



Stage 1 Preliminary Site Investigation
508 Clarke Road
Coquitlam, BC

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EXECUTIVE SUMMARY

This report summarizes the results of a Stage 1 Preliminary Site Investigation (Stage 1) for the property located at 508 Clarke Road, in Coquitlam, BC, (herein referred to as the 'Site'). The Stage 1 was prepared for the BC Ministry of Transportation and Infrastructure (TRAN) by Active Earth Engineering Ltd. in order to identify Areas of Potential Environmental Concern (APECs) associated with current or past uses of the Site and surrounding properties. The Stage 1 assesses the likelihood of soil, soil vapour and/or groundwater contamination based upon a review of readily accessible historical information and completion of a site visit.

On May 25, 2011, the Property Agent, Stan Wong, indicated that the Project's interest in the Site was limited to a Statutory Right-of-Way (SRW) that varies from approximately 13m to 14m in width (southwest to northeast), situated along the western property line. As such, the investigation owed particular attention to the proposed SRW.

The Stage 1 identified the following APEC and associated Potential Contaminants of Concern (PCOCs):

Areas of Potential Environmental Concern - Summary

APEC	PCOC
<i>Off-Site</i>	
APEC 1 – Historic and Current Automotive Repair to the north (Up-Gradient) at 518 Clarke Road.	Soil: LEPH, HEPH, PAH, VOC, VPH, Glycols, PCBs, Metals Groundwater: LEPHw, PAH, VOC, VPH, Glycols, Metals Soil Vapour: Naphthalene, VOC

Note: LEPH – Light Extractable Petroleum Hydrocarbons
PAH – Polycyclic Aromatic Hydrocarbons
VPH – Volatile Petroleum Hydrocarbons

HEPH – Heavy Extractable Petroleum Hydrocarbons
VOC – Volatile Petroleum Hydrocarbons
PCBs – Polychlorinated Biphenyls

Off-Site APEC 1 is located to the north (up-gradient) of the Site. A single-bay service/repair garage was observed within the building. The operation was closed and service/repair equipment appeared to have been removed. The garage was not inspected, although the floor was observed to be concrete and indications of a former above-ground hoist were observed. A concrete patch was observed, which may be indicative of a former below ground hydraulic hoist. No ASTs or USTs were observed on the property. Given the history, proximity, and up-gradient orientation relative to the Site, this APEC presents a moderate risk of contamination to the Site, and specifically to the SRW.

No on-Site APECs were identified.

Further investigation in the form of a Stage 2 is recommended. This Stage 2 may be limited to a single borehole/monitoring-well located within the northwest extent of the SRW.

Hemmera completed a Screening Level Contaminated Sites Assessment along the proposed alignment of the Evergreen Line Rapid Transit Project (the "Project") to evaluate the potential of encountering soil and/or groundwater contamination along the proposed alignment.

Hemmera identified an historic boat sales/service operation at 509 Clarke Road and automotive service station at 687 North Road within NR11. However, the historic service station at 687 North Road would have been located at the south-east corner of the intersection of North Road and Cottonwood Ave (currently 504 Cottonwood Ave). A Hemmera Tier 1 risk-ranking is likely appropriate for this location.

An historic title search of 509 Clarke Road does not indicate any automotive service stations existing at this location. Given these findings, it is highly unlikely that a historic automotive service station existed within the bounds of Hemmera site NR11, and therefore a lowered risk ranking (Tier 2 or 3) is likely appropriate.

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APPENDICES

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Appendix B	Topographic Map
Appendix C	BC Water Resource Atlas
Appendix D	Air Photos
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1.0 INTRODUCTION

1.1 General

Active Earth Engineering Ltd. (Active Earth) was retained by the BC Ministry of Transportation and Infrastructure (TRAN) to complete a Stage 1 Preliminary Site Investigation (Stage 1) at 508 Clarke Road, in Coquitlam, BC (referred to as the "Site"). This work is being undertaken as part of the Evergreen Rapid Transit Project (the 'Project'). On May 25, 2011, the Property Agent, Stan Wong, indicated that the Project's interest in the Site was limited to a Statutory Right-of-Way (SRW) that varies from approximately 13m to 14m in width (southwest to northeast), situated along the western property line. As such, the investigation owed particular attention to the proposed SRW.

The purpose of the Stage 1 was to assess the likelihood of soil, soil vapour and/or groundwater contamination based upon a review of readily accessible historical information, and completion of a site visit.

Potential contaminant sources are classified as having a low, moderate or high potential risk of having caused contamination. Issues that are considered to present a low risk are not recommended for further investigation. Active Earth would recommend further investigation for any issues that are considered to present a moderate to high risk of contamination. These moderate to high risk issues are then termed Areas of Potential Environmental Concern (APECs). The regulated contaminants associated with the APECs are termed Potential Contaminants of Concern (PCOCs).

This Stage 1 report generally complies with CSA Standard Z768-01 – *Phase I Environmental Site Assessment* and BC Ministry of Environment Technical Guidance 10 – *Checklist for Reviewing a Preliminary Site Investigation*.

1.2 Scope of Work

The Stage 1 consisted of the following scope of work:

- Viewing of the Site and the surrounding areas to identify evidence and sources of possible contamination or environmental impairment;
- Reviewing available historical records, documenting Site use as listed in business directories, fire insurance plans and as shown in aerial photographs;
- Investigating and collecting relevant information pertaining to environmental concerns about the Site from the Ministry of Environment;
- Reviewing available published geotechnical, environmental and geological information;
- Interviewing suitable individuals to obtain background information on past and current Site use;

- Preparing a report summarizing our findings and identifying Areas of Potential Environmental Concern; and,
- Providing a recommendation on the need for further environmental investigation.

1.3 Regulatory Framework

The *Contaminated Sites Regulation* (CSR, BC. Reg. 375/96, including amendments) and the *Hazardous Waste Regulation* (HWR, BC Reg. 63/88 including amendments) under the *Environmental Management Act* regulate the assessment and remediation of contaminated sites in BC. The CSR provides guidance for completion of Stage 1 reports, as follows:

- BC MOE. 2005. *Technical Guidance on Contaminated Sites 10: Checklist for Reviewing a Preliminary Site Investigation*. BC Ministry of the Environment (BC MOE), Victoria, BC

In addition to the CSR, the Canadian Standards Association (CSA) also provides guidance on Phase I report, as follows:

- CSA Standard Z768-01 – Phase I Environmental Site Assessment

The BC Contaminated Sites Regulation provides standards for soil, soil vapour, groundwater and sediment for various land uses.

2.0 SITE DETAILS

2.1 Location

The Site is located along the east side of Clarke Road, between Cottonwood Avenue and Smith Avenue, in Coquitlam, BC. The general area of the Site is shown on Figure 1. The Site is currently zoned C-2 (General Commercial) which allows for a variety of uses including offices, entertainment, shopping plazas and tourist accommodation, at medium densities¹. The cartographic co-ordinates for the centre of the Site are approximately 122° 53' 31.5" west and 49° 15' 34.3" north. Figures 2 and 3 show the surrounding land uses and Site respectively.

The Site is approximately 0.34 hectares in area with approximately 58.1m of frontage along Clarke Road.

¹ City of Coquitlam Zoning Bylaw 1996, No. 3000

2.2 Legal Description

The Site consists of a single legal parcel described as follows:

Legal Description

PID	Legal Description
001-032-569	Lot 12, District Lot 7, Group 1, New Westminster District, Plan 3967

The Site is currently owned by UPN Holding Society (Incorporation #S20701). The current land title and legal lot plan are provided in Appendix A. A historic title search was conducted by West Coast Title Search and is summarised in the following table.

Historical Title Search Summary

Registered Owner	Title Registered	Title Cancelled
UPN Holding Society	Dec 23, 1986	Current
U.R.P.N.B.C Holding Society	Dec 21, 1984	Dec 23, 1986
U.R.P.N.B.C Holding Society (1/2 interest)	Aug 31, 1983	Dec 21, 1984
Registered Psychiatric Nurses Association of British Columbia	Jan 14, 1981	Dec 21, 1984
Sunnyvale Development Ltd.	Dec 12, 1978	Jan 14, 1981
Sunnyside Estates Ltd.	Feb 13, 1969	Dec 12, 1978
Farwest Investments Ltd.	June 15, 1966	Feb 13, 1969
Reginald Frank Cooper	Jan 26, 1960	June 15, 1966
Reginald Frank Cooper + Jesse Cooper	July 15, 1953	Jan 26, 1960
Reginald Frank Cooper	Aug 5, 1947	July 15, 1953
Anthony Breckner	June 19, 1942	Aug 5, 1947

A SRW (K7935) registered by BC Hydro and Power Authority (BCH) appears on historical titles from circa 1969 through to the current title. This BCH SRW is located along the western property line, as shown on Plan 42516 (Appendix A). The BCH SRW does not interfere with the planned Evergreen Rapid Transit Project SRW. Charge information contained on the historical titles indicated that a lease was registered in 1974 by Dial Financial Ltd.

The legal lot boundaries are approximated on Figures 2 and 3 as transcribed from base plans supplied by TRAN. Historical title search results are included as Appendix G.

2.3 Current Facilities

On May 26, 2011, a representative of Active Earth conducted a Site visit to review current conditions. All details regarding the current use of the property are based on the Site visit.

The Site was occupied by a two-story brick building with a concrete slab-on-grade, which covers approximately 30% of the Site, as shown on Figure 3. The upper exterior story is finished with wood shingle siding. Two gas meters were observed along the southern exterior wall; natural gas is inferred to be used for restaurant operations and heating throughout the building. Electric baseboard heaters were also observed within several building units.

The ground-level of the building was occupied by the following units:

- Unit 101 – Korean and Japanese Restaurant
- Unit 102 – CCB International School
- Unit 103 – Vacant
- Unit 104 – Beauty Salon
- Unit 105 – Noodle House Restaurant
- Unit 107 – Denture Clinit
- Un-numbered Unit – Spa

The upper story was occupied by the following units:

- Unit 200 – Union of Psychiatric Nurses Offices
- Unit 201 – Design Studio Offices
- Unit 202 – Coquitlam Firefighters Local 1782 Offices
- Unit 203 – Accountant
- Unit 204 – Un-marked Offices
- Unit 205 – Un-marked Offices
- Unit 206 – Tour Operator Offices
- Unit 207 – Accountant
- Unit 208 – Real Estate Offices

As directed by the Property Agent, Active Earth attempted to obtain a key for access to the electrical control and maintenance room. However, the key was not available at the time of the Site Visit. The interior of the building units were not inspected, and it is unknown whether any chemical storage areas are present on-Site. However, given the current Site uses, it is anticipated that no significant chemical handling or storage occurs on-Site.

The remainder of the Site was occupied by asphalt entrance and parking areas (approximately 50% of the Site), and vegetated landscaped areas (approximately 20%). Dumpsters and a cooking-oil disposal tank were observed on a concrete pad in the south-east corner of the lot; the soil in the vicinity of the cooking oil tank appeared slightly stained. No evidence of Above-ground Storage Tanks (ASTs), Underground Storage Tanks (USTs), or oil-water separators was observed on-Site. No evidence of previous intrusive environmental investigations (i.e. boreholes or groundwater monitoring wells) was observed. No significant staining was observed on the asphalt surfaces.

A representative of Keystone Environmental was on-site during the Site visit, conducting what appeared to be a Phase 2 investigation involving the advancement of three boreholes and installation of groundwater monitoring wells. An auger drill rig, operated by Beck Drilling and Environmental Services Ltd. was observed on-Site. It is understood that this Phase 2 investigation was being completed on behalf of the current property owner.

A discussion of the potential for the various facilities at the Site to present an environmental risk is provided in Section 6.1.

2.4 Current Surrounding Properties

During the site visit, Active Earth conducted a visual inspection of the surrounding properties from publicly accessible areas. The following table outlines our observations. Current and historic activities having significant potential contaminant sources are presented in bold and discussed in Section 6.2.

Current Surrounding Land Use

Direction	Address	Current Usage / Observations
South (down-gradient ²)	500 Clarke Road	Mount Athos Pizza Beauty Salon Norgetown Laundry & Drycleaning
	504 Clarke Road	Sun Gong Wonton House Vacant Unit (formerly bicycle sales)
	503 Cottonwood Ave	Refa Supermarket
	511-515 Cottonwood Ave	Cottonwood Market Various Offices

² The term down-gradient refers to the direction toward which groundwater would be expected to flow.

Direction	Address	Current Usage / Observations
		Tae Kwondo Spring New Restaurant
	2763-2781 North Road, 9989 Lynderhurst St	Residential
North (up-gradient ³)	518 Clarke Road	CSC Tires (appears currently closed)
	520 Clarke Road	Speedy Signs
	522 Clarke Road	Vacant
	524 Clarke Road	Computer Repair and Internet Cafe
	522 Smith Avenue	Residential Apartments
West (cross-gradient ⁴)	513 Clarke Road	Trinity Auto Centres
	509 Clarke Road	Trinity Auto Centre
East (cross-gradient)	519-521 Cottonwood Ave	Apartment Building
	N/A	Whiting Way Cul-de-Sac

3.0 PREVIOUS INVESTIGATIONS

The following report was reviewed as part of the Stage 1:

Environmental Assessment Certificate Application for the Evergreen Line Rapid Transit Project, Section 11 – Screening Level Contaminated Site Assessment, prepared for the BC Ministry of Transportation and Infrastructure by Hemmera, 2009.

Active Earth completed a review of this report to obtain information relevant to this investigation (i.e. identification of APECs and PCOCs). A summary of relevant report findings is provided in the following subsections.

