Geotechnical Engineering

Environmental Engineering

Hydrogeology

Geological Engineering

Materials Testing

Building Science

Archaeological Services

patersongroup

Phase I Environmental Site Assessment

208-212 Slater Street
Ottawa, Ontario

Prepared For

Broccolini

July 27, 2018

Report: PE4362-1

Paterson Group Inc.

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EXECUTIVE SUMMARY

Assessment

Paterson Group was retained by Broccolini to conduct a Phase I Environmental Site Assessment (Phase I-ESA) of 208-212 Slater Street, in the City of Ottawa, Ontario. The purpose of this Phase I – Environmental Site Assessment was to research the past and current use of the site and study area and to identify any environmental concerns with the potential to have impacted the subject properties.

The subject site was used for residential purposes until the 1960s when commercial operations started to occupy the buildings. No concerns were identified with the historic use of the subject site.

Commercial and residential properties historically surrounded the subject site. Several potentially contaminating activities were identified within the Phase I-ESA study area twoof which are considered to represent APECs on the subject site. The former car dealership and service station and a former dry cleaners are considered to represent APECs on the subject site. The previously identified impacted soil and groundwater are also considered to represent APECs on the subject site.

Following the historical review, a site visit was conducted. The site is currently occupied by a two storey office building with a basement and an asphaltic concrete parking lot. Neighbouring properties are used for commercial and residential purposes. No new APECs were identified during the site visit.

Recommendations

Based on the results of the Phase I - Environmental Site Assessment, it is our opinion that **additional Phase II - Environmental Site Assessment to delineate the existing soil and groundwater impacts is required for the subject site.**

It is our understanding that the subject site is to be redeveloped in the future. Based on the potential presence of hazardous building materials and designated substances within the subject building, a designated substance survey must be conducted prior to any demolition/renovation activities, in accordance with Ontario Regulation 490/09, under the Occupational Health and Safety Act, if one has not already been completed.

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1.0 INTRODUCTION

At the request of Broccolini, Paterson Group (Paterson) conducted a Phase I Environmental Site Assessment (Phase I ESA) for 208-212 Slater Street, in the City of Ottawa, Ontario. The purpose of this Phase I ESA was to research the past and current use of the site and study area and to identify any environmental concerns with the potential to have impacted the subject property.

Paterson was engaged to conduct this Phase I ESA by Mr. James Beach. Broccolini's offices are located at 130 Slater Street, Suite 1300, Ottawa, Ontario, K1P 6E2. Mr. Beach can be reached by phone 613-244-0076.

This report has been prepared specifically and solely for the above noted project which is described herein. It contains all our findings and results of the environmental conditions at this site.

This Phase I-ESA report has been prepared in general accordance with the requirements of Ontario Regulation 153/04 as amended by O.Reg. 269/11 (Environmental Protection Act), and also complies with the requirements of CSA Z768-01. The conclusions presented herein are based on information gathered from a limited historical review and field inspection program. The findings of the Phase I - ESA are based on a review of readily available geological, historical and regulatory information and a cursory review made at the time of the field assessment. The historical research relies on information supplied by others, such as, local, provincial and federal agencies and was limited within the scope-of-work, time and budget of the project herein.

2.0 PHASE I PROPERTY INFORMATION

Address:	208-212 Slater Street, Ottawa, Ontario.
Legal Description:	Lot 37, Registered Plan 3922, in the City of Ottawa.
Property Identification Number:	04115-0089.
Location:	The subject site is located on the south side of Slater Street, approximately 25m east of Bank Street, in Ottawa, Ontario.
Latitude and Longitude:	45° 25' 09" N, 75° 41' 57" W;

Site Description:

Configuration:	Irregular.
Site Area:	523 m^2 (approximate).
Zoning:	GM5 – General Mixed Use.
Current Use:	The subject site is currently occupied with a two storey office/commercial building with a full basement level.
Services:	The subject site is located in a municipally serviced area.

3.0 SCOPE OF INVESTIGATION

The scope of work for this Phase I – Environmental Site Assessment was as follows:

- Determine the historical activities on the subject site and study area by conducting a review of readily available records, reports, photographs, plans, mapping, databases and regulatory agencies;
- Investigate the existing conditions present at the subject site and study area by conducting site reconnaissance;
- Conduct interviews with persons knowledgeable of current and historic operations on the subject property, and if warranted, neighbouring properties;
- Present the results of our findings in a comprehensive report in general accordance with the requirements of Ontario Regulation 269/11 amending O.Reg. 153/04 made under the Environmental Protection Act and in compliance with the requirements of CSA Z768-01;
- Provide a preliminary environmental site evaluation based on our findings;
- Provide preliminary remediation recommendations and further investigative work if contamination is suspected or encountered.

4.0 RECORDS REVIEW

4.1 General

Phase I-ESA Study Area Determination

A radius of approximately 250 m was determined to be appropriate as a Phase I ESA study area for this assignment. Properties outside the 250 m radius are not considered to have impacted the subject land, based on their significant distance from the site.

First Developed Use Determination

Based on the 1888 Fire Insurance Plans the subject site was developed with residential buildings. For the purposes of this Phase I-ESA, the first developed use of the subject site is prior to 1888 for residential purposes.

Fire Insurance Plans

Fire Insurance Plans from 1888 and 1963 were reviewed for the area of the subject site and surrounding properties.

In 1888, the subject building appears to be in approximately the same configuration as today. The adjacent properties are used for commercial and residential purposes. Two PCAs are identified in the 1888 FIP, a foundry at 115 Bank Street and a printers at 297 Maria Street (now known as Laurier Avenue West). These PCAs are not considered to represent an APEC on the subject site due to their distance from the subject site.

In 1963, no significant changes have been made to the subject property. The property to the east of the subject site has been redeveloped with an automotive service garage with a body shop. To the west, at 139 Bank Street, a cleaners is present. These two activities represent Areas of Potential Environmental Concern (APEC) on the subject site. Several other potentially contaminating activities were identified during the FIP review, however based on separation distance, the nature of the PCA, and the inferred groundwater flow direction, no other PCAs are considered to represent an environmental concern to the subject site.

City of Ottawa Street Directories

City directories at the National Archives were reviewed in approximate 10 year intervals from 1921 to 2010 as part of the Phase I ESA. The directories indicated that the subject site was used for residential purposes until approximately the 1950s and has been used by various commercial tenants since that time. Based on the information contained in the directories, no potentially contaminating activities were identified on the subject site.

The directories did not identify any PCAs or APECs on the subject site however, several PCAs and APECs were identified within the Phase I study area. A summary of APECs in the Phase I study area is provided in the table below.

Table 2: City Directories – Areas of Potential Environmental Concern in Phase I Study Area

Address	Listed Activity (years listed)	Distance / Orientation from site	APEC (Y/N)
139 Bank Street	Dry Cleaners (1940s-1970s)	Adjacent, West	Y
180/184/186/196 Slater Street	Elgin & Argyle Service Centre (1960), Goodrich BF Rubber Co. Tires (1950)	50 m east	Y

Dry cleaners, gas stations, automotive service garages and other former industrial uses were identified as PCAs in the Phase I study area. Based on the separation distance and/or cross-gradient location of these properties with respect to the subject site, the remaining PCAs are not considered to represent Areas of Potential Environmental Concern.

Plan of Survey

No plan of survey was available for review.

4.2 Environmental Source Information

Environment and Climate Change Canada

A search of the National Pollutant Release Inventory (NPRI) was conducted electronically on July 5, 2018. The subject site was not listed in the NPRI database. No records of pollutant release were listed in the database for properties located within the Phase I Study Area.

PCB Inventory

A search of national PCB waste storage sites was conducted. One PCB storage site was identified within 250m of the subject site. The site, located at 78 O'Connor Street (approximately 150m to the northeast) is a Bell Canada switching station which has been present since the 1930s. Based on the information in the PCB inventory and the separation distance from the subject site the PCB site at 78 O'Connor Street is not considered to represent an APEC to the subject site.

Ontario Ministry of Environment (MOECP) Instruments

A request was submitted to the MOECP Freedom of Information office for information with respect to certificates of approval, permits to take water, certificates of property use or any other similar MOECP issued instruments for the site. A response from the MOECP, dated July 13, 2018 indicated that after a thorough search of their files no records relating to the subject site were identified.

MOECC Coal Gasification Plant Inventory

The Ontario Ministry of Environment document titled "Municipal Coal Gasification Plant Site Inventory, 1991" was reviewed to reference the locations of former plants with respect to the site. No coal gasification plants were identified within the Phase I study area.

MOECC Incident Reports

A request was submitted to the MOECP Freedom of Information office for information with respect to records concerning environmental incidents, orders, offences, spills, discharges of contaminants or inspections maintained by the MOECC for the site or adjacent properties. A response from the MOECP, dated July 13, 2018 indicated that after a thorough search of their files no records relating to the subject site were identified.

MOECC Waste Management Records

A request was submitted to the MOECP Freedom of Information office for information with respect to waste management records. A response from the MOECP, dated July 13, 2018 indicated that after a thorough search of their files no records relating to the subject site were identified.

MOECP Submissions

A request was submitted to the MOECP Freedom of Information office for information with respect to reports related to environmental conditions have been

submitted to the MOECP. A response from the MOECP, dated July 13, 2018 indicated that after a thorough search of their files no records relating to the subject site were identified.

MOECP Brownfields Environmental Site Registry

A search of the MOECP Brownfields Environmental Site Registry was conducted as part of this assessment for the site, neighbouring properties and the general area of the site. No Record of Site Condition (RSC) was found for the subject site.

One (1) RSC (record 215648) was found for a nearby property within the Phase I study area. The RSC was filed for 199 Slater Street, located approximately 25m northeast from the subject site. Based on information within the RSC a soil remediation was completed for the property, consisting of the removal of all materials to the property boundaries. No groundwater impacts were identified in the post remediation groundwater sampling program. Based on the information contained in the RSC filing 199 Slater Street is not considered to represent an environmental concern to the subject site.

MOECC Waste Disposal Site Inventory

The Ontario Ministry of Environment document titled "Waste Disposal Site Inventory in Ontario, 1991" was reviewed as part of the historical research. This document includes all recorded active and closed waste disposal sites, industrial manufactured gas plants and coal tar distillation plants in the Province of Ontario. No former waste disposal sites were identified within the Phase I study area.

Areas of Natural Significance Interest (ANSI)

A search for areas of natural significance and features within the Phase I study area was conducted on the web site of the Ontario Ministry of Natural Resources (MNR) on July 19, 2018. The search did not reveal any natural features or areas of natural significance within the Phase I study area.

Technical Standards and Safety Authority (TSSA)

The TSSA Fuels Safety Branch was contacted by email on July 26, 2018. At the time of issuance of this report, a response had not been received. A copy of the response will be forwarded to the client, should it contain any pertinent information.

City of Ottawa Landfill Document

The document entitled "Old Landfill Management Strategy, Phase I – Identification of Sites, City of Ottawa", was reviewed. No former waste disposal sites were located within the Phase I study area.

City of Ottawa Historical Land Use Inventory

A search of the City's Historical Land Use Inventory (HLUI 2005) database for the subject property was submitted as part of the Phase I ESA. At the time of issuance of this report, a response had not been received. A copy of the response will be forwarded to the client, should it contain any pertinent information.

Previous Engineering Reports

The following report was reviewed prior to conducting this assessment:

- "Phase I-II - Environmental Site Assessment, Existing Commercial Property, 208-212 Slater Street - Ottawa, Ontario", prepared by Paterson Group Inc., dated March 3, 2016.

Paterson completed a Phase I-II ESA for the subject site in March 2016. As part of the historical research for the Phase I ESA Paterson identified a dry cleaners on neighbouring property to the west of the subject site (139 Bank Street). A Phase II ESA was recommended to assess potential soil and groundwater impacts from the presence of the former dry cleaners.

A Phase II ESA consisting of three boreholes, all of which were instrumented with groundwater monitoring wells, as completed in December 2015 and February 2016. All of soil samples submitted for analytical testing were in compliance with the MOECC Table 3 Standards with one exception, BH3-SS3 exceeded the selected standard for 1,1,2-trichloroethane. Groundwater samples were collected from BH1 and BH3 and submitted for analysis of VOCs. Several VOC parameters in excess of the MOECC Table 3 Standards in each groundwater sample. BH2 was dry at the time of sampling.

4.3 Physical Setting Sources

Aerial Photographs

Historical air photos from the National Air Photo Library were reviewed in approximate ten (10) year intervals. The review period dates back to the first available air photos for the site. Based on the review, the following observations have been made:

1928 The subject property is occupied by the northern portion of the current building. The neighbouring properties appear to be either used for commercial or residential purposes at this time and appear to be occupied by similar buildings.

1949 No significant changes appear to have been made to the subject site or neighbouring properties since the previous photo.

1968 No significant changes appear to have been made to the subject or neighbouring properties, with the following exceptions. Some of the buildings to the east and north of the subject site have been removed and have been replaced with surface parking lots.

1978 An addition to the subject building appears to have been constructed on the south side of the structure. The surface parking lot to the east has been expanded at this time following the demolition of additional buildings. No other significant changes appear to have been made to the remaining surrounding properties.

1986 No significant changes appear to have been made to the subject site or neighbouring properties since the previous photo.

1994 No significant changes appear to have been made to the subject site or neighbouring properties since the previous photo.

2014 (City of Ottawa Website) No significant changes appear to have been made to the subject site or neighbouring properties since the previous photo.

Laser copies of selected aerial photographs reviewed are included in Appendix 1.

Topographic Maps

Topographic maps were obtained from Natural Resources Canada - The Atlas of Canada website. The topographic maps indicate that the subject site and surrounding area is generally flat with an elevation of approximately 73 mASL. An illustration of the referenced topographic map is present on Figure 2 - Topographic Map following the body of this report.

Physiographic Maps

A Physiographic Map was reviewed from the Natural Resources Canada - The Atlas of Canada website. According to this physiographic map, the site is located in the St. Lawrence Lowlands. According to the mapping description provided: "The lowlands are plain-like areas that were all affected by the Pleistocene glaciations and are therefore covered by surficial deposits and other features associated with the ice sheets." The subject site is located in the Central St. Lawrence Lowland, "where the land is rarely more than 150 m above sea level, except for the Monteregion Hills, which consist of intrusive igneous rocks".

Geological Maps

The Geological Survey of Canada website on the Urban Geology of the National Capital Area was consulted as part of this assessment. Based on the information from NRCAN, bedrock in the area of the site consists of shale of the Billings Formation. Based on the maps, the thickness of overburden ranges from 3 to 5 m. Overburden consists of offshore marine sediments (silt and clay).

Water Well Records

A search of the MOECC's web site for all drilled well records within 250 m of the subject site was conducted on July 19, 2018. The search identified seven records in the study area. The well records are all for monitoring wells within the Phase II Study area, none of which are on the adjacent properties. No concerns were identified during the well records review. The monitoring well records have been attached in Appendix 2.

Water Bodies and Areas of Natural Significance

There are no waterbodies or areas of natural and scientific interest on the subject property or within the study area.

5.0 INTERVIEWS

Property Owner Representative

Several of the tenants were interviewed regarding the property during the groundwater sampling program. No evidence of environmental concerns were identified during the sampling program.

6.0 SITE RECONNAISSANCE

6.1 General Requirements

The site assessment was conducted on July 6, 2018. Weather conditions were sunny, with a temperature of approximately 24 °C. Mr. Derek Lattin from the Environmental Department of Paterson Group conducted the site visit. In addition to the site, the uses of neighbouring properties within the Phase I study area were also assessed at the time of the site reconnaissance.

