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Cultural Heritage Impact Assessment Report for 4638
Major Mackenzie Drive East, Markham, Ontario



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1 Introduction

This Land Archaeology Ltd. was retained by Major Kennedy South Developments Limited to prepare a Heritage Impact Assessment (HIA) for the property located at 4638 Major Mackenzie Drive in the City of Markham, Ontario. The purpose of this HIA is to review the cultural heritage value or interest (CHVI) of the property and to provide recommendations, with respect to potential impacts on the property's CHVI. This study also outlines the applicable local or provincial planning and policy framework and identifies any future work that may be required in further phases of development to identify and mitigate potential negative impacts on cultural heritage values (if identified).

This HIA was prepared by Chris Uchiyama, MA, CAHP (see Appendix A: Author Qualifications). A site visit was undertaken on July 25, 2018.

The property, also known as the Pingle-Brown House, is currently listed on the City of Markham Heritage Register as a non-designated property under Section 27, Part IV of the *Ontario Heritage Act* (OHA). Based on City's evaluation and scoring system, the municipality has identified the subject property as a 'Group 2' property – buildings of significance and worthy of preservation and encouraged for designation.

2 Methodology

2.1 Policy Framework

In Ontario, the *Provincial Policy Statement 2014* (PPS), issued under s. 3 of the *Planning Act*, provides policy direction on matters of provincial interest related to land use planning and development.¹ When a municipality is undertaking land use planning decisions related to development or site alteration, decisions must be consistent with the PPS.² The PPS outlines that "significant built heritage resources and significant cultural heritage landscapes shall be conserved" and "development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved".³ In this instance, "Significant" means "resources that have been determined to have cultural heritage value or interest for the important contribution they make to our understanding of the history of a place, an event, or

¹ PPS 2014, Part I: Preamble.

² PPS 2014, Part III: How to Read the Provincial Policy Statement.

³ PPS 2014, s. 2.6.1 and 2.6.2.

(footnote continued)

a people.”⁴ The PPS outlines that the resources and landscapes should be conserved through their “identification, protection, management and use....in a manner that ensures their cultural heritage value or interest is retained under the *Ontario Heritage Act*.”⁵

The *Ontario Heritage Act* (“OHA”) is the primary legislation used by municipalities to conserve cultural heritage resources. It enables municipalities to designate individual properties that are of cultural heritage value or interest through individual designations (Part IV) or heritage conservation districts (Part V).⁶ Properties are evaluated against the criteria set out in *Ontario Regulation 9/06 Criteria for Determining Cultural Heritage Value or Interest under the Ontario Heritage Act* which include design value, historical/associative value, and contextual value. Designation is achieved through a municipal by-law which outlines a description of the property, statement of significance explaining the cultural heritage value or interest of the property, and a description of the heritage attributes.

2.1.1 Growth Plan for the Greater Golden Horseshoe, 2017

The province’s 2017 *Growth Plan for the Greater Golden Horseshoe* (GGH Growth Plan) sets out a number of policies relevant to the conservation of cultural heritage resources. Section 1.1 of the GGH Growth Plan identifies the importance of the conservation of cultural heritage resources.⁷

The GGH Growth Plan further indicates that “Our *cultural heritage resources* and open spaces in our cities, towns, and countryside will provide people with a sense of place.”⁸ Stating in Section 4.1 that:

The GGH contains a broad array of important hydrologic and *natural heritage features* and areas, a vibrant and diverse agricultural land base, irreplaceable *cultural heritage resources*, and valuable renewable and non-renewable resources. These lands, features and resources are essential for the long-term quality of life, economic prosperity, environmental health, and *ecological integrity* of the region. They collectively provide essential ecosystem services, including water storage and filtration, cleaner air and habitats, and support pollinators, carbon storage, adaptation and resilience to climate change.⁹

⁴ PPS 2014, s. 6.0, Definitions, at p. 49.

⁵ PPS 2014, s. 6.0, Definitions, at p. 40.

⁶ OHA, Part IV, s. 29.

⁷ Province of Ontario, *Growth Plan for the Greater Golden Horseshoe*. 2017: 2.

⁸ *Ibid*: 2.

⁹ *Ibid*: 39.

And,

The GGH also contains important cultural heritage resources that contribute to a sense of identity, support a vibrant tourism industry, and attract investment based on cultural amenities. Accommodating growth can put pressure on these resources through development and site alteration. It is necessary to plan in a way that protects and maximizes the benefits of these resources that make our communities unique and attractive places to live.¹⁰

Policies specific to cultural heritage resources are outlined in Section 4.2.7, as follows:

1. Cultural heritage resources will be conserved in order to foster a sense of place and benefit communities, particularly in strategic growth areas.
2. Municipalities will work with stakeholders, as well as First Nations and Métis communities, in developing and implementing official plan policies and strategies for the identification, wise use and management of cultural heritage resources.
3. Municipalities are encouraged to prepare archaeological management plans and municipal cultural plans and consider them in their decision-making.¹¹

2.1.2 City of Markham Official Plan

Markham's Official Plan (OP) was adopted by Council in December 2013 and approved by York Region in June 2014. Markham identifies its cultural heritage as a significant consideration in its future planning, stating in Section 1.2:

Markham has a wealth of *cultural heritage resources* within its boundaries. While having been inhabited for over 11,000 years by Aboriginal peoples including ancestors of the Huron-Wendat, Iroquois (Haudensaunee) and Anishnabeck Mississauga people, Markham also has a strong rural and colonial heritage, originating as an agricultural community served by the distinct villages of Unionville, Markham, Milliken and Thornhill. Remnants of this history remain to this day. Recognizing and preserving this cultural heritage is an important element of the City's identity.

The OP lays out its cultural heritage policies in Section 4.5 Cultural Heritage Resources, although cultural heritage conservation policies are integrated within policies throughout the OP.

Section 4.5 of the OP identifies cultural heritage resources as a fragile and non-renewable resource and lays out general policy for its conservation. Of particular relevance to the current assessment, Section 4.5.1.1 states that it is the policy of Council:

¹⁰ Ibid: 40.

¹¹ Ibid: 48.

4.5.1.1 To promote conservation of Markham's *cultural heritage resources* by:

- a) identifying cultural heritage resources and maintaining a *Register of Property of Cultural Heritage Value or Interest*;
- b) recognizing the significance of these resources by designating individual properties, groups of properties, or a geographical area of historical significance under the Ontario Heritage Act;
- c) adopting and implementing policies and programs for the protection of these resources including:
 - i. requirements for heritage impact assessments and conservation plans, heritage conservation easements and heritage permits;
 - ii. reviewing any application for development approval, building permit or demolition permit that directly affects a cultural heritage resource itself and adjacent lands to ensure new development, site alteration and additions are contextually appropriate and maintain the integrity of any cultural heritage resources; and
 - iii. facilitating the rehabilitation, renovation and/or restoration of cultural heritage resources so that they remain in active use;
- d) participating in the management of these resources through acquisition, disposition, purchase, lease donation or other forms of involvement such as the review of development approvals, development incentives and property standards; and
- e) promoting stewardship of these resources by offering financial support and educational and commemorative programs, and fostering public and private partnerships.

The listing of a property on the Register of Property of Cultural Heritage Value or Interest (the Register) is enabled by Section 27, Part IV of the OHA, which empowers municipalities to include non-designated properties which Council believes to be of cultural heritage value or interest on the municipalities Heritage Register. The subject property is currently listed on the Register.

Identification and recognition policies are outlined in Section 4.5.2 of the OP.¹² Section 4.5.2.4, identifies the policy of ensuring consistency in the identification and evaluation of cultural heritage resources through application of O.Reg. 9/06 *Criteria for Determining Cultural Heritage Value or Interest under the Ontario Heritage Act* and criteria included in Markham's Heritage Resources Evaluation System. The subject property has been evaluated by the City according to these evaluative criteria and determined to be a Group 2 property.

¹² Sections 4.5.2.1, 4.5.2.2, 4.5.2.3 and 4.5.2.4 are subject to Area/Site Specific Appeal No. 32 (Issue 318).

Policies relevant to the conservation of cultural heritage resources are outlined in Section 4.5.3 Protection. The OP states:

Protection options include:

- designation under the Ontario Heritage Act;
- heritage easement agreements;
- enforcement of the policies in heritage conservation district plans; and
- retention of *built heritage resources* on original sites and incorporation into new development opportunities.

Additional relevant policies related to protection options include:

4.5.3.1 To protect and conserve cultural heritage resources generally in accordance with the Standards and Guidelines for the Conservation of Historic Places in Canada, the Venice Charter, the Appleton Charter for the Protection and Enhancement of the Built Environment and other recognized heritage protocols and standards. Protection, maintenance and stabilization of existing cultural heritage attributes and features as opposed to removal or replacement will be the core principle for all conservation projects.

4.5.3.2 To give immediate consideration to the designation of any significant cultural heritage resource under the Ontario Heritage Act if that resource is threatened with demolition, inappropriate alterations or other potentially adverse impacts.

4.5.3.3 To use secondary plans, zoning by-laws, subdivision and site plan control agreements, signage by-laws, and other municipal controls, to ensure that development that directly affects a cultural heritage resource itself and adjacent lands, is designed, sited or regulated so as to protect and mitigate any negative visual and physical impact on the heritage attributes of the resource, including considerations such as scale, massing, height, building orientation and location relative to the resource.

4.5.3.4 To impose conditions of approval on development containing a cultural heritage resource itself and adjacent lands to ensure the continued protection of the cultural heritage resources.

Section 4.5.3.5 lays out the requirement "where considered appropriate, the preparation of a *heritage impact assessment* or a *heritage conservation plan*, prepared by a qualified heritage conservation professional, for any proposed alteration, construction or development that directly affects a *cultural heritage resource* itself and *adjacent lands* to ensure that there will be no adverse impacts caused to the resource or its *heritage attributes*." Policies related to provisions for Heritage Conservation Easements are outlined in Section 4.5.3.6.

Section 4.5.3.7 Heritage Permits applies to properties within a heritage conservation district (HCD) and individually designated properties.

Policies related to retention, relocation, and demolition are laid out in Sections 4.5.3.12, 4.5.3.13, and 4.5.3.15, respectively. Sections 4.5.3.12 and 4.5.3.13 are subject to appeal. These policies identify retention *in situ* and retaining three-dimensional integrity as the preferred, overarching, conservation strategy. Relocation is to be considered “where it has been demonstrated that retention of the resource in its original location is neither appropriate nor viable”. Relocation within the area of development is preferred, with a sympathetic site with Markham identified as an option where that is not possible.

OP policies related to demolition are, as follows:

4.5.3.15 To avoid the demolition of properties of significant cultural heritage resources as listed in the Register of Property of Cultural Heritage Value or Interest by:

- a. encouraging the conservation, and where appropriate, the restoration of these properties; and
- b. developing minimum standards for the maintenance of heritage attributes in a heritage property standards by-law.

4.5.3.16 That any proposal or permit to alter or demolish an individually designated property and any property within a heritage conservation district will be subject to the approval requirements of the Ontario Heritage Act in addition to Markham’s municipal permit requirements.

4.5.3.17 To require, where a significant cultural heritage resource is to be demolished, the proponent to undertake, where appropriate, one or more of the following mitigation measures, at the expense of the proponent prior to demolition:

- a. documentation of the features that will be lost in the form of a photographic record and/or measured drawings;
- b. advertising the availability of the resource for salvage or relocation;
- c. preservation and display of components or fragments of the former resource’s features or landscaping;
- d. marking the traces of former locations, shapes and circulation lines; and
- e. displaying graphic and textual descriptions of the site’s history and former use, buildings and structures.

North Markham Future Urban Area

The OP provides for the North Markham Future Urban Area, an approximately 1288-hectare area north of Major Mackenzie Drive and south of the municipal boundary, between Woodbine Avenue and the Robinson Creek.