3.1 Hemmera Screening Level Assessment (2009)

Hemmera undertook a Screening Level Contaminated Sites Assessment along the proposed alignment of the Evergreen Line Rapid Transit Project (the “Project”). The purpose of their assessment was to evaluate the potential of encountering soil and/or groundwater contamination along the proposed alignment. The assessment focussed on areas where the Project would be required to acquire property and where potentially contaminated soil or groundwater may be encountered during construction.

³ The term up-gradient refers to the direction from which groundwater would be expected to flow.

⁴ The term cross-gradient refers to the expectation of groundwater flowing parallel with respect to the Site.

Hemmera assigned tier rankings (Low, Moderate and High) to sites in the vicinity of the proposed alignment. Sites were ranked considering such factors as site history (based on review of records from various sources), position according to the alignment, nature of possible contamination, geology and depth to the groundwater. The assessment of potential site contamination was described by identifying properties with a high, moderate and low potential for contamination (i.e. Tier 1, Tier 2, and Tier 3 sites).

Hemmera did not identify the Site as presenting a potential risk to the proposed alignment, and therefore did not assign a Site ID. As shown on Figure 11.2 and Table 11A-1, Hemmera assigned a Tier 2 risk ranking to site CR2 (518 Clarke Road), which is the current and former location of several tire sales and potential automotive repair operations directly north (up-gradient) of the Site. Based on past and present use of this property, a Tier 2 risk rating is appropriate.

Hemmera also assigned Tier 1 risk rankings to sites CR1 (500B, 506, and 515 Cottonwood Ave) and NR11 (687 North Road and 509 Clarke Road). These sites are also shown on Figure 2, attached. Hemmera's interpretation of each site is discussed below.

3.1.1 CR1 (500B, 506, and 515 Cottonwood Ave)

Site CR1 included a former dry-cleaning operation (North Road One Hour Martinizing) and a current dry-cleaning operation (Norgetown Dry Cleaners). However, the addresses provided for both were incorrect. Norgetown Dry Cleaners was located at 500 Clarke street, Coquitlam and North Road Martinizing was historically located at 515B Cottonwood Ave, Coquitlam. These operations were correctly located within the bounds of site CR1, as shown on Hemmera figure 11.2. A tier 1 risk ranking is likely appropriate.

Hemmera incorrectly included the historic Chapple Enterprises Auto Transmission (506 Cottonwood Ave) within site CR1; the address is listed correctly, but as even numbered addresses are situated along the south side of Cottonwood Ave, the correct location is across the street (to south) from site CR1. Active Earth identified Chapple Enterprises in the 1971 street directories, as first the property to the east of North Road along the south side of Cottonwood Ave. 506 Cottonwood Ave is no longer a current civic address, but would have been situated on the current 504 Cottonwood Ave location (discussed further below).

3.1.2 NR11 (687 North Road and 509 Clarke Road)

Site NR11 identified a historic boat sales/service operation at 509 Clarke Road and an historic automotive service station at 687 North Road within NR11. However, according to historic street directories for North Road reviewed by Active Earth, 687 North Road is situated immediately south of Cottonwood Ave (i.e. not at Hemmera site NR11). As odd-numbered addresses are located along the east side of North Road, the historic service station at 687 North Road would have been located at the south-east corner of the intersection of North Road and Cottonwood Ave (currently 504 Cottonwood Ave). Active Earth conducted a historic title search of the lot at

504 Cottonwood Ave (PID 010-148-299, attached as Appendix G). The British American Oil Company Limited was identified as the title holder from 1955 to 1974.

Active Earth also conducted a historic title search of the lot at 509 Clarke Road (PID 017-413-818), results of which do not indicate any historic automotive service stations existing at this location. Given these findings, it is highly unlikely that a historic automotive service station existed within the bounds of Hemmera site NR11, and therefore a lowered risk ranking (Tier 2 or 3) is likely appropriate. Records reviewed by Active Earth indicate that instead, a service station was operated historically at 687 North Road (Currently 504 Cottonwood Ave). A Hemmera Tier 1 risk-ranking is likely appropriate for this location.

4.0 PHYSICAL SETTING

4.1 Geology

As part of the Stage 1 investigation, Active Earth assessed the surficial geology of the Site. Review of Surficial Geology Map 1484A indicates the geology in the area consists of Vashon Drift and Capilano Sediments (sand, gravel and silt to 8m thick, overlain by marine deposits to 3m thickness).

The log for nearby water well 16664 (attached as Appendix C) indicates that till extends to 15m depth, overlaying sand, gravel and silt to 25m, overlaying clay.

4.2 Topography

The Site has an average elevation of about 102m geodetic. The grade at the Site slopes gently to the southwest. Regionally, the topography also slopes to the southwest. A topographic map is included as Appendix B.

4.3 Hydrogeology

Regional groundwater flow is inferred to follow local topography to the southwest, towards the Brunette River. Locally, groundwater flow can be affected by building foundations, drainage and subsurface utilities. Depending on their depth, these underground structures may significantly influence shallow groundwater flow from the Site.

The log for water well 16664 identifies a water bearing aquifer from 18 to 25m depth. Depth to water within shallower soils or local fills is not known.

4.4 Area Water Uses

4.4.1 Surface Water

The BC Contaminated Sites Regulation (CSR) Technical Guidance 6 indicates that Aquatic Life Standards (AW) generally apply to all groundwater located within 500m of a surface water body containing aquatic life. Investigations must show that groundwater containing substances at concentrations greater than the applicable aquatic life water use standards does not have the potential to migrate to within 500m of a surface water body used by aquatic life, considering preferential flow corridors.

The closest surface water body is Stoney Creek, located approximately 550 m west of the Site. Port Moody (Burrard Inlet) is located approximately 3km north of the Site. Given proximity and steep topographic gradients between the Site and Stoney Creek (and the Brunette River), and underground services (potential preferential pathways), Aquatic Life Standards (freshwater) are assumed to apply.

4.4.2 Drinking Water

The CSR Technical Guidance Document 6 further indicates that Drinking Water Standards (DW) generally apply where current drinking water sources are within 500m of the outer extent of a groundwater contamination source. If the groundwater flow direction has been reliably determined, this distance is limited to 100m up-gradient (remaining at 500m down-gradient) of the outer extent of a contamination source.

Future drinking water use must also be considered in the evaluation of whether or not DW applies at a site. This includes evaluation of the underlying aquifer to assess hydraulic parameters including yield and hydraulic conductivity. If the aquifer underlying a site has a hydraulic conductivity greater than 1×10^{-6} m/s, and a yield greater than or equal to 1.3 L/min, then DW standards are considered to apply.

Exceptions to the application of DW include situations where the natural groundwater quality is considered unsuitable for drinking water use based on elevated Total Dissolved Solids ($\text{TDS} \geq 4,000$ mg/L); or where groundwater is contained within organic soils or muskeg. Also, in situations where there exists a confining geological unit that adequately protects the aquifer, DW does not apply.

Irrigation (IW) and Livestock Watering (LW) uses are considered to apply where these resources are present within 500m down-gradient and 100m in an up-gradient direction.

A search of water wells on the BC Water Resource Atlas revealed one water well within 500m of the Site. Well logs indicate this well was installed in 1960 to a depth of 28m. Coquitlam is fully

served by a piped drinking water distribution system. It is therefore unlikely that this well is currently in use. It is likely that the underlying till soil has a hydraulic conductivity of less than 1×10^{-6} m/sec, and DW standards may be discounted, however further investigation will be required to confirm this, if it is deemed necessary to do so. Based on future drinking water considerations, DW standards are considered to apply to the Site for the time being.

BC Water Resource Atlas search results are included as Appendix C.

4.5 Climate Norms

Climate information was obtained for the Coquitlam Como Lake Avenue station, located approximately 1.8 km to the northeast of the Site. The Climate Normals were based on data collected between 1971 and 2000.

Total annual precipitation averaged 1,924mm of which 1,859mm falls as rain and 648mm as snow.

5.0 LAND USE HISTORY

5.1 Site

The following two subsections present a summary of the Site history and a listing of any historic activities that would be classified by the BC Contaminated Sites Regulation under Schedule 2.

5.1.1 Historic Land Uses

The history of the Site was interpreted based on a review of the following available historic information:

- Aerial photographs from 1949, 1954, 1963, 1974, 1979, 1984, 1991, 1997, and 2004 (see Appendix D);
- Historic city directories (every four to five years from 1956 to 2001, plus additional years from 1968 to 1974 – see Appendix F); and,

Based on this review, Active Earth assessed the historic Site usage, as follows:

- Vacant/Treed – until 1942
- Residential – 1942-1970
- Vacant – 1970-1974
- Commercial – 1974 to present

Air photos up to 1963 show the Site as partially developed, likely with a private residence. The subsequent 1974 air photo shows the Site in its current configuration. The Site is first listed in the 1956/1957 street directory (the earliest directory reviewed) as a residential address. The

address does not appear in the 1970, 1971, or 1972 directories. The address first appears as a commercial building in the 1974 directory. Collectively, these lines of evidence point to re-development between 1970 and 1974, and commercial land use from circa 1974 to present.

The historic uses of the Site, based on all available historical information reviewed, are outlined in the following table. No historic activities with potential contaminant sources were identified.

Site History

Address	Dates	Historic Activities
508 Clarke Road	1956/1957/1961/1966/1968 1970/1971/1973 1974/1976/1981/1986/1991/1996/2001	Residential Address not Listed Various commercial, including various offices, plumbing and heating operation, electronics sales/service, hair salon, medical/dental clinic, dog grooming.

No fire insurance maps that covered the area of the Site were identified.

5.1.2 Schedule 2 Activities

Schedule 2 of the Contaminated Sites Regulation lists a number of activities that could result in contamination. No Schedule 2 activities were identified for current or historic uses at the Site.

In most BC municipalities a Site Profile must be provided when an application is made for a zoning, development, subdivision, soil removal or demolition permit. The Site Profile asks a number of questions about the history of a site, in particular Schedule 2 Activities. When such activities have occurred on a site, then it is likely that a Ministry instrument (e.g. Certificate of Compliance or Determination) will be required prior to re-zoning, development or permitting.

The City of Coquitlam is not currently part of the Site Profile system.

Since no Schedule 2 activities have occurred on this Site, no Ministry instruments would be required.

5.2 Surrounding Properties

The historic uses of the surrounding area, based on all available historical information reviewed, are outlined in the following table. Historic activities with potential contaminant sources are bolded and discussed in Section 6.2.

Surrounding Property History

Direction (Orientation)	Address	Dates	Historic Activity
South (down-gradient)	500 Clarke Road	1956-1966 1971-2001 1981 1986 1991 1996 2001	Address not Listed Norgetown Laundry & Dry Cleaning Donald Gordon's Taratown Ltd. Apollo Pizza & Spaghetti House Donald Gordon's Tarantown Ltd. Pizza 222 Can Pro Carpet Upholstery Pizza Two Two Two Coquitlam Halal Meat & Deli Seung Hee Beauty Shop Mount Athos Pizza
	504 Clarke Road	1956/1957 1961 1966 1971-1976 1981 1986 1991 1996 2001	Residential Clarke Road Mkt gro Huddleston Radio and TV Del Rio Sporting Goods Del Rio Sporting Goods Bicycle Gallery One Arcade Wonder Meats Sommerfeld Goldsmithing Horizons Drop in Centre TEC European Connection Residential Coburn Physiotherapy Corp Advanced Electronic Repair Services
	503 Cottonwood Ave	1971-2001 1981	Mac's Milk / Mac's Convenient Store Dowco Consultants Ltd. Ferrante Albert dentist Karro Allan J dentist North Road Holdings Ltd
	504 Cottonwood Ave	1981 1986	Ferra Management Corp. Professional Building
	506 Cottonwood Ave	1956/1957 1961/1966 1971 1976 1981-2001	Address Not Listed Residential Residential Chapple A Enterprises Auto Trans Residential Address Not Listed
	511 Cottonwood Ave	1956-1966 1971 1976-2001 1976 1981 1986 1991 1996 2001	Residential Address not Listed La Caprice Hairstyles Captain Scott's Fish & Chips The Sea-Shanty Tocam Pizza The Sea-Shanty Roman Eagle Pizza The Sea-Shanty Roman Eagle Pizza Sea Cove Fish & Chips Roma 2 for 1 Pizza Roman Eagle Pizza Golden Chilli Szechuan Restaurant Angel's Pizza

Direction (Orientation)	Address	Dates	Historic Activity
	515 Cottonwood Ave	1956-1966 1971	Residential Mini Mart No 37 grocery Maxwell M Enterprises dry cln North Rd One Hr Martinizing Cottonwood Barber Shop Khan A B Dentist Sibley J C phys Safeco Ins
		1976	Coquitlam Pic-a-Pop Mar-Gail Ceramiics Maple Leaf Realty Ltd. Khan Abu B Dentist North Road Holdings Ltd.
		1981	Kim's Market Sherwins Ceramics Khan Abu B Dentist St. Ives on Shuswap Resorts Ltd.
		1986	Kim's Market Khan Abu B Dentist Artificial Eve Laboratory Golden Star Management Inc. Rental Storage
		1991	Kim's Market Khan Abu B dentist Four Corners Forwarding Inc.
		1996	Residential Cottonwood School Program St. Leonards Youth & Family Services
		2001	Residential Cottonwood Supermarket Cottonwood School Program St. Leonards Youth & Family Services
	687 North Road	1956/1957 1961 1966 1971 1976 1981-2001	Address not Listed Northway B A Serice Gar Cottonwood BA Serv Cottonwood Gulf Serv Vacant Address not Listed
North (up-gradient)	518 Clarke Road	1961 1966/1971 1976 1981/1986 1991 1996/2001	Address not Listed Braconnier's Tire Nalder Tire Ltd. Tire Overend Automotive Big O Tire Braconnier's Tires Ltd Braconnier's CSC Tires
	520 Clarke Road	1966 1971-1991 1971 1976-1991 1976 1981 1986 1991/1996/2001	Address not Listed Brownies Recipe Fried Chicken Trus Joist Sls roof & floor supports Buschman Dental Lab Coquitlam Driving School Academy Driving School Young Drivers of Canada Coquitlam Pro Life Society Young Drivers of Canada

