



**Kollaard Associates**

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Civil • Geotechnical •  
Structural • Environmental •  
Industrial Health & Safety

**(613) 860-0923**

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REPORT ON

PHASE I  
ENVIRONMENTAL SITE ASSESSMENT  
PART OF LOT 20, CONCESSION 4,  
RIDEAU FRONT, NEPEAN WARD  
CITY OF OTTAWA, ONTARIO

Submitted to:

DCR/Phoenix Development Corporation  
18 Bentley Avenue  
Nepean, Ontario  
K2E 6T8

DISTRIBUTION:

7 copies - DCR/Phoenix Development Corporation  
2 copies - Kollaard Associates Inc.

October 2006

060674



**Professional Engineers**  
Ontario

Authorized by the Association of Professional Engineers  
of Ontario to offer professional engineering services.



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-i-

## EXECUTIVE SUMMARY

This Phase I Environmental Site Assessment was carried out by Kollaard Associates Inc. for DCR/Phoenix Development Corporation of Ottawa, Ontario. The subject site for this assessment is located between O'Keefe Court and Fallowfield Road in the City of Ottawa, Ontario. The legal description for this site is Parts 1, 5, 9, Plan R-20-7852, Part of Lot 20, Concession 4 (Rideau Front), Nepean Ward, City of Ottawa, Ontario.

The Phase I Environmental Site Assessment was based on a site reconnaissance visit carried out on July 7, 2006 together with a review of available geological, topographical and historical information for the site. The historical information consisted of a chronology of ownership of the site, historical air photograph review, information from the Ontario Ministry of the Environment, the City of Ottawa and a review of a previous subsurface investigation report prepared by Kollaard Associates Inc. for the site.

Past usage of the site is indicated to have been for agricultural purposes. Adjacent land uses consist of recreational, residential, farmland and woodland. The site currently consists of undeveloped land. Some evidence of past filling of the west portion of the site was observed.

The results of this Phase I ESA indicate that the potentially environmentally related issues identified at the site are the possible presence of pesticides and herbicides from the previous agricultural use of the site and the possible presence of contaminants within the fill materials previously imported onto the site. There is the potential for vehicular traffic noise, dust and vibrations, associated with Highway 416, Fallowfield Road and O'Keefe Court which are located to the west, south and north of the site, respectively. There is also the potential for air traffic noise associated with a nearby flight path for the Ottawa International Airport.



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Based on the presence of fill material observed at the site during the above mentioned preliminary subsurface investigation, Phoenix Homes requested that three previously obtained samples of the fill materials at the site be submitted to Accutest Laboratories for total petroleum hydrocarbon (TPH Fractions 1 to 4), BTEX and Decommissioning Guidelines testing. The results of the laboratory testing indicate that the three soil samples tested meet the Ontario Ministry of the Environment and Energy (MOEE) verification and compliance requirements.

Based on the results of this study, no major environmental concerns were identified and no further investigation is considered warranted at this time. Should the risk of unknown contamination within the fill materials at the site need to be reduced, additional samples and testing of the fill materials could be carried out.

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## 1.0 INTRODUCTION

The subject site for this assessment consists of about a 10 hectare (24.7 acre), triangular shaped property located between O'Keefe Court and Fallowfield Road in the City of Ottawa, Ontario (see Key Plan, Figure 1).

The site is bordered on the north by O'Keefe Court and on the southeast and southwest by Fallowfield Road. The site for this assessment currently consists of open grassed fields with scattered young trees and shrubs. Wooded areas exist at the west end of the site and in the central portion of the site near the south property line. A water course runs north/south through about the middle of the site.

The primary objective of this Phase I ESA is to document the site conditions on the day of a walk-through site reconnaissance and, if possible, to identify former operations or practices that may present potential environmental risks. The study is based on current and historical information and observations of site conditions during a site reconnaissance visit conducted on July 7, 2006.

The scope of the Phase I ESA is sufficient to identify existing and/or potential environmental liabilities which are obvious from visual examination of surface features and from available sources of information. This level of work is a method of risk reduction, not risk elimination. No building materials, water, liquid, gas, or chemical product sampling and/or testing on or in the vicinity of the subject site were carried out as part of this assessment. This assessment included only a cursory overview of the present neighbouring land uses and does not constitute a complete assessment of the adjacent facilities.

Sections 2.0 and 3.0 of this report provide details of the site and information review. Section 4.0 outlines the site reconnaissance findings. Section 5.0 outlines issues of potential environmental concerns which were identified. Sections 6.0 and 7.0 present a summary of the assessment and limitations of the report, respectively.