The subject property is located within the North Markham Future Urban Area and is identified as a Future Neighbourhood Area. Per Section 8.12.1.4 (b) of the OP, the *Conceptual Master Plan* (September 2017) (CMP) includes identification of known cultural heritage resources. The CMP identifies 28 buildings of CHVI – seven of which are designated under the OHA. The remaining 21, including the subject property, were assigned a preliminary evaluation rating. The subject property was subsequently included among the group of North Markham Planning District properties listed on the municipal *Register of Property of Cultural Heritage Value* which were researched and evaluated by the Building Evaluation Sub-Committee of Heritage Markham.

The property at 4638 Major Mackenzie Drive East was identified, through this process as a Group 2 property – defined as a property of significance and worthy of preservation. The results of this evaluation were endorsed by Heritage Markham in March 2018.¹³ With respect to the evaluation of the property and its rating as a “Group 2” property, the staff comments accompanying the results of the evaluation, as presented to Heritage Markham Committee, noted the following:

- The City’s system for evaluating cultural heritage resources was last updated in 2003. Using a scoring system that examines the historical, architectural and contextual value of each property, resulting in their classification as Group 1 (buildings of major significance and worthy of designation), Group 2 (buildings of significance and worth of preservation and encouraged for designation), or Group 3 (noteworthy buildings worthy of designation if restored, or worthy of documentation). [sic]
- The evaluation system is a tool to assist the City in prioritizing cultural heritage resources for preservation. The designation or demolition of a building is not to be based solely on the results of this classification and rating system.

¹³ Heritage Markham, *The Third Heritage Markham Committee Meeting of the Corporation of the City of Markham in the year 2018*, March 14, 2018: 6.

(footnote continued)

- It should be noted that a property that has received a Group 3 rating could potentially be restored to reflect its former condition through a carefully researched examination and restoration plan.¹⁴

It should be noted that the research and evaluation of the property did not include on-site property access to record and examine existing conditions.

Official Plan Amendment No. 26

Official Plan Amendment No. 26 (By-law No. 2018-149), to amend the City of Markham Official Plan 2014, as amended, to incorporate a Secondary Plan for the Robinson Glen Community in the Future Urban Area Planning District, was adopted by Council in November 2018. The Robinson Glen Community area is bounded by Major Mackenzie Drive East, Kennedy Road, Elgin Mills Road East, and McCowan Road. Existing land uses within the Secondary Plan Area consist primarily of agricultural and rural residential uses and several cultural heritage resources are noted within the area – including seven residential properties listed or designated on the *Register of Property of Cultural Heritage Value or Interest* as well as the Pingle Farm Cemetery. Among the guiding principles outlined in Section 2.1 of the Secondary Plan, it is stated that:

It is the policy of Council:

- 2.1.3 (g) To recognize, protect and conserve, and incorporate *cultural heritage resources* into new development opportunities within the community.

Cultural heritage resources are addressed in Section 5.4 of the Secondary Plan, which identifies the City's objective as "to *conserve, enhance and restore significant cultural heritage resources* including *built heritage resources, archaeological resources or cultural heritage landscapes* that are valued for the important contribution they make to understanding the history of a place, event or a people, according to the policies of Section 4.5 of the Official Plan."¹⁵ The Secondary Plan includes the following relevant policies:

It is the policy of Council:

- 5.4.1 That consideration of *cultural heritage resources* within the Robinson Glen Secondary Plan Area shall be consistent with Section 4.5 of the Official Plan, and the policies of this Secondary Plan.

¹⁴ City of Markham, *The Third Heritage Markham Committee Meeting of the Corporation of The City of Markham in the year 2018*. Agenda, March 14, 2018. Staff Report prepared March 14, 2018, "Heritage Building Evaluations: North Markham Planning District (Future Urban Area)." P. 34.

¹⁵ City of Markham, *Official Plan Amendment No.26*.

<http://www2.markham.ca/markham/ccbs/indexfile/Agendas/2018/Council/cl181127/2018-149.pdf>, 2018: p.33.

- 5.4.2 That the cultural heritage resources contained in the City's *Register of Property of Cultural Heritage Value or Interest* within the Robinson Glen Planning Area are identified in Appendix 2 – Cultural Heritage Resources.
- 5.4.3 That the retention and/or relocation of *cultural heritage resources* where required by Section 4.5 of the Official Plan will be considered in accordance with Section 4.5.3.12 and 4.5.3.13 of the Official Plan, and reflected in the Community Design Plan required in Section 6.2 of this Secondary Plan.
- 5.4.4 To ensure that development of a *significant cultural heritage resource* itself, or development on *adjacent lands* is designed, sited or regulated so as to protect and mitigate any negative visual and physical impact on the *heritage attributes* of the resource, according to policy 4.5.3.11 of the Official Plan, including considerations such as scale, massing, height, building orientation and location relative to the resource. The strategy for integrating *cultural heritage resources* where required shall be outlined in the Community Design Plan.
- 5.4.5 To impose the following conditions of approval on development or *site alteration* containing a *cultural heritage resource* in addition to those provided in Section 4.5 of the Official Plan, where it has been determined appropriate subject to the policies in Section 4.5 of the Official Plan to retain a *cultural heritage resource*:
- a. securement of satisfactory financial and/or other guarantees to restore a culture heritage resource or reconstruct any *cultural heritage resources* damaged or demolished as a result of new development;
 - b. obtaining site plan control approval and a site plan agreement for the *cultural heritage resource* including the implementation of a restoration plan for the heritage building;
 - c. requiring provisions in offers of purchase and sale which give notice of the *cultural heritage resource* on the property; and
 - d. requiring the commemoration of the *cultural heritage resource* through the provision and installation of an interpretive plaque, in a publicly visible location on the property (i.e., Markham Remembered Plaque).

2.1.3 City of Markham – Heritage Impact Assessment

The City of Markham has prepared its own guidelines for the preparation of Heritage Impact Assessments (HIAs) in the City of Markham. This document outlines the framework, triggers (Application) and required content (Study Requirements) for HIAs. It also outlines qualifications for the person(s) preparing the HIA, stating:

A Heritage Impact Assessment shall be prepared by a qualified professional heritage consultant with knowledge of accepted standards of historical research, identification, evaluation and methods of conservation and mitigation. The consultant must be a member in good standing of the Canadian Association of Heritage Professionals.

Qualifications of the authors of this report are provided in Section 14 of this HIA.

This HIA has been organized according to the City's guidelines, which require the following content:

- Introduction to the Development Site (see Section 3)
- Research and Analysis (see Section 3.1 and 4)
- Statement of Significance (n/a)
- Assessment of Existing Condition (see Section 3.2)
- Details of the Proposed Development (see Section 5)
- description of the proposed development
- Impact of Development on Heritage Attributes (see Section 6)
- Alternatives, Mitigation and Conservation Strategies (see Section 6)
- Implementation and Monitoring (see Section 7)
- Summary Statement and Recommendations (see Section 7)

Per the City's guidance, the impact assessment undertaken as part of this HIA applies the methodology outlined in the Ministry of Tourism, Culture, and Sport's 2006 *InfoSheet #5: Heritage Impact Assessments and Conservation Plans from Heritage Resources in the Land Use Planning Process: Cultural Heritage and Archaeology Policies of the Ontario Provincial Policy Statement, 2005*.

2.2 Background Research

In order to identify any value-defining historical associations and to better understand the property within the broader context of the City of Markham, a wide variety of sources (listed in Section 9) were reviewed. Of particular note is the 2018 Research Report (Appendix B) for the subject property, which was prepared by the municipality to inform evaluation of the property by Heritage Markham's Building Evaluation Sub-Committee.

2.3 Site Analysis

A site visit was undertaken on July 25, 2018 in order to document the current conditions of the property and its surroundings. A Designated Substance Survey Report, prepared by AEOC Group Inc. in February, 2018 was also reviewed for pertinent information regarding the building's existing conditions. A description of the property, images, and the findings of the site visit can be found in Section 3.2.

2.4 Evaluation of Cultural Heritage Value or Interest

As previously noted, the evaluation of the CHVI of the property involved a review of the land-use history of the property, its current conditions, and current context. O.Reg.9/06 criteria were applied to the evaluation. This assessment considered the property as a whole, as well as individual components or structures.

3 Introduction to the Subject Property

The subject property is located at 4638 Major Mackenzie Drive East in the City of Markham. It is an approximately 150-acre parcel comprising a former farm with a mid-19th century residence, which was enlarged and remodeled around the 1940s. The structure is surrounded by a lawn and agricultural fields. A complex of agricultural outbuildings was located northeast of the house. These structures were demolished in 2017.

The property is privately owned and is currently vacant.

The property is not designated under Parts IV or V of the Ontario Heritage Act. It is listed as a non-designated property of the City's Heritage Register (Group 2) under Section 27, Part IV of the OHA.

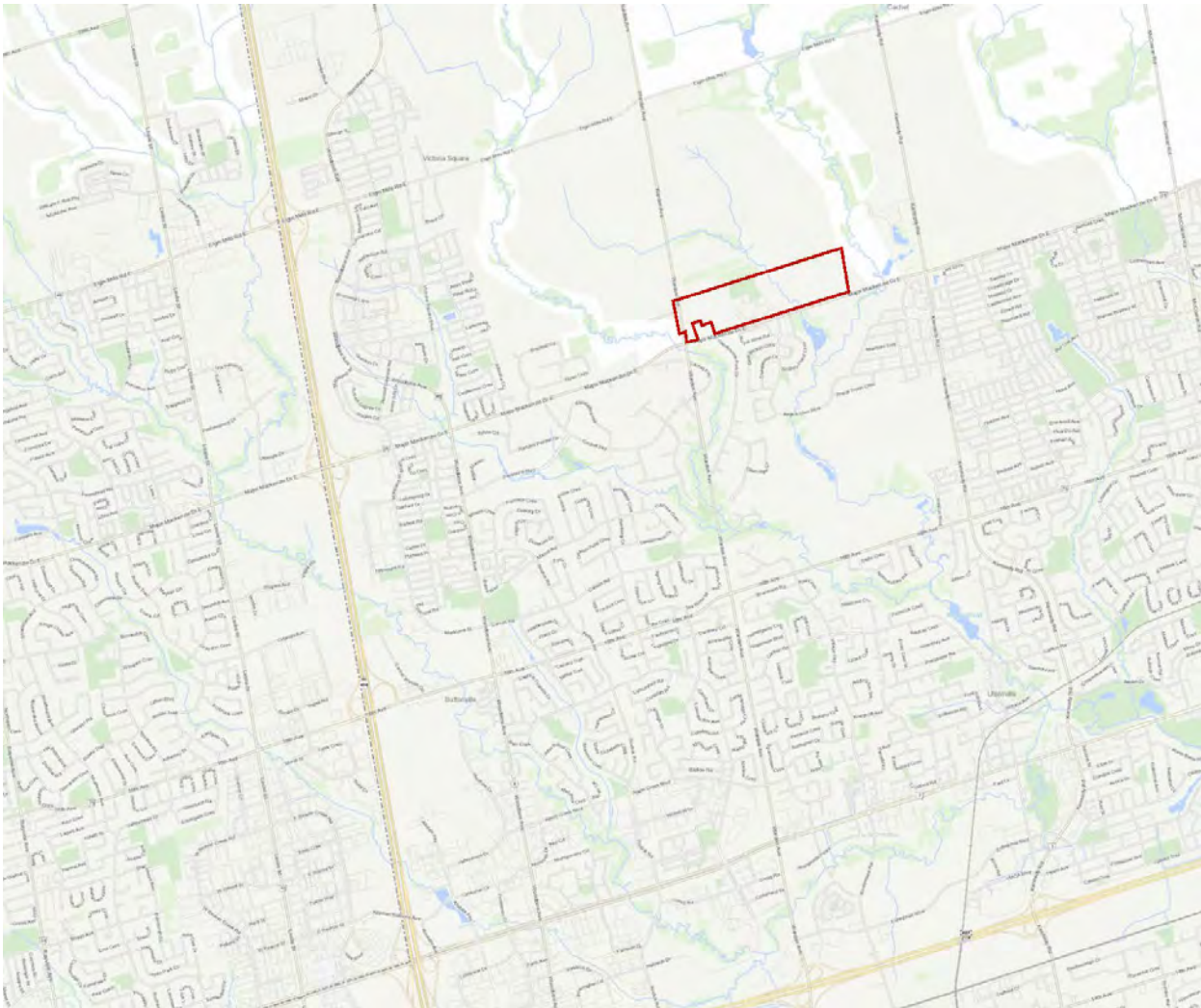


Figure 1: Location of 4638 Major Mackenzie Drive East



Figure 2: 4638 Major Mackenzie Drive East, current conditions

3.1 Background Research and Analysis

The subject property comprises part of Lot 21, Concession 6, Markham Township in the historic Township of York, now within the City of Markham.

