



Report:

Whitechurch Landowners Group Inc.
Urban Expansion Area, Hamilton
Odour Feasibility Study

Date: January 17, 2025



Report:

Whitechurch Landowners Group Inc. Urban Expansion Area, Hamilton Odour Feasibility Study

Submitted to: Whitechurch Landowners Group Inc.
7501 Keele Street, Suite 200
Vaughn, Ontario L4K 1Y2

Prepared by: Ibrahim Syed, P. Eng., Senior Project Manager
Alliance Technical Group (Alliance), formerly ORTECH Consulting Inc.
804 Southdown Rd., Mississauga, Ontario L5J 2Y4
Tel: (905) 822-4120, Ext. 238
E-mail: isyed@ortech.ca

Reviewed by: Scott Manser, P.Eng., Project Director
Alliance Technical Group (Alliance), formerly ORTECH Consulting Inc.
804 Southdown Rd., Mississauga, Ontario L5J 2Y4
Tel: (519) 966-8798
E-mail: smanser@ortech.ca

Report No.: 92889
12 pages, 4 Appendices

Revision History

Version	Date	Summary Changes/Purpose of Revision
1	January 17, 2025	None

NOTICE:

This report was prepared by Alliance Technical Group (Alliance), formerly ORTECH Consulting Inc. solely for the Client identified above and is to be used exclusively for the purposes set out in the report. The material in this report reflects the judgment of Alliance based on information available to them at the time of preparation. Unless manifