured back to a single-family home and the adjacent two-storey structure continued to be used as an apartment building. During the late 1940s, the two single-family homes on Dunlevy Avenue were removed and a commercial building that fronted on Alexander Street was developed onsite. By the 1950s the buildings began to be used by scrap metal and junk operations. They remained onsite until the 1960s when the Site was redeveloped with a service station. The service station operated onsite until the mid-1970s when the current structure was developed onsite. Metal salvage and service stations are Schedule 2 Uses under the BC Contaminated Sites Regulation and will require a Ministry Instrument prior to redevelopment.

PGL has reviewed the historical uses of the surrounding properties. Numerous properties likely have contamination associated with them. Of concern to the Site is a dry cleaner that operated at 399 Powell Street about 25m up/cross-gradient from the Site during the 1950s and 1960s and a dry cleaner at 451 Powell Street about 25m up/cross-gradient during the 1970s.

PGL recommends that a Phase II soil and groundwater investigation take place onsite to confirm the presence/absence of contamination from the former onsite service station and metal salvage operations and the two former offsite dry cleaners.

No evidence of a domestic heating-oil underground storage tank was found in our inspection or interviews, but it cannot be entirely ruled out in this case. It is possible the former onsite buildings were once heated with oil stored in an underground storage tank. Given that the Site is currently slab-on-grade construction it is possible that the underground storage tanks from the service station are still onsite. Possible domestic heating-oil underground storage tanks are generally best dealt with during excavation or Site preparation, if they are encountered.

Due to the age of the building, mid-1970s, building components that are regulated in some circumstances, such as asbestos, lead paint and polychlorinated biphenyls (PCBs) (in light ballasts) may be present. PGL recommends a regulated building materials survey be completed prior to renovation or demolition.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.

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1.0 INTRODUCTION

Pottinger Gaherty Environmental Consultants Ltd. (PGL) is pleased to provide our Phase I Environmental Site Investigation – Site History and Inspection of 124 Dunlevy Avenue, Vancouver, BC (the Site, Figure 1). The Phase I investigation was conducted to assess the likelihood of environmental contamination at the Site, whether from Site use or nearby site use. This report describes the Site and area uses and history, discusses environmental contamination risks, and presents our conclusions/recommendations.

1.1 Purpose

We understand that this report is intended for due diligence purposes. This Phase I investigation has been completed in accordance with Canadian Standards Association Z768-01 and pertinent BC legislation including the *Environmental Management Act* (July 2004) and Contaminated Sites Regulation. This report may not include sufficient documentation for regulatory review. Regulatory reports are more technical than what is typically required for financing purposes and therefore, more costly to prepare. If regulatory submission is ever necessary, we can augment this report. For more information, please see the attached Information Sheet – Phase I Site Investigation.

2.0 RECORDS REVIEW

This assessment was based on our review of the records listed below.

1. Business directories.
2. Fire insurance maps for the area.
3. Historical aerial photographs of the area.
4. Municipal Internet sites.
5. Ministry of Environment Site Registry.

For this report a historical title search was not warranted given the property use and information available. The absence of this information is not considered a significant limitation to this investigation, as sufficient information was obtained from reviewed sources.

3.0 SITE DESCRIPTION

The Site is improved with a six-storey apartment building on one legal lot on the southeast intersection of Alexander Street and Dunlevy Avenue. The building is currently operated by the City of Vancouver and is used as low-income housing. The complex, known as Roddan Lodge, consists of 140 bachelor suites and 16 one-bedroom units. The building occupies about 60% of the Site area, 30% is a courtyard on the southeast section of the Site and 10% is paved parking which is located south of the courtyard. The building is wood-frame and concrete-block construction with a tar-and-gravel roof.

The local topography generally slopes downward to the north. We assume the groundwater flow direction is to the north based on topography and the location of Burrard Inlet, about 500m north of the Site. The inferred water table in the area can vary between 1.5–7m below ground. Geological maps indicate surficial soils in the area consist of Vashon Drift till, glacial river, glacial lake, and ice-contact deposits. The stratigraphy consists of lodgment till (with sandy loam matrix) and minor flow till containing lenses and interbeds of glacial lake laminated stony silts.

Table A: Site Identification Information

Civic Address	124 Dunlevy Avenue, Vancouver, BC
Land Use	Residential
Parcel Identifier	015-589-307
Legal Description	Lot 1 to 6, Block 41, Plan Vap196, District Lot 196, New Westminster Land District.
Latitude*	49° 17' 1.5" North
Longitude*	123° 5' 41.4" West
Ministry of Environment Site #	N/A

* Source: Google Earth

3.1 Site History

Aerial photographs, fire insurance maps and business directories indicate that the Site was developed in the 1880s with three single-family homes. Two of the homes fronted on Dunlevy Avenue and the other on Alexander Street. By 1910, the home on Alexander was reconfigured to include six small, one-storey structures and an adjacent two-storey structure that were all used as rooming houses. By the 1930s the home was reconfigured back to a single-family home and the adjacent two-storey structure continued to be used as an apartment building. During the late 1940s, the two single-family homes on Dunlevy Avenue were removed and a commercial building that fronted on Alexander Street was developed onsite. By the 1950s the buildings began to be used by scrap metal and junk operations. They remained onsite until the 1960s when the Site was redeveloped with a service station. The service station operated onsite until the mid-1970s when the current structure was developed onsite.

The use of the Site as a service station and for metal salvage is BC Contaminated Sites Regulation Schedule 2 Uses. Metal salvage and service stations are Schedule 2 Uses under the BC Contaminated Sites Regulation and will require a Ministry Instrument prior to re-development.

Given that the Site is currently slab-on-grade construction, it is possible that the underground storage tanks from the service station are still onsite.

PGL recommends that a Phase II soil and groundwater investigation take place onsite to confirm the presence/absence of contamination from the former onsite service station and scrap metal operations.

3.2 Surrounding Site History

The surrounding area was originally lightly developed in the late 1870s with single-family homes and two hotels. During the 1920s, the undeveloped areas began to be developed for service commercial purposes. By the 1960s many of the original single-family homes and been removed from the area and the majority of the area was being used for service commercial purposes. Service commercial uses included and number of machine shops, metal workshops and dry cleaners. Many of these properties likely have localized contamination associated with them. Of concern to the Site is a dry cleaner that operated at 399 Powell Street about 25m

up/cross-gradient from the Site during the 1950s and 1960s and a dry cleaner at 451 Powell Street about 25m up/cross-gradient during the 1970s.

PGL recommends that the Site should be investigated for potential impacts from the former dry cleaners during the Phase II investigation recommended above.

3.3 Ministry of Environment Site Registry Search

PGL conducted a Ministry of Environment Site Registry search of identified contaminated properties. Our search identified 37 properties on file within a 0.5km radius of the Site. Three of these properties are to the north across Alexander Street, 369 Alexander Street, 405 Alexander Street and 433-439 Alexander Street. All three of these properties had iron works and machining associated with them. Given their historical use and downgradient location we do not consider them a risk to the Site. The remaining properties are downgradient cross-gradient or not close enough (within 150m) to the Site and are not a concern.