In 1792, Markham Township was laid out by surveyors and named after archbishop of York, Rev. William Markham.¹⁶ The original survey laid out the area in ten concessions, one-and-one-quarter miles apart, running north and south from Yonge Street to Pickering Town Line. The area was originally settled by William Berczy who in 1794, brought a small group of settlers to Markham Township. By 1828, a post office had been opened in Markham with mail arriving three times a week from York.¹⁷

¹⁶ Alan Rayburn. *Place Names of Ontario*. Toronto: University of Toronto Press. 1997.

¹⁷ Mary Byers, Jan Kennedy and Margaret McBurney. *Rural Roots: Pre-Confederation Buildings of the York Region of Ontario*. 1976.

In 1846, William H. Smith's Canadian Gazetteer described the area as follows:

[Markham] is the second township in the province, in point of cultivation and amount of ratable property. It is well settled, and contains many excellent and well cultivated farms. The land is generally rolling and the timber a mixture of hardwood and pine. The village of Markham is situated in the south-east of the township; and the villages of Richmond Hill and Thornhill are partly in the township being situated on the Yonge Street Road. There are eleven grist and twenty-four saw mills in the township. Population in 1842, 5,698. Ratable property in the township, £86,577.

When York Region was established in 1969, Markham Township was annexed and came to form the Town of Markham.¹⁸

3.1.1 4638 Major Mackenzie Drive East

The Crown patent for Lot 21, Concession 6 was granted to George Pingle¹⁹ in June 1804.²⁰ George was the oldest son of Joachim²¹ and Anna Pingle; who were among the Berczy settlers. The following year, George's father, Joachim, was granted the Crown patent for the neighbouring Lot 22. Lots in the vicinity of the subject property were settled by the Pingle family as early as 1798 when the Berczy census lists: Joachim Pingle as occupying Lot 22, Concession 5; John Henry Pingle in Lot 22, Concession 6; Henry Pingle in Lot 25, Concession 3; and, George Pingle in Lot 21, Concession 5 (Figure 3).

¹⁸ Alan Rayburn. *Place Names of Ontario*. Toronto: University of Toronto Press. 1997.

¹⁹ Sometimes 'Pingel'.

²⁰ Land Registry Office #65, York Region. Land Title Abstracts. Markham Township, Lot 21, Concession 6.

²¹ Sometimes 'Jacob'

from the month of June 1794 till March 1798.

Men from 16 years and under 50 years of age.		Concessions	Lots	Men from 16 years and under 50 years of age.		Concessions	Lots	Men from 50 years and above 85+.		Concessions	Lots
1	Francis Brumstedt.	1	26	34	John Gottlieb Wichur.	4	17	8	George Hoemer.	5	24
2	Nicholas Henry Halbner.	1	21	35	Frederic Busch.	4	14	9	John Nicholas Stephens.	4	22
3	Joachim Lunau.	1	14	36	William Busch.	4	13	10	Marcus Rumohr.	4	16
4	Melchior Quante.	1	13	37	Charles Henry Vogel.	4	7	11	Joachim Pinael.	5	22
5	Peter Pining.	1	10	38	Nicholas Hagemann.	4	6	12	Charles Fred: Cornelius.	5	18
6	Joh Grotmann.	1	8	39	Dederic Barse.	5	26	13	Christopher Spausaus.	5	13
7	Niels Holms.	1	7	40	Henry John Sommerfeldt.	5	23	14	Sophia Tempel & Children	2	18
8	Jacob Ebers.	2	23	41	John Stephens.	5	25	15	George Sigmund Liebrich		
9	John Boye.	2	22	42	George Pingel.	5	21		Minister.	4	10
10	Peter Holst.	2	20	43	William Neuschultz.	5	19	Men who died since they arrived in the Province and left children or heirs.			
11	Henry Christian Philippsen	2	19	44	F. U. Emile Westphalen.	5	17				
12	Peter Ernst.	2	17	45	John Rumohr.	5	15	1	Peter Buckendahl.	1	18
13	John Charles Ritter.	2	16	46	John Henry Bauer.	5	14	2	John Schmeltzer.	1	22
14	Francis Schmidt.	2	14	47	Engelhard Helmke.	5	8	3	John Dietzman.	2	24
15	John Ulsen.	2	13	48	Joel Henry Philippsen.	5	7	4	John Hagemann.	4	6
16	George Henry Langhorst.	2	12	49	Phillips Eckhardt.	5	5				
17	John Machefsky.	2	10	50	Peter Petrus Philippsen.	5	4				
18	Jacob Meisner.	3	23	51	John Henry Pingel.	6	22				

Figure 3: Detail of Berczy Census from 1798 (Berczy, 1798).

In March 1844, the property was transferred – through George Pingle’s will²² – to Jacob Pingle.²³

The 1851 census indicates that Jacob and his family were living in a two-storey log house²⁴ on the property – at the time, Jacob is listed as 33 years of age. The agricultural census of 1851 indicates that a full 150 acres of the 200-acre lot were under cultivation.

Tremaine’s 1860 map of York County indicates that lot 21 was owned by Jacob Pingle Sr. – likely to distinguish ownership from that of parts of Lots 22 and 24, Concession 6 from Jacob Pingle “ Jr.”. In addition to Schoolhouse No. 12 in the southwest corner of the lot, a structure, likely a farmhouse is shown south of the location of the extant farmhouse at 4638 Major Mackenzie Drive East (Figure 4).

A map included in the 1861 census return provides further detail regarding the schoolhouse in the southwest corner of Lot 21 as well as an indication of the condition of surrounding roads (Figure 5). Present-day Major Mackenzie Drive is described simply as “ Side Line between Lots No 20 and 21, 5th and 6th Concessions”; whereas, additional description is provided for present-

²² George Pingle died in 1852; however, his will was dated 1844 and Jacob Henry Pingle appears to have already been occupying the subject property by this time.

²³ LRO #65.

²⁴ This is likely the archaeological site AlGt-622, a Euro-Canadian homestead dating to the early 19th century.

day Kennedy Road and Elgin Mills Road suggesting their prominence as transportation routes. Elgin Mills Road is described as follows, “Markham & Elgin Mills Plank road, this road is in the worst possible state of repair, and no funds to [illegible] it”, whereas, Kennedy Road is described as, “Sixth Concession Line, this line is a good turnpike road, good bridges all through” (Figure 4). Public and institutional buildings along the latter road support its prominence over present-day Major Mackenzie as a historic transportation route. This information, coupled with the 1878 atlas map of Markham Township, suggest that the primary access to the farmstead was from present-day Kennedy Road (Figure 4).

Although the exact date of construction is unclear, by the time of the 1861 census, the two-storey log house on Lot 21 had been replaced by a one-storey brick residence large enough for Jacob Pingle, his wife Henrietta (née Spies), and their two living daughters, Mercilla²⁵ and Allace²⁶. The census indicates that the structure was “vacant” (although not under construction) suggesting that the brick structure may have been very recently completed and the family had not yet moved out of the earlier residence.

The 1871 Directory for the County of York lists Jacob Pingle²⁷ as a farmer residing in the west part of Lot 21, Concession 6.²⁸ The census returns from that year list Jacob, his wife Henrietta and their two daughters were living with Jacob’s mother, Martha.²⁹ It is unclear when the Pingle’s left this farmstead; however, it appears to have been in the mid-1870s³⁰.

The 1881 Directory lists James and William Harper as tenants on Lot 21, Concession 6.³¹

In 1888 Henrietta (Jacob’s widow) is listed in the Hamilton City Directory. It is likely that she was living with her youngest daughter, Alice, who had married a physician, Alexander Robinson, in July 1882. At the time of the marriage, Dr. Robinson was residing in Hamilton.³² In 1891 and

²⁵ Sometimes “Nellie”.

²⁶ Sometimes Alice.

²⁷ Spelled ‘Pringle’ in the Directory.

²⁸ McEvoy & Co., Publishers. *County of York Gazetteer and Directory for 1870-1871 including a full business directory of the City of Toronto. 1870:* p. 67. Accessed via Toronto Public Library at <https://www.torontopubliclibrary.ca/detail.jsp?Entt=RDMD-37131055373351D&R=DC-37131055373351D&searchPageType=vrl>.

²⁹ LAC, *Census of Canada, 1871*; Census Place: Markham, York East, Ontario; Roll: C-9969; Page: 53; Family No: 211

³⁰ Jacob Pingle died in September 1878; however, the Register of Deaths records that he had been suffering from an illness for “several years”. His place of death appears to have been Markham, so it is possible that they stayed at the farm during this time.

³¹ W.H. Irwin & Co., *County of York Gazetteer and Director, 1881:* p. 76. Accessed via TPL at <https://static.torontopubliclibrary.ca/da/pdfs/37131055468649d.pdf>

³² AOO, 1883.

(footnote continued)

1901 Henrietta was listed in the Toronto (St. James Ward) nominal census. She was living with her eldest daughter, Marcella 'Nellie' McKay³³; herself a widow. It appears as though Alice and Alexander Robinson's children were also living with the two.³⁴

The subject property was occupied by tenant farmers, such as the Harpers, until – and likely following – the sale of the property by Mercilla in 1905³⁵ – following the deaths of both Henrietta and Alice. The property was purchased by George Reesor and Henry Arnold in 1907 and 1910, respectively. The addition of the second storey likely occurred under Arnold's ownership as the value of the property appears to have risen from \$3,200 in 1907 to \$10,800 when purchased by Edward Bewell in 1912.³⁶ A one-storey frame addition on the east of the brick structure may have also been constructed at this time (Figure 6).

The 1921 Census lists Edward Bewell, a farmer, living in a six-room brick house with his wife, Margaret, and adult children Robert, Cora, Mary, and Harriet.³⁷ The Bewell's sold the property to Percy Arnold in 1922.³⁸

In 1937, the subject property was purchased by Frank and Ila Brown.³⁹ In addition to several changes to the structures on the property, the Browns also sold smaller residential lots in the southwest corner of the lot, fronting Major Mackenzie Drive East, in the 1960s.⁴⁰ The expansion, of the residence occurred during the Brown's ownership. It is possible that some of the most extensive expansion took place around 1944 and 1954, when the Brown's took out mortgages on the property. Air photos from 1954 and 1970 suggest that the removal of the one-storey frame addition along the east and widening of the two-storey brick structure may have taken place before the 1954 air photo was recorded (Figure 7). The one-storey L-shaped attached garage addition was constructed sometime between 1970 and 1978. The outbuildings and farmyard were also altered during this period; however, as discussed in Section 3.2, little of the farmscape and outbuilding complex remain today. The property is currently owned by Major Kennedy South Developments Limited.