## **2.0 SITE DESCRIPTION**

### **2.1 Location and Legal Description**

The subject site for this assessment consists of a 10 hectare (24.7 acres) parcel of land located within Parts 1, 5, 9, Plan R-20-7852, Lot 20, Concession 4 (Rideau Front), Township of Nepean, City of Ottawa, Ontario (see Key Plan, Figure 1).

### **2.2 Site and Area Characteristics**

The attached Key Plan, Figure 1 and air photographs show the relative location of the subject site with respect to the surrounding land and the existing roadway network.

The property is divided into two parcels by a large drainage ditch which runs from north to south through about the center of the site. On the east side of the ditch, the ground surface rise gently to a flatter portion then gradually slopes downward to the northeast towards the intersection of Fallowfield Road and O'Keefe Court. From the west side of the drainage ditch, which is lower in elevation by approximately two metres than the east side, the ground surface is generally flat lying with a gentle slope towards the west property line. For the most part, the site consists of open grassed fields with some scattered young trees and shrubs. Some tree covered areas are located in the south center and western most portions of the site. Ditches were observed along the north and south property lines of the site. It is expected that the upper groundwater flow is to the south based on a review of topographical maps and observations of flow direction within the large drainage ditch at the site.

### **2.3 Sewage Disposal**

No sewage disposal exists at the site. No storm sewers exist at the site. No sanitary sewers exist at the site.

### **2.4 Water Supply**

No evidence of any water supply exists at the site.

### **2.5 Past and Present Property Uses and Activities**

A chain of title for this site (see Attachment B) was provided by Wentzell Titles Ltd. Based on a review of the title search information, the property is indicated to have been owned by individuals. The current owner is listed as 383932 Ontario Ltd.

### **3.0 HISTORICAL INFORMATION REVIEW**

In order to assess some of the historical conditions at the property, a preliminary review of information from the following sources was conducted:

- Topographic and geological maps
- National Air Photo Library - Energy Mines and Resources, Ottawa, Ontario
- Ministry of Environment (MOE), Ottawa, Ontario
- City of Ottawa Planning Department – City of Ottawa Website for Zoning
- A review of a geotechnical report by Kollaard Associates Inc. for Phoenix Homes entitled "Preliminary Subsurface Investigation – Proposed Residential and Commercial Development – O'Keefe Court and Fallowfield Road – Ottawa, Ontario, Project Number 060445, dated August 10, 2006.

#### **3.1 Geological, Topographical and Hydrogeological Setting**

Based on a review of the surficial geological maps for the site area and the above mentioned geotechnical report for the site, it is expected that the site is underlain partially by glacial till deposits in the east portion and marine deposited sensitive silty clay over glacial till in the west. Bedrock geology maps indicate that the site is underlain by dolomite and limestone of the Oxford Formation. It is expected that the upper groundwater flow is to the south based on a review of topographical maps and observations of flow direction within the large drainage ditch near the centre of the site.

#### **3.2 Air Photograph Review**

A review of air photographs of the site for the years 1963, 1971, 1983, 1994 and 2002 was carried out as part of this Phase I ESA. All of the air photographs indicate the subject site to be vacant or previously used as farmland. All of the air photographs indicate development out beyond the site has progressively occurred to the north and east over time. The 1994 air photograph indicates some possible recreation type trails have developed around a treed portion of the site near the center of the property. This photograph also indicates some disturbed areas on the north side of the treed area, probably associated with some filling of the site.



### **3.3 Ministry of the Environment (MOE) Records**

The MOE office in Ottawa, Ontario, was contacted to determine if the Ministry has maintained a file with respect to the subject property. Specifically, the MOE was asked to respond (in writing) with information concerning any historical or existing incidents at or in the vicinity of the subject site. At the time of preparation of this report, a response from the MOE had not been received.

### **3.4 City of Ottawa**

Information from the City of Ottawa website was obtained with regards to the zoning of the property. The City of Ottawa website indicates that the site is zoned IL H(22)-h – Light Industrial.

### **3.5 Preliminary Subsurface Investigation by Kollaard Associates.**

A review of a geotechnical report prepared by Kollaard Associates Inc. for Phoenix Homes entitled Preliminary Subsurface Investigation, Proposed Residential and Commercial Development, O'Keefe Court and Fallowfield Road, Ottawa, Ontario, Project Number 060445, dated August 10, 2006 was carried out as part of this assessment. That report indicates that twenty test pits were put down across the site to determine the general subsurface conditions. In summary, the soil conditions encountered within the test pits included topsoil, silty sand, silty clay, glacial till, bedrock and fill. The fill was reported to be some 0.3 to 2.7 metres in thickness and in general consists of grey brown silty clay, sand, gravel and cobbles with topsoil, concrete, asphaltic concrete, bricks and wire.