3.4 Previous Environmental Reports

PGL is not aware of any environmental reports previously prepared for the Site.

4.0 INTERVIEWS

PGL interviewed Raymond Yeung, the current Site caretaker. Knowledge obtained from this interview has been sued in the appropriate sections throughout this report.

5.0 SITE VISIT

PGL inspected the subject property and area on January 8, 2015. There were no significant limitations to our Site visit. We did not access the roof.

Our Site visit included:

- Carrying out a reconnaissance of the neighbouring properties;
- Reviewing physical factors that may affect Site contamination such as topography, groundwater, and soils; and
- Inspecting the Site and improvements for indications of environmentally significant materials such as those listed in the following sections.

5.1 Fill

The Site is at a similar elevation to adjacent properties. No fill of environmental concern is evident.

5.2 Storage Tanks

PGL inspected the Site for evidence of aboveground and underground storage tanks.

5.2.1 Underground Storage Tanks

No evidence of a domestic heating-oil underground storage tank (UST) was found in our inspection or interviews, but it cannot be entirely ruled out in this case. It is possible the former onsite buildings were once heated with oil stored in a UST. Given that the Site is currently slab-on-grade construction, it is possible that the USTs from the service station are still onsite. Possible domestic heating-oil USTs are generally best dealt with during excavation or Site preparation, if they are encountered.

5.2.2 Aboveground Storage Tanks

There are no aboveground storage tanks onsite.

5.3 Hazardous Materials

There was no evidence of hazardous materials during our Site inspection.

5.4 Waste Streams

Household waste produced onsite is removed via a contractor.

5.5 Stains, Odours and Stressed Vegetation

No stains were observed; no odours and no stressed vegetation (a potential indicator of contamination) were observed.

5.6 Regulated Building Materials

Due to the age of the building, mid-1970s, building components that are regulated in some circumstances, such as asbestos, lead paint and polychlorinated biphenyls (PCBs) (in light ballasts) may be present. Potentially asbestos-containing materials at the Site may include drywall joint compound, roofing membrane, pipe lagging, acoustic plaster/texture coat, ceiling tiles, and vinyl flooring. These items are common in buildings of this age and are not a hazard unless disturbed, as in renovation or demolition. The building has fluorescent fixtures that could have PCB-containing ballasts. If regulated building materials are present, building owners have certain obligations to protect workers under the *BC Workers' Compensation Act*. More information is presented in the attached Information Sheets – Asbestos and PCBs.

5.7 Potable Water and Sewage

The Site is supplied with municipal drinking water and sewage systems.

5.8 Heating and Cooling Systems

The Site is heated via natural gas. There are no cooling systems onsite.

5.9 Hydraulic Elevator

The building has a hydraulic elevator (enclosed system). It is our understanding that there have been issues with the elevator but that it is serviced regularly. While this is a minor risk, no hydraulic fluid losses were observed or reported. If fluid losses begin to occur, investigation would be prudent, but no action is recommended now.

5.10 Current Neighbouring Property Use

The surrounding area is service commercial. Surrounding property uses include:

- North – Alexander Street. Across Alexander Street is an apartment building;
- East – two single-family homes, a vacant commercial building and Hon's food manufacturing;
- South – an alley Across the alley is the Marr Hotel and Pub; and
- West – Dunlevy Avenue. Across Dunlevy Avenue are two vacant commercial buildings.

We did not observe any current service stations, dry cleaners or other operations that might pose a risk to the Site through migration of contamination.

6.0 CONCLUSIONS

We reviewed the Site for environmental issues normally assessed in a Phase I investigation. We identified an onsite former service station, onsite former scrap metal and junk operation, two former offsite dry cleaners, possible onsite domestic heating-oil and gasoline USTs, and regulated building materials as areas of potential environmental concern.

The Site was used by scrap metal and junk operations during the 1950s. They remained onsite until the 1960s when the Site was redeveloped with a service station. The service station operated onsite until the mid-1970s. Metal salvage and service stations are Schedule 2 Uses under the BC Contaminated Sites Regulation and will require a Ministry Instrument prior to redevelopment.

Two dry cleaners operated within close proximity of the Site. One operated at 399 Powell Street about 25m up/cross-gradient from the Site during the 1950s and 1960s and a dry cleaner operated at 451 Powell Street about 25m up/cross-gradient during the 1970s.

PGL recommends that a Phase II soil and groundwater investigation take place onsite to confirm the presence/absence of contamination from the former onsite service station and metal salvage operations and the two former offsite dry cleaners.

No evidence of a domestic heating-oil UST was found in our inspection or interviews, but it cannot be entirely ruled out in this case. It is possible the former onsite buildings were once heated with oil stored in a UST. Given that the Site is currently slab-on-grade construction it is possible that the underground storage tanks from the service station are still onsite. Possible domestic heating-oil USTs are generally best dealt with during excavation or Site preparation, if they are encountered.

Due to the age of the building, mid 1970s, building components that are regulated in some circumstances, such as asbestos, lead paint and polychlorinated biphenyls (PCBs) (in light ballasts) may be present. PGL recommends a regulated building materials survey be completed prior to renovation or demolition.

7.0 STANDARD LIMITATIONS

PGL prepared this report for our client, City of Vancouver exclusively. PGL accepts no responsibility for any damages that may be suffered by third parties as a result of decisions or actions based on this report.

The purpose of this report is to provide an assessment of the potential for environmental contamination on the subject property. Our investigation identified reasonably foreseeable risks that can be detected by normal archival research and a single untimed site visit with no sampling or testing. Our conclusions rely on there having been complete and accurate disclosure of conditions by the client and our sources. As with all environmental investigations, the potential remains for unknown, unidentified, or unforeseen contamination. Environmental investigations are limited by both practical limitations in scope and inherent limitations in technique.

The findings and conclusions are Site-specific and were developed in a manner consistent with that level of care and skill normally exercised by environmental professionals currently practicing under similar conditions in the area. Conclusions and costs are time sensitive, so this report is for use now. The report should not be used after that without PGL review/approval. Use of this report should recognize that the rapid pace of change in the environmental field and regulations means that environmental investigations and their conclusions can quickly become dated.

The project has been conducted according to our instructions and work program. Additional conditions and limitations on our liability are set forth in our work program/contract. This report is neither an endorsement nor a condemnation of the subject property. No warranty, expressed or implied, is made.

We trust this meets your needs. If you have any questions or require clarification, please contact Carla Shaw or Keith Gagne at 604-895-7623 and 604-895-7618, respectively.

Respectfully submitted,

POTTINGER GAHERTY ENVIRONMENTAL CONSULTANTS LTD.

Per:

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Phase 1 Manager

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CES/KHG/slr
X:\000-099\038 - City of Vancouver\23-01\Client Docs\r-038-23-01-PH1-Jan15-Rev1.doc

Bibliography

Aerial photographs of the area:

Year	Serial No.	Photo No.	Notes
1949	BC 728	20/21	Low-quality image. The Site appears to consist of two rectangular buildings running north/south centrally on the property. Four small buildings are visible on the eastern section, and the rest of the property appears to be used as a scrap yard. The surrounding area is industrial. A storage yard is visible directly north of the Site.
1954	BC 1673	93/94	A small building is now visible on the south west corner of the Site. There are no other significant changes from the 1949 photograph.
1963	BC5061	93/94	The Site has been redeveloped into a service station. It appears the pump stand is located on the northern portion of the Site. Several buildings have been improved directly north of the Site.
1969	BC 5323	116/117	Another building north of the Site has been improved with a larger industrial building.
1973	Xxxx56	41/42	There are no significant changes from the 1969 photograph.
1979	30BC79011	133/134	The Site has been improved and now consists of the current structure. The property directly to the west has been redeveloped into a larger building encompassing the entire lot.
1986	30BC86039	267/268	There are no significant changes from the 1979 photograph.
1993	FFC9300	62	There are no significant changes from the 1986 photograph.
1999	SRS 6068	44/45	The property directly north of the Site now consists of the current apartment structure. There are no other significant changes.
2004	SRS 6929	98/99	A property to the north east of the Site has been improved with a larger commercial building.
2009	SRS 7987	363	There are no significant changes from the 2004 photograph.

Business Directories:

- Princess Avenue: 2001, 1995/96, 1990, 1985, 1980, 1974, 1970, 1965, 1960, 1955, 1950, 1944, 1940, 1934, 1930, 1924, 1919
- East Cordova Street: 2000, 1995, 1990, 1985, 1980, 1975, 1969, 1965, 1960, 1955, 1950, 1945, 1940, 1935, 1929, 1925, 1920
- Dunlevy Avenue: 2001, 1995/96, 1990, 1985, 1982, 1976, 1971, 1965, 1960, 1955, 1950, 1945, 1940, 1935, 1930, 1925, 1920
- Alexander Street: 2001, 1996, 1990, 1986, 1980, 1975, 1970, 1965, 1960, 1955, 1950, 1945, 1940, 1935, 1930, 1925, 1920, 1915, 1910, 1905, 1900, 1895
- Powell Street: 2001, 1996, 1991, 1986, 1981, 1976, 1971, 1966, 1961, 1956, 1951, 1946, 1941, 1936, 1931, 1925, 1920, 1915, 1910, 1905, 1900

Fire Insurance Maps: 1889, 1901, 1903, 1913, 1930 and 1956

Surficial Geology of Vancouver, Map 1486A, Geological Survey of Canada, 1974 Geological Survey of Canada, 1976 and 1977

Macdonald, Bruce – Vancouver – A Visual History (Talonbooks, Vancouver BC, 1992)

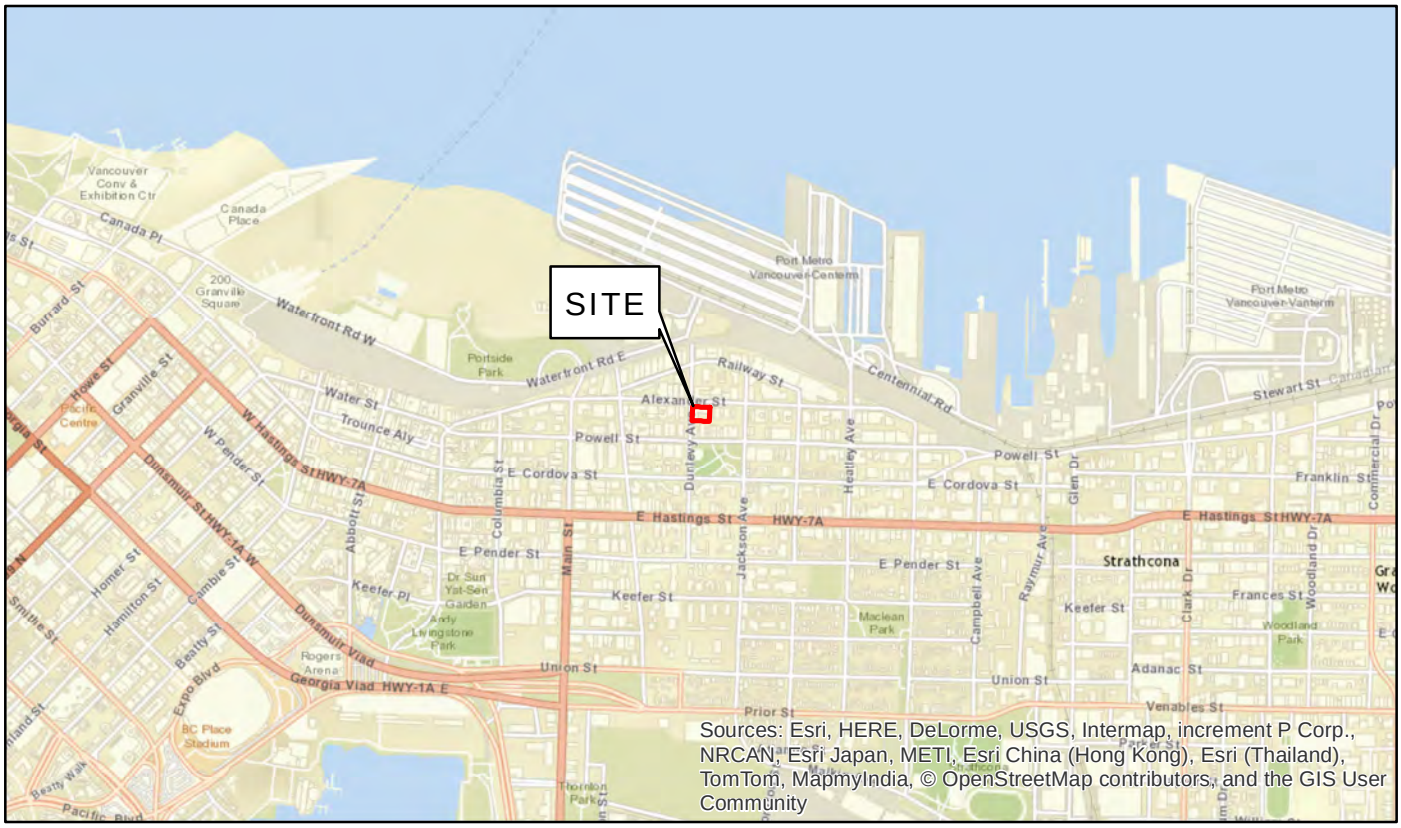
Site Registry: 0.5km radius area search

Google Earth

http://www.vancouver.ca

City of Vancouver Peat and Historical Waterways Map

Figure



0 500 1,000 m

2011 ortho and parcel data obtained through the City of Vancouvers' open data catalogue

0 25 50 75 100 m

CITY OF VANCOUVER	SITE LOCATION	File No.: 0038-23.01 Date: JAN 2015	N
PGL Pottinger Gaherty Environmental Consultants Ltd.	124 Dunlevy Ave, Vancouver, BC	Dwg No.: F1.1 Drawn by: IRB	FIGURE 1