³³ Mercilla 'Nellie' Pingle married Scottish physician Alexander McKay of Beaverton in 1882 (AOO, 1883).

³⁴ Year: 1891; Census Place: St James Ward, Toronto City, Ontario; Roll: T-6371; Family No: 106.

³⁵ LRO #65.

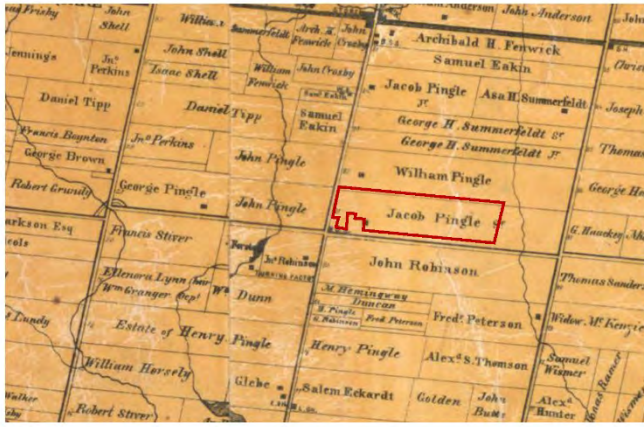
³⁶ LRO #65.

³⁷ LAC, *Sixth Census of Canada, 1921*. Reference Number: RG 31; Folder Number: 100; Census Place: Markham (Township), York South, Ontario; Page Number: 6.

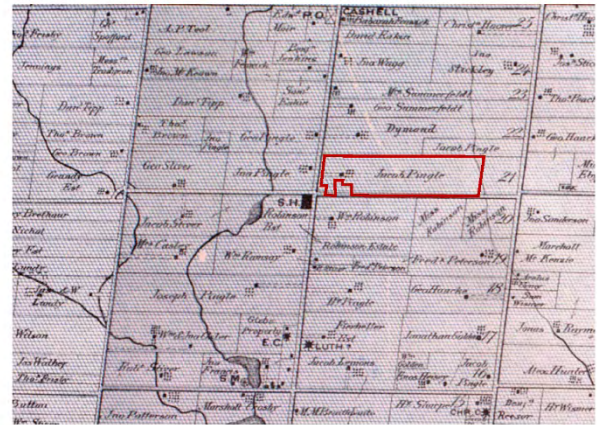
³⁸ LRO #65.

³⁹ Ibid.

⁴⁰ Ibid.



1860



1878



1954



1970



1988



2018

Figure 4: Property Morphology

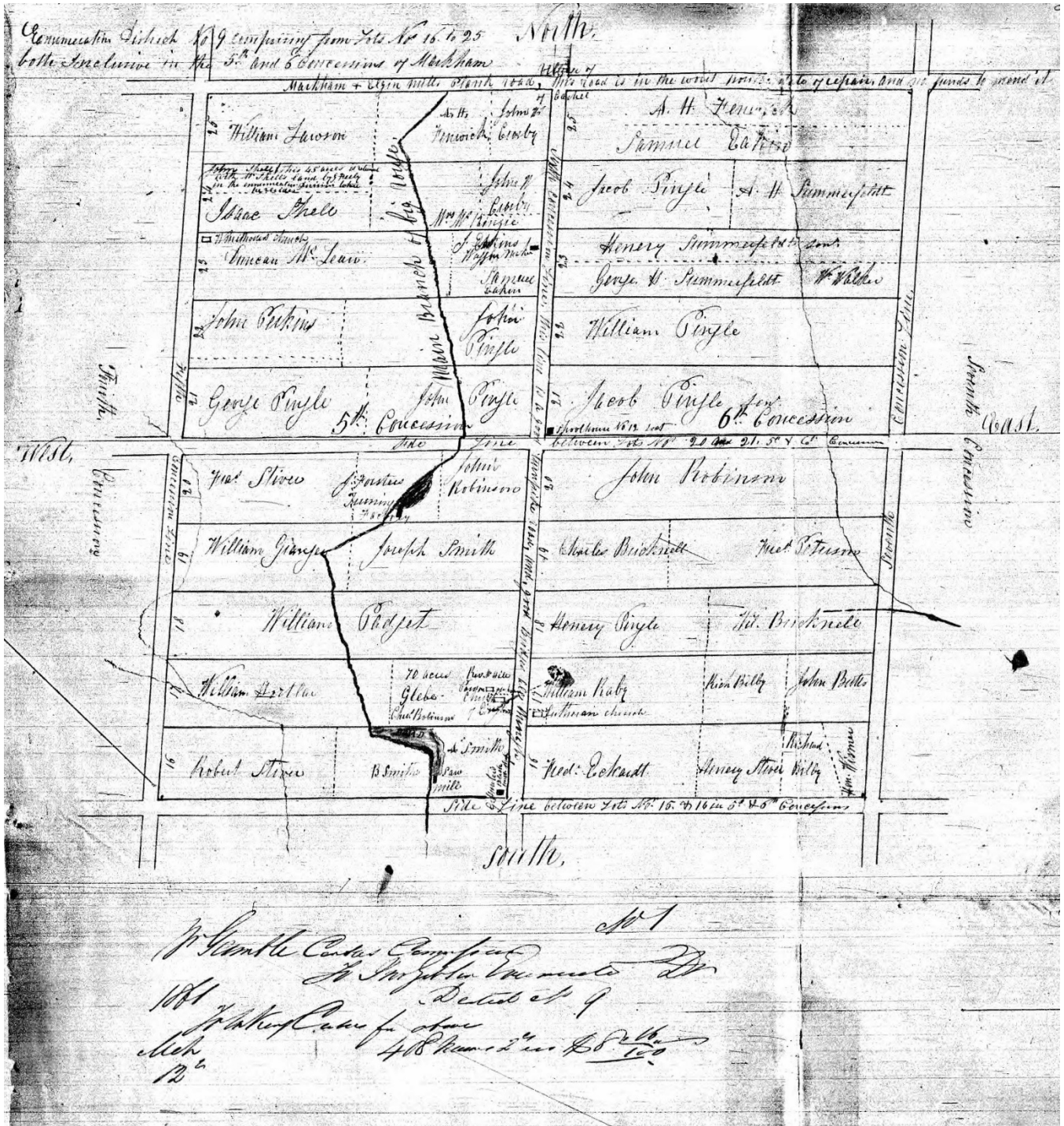


Figure 5: Sketch map from 1861 Census (LAC, 1861).



Figure 6: Circa 1900-1910 photograph of the subject property (M1984.13.31 Markham Museum).



1954



1970



1978



1988

Figure 7: Morphology of Farm Yard

3.2 Existing Conditions

The extant residence at 4638 Major Mackenzie Drive East is a two-storey brick dwelling clad in stucco. The residence was constructed on a roughly rectangular plan in at least three phases (c.1860, c.1910, and c.1940s). The extant one-storey, L-shaped frame addition was constructed on the east side of the residence in the 1970s.

The extant structure is a mélange of vernacular forms, styles and techniques and is the result of multiple periods of expansion and remodeling (see Photo 1 to Photo 4). The core of the residence presents as a vernacular, three-bay, centre hall plan residence. The 20th century addition to the structure is situated on the east side of the structure, off-setting the characteristic symmetry of the centre hall plan cottage-style architecture of the original c.1860 brick structure and c.1900-1910 second floor addition. Although the entire structure has been clad in stucco, cracks belie its brick construction (Photo 5). Brick clad, concrete block foundations are visible beneath the stucco at the east end of the building, while sections of stone foundations are visible along the west (Photo 6 and Photo 7). Chimneys at either end of the three-bay version of the structure have been replaced with a single brick chimney near the west end of the rear elevation (Photo 3).

On the ground floor, the c.1860 portion of the structure currently comprises the living room and hall (Figure 8). Presumably the kitchen would have been situated in the one-storey frame structure shown in the c.1900-1910 photograph; however, the original layout of the one-storey brick structure is not possible to discern as a result of extensive remodeling. Casings and glazings of openings all appear to date to the early- to mid-20th century. Interior finishes, such as flooring, baseboards, and radiators are all consistent with early- to mid-20th century residential fixture – although the fireplace surrounds in the first floor living room and second floor master bedroom are notable for their art deco design (Photo 8).

On the second floor, the three bedrooms towards the west of the structure likely date to the turn of the century construction of the second floor and their configuration would suggest that the current location of the stairs is original to the construction of the second floor (Figure 9).

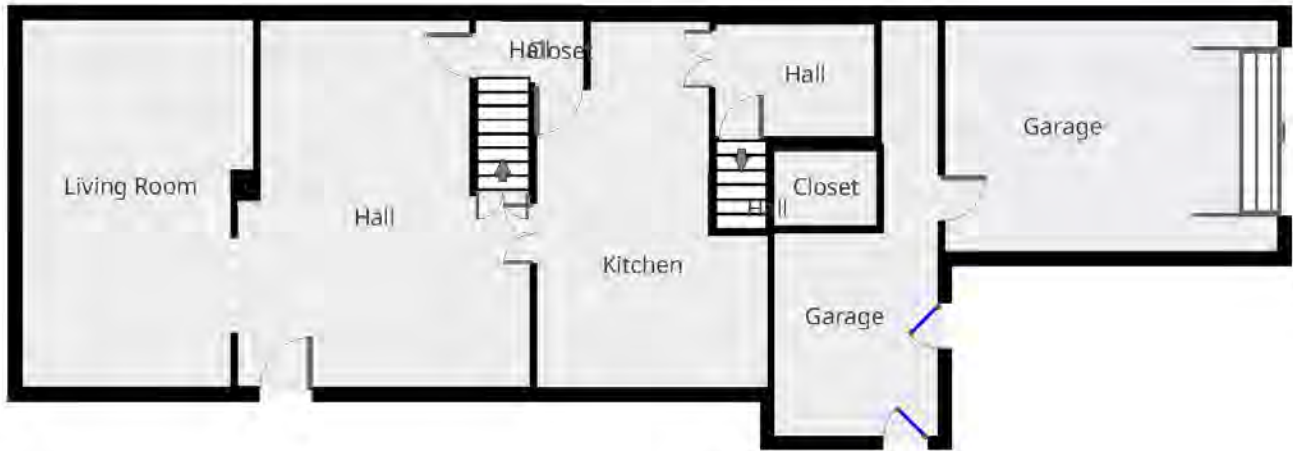


Figure 8: Ground Floor Plan (not to scale)

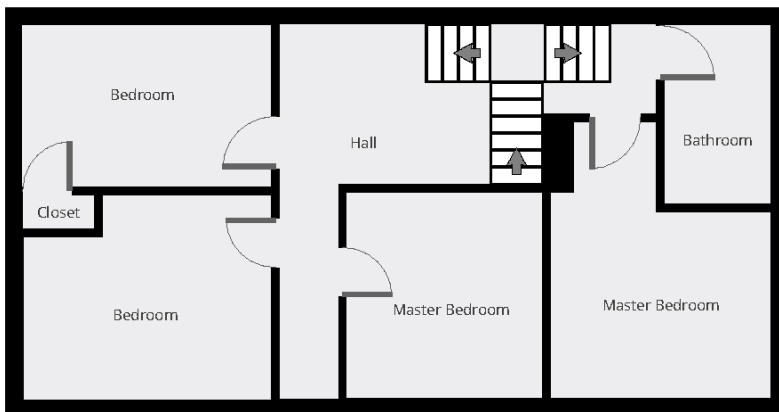


Figure 9: Second Floor Plan (not to scale)



Photo 1: 4638 Major Mackenzie Drive East, front elevation facing north



Photo 2: 4638 Major Mackenzie Drive East, front elevation looking northwest



Photo 3: 4638 Major Mackenzie Drive East, west and north (rear) elevations



Photo 4: 4638 Major Mackenzie Drive East, east and north (rear) elevations



Photo 5: Detail of visible brick structure below cracking stucco



Photo 6: Detail of foundation stones along west elevation



Photo 7: Detail of foundations, near southeast corner of structure



Photo 8: Fireplaces, first floor (left), second floor (right)

3.2.1 Designated Substances Survey

In February 2018, AEOC Group Inc. prepared a survey of designated substances at the subject property. The report is included as Appendix C. The report made the following observations:

Asbestos

- Laboratory analysis confirms the presence of asbestos in some of the samples collected.
 - Textured ceiling on main floor- Type 3
 - Main floor and 2nd floor textured lath & plaster - Type 3
- Laboratory analysis confirms that the drywall compound that was sampled came back with no ACM present.