Direction (Orientation)	Address	Dates	Historic Activity
	522 Clarke Road	1956/1957 1961 1966 1971 1976	Address Not Listed Coquitlam Dive-Air diving equip. Address Not Listed Bennett Ins Agcies Bennett Insurance Agencies Coquitlam Suburban Estates Ltd. Anderson Gregg chiropractor Wasylynko David E chiropractor Shilo Counselling group therapy Card Shark Sports Cardsharks
		1981 1986 1991 1996/2001	
	524 Clarke Road	1966 1971/1976 1981 1986-2001	Address Not Listed Town & Country Estates Ltd. Vacant Choices Consignment Inc.
	526 Clarke Road	1956/1957 1961 1966 1971 1976 1981/1986/1991 1981/1986/1991 1981/1986 1981 1986/1991/1996 1991/1996/2001 1996/2001 1996 2001	Address Not Listed Campbell T Texaco Serv gar Ron's Texaco Serv Gillard & Assoc Distrs serv sta Burquitlam Texaco Sears Catalogue Store Brunette Insurance Agencies Coquitlam Public Library Alley Estates Sales Foto Quik Taverne Burquitlam Plaza Om's Bakers M&M Meat Shops
	518-522 Smith Avenue	1966 1971-2001	Addresses not Listed Residential
West (cross-gradient)	509 Clarke Road	1956/1957 1961-1991 1996/2001	Address not Listed Sea Fun Marina Its My Party Shop
	512 Clarke Road	1991 1996	Address not Listed Up-Date Accounting Services Inc.
	513 Clarke Road	1956-2001	Residential
East (cross-gradient)	519 Clarke Road	1956-1971 1976-2001	Residential Address not Listed
	521 Clarke Road	1956-1971 1976 1981-2001	Grootendoat JG Landscaping Vacant Residential

A number of historic activities on surrounding properties were identified as having potential activities of environmental concern. The potential for contamination to have migrated to the Site is assessed further in Section 6.2.

5.3 BC Online Site Registry Records

BC Online maintains a Site Registry of contaminated sites on behalf of the Ministry of Environment (MOE). Any sites that have had MOE involvement after 1988 are listed on the Site

Registry. Not all sites listed in the Registry are considered to be contaminated; rather, some have only been investigated or have received MOE approvals for remediation. The Site Registry also includes sites for which a Site Profile has been submitted to the MOE regardless of whether or not environmental concerns were subsequently identified.

A Site Registry search was completed by Active Earth on May 15, 2011, for the Site. The database was searched on the basis of geographic location within 0.5km radius of the centre of the Site. Copies of the Site Registry search are provided in Appendix E.

A total of five records for neighbouring properties showed up on the Site Registry search as follows:

Site Registry Search Results

Address	Site ID No.	Location	Direction (Orientation)	Distance from Site Boundary
640 Aspen Avenue	11891	Intersection of Aspen and Foster Ave	Southeast (cross-gradient)	460m
556 Clarke Road	4592	Clarke Road between Smith and Como Lake Ave	North (up-gradient)	250m
525-575 Clarke Road	7383	Clarke Road between Smith and Como Lake Ave	North (up-gradient)	150m
604 and 606 Como Lake Ave	12648	Intersection of Como Lake Ave and Emerson St	North (up-gradient)	530m
590 Clarke Road	147	Intersection of Como Lake Ave and Clarke Road	North (up-gradient)	540m

A search based on the Site PID did not identify any historic records.

6.0 STAGE 1 DISCUSSION

This section discusses the findings of the Stage 1 and assesses the likelihood of soil, soil vapour and/or groundwater contamination at the Site. Activities with a moderate to high likelihood of having caused significant contamination are classified as Areas of Potential Environmental Concern (APECs). The regulated compounds for each APEC are termed Potential Contaminants of Concern (PCOCs).

Further investigation in the form of a Stage 2 would be recommended for any of the APECs assessed as moderate or high risk. No further investigation would be recommended for low risk issues.

The following two subsections discuss the potential risks associated with current and historic Site and surrounding property activities, respectively.

6.1 Site

Active Earth did not identify any issues of environmental concern related to the Site and therefore did not identify any on-Site APECs.

6.2 Surrounding Properties

Active Earth identified several issues related to the Site based on historical and current uses of surrounding properties. One of these (APEC 1) was identified as presenting a moderate risk while the remainder were considered to present low risk to the Site. The low-risk rationale for each identified issue is discussed further below.

Areas of Potential Environmental Concern – Off-Site

APEC	PCOC
<i>Off-Site</i>	
APEC 1 – Historic and Current Automotive Repair to the north (Up-Gradient) at 518 Clarke Road.	Soil: LEPH, HEPH, PAH, VOC, VPH, PCBs, Glycols, Metals Groundwater: LEPHw, PAH, VOC, VPH, Glycols, Metals Soil Vapour: Naphthalene, VOC

Note: LEPH – Light Extractable Petroleum Hydrocarbons
PAH – Polycyclic Aromatic Hydrocarbons
VPH – Volatile Petroleum Hydrocarbons

HEPH – Heavy Extractable Petroleum Hydrocarbons
VOC – Volatile Petroleum Hydrocarbons
PCBs – Polychlorinated Biphenyls

According to historic directories, the operations at 518 Clarke Road (APEC 1) have consisted of tire sales. However, during the Site visit, a small (1 bay) automotive repair garage was observed within the building. The operation was closed and repair equipment appeared to be no longer present. The garage was not inspected, although the floor was observed to be concrete and indications of a former above-ground hoist were observed. A concrete patch was observed, which may be indicative of a former below ground hydraulic hoist. No ASTs or USTs were observed on the property. However, given the extensive history of automotive operations, this property is considered and APEC.

Low Risk Rationale – Off-Site Properties

Issue	Distance / (Orientation)	Low Risk Rationale
Historic and Current Dry-Cleaning to the South (Down-Gradient) at 500 Clarke Road.	40m South/Southwest	Dry-cleaning operations were observed to occur in the southwest corner of the property, furthest from the Site. The property at 504 Clarke is located between the dry-cleaner and the Site. Based on local topography, groundwater is inferred to flow south/south-west, away from the Site. This facility is considered to present a minimal risk of contamination to the Site.

Issue	Distance / (Orientation)	Low Risk Rationale
Historic Dry-Cleaning to the South (Down-Gradient) at 515 Cottonwood Ave	25m South	Dry-cleaning operations were observed at the property in street directories from 1970 and 1971 only (not present in 1968 or 1972 directories). According to these directories, the dry-cleaner operated in the building at 515 Cottonwood Ave, currently Cottonwood Market. As such, the building at 511 Cottonwood Ave (currently Tae Kwondo studio) is situated between the former drycleaner and the Site. Based on local topography, groundwater is inferred to flow south/south-west, away from the Site. This historic operation is considered to present a minimal risk of contamination to the Site.
Historic Service Station and Auto Repair to the South (Down-Gradient) at 504 Cottonwood Ave	80m South	An automotive transmission operation historically operated at 506 Cottonwood Ave (circa 1968-1972). An automotive service station formerly operated at 687 North Road (circa 1960-1970). According to historic street directories, these operations were located at the south-east corner of the intersection of Cottonwood Ave and North Road (currently 504 Cottonwood Ave). Given the distance from the Site, anticipated down-gradient orientation, and limited length of historic operation, these are considered to present a minimal risk of contamination to the Site.
Historic Service Station to the North (Up-Gradient) at 526 Clarke Road	120m North (approximate)	An automotive service station historically operated at 526 Clarke Road (circa 1960-1976). According to historic street directories, the property was located north of the intersection of Clarke Road and Smith Ave. Given the extensive redevelopment of the area surrounding the Site, it is unclear exactly where the property was situated (between Smith and Como Lake Ave). Given the distance from the Site and limited length of historic operation, this property is considered to present a minimal risk of contamination to the Site.
Used Auto Sales to the west (Cross-Gradient) at 509 and 513 Clarke Road	30m West	Trinity Auto Centre is currently present at 509 and 513 Clarke Road. A boat sales (and possibly service) operation previously operated at this location. It is likely that any automotive repair work conducted on the property is limited in scale, and would be conducted in the building at the south of the property. The areas of the property used for auto storage were observed to be asphalt-covered. The property is located in an anticipated cross-gradient orientation. This property is considered to present a minimal risk of contamination to the Site.

Active Earth considers the risk of environmental contamination to the Site from off-Site properties, not discussed above, to be low.

7.0 CONCLUSIONS

The Stage 1 identified the following APECs and associated PCOCs:

Areas of Potential Environmental Concern - Summary

APEC	PCOC
<i>Off-Site</i>	
APEC 1 – Historic and Current Automotive Repair to the north (Up-Gradient) at 518 Clarke Road.	Soil: LEPH, HEPH, PAH, VOC, VPH, PCBs, Glycols, Metals Groundwater: LEPHw, PAH, VOC, VPH, Glycols, Metals Soil Vapour: Naphthalene, VOC

Note: LEPH – Light Extractable Petroleum Hydrocarbons
PAH – Polycyclic Aromatic Hydrocarbons
VPH – Volatile Petroleum Hydrocarbons

HEPH – Heavy Extractable Petroleum Hydrocarbons
VOC – Volatile Petroleum Hydrocarbons
PCBs – Polychlorinated Biphenyls

Off-Site APEC 1 is located to the north (up-gradient) of the Site. A single-bay automotive repair garage was observed within the building. The operation was closed and repair equipment appeared to have been removed. The garage was not inspected, although the floor was observed to be concrete and indications of a former above-ground hoist were observed. A concrete patch was observed, which may be indicative of a former below ground hydraulic hoist. No ASTs or USTs were observed on the property. Given the history, proximity, and up-gradient orientation relative to the Site, this APEC presents a moderate risk of contamination to the Site, and specifically to the SRW.

No on-Site APECs were identified.

Further investigation in the form of a Stage 2 is recommended. This Stage 2 may be limited to a single borehole/monitoring-well located within the northwest extent of the SRW.

The historical street directories, air photos, and historical title searches reviewed by Active Earth indicate that a historic automotive service station did not exist within the bounds of Hemmera site NR11 (currently 509 Clarke Road), and therefore a lowered risk ranking (Tier 2 or 3) is likely appropriate for this property. Records reviewed by Active Earth indicate that instead, a service station historically operated at 687 North Road (Currently 504 Cottonwood Ave). A Hemmera Tier 1 risk-ranking is likely appropriate, and the completion of a Stage 1 may be warranted for 504 Cottonwood Ave.

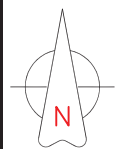
8.0 LIMITATIONS

This report has been prepared by Active Earth Engineering Ltd. for the BC Ministry of Transportation (TRAN) and Infrastructure based on limited information obtained through historical records and other information sources.

This report is intended to provide an assessment of the potential for soil, soil vapour and/or groundwater contamination from on-Site and off-Site activities. The conclusions made in this report reflect Active Earth's best judgement in light of the information available at the time of reporting. Should additional information become available or Site conditions change, the conclusions and recommendations of this report may be subject to change.

Any use which the client or a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such parties. Active Earth accepts no responsibility for damages, if any, suffered by TRAN, or third parties as a result of business decisions made or actions based on this report.