Appendix 1

Ministry of Environment Site Registry Search

As Of: JAN 04, 2015 BC Online: Site Registry 15/01/06
For: PC42187 POTTINGER GAHERTY ENVIRON. CONSULTA 09:49:23
Folio: 38-23.01 Page 1
37 records selected for 0.5 km from latitude 49 deg, 17 min, 1.5 sec
and Longitude 123 deg, 5 min, 41.4 sec

Site Id	Lastupd	Address / City
0001258	02APR25	439 RAILWAY STREET VANCOUVER
0001349		405 ALEXANDER STREET VANCOUVER
0001467	04AUG26	300 BLOCK RAILWAY STREET VANCOUVER
0003511	03FEB24	746 POWELL STREET VANCOUVER
0003773	00AUG04	533 POWELL STREET VANCOUVER
0003890		222 MAIN STREET VANCOUVER
0005881	00MAR17	289 ALEXANDER STREET VANCOUVER
0006358	04DEC08	433 - 439 ALEXANDER STREET VANCOUVER
0006757	03JAN27	533 - 539 EAST HASTINGS STREET VANCOUVER
0006758	04FEB06	668 POWELL STREET VANCOUVER
0006769	10OCT20	460, 432 AND 494 RAILWAY STREET VANCOUVER
0007084	03MAY20	361 HEATLEY AVENUE VANCOUVER
0007483	10DEC23	596 EAST HASTINGS STREET VANCOUVER
0007591	04OCT13	475 EAST HASTINGS STREET VANCOUVER
0009073	13FEB08	105 KEEFER STREET AND 544 COLUMBIA STREET VANCOUVER
0009106	05JAN21	369 ALEXANDER STREET VANCOUVER
0009217	14JAN07	305 DUNLEVY AVENUE VANCOUVER
0009732	13DEC12	298 ALEXANDER STREET VANCOUVER
0010381	09JAN09	334 ALEXANDER STREET VANCOUVER
0010978		135 KEEFER STREET VANCOUVER
0011080	10FEB05	601 EAST HASTINGS STREET VANCOUVER

0011845 14DEC29 111 PRINCESS AVENUE (FMRLY 522 & 590 ALEXANDER ST)
VANCOUVER
0013059 14NOV10 220 PRINCESS STREET, 606 POWELL STREET
VANCOUVER
0013636 12OCT26 545 POWELL STREET
VANCOUVER
0014288 14DEC29 549, 553, 557 EAST CORDOVA STREET
VANCOUVER

37 records selected for 0.5 km from latitude 49 deg, 17 min, 1.5 sec
and Longitude 123 deg, 5 min, 41.4 sec

Site Id Lastupd Address / City
0014582 12DEC05 253 KEEFER STREET
VANCOUVER
0014584 12DEC05 247 KEEFER STREET (BETWEEN KEEFER ST & BACK LANE)
VANCOUVER
0014587 12DEC05 LANEWAY BEHIND 253 KEEFER STREET
VANCOUVER
0014842 13MAY13 784 POWELL STREET
VANCOUVER
0015126 14DEC11 CENTENNIAL ROAD AND WATER LOTS
VANCOUVER
0015201 13JUL11 150 EAST CORDOVA STREET
VANCOUVER
0015652 14DEC19 231 EAST PENDER STREET
VANCOUVER
0015697 13OCT24 177 EAST HASTINGS STREET
VANCOUVER
0015891 626 ALEXANDER STREET
VANCOUVER
0016185 14JAN07 DUNLEVY AVENUE ADJACENT 305 DUNLEVY AVENUE
VANCOUVER
0016646 14AUG27 329 POWELL STREET
VANCOUVER
0016860 14JUL28 137 KEEFER STREET
VANCOUVER

Appendix 2

Information Sheets

Phase 1 Site Investigation
Asbestos
PCBs

INFORMATION SHEET – Phase 1 Site Investigation

What a PGL Phase 1 Site Investigation Covers

A Phase 1 Environmental Site Investigation assesses contaminant risks for a site based on historical operations onsite and in the area. This is done using archival records review, interviews, and a visual inspection.

We review risks that are identified by our sources or that are visible and readily inspected. No destructive investigation or testing is ordinarily conducted A Phase 1 does not evaluate compliance of operations or the risk that an ongoing operation might contaminate the site; these would be evaluated in an operations or compliance audit.

Issues are discussed in the report we provide only if our investigation or qualified experience indicates they have reasonable potential to contaminate the subject site. Issues that are not a concern or not applicable are not normally documented in the report, but are documented in our files.

The topics investigated in our Phase 1 include:

- Present activities at the site and nearby sites
- Past activities at the site and nearby sites
- Environmental certificates, permits, and orders (presence/absence only)
- Regulatory history and concerns
- Fill, spills, and waste disposal onsite (visible indicators, records)
- Fuel/chemical storage facilities and past use:
  - Aboveground storage tanks
  - Underground storage tanks
  - Fixed hydraulic equipment
  - Chemicals and hazardous substances
- PCB materials/equipment
- Asbestos materials:
  - Visual scan only
  - No testing except in extraordinary circumstances
- Lead paint:
  - Unusual hazardous condition only
- Pesticides/herbicides
- Radon/methane gas:
  - Identified hazard areas only

Legal and Regulatory Context of a Phase 1 Investigation

We summarize the legal and regulatory context of a Phase 1 as we understand them. More detailed and authoritative information may be obtained from a lawyer.

There is currently no statutory requirement to conduct environmental investigations in the absence of an order by regulators, nor do you have to give them a copy if you have a Phase 1 performed for your own purposes.

A Site Profile, which is a very simple version of a Phase 1, is required to obtain rezoning, subdivision, demolition, or redevelopment permits in most municipalities if the history of the site includes certain risk uses. A Site Profile can be easily prepared if a Phase 1 has been completed.

Site profiles must also be provided to purchasers unless an exemption applies. Site Profiles provided to regulators may trigger BC Ministry of Environment protection processes that will lead to site investigation and remediation if contamination is present.

INFORMATION SHEET – Asbestos

Asbestos is a fibrous silicate mineral that was once widely used in building materials. Most uses were phased out by 1980, but some products were still available in the early 1990s.

Friable Asbestos

Asbestos hazard arises from inhaling the fibres. The most dangerous forms of asbestos are “friable,” meaning that the fibres can become airborne if disturbed.

Most buildings built prior to 1980 have some asbestos-containing materials. Asbestos in a building has implications to owners and occupants.

Pipe Insulation

Exposed, friable asbestos has been identified and managed in most situations where occupational exposures are likely, but has been less examined in either single- or multi-family residential buildings.

Materials at risk of containing asbestos include spray-on fire-proofing and insulation, acoustic tiles and plaster, texture coat plaster, vinyl flooring, roof felt and patch compound, cement siding and pipe, pipe insulation, and drywall joint compound. Asbestos can be positively identified only by laboratory analysis.

Ceiling Tile

Where buildings contain friable asbestos, it generally must be removed, often at high cost. The cost can be closely estimated by asbestos consultants and contractors.

Non-friable asbestos is very common and usually less of a problem. It is dealt with by identification and a management system to notify potentially exposed workers.