Lead

- Old paints are known to contain lead and mercury, which are Designated Substances under the *Ontario Occupational Health and Safety Act*, Section 30

Mercury

- Mercury vapour is present in all fluorescent lamps.

Silica

- Free crystalline silica (common construction sand) can be found in abrasives, concrete, filter aids, masonry materials (grouts, mortar, bricks, etc.), ceramics, paints, plaster and drywall/drywall joint compound.

Polychlorinated Biphenyls (PCBs)

- Light ballasts are present in fluorescent and HID light fixtures. It is assumed in a building built prior to 1979, that some of the light ballasts will contain PCB's if the building has not been re-lamped and all ballast replaced.

The following notable recommendations were made:

Asbestos-containing materials (ACM) that may be disturbed during the project must be removed prior to any renovation, demolition etc. Regardless of proposed construction work, damaged Asbestos-containing materials (ACM) must be repaired or removed in order to comply with current Regulations (O. Reg. 278/05) and MOL field practice.

Construction disturbance of lead-containing products may result in exposure to lead. Cutting, grinding, drilling, removing, stripping or demolition of materials containing or coated with lead should be completed only with proper respiratory protection and other worker safety precautions as outlined in the Ministry of Labour Guideline – Lead on Construction / Home Repairs & Renovations Projects, 2011.

Do not break lamps or separate liquid mercury from components. Mercury-containing materials and lamps should be recycled to reclaim the mercury. Disposal in significant quantities would require mercury-containing materials to be disposed of as hazardous waste.

Construction disturbance of silica-containing products may result in excessive exposure to airborne silica, especially if performed indoors and dry. Cutting, grinding, drilling or demolition of materials containing silica should be completed only with proper respiratory protection and other worker safety precautions as outlined in the Ministry of Labour Guideline – Silica on Construction Projects, 2011.

A full list of recommendations for the remediation of all of the identified designated substances is included in Appendix C of this report

4 Evaluation of Cultural Heritage Value or Interest

The property at 4638 Major Mackenzie Drive East was evaluated against criteria outlined under *Ontario Regulation 9/06 Criteria for Determining Cultural Heritage Value or Interest under the Ontario Heritage Act*. A summary of the evaluation is provided in Table 1.

Table 1: Evaluation of Property, Ontario Regulation 9/06 Criteria

O.Reg. 9/06 Criteria	Criteria Met (Y/N)	Justification
The property has design value or physical value because it,		
i. is a rare, unique, representative or early example of a style, type, expression, material, or construction method,	N	The subject property is a mélange of a number of vernacular forms, styles, materials, and construction methods. Extensive remodeling undertaken by the Browns in the mid-20 th century significantly altered, and largely removed, the legibility of earlier components. The resulting 20 th century stucco-clad vernacular farmhouse is not representative of a specific style, period, expression or method.
ii. displays a high degree of craftsmanship or artistic merit, or	N	The residence at 4638 Major Mackenzie does not display a high degree of craftsmanship or artistic merit.
iii. demonstrates a high degree of technical or scientific achievement.	N	The modest design, decoration, and methods of construction that remain are consistent with their dates of construction. The property does not meet this criterion.
The property has historical value or associative value because it,		
i. has direct associations with a theme, event, belief, person, activity, organization or institution that is significant to a community,	N	Although the property was one of several owned by the Pingle family in the very early 19 th century, what might remain of the c. 1860 portion of the extant farmhouse is not directly associated with the early settlement of Markham. Joseph H. Pingle, although a descendent of the Pingle family, does not appear to have played a significant role in the development of the community. The Browns, with whom the extant farmhouse is most directly associated, do not appear to satisfy this criterion.
ii. yields, or has the potential to yield, information that contributes to an understanding of a community or culture, or	unknown	The extent to which the structure has the potential to yield information about mid-19 th century brick construction in Markham is unclear. The structure was significantly altered in the early and mid-20 th century

O.Reg.9/06 Criteria	Criteria Met (Y/N)	Justification
		and – although some of the exterior brick walls are extant below the stucco cladding, their condition and ability to convey information regarding materials and construction methods is unclear. Attempts to record this information would likely be intrusive, if not destructive.
iii. demonstrates or reflects the work or ideas of an architect, artist, builder, designer or theorist who is significant to a community.	N	The builder/designer is unknown. The property does not meet this criterion.
The property has contextual value because it,		
i. is important in defining, maintaining or supporting the character of an area,	N	The subject property comprises only the former farmhouse, which on its own, does not define the rural character of its surrounding area.
ii. is physically, functionally, visually or historically linked to its surroundings, or	N	The property at 4638 Major Mackenzie Drive East is not physically, functionally, visually, or historically linked to its surroundings.
iii. is a landmark.	N	4638 Major Mackenzie Drive East is not a landmark and does not meet this criterion.

4.1 Findings

Based on the review of background materials and review of the property’s design and physical condition, the property at 4638 Major Mackenzie Drive East does not appear to satisfy the criteria outlined under *Ontario Regulation 9/06 Criteria for Determining Cultural Heritage Value or Interest under the Ontario Heritage Act* (O.Reg.9/06). A summary of the evaluation is provided in Table 1. Although a portion of the structure appears to date to c.1860, in its current state, the property is legible as a mid-20th century vernacular residence. Furthermore, the current condition of the structure poses a number of concerns related to human health, and safety. The Designated Substances Survey (Appendix C) identified a number of remediation requirements should the proponent wish to undertake work to uncover remains of the c.1860 brick structure.

5 Description of the Proposed Development or Site Alteration

This CHIA has been prepared in order to assess potential adverse impacts on the cultural heritage value or interest and heritage attributes of development of the property located at 4638 Major Mackenzie Drive East. In particular, the potential impacts related to demolition of the residence have been considered.

It is the professional opinion of the author, that the demolition of the residential building at 4638 Major Mackenzie Drive East would result in an irreversible impact to the c.1860 portion of the structure and its potential heritage attributes; however, strategies and options to mitigate this impact are outlined in Section 6 and 7.

6 Mitigation Options, Conservation Methods, and Proposed Alternatives

6.1 Considered Alternatives

6.1.1 Retention or Relocation

As a general best practice for heritage conservation, minimal intervention should be the guiding principle for all work.

This alternative essentially sees the retention of the residential structure in situ with a focus on conserving the identified heritage attributes. Retention is generally the preferred alternative with respect to structures of cultural heritage value or interest (CHVI), in the absence of other factors.

Evaluation of the retention option generally includes consideration of the physical limitations for incorporating the former residence into any proposed new development. This includes issues related to structural integrity, Building Code Compliance, and possible Designated Substances.

Given that the potential CHVI of this structure is related to the potential for the remaining one-storey c.1860 brick structure, this alternative would require significant intervention. Furthermore, no archival information remains to guide this work, and it is unlikely that the structure could be retained in a form that would adequately and legibly conserve the CHVI of the brick structure without significant reconstruction and conjecture.

6.1.2 Deconstruction and Documentation

Salvage and documentation is preferred to demolition and disposal of materials in landfill. This option allows for the thoughtful demolition of cultural heritage resources on the property, ensuring that remnant structural components associated with the c.1860 century brick structure can be recorded. It also allows for the salvage of materials, such as the art deco fire place surrounds.

Markham's OP identifies the following requirements where a significant cultural heritage resource is to be demolished (one or more may be required, where appropriate):

- a) documentation of the features that will be lost in the form of a photographic record and/or measured drawings;
- b) advertising the availability of the resource for salvage or relocation;
- c) preservation and display of components or fragments of the former resource's features or landscaping;
- d) marking the traces of former locations, shapes and circulation lines; and
- e) displaying graphic and textual descriptions of the site's history and former use, buildings and structures.

Although Markham does not have specific guidance for the preparation of a Deconstruction and Documentation Report package, other Ontario municipalities provide some policy precedence, such as the City of Hamilton's 2013 guidance document, *Cultural Heritage Assessment Guidelines: Documentation and Salvage Report*.

Given that the property's CHVI is related to its potential to yield information about mid-19th century brick construction in the area, this alternative is recommended as the preferred conservation strategy and may provide a wealth of information on the methods and materials used in this type of construction.

It should be noted that the presence of designated substances may preclude this alternative.

6.2 Mitigation Strategies

Although the deconstruction and documentation of the structure does not fully mitigate the loss of the existing structure, it does provide an opportunity to confirm the extent of remnant mid-19th century construction materials and to record evidence of construction materials and methods. This process also results in a documentation package that can be deposited with the municipality and local archives.

7 Recommended Conservation Strategy

Based on the results of background research and the site visit, the evaluation of CHVI determined that the property's cultural heritage value is limited to its potential to yield information on mid-19th century brick construction; however, the attributes associated with this potential to yield information are not readily visible or discernable as a result of extensive intervention and remodeling.

It is the author's professional opinion that demolition of the structure should be undertaken in a manner which would allow for the identification of portions of the early or original construction and that any remaining early brick construction be recorded. Copies of the documentation should be deposited with the municipality and local archives.

8 Closure

This report has been prepared by This Land Archaeology Inc. on behalf of Major Kennedy South Developments Limited. Any use of this report by a third party is the responsibility of said third party.

We trust that this report satisfies your current needs. Please contact the undersigned should you require any clarification or if additional information is identified that might have an influence on the findings of this report.



Christienne Uchiyama, M.A., CAHP

Heritage Consultant

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9.1 Legislation

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Ontario Regulation 9/06: Criteria for Determining Cultural Heritage Value or Interest under Ontario Heritage Act, R.S.O. 1990, c. O.18

Ontario Heritage Act Ontario Regulation 10/06: Criteria for Determining Cultural Heritage Value or Interest of Provincial Significance under Ontario Heritage Act, R.S.O. 1990, c. O.18.

Appendix A: Author Qualifications

Christienne Uchiyama, M.A., CAHP is an Associate with This Land Archaeology. She is also Principal and Manager of Heritage Consulting Services at Letourneau Heritage Consulting Inc. and currently sits on the Board of Directors for the Canadian Association of Heritage Professionals. Ms. Uchiyama is a heritage consultant with over a decade of experience in the research and assessment of cultural heritage resources in Ontario. She is a member of the Canadian Association of Heritage Professionals and graduated from the Heritage Conservation Masters program at Carleton University. Her thesis focused on the identification and assessment of impacts on cultural heritage resources in the context of Environmental Assessment. Since 2003 she has provided cultural heritage planning advice, support and expertise as a member of numerous multi-disciplinary project teams for projects across Ontario. Her specialties include the development of Cultural Heritage Evaluation Reports and Heritage Impact Assessments.

Ms. Uchiyama has written or co-authored more than 100 technical cultural heritage reports, including archaeological license reports, collections management materials, inventories, cultural heritage evaluation reports, heritage impact assessments, and cultural heritage landscapes policy documents. Throughout the course of these projects, she has developed a thorough understanding of provincial evaluation and assessment methodologies, cultural landscapes, provincial regulatory processes, historical research, and archaeology. Ms. Uchiyama has a great deal of experience undertaking Cultural Heritage Evaluations under both O.Reg.9/06 and 10/06. She has prepared Statements of Cultural Heritage Value or Interest for dozens of properties.