## **4.0 SITE RECONNAISSANCE**

On July 7, 2006 a walk-through site reconnaissance was conducted at the subject property by a member of Kollaard Associates' professional staff. Currently, the site is vacant. An existing residential subdivision and recreational park were observed to be located north of the existing site. Undeveloped farmland was observed south and southeast of the site. Highway 416 was observed to exist west of the site.

No service stations exist in close proximity to the site.

Observations made during the site visit indicate that some filling of the site has occurred near the center north half and in the west half of the site. A large drainage ditch was observed to cross the

site near the center and divides the site into two portions. The west side of the ditch was observed to be somewhat lower in elevation compared to the east side of the site. Two treed areas exist at the site, one in the south center portion on the east side of the ditch and one near the west property line, on the west side of the ditch.

Some miscellaneous debris was observed at the site including concrete curb, some metal wiring, plastic bags and plastic bottles.

#### **4.1 Storage**

No storage of hazardous materials was observed. Based on the indicated past usage of the property, past storage of hazardous materials is unlikely.

#### **4.2 Storage Tanks**

No underground storage tanks were observed at the site. Based on the indicated past usage of the property, the presence of underground tanks are considered unlikely.

#### **4.3 Polychlorinated Biphenyls (PCB's)**

No evidence of any PCB's was observed. Based on the indicated past usage of the property, the presence of PCB's is considered unlikely.

#### **4.4 Asbestos Containing Materials (ACM)**

No ACM's were observed. Based on the indicated past usage of the property, the presence of ACM's materials is considered unlikely.

#### **4.5 Solid Waste Disposal Practices**

No disposal of solid waste was observed at the site.

#### **4.6 Adjacent Properties**

The subject site was noted to be located within an area of residential, recreational, farmland and woodland. O'Keefe Court exists on the north side of the subject site. Fallowfield Road exists on the south and east of the subject site. Highway 416 exists west of the subject site. An existing residential subdivision and recreational park are located north of the subject site. Farmland and vacant lands exist south and east of the subject site.

#### **4.7 Noise, Dust and Vibrations**

There is potential for vehicular noise, dust and vibrations to exist along the south and west portions of the site from the use of Fallowfield Road and Highway 416 which border the south and west property lines of the site. There is also the potential for air traffic noise associated with a nearby flight path for the Ottawa International Airport.

#### **5.0 ISSUES OF POTENTIAL ENVIRONMENTAL CONCERN**

In summary, based on the information gathered during this Phase I ESA, the following issues of potential environmental concern have been identified.

- \* Possible pesticide and herbicide residue from past agricultural use of the site.
- \* There is the potential for vehicular traffic noise, dust and vibrations, associated with Highway 416 and Fallowfield Road, a major freeway and arterial roadway which exists to the west and south of the subject site. There is also the potential for air traffic noise associated with a nearby flight path for the Ottawa International Airport.
- \* There is the potential for subsurface contamination to exist within the fill materials observed at the site.

Based on the potential for subsurface contamination to exist within the fill materials observed at the site, Phoenix Homes instructed Kollaard Associates to submit samples of some of the fill material obtained during the previous subsurface investigation. Three randomly selected samples of the fill material obtained during the subsurface investigation were submitted to Accutest Laboratories in Ottawa, Ontario, for total petroleum hydrocarbon (Fractions 1 to 4), BTEX and MOE Decommissioning Guidelines testing.

The results of the laboratory testing indicate that the soil samples tested meet the Ontario Ministry of the Environment and Energy (MOEE) verification and compliance requirements.

## **6.0 CONCLUSIONS**

The results of this Phase I ESA indicate no past usage of the site other than for farmland. Based on the results of this Phase I ESA, it is considered that no further investigation is warranted at this time. Should the risk of unknown contamination within the fill materials at the site need to be reduced, additional samples and testing of the fill materials could be carried out.

## **7.0 LIMITATIONS AND USE OF REPORT**

The results of this Phase I ESA should in no way be construed as a warranty that the subject property is free from any and all contaminants other than those noted in this report, nor that all compliance issues have been addressed.

This report was prepared for the exclusive use of DCR/Phoenix Development Corporation and is based on data and information collected during the Phase I ESA of the property conducted by Kollaard Associates Inc. This report may not be relied upon by any other person or entity without the express written consent of DCR/Phoenix Development Corporation and Kollaard Associates Inc. In evaluating this site, Kollaard Associates Inc. has relied in good faith on information provided by others. The assessment of environmental conditions and possible site hazards presented have been made using available technical data collected and provided by others. We accept no responsibility for any deficiencies, or inaccuracies in this report as a result of omissions, misinterpretations, or fraudulent acts of others.