Vinyl Flooring

Non-friable asbestos in buildings is not generally a risk to lenders, but does create WorkSafeBC risks for building owners if maintenance or renovation exposes maintenance staff or contractors. The BC Occupational Health and Safety Regulations (Section 6) deal with workplace exposure to asbestos. The regulations specify that “if a worker is or may be exposed to potentially harmful levels of asbestos, the employer must develop and implement an exposure control program . . .”. Building owners can reduce risk by training staff in asbestos risk management.

At demolition or renovation, asbestos-containing materials must be removed and disposed of under strict health and safety controls. In the case of demolition, asbestos management costs are generally manageable (in the context of overall redevelopment costs), but make some renovation projects economically impractical.

Asbestos surveys typically cost $1,500–$5,000, depending on the building. Full asbestos surveys are destructive and so complete surveys are normally only done prior to demolition. Sampling of roofing membranes, for example, risks roof integrity and so may invalidate insurance.

INFORMATION SHEET – Polychlorinated Biphenyls (PCBs)

Polychlorinated biphenyls (PCBs) are a stable dielectric oil or wax that was used mostly in electrical equipment, high-stress hydraulic fluid and lubricants, and plasticizers in plastic and rubber manufacture.

PCBs are persistent in the environment and considered toxic, and were therefore banned from production in about 1980 in the US and Canada.

PCBs are still commonly found in old transformers and capacitors, particularly in fluorescent light ballasts.

Although they were normally used at high concentration, many non-PCB oils and dielectric fluids were inadvertently contaminated and so PCBs have become widespread in the environment.

Fluorescent lighting installed prior to 1980 is likely to have PCB-containing ballasts, although some ballasts will likely have failed and therefore will have been replaced.

PCB-containing ballasts can be identified by examination of the model and date codes.

In BC, a PCB-containing apparatus is considered to be a Hazardous Waste when it is taken out of service and is governed under Section 17.1 of the Hazardous Waste Regulation. If PCB wastes are generated and stored in amounts exceeding 1kg of PCBs, 100L of PCB liquid, or 100kg of PCB solids, a short-term storage facility is required. Storage in sealed 205L (45-gallon) drums within a “registered short-term storage facility” on the subject property or another site deemed acceptable by the BC Ministry of Environment is allowed. The cost to set up a PCB storage facility is in the order of $2,500–$5,000.

Fluorescent light ballast

Oil-filled Transformer

PCB Capacitors

The weight and volume measurements apply to the entire apparatus. In a fluorescent light ballast, for example, the actual capacitor containing the PCB may be only two grams, yet the ballast in which the capacitor is imbedded may weigh 500 grams, all of which counts towards the quantity limit.

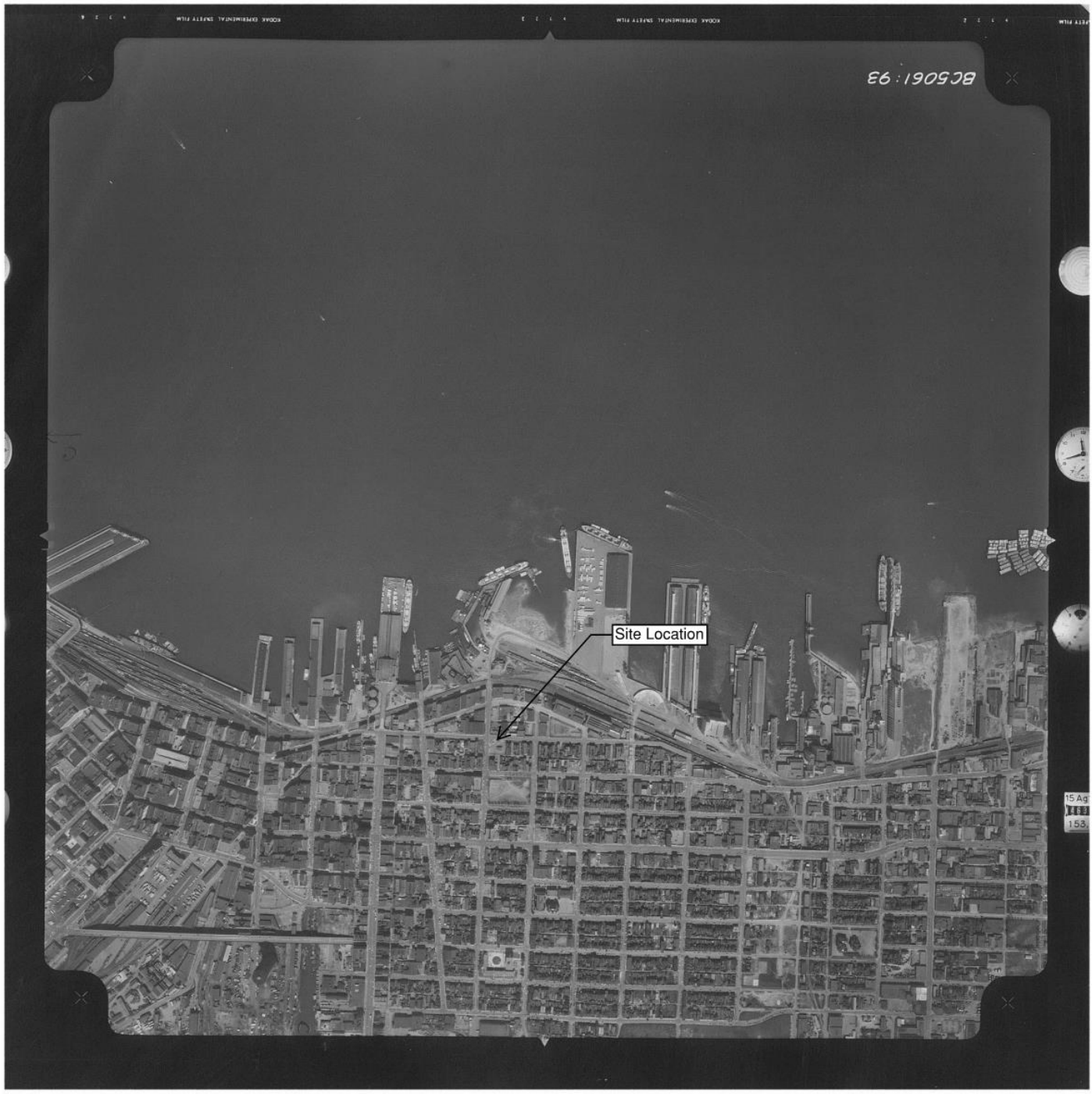
PCB incineration facilities in Canada are limited. Incineration costs are roughly $2,000 per drum, which can hold up to about 100 ballasts. Some cost savings are possible by bulking drums together. PCBs of 500g or more require shipping manifests.