FIGURES




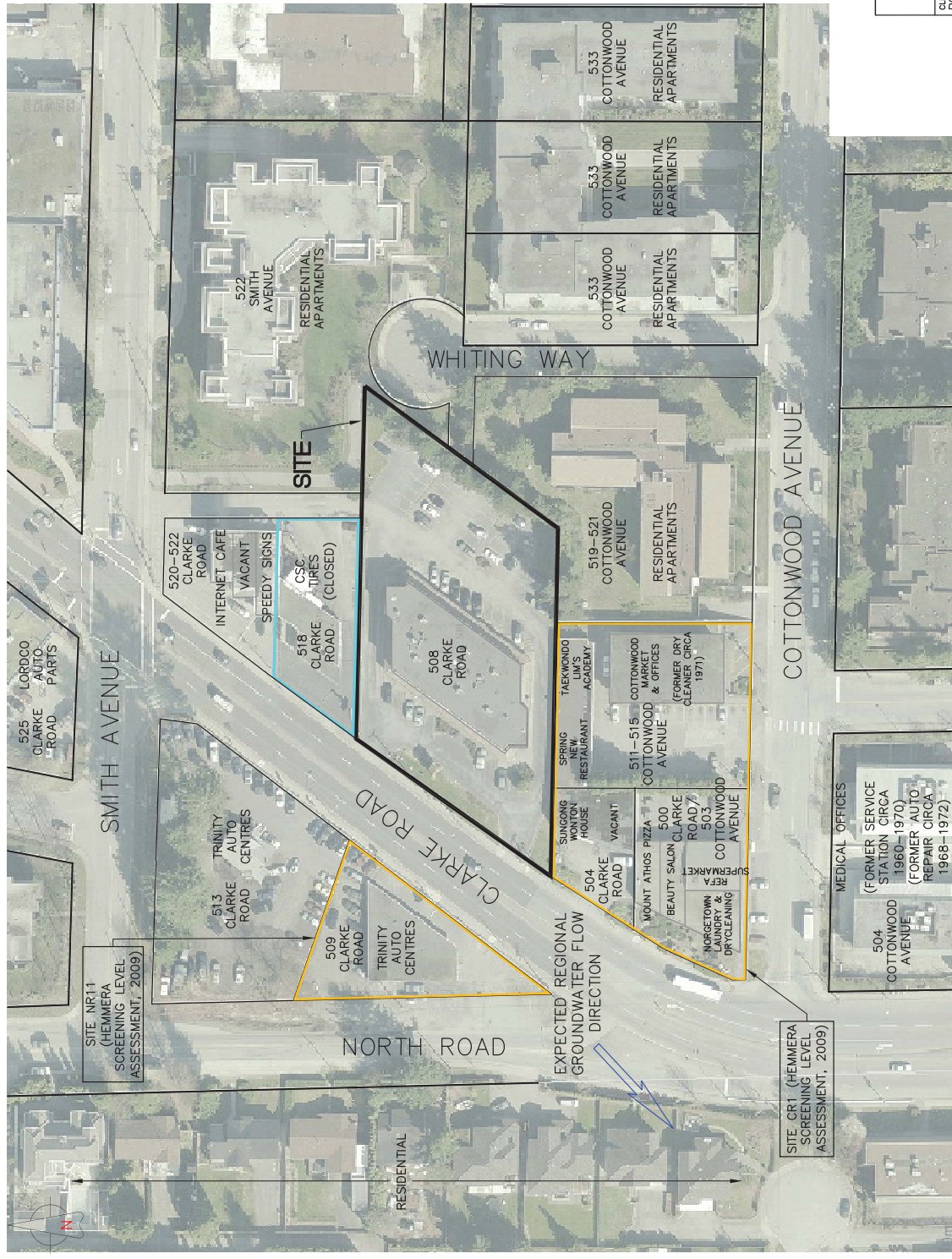
MAP LOCATION



SITE LOCATION PLAN

SCALE: N.T.S.

BC Ministry of Transportation & Infrastructure	 SITE LOCATION PLAN 508 CLARKE ROAD	date: MAY 11	scale: N.T.S.
		drawn: GM	
		checked: JT	
		file: 328P-1	
		drawing no: Page 25	issue: A



LEGEND

- LEGAL LOT LINE
- BUILDING LINE

AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

APEC	POC
APEC 1 - Historic and Current Automotive Repair to the north (Up-Gradient) at 518 Clarke Road.	POC 1 - Soil: LEPA, HEPH, PAH, VOC, VPH, Glycols, Metals Groundwater: LEPA, PAH, VOC, VPH, Glycols, Metals Soil Vapor: Napthalene, VOC



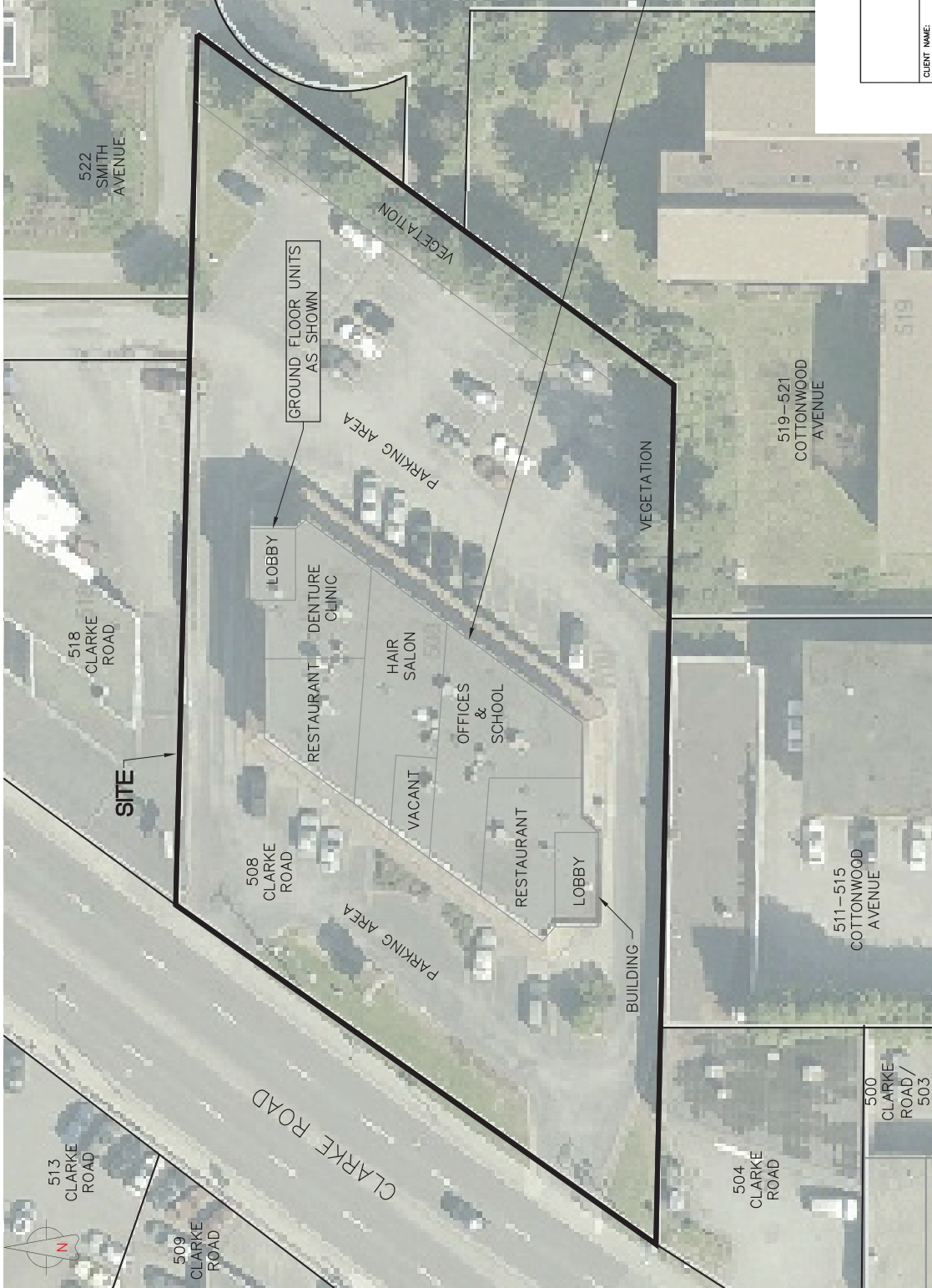
CLIENT NAME: BC Ministry of Transportation & Infrastructure	PROJECT LOCATION: COQUITLAM, BC
--	------------------------------------

TITLE: SURROUNDING LAND USE PLAN AND OFF-SITE APECS 508 CLARKE ROAD	
---	--

DWG BY: GM	DWG NAME: 328P-2	DATE: 2011-05-25	PAGE: 2
CHECKED: JT	PLT:	CADFILE: 328P	FIGURE: 2

TRA-2012-00100

REFERENCE: CITY OF COQUITLAM GIS MAPPING

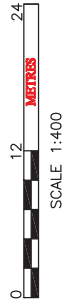


LEGEND

- LEGAL LOT LINE
- BUILDING LINE

NOTES:
NO ON-SITE APECS HAVE BEEN IDENTIFIED.
ALL INTERIOR BUILDING DIENSIONS ARE APPROXIMATE.

- SECOND FLOOR UNITS
- 200-UNION OF PSYCHIATRIC NURSES OFFICE
 - 201-DESIGN STUDIO
 - 202-COQUITLAM FIRE FIGHTERS UNION AND OFFICE
 - 203-ACCOUNTANT
 - 204-MISC. OFFICES
 - 205-MISC. OFFICES
 - 206-TOUR OPERATOR
 - 207-ACCOUNTANT
 - 208-REAL ESTATE OFFICES
 - 209-VACANT



CLIENT NAME: BC Ministry of Transportation & Infrastructure
PROJECT LOCATION: COQUITLAM, BC
TITLE:

SITE PLAN
508 CLARKE ROAD

DWN BY: GM
CHK'D: JT

DWG NAME: 328P-3
DATE: 2011-05-25
PLOT:

PAGE 3
FIGURE 3

PHOTOGRAPHS



Photo 1 –

On-Site Building with ground-level commercial tenants and second-floor offices. Looking northeast from southwest corner of Site.



Photo 2 –

On-Site building, landscaped areas and asphalt parking. Crew from Beck Drilling and Environmental Services and Keystone Environmental conducting Stage 2 investigation work. Looking southwest from northeast corner of Site.



Photo 3 –

Asphalt driveway showing storm drain catch-basin and gas meters along southern wall of on-Site building. Wall of neighbouring property to the south (504 Clarke Road) is shown on the left. Looking west from Site, toward Clarke Road.

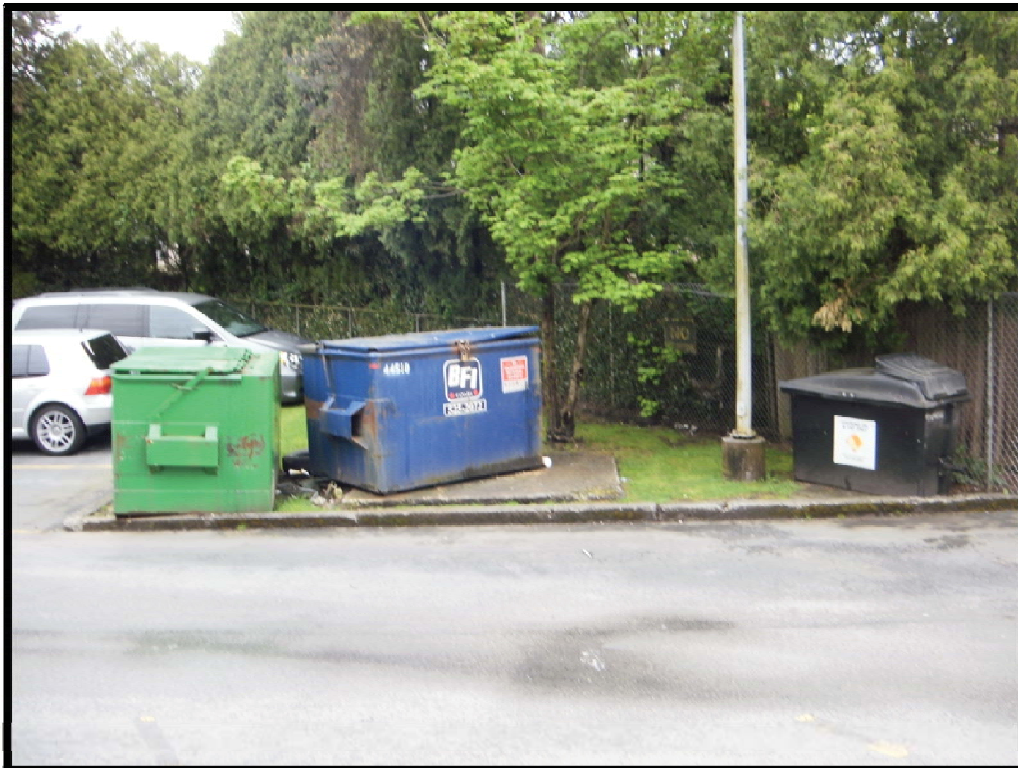


Photo 4 –

Garbage dumpsters and waste cooking oil bin, located in southeast corner of Site. Looking east.



Photo 5 –

Off-Site property to the North at 518 Clarke Road (APEC 1). Looking northeast from Clarke Road.



Photo 6 –

Auto repair area at 518 Clarke Road, showing likely former above-ground hoist location.



Photo 7 –

Rear yard to
518 Clarke
Road. Looking
east from
Lane.



Photo 8 –

Off-Site residential
apartments tower
to the northeast at
522 Smith
Avenue. Looking
east.



Photo 9 –

Off-Site residential apartments to the southeast at 533 Cottonwood Ave. Also shows Whiting Way cul-de-sac. Looking southeast from northeast corner of Site.



Photo 10 –

Off-Site residential apartments to the south at 521 Cottonwood Ave. Looking northwest from Cottonwood Ave.



Photo 11 –

Off-Site commercial building (Cottonwood Market and others) at 515 Cottonwood Ave. Looking northwest from Cottonwood Ave.



Photo 12 –

Off-Site commercial building at 511 Cottonwood Ave. Building at 515 Cottonwood Ave is visible on the right. Looking north from Cottonwood Ave.



Photo 13 –

Off-Site building to the south, including Dry-Cleaners (500 Clarke Road) and Refa Supermarket (503 Cottonwood Ave). Looking north from Cottonwood Ave / Clarke Road intersection.



Photo 14 –

Off-Site building to the south at 504 Clarke Road. Looking northeast from Clarke Road.



Photo 15 –

Off-Site property to the west at 509 Clarke Road (Trinity Auto Centres). Looking west from Site.



Photo 16 –

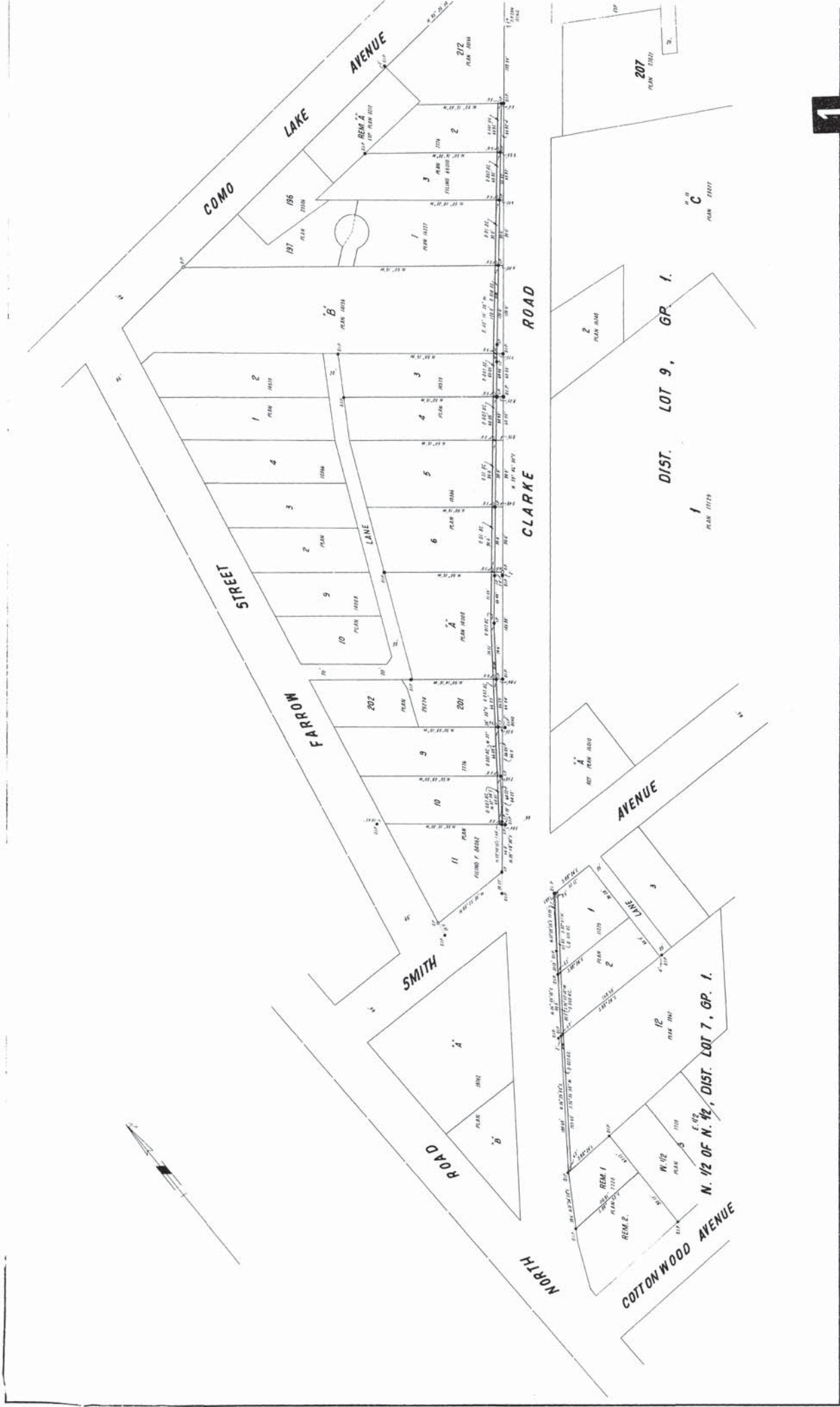
Off-Site property to the west at 513 Clarke Road (Trinity Auto Centres). Looking west from Site.

APPENDIX A

Current Legal Title and Lot Plan

Pages 38 through 40 redacted for the following reasons:

S3



3967

Ref: 22835 E.

Plan of of portion Subdivision of the N. 1/2 of the N. 1/2 of

D.L. 7, G.I., N.W.D.

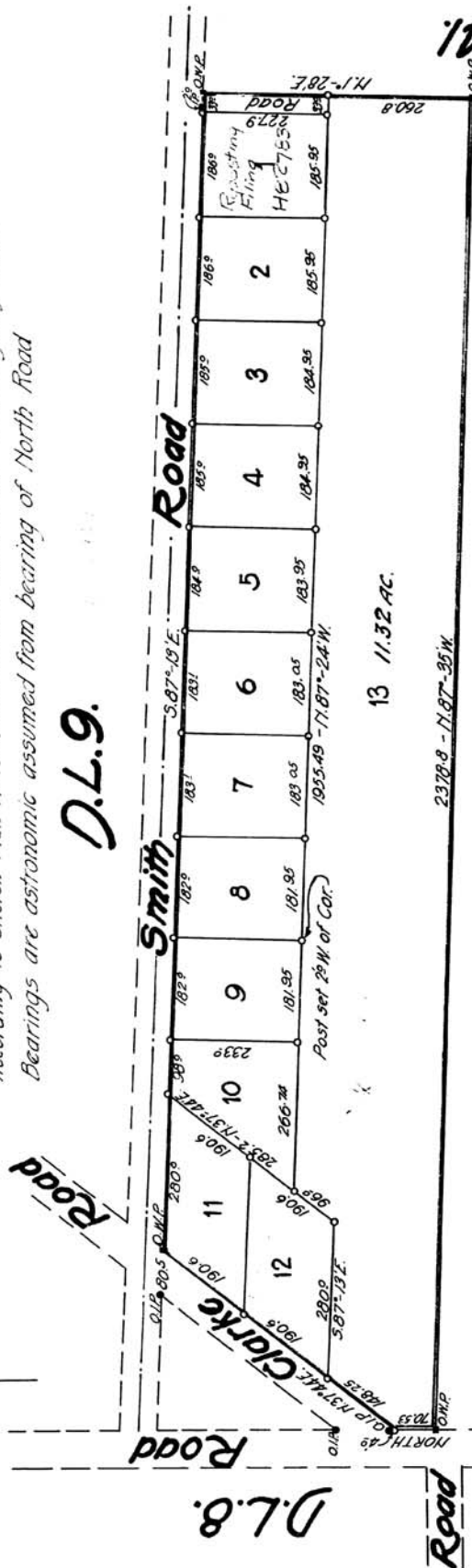
Deposited in the Land Registry
Office at New Westminster, B.C.
on the 22nd day of November, 1926.

Scale ~ 200' = 1"

Register

According to Sketch Plan No 1946 in the New Westminster Land Registry Office
Bearings are astronomic assumed from bearing of North Road

D.L. 9.



S. 1/2 of N. 1/2 of D.L. 7.

I, Chas. T. Hamilton, of the City of Vancouver, British Columbia Land Surveyor,
make oath and say that I was present at and did personally superintend
the survey represented by this plan and that the survey and plan are
correct. The said survey was completed the 7th day of September, 1926.

Chas. T. Hamilton.

Sworn before me this 16th day of September, 1926.

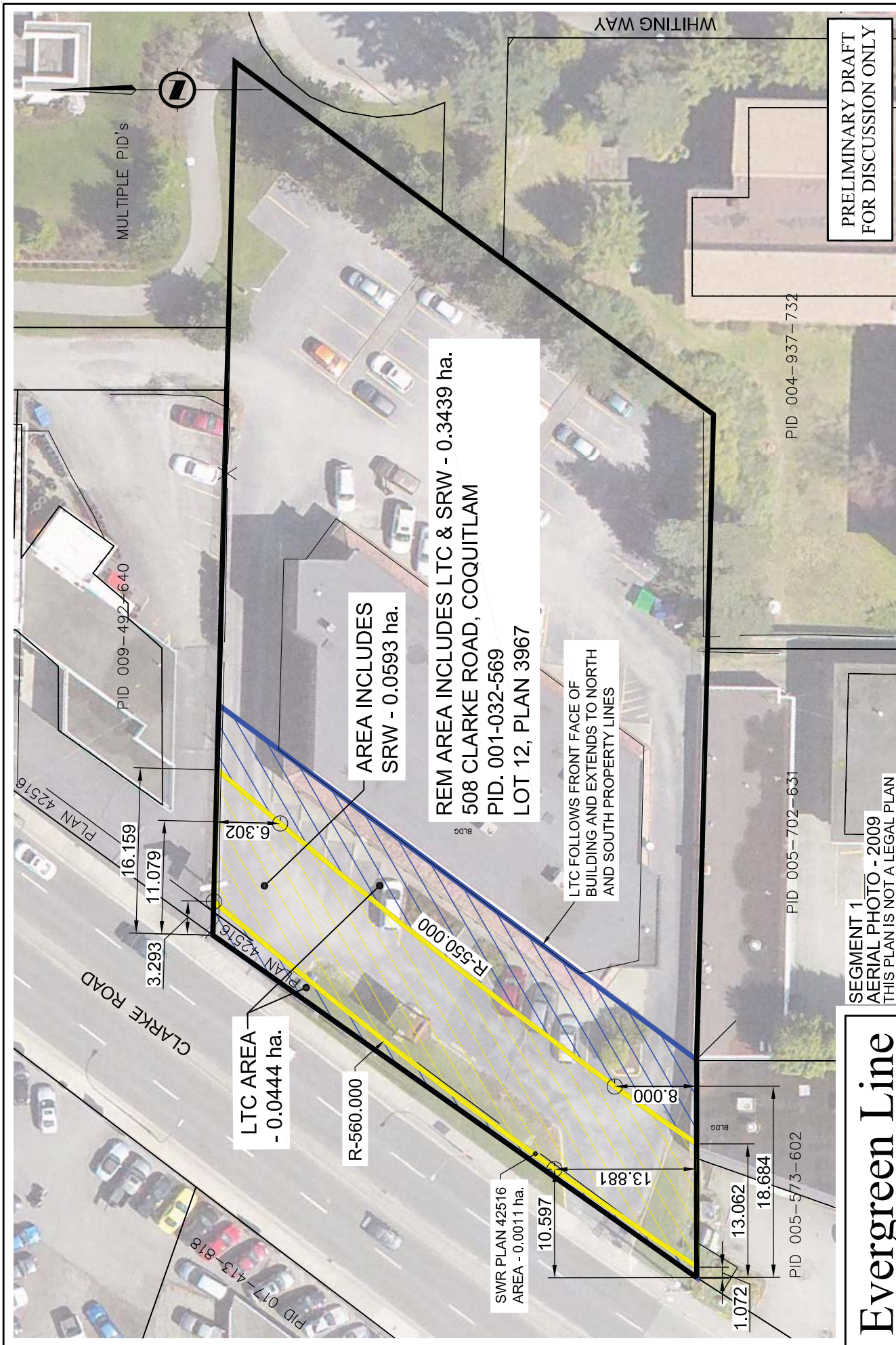
A Notary Public in and for the Province of British Columbia

Approved under the Land Registry Act
this 22nd day of September, 1926.

Approving Officer

Owner.

Witness



Evergreen Line

SEGMENT 1
AERIAL PHOTO - 2009
THIS PLAN IS NOT A LEGAL PLAN

PRELIMINARY DRAFT
FOR DISCUSSION ONLY

SCALE		QUALITY CONTROL		RVD		DATE	
0 16		DRAWN		TBD		21/07/2010	
REV		DATE		REVISIONS		INITIALS	
1		21/07/2010		SUBMITTED TO PROJECT TEAM		RVD	