6.2 Specific Observations at the Phase I Property

Buildings and Structures

The subject site is occupied by a two storey office/commercial building with one basement level. The building is occupied by several restaurants, a hair salon, and office spaces. The building is clad in brick and has a stone foundation. Based on the aerial photos the building was built prior to 1928, however several renovations appear to have occurred since the original construction.

Site Features

The subject site is occupied by the subject building or paved with asphaltic concrete. Site drainage consists of overland flow to catch basins on the adjacent property or Slater Street.

Below Ground Structures

No below ground structures were found at the time of the site visit, aside from utilities (natural gas, sewer and water) and previously described building basement.

Potable Water Source

The subject property is municipally serviced.

Potential Environmental Concerns

- **Groundwater Monitoring Wells**

  There are three groundwater monitoring wells present on the subject site, two in the basement of the building and one on the exterior, south of the building.

- **Underground Utilities**

  Underground utilities were located as part of the Phase II-ESA in 2016. Underground services access the property from Slater Street and run through the covered entranceway to the rear of the property.

- **Ground Surface**

  The ground surface across the property consists primarily of asphaltic concrete. No significant signs of staining were noted on the paved surfaces.

- **Railway Lines**

  No railway lines were observed on the subject site or within the Phase I ESA study area.

- **Polychlorinated Biphenyls (PCBs)**

  No concerns related to PCBs were identified on the subject site.

- **Unidentified Substances**

  There were no unidentified substances on the exterior of the subject property at the time of this assessment.

- **Waste Storage and Disposal**

  The site currently generates waste and recyclable materials associated with restaurants and offices. Waste is stored in bins at the back of the building and collected on a regular basis.

Interior Assessment

A general assessment of the building interior is as follows:

- The floors consisted of ceramic and vinyl tile, carpet, linoleum, laminate, and concrete.

- The walls and ceilings consisted of drywall and concrete block with stippled plaster ceilings.
- Lighting throughout the building was a mixture of fluorescent and incandescent fixtures.

Heat is provided via a natural gas fired HVAC unit on the roof of the building and a natural gas furnace in the basement of the building.

Potentially Hazardous Building Products

- **Ozone Depleting Substances (ODSs)**

  Refrigerators and fire extinguishers may be potential sources of ozone depleting substances (ODSs) on site. These appliances should be regularly serviced and maintained by certified contractors.

- **Potentially Hazardous Building Materials and Designated Substances**

  Based on the approximate age of the building, asbestos containing materials may be present within the structure. Potential ACMs (asbestos containing materials) observed include drywall joint compound, vinyl floor tiles, linoleum flooring, stippled plaster, and suspended ceiling tiles.

  The potential ACMs were generally noted to be in good condition at the time of the assessment.

Other Potential Environmental Concerns

- **Storage Tanks**

  No signs of aboveground or underground fuel storage tanks were noted at the time of the site visit.

- **Wastewater Drainage**

  Wastewater from the building is expected to drain into the City of Ottawa sewer system.

Neighbouring Properties

An inspection of the neighbouring properties was conducted from publicly accessible roadways at the time of the site inspection. Land use adjacent to the subject site was as follows:

- North - Slater Street followed by commerical/office and residential buildings.
- South - Parking lot followed by commercial properties.
- East - Office building followed by parking lots.
- West - Commercial and residential properties followed by Bank Street.

No PCAs were identified on adjacent properties during the site visit.

Property use within the Phase I study area is shown on Drawing PE4362-2 - Surrounding Land Use Plan.

7.0 REVIEW AND EVALUATION OF INFORMATION

7.1 Land Use History

The following table indicates the current and past uses of the site as well as associated potentially contaminating activities dating back to the first developed use of the site.

Table 3: Land Use History

Time Period	Land Use	Potentially Contaminating Activities	Areas of Potential Environmental Concern
Prior to 1960	Residential	None	None
1960 – present	Commercial building	None	None

Potentially Contaminating Activities (PCAs)

A total of 44 Potentially Contaminating Activities (PCAs) within the Phase I study area were identified. The majority of these PCAs are not considered to pose a concern to the subject site based on their separation distance from the subject site and/or their down- or cross-gradient location from the Phase I property. However, the former dry cleaners, automotive service garage, and rental car facility are considered to represent APECs on the subject site. PCAs are shown on Drawing PE4362-2 Surrounding Land Use Plan.

Areas of Potential Environmental Concern (APEC)

Table 4: Areas of Potential Environmental Concern

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern with respect to Phase I Property	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil, and/or Sediment)
Former Dry Cleaners	Throughout the Phase I ESA property	Item 37 - Operation of Dry cleaning equipment (where chemicals are used)	Off-Site	VOCs	Soil and groundwater
Former Car dealership and automotive service station	East side of Phase I ESA property	Item 10 – Commercial Autobody Shops	Off-Site	BTEX, PHCs	Soil and groundwater
Known Impacted soil location	South portion of Phase I ESA property	Not Applicable	On-Site	VOCs	Soil
Known Impacted Groundwater Plume	Southwest side of the Phase I ESA property	No Applicable	On-Site	VOCs	Groundwater

Contaminants of Potential Concern (CPC)

Based on the APECs, the following Contaminants of Potential Concern (CPCs) have been identified:

- Petroleum Hydrocarbons Fractions 1 through 4 (PHCs F1-F4) – this suite of parameters encompasses gasoline (Fraction 1), diesel and fuel oil (Fraction 2), and heavy oils (Fractions 3 and 4). PHCs F1-F4 were selected as a CPC for the Phase I property based on the presence of the former car dealership and automotive service station.
- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) were selected as CPCs for the Phase I property based on the presence of the former car dealership and automotive service station.
- Volatile Organic Compounds (VOCs) were selected as CPCs for the Phase I property based on the presence of the former dry cleaning operations adjacent to the subject site, as well as the known VOC impacts in the soil and groundwater.

7.2 Conceptual Site Model

Geological and Hydrogeological Setting

The Geological Survey of Canada website on the Urban Geology of the National Capital Area was consulted as part of this assessment. Based on the information from NRCAN, bedrock in the area of the site consists of shale of the Billings Formation. Base on the maps, the thickness of overburden ranges from 3 to 5 m. Overburden consists of offshore marine sediments (silt and clay).

Contaminants of Potential Concern

As per Section 7.1 of this report, identified CPCs on the subject site include PHCs, BTEX, and, VOCs.

Existing Buildings and Structures

The subject site is occupied by a commercial building, occupied by restaurants, a hair salon and other commercial tenants.

Water Bodies

There are no waterbodies on the subject property or within the study area.

Areas of Natural Significance

There are no areas of natural and scientific interest on the subject property or within the study area

Drinking Water Wells

The subject site is located in an area serviced by municipal drinking water.

Neighbouring Land Use

Neighbouring land use in the Phase I study area consists of commercial and residential. Land use is shown on Drawing PE4362-2 Surrounding Land Use Plan.

Potentially Contaminating Activities and Areas of Potential Environmental Concern

As per Section 7.1 of this report, Potentially Contaminating Activities, and Areas of Potential Environmental Concern identified on the subject site include the former dry cleaners, former car dealership and service station, known impacted soil on the subject site, and known impacted groundwater on the subject site.

Assessment of Uncertainty and/or Absence of Information

The information available for review as part of the preparation of this Phase I ESA is considered to be sufficient to conclude that there are areas of potential environmental concern on the subject site which have the potential to have impacted the subject site. The presence of potentially contaminating activities was confirmed by a variety of independent sources, and as such, the conclusions of this report are not affected by uncertainty which may be present with respect to the individual sources.

8.0 CONCLUSIONS

Assessment

Paterson Group was retained by Broccolini to conduct a Phase I Environmental Site Assessment (Phase I-ESA) of 208-212 Slater Street, in the City of Ottawa, Ontario. The purpose of this Phase I – Environmental Site Assessment was to research the past and current use of the site and study area and to identify any environmental concerns with the potential to have impacted the subject properties.

The subject site was used for residential purposes until the 1960s when commercial operations started to occupy the buildings. No concerns were identified with the historic use of the subject site.

Commercial and residential properties historically surrounded the subject site. Several potentially contaminating activities were identified within the Phase I-ESA study area twoof which are considered to represent APECs on the subject site. The former car dealership and service station and a former dry cleaners are considered to represent APECs on the subject site. The previously identified impacted soil and groundwater are also considered to represent APECs on the subject site.

Following the historical review, a site visit was conducted. The site is currently occupied by a two storey office building with a basement and an asphaltic concrete parking lot. Neighbouring properties are used for commercial and residential purposes. No new APECs were identified during the site visit.

Recommendations

Based on the results of the Phase I - Environmental Site Assessment, it is our opinion that **additional Phase II - Environmental Site Assessment to delineate the existing soil and groundwater impacts is required for the subject site.**

It is our understanding that the subject site is to be redeveloped in the future. Based on the potential presence of hazardous building materials and designated substances within the subject building, a designated substance survey must be conducted prior to any demolition/renovation activities, in accordance with Ontario Regulation 490/09, under the Occupational Health and Safety Act, if one has not already been completed.

9.0 STATEMENT OF LIMITATIONS

This Phase I - Environmental Site Assessment report has been prepared in general accordance with O.Reg. 153/04 as amended by O.Reg. 269/11, and meets the requirements of CSA Z768-01. The conclusions presented herein are based on information gathered from a limited historical review and field inspection program. The findings of the Phase I - ESA are based on a review of readily available geological, historical and regulatory information and a cursory review made at the time of the field assessment. The historical research relies on information supplied by others, such as, local, provincial and federal agencies and was limited within the scope-of-work, time and budget of the project herein.

Should any conditions be encountered at the subject site and/or historical information that differ from our findings, we request that we be notified immediately in order to allow for a reassessment.

This report was prepared for the sole use of Broccolini. Permission and notification from the above noted party and Paterson will be required to release this report to any other party.

Paterson Group Inc.

Michael Beaudoin, P.Eng.

Carlos P. Da Silva, P.Eng., ing., QP_{ESA}

Report Distribution:

- Broccolini (5 copies)
- Paterson Group (1 copy)

10.0 REFERENCES

Federal Records
Air photos at the Energy Mines and Resources Air Photo Library.
National Archives.
Maps and photographs (Geological Survey of Canada surficial and subsurface mapping).
Natural Resources Canada – The Atlas of Canada.
Environment Canada, National Pollutant Release Inventory.
PCB Waste Storage Site Inventory.

Provincial Records
MOECC Freedom of Information and Privacy Office.
MOECC Municipal Coal Gasification Plant Site Inventory, 1991.
MOECC document titled “Waste Disposal Site Inventory in Ontario”.
MOECC Brownfields Environmental Site Registry.
Office of Technical Standards and Safety Authority, Fuels Safety Branch.
MNR Areas of Natural Significance.
MOECC Water Well Inventory.

Municipal Records
The City of Ottawa Historical Land Use Inventory.
The City of Ottawa geoOttawa website.

Local Information Sources
Personal Interviews.

Public Information Sources
Google Earth.
Google Maps/Street View.

FIGURES

FIGURE 1 – KEY PLAN

FIGURE 2 – TOPOGRAPHIC MAP

DRAWING PE4362-1 – SITE PLAN

DRAWING PE4362-2 – SURROUNDING LAND USE PLAN

FIGURE 1

KEY PLAN

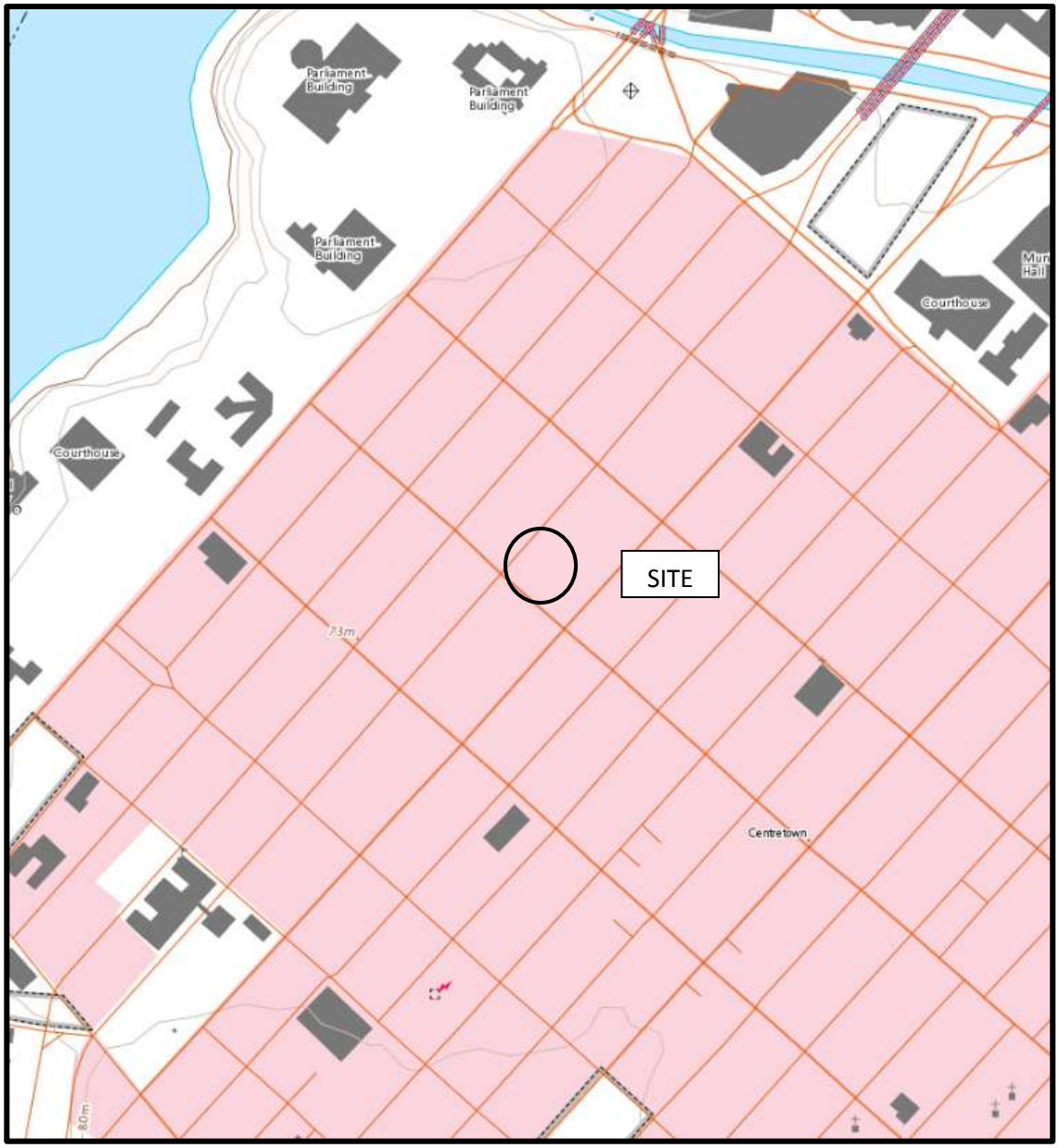

FIGURE 2

TOPOGRAPHIC MAP

AREAS OF POTENTIAL ENVIRONMENTAL CONCERN:

1. FORMER DRY CLEANERS - 139 BANK STREET
2. FORMER AUTOMOTIVE SERVICE GARAGE - 263 LAURIER AVENUE WEST
3. IMPACTED SOIL
4. IMPACTED GROUNDWATER

#215 SLATER STREET
COMMERCIAL / OFFICES

S L A T E R S T R E E T

#269 BANK STREET
COMMERCIAL / OFFICES

2

1

208 - 212 SLATER STREET

4

3

LANEWAY

ASPHALTIC CONCRETE

PARKING

#129 BANK STREET
STARBUCKS

#133 BANK STREET
RESTAURANT

#135 BANK STREET
BARBER SHOP

#137 BANK STREET
RINGS ETC.