Appendix 3

Aerial Photographs

Aerial Photograph – 1949	PGL File: 0038-23.01
124 Dunlevy Avenue - Vancouver, BC	Date: January 2015
CITY OF VANCOUVER	PGL

Aerial Photograph – 1954	PGL File: 0038-23.01
124 Dunlevy Avenue - Vancouver, BC	Date: January 2015
CITY OF VANCOUVER	PGL

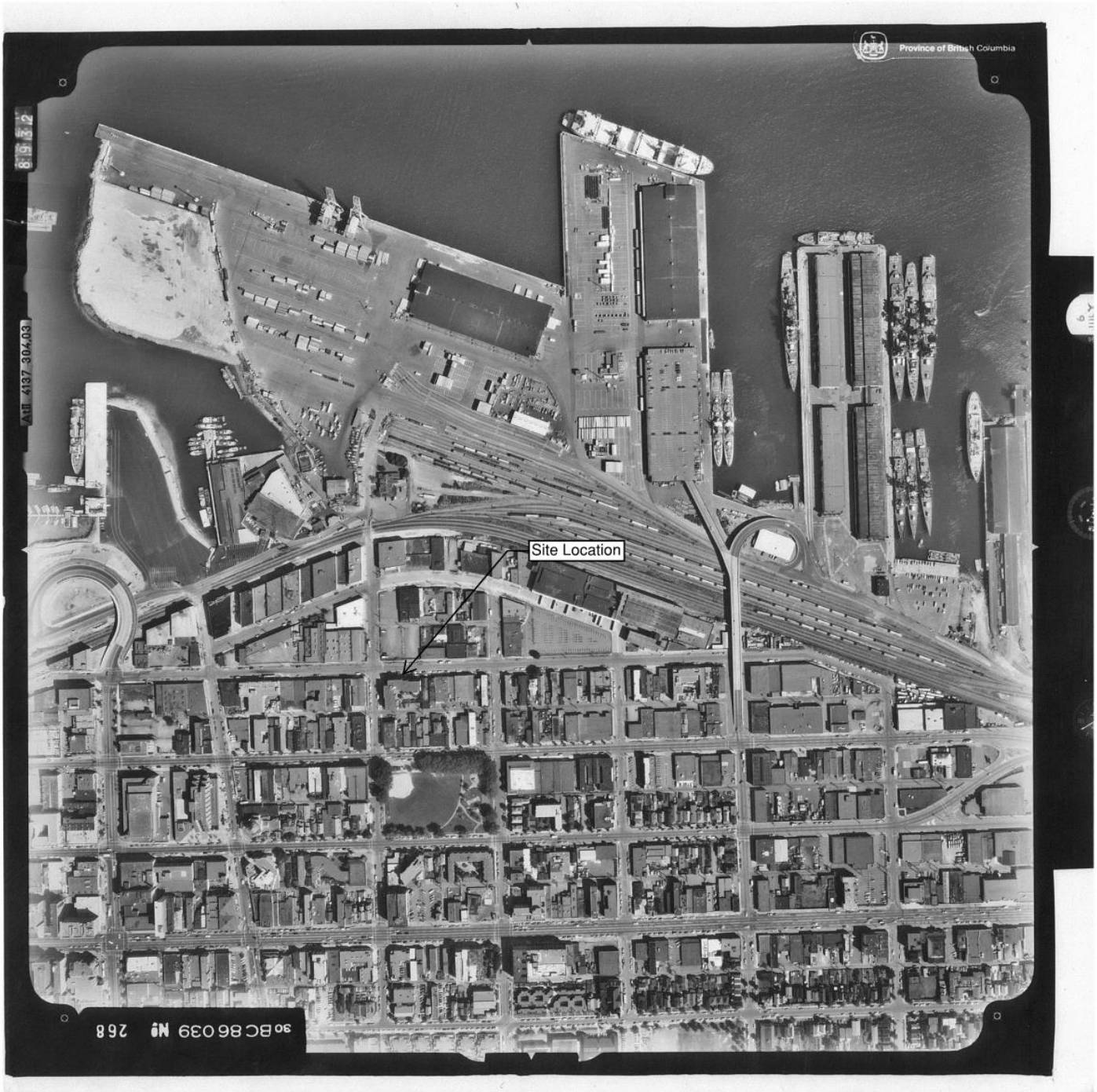


Aerial Photograph – 1963	PGL File: 0038-23.01
124 Dunlevy Avenue - Vancouver, BC	Date: January 2015
CITY OF VANCOUVER	PGL

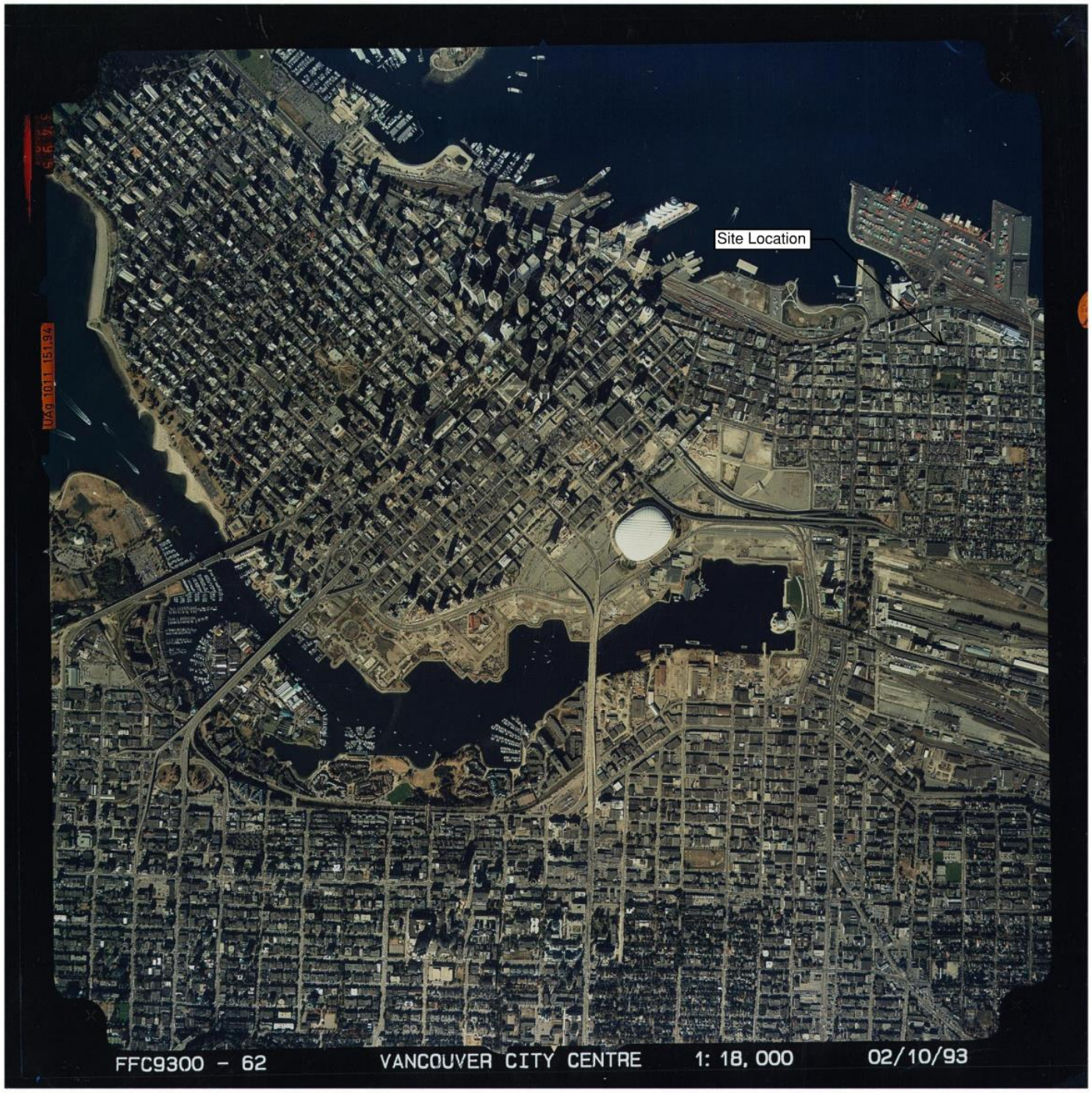
Aerial Photograph – 1969	PGL File: 0038-23.01
124 Dunlevy Avenue - Vancouver, BC	Date: January 2015
CITY OF VANCOUVER	PGL