BRITISH COLUMBIA
The Best Place on Earth

Ministry of Transportation and Infrastructure

EVERGREEN LINE
BASELINE ALIGNMENT
FOOTPRINT RFP BA

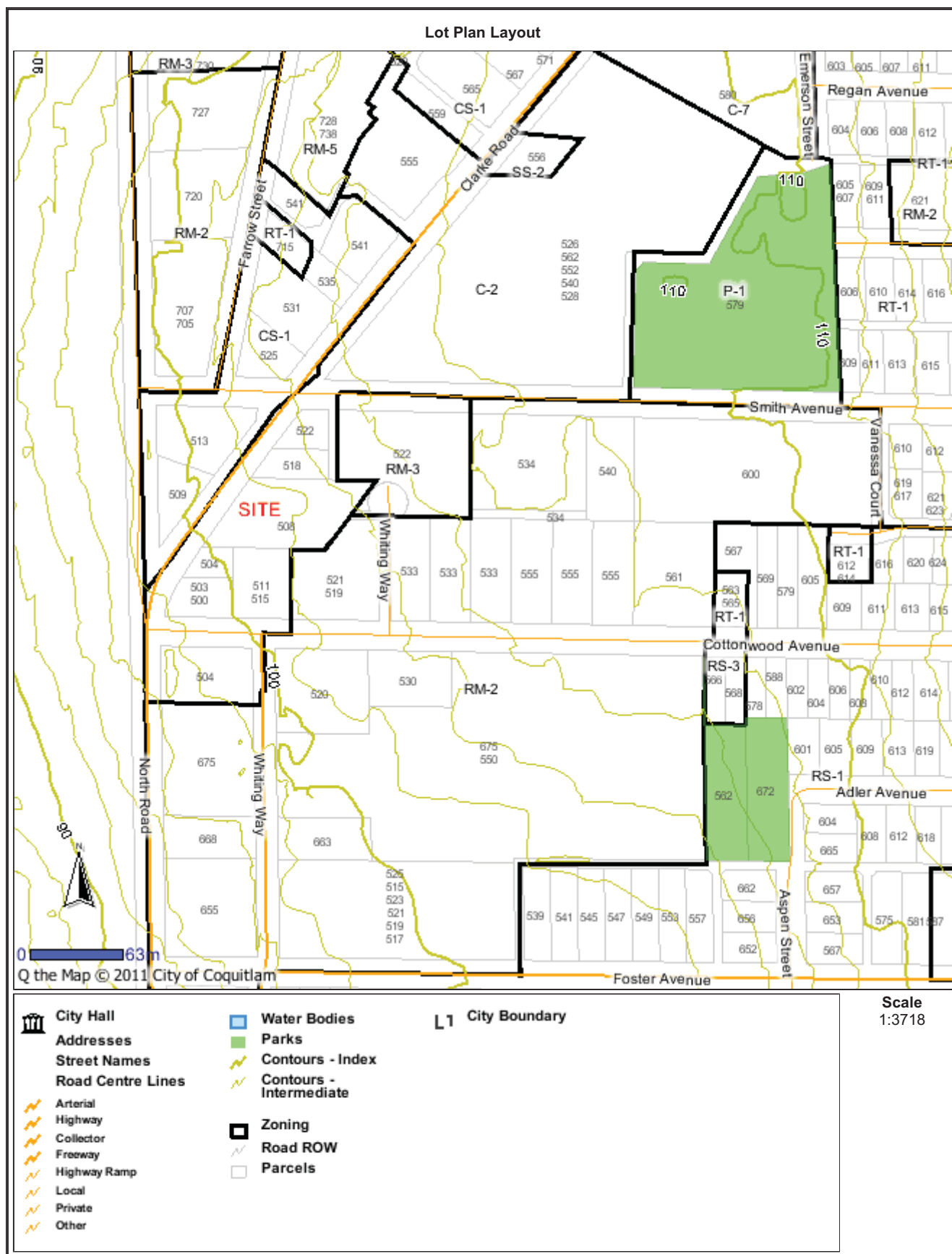
PROPERTY ACQUISITION PLAN
508 CLARKE ROAD, COQUITLAM

PID
001-032-569

REV 1
Page 42
TRA-2012-00100

APPENDIX B

Topographic Map



APPENDIX C

BC Water Resources Atlas





Report 1 - Detailed Well Record

<p>Well Tag Number: 16664</p> <p>Owner: VICTOR FUNG</p> <p>Address: 2849 NORTH ROAD</p> <p>Area: BURQUITLAM</p> <p>WELL LOCATION: NEW WESTMINSTER Land District District Lot: 8 Plan: 48351 Lot: 129 Township: Section: Range: Indian Reserve: Meridian: Block: Quarter: Island: BCGS Number (NAD 27): 092G026411 Well: 1</p> <p>Class of Well: Subclass of Well: Orientation of Well: Status of Well: New Well Use: Unknown Well Use Observation Well Number: Observation Well Status: Construction Method: Drilled Diameter: 12.0 inches Casing drive shoe: Well Depth: 93 feet Elevation: 0 feet (ASL) Final Casing Stick Up: inches Well Cap Type: Bedrock Depth: feet Lithology Info Flag: File Info Flag: Sieve Info Flag: Screen Info Flag:</p> <p>Site Info Details: Other Info Flag: Other Info Details:</p>	<p>Construction Date: 1960-11-01 00:00:00.0</p> <p>Driller: Albert Aikens & Forrester Well Identification Plate Number: Plate Attached By: Where Plate Attached:</p> <p>PRODUCTION DATA AT TIME OF DRILLING: Well Yield: 0 (Driller's Estimate) Development Method: Pump Test Info Flag: Artesian Flow: Artesian Pressure (ft): Static Level:</p> <p>WATER QUALITY: Character: Colour: Odour: Well Disinfected: N EMS ID: Water Chemistry Info Flag: Field Chemistry Info Flag: Site Info (SEAM):</p> <p>Water Utility: Water Supply System Name: Water Supply System Well Name:</p> <p>SURFACE SEAL: Flag: Material: Method: Depth (ft): 0 feet Thickness (in): Liner from To: feet</p> <p>WELL CLOSURE INFORMATION: Reason For Closure: Method of Closure: Closure Sealant Material: Closure Backfill Material: Details of Closure:</p>																				
<table border="1"> <thead> <tr> <th>Screen from</th> <th>to feet</th> <th>Type</th> <th>Slot Size</th> </tr> </thead> <tbody> <tr><td>0</td><td>0</td><td></td><td>0</td></tr> <tr><td>0</td><td>0</td><td></td><td>0</td></tr> <tr><td>0</td><td>0</td><td></td><td>0</td></tr> <tr><td>0</td><td>0</td><td></td><td>0</td></tr> </tbody> </table>		Screen from	to feet	Type	Slot Size	0	0		0	0	0		0	0	0		0	0	0		0
Screen from	to feet	Type	Slot Size																		
0	0		0																		
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<table border="1"> <thead> <tr> <th>Casing from</th> <th>to feet</th> <th>Diameter</th> <th>Material</th> <th>Drive Shoe</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>0</td> <td>null</td> <td>null</td> </tr> </tbody> </table>		Casing from	to feet	Diameter	Material	Drive Shoe	0	0	0	null	null										
Casing from	to feet	Diameter	Material	Drive Shoe																	
0	0	0	null	null																	

GENERAL REMARKS:

ANODE WELL, MAY NOW BE UNDER NORTH ROAD ALLOWANCE

LITHOLOGY INFORMATION:

From	0	to	49 Ft.	Till
From	49	to	83 Ft.	Interbedded sand, gravel and silt
From	0	to	0 Ft.	W.B. 58 - 83'
From	83	to	93 Ft.	Blue clay

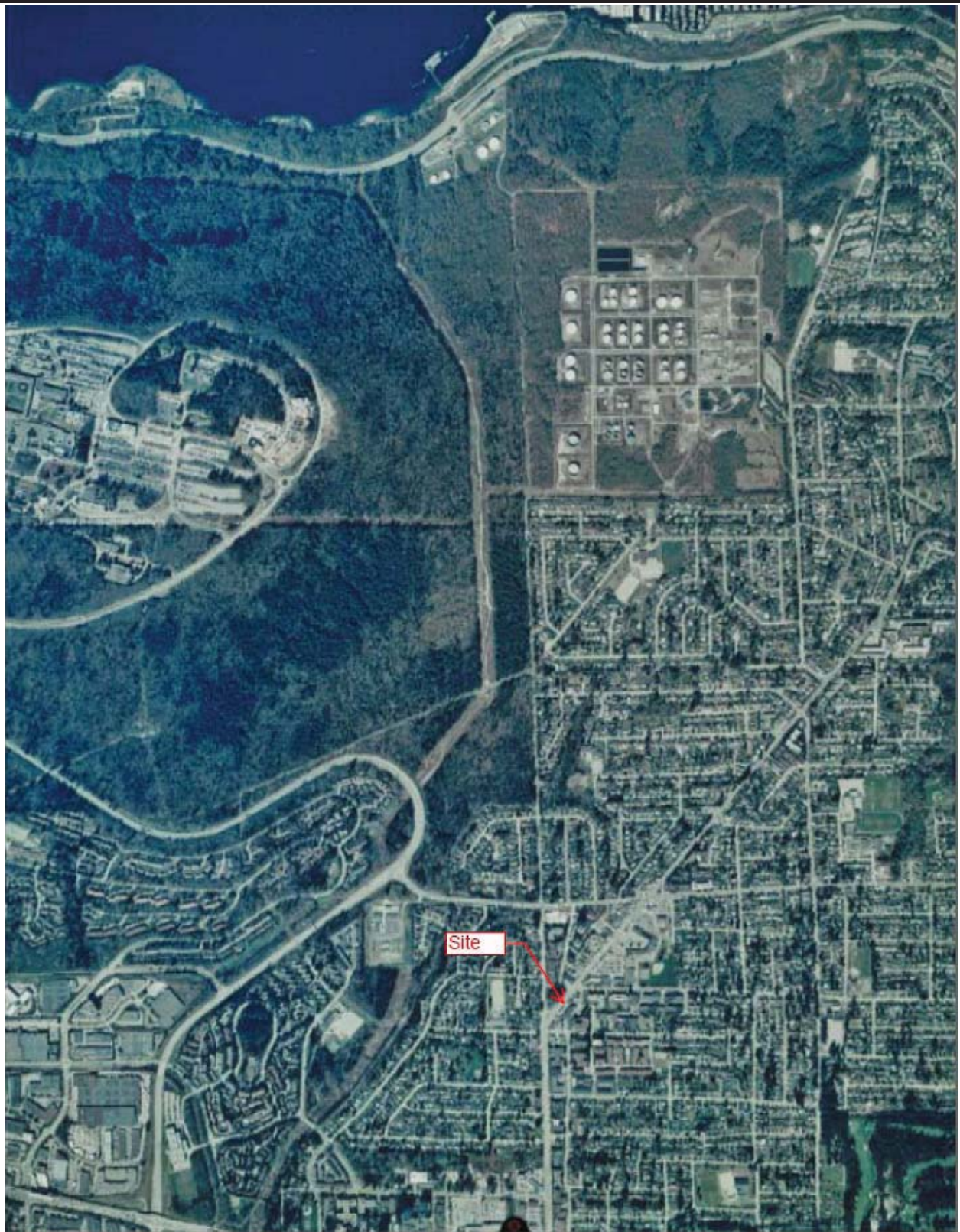
- [Return to Main](#)
- [Return to Search Options](#)
- [Return to Search Criteria](#)

Information Disclaimer

The Province disclaims all responsibility for the accuracy of information provided. Information provided should not be used as a basis for making financial or any other commitments.