#139 BANK STREET
MORNING OWL COFFEE SHOP

#147 BANK STREET
IMAGES ON BANK

#149 BANK STREET
SPORTS 4

#153 BANK STREET
RESTAURANT

#157 BANK STREET
KIDDY TOWN LTD.

patersongroup
consulting engineers

154 Colonnade Road South
Ottawa, Ontario K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344

NO.	REVISIONS	DATE	INITIAL
0			

BROCCOLINI

PHASE I - ENVIRONMENTAL SITE ASSESSMENT
208-212 SLATER STREET

OTTAWA, ONTARIO

Title: **SITE PLAN**

Scale: 1:200	Date: 07/2018
Drawn by: RCG	Report No.: PE4362-1
Checked by: MB	Dwg. No.: **PE4362-1**
Approved by: CDS	Revision No.: 0

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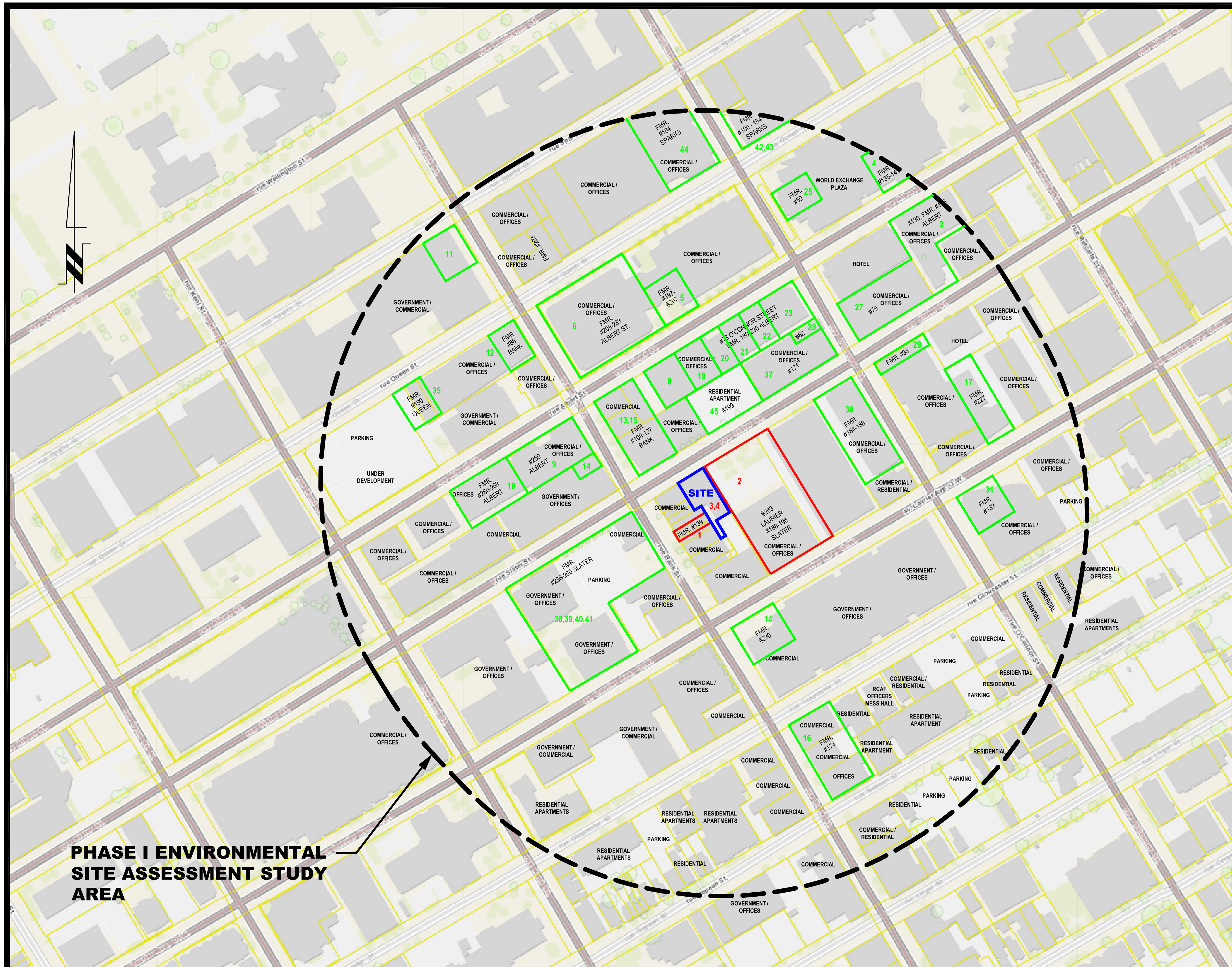

<u>AREAS OF POTENTIAL ENVIRONMENTAL CONCERN:</u>

1. 139 BANK STREET - DRY CLEANER - (FIPs AND DIRECTORIES, 1950s-1960s)
2. 263 LAURIER AVENUE WEST (ALSO 180-196 SLATER) - CAMPBELL MOTORS AUTOMOTIVE SERVICE GARAGE (FIPs, 1963)
3. IMPACTED SOIL
4. IMPACTED GROUNDWATER

<u>POTENTIALLY CONTAMINATING ACTIVITIES</u>

1. 78 O'CONNOR STREET - BELL CANADA PCB SITE - (NATIONAL PCB INVENTORY)
2. 130 ALBERT STREET - MERCURY REPRODUCTIONS PRINTING (DIRECTORIES, 1980s)
3. 135-141 ALBERT STREET - AUTOMOTIVE SERVICE GARAGE (1920s-1960s)
4. 146 ALBERT STREET - AUTOMOTIVE SERVICE GARAGE (1940s-1960s)
5. 197-199 ALBERT STREET - RUSSELL BEACH AUTO SERVICE GARAGE, 1 UST (FIPs & HLUI, 1920s-1960s)
6. 223 ALBERT STREET - DOMINION AUTO RADIATOR (HLUI, 1930s)
7. 225 ALBERT STREET - GIBSON'S TAXI AND GARAGE (HLUI AND DIRECTORIESI, 1930s-1960s)
8. 226-230 ALBERT STREET - LOWE MARTIN PRINTERS (HLUI, 1910s-1950s)
9. 250 ALBERT STREET - SPIC AND SPAN CLEANERS (DIRECTORIES, 1980s)
10. 260-268 ALBERT STREET - AUTOMOTIVE SERVICE GARAGE (DIRECTORIES, 1940s-1970s)
11. 42 BANK STREET - W.H. THICKE PRINTERS (INDUSTRIAL SITES, 1885-1910)
12. 88 BANK STREET - INDEPENDENT COAL AND LUMBER CO. (DIRECTORIES, 1930s)
13. 115-117 BANK STREET - DOMINION PLATING, BANK STREET FOUNDRY (INDUSTRIAL SITES & HLUI, 1875-1915)
14. 118 BANK STREET - DOMINION PLATING AND MANUFACTURING (HLUI, 1910s)
15. 123 BANK STREET - BRITISH AMERICAN DYING CO, PATTON'S CLEANERS. (INDUSTRIAL SITES & HLUI, 1890-1915, 1930s-1940s)
16. 174 GLOUCESTER STREET - DRY CLEANER (DIRECTORIES, 1980s-1990s)
17. 227 LAURIER AVENUE WEST - CENTER CITY CLEANERS (DIRECTORIES, 1990s)
18. 230 LAURIER AVENUE WEST - MUTUAL PRESS (INDUSTRIAL SITES, 1936-1965)
19. 186-194 ALBERT STREET - BEACH MOTORS LTD. (HLUI, 1910s-1930s)
20. 198 ALBERT STREET - HANS LOCKEBERG METAL STAMPING (HLUI, 1940s)
21. 210 ALBERT STREET - CANADIAN PACIFIC EXPRESS COMPANY GARAGES (HLUI AND DIRECTORIES, 1930s-1950s)
22. 218 ALBERT STREET - GIBSON'S BATTERY STORAGE AND AUTOMOTIVE SERVICE (HLUI, 1920s-1930s)
23. 222 ALBERT STREET - QUEEN STREET CLEANERS LTD. (HLUI AND DIRECTORIES, 1990s-2000s)
24. 321 LAURIER AVENUE WEST - DRY CLEANER - (FIPs, 1963)
25. 59 O'CONNOR STREET - SPIC & SPAN CLEANERS (DIRECTORIES, 1970s)
26. 78-80 O'CONNOR STREET - MODERN PRESS CO. PRINTERS (HLUI, 1920s)
27. 79-83 O'CONNOR STREET - AUTOMOTIVE SERVICE GARAGE - (FIPs & DIRECTORIES, 1940s-1960s)
28. 82 O'CONNOR STREET - DRY CLEANER - (FIPs, DIRECTORIES, INDUSTRIAL SITES, 1950s-1980s)
29. 93 O'CONNOR STREET - POWELL'S CLEANERS (DIRECTORIES, 1940s)
30. 94-96 O'CONNOR STREET - MY VALET CLEANERS (HLUI, 1920s-1960s)
31. 133 O'CONNOR STREET - CITIES SERVICE LTD. GASOLINE SERVICE STATION - FIPs (1956)
32. 154-156 O'CONNOR STREET - AUTOMOTIVE SERVICE GARAGE - (FIPs AND DIRECTORIES, 1940s-2000s)
33. 126 QUEEN STREET - RUNGE PRESS LTD. PRINTERS (INDUSTRIAL SITES, 1935-1965)
34. 134 QUEEN STREET - MANSON'S CLEANERS AND DYERS (1940s)
35. 190 QUEEN STREET - CENTRAL TAILORS AND CLEANERS (1940s)
36. 203 QUEEN STREET - PAUL SERVICE STORES CLEANERS (DIRECTORIES, 1960s)
37. 171 SLATER STREET - AUTOMOTIVE SERVICE GARAGE - (FIPs & INDUSTRIAL SITES, 1963)
38. 236 SLATER STREET - JAS. A. JAMESON AUTO REPAIR (DIRECTORIES, 1920s)
39. 246-248 SLATER STREET - ERIC L. DAWSON GARAGE (DIRECTORIES, 1920s)
40. 250 SLATER STREET - HILLARY DRY CLEANERS (DIRECTORIES, 1980s)
41. 260 SLATER STREET - J.R. DOUGLAS METAL PRODUCTS (INDUSTRIAL SITES, 1940-1960)
42. 136 SPARKS STREET - CITIZEN PUBLISHING CO. PRINTERS (INDUSTRIAL SITES, 1920s-1960s)
43. 142-154 SPARKS STREET - BRYSON & GRAHAM (INDUSTRIAL SITES, 1895-1910)
44. 164 SPARKS STREET - STEPHEN BROTHERS CHEMICALS (INDUSTRIAL SITES, 1885-1915)
45. 199 SLATER STREET - FORMER TILDEN RENT-A-CAR, GASOLINE AND DIESEL UNDERGROUND STORAGE TANKS ON SITE (DIRECTORIES FIPs, PREVIOUS ENVIRONMENTAL REPORTS, 1950s-1990s)

patersongroup
consulting engineers

154 Colonnade Road South
Ottawa, Ontario K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344

NO.	REVISIONS	DATE	INITIAL
0			

BROCCOLINI

PHASE I - ENVIRONMENTAL SITE ASSESSMENT
208-212 SLATER STREET

OTTAWA, ONTARIO

Title:

SURROUNDING LAND USE PLAN

Scale:	1:3000	Date:	07/2018
Drawn by:	RCG	Report No.:	PE4362-1
Checked by:	MB	Dwg. No.:	PE4362-2
Approved by:	MSD	Revision No.:	0

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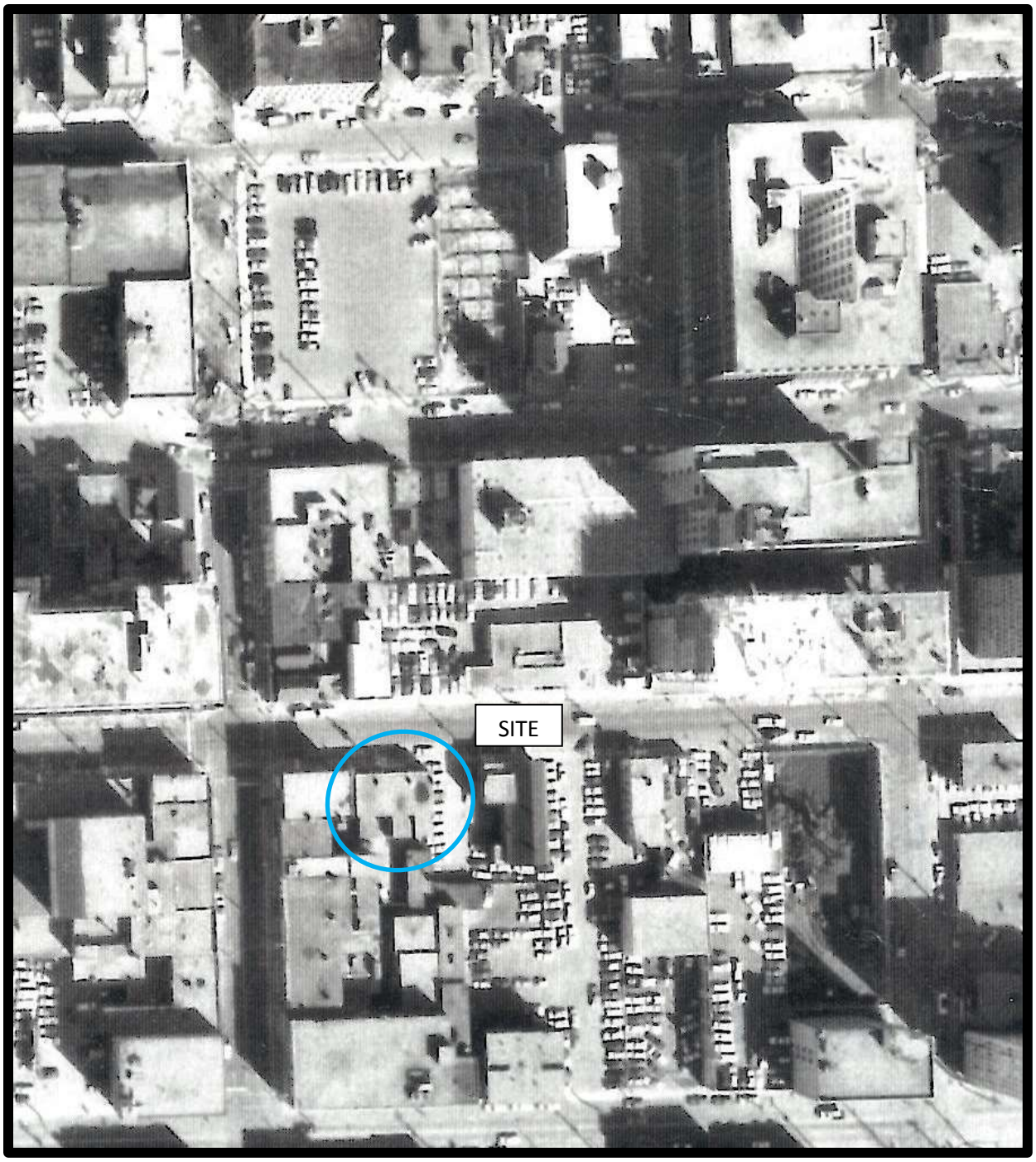
APPENDIX 1