Aerial Photograph – 1973	PGL File: 0038-23.01
124 Dunlevy Avenue - Vancouver, BC	Date: January 2015
CITY OF VANCOUVER	PGL

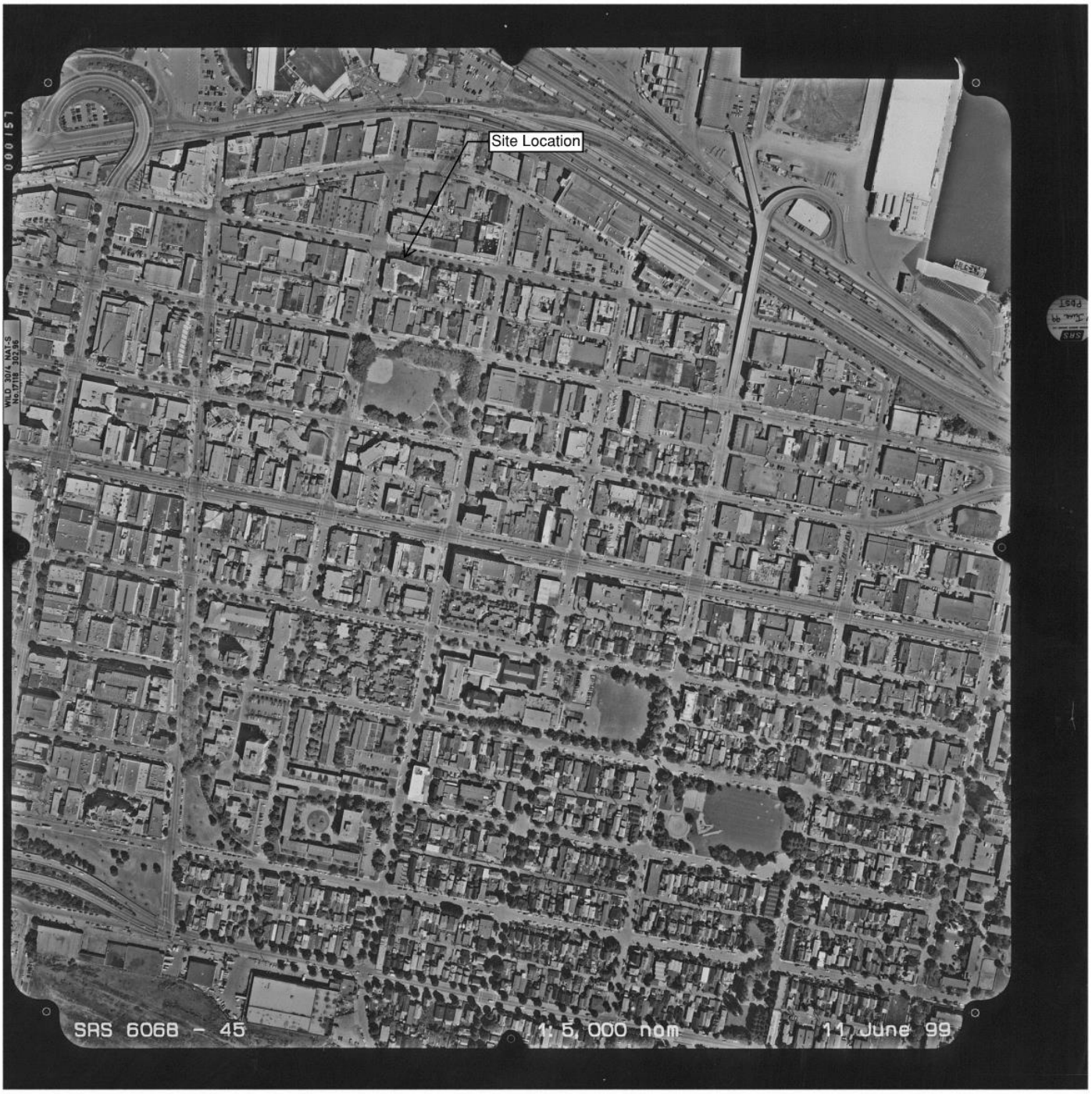
Aerial Photograph – 1979	PGL File: 0038-23.01
124 Dunlevy Avenue - Vancouver, BC	Date: January 2015
CITY OF VANCOUVER	PGL