APPENDIX D

Air Photos

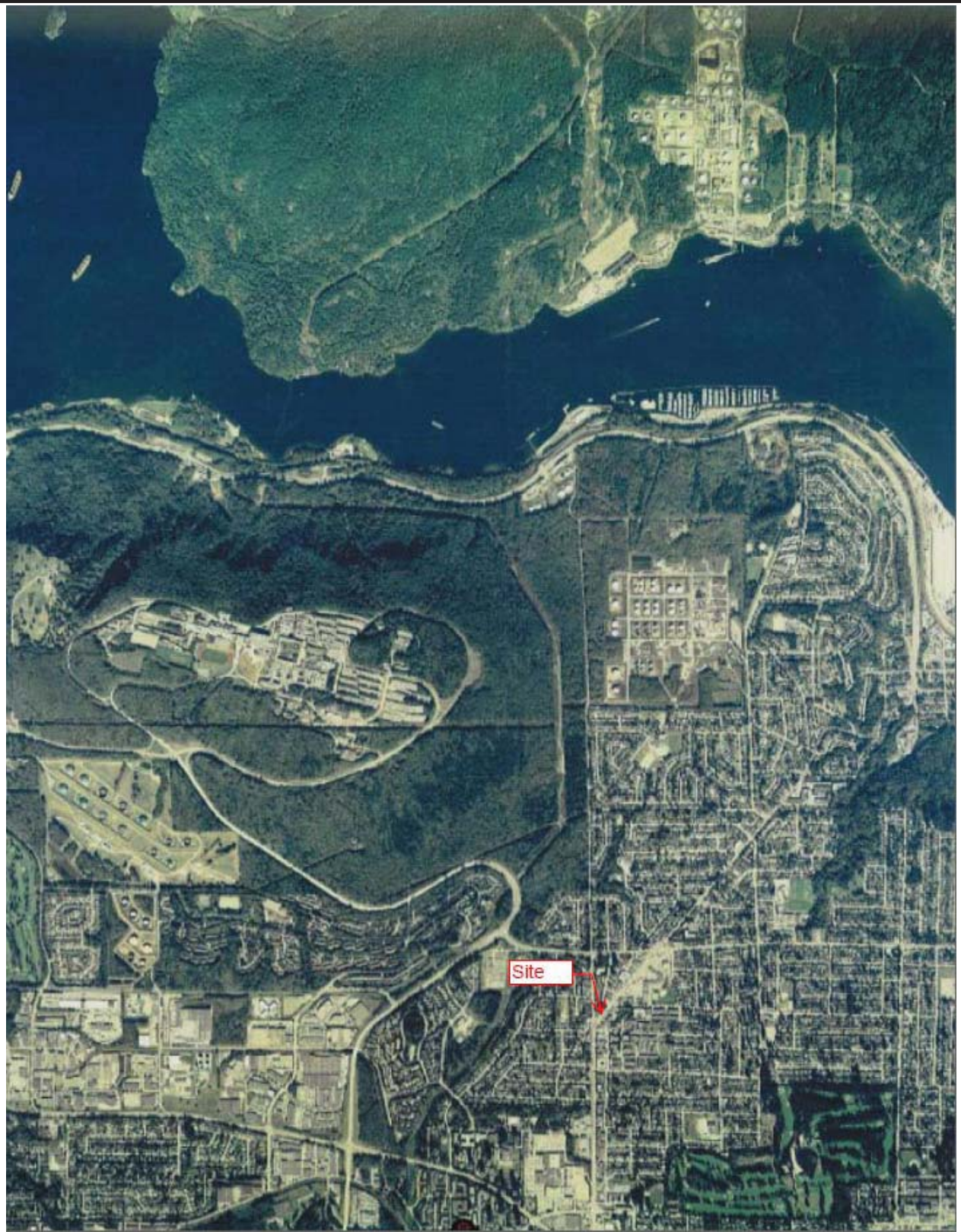


Stage 1 PSI:
508 Clarke Road, Coquitlam, BC

2004 Air Photo



Scale: NTS

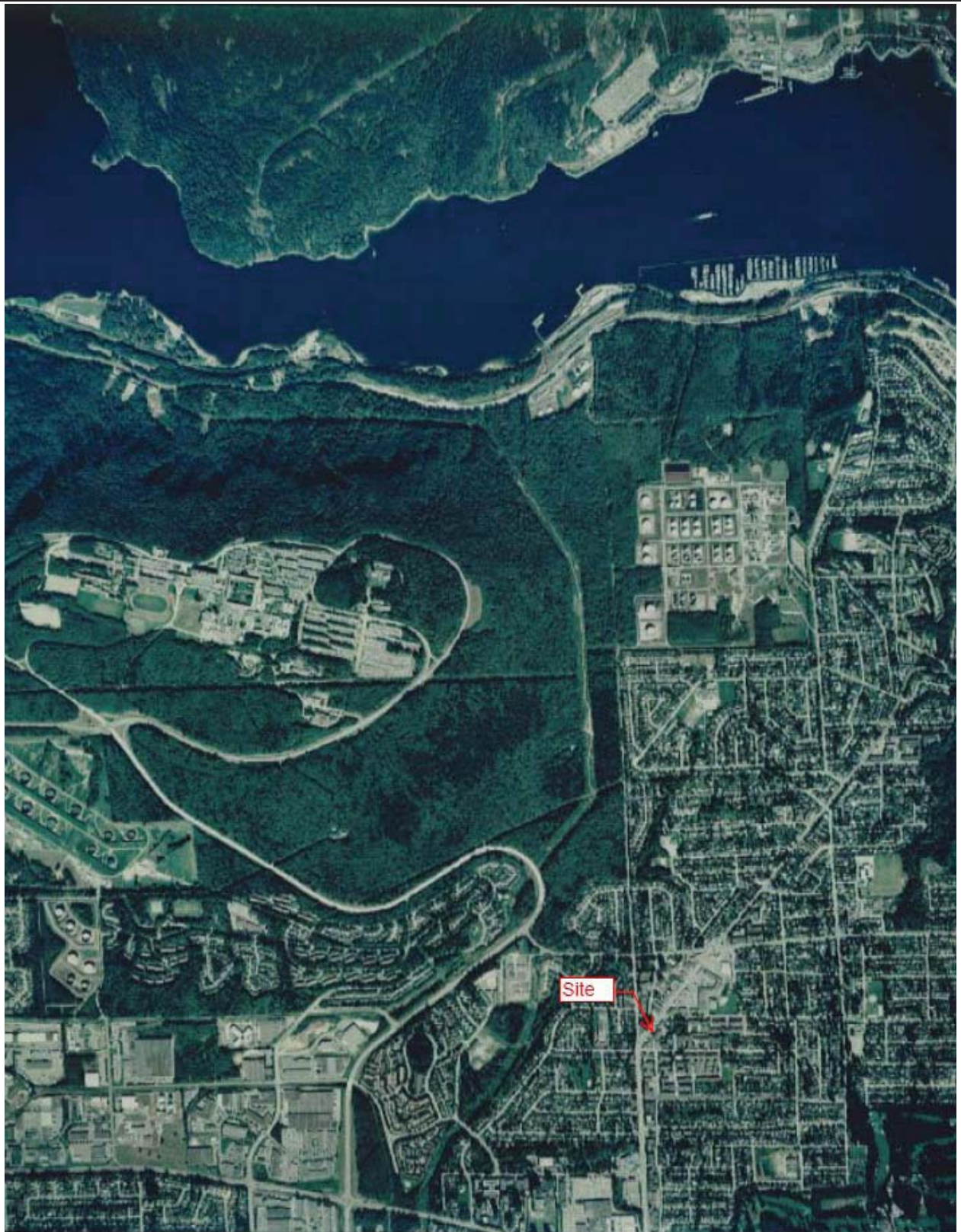


Stage 1 PSI:
508 Clarke Road, Coquitlam, BC

1997 Air Photo



Scale: NTS

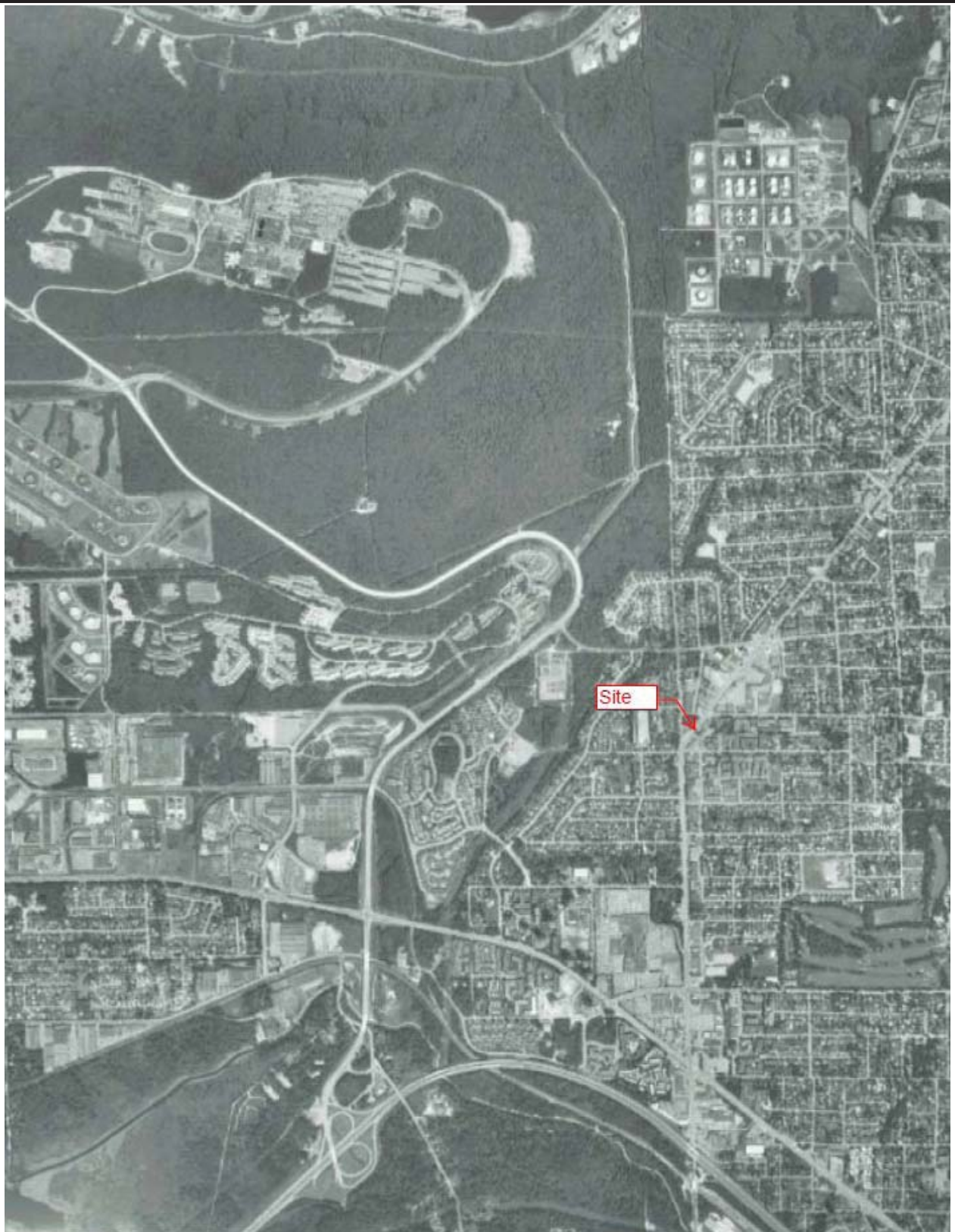


Stage 1 PSI:
508 Clarke Road, Coquitlam, BC

1991 Air Photo



Scale: NTS



Stage 1 PSI:
508 Clarke Road, Coquitlam, BC

1984 Air Photo



Scale: NTS

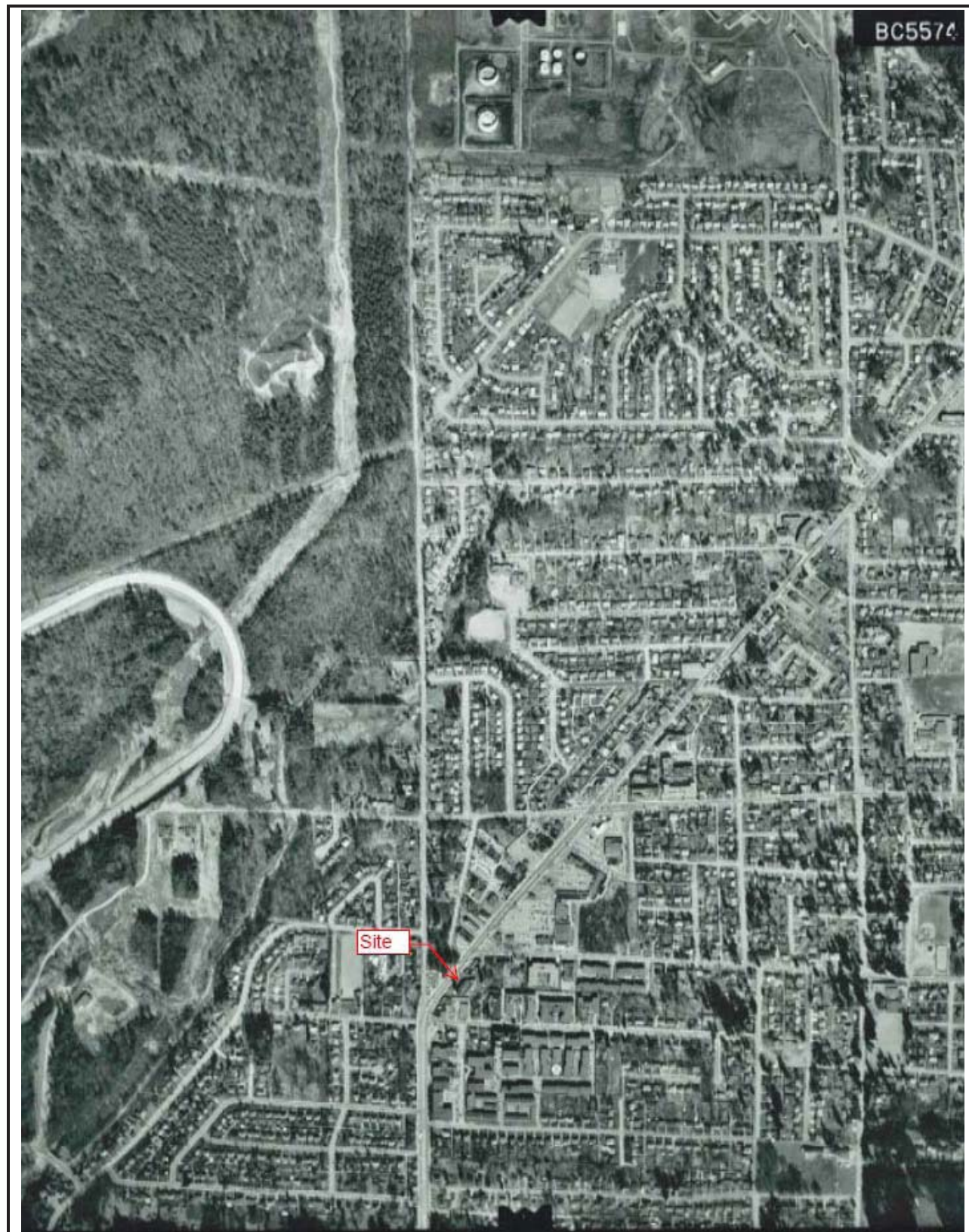


Stage 1 PSI:
508 Clarke Road, Coquitlam, BC

1979 Air Photo



Scale: NTS

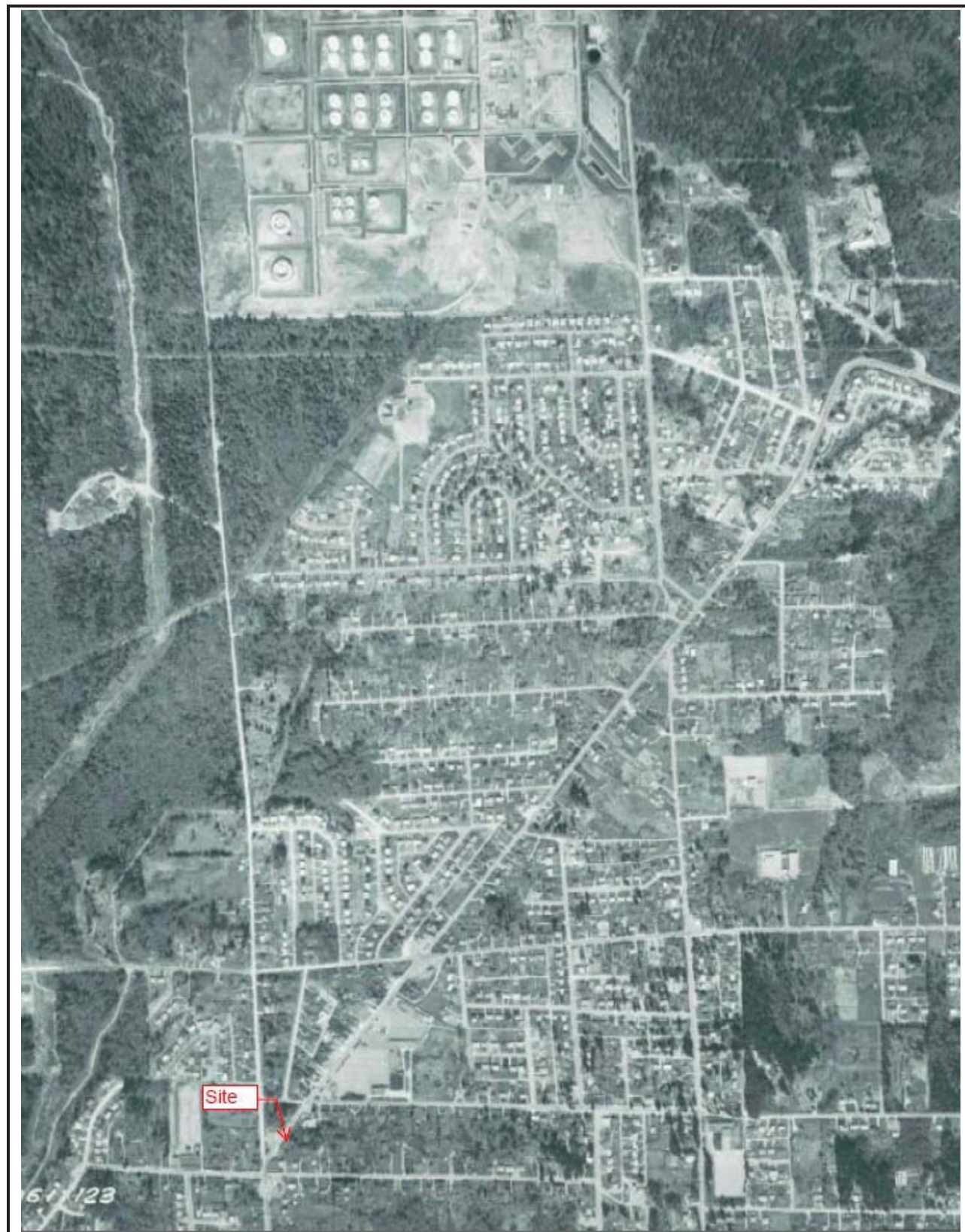


Stage 1 PSI:
508 Clarke Road, Coquitlam, BC

1974 Air Photo



Scale: NTS



Stage 1 PSI:
508 Clarke Road, Coquitlam, BC

1963 Air Photo



Scale: NTS

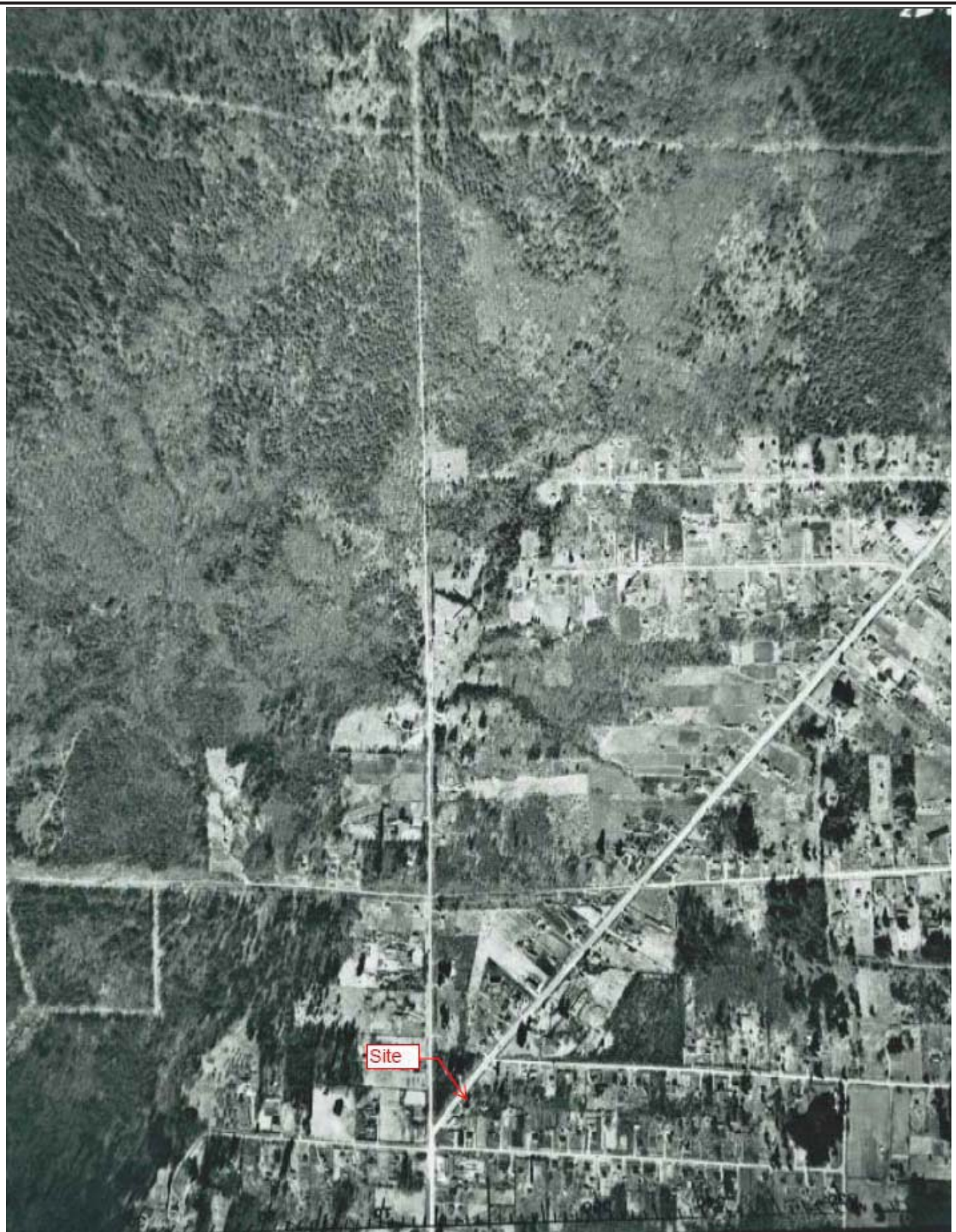


Stage 1 PSI:
508 Clarke Road, Coquitlam, BC

1954 Air Photo



Scale: NTS



Stage 1 PSI:
508 Clarke Road, Coquitlam, BC

1949 Air Photo



Scale: NTS

APPENDIX E

BC Site Registry Search Results

Site Reg Search- Lat_ 49 Long_ 122

As of: MAY 15, 2011 BC Online: Site Registry 11/05/17
For: PA54738 ACTIVE EARTH ENGINEERING LTD. 10:28:56
Folio: 328P Page 1
5 records selected for 0.5 km from latitude 49 deg, 15 min, 34.3 sec
and Longitude 122 deg, 53 min, 31.5 sec

Site Id	Lastupd	Address / City
0000147	11APR28	590 CLARKE ROAD COQUITLAM
0004592	04APR01	556 CLARKE ROAD COQUITLAM
0007383	11APR04	525 TO 572 CLARKE ROAD COQUITLAM
0011891		640 ASPEN STREET COQUITLAM
0012648		604 & 606 COMO LAKE AVENUE COQUITLAM

Site Reg Search- PID_ Nil

As Of: MAY 15, 2011

BC Online: Site Registry

11/05/17

For: PA54738 ACTIVE EARTH ENGINEERING LTD.

10:27:29

Folio: 328P

Page 1

PID Nil Search

As of MAY 15, 2011, no records from Site Registry match
Land Titles PID 001032569

You have been charged for this information.

Sites may be revealed by searching with alternate search methods. For example,
a site not revealed in an Area search may be revealed by searching with another
piece of information such as PID, PIN, address or Crown Lands File Number

APPENDIX F

Historical City Directories

AREA	YEAR									
	1967/1967	1981	1976	1981	1986	1991	1996	2001		
Clarke Road (from North Road toward Come Lake Road)	Down-Gradient (South)	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
	Cross-Gradient (West)	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
Clarke Road (North)	Up-Gradient (North)	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
	Down-Gradient (South)	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
Cottonwood Avenue (from North Road toward Fairview Street)	Up-Gradient (North)	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
	Down-Gradient (South)	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
Smith Avenue (from North Road toward Fairview Street)	Up-Gradient (North)	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
	Down-Gradient (South)	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-

APPENDIX G

Historical Title Search Results



ENVIRONMENTAL SEARCH FORM

PID: 001-032-569

CURRENT LEGAL: LOT 12 DL 7 GR.1 NWD Plan 3967

Client: Active Earth

Invoice #: 37-18334

File Ref.: 328 p - 508 Clarke Rd.

Cogitiam.

Page 1 of 2

Title No.	Registered Owner	Title Registered	Title Cancelled	Prior Legal(s)	Charge Information
Z 236201E	UPN Holding Society	23.12.1986	Current		Title attached
X 162896E	U.R.P.N.B.C. Holding Society	21.12.1984	23.12.1986		Computer title not viewed
FEE/DEED X 162896E	U.R.P.N.B.C. Holding Society (1/2 interest)	21.12.1984	Converted to online title		no manual CT
W 121814E	U.R.P.N.B.C. Holding Society (1/2 int) Both X 162896E & W 121814E join & come from:	31.8.1983	21.12.1984		SRW: K7935 as on title: 2236201E
T 4517E	Registered Psychiatric Nurses Association of British Columbia	14.1.1981	21.12.1984		SRW: K7935 as above
P 121317E	Sunnyvale Developments Ltd.	12.12.1978	14.1.1981		SRW: K7935 as above
					Lease: K93024 (9.8.74)
					Dial Financial Ltd.

IMPORTANT: As all computer titles may not have been checked, charges appearing on them that could affect the property, such as leases, are not noted. Information must be checked against LTO records to verify. Please request document copies or titles if required. If you have any questions concerning how to read this form, please contact West Coast Title Search Ltd. in New Westminster Page 604 659 8600 or 1.800.553.1936 and in Victoria at 405.6000 or 1.800.667.7767.



ENVIRONMENTAL SEARCH FORM

Page 1 of 4
Client: Active Earth
Invoice #: 47-19505
File Ref.: 328p

PID: 010-148-299
CURRENT LEGAL: LOT "A" (M85900E) District Lot 7 Gp 1 NWD Plan 15907

Title No.	Registered Owner	Title Registered	Title Cancelled	Prior Legal(s)	Charge Information
BB 416636	P & W1 Holding Ltd.	?	<u>current</u>		Did not view
BA 338339	Her Majesty the Queen in Right of Canada	2006	?		Did not view
BT 147986	635334 B.C. Ltd.	2002	2006		Did not view
BG 239156	B.P.Y.A. 1039 Holdings Ltd.	1993	2002		Did not view
AC 134490	Jeong Kook Ko	1989	1993		Did not view
M85900E	Hesco Holdings Ltd.	1976	1989		Did not view
Manual Title M85900E	Hesco Holdings Ltd.	15 Sept 1976	<u>Converted</u>	LOT "A" (M85900) of Blocks 4+5 of Parcel "A" DL 7 Gp 1 Plan 15907 NWD (Plan, 52061 - Ancillary Rights) * SRW N 24002 11/2/77 DISTRICT OF COLUMBIA	

IMPORTANT: As all computer titles may not have been checked, charges appearing on them that could affect the property, such as leases, are not noted. Information must be checked against LTO records to verify.
Please request document copies or titles if required. If you have any questions concerning how to read this form, please contact West Coast Title Search Ltd. in New Westminster at 604.659.8600 or 1.800.553.1936 and in Victoria at 405.6000 or 1.800.667.7767.



ENVIRONMENTAL SEARCH FORM (Continued)

Page 2 of 4
File Ref: 328P

Title No.	Registered Owner	Title Registered	Title Cancelled	Prior Legal(s)	Charge Information
Manual Title M85900E	(Charge information continued...)				Lease N 66295 30/6/77
					A.J.K. Management Inc.
					A Ferra Management
					Corporation
	M85900E comes from ①	M 56644E	and ③ M 56643E		
① M 56644E	Hesco Holdings Ltd.	25 June 1976	15 Sept 1976	Lot 18 of Blocks 4+5 of PCL "A" DL 7 Gp 1 Plan 15907 NWD	NIL
666165E	C.A. DE FEHR JR LTD. TILLICUM INVESTMENTS LTD. ECHO ESTATES LTD.	16 June 1969	25 June 1976		NIL
421330E	Leslie Edwin Eddy & Christine Eddy	21 Oct 1958	16 June 1969		NIL
② M 56643E	Hesco Holdings Ltd.	25 June 1976	15 Sept 1976	Lot 16 of Blocks 4+5 of PCL "A" DL 7 Gp 1 Plan 15907 NWD	NIL

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ENVIRONMENTAL SEARCH FORM

Page 4 of 4
Client: Active Earths
Invoice #: 47-19505
File Ref.: 328p

PID: 017-413-818
CURRENT LEGAL: Lot B District Lot 7 Group 1 NWD Plan LMP 923

Title No.	Registered Owner	Title Registered	Title Cancelled	Prior Legal(s)	Charge Information
BV 35191	J DOUGLAS K MARKET LTD.	2003	CURRENT		Did not view
BE 136815	Edgar Bryant McDonald Clark	1991	2003		Did not view
426007E	Edgar Bryant McDonald Clark	1958	1991	Lot "B" Except: Parcel "3" (Bylaw Plan 42365) DL7 GPI NWD Plan 19762	Did not view
Manual Title 426007E	Edgar Bryant McDonald Clark & Sylvia Florence Clark	24 Dec 1958	Converted	Lots "A" + "B" of N1/2 of the N1/2 of Lot 7 GPI Plan 19762 NWD	Lease 261338C 19/5/59 Clark & Whiting Holdings Ltd. renewed by J 126608 15/11/73

IMPORTANT: As all computer titles may not have been checked, charges appearing on them that could affect the property, such as leases, are not noted. Information must be checked against LTO records to verify. Please request document copies or titles if required. If you have any questions concerning how to read this form, please contact West Coast Title Search Ltd. in New Westminster at 604.659.8600 or 1.800.553.1936 and in Victoria at 405.6000 or 1.800.667.7767.

Westernmost Public Land Kiosk, Inc.

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