Appendix B: City of Markham, Research Report and Staff Report to Heritage Markham Committee (2018)

RESEARCH REPORT



Pingle-Brown Farmhouse
Lot 21, Concession 6
4638 Major Mackenzie Drive
c.1855; Enlarged and Remodeled c.1940

Historical Background:

This two storey vernacular farmhouse is located on the west part of Markham Township Lot 21, Concession 6. George Pingle, the eldest son of the Berczy settler family of Joachim and Anna Margaretha Pingle, received the Crown patent for the full 200 acres of this lot in 1804. His father received the Crown patent for Lot 22, Concession 6, the next property to the north, in 1805. The Berczy settlers were a group of German immigrants who are considered to be the founders of Markham. They arrived here in 1794 under the leadership of William Berczy, an artist and entrepreneur.

George Pingle (1770-1852) married Maria Koepke (c.1785-1873) and raised a family on Lot 21, Concession 6. One of their sons, Jacob Henry Pingle (1817-1878), inherited the family farm after his father's death in 1852. Jacob Henry Pingle's first wife was Martha (1779-c.1847). In 1847 he remarried, his second wife being Henrietta Speas (1823-1902). According to the 1851 census, by that time George Pingle was no longer listed as residing on the property. His son, Jacob Henry Pingle and his family were farming Lot 21, Concession 6, residing in a two storey log house.

An early schoolhouse was located at the south-west corner of the Pingle farm at least as early as 1855. It was a log building that served School Section No. 11, known as the Colty Corners School after the crossroads community of that name. In 1864, a new brick schoolhouse was built on the opposite corner to replace it.

A new farmhouse had been constructed on the property by the time of the 1861 census. The Pingle residence was described as a one storey brick dwelling. There were two daughters in the family, Marcella and Alice. One of the teachers in the local school, Mary Patterson, boarded with the Pingles. By 1871, with no sons to take over the farm, Jacob and Henrietta Pingle had moved and rented their property to tenant farmers. According to the 1871 census, Clement Casely resided there. In the both the 1881 and 1891 census returns, the property was tenanted by James Harper. In 1891, the residence was described as a one storey brick dwelling containing four rooms.

Jacob Henry Pingle died in 1878. His widow, Henrietta relocated to Toronto where she lived with Marcella Nellie McKay, one of her daughters, also a widow. In 1907, the farm was sold out of the Pingle family's ownership after a century.

In the early 20th century, the former Pingle farm had a series of owners. One of these, either George Reesor (owner from 1907-1910), Henry Arnold (owner from 1901-1912) or Edward Bewell (owner from 1912-1922) raised the one storey brick dwelling to two storeys.

The next major period of change for the house at 4638 Major Mackenze Drive East occurred under the ownership of Frank and Ila (Hastings) Brown, who purchased the property in 1937. Both Frank and Ila Brown were from Scarborough Township. They expanded and remodeled the farmhouse on the property into the form it has today. They also re-built the barn after it burned shortly after they moved to the farm. The Brown family owned the property until recent times. The owner in 2017 was Major Kennedy South Developments.

Architectural Description and Stylistic Analysis:

The farmhouse at 4638 Major Mackenzie Drive was originally accessed by a lane on the east side of Kennedy Road. The front of the building may have once faced west. When the Brown family purchased the farm in 1937, they undertook extensive renovations, extending the building in the same form, enlarging window openings, and applying stucco over the brick. The driveway was changed to its current orientation. It is not known if all the changes happened to the farmstead at about the same time. They may have occurred as a process over several years.

In its current form, the Pingle-Brown farmhouse is a representative example of an evolved building, containing at least three periods of development: the original one storey brick dwelling dating from c.1855, the second storey dating from c.1910, and the expansion and remodeling

dating from c.1940. The Pingle-Brown farmhouse is a simple vernacular building suited to its rural setting. Stylistically, the gable-roofed canopy over the front door has a touch of Tudor Revival design, and the general character of the stucco-clad dwelling is reminiscent of some of the designs promoted in the *Craftsman* magazine of the early 1900s.

The main block of the building is two storeys in height, has an elongated rectangular plan, and a medium-pitched gable roof. There is a frame wing/garage on the east end of the building, and a glassed-in room projecting from the front wall of the frame wing, adjacent to the main block. The south façade has an asymmetrical but ordered placement of openings. Window glazing is 2 over 2 single hung sash with the muntin bars running horizontally, a design detail representative of the 1930s – 1940s period when vestiges of the Art Deco style persisted as elements of modern design. Overall, the Pingle-Brown farmhouse retains much of its c.1940 character. The earlier phases of the building are not readily apparent due to the extent of renovations and stucco cladding, which creates a singular design statement.

Context:

The Pingle-Brown farmhouse is one of several rural residences remaining in the area, some of which also are associated with the Pingle family. The building reflects the agricultural community that has existed in this part of Markham for generations but is now in the process of being transformed from rural to urban.

G. Duncan, February 2018, with historical research by Su Murdoch Historical Consulting (see research report, attached).

Appendix C: Designated Substances Survey Report



AEOC Group Inc.

PO BOX 585
Bradford ON L3Z 2B1

Tel – Toronto – 416-985-5025
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DESIGNATED SUBSTANCE SURVEY REPORT



ISSUED TO: Major Kennedy South Developments Ltd

LOCATION: 4638 Major Mackenzie Drive East, Markham ON

ISSUING OFFICE: PO BOX 585, Bradford, Ontario, L3Z 2B1

ISSUED ON: February 7, 2018

CONTACT: Real Landriault (416-985-5025)

PROJECT: Designated Substance Survey Report

AEOC Group Project No. 2017-R2451

E-mail: info@aeocgroups.com

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Web-site: www.asbestosenvironmentalofcanada.ca



EXECUTIVE SUMMARY

AEOC Group, a division of Asbestos Environmental of Canada, was retained by **Major Kennedy South Developments Ltd** to conduct a **Designated Substance Survey Report** at the **residential building** located at **4638 Major Mackenzie Drive E, in Markham, Ontario**. Gavin Landriault, Hazardous Materials Consultant was on site on **December 12th, 2017** to conduct the assessment.

Summary of Findings

Asbestos

- **Laboratory analysis confirms the presence of asbestos in some of the samples collected.**
 - **Textured ceiling on main floor- Type 3**
 - **Main floor and 2nd floor textured lath & plaster - Type 3**
- **Laboratory analysis confirms that the drywall compound that was sampled came back with no ACM present.**

Lead

- Old paints are known to contain lead and mercury, which are Designated Substances under the Ontario Occupational Health and Safety Act, Section 30

Mercury

- Mercury vapour is present in all fluorescent lamps.

Silica

- Free crystalline silica (common construction sand) can be found in abrasives, concrete, filter aids, masonry materials (grouts, mortar, bricks, etc.), ceramics, paints, plaster and drywall/drywall joint compound.

Polychlorinated Biphenyls (PCBs)

- Light ballasts are present in fluorescent and HID light fixtures. It is assumed in a building built prior to 1979, that some of the light ballasts will contain PCB's if the building has not been re-lamped and all ballast replaced.

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Designated Substance Survey Report

4638 Major Mackenzie Drive E.
Markham, ON
L6C 1K6

Project No. 2017 R2451

Issued to: Major Kennedy South Developments Ltd

Issuing Office: PO BOX 585, Bradford, ON, L3Z 2B1

Issued on: February 7, 2018

Contact: Real Landriault (416-985-5025)

Project: Designated Substance Survey Report

AEOC Group Project No. 2017-R2451

INTRODUCTION AND ASSESSMENT

1.1 Introduction

AEOC Group, a division of Asbestos Environmental of Canada, was retained by Major Kennedy South Developments Ltd to conduct a **Designated Substance Survey Report** at the **residential building** located at **4638 Major Mackenzie Drive E, Markham Ontario**. Gavin Landriault, Hazardous Materials Consultant was on site on **December 12th, 2017** to conduct the assessment. The report is to identify if there's potential of a **Designated Substance**, in specified areas in the **residential building** as part of the requirements for the planned **demolition**. As part of the scope of work, all areas of concern were inspected. This report presents the findings of the assessment, and recommendations.

The site audit consisted of a visual inspection and samples that were collected from the **residential building** on **December 12th, 2017**. Prior to tendering project work at the **residential building**, the owner must provide this report to the contractors and subcontractors. This report fulfills the requirements of Section 10 of O. Reg. 278/05, **Designated Substance – Asbestos on Construction Projects and Buildings and Repair Operations**. This requires that owners report the presence of both friable and non-friable asbestos to contractors as part of the tendering process or prior to arranging for work.

Asbestos-containing materials (ACM) that may be disturbed during the project must be removed prior to any renovation or demolition etc. Regardless of proposed construction work, damaged Asbestos-containing materials (ACM) must be repaired or removed in order to comply with current Regulations (O. Reg. 278/05) and MOL field practice.

The assessment was performed as a prerequisite to planned **demolition**. This assessment is intended for pre-construction or pre-demolition purposes only, and may not provide sufficient detail for long term management of asbestos-containing materials (ACM) as required in Section 8 (3) of O. /Reg. 278/05.

The assessment was performed to establish any (ACM) Asbestos Containing Materials incorporated in the structure and its finishes.

Asbestos is commonly found in pipe insulations, fabricated materials such as gaskets and floor tiles, wall panels, duct wrapping, wall board joint compounds. These materials are commonly used in buildings constructed from 1920's to 1970's

1.2 Facility Description

The following provides a basic description of the building systems.

The subject property is a **residential building**. AEOC Group was on site at **4638 Major Mackenzie Drive E, in Markham Ontario** due to planned **demolition** of the above address.

<u>System</u>	<u>Description</u>
Structure	Brick
Exterior Cladding	Wood, Brick
HVAC	Boiler
Roof	Shingles
Flooring	Hardwood, Linoleum, Concrete
Interior Walls	Drywall Plaster, Textured, Lath & Plaster
Ceilings	Lath & Plaster, Textured Ceiling Plaster, Drywall Plaster,

1.3 Scope of Assessment

The assessed area consisted of specified areas of the **residential building**. The assessment was performed to establish the location and type of hazardous building materials incorporated in the structure and its finishes. For the purpose of the assessment and this report, hazardous building materials are defined as those containing the following substances:

The following are a list of Designated Substances acknowledged by the Ontario Ministry of Labour

- Asbestos
- Lead
- Mercury
- Silica (free crystalline silica)

The investigation did not include an examination for the presence of:

- Polychlorinated Biphenyls (PCBs)
- Mould or microbial contamination (visible growth only)

The following Designated Substances are not typically found in building materials in a composition/state that is hazardous. Therefore, these materials were not addressed in this assessment. Furthermore, the client did not the use of any of the following designated substances in processes:

- Arsenic
- Acrylonitrile
- Benzene
- Coke Oven Emissions
- Ethylene Oxide
- Isocyanates
- Vinyl Chloride (vinyl chloride monomer, not PVC)

2.0 ASSESSMENT METHODOLOGIES AND CRITERIA

2.1 Methodology

The Surveyor started with a visual inspection of the building. He then entered rooms and corridors etc. where access was possible within the extent of the assessed area and inspected for the presence of hazardous building materials. Relevant information was recorded where hazardous building materials were observed, including approximate quantities, locations, condition, sample information and sample locations. The quantities reported are an approximate visual estimate.

2.2 Asbestos

The Surveyor inspected the **residential building** for the presence of friable and non-friable ACM. Typical examples of friable ACM include sprayed fireproofing, acoustic/texture finish, and mechanical insulation. Typical examples of non-friable ACM include asbestos cement sheets or pipes, vinyl floor tiles, vinyl sheet flooring, drywall compound and asbestos textile products. Typical examples of non-friable ACM, which have the potential to become friable during construction, include plaster and acoustic ceiling tiles. See (appendix III).