AERIAL PHOTOGRAPHS

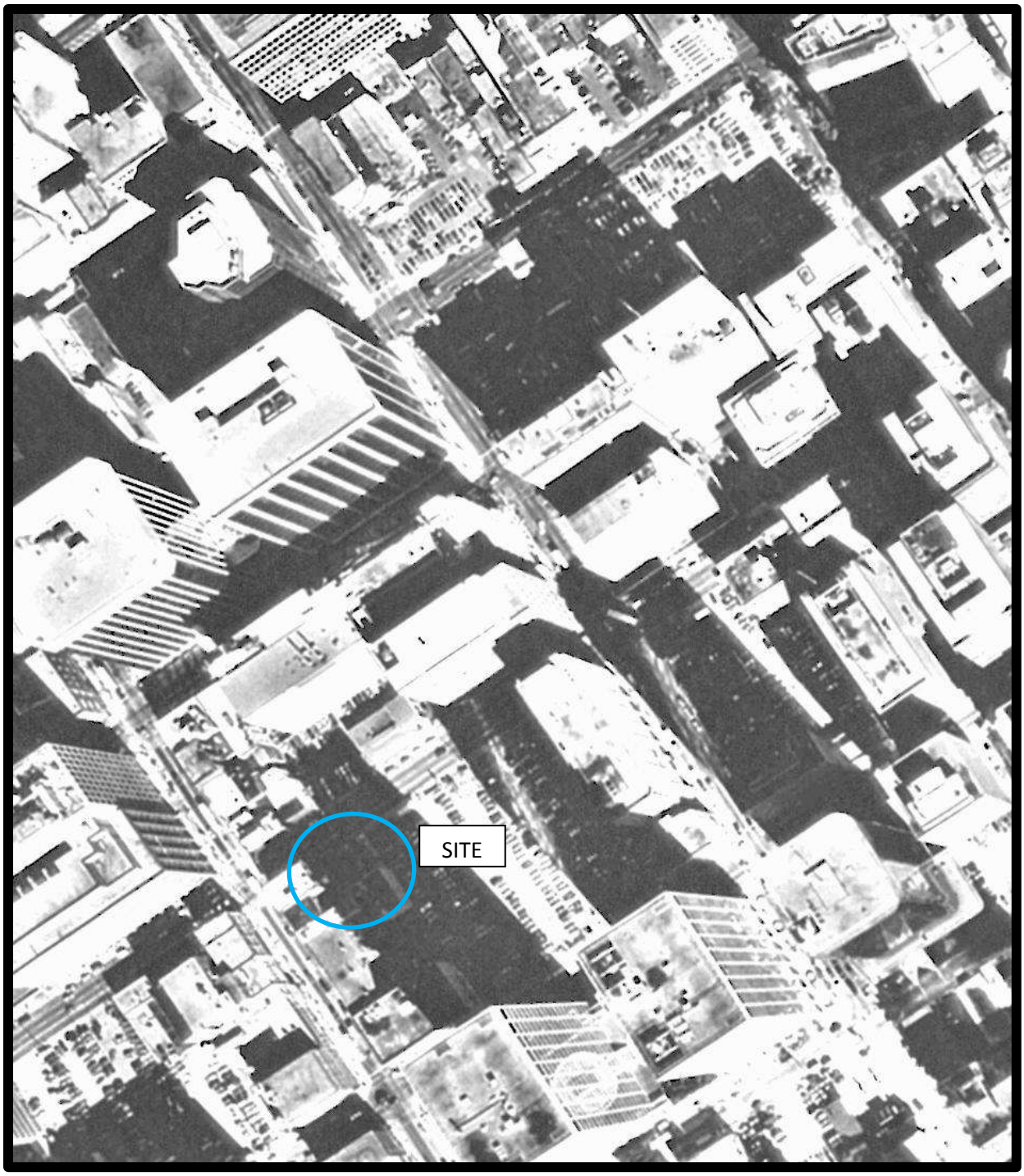
AERIAL PHOTOGRAPH
1928

AERIAL PHOTOGRAPH
1949

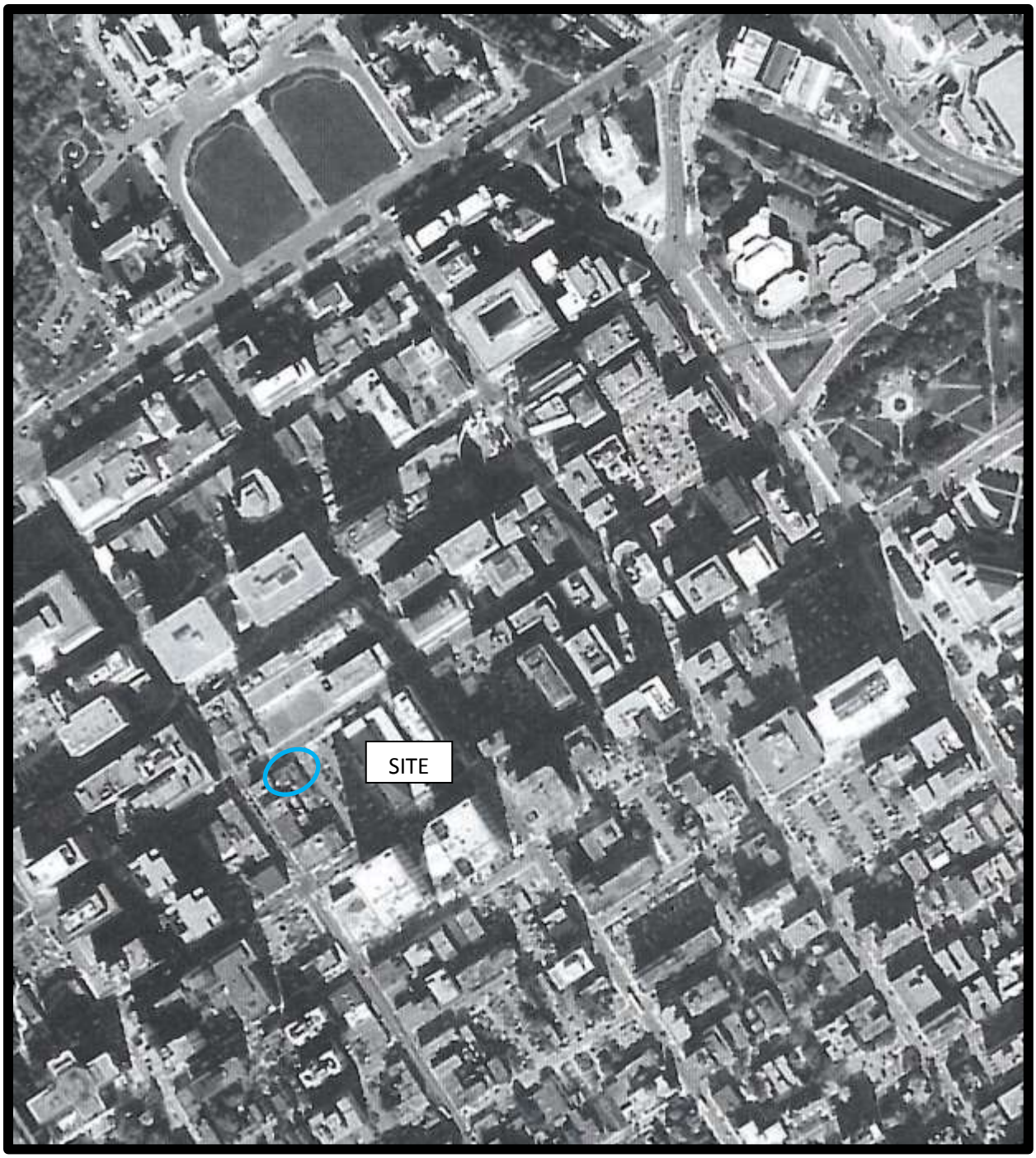


AERIAL PHOTOGRAPH
1968

AERIAL PHOTOGRAPH
1978



AERIAL PHOTOGRAPH
1986



AERIAL PHOTOGRAPH
1994

APPENDIX 2

MOECC FREEDOM OF INFORMATION SEARCH

WATER WELL RECORDS

TSSA CORRESPONDENCE

Ministry of the Environment, Conservation and Parks

Freedom of Information and Protection of Privacy Office

12th Floor
40 St. Clair Avenue West
Toronto ON M4V 1M2
Tel: (416) 314-4075

Ministère de l'Environnement, de la Protection de la nature et des Parcs

Bureau de l'accès à l'information et de la protection de la vie privée

12e étage
40, avenue St. Clair ouest
Toronto ON M4V 1M2
Tél. : (416) 314-4075

Ontario

July 13, 2018

Michael Beaudoin
Paterson Group Inc
154 Colonnade Road
Ottawa, ON K2E 7J5

Dear Michael Beaudoin:

RE: ***Freedom of Information and Protection of Privacy Act* Request**
Our File # A-2018-04508, Your Reference PE4362

This letter is in response to your request made pursuant to the *Freedom of Information and Protection of Privacy Act* relating to 208 to 212 Slater Street, Ottawa (Even #s only).

After a thorough search through the files of the Ministry's Ottawa District Office, Investigations and Enforcement Branch, Environmental Assessment and Permissions Branch, Environmental Monitoring and Reporting Branch, Sector Compliance Branch and Safe Drinking Water Branch, no records were located responsive to your request. To provide you with this response and in accordance with Section 57 of the *Freedom of Information and Protection of Privacy Act*, the fee owed is $30.00 for 1 hour of search time @ $30.00 per hour. **We have applied the $30.00 for this request from your initial payment. This file is now closed.**

You may request a review of my decision by contacting the Information and Privacy Commissioner/Ontario, 2 Bloor Street East, Suite 1400, Toronto, ON M4W 1A8 (800-387-0073 or 416-326-3333). Please note that there is a $25.00 fee and you only have 30 days from receipt of this letter to request a review.

If you have any questions regarding this matter, please contact Nasreen Salar at nasreen.salar@ontario.ca.

Yours truly,

Janet Dadufalza
FOI Manager

Ontario Ministry of the Environment

Well Tag No. for Master Well *(Place Sticker and/or Print Below)*
A 074581
MW#4

Master Well Record for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Page 1 of 3

Master Well Owner's and Land Owner's Information

First Name	Last Name	E-mail Address
Broccolini Construction Inc.		

Mailing Address (Street Number/Name, RR)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
121 York St. Suite 300	Ottawa	ON	K1N5T5	6132440076

Location and Construction of the Master Well in the Cluster

Address of Well Location (Street Number/Name, RR)	Township	Lot	Concession
150 Slater Street			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Ottawa.	Ontario	

UTM Coordinates	Zone	Easting	Northing	GPS Unit Make	Model	Mode of Operation
NAD 83	18	445417	5029884	Garmin	Etrex	☐ Undifferentiated ☑ Averaged ☐ Differentiated, specify

Overburden and Bedrock Materials *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (Metres) From	Depth (Metres) To
	Asphalatic concrete slab.			0	0.15
Grey Brown	Silty sand, gravel	asphaltic concrete		0.15	1.75
Grey Brown	Silty clay		very stiff	1.75	2.62
Grey Brown	Silty sand	trace clay	loose to compact	2.62	5.94
Dk Grey	Silty sand	trace clay	shale fragments	5.94	7.32
Black	Shale Bedrock	some grey limestone		7.32	30.76

Hole Details

Depth (Metres) From	Depth (Metres) To	Diameter (Centimetres)
0	7.3	20
7.3	30.7	10

Water Use

☐ Public ☐ Industrial ☐ Not used ☐ Other, specify
☐ Domestic ☐ Commercial ☐ Dewatering
☐ Livestock ☐ Municipal ☑ Monitoring
☐ Irrigation ☐ Test Hole ☐ Cooling & Air Conditioning

Method of Construction

☐ Cable Tool ☐ Air Percussion ☐ Digging
☐ Rotary (Conventional) ☑ Diamond ☐ Boring
☐ Rotary (Reverse) ☐ Jetting ☑ Other, specify
☐ Rotary (Air) ☐ Driving HSA

Status of Well

☑ Test Hole ☐ Abandoned, Insufficient Supply
☐ Replacement Well ☐ Abandoned, Poor Water Quality
☐ Dewatering Well ☐ Other, specify
☐ Alteration (Construction) ☐ Abandoned, other, specify

Construction Details

Inside Diameter (Centimetres)	Material (steel, plastic, fibreglass, concrete, galvanized)	Wall Thickness	Depth (Metres) From	Depth (Metres) To
5.1	PVC.	Sched 40	0	30.4

No Casing and Screen Used

Open Hole ☐ Yes ☑ No

Static Water Level Test

Metres

Screen

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Concrete ☑ Plastic

Outside Diameter (Centimetres)	Slot No.
5.8	10

Annular Space/Abandonment Sealing Record

Depth Set at (Metres) From	Depth Set at (Metres) To	Type of Sealant Used (Material and Type)	Volume Used (Cubic Metres)
0	30.4	Bentonite grout	300 Kgs

Water Details

Water found at Depth	Kind of Water
No water Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals

Disinfected ☐ Yes ☑ No If no, provide reason: Monitoring well

Date Master Well Completed (yyyy/mm/dd): 2008/08/12

Cluster Information *(Please also fill out the additional Cluster Well Information for Well Construction for each parcel of land and cluster.)*

Total Wells in Cluster	Please indicate Number of Cluster Well Information Log Sheets Submitted
6	1
Total Wells on this Property: unknown	

Location of Well Cluster

Detailed Map must be provided as an attachment no larger than legal size (8.5" x 14"). Sketches are not allowed.
☑ Check box to confirm detailed map is provided as per Section 11.1 (3)

Consent to release additional information concerning the cluster to the Director upon request

Sig [redacted]
Ma
Sig

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
George Downing Estate Drilling	1844

Business Address (Street No./Name, number, RR)	Municipality
10 Rue Principale	Grenville-sur-la-Rouge

Province	Postal Code	Business E-mail Address
Qc	J0V1B0	downing@xplornet.com

Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
1924264469	Downing, Bruce

Technician's Licence No.	Signature of Technician	Date Submitted (yyyy/mm/dd)
1173		2008/09/29

Audit No.	Well Contractor No.
M 02881	
Date Received (yyyy/mm/dd) APR 0 8 2009	**Date of Inspection (yyyy/mm/dd)**

Remarks

(11/2006)

Ministry's Copy

Ontario — Ministry of the Environment

Well Tag No. for Master Well (Print Well Tag No.)
A 074581 A074581

Cluster Well Information for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Property Owner's Information

First Name	Last Name	Mailing Address (Street No./Name, RR)	Municipality
Broccolini Construction Inc.		126 York Street Suite 300	Ottawa

Province	Postal Code	E-mail Address	Telephone No. (inc. area code)
ON	K1N5T5		6132440076

Cluster Well Information

Address of Well Location (Street Number/Name, RR)	Lot	Concession	Township	County/District/Municipality
150 Slater Street				

City/Town/Village	Province	Postal Code	GPS Unit Make	Model	Unit Mode of Operation
Ottawa	Ontario		Garmin	Etrex	☐ Differentiated, specify: ☐ Undifferentiated ☒ Averaged

[redacted]

upon request

Signature of Technician/Contractor: Bruce Downing

Date (yyyy/mm/dd): 2008/09/29

Well # on Sketch	UTM Coordinates Zone	Easting	Northing	Full Depth of Hole (metres)	Hole Diameter (cm)	Method of Construction	Casing Material	Casing Length (metres)	Screen Interval (metres) From	To	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	Date of Completion (yyyy/mm/dd)
MW #1	18	445446	5029827	11.69	20/10	HSA/DIA	PVC.	11.0	11.0	11.6	Bentonite	7.0			2008/08/11
MW #2	18	445444	5029914	12.29	20/10	" "		10.5	10.5	12.29		6.0			2008/08/11
MW #3	18	445417	5029884	7.04	20	HSA		5.5	5.5	7.0					2008/08/12
MW #5	18	445021	5030033	12.32	20/10	HSA/DIA		11.3	11.3	12.3		7.0			2008/08/12
MW #7	18	445456	5029774	12.19	20/10	HSA/DIA		8.0	8.0	9.0		7.0			2008/08/14