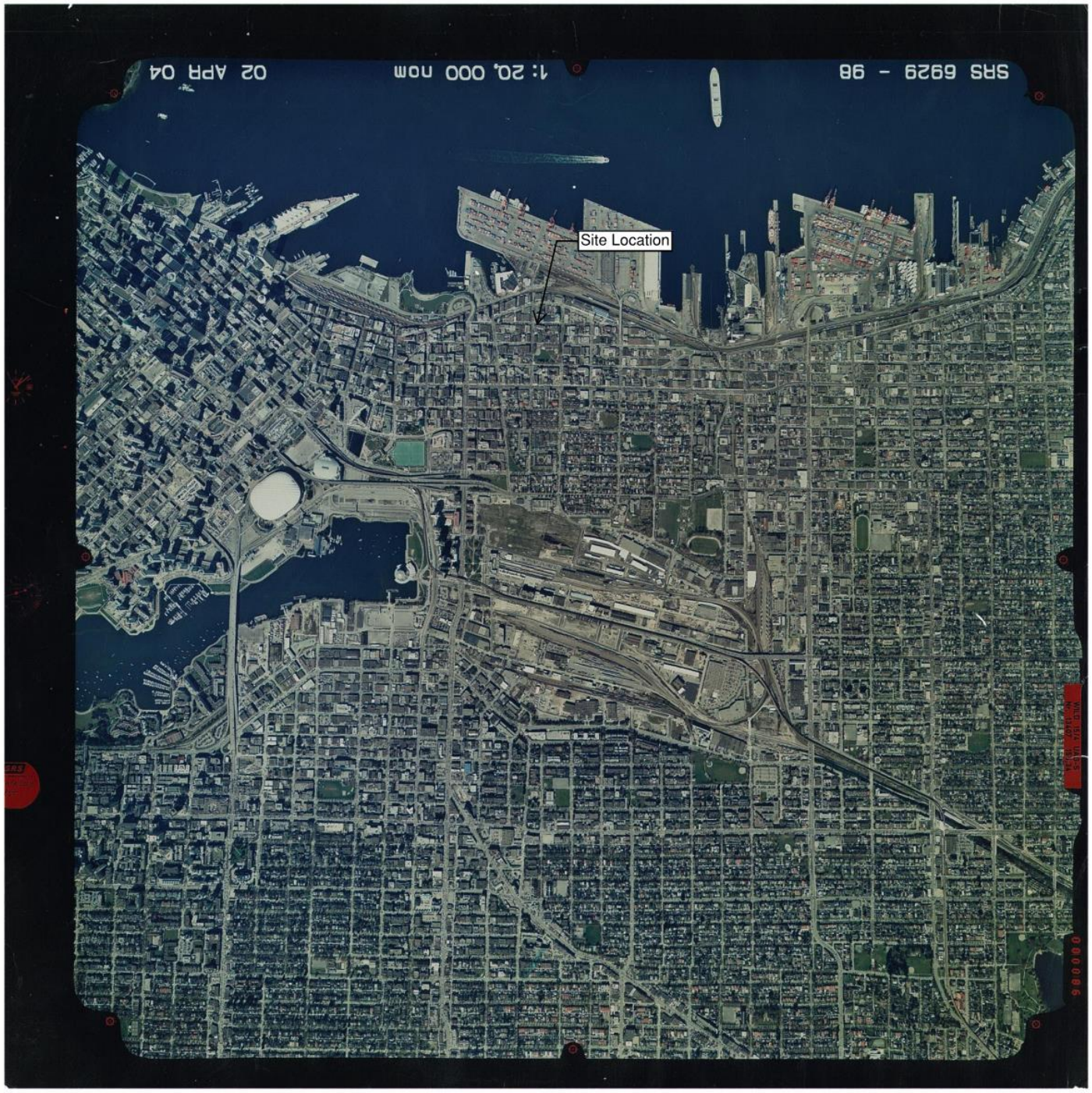
Aerial Photograph – 1986	PGL File: 0038-23.01
124 Dunlevy Avenue - Vancouver, BC	Date: January 2015
CITY OF VANCOUVER	PGL



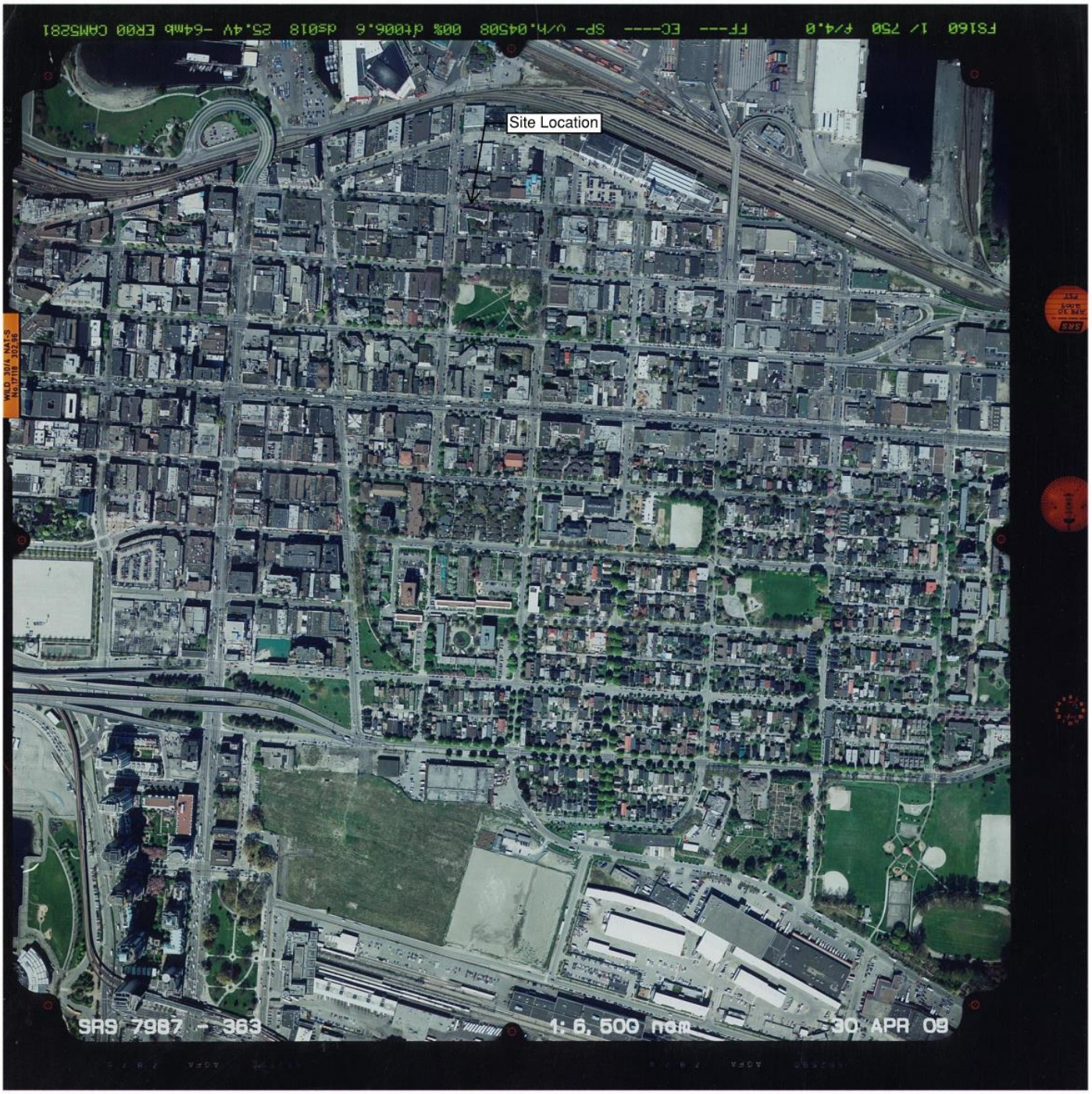
Aerial Photograph – 1993	PGL File: 0038-23.01
124 Dunlevy Avenue - Vancouver, BC	Date: January 2015
CITY OF VANCOUVER	PGL



Aerial Photograph – 1999	PGL File: 0038-23.01
124 Dunlevy Avenue - Vancouver, BC	Date: January 2015
CITY OF VANCOUVER	PGL



Aerial Photograph – 2004	PGL File: 0038-23.01
124 Dunlevy Avenue - Vancouver, BC	Date: January 2015
CITY OF VANCOUVER	PGL



Aerial Photograph – 2009	PGL File: 0038-23.01
124 Dunlevy Avenue - Vancouver, BC	Date: January 2015
CITY OF VANCOUVER	PGL

Appendix 4

Site Photographs

Photograph 1:

The Site.

Photograph 2:

Properties to the west, across Dunlevy Avenue.

Photograph 3:

Looking north.

Photograph 4:

Looking east.

Photograph 5:

Interior of building.

Photograph 6:

Back (south side) of Site.

Photograph 7:

Alley behind (south side) of Site.