2.2.1 Asbestos Sampling Exclusions

A number of materials which might contain asbestos were *not* sampled during our assessment for various reasons.

Reasons for not sampling these materials include:

- Sampling the material may be hazardous to the surveyor (e.g. electrical hazard);
- Sampling the materials may cause consequential damage to the property (e.g. sampling roofing may cause leaks);
- The material is inaccessible without major demolition (e/g. Inside boilers etc.) or;
- The material is present in such an inconsistent fashion that without complete removal of finishes, the extent of ACM cannot be determined (e.g. floor levelling compound).

If present, these materials must be presumed to be asbestos-containing and are best sampled *immediately* prior to commencing renovation.

2.2.2 Asbestos Sampling Strategy and Frequency

Asbestos bulk samples were collected at a rate that was in compliance with the requirements of O.Reg. 278/05. The Regulation identifies the minimum number of samples collected and analyzed (1, 3, 5, or 7 depending on quantity, application and friability) from each homogenous material, in order for the material to be considered non-asbestos. This frequency is indicated in Table 1 of the Regulation (see Appendix 1). A homogeneous material is defined in Regulation 278/05 as one that is uniform in color and texture. The surveyor used information obtained on site by visual examination, available information on the phases of the construction and any information on renovations provided by the client, to determine the extent of each homogeneous area and the number of samples required.

The use of asbestos in drywall joint compound was banned in Canada under the Federal Hazardous Products Act of 1980 but it could possibly contain asbestos as late as 1986 (due to stored material and non-compliance with the ban). Most buildings undergo constant renovation, including the removal and replacement of drywall partitions.

Asbestos cement products and various other non-friable materials (e.g. vibration dampers) were visually identified as ACM where present and where visual identification is reliable.

Ontario was the first Canadian Province to ban the use of friable asbestos (March 1986, O.Reg. 654/85). Of the many non-friable materials, only drywall joint compound has been banned in Canada. Therefore, in theory, all other non-friable materials and surfaces in which asbestos could have been used, should be sampled for total certainty that it is non-asbestos, even to the present day. In practice however, asbestos ceased being used in most materials by manufacturers as a result of asbestos concerns. AEOC is aware of many of the dates that certain materials ceased being manufactured with asbestos. Based on this knowledge, we suggest that sampling of certain material is not required after specific dates and our sampling strategy was based on this knowledge.

In addition, to be conservative we allow several years past these dates in our strategy. This allows additional time so that stored ACM products would have worked through the supply chain, and allows for some uncertainty in the exact start/finish date of construction and associated usage of ACM. We believe this is a prudent and responsible limitation and that the sampling strategy is appropriate.

2.2.3 Basis of Evaluation and Recommendations regarding ACM

The condition and the potential for disturbance of any ACM observed were evaluated. The evaluation criteria were based on the conclusions of published studies, particularly the “Royal Commissions on Matters of Health and Safety Arising from the Use of Asbestos in Ontario”, existing Ontario regulation, and our experience involving buildings that contain ACM. An ACM was considered damaged if it is sprayed material that is delaminating, mechanical insulations with damaged/missed insulation or jacketing, or non-friable materials that have been pulverized or damaged so that they have become friable.

The priority for remedial action is based not only on the evaluation of condition but is also based on several other factors which include:

- Accessibility or potential for direct contact and disturbance.
- Practicality of repair (for example, where damage to the ACM may continue even if it is repaired).
- Visibility of the material.
- Efficiency of the work (for example, if damaged ACM is being removed in an area, it may be most practical to remove all ACM in the area even if it is in good condition).

Recommendations also include removal of ACM that may be disturbed by any planned renovation or demolition activity known to Asbestos Environmental of Canada.

2.3 Lead

Old paints are known to contain lead and mercury, which are Designated Substances under the Ontario Occupational Health and Safety Act, Section 30. Lead was used in oil based paints as a drying agent and pigmentation. Should lead dust be produced as part of renovation work i.e. by cutting, grinding, or sanding at which a worker is likely to inhale lead over Time-Weighted Average Limit (TWA) of 0.05 mg/m³, appropriate respirators will be required as outlined in Ontario Regulation 490/09.

2.4 Mercury

Building materials suspected of containing mercury were identified by appearance, age, and knowledge of historic applications. Sampling was not performed. Do not break lamps or separate liquid mercury from components Mercury - containing materials and lamps should be recycled to reclaim the mercury. Disposal in significant quantities would require mercury-containing materials to be disposed of as hazardous waste.

2.5 Silica

Building materials suspected of containing crystalline silica were identified by knowledge of current and historic applications. Sampling was not performed. Free crystalline silica (common in sand) will likely be present within these materials. Should silica be produced as part of the renovation work at the subject site, i.e. by removal of the block walls or cement concrete, mortar, or brick, at which a worker is likely to inhale Silica over time-weighted average exposure value (TWAEV) of 0.05 mg/m³, an appropriate respirator will be required by the worker as outlined in Ontario Health and Safety Act R.R.O. 1990, Regulation 845 amended to O. Reg. 490/09.

2.6 Polychlorinated Biphenyls (PCBs)

Light ballasts are present in fluorescent and HID light fixtures. Fluorescent light fixtures were not disassembled to examine ballasts during this assessment. It is assumed in a building built prior to 1979, that some of the light ballasts will contain PCB's if the building has not been re-lamped and all ballast replaced.

This assessment is intended for pre-construction or pre-demolition purposes only, and may not provide sufficient detail for long term management of PCB's or to determine end-of-use inventories as required in SOR/2008-273.

2.7 Visible Mould

Visible mould was not identified at the time of inspection. If any mould growth is concealed within wall cavities it was not addressed in this assessment.

2.8 Analytical Methods

Bulk samples collected for asbestos identification were analyzed at EMLab P&K in San Francisco, CA. The analysis was performed in accordance with Test Method EPA/600/R-93/116 and EPA/600/M4-82-020. **The asbestos analysis was completed using a stop positive approach. Only one result of greater than 0.5% asbestos content is required to determine that a material is asbestos-containing**, but all samples must be analyzed to conclusively determine that a material is non-asbestos (O.Reg. 278/05). The laboratory stopped analyzing samples from a homogeneous material once greater than 0.5% asbestos was detected in any of the samples of that material. All samples of a homogeneous material were analyzed if no asbestos, or described as containing no asbestos, this is subject to the limitations of the analytical method used, and should be understood to mean no asbestos was detected.

Analytical results are presented in **Appendix I**.

2.9 Photographs



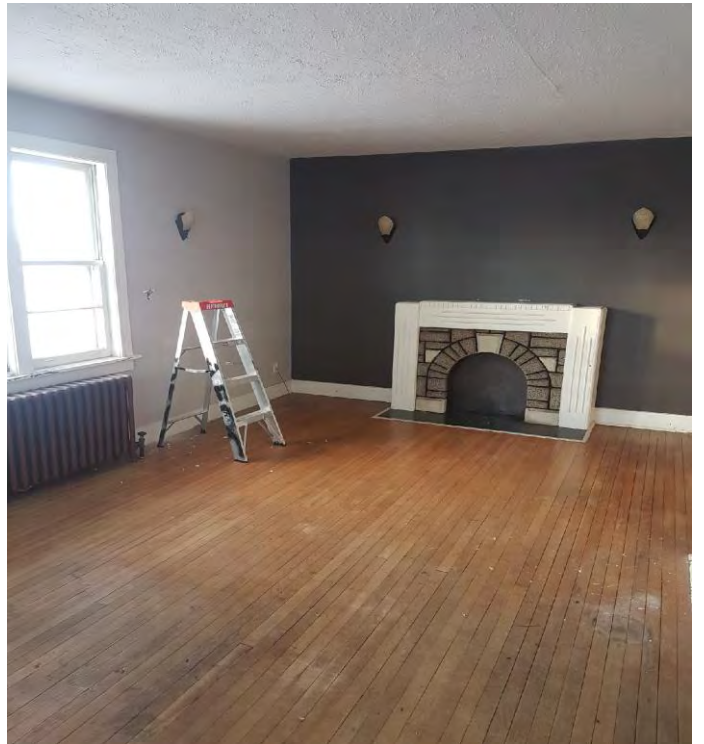
Designated Substance Survey Report

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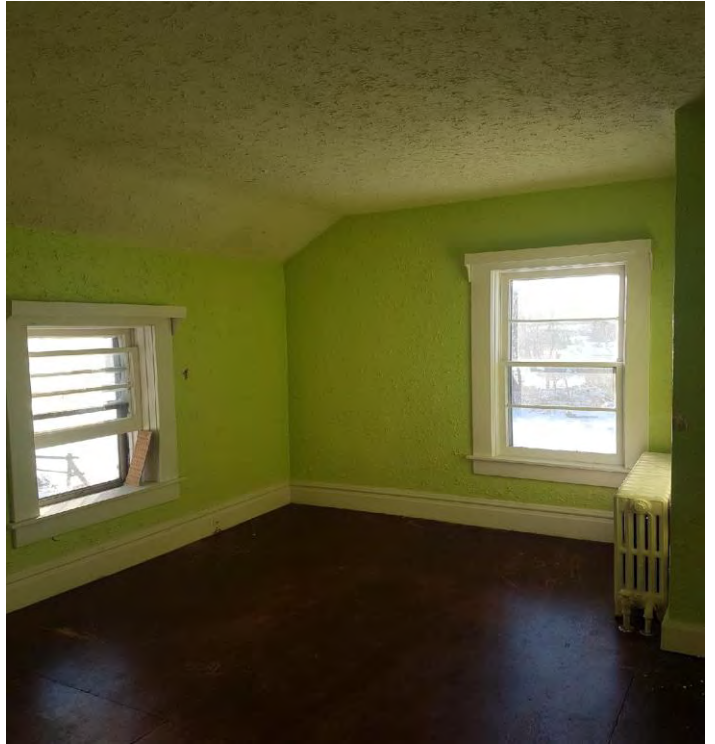
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3.0 FINDINGS

3.1 Asbestos

Representative samples of wall, ceiling, linoleum, and textured ceiling were collected from locations **A, B, C, E and F** from the above **residential building**. Samples were submitted to EMLab P&K for analysis.

- **Based on laboratory test results, asbestos was found in the samples collected from locations C and E.**
 - **Textured ceiling on main floor- Type 3**
 - **Main floor and 2nd floor textured lath & plaster - Type 3**
- **Laboratory analysis confirms that the drywall compound that was sampled came back with no ACM present.**

3.2 Presumed Asbestos-Containing Materials

A number of materials which might contain asbestos were *not* sampled during our assessment. If present, these materials must be presumed to be asbestos-containing and are best sampled *immediately* prior to commencing demolition. Materials presumed to contain asbestos include;

3.3 Lead

See Lead recommendations on page 10

3.4 Mercury

Mercury was **not found or detected** during inspection at the above address, but could however be present.

3.5 Silica

Free of crystalline silica (common construction sand) that could be present in concrete, mortar, brick, masonry, and ceramics at the above address.

3.6 Polychlorinated Biphenyls (PCBs)

3.7 Visible Mould

- No visible mould was identified at the time of inspection.

4.0 RECOMMENDATIONS

4.1 General

Prior to tendering project work at this building, the owner must provide this report to the contractors and subcontractors. Asbestos-containing materials (ACM) that may be disturbed during the project must be removed prior to any renovation, demolition etc. Regardless of proposed construction work, damaged Asbestos-containing materials (ACM) must be repaired or removed in order to comply with current Regulations (O. Reg. 278/05) and MOL field practice.

The following recommendations set out meet requirements of the Occupational Health and Safety Act. Asbestos recommendations meet the requirements of the Designated Substance – Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations, Ontario Regulation 278/05. Based upon the observations of this assessment, Asbestos Environmental of Canada (AEOC) offers the following for your consideration.