Well Contractor and Well Technician Information

Business Name of Well Contractor	Business Address (Street Number/Name, RR)	Municipality	Province
George Downing Estate Drilling	410 Rue Principale	Grenville-sur-la-Rouge	Qc

Postal Code	Business Telephone No. (inc. area code)	Well Contractor's Licence No.	Business E-mail Address
J0V1B0	8192426469	1844	downing@xplornet.com

Name of Well Technician (First Name, Last Name)	Well Technician's Licence No.	Date Submitted (yyyy/mm/dd)	Signature of Technician
Bruce Downing	2173	2008/09/29	Bruce Downing

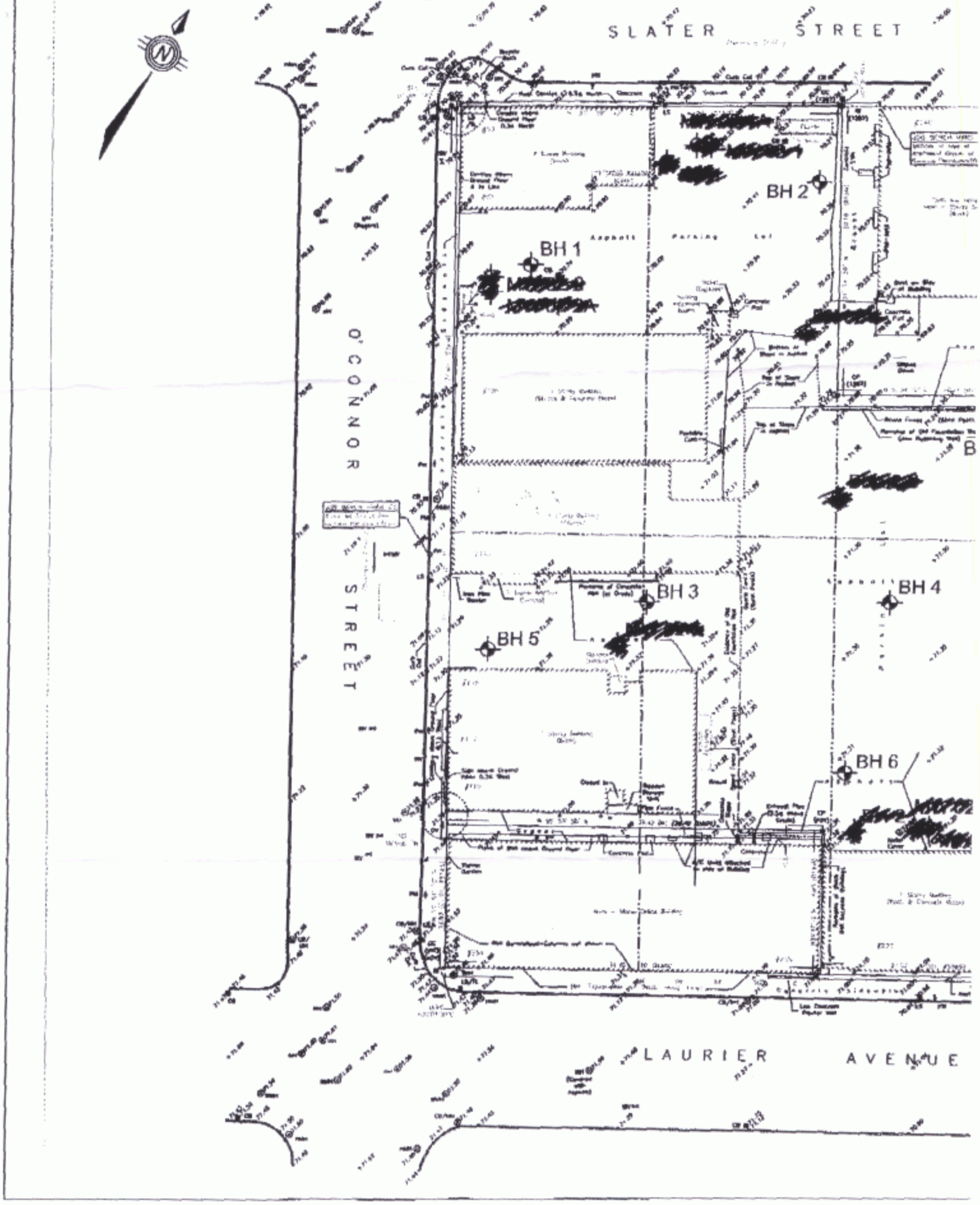
Date 1st Well in Cluster Constructed (yyyy/mm/dd)	Date Last Well in Cluster Constructed (yyyy/mm/dd)
2008/08/11	2008/08/14

Ministry Use Only

Date Received (yyyy/mm/dd)	Date Inspected (yyyy/mm/dd)
APR 08 2009	
Audit No. C 01978	**Remarks** m02881

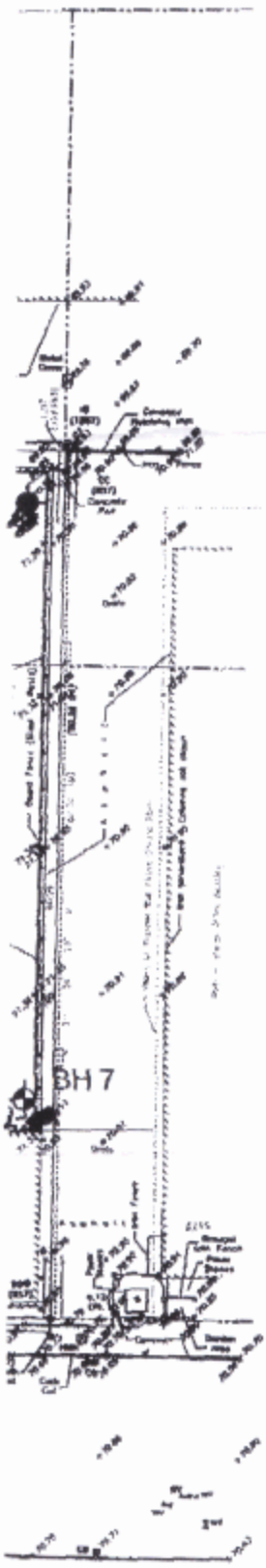
1991 (11/2006)

Ministry's Copy



APR 0 8 2009

C-1844 M02881 C01978



LEGEND

BH 1	APPROXIMATE BOREHOLE LOCATION IN PLAN, CURRENT INVESTIGATION BY HOULE CHEVRIER ENGINEERS LTD.
BH-2	APPROXIMATE BOREHOLE LOCATION IN PLAN, PREVIOUS INVESTIGATION BY FONDEX.
MW 02-1 BH 02-4	APPROXIMATE MONITORING WELL AND BOREHOLE LOCATION IN PLAN, PREVIOUS INVESTIGATION BY JACQUES WHITFORD ENVIRONMENTAL LIMITED.

Client: BROCCOLINI		Location: 150 SLATER STREET OTTAWA, ON	Revision: 0
Drawn by: D.J.R	Approved by: A.F.C	Project No.: 08-386	Scale: 1:500
Houle Chevrier Engineering		Title: SITE PLAN	
		Date: August 2008	FIGURE 2

APR 0 8 2009

TOTAL P.10

C-1849 M02881 C01978

Ontario Ministry of the Environment

Well Tag No. for Master Well *(Place Sticker and/or Print Below)*
A 074581
MW#4

Master Well Record for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Page 1 of 3

Master Well Owner's and Land Owner's Information

First Name	Last Name	E-mail Address
Broccolini Construction Inc.		

Mailing Address (Street Number/Name, RR)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
121 York St. Suite 300	Ottawa	ON	K1N5T5	6132440076

Location and Construction of the Master Well in the Cluster

Address of Well Location (Street Number/Name, RR)	Township	Lot	Concession
150 Slater Street			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Ottawa.	Ontario	

UTM Coordinates	Zone	Easting	Northing	GPS Unit Make	Model	Mode of Operation
NAD 83	18	445417	5029884	Garmin	Etrex	☐ Undifferentiated ☑ Averaged ☐ Differentiated, specify

Overburden and Bedrock Materials *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (Metres) From	Depth (Metres) To
	Asphalatic concrete slab.			0	0.15
Grey Brown	Silty sand, gravel	asphaltic concrete		0.15	1.75
Grey Brown	Silty clay		very stiff	1.75	2.62
Grey Brown	Silty sand	trace clay	loose to compact	2.62	5.94
Dk Grey	Silty sand	trace clay	shale fragments	5.94	7.32
Black	Shale Bedrock	some grey limestone		7.32	30.76

Hole Details

Depth (Metres) From	Depth (Metres) To	Diameter (Centimetres)
0	7.3	20
7.3	30.7	10

Water Use

☐ Public ☐ Industrial ☐ Not used ☐ Other, specify
☐ Domestic ☐ Commercial ☐ Dewatering
☐ Livestock ☐ Municipal ☑ Monitoring
☐ Irrigation ☐ Test Hole ☐ Cooling & Air Conditioning

Method of Construction

☐ Cable Tool ☐ Air Percussion ☐ Digging
☐ Rotary (Conventional) ☑ Diamond ☐ Boring
☐ Rotary (Reverse) ☐ Jetting ☑ Other, specify
☐ Rotary (Air) ☐ Driving HSA

Status of Well

☑ Test Hole ☐ Abandoned, Insufficient Supply
☐ Replacement Well ☐ Abandoned, Poor Water Quality
☐ Dewatering Well ☐ Other, specify
☐ Alteration (Construction) ☐ Abandoned, other, specify

Construction Details

Inside Diameter (Centimetres)	Material (steel, plastic, fibreglass, concrete, galvanized)	Wall Thickness	Depth (Metres) From	Depth (Metres) To
5.1	PVC.	Sched 40	0	30.4

No Casing and Screen Used

Open Hole ☐ Yes ☑ No

Static Water Level Test

Metres

Screen

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Concrete ☑ Plastic

Outside Diameter (Centimetres)	Slot No.
5.8	10

Annular Space/Abandonment Sealing Record

Depth Set at (Metres) From	Depth Set at (Metres) To	Type of Sealant Used (Material and Type)	Volume Used (Cubic Metres)
0	30.4	Bentonite grout	300 Kgs

Water Details

Water found at Depth	Kind of Water
No water Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals

Disinfected ☐ Yes ☑ No If no, provide reason: Monitoring well

Date Master Well Completed (yyyy/mm/dd): 2008/08/12

Cluster Information *(Please also fill out the additional Cluster Well Information for Well Construction for each parcel of land and cluster.)*

Total Wells in Cluster	Please indicate Number of Cluster Well Information Log Sheets Submitted
6	1
Total Wells on this Property: unknown	

Location of Well Cluster

Detailed Map must be provided as an attachment no larger than legal size (8.5" x 14"). Sketches are not allowed.
☑ Check box to confirm detailed map is provided as per Section 11.1 (3)

Consent to release additional information concerning the cluster to the Director upon request

Sig [redacted]
Ma
Sig

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
George Downing Estate Drilling	1844

Business Address (Street No./Name, number, RR)	Municipality
10 Rue Principale	Grenville-sur-la-Rouge

Province	Postal Code	Business E-mail Address
Qc	J0V1B0	downing@xplornet.com

Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
1924264469	Downing, Bruce

Technician's Licence No.	Signature of Technician	Date Submitted (yyyy/mm/dd)
1173		2008/09/29

Audit No.	Well Contractor No.
M 02881	
Date Received (yyyy/mm/dd) APR 0 8 2009	**Date of Inspection (yyyy/mm/dd)**

Remarks

(11/2006)

Ministry's Copy

Ontario — Ministry of the Environment

Well Tag No. for Master Well (Print Well Tag No.)
A 074581 A074581

Cluster Well Information for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Property Owner's Information

First Name	Last Name	Mailing Address (Street No./Name, RR)	Municipality
Broccolini Construction Inc.		126 York Street Suite 300	Ottawa

Province	Postal Code	E-mail Address	Telephone No. (inc. area code)
ON	K1N5T5		6132440076

Cluster Well Information

Address of Well Location (Street Number/Name, RR)	Lot	Concession	Township	County/District/Municipality
150 Slater Street				

City/Town/Village	Province	Postal Code	GPS Unit Make	Model	Unit Mode of Operation
Ottawa	Ontario		Garmin	Etrex	☐ Differentiated, specify: ☐ Undifferentiated ☒ Averaged

[redacted]

upon request

Signature of Technician/Contractor: Bruce Downing

Date (yyyy/mm/dd): 2008/09/29

Well # on Sketch	UTM Coordinates Zone	Easting	Northing	Full Depth of Hole (metres)	Hole Diameter (cm)	Method of Construction	Casing Material	Casing Length (metres)	Screen Interval (metres) From	To	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	Date of Completion (yyyy/mm/dd)
MW #1	18	445446	5029827	11.69	20/10	HSA/DIA	PVC.	11.0	11.0	11.6	Bentonite	7.0			2008/08/11
MW #2	18	445444	5029914	12.29	20/10	" "		10.5	10.5	12.29		6.0			2008/08/11
MW #3	18	445417	5029884	7.04	20	HSA		5.5	5.5	7.0					2008/08/12
MW #5	18	445021	5030033	12.32	20/10	HSA/DIA		11.3	11.3	12.3		7.0			2008/08/12
MW #7	18	445456	5029774	12.19	20/10	HSA/DIA		8.0	8.0	9.0		7.0			2008/08/14

Well Contractor and Well Technician Information

Business Name of Well Contractor	Business Address (Street Number/Name, RR)	Municipality	Province
George Downing Estate Drilling	410 Rue Principale	Grenville-sur-la-Rouge	Qc

Postal Code	Business Telephone No. (inc. area code)	Well Contractor's Licence No.	Business E-mail Address
J0V1B0	8192426469	1844	downing@xplornet.com

Name of Well Technician (First Name, Last Name)	Well Technician's Licence No.	Date Submitted (yyyy/mm/dd)	Signature of Technician
Bruce Downing	2173	2008/09/29	Bruce Downing

Date 1st Well in Cluster Constructed (yyyy/mm/dd)	Date Last Well in Cluster Constructed (yyyy/mm/dd)
2008/08/11	2008/08/14

Ministry Use Only

Date Received (yyyy/mm/dd)	Date Inspected (yyyy/mm/dd)
APR 08 2009	
Audit No. C 01978	**Remarks** m02881

1991 (11/2006)