The conclusions provided herein represent the best judgement of Kollaard Associates Inc. based on current environmental standards. Due to the nature of the investigation and the limited data available, we cannot warrant against undiscovered environmental liabilities. If new information is discovered during future work, including excavations, borings or other studies, Kollaard Associates Inc. should be requested to re-evaluate the conclusions presented in this report and provide amendments as required.

We trust that this report is sufficient for your present requirements. If you have any questions concerning this report, please do not hesitate to contact our office.

Yours truly,

Kollaard Associates Inc.

*[Handwritten signature]*

Prepared by D. M. Tataryn, B.E.S.

*[Handwritten signature]*

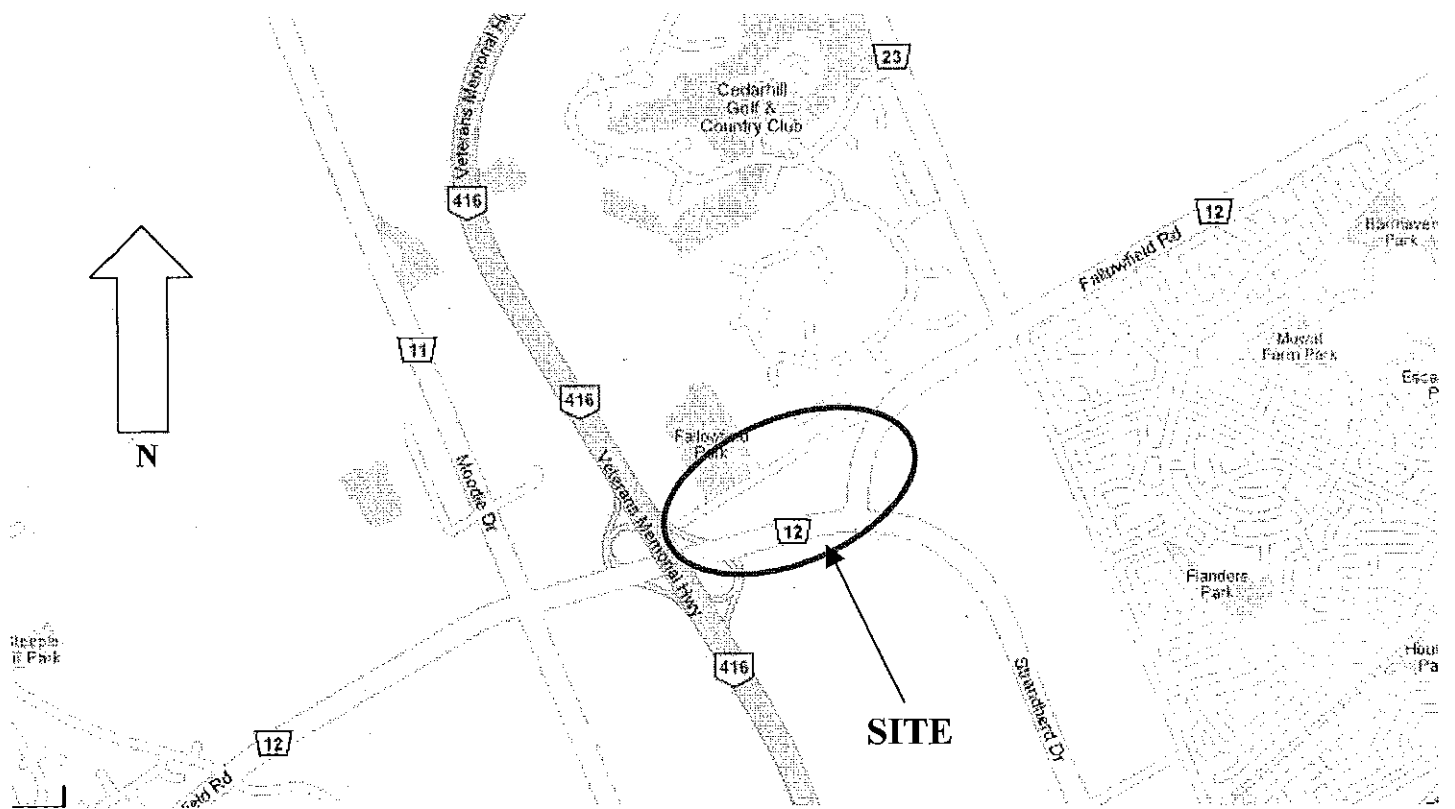
Reviewed by C. R. Morey, P. Eng.