4.2 Asbestos

Prior to construction all ACM must be repaired or removed in order to comply with current Regulations (Ontario Regulation 278/05) and MOL field of practice. The following materials require repair or removal.

<u>Material</u>	<u>Location</u>	<u>Recommended Procedures</u>
Textured Ceiling	Main Floor	Type 3 Measures and Procedures.
Textured Lath & Plaster	Main and Second Floor Walls & Ceilings	Type 3 Measures and Procedures

NOTE- All Textured Walls & Ceilings on Main and Second Floors will be Type 3 Set up

4.3 Lead

Construction disturbance of lead-containing products may result in exposure to lead. Cutting, grinding, drilling, removing, stripping or demolition of materials containing or coated with lead should be completed only with proper respiratory protection and other worker safety precautions as outlined in the Ministry of Labour Guideline – Lead on Construction / Home Repairs & Renovations Projects, 2011. The Ministry has not established a lower limit for concentrations of lead in paint (or other materials) below which precautions do not need to be considered, and will not accept US EPA or HUD limits (0.5% lead) for this purpose. Therefore, the need for precautions and details of worker safety will need to be assessed on a project basis. AEOC Group recommends that the building owner and contractor seek advice to develop a site-specific safety plan (including air monitoring) that considers the various factors that would affect worker exposure to lead from paint and other materials. Performing an exposure assessment during work that disturbs lead - containing coatings may be able to alleviate the use of some of the precautions that are required.

4.4 Mercury

Do not break lamps or separate liquid mercury from components. Mercury-containing materials and lamps should be recycled to reclaim the mercury. Disposal in significant quantities would require mercury-containing materials to be disposed of as hazardous waste.

4.5 Silica

Construction disturbance of silica-containing products may result in excessive exposure to airborne silica, especially if performed indoors and dry. Cutting, grinding, drilling or demolition of materials containing silica should be completed only with proper respiratory protection and other worker safety precautions as outlined in the Ministry of Labour Guideline – Silica on Construction Projects, 2011.

4.6 Mould

If mould is uncovered inside wall cavities during hand demolition, use appropriate precautions as outlined in the AECO (Environmental Abatement Council of Ontario) Mould Abatement Guidelines, Edition 2 (2010).

<u>Material</u>	<u>Location</u>	<u>Recommended Procedures</u>
N/A	N/A	N/A

5.0 LIMITATIONS

During the expedition of the project, if additional materials are revealed beyond what are described in this report (i.e. materials not identified or materials that are not homogenous to those identified or materials that become revealed during the work), additional testing for asbestos-content should be completed immediately and prior to disturbance of the material. Alternatively, these materials can be assumed to contain asbestos and the appropriate level of asbestos safety precautions must be implemented.

Should work be required in other areas of the building, beyond the area subjected to this assessment, additional site investigations should be completed to assess the presence of Asbestos Containing Materials (ACM).

Details of the above investigation and recommendations are based upon the scope of work understood by AEOC Group (Asbestos Environmental of Canada), at the time of inspection. Should changes occur to any aspect of the project scope of work, the assessment to determine if additional site investigations are required should be completed by AEOC Group (Asbestos Environmental of Canada).

This report is provided as an abbreviated version of the AEOC Group (Asbestos Environmental of Canada), Asbestos Building Material Report (Standard Report). The Standard Report, which provides additional details of the visual investigation and sampling methodology, laboratory analytical procedures and statement of limitation, forms part of this report by reference. The observations, results and conclusions drawn by AEOC Group (Asbestos Environmental of Canada) are limited to the specific scope of work for which AEOC Group was retained, and are based solely on information generated as a result of the specific scope of work authorized by **Major Kennedy South Developments Ltd.**

Only those items that are capable of being observed, and are reasonably obvious to AEOC Group (Asbestos Environmental of Canada) personnel or have been identified to AEOC Group by other parties, can be reported. AEOC Group has exercised a degree of thoroughness and competence that is consistent with the profession during the execution of this assessment. AEOC Group considers the opinions and information as they are presented in this report to be factual at the time of the assessment. The conclusions are limited to the specific locations of where testing and/or observations were completed during the course of the assessment.

It is important to note that work was completed with the utmost care and our extensive expertise in carrying out assessments. AEOC Group believes that the information collected during the assessment concerning the work area is reliable. No other warranties are implied or expressed. AEOC Group, to the best of its knowledge, believes this report to be accurate, however, AEOC Group cannot guarantee the completeness or accuracy of information supplied to AEOC Group by third parties. AEOC Group is an Environmental Consulting Company and as such any results or conclusions presented in this report should not be construed as legal advice. The material in this report reflects AEOC Group's professional interpretation of information available at the time of report preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. AEOC Group accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

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6.0 Closure

Should additional information become available that suggests other environmental issues of concern, beyond those described in this report, AEOC Group retains the right to review this information and modify conclusions and recommendations presented in this report accordingly.

Should you have any questions, please do not hesitate to contact Real Landriault at (416)985-5025.

Sincerely,



Prepared by:

Victoria Grimshaw
Hazardous Material Consultant

Gavin Landriault,
Hazardous Materials Consultant

Reviewed by:

Real Landriault
Senior Hazardous Materials Specialist
AMRT, WRT, 253S, NIOSH 582

A handwritten signature in black ink, appearing to read 'Real Landriault', is positioned below the printed name and title.

Designated Substance Survey Report

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APPENDIX I LABORATORY ANALYSIS FOR DESIGNATED SUBSTANCES

Designated Substance Survey Report

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Table No. 1

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 & 600/M4-82-020 Methods

Project: 4638 Major Mackenzie Drive E, Markham Ontario

EML ID: 1848596

Lab Id#	Section/Location	Sample Description	Observed Asbestos Content
8660968-1	A1	Basement Furnace Room Ceiling- Lath & Plaster	NONE DETECTED
8660969-1	A2	Basement Furnace Room Ceiling- Lath & Plaster	NONE DETECTED
8660970-1	A3	Basement Furnace Room Ceiling- Lath & Plaster	NONE DETECTED
8660971-1	B1	Main Floor Walls & Ceilings- Drywall Plaster	NONE DETECTED
8660972-1	B2	Main Floor Walls & Ceilings- Drywall Plaster	NONE DETECTED
8660973-1	B3	Main Floor Walls & Ceilings- Drywall Plaster	NONE DETECTED
8660974-1	B4	Main Floor Walls & Ceilings- Drywall Plaster	NONE DETECTED
8660975-1	B5	Main Floor Walls & Ceilings- Drywall Plaster	NONE DETECTED
8660976-1	C1	Main Floor- Textured Ceiling	2% Chrysotile
8660977-1	C2	Main Floor- Textured Ceiling	2% Chrysotile

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8660978-1	C3	Main Floor- Textured Ceiling	2% Chrysotile
8660979-1	C4	Main Floor- Linoleum	NONE DETECTED
8660980-1	C5	Main Floor- Linoleum	NONE DETECTED
8660981-1	C6	Main Floor- Linoleum	NONE DETECTED
8660982-1-	E1	2 nd Floor Walls & Ceilings- Textured Lath & Plaster	1% Chrysotile
8660983-1	E2	2 nd Floor Walls & Ceilings- Textured Lath & Plaster	1% Chrysotile
8660984-1	E3	2 nd Floor Walls & Ceilings- Textured Lath & Plaster	1% Chrysotile
8660985-1	E4	2 nd Floor Walls & Ceilings- Textured Lath & Plaster	1% Chrysotile
8660986-1	E5	2 nd Floor Walls & Ceilings- Textured Lath & Plaster	1% Chrysotile
8660987-1	F1	Main & Second Floor- Linoleum	NONE DETECTED
8660988-1	F2	Main & Second Floor- Linoleum	NONE DETECTED
8660989-1	F3	Main & Second Floor- Linoleum	NONE DETECTED

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APPENDIX II FRIABILITY AND REGULATIONS

1.0 FRIABILITY

As per regulation 278/05, “friable material” means material that, (a) when dry, can be crumbled, Pulverized or powdered by hand pressure, or (b) is crumbled, pulverized or powdered. Asbestos containing material (ACM) that is friable has a much greater potential than non-friable ACM used in the past are surfacing materials (usually sprayed fireproofing, texture, decorative or acoustic sprayed finishes) and thermal insulations on mechanical systems. Asbestos-containing non-friable materials include vinyl floor tiles, drywall joint compound, gasket materials, asbestos cement pipe or board, asbestos textiles, etc. Note that though a product may be considered no-friable is considered friable. Potentially friable materials (or sometimes called miscellaneous friable materials) include materials such as ceiling tiles and plaster. These materials are non-friable in place, but can generate dust upon removal.

2.0 TABLE 1 REGULATION 278/05- ASBESTOS SAMPLING FREQUENCY

Type of Material	Size of Area of Homogeneous Material	Minimum Number of Samples
Surfacing material, including without limitation material that is applied to surfaces by spraying, by troweling or otherwise, such as acoustical plaster on ceilings, fireproofing materials on structural members and plaster	Less than 90 square meters	3
	90 or more square metres, but less than 450 square metres.	5
	450 or more square metres	7
Thermal insulation, except as described below	Any Size	3
Thermal insulation patch	Less than 2 linear meters or 0.5 square metres	1
Other material	Any size	3

3.0 REGULATIONS-ONTARIO

Section 30 of the Occupational Health and Safety Act requires building owners or their agents (architects, general contractors, construction managers, etc.) to prepare or have prepared, a list of designated substances present in the area of construction or facility undergoing construction before entering into a binding contract with the constructor/contractor.

The disturbance of asbestos-containing materials (ACM) on construction projects is controlled by Ontario Ministry of Labour Regulation 278/05 made under the Occupational Health and Safety Act (Designated – Asbestos on Construction Projects and in Buildings and Repair Operations). The Regulation classifies all disturbances as Type 1, Type 2, or Type 3, each of which has defined work practices. All ACM are subject to special handling and disposal, and must be removed before partial or full demolition. The Ministry of Labour must be notified prior to any project involving removal or more than a minor amount of friable ACM (Type 3 or Glove Bag abatement).

The Ministry of Labour released two documents in December 2004, Ministry of Labour Guideline – Lead on Construction Projects, and Ministry of Labour Guideline – Silica on Construction Projects. Although these documents were not released as Regulations, to quote the Ministry of Labour “*These guidelines will raise awareness of the potential hazards associated with Lead and Silica for common construction activities and tasks, and will provide assistance to employers, constructors and workers in how to take reasonable precaution to protect workers from exposure to Lead and Silica. These Guidelines include specific measures and procedures for typical construction activities and operations and can be used as best practices by the industry.*” These guidelines are expected to be widely enforced by the Ministry of Labour, via the general duty clause 25 (2) (h) of the Occupational Health and Safety Act, since there is no other construction regulation regarding lead and silica available for them to draw upon as a resource. The Ministry of Labour has also issued guidelines or proposed regulations for coal tar products and handling of mercury on construction sites.

Management handling and transfer of PCBs are controlled by R.R.O 1990, Reg. 362, Waste Management-PCB’s Regulation, made under the Ontario Environmental Protection Act, and the PCB regulation (SOR/2008-273) made under the federal Environmental Protection Act.

The Ontario Ministry of Labour published the hazard alert “Mould in Workplace Buildings”, in December 2000. To quote from the alert, “The sustained and /or extensive growth of any visible mould on the interior surfaces of a building is unacceptable. Mould growth on the interior surfaces of buildings is a risk factor for health problems.” The Ministry of Labour has enforced practices similar to those required for asbestos abatement.

Waste disposal is controlled by Ministry of the Environment Regulation, R.R.O. 1990 Reg. 347 as amended.