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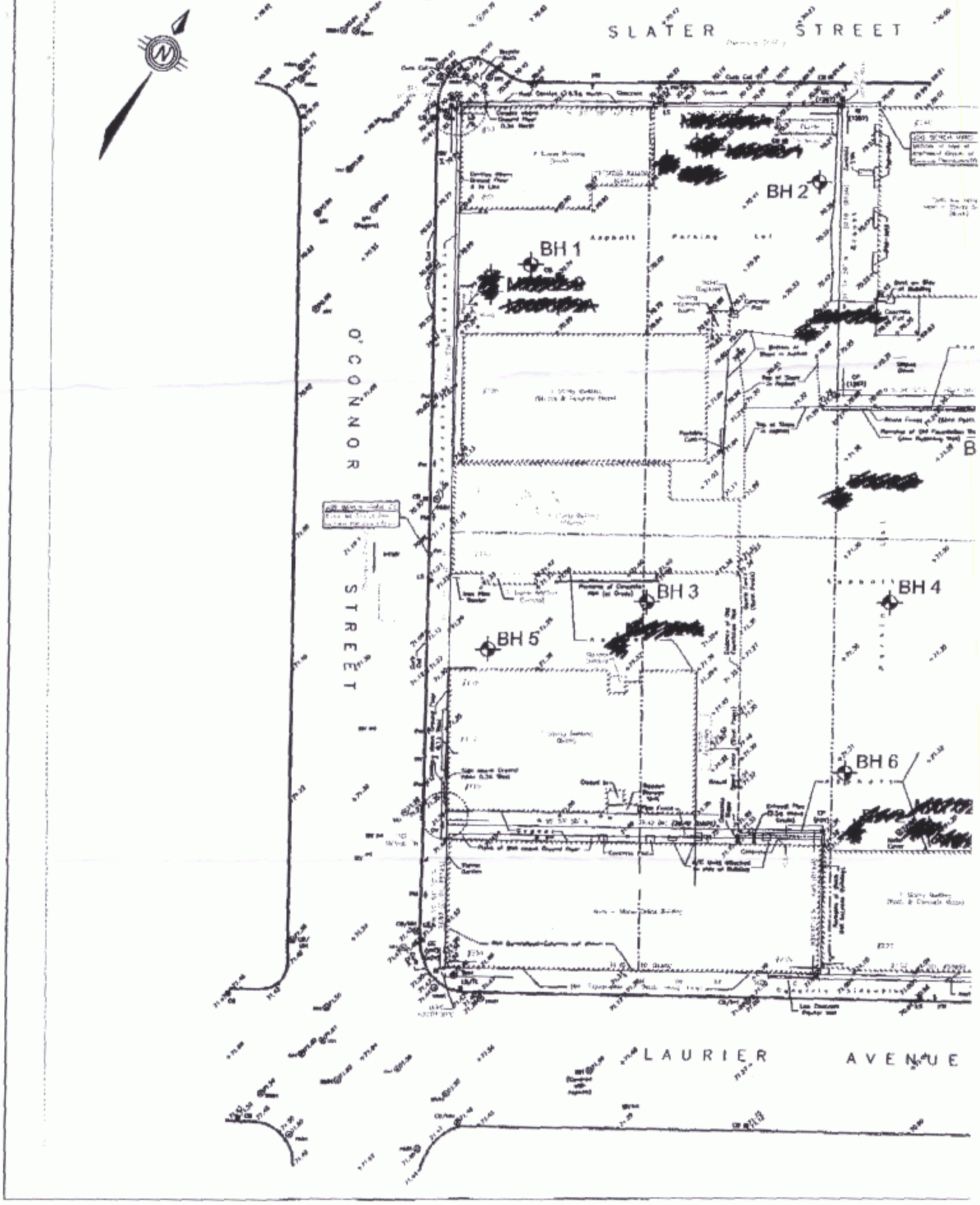
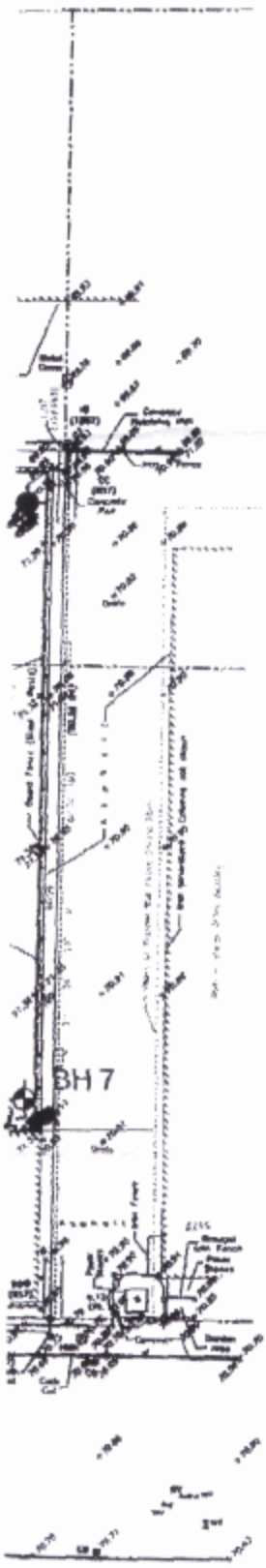


APR 0 8 2009

C-1844 M02881 C01978



LEGEND

BH 1	APPROXIMATE BOREHOLE LOCATION IN PLAN, CURRENT INVESTIGATION BY HOULE CHEVRIER ENGINEERS LTD.
BH-2	APPROXIMATE BOREHOLE LOCATION IN PLAN, PREVIOUS INVESTIGATION BY FONDEX.
MW 02-1 BH 02-4	APPROXIMATE MONITORING WELL AND BOREHOLE LOCATION IN PLAN, PREVIOUS INVESTIGATION BY JACQUES WHITFORD ENVIRONMENTAL LIMITED.

Client: BROCCOLINI		Location: 150 SLATER STREET OTTAWA, ON	Revision: 0
Drawn by: D.J.R	Approved by: A.F.C	Project No.: 08-386	Scale: 1:500
Houle Chevrier Engineering		Title: SITE PLAN	
		Date: August 2008	FIGURE 2

APR 0 8 2009

TOTAL P.10

C-1849 M02881 C01978

Ontario Ministry of the Environment

Well Tag No. for Master Well *(Place Sticker and/or Print Below)*
A 074581
MW#4

Master Well Record for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Page 1 of 3

Master Well Owner's and Land Owner's Information

First Name	Last Name	E-mail Address
Broccolini Construction Inc.		

Mailing Address (Street Number/Name, RR)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
121 York St. Suite 300	Ottawa	ON	K1N5T5	6132440076

Location and Construction of the Master Well in the Cluster

Address of Well Location (Street Number/Name, RR)	Township	Lot	Concession
150 Slater Street			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Ottawa.	Ontario	

UTM Coordinates	Zone	Easting	Northing	GPS Unit Make	Model	Mode of Operation
NAD 83	18	445417	5029884	Garmin	Etrex	☐ Undifferentiated ☑ Averaged ☐ Differentiated, specify

Overburden and Bedrock Materials *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (Metres) From	Depth (Metres) To
	Asphalatic concrete slab.			0	0.15
Grey Brown	Silty sand, gravel	asphaltic concrete		0.15	1.75
Grey Brown	Silty clay		very stiff	1.75	2.62
Grey Brown	Silty sand	trace clay	loose to compact	2.62	5.94
Dk Grey	Silty sand	trace clay	shale fragments	5.94	7.32
Black	Shale Bedrock	some grey limestone		7.32	30.76

Hole Details

Depth (Metres) From	Depth (Metres) To	Diameter (Centimetres)
0	7.3	20
7.3	30.7	10

Water Use

☐ Public ☐ Industrial ☐ Not used ☐ Other, specify
☐ Domestic ☐ Commercial ☐ Dewatering
☐ Livestock ☐ Municipal ☑ Monitoring
☐ Irrigation ☐ Test Hole ☐ Cooling & Air Conditioning

Method of Construction

☐ Cable Tool ☐ Air Percussion ☐ Digging
☐ Rotary (Conventional) ☑ Diamond ☐ Boring
☐ Rotary (Reverse) ☐ Jetting ☑ Other, specify
☐ Rotary (Air) ☐ Driving HSA

Status of Well

☑ Test Hole ☐ Abandoned, Insufficient Supply
☐ Replacement Well ☐ Abandoned, Poor Water Quality
☐ Dewatering Well ☐ Other, specify
☐ Alteration (Construction) ☐ Abandoned, other, specify

Construction Details

Inside Diameter (Centimetres)	Material (steel, plastic, fibreglass, concrete, galvanized)	Wall Thickness	Depth (Metres) From	Depth (Metres) To
5.1	PVC.	Sched 40	0	30.4

No Casing and Screen Used

Open Hole ☐ Yes ☑ No

Static Water Level Test

Metres

Screen

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Concrete ☑ Plastic

Outside Diameter (Centimetres)	Slot No.
5.8	10

Annular Space/Abandonment Sealing Record

Depth Set at (Metres) From	Depth Set at (Metres) To	Type of Sealant Used (Material and Type)	Volume Used (Cubic Metres)
0	30.4	Bentonite grout	300 Kgs

Water Details

Water found at Depth	Kind of Water
No water Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals

Disinfected ☐ Yes ☑ No If no, provide reason: Monitoring well

Date Master Well Completed (yyyy/mm/dd): 2008/08/12

Cluster Information *(Please also fill out the additional Cluster Well Information for Well Construction for each parcel of land and cluster.)*

Total Wells in Cluster	Please indicate Number of Cluster Well Information Log Sheets Submitted
6	1
Total Wells on this Property: unknown	

Location of Well Cluster

Detailed Map must be provided as an attachment no larger than legal size (8.5" x 14"). Sketches are not allowed.
☑ Check box to confirm detailed map is provided as per Section 11.1 (3)

Consent to release additional information concerning the cluster to the Director upon request

Sig [redacted]
Ma
Sig

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
George Downing Estate Drilling	1844

Business Address (Street No./Name, number, RR)	Municipality
10 Rue Principale	Grenville-sur-la-Rouge

Province	Postal Code	Business E-mail Address
Qc	J0V1B0	downing@xplornet.com

Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
1924264469	Downing, Bruce

Technician's Licence No.	Signature of Technician	Date Submitted (yyyy/mm/dd)
1173		2008/09/29

Audit No.	Well Contractor No.
M 02881	
Date Received (yyyy/mm/dd) APR 0 8 2009	**Date of Inspection (yyyy/mm/dd)**

Remarks

(11/2006)

Ministry's Copy

Ontario — Ministry of the Environment

Well Tag No. for Master Well (Print Well Tag No.)
A 074581 A074581

Cluster Well Information for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Property Owner's Information

First Name	Last Name	Mailing Address (Street No./Name, RR)	Municipality
Broccolini Construction Inc.		126 York Street Suite 300	Ottawa

Province	Postal Code	E-mail Address	Telephone No. (inc. area code)
ON	K1N5T5		6132440076

Cluster Well Information

Address of Well Location (Street Number/Name, RR)	Lot	Concession	Township	County/District/Municipality
150 Slater Street				

City/Town/Village	Province	Postal Code	GPS Unit Make	Model	Unit Mode of Operation
Ottawa	Ontario		Garmin	Etrex	☐ Differentiated, specify: ☐ Undifferentiated ☒ Averaged

[redacted]

upon request

Signature of Technician/Contractor: Bruce Downing

Date (yyyy/mm/dd): 2008/09/29

Well # on Sketch	UTM Coordinates Zone	Easting	Northing	Full Depth of Hole (metres)	Hole Diameter (cm)	Method of Construction	Casing Material	Casing Length (metres)	Screen Interval (metres) From	To	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	Date of Completion (yyyy/mm/dd)
MW #1	18	445446	5029827	11.69	20/10	HSA/DIA	PVC.	11.0	11.0	11.6	Bentonite	7.0			2008/08/11
MW #2	18	445444	5029914	12.29	20/10	" "		10.5	10.5	12.29		6.0			2008/08/11
MW #3	18	445417	5029884	7.04	20	HSA		5.5	5.5	7.0					2008/08/12
MW #5	18	445021	5030033	12.32	20/10	HSA/DIA		11.3	11.3	12.3		7.0			2008/08/12
MW #7	18	445456	5029774	12.19	20/10	HSA/DIA		8.0	8.0	9.0		7.0			2008/08/14

Well Contractor and Well Technician Information

Business Name of Well Contractor	Business Address (Street Number/Name, RR)	Municipality	Province
George Downing Estate Drilling	410 Rue Principale	Grenville-sur-la-Rouge	Qc

Postal Code	Business Telephone No. (inc. area code)	Well Contractor's Licence No.	Business E-mail Address
J0V1B0	8192426469	1844	downing@xplornet.com

Name of Well Technician (First Name, Last Name)	Well Technician's Licence No.	Date Submitted (yyyy/mm/dd)	Signature of Technician
Bruce Downing	2173	2008/09/29	Bruce Downing

Date 1st Well in Cluster Constructed (yyyy/mm/dd)	Date Last Well in Cluster Constructed (yyyy/mm/dd)
2008/08/11	2008/08/14

Ministry Use Only

Date Received (yyyy/mm/dd)	Date Inspected (yyyy/mm/dd)
APR 08 2009	
Audit No. C 01978	**Remarks** m02881

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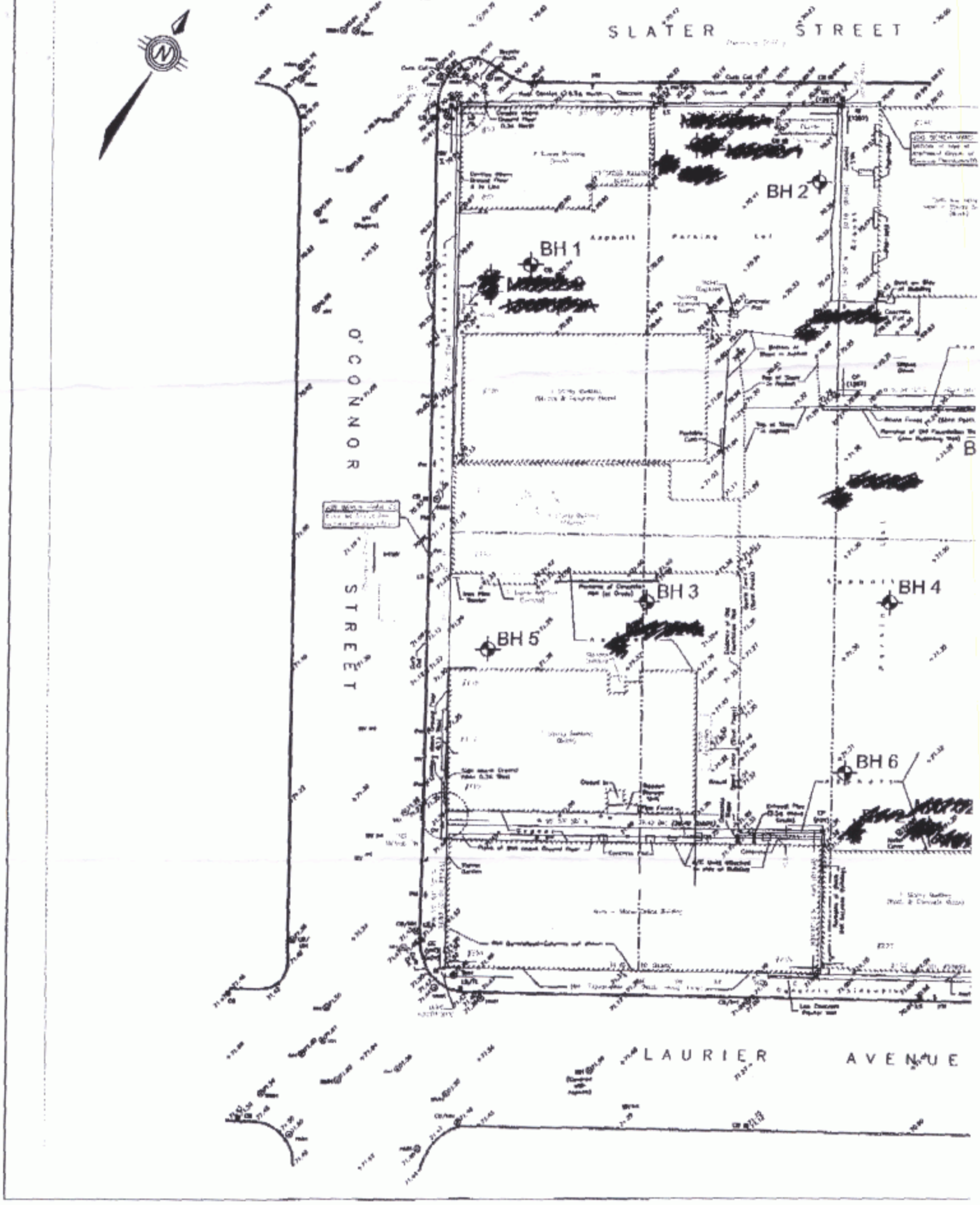
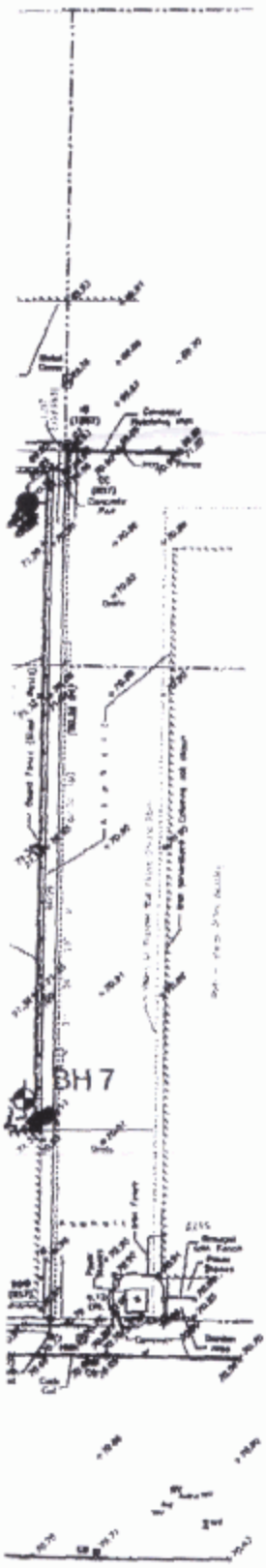


APR 0 8 2009

C-1844 M02881 C01978



LEGEND

BH 1	APPROXIMATE BOREHOLE LOCATION IN PLAN, CURRENT INVESTIGATION BY HOULE CHEVRIER ENGINEERS LTD.
BH-2	APPROXIMATE BOREHOLE LOCATION IN PLAN, PREVIOUS INVESTIGATION BY FONDEX.
MW 02-1 BH 02-4	APPROXIMATE MONITORING WELL AND BOREHOLE LOCATION IN PLAN, PREVIOUS INVESTIGATION BY JACQUES WHITFORD ENVIRONMENTAL LIMITED.