File 060674



KEY PLAN

FIGURE 1



NOT TO SCALE



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Engineers

Project No. 060674

Date October 2006

October 2006

060674

ATTACHMENT A  
TITLE SEARCH DOCUMENTATION

INSTRUMENT #	TYPE	DATE	VENDOR	PURCHASER
	Patent	June 30 1801	Crown	Hannah Medtze
R026	Deed	July 26 1825	Hannah Medtze	Rev. Alexander McDonnell
R0302	Deed	Jan 31 1830	Rev. Alexander McDonnell	Daniel Fogarty
R01875	Deed	Aug 30 1842	Daniel Fogarty	Charles P. Thompson
R04280	Deed	Aug 15 1849	Charles Thompson	Daniel Fogarty
R017199	Will	Feb 9 1861	Daniel Fogarty	Rose Fogarty
NP7063	Quit Claim	Jan 19 1880	Andrew Fogarty (Heir of Rose Fogarty)	Daniel Fogarty
GR5026	Will	Mar 14 1927	Daniel Fogarty	Andrew M. Fogarty





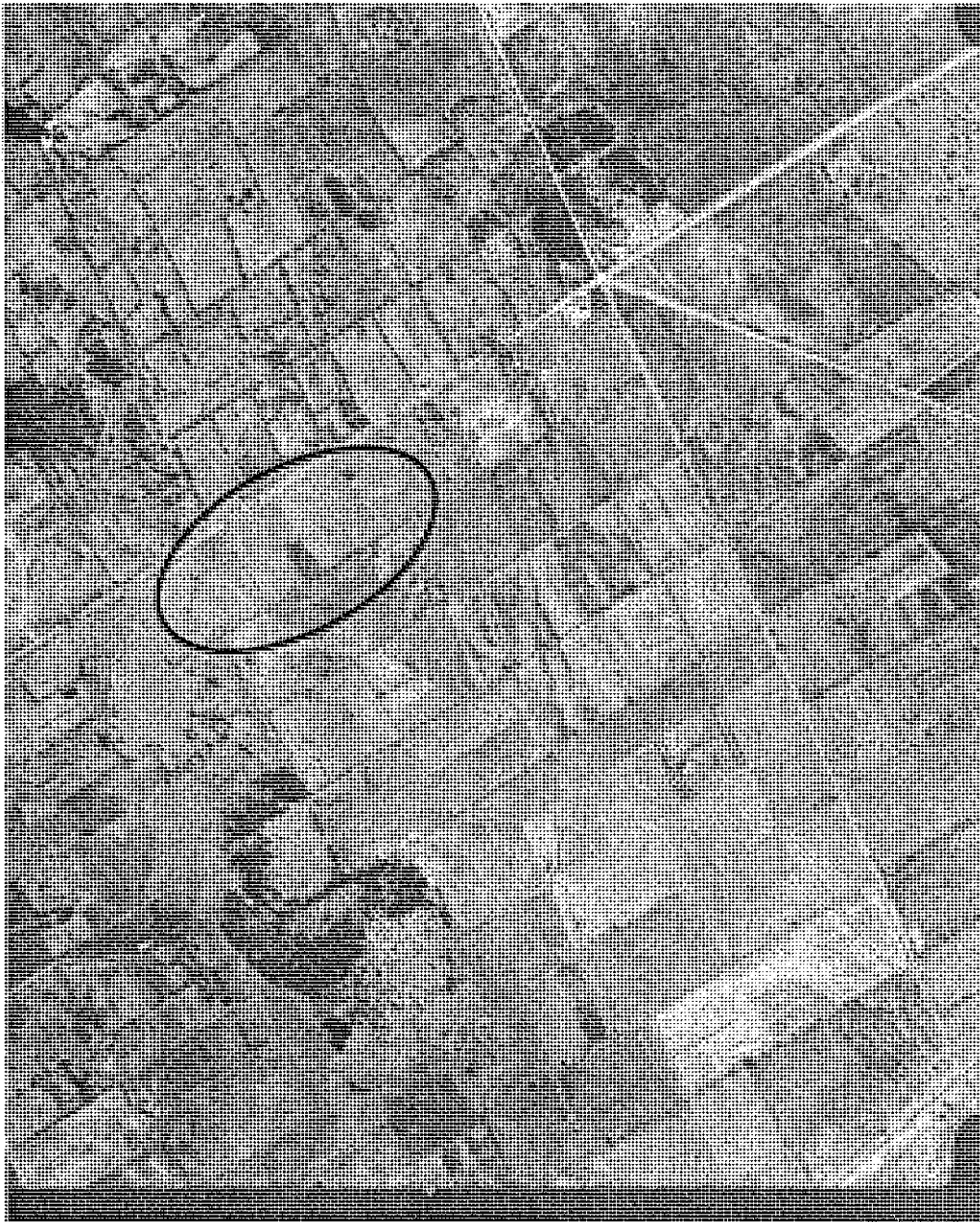
October 2006

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ATTACHMENT B

AIR PHOTOGRAPH

AIR PHOTOGRAPH



1963



Kollaard Associates  