Client: BROCCOLINI		Location: 150 SLATER STREET OTTAWA, ON	Revision: 0
Drawn by: D.J.R	Approved by: A.F.C	Project No.: 08-386	Scale: 1:500
Houle Chevrier Engineering		Title: SITE PLAN	
		Date: August 2008	FIGURE 2

APR 0 8 2009

TOTAL P.10

C-1849 M02881 C01978

Ontario Ministry of the Environment

Well Tag No. for Master Well *(Place Sticker and/or Print Below)*
A 074581
MW#4

Master Well Record for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Page 1 of 3

Master Well Owner's and Land Owner's Information

First Name	Last Name	E-mail Address
Broccolini Construction Inc.		

Mailing Address (Street Number/Name, RR)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
121 York St. Suite 300	Ottawa	ON	K1N5T5	6132440076

Location and Construction of the Master Well in the Cluster

Address of Well Location (Street Number/Name, RR)	Township	Lot	Concession
150 Slater Street			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Ottawa.	Ontario	

UTM Coordinates	Zone	Easting	Northing	GPS Unit Make	Model	Mode of Operation
NAD 83	18	445417	5029884	Garmin	Etrex	☐ Undifferentiated ☑ Averaged ☐ Differentiated, specify

Overburden and Bedrock Materials *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (Metres) From	Depth (Metres) To
	Asphalatic concrete slab.			0	0.15
Grey Brown	Silty sand, gravel	asphaltic concrete		0.15	1.75
Grey Brown	Silty clay		very stiff	1.75	2.62
Grey Brown	Silty sand	trace clay	loose to compact	2.62	5.94
Dk Grey	Silty sand	trace clay	shale fragments	5.94	7.32
Black	Shale Bedrock	some grey limestone		7.32	30.76

Hole Details

Depth (Metres) From	Depth (Metres) To	Diameter (Centimetres)
0	7.3	20
7.3	30.7	10

Water Use

☐ Public ☐ Industrial ☐ Not used ☐ Other, specify
☐ Domestic ☐ Commercial ☐ Dewatering
☐ Livestock ☐ Municipal ☑ Monitoring
☐ Irrigation ☐ Test Hole ☐ Cooling & Air Conditioning

Method of Construction

☐ Cable Tool ☐ Air Percussion ☐ Digging
☐ Rotary (Conventional) ☑ Diamond ☐ Boring
☐ Rotary (Reverse) ☐ Jetting ☑ Other, specify
☐ Rotary (Air) ☐ Driving HSA

Status of Well

☑ Test Hole ☐ Abandoned, Insufficient Supply
☐ Replacement Well ☐ Abandoned, Poor Water Quality
☐ Dewatering Well ☐ Other, specify
☐ Alteration (Construction) ☐ Abandoned, other, specify

Construction Details

Inside Diameter (Centimetres)	Material (steel, plastic, fibreglass, concrete, galvanized)	Wall Thickness	Depth (Metres) From	Depth (Metres) To
5.1	PVC.	Sched 40	0	30.4

No Casing and Screen Used

Open Hole ☐ Yes ☑ No

Static Water Level Test

Metres

Screen

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Concrete ☑ Plastic

Outside Diameter (Centimetres)	Slot No.
5.8	10

Annular Space/Abandonment Sealing Record

Depth Set at (Metres) From	Depth Set at (Metres) To	Type of Sealant Used (Material and Type)	Volume Used (Cubic Metres)
0	30.4	Bentonite grout	300 Kgs

Water Details

Water found at Depth	Kind of Water
No water Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals

Disinfected ☐ Yes ☑ No If no, provide reason: Monitoring well

Date Master Well Completed (yyyy/mm/dd): 2008/08/12

Cluster Information *(Please also fill out the additional Cluster Well Information for Well Construction for each parcel of land and cluster.)*

Total Wells in Cluster	Please indicate Number of Cluster Well Information Log Sheets Submitted
6	1
Total Wells on this Property: unknown	

Location of Well Cluster

Detailed Map must be provided as an attachment no larger than legal size (8.5" x 14"). Sketches are not allowed.
☑ Check box to confirm detailed map is provided as per Section 11.1 (3)

Consent to release additional information concerning the cluster to the Director upon request

Sig [redacted]
Ma
Sig

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
George Downing Estate Drilling	1844

Business Address (Street No./Name, number, RR)	Municipality
10 Rue Principale	Grenville-sur-la-Rouge

Province	Postal Code	Business E-mail Address
Qc	J0V1B0	downing@xplornet.com

Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
1924264469	Downing, Bruce

Technician's Licence No.	Signature of Technician	Date Submitted (yyyy/mm/dd)
1173		2008/09/29

Audit No.	Well Contractor No.
M 02881	
Date Received (yyyy/mm/dd) APR 0 8 2009	**Date of Inspection (yyyy/mm/dd)**

Remarks

(11/2006)

Ministry's Copy

Ontario — Ministry of the Environment

Well Tag No. for Master Well (Print Well Tag No.)
A 074581 A074581

Cluster Well Information for Cluster Well Construction

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Property Owner's Information

First Name	Last Name	Mailing Address (Street No./Name, RR)	Municipality
Broccolini Construction Inc.		126 York Street Suite 300	Ottawa

Province	Postal Code	E-mail Address	Telephone No. (inc. area code)
ON	K1N5T5		6132440076

Cluster Well Information

Address of Well Location (Street Number/Name, RR)	Lot	Concession	Township	County/District/Municipality
150 Slater Street				

City/Town/Village	Province	Postal Code	GPS Unit Make	Model	Unit Mode of Operation
Ottawa	Ontario		Garmin	Etrex	☐ Differentiated, specify: ☐ Undifferentiated ☒ Averaged

[redacted]

upon request

Signature of Technician/Contractor: Bruce Downing

Date (yyyy/mm/dd): 2008/09/29

Well # on Sketch	UTM Coordinates Zone	Easting	Northing	Full Depth of Hole (metres)	Hole Diameter (cm)	Method of Construction	Casing Material	Casing Length (metres)	Screen Interval (metres) From	To	Annular Space Sealant Used	Static Water Level (metres)	Abandonment Sealant Used	Comments	Date of Completion (yyyy/mm/dd)
MW #1	18	445446	5029827	11.69	20/10	HSA/DIA	PVC.	11.0	11.0	11.6	Bentonite	7.0			2008/08/11
MW #2	18	445444	5029914	12.29	20/10	" "		10.5	10.5	12.29		6.0			2008/08/11
MW #3	18	445417	5029884	7.04	20	HSA		5.5	5.5	7.0					2008/08/12
MW #5	18	445021	5030033	12.32	20/10	HSA/DIA		11.3	11.3	12.3		7.0			2008/08/12
MW #7	18	445456	5029774	12.19	20/10	HSA/DIA		8.0	8.0	9.0		7.0			2008/08/14

Well Contractor and Well Technician Information

Business Name of Well Contractor	Business Address (Street Number/Name, RR)	Municipality	Province
George Downing Estate Drilling	410 Rue Principale	Grenville-sur-la-Rouge	Qc

Postal Code	Business Telephone No. (inc. area code)	Well Contractor's Licence No.	Business E-mail Address
J0V1B0	8192426469	1844	downing@xplornet.com

Name of Well Technician (First Name, Last Name)	Well Technician's Licence No.	Date Submitted (yyyy/mm/dd)	Signature of Technician
Bruce Downing	2173	2008/09/29	Bruce Downing

Date 1st Well in Cluster Constructed (yyyy/mm/dd)	Date Last Well in Cluster Constructed (yyyy/mm/dd)
2008/08/11	2008/08/14

Ministry Use Only

Date Received (yyyy/mm/dd)	Date Inspected (yyyy/mm/dd)
APR 08 2009	
Audit No. C 01978	**Remarks** m02881

1991 (11/2006)

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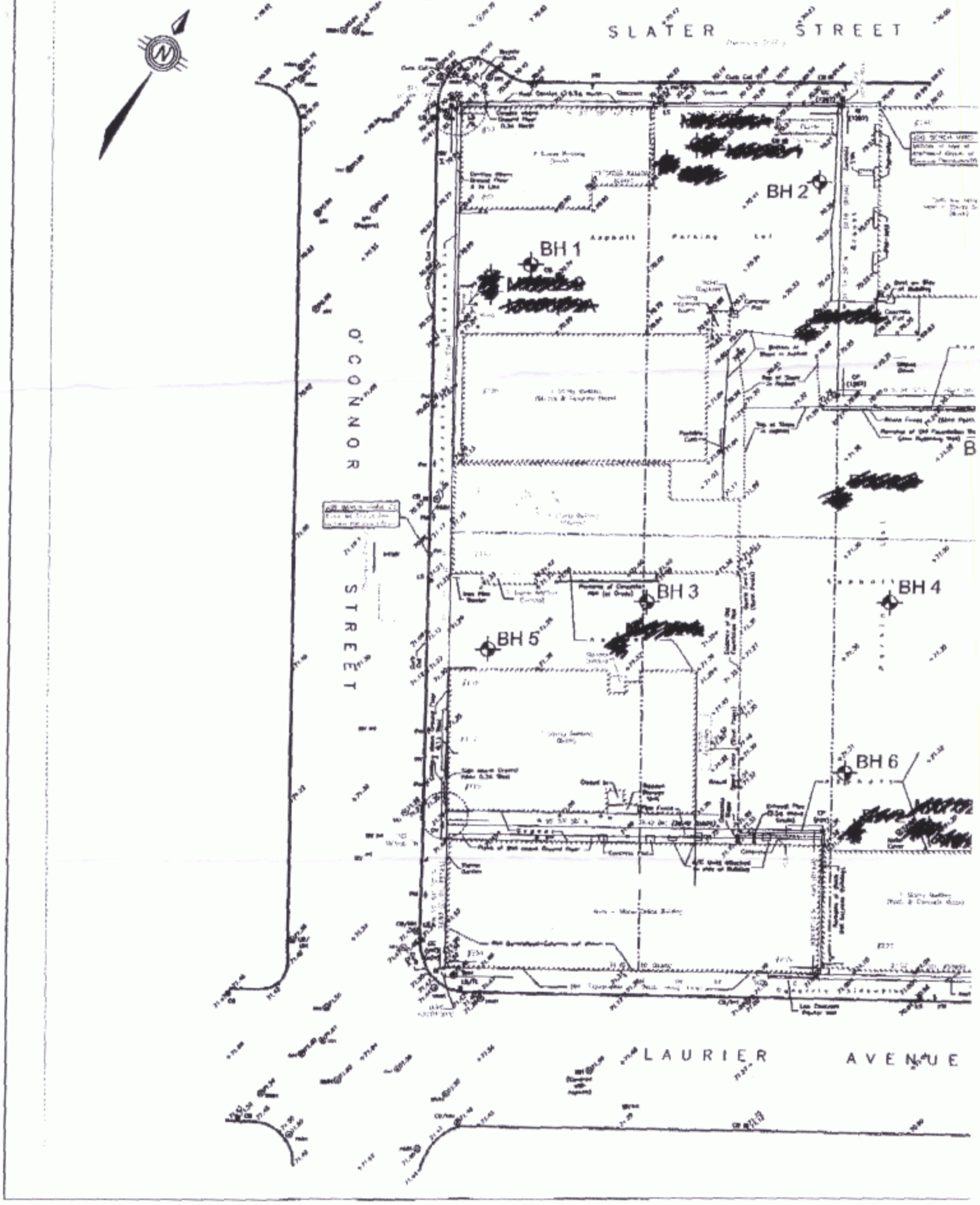
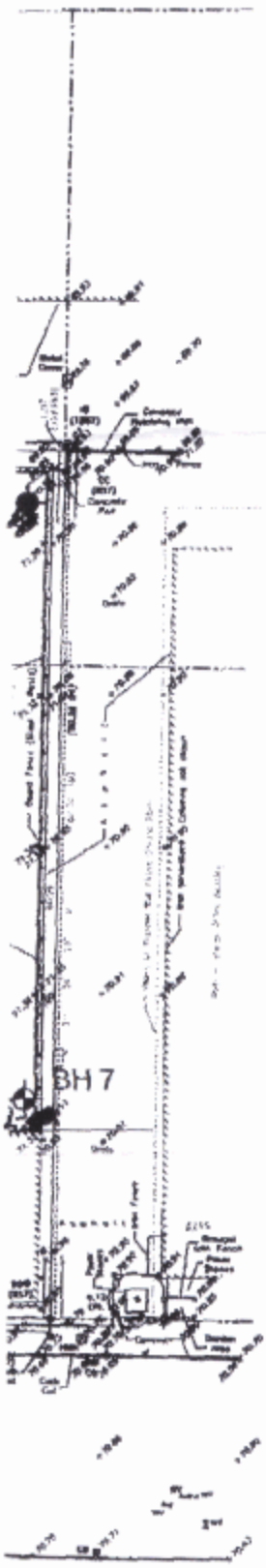


APR 0 8 2009

C-1844 M02881 C01978



LEGEND

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Client: BROCCOLINI		Location: 150 SLATER STREET OTTAWA, ON	Revision: 0
Drawn by: D.J.R	Approved by: A.F.C	Project No.: 08-386	Scale: 1:500
Houle Chevrier Engineering		Title: SITE PLAN	
		Date: August 2008	FIGURE 2

APR 0 8 2009

TOTAL P.10

C-1849 M02881 C01978

Ontario — Ministry of the Environment

Well Record

Regulation 903 Ontario Water Resources Act

Tag #: A168775 (Print Below) A168775

5-16147

Measurements recorded in: ☑ Metric ☐ Imperial

Page ____ of ____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
Great West life	Assurance Company		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
330 university Ave Suite 300	Toronto	Ontario	M5G 1R8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
269 Laurier Ave			

County/District/Municipality	City/Town/Village	Province	Postal Code
	ottawa	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	445365	5029763		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BLK	Ashpalt	Gravel	Soft	0	.61
Brn	SAND	boulders	Soft	.61	4.27
BLK	Shale		Fractred HARD	4.27	12.45

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	.31	Flushmount/concrete	
.31	7.62	Benseal/Grout	
7.62	12.45	SAND	

Method of Construction

☐ Cable Tool ☑ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☑ Other, specify Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☑ Test Hole ☑ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
3.45	PVC	.356	0	7.93

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.21	PVC	10	7.93	12.45

Status of Well

☐ Water Supply
☐ Replacement Well
☑ Test Hole
☐ Recharge Well
☐ Dewatering Well
☑ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify
☐ Other, specify

Water Details

Water found at Depth (m/ft)	Kind of Water	Hole Diameter Depth From	Depth To	Diameter (cm/in)
☐ Gas ☐ Other, specify	☐ Fresh ☐ Untested			
Water found at Depth (m/ft) ☐ Gas ☐ Other, specify	Kind of Water: ☐ Fresh ☐ Untested	0	4.27	8.3
Water found at Depth (m/ft) ☐ Gas ☐ Other, specify	Kind of Water: ☐ Fresh ☐ Untested	4.27	12.45	5.7

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

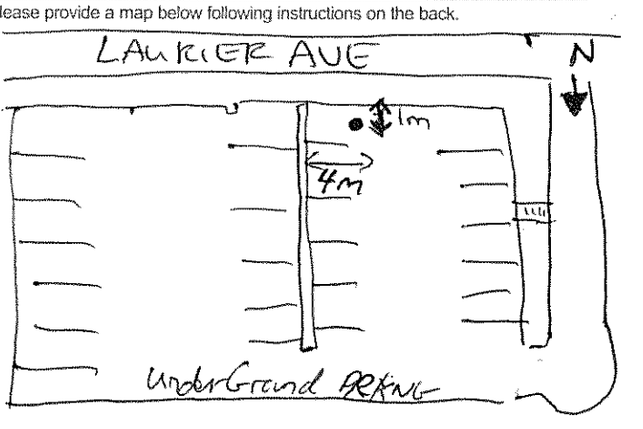
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Drilling	7241

Business Address (Street Number/Name)	Municipality	Province	Postal Code	Business E-mail Address
165 sheilds Court	MarkHam	ON	L2R6V2	wrecords@stratadrl.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)	Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
9057649304	Beatty Brian	3616		2014 10 03

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No		2014 10 02

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Tag #: A168744 (and/or Print Below) A168744

Well Record

Regulation 903 Ontario Water Resources Act

5-16088 Page ____ of ____

Measurements recorded in: ☑ Metric ☐ Imperial

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	The Great West Life Assurance Company and London Life Insurance Company		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
330 University Avenue, Suite 300	Toronto	ON	M5G 1R8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
269 LAURIER AVE			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Ottawa	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	445367	5029798		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BLK	Asphalt	Gravel	Soft	0	.31
Bra	~~Brown~~ SAND	many boulders	Soft	.31	4.27
BLACK	Shale		Fractured HARD	4.27	10.38

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	.31	Freshmant/concrete	
.31	5.49	Grout / Bentonite	
5.49	10.38	SAND	

Method of Construction

☐ Cable Tool ☑ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☑ Other, specify Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☑ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
3.45	PVC	.356	0	5.79

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.21	PVC	10	5.79	10.38

Status of Well

☐ Water Supply
☐ Replacement Well
☑ Test Hole
☐ Recharge Well
☐ Dewatering Well
☑ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify
☐ Other, specify

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water: Fresh	Untested	Other, specify
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	4.27	8.3cm
4.27	10.38	5.7cm

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

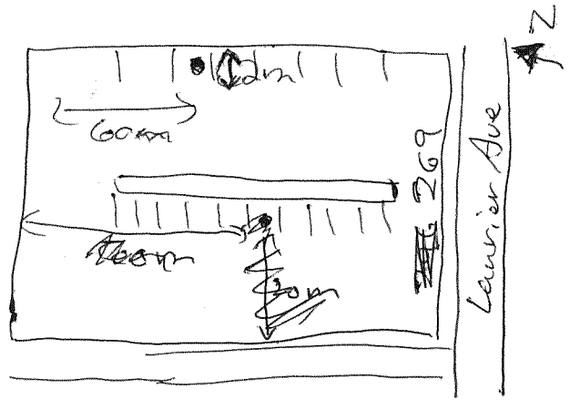
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata	7211

Business Address (Street Number/Name)	Municipality
165 Shields Court	Markham

Province	Postal Code	Business E-mail Address
ON	L3K8V2	wrecords@stratasoil.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
9057649304	McCoy Jamie

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3656		2014 09 25

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No		2014 09 24

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Ontario — Ministry of the Environment

Measurements recorded in: ☑ Metric ☐ Imperial

Tag #: A168839 (Print Below)
A168839

Well Record

Regulation 903 Ontario Water Resources Act

5-16088 Page _____ of _____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	The Great-West Life Assurance Company and London Life		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
330 University Avenue, Suite 300	Toronto	ON	M5G 1R8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
269 ~~Rosteam~~ Laurier Ave			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Ottawa	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	445336	5029785		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Blck	Ashpalt	Gravel	Soft	0	1.22
Gry	Clay	Sand	Soft	1.22	4.57
Gry	Shale		Hard	4.57	10.36

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	.31	Flushmount / concrete	
.31	7.01	Bentonite	
7.01	10.36	SAND	

Method of Construction

☐ Cable Tool ☑ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☑ Other, specify Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☑ Test Hole ☑ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, specify

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping _____ hrs + _____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
3.45	PVC	.356	0	7.32

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.21	PVC	10	7.32	10.36

Status of Well

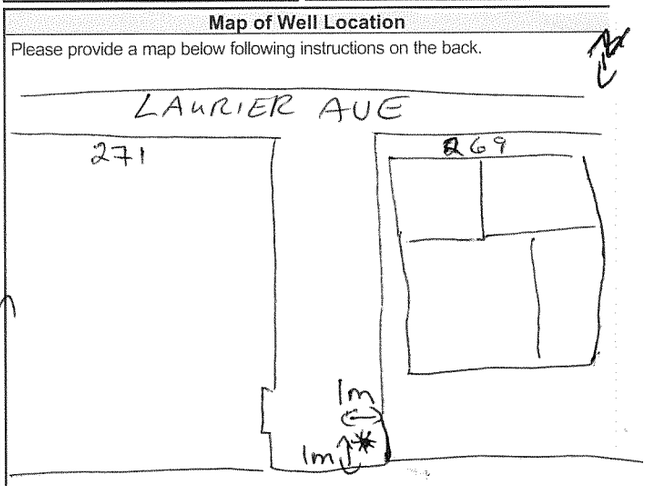
☐ Water Supply
☐ Replacement Well
☑ Test Hole
☐ Recharge Well
☐ Dewatering Well
☑ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify
☐ Other, specify

Water Details

Water found at Depth (m/ft)	Kind of Water	Hole Diameter Depth From (m/ft)	Depth To (m/ft)	Diameter (cm/in)
☐ Gas ☐ Other, specify	☐ Fresh ☐ Untested	0	4.57	8.3cm
☐ Gas ☐ Other, specify	☐ Fresh ☐ Untested	~~4.57~~		~~8.3cm~~
☐ Gas ☐ Other, specify	☐ Fresh ☐ Untested	4.57	10.36	5.6cm

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata	7214

Business Address (Street Number/Name)	Municipality
165 Shields Court	Markham

Province	Postal Code	Business E-mail Address
ON	L3R8U2	wrecords@stratasail.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
9057649304	Jamie McCoy

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3656		2014/10/17

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered: _____

Date Work Completed: 2014/09/24

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NOV 12 2014

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Michael Beaudoin

From: Michael Beaudoin
Sent: July-26-18 9:10 AM
To: 'publicinformationservices@tssa.org'
Subject: 208 Slater Street

Good Morning

Could you please complete a search of your records for underground/aboveground storage tanks, historical spills or other infractions for the following address(es) for properties located in the City of Ottawa, ON

199, 208, 210, 212, 215 Slater Street
269 Laurier Avenue West
139, 147, 149, 161 Bank Street

Thanks

Michael Beaudoin, P.Eng

patersongroup
Solution Oriented Engineering

154 Colonnade Road South
Ottawa - Ontario - K2E 7J5
Tel: (613) 226-7381
Fax: (613) 226-6344

APPENDIX 3

QUALIFICATIONS OF ASSESSORS

MICHAEL BEAUDOIN, P.ENG.

patersongroup

POSITION

Environmental Engineer

EDUCATION

Carleton University, B.Eng. 2010
Environmental Engineering

EXPERIENCE

2010-present
Paterson Group Inc.
Consulting Engineers
Geotechnical and Environmental Division
Environmental Engineer

Environmental Engineering

Geotechnical Engineering

Materials Testing Quality Control

Building Sciences

Hydrogeology

Archeological Services

SELECT LIST OF PROJECTS

Rideau Street Reconstruction - Ottawa
Main Street Reconstruction - Ottawa
Woodroffe Avenue Reconstruction – Ottawa
Westboro Connection Remediation - Ottawa
Former Alcan Plant Redevelopment - Kingston
Former Nordex Facility Redevelopment - Kingston
Jack Garland Airport Remediation – North Bay
Highway 17 Twinning Project – Arnprior
Watermain Construction – North Bay
Waste Audits – Various City of Ottawa Facilities
Parks Recycling Pilot Program – Various City of Ottawa parks
Special Events Recycling Pilot Program – Special Events with the City of Ottawa
Groundwater Remediation and Monitoring Program Supervision – Ottawa
Designated Substance Surveys – Residential and Commercial Sites – Ottawa
Asbestos Air Testing – Various Locations - Ottawa
Mould Testing – Various Locations - Ottawa
Phase I & II Environmental Site Assessments – Residential, Commercial and Industrial Sites – Ottawa (CSA Z768-01 and O.Reg 269/11)

paterson group
solution oriented engineering

Carlos P. Da Silva, P.ENG., ing., QP$_{ESA}$
Managing Principal

Prior to joining Paterson Group (Paterson) in 1990, Carlos held various positions with Jacques Whitford Limited (now Stantec) and Fondex Limited (now EXP Services). In his 10 years prior to Paterson, Carlos advanced from a field engineer to Director of Business Development and Vice President. Carlos undertook a wide variety of engineering projects on sites across the Province of Ontario and Quebec, including geotechnical and environmental assignments, materials testing and building sciences. Carlos' success came from his tireless effort and ability to encourage staff to perform better and maintain schedule and budget. Upon joining Paterson in 1990, Carlos became the Geotechnical Manager and Director of Business Development. Seeing an opportunity for growth, Carlos opened the Paterson Environmental Division in 1991. The environmental division has flourished under Carlos' management and guidance to grow to more than 25 staff of engineers, scientists and technologists. Carlos has worked closely with clients, Ministry of the Environmental and industry leaders to provide innovative approaches and quality service in the environmental and geotechnical engineering industries. Carlos' leadership, ability to manage a variety of small to large scale projects such as West Block at Parliament Hill, Lansdowne Park Redevelopment, the Zibi project on Chaudiere Island, and his extensive engineering experiences across various themes demonstrate his ability to provide sufficient guidance for a diversity of environmental Brownfield projects in all regions and subsurface conditions.

EDUCATION

B.A.Sc. 1981, Civil Engineering
University of Ottawa, Ottawa, ON

LICENCE/ PROFESSIONAL AFFILIATIONS

Professional Engineers of Ontario

Ordre des Ingenieurs du Quebec

Canadian Geotechnical Society

American and Canadian Public Works Association

Canadian Society for Civil Engineers

Consulting Engineers of Ontario

YEARS OF EXPERIENCE

With Paterson: 28
With other Firms: 10

OFFICE LOCATION

154 Colonnade Road South,
Ottawa, Ontario, K2E 7J5

SELECT LIST OF PROJECTS

- Visitors' Welcome Centre , Parliament Hill, Ottawa
  (Senior Geotechnical Engineer)
- Arts Court Redevelopment
  (Senior Environmental/Geotechnical Engineer)
- Residential Development -222 Beechwood Ave
  (Senior Geotechnical Engineer)
- Mixed-use development - 19 Beechwood
  (Senior Environmental/Geotechnical Engineer)
- Lansdowne Park Redevelopment – Ottawa
  (Senior Geotechnical Engineer)
- Ottawa Convention Centre – Ottawa
  (Senior Geotechnical Engineer)
- West Block Project – Parliament Hill – Ottawa
  (Senior Geotechnical Engineer)
- East Block Foundation Restoration - Parliament Hill – Ottawa
  (Senior Geotechnical Engineer)
- East Portal Design – Ottawa Light Rail Transit project – Ottawa
  (Senior Geotechnical/Environmental Engineer)
- Peace Tower Restoration – Parliament Hill – Ottawa
  (Senior Geotechnical Engineer)
- LRT Confederation Line – OLRT Group –Ottawa
  (Senior Geotechnical/Environmental Engineer)
- Main Street, Lees Avenue and Rideau River Drive Reconstruction Ottawa (Senior Geotechnical/Environmental Engineer)
- New PWGSC Building – 90 Elgin Street – Ottawa
  (Senior Geotechnical/Environmental Engineer)

PROFESSIONAL EXPERIENCE

1996 to present - Managing Principal - Paterson Group – Ottawa

- Manage and oversee all aspects of the Geotechnical, Environmental and Archaeology departments (budgeting, invoicing, staffing, scheduling, business development, marketing, and reviewing reports).
- Oversee, manage and review reporting, field work and design for Phase I, II and III.
- Provide expertise to clients and employees for remediation's, record of site conditions and Brownfield grant programs for various municipalities.
- Write, present, and publish reports that record site history, methodology and environmental analysis results, along with recommendations for remedial action plans.
- Responsible for ensuring projects meet clients and Ministry of Environment standards and regulatory requirements.
- Build and foster relationships with clients, stakeholders, and Ministry officials.

1990 to 1996 - Manager of Geotechnical and Environmental Services- Paterson Group – Ottawa

- Founder of the Environmental Engineering Division in 1991.
- Manage all aspects of the geotechnical and environmental divisions.
- Provide on-site environmentall expertise for Lansdowne Redevelopment Project, West Block Rehabilitation and Visitor`s Welcome Centre Phase 1.
- Oversee environmental investigations for drilling and test pitting on numerous proposed utility installations, residential and commercial developments.
- Problem solving to help advance or maintain project schedules.
- Complete environmental reports Phase I and II, Record of Site Conditions and Brownfield Applications with recommendations to comply with Ministry of the Environment Regulations.
- Responsible for ensuring projects meet Ministry of the Environments standards and guidelines.
- Building and fostering relationships with clients, stakeholders, and Ministry officials.

1989 to 1990, Vice President and Senior Geotechnical Engineer - Jacques Whitford Limited – Ottawa

- Senior geotechnical engineer with the Ottawa office of Jacques Whitford.
- Assisted in the start-up operations for Central Canada with the opening of the Ottawa office.
- Prepared a business plan to the rapid expansion of the office.
- Undertook geotechnical assignments for transportation projects and municipal assignments.
- Established the materials testing and geotechnical testing laboratory.
- Prepared and reviewed geotechnical reports.
- Respnsible for the business development of the Ottawa operations.

1980 to 1989 - Geotechnical Engineer - Fondex Limited – Hull and Ottawa

- Provide geotechnical related sampling/soil logs for drilling and test pitting on numerous transportation, commercial developments and public projects.
- Conducted laboratory testing on soil, concrete and asphalt.
- Completed QA and QC reports with recommendations for, excavations, subgrade, shallow foundations and deep foundations.
- Carried out laboratory testing programs.
- Responsible for the business development of five companies.