Engineers

Project No. 060674

Date October 2006

AIR PHOTOGRAPH



1971

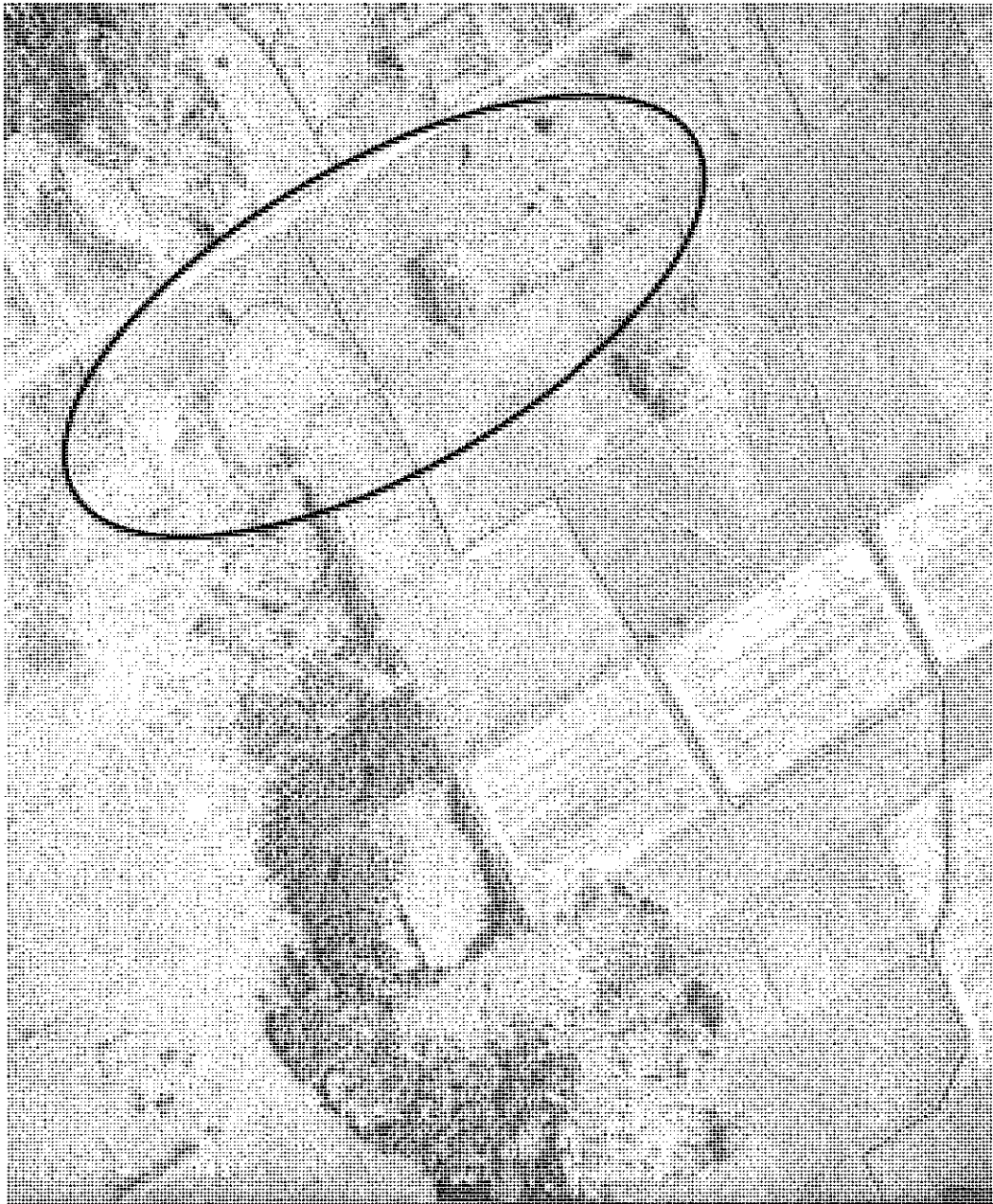


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Engineers

Project No. 060674

Date October 2006

AIR PHOTOGRAPH



1983



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Project No. 060674

Date October 2006



AIR PHOTOGRAPH



1994



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Date October 2006

AIR PHOTOGRAPH



2002



Kollaard Associates  
Engineers

Project No. 060674

Date October 2006

October 2006

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ATTACHMENT C

ONTARIO MINISTRY OF THE ENVIRONMENT CORRESPONDENCE





Kollaard Associates

Engineers

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P.O. Box 189  
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Civil • Geotechnical •  
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Kollaard File # 060674 Page 1

September 26, 2006

Ontario Ministry of the Environment  
P.O. Box 820  
2435 Holly Lane  
Ottawa, Ontario  
K1V 7P2

Attention: Abatement Officer

Re: PARTS 1, 5, 9, PLAN R-20-7852  
LOT 20, CONCESSION 4 (RIDEAU FRONT)  
TOWNSHIP OF NEPEAN  
FORMER CITY OF NEPEAN  
CITY OF OTTAWA, ONTARIO

Dear Sirs/Madam:

We have been retained by DCR / Phoenix Development Corporation Limited to carry out a Phase I ESA for the above noted site. Accordingly, we would be pleased if you would provide us with information concerning any historical or existing incidents at or in the vicinity of the above site on file with the Ontario Ministry of the Environment.

Sincerely,  
KOLLAARD ASSOCIATES, INC.

  
D. M. Tataryn, B.E.S.

Attachment: Key Plan

October 2006

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ATTACHMENT D  
LABORATOR RESULTS

Client: Koilaard Associates Inc.  
 215 Sanders St, Box 189  
 Kemptville, ON  
 K0G 1J0  
 Attention: Dean Tataryn

Report Number: 2620769  
 Date: 2006-10-06  
 Date Submitted: 2006-09-28  
 Project: 060674

Chain of Custody Number: 48111

P.O. Number:  
 Matrix:

Soil

PARAMETER	UNITS	MDL	LAB ID:			TYPE	LIMIT	UNITS
			Sample Date:	Sample ID:	GUIDELINE			
PERCENT MOISTURE	%	0.1	494455	494456	494457			
Moisture			2006-07-07	2006-07-07	2006-07-07			
BTEX	ug/g	0.05	TP9 8-10	TP12 4-6	TP15 4-8			
Benzene	ug/g	0.1	(FILL)	(FILL)	(FILL)			
Ethylbenzene	ug/g	0.1						
Toluene	ug/g	0.2						
m/p-xylene	ug/g	0.1						
o-xylene	ug/g	0.1						
BTEX SURROGATES	%	104						
Toluene-d8								
CCME Total Petroleum Hydrocarbons	ug/g	20						
F1 (C6-C10)	ug/g	20						
F1-BTEX (C6-C10)	ug/g	20						
F2 (C10-C16)	ug/g	20						
F3 (C16-C34)	ug/g	20						
F4 (C34-C50)	ug/g	20						
			18.8	23.8	6.3			
			<0.05	<0.05	<0.05			
			<0.1	<0.1	<0.1			
			<0.1	<0.1	<0.1			
			<0.2	<0.2	<0.2			
			<0.1	<0.1	<0.1			
			106	103	106			
			<20	<20	<20			
			<20	<20	<20			
			<20	<20	<20			
			<20	<20	<20			
			<20	<20	<20			

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration  
 Comment:

APPROVAL: Mina Nasirai  
 Organic Lab Supervisor

Client: Kollaard Associates Inc.  
 215 Sanders St, Box189  
 Kemptonville, ON  
 K0G 1J0  
 Attention: Dean Tataryn

Report Number: 2620769  
 Date: 2006-10-06  
 Date Submitted: 2006-09-28  
 Project: 060674

Chain of Custody Number: 48111

P.O. Number:  
 Matrix: Soil


PARAMETER	UNITS	MDL	LAB ID:			TYPE	LIMIT	UNITS
			Sample Date:	Sample ID:	GUIDELINE			
Cyanide (free)	ug/g	0.10	494455	494456	494457			
Electrical Conductivity	mS/cm	0.01	2006-07-07	2006-07-07	2006-07-07			
Moisture	%	0.1	TP9 8-10 (FILL)	TP12 4-6 (FILL)	TP15 4-8 (FILL)			
pH								
Sodium Absorption Ratio (SAR)		0.01						
Antimony	ug/g	1						
Arsenic	ug/g	1.0						
Barium	ug/g	1						
Beryllium	ug/g	1						
Boron	ug/g	0.5						
Cadmium	ug/g	0.5						
Chromium	ug/g	1						
Cobalt	ug/g	1						
Copper	ug/g	1						
Cr(VI)	ug/g	1						
Lead	ug/g	1						
Mercury	ug/g	0.1						
Molybdenum	ug/g	1						
Nickel	ug/g	1						
Selenium	ug/g	1						
Silver	ug/g	0.42						
Thallium	ug/g	1						
Vanadium	ug/g	1						
Zinc	ug/g	1						

MDL = Method Detection Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

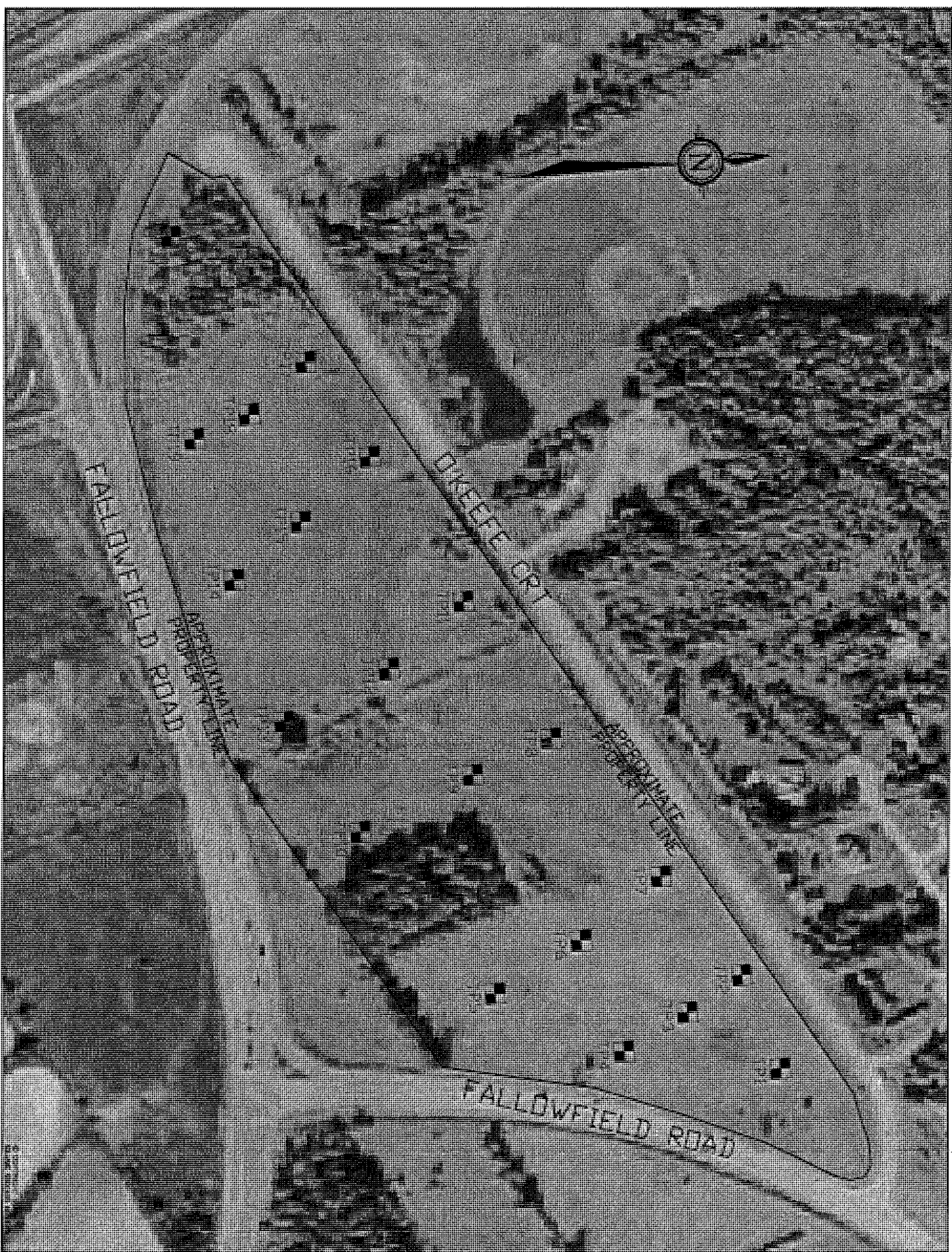
APPROVAL: Loma Wilson  
 Agriculture Lab Supervisor


FIGURE 2

LEGEND

 Aerial Photo  
Total PM Location

Not supplied by  
City of Ottawa mapping  
software.



DATE: 2008-07-21	DESIGNER:
 <b>Kollard Associates</b> Engineers 85, 859, 816, 816, 816 859, 816, 816, 816, 816, 816 816, 816, 816, 816, 816, 816 816, 816, 816, 816, 816, 816	
CLIENT:	PROPERTY AGENTS
PROJECT:	PROVISIONAL DEVELOPMENT APPLICATION
OWNER:	CITY OF OTTAWA CIVILIAN DIVISION

DATE:	DATE:
2008-07-21	JULY 20, 2008
SCALE:	SCALE:
1:2000	1:2000
PROJECT NUMBER:	PROJECT NUMBER:
080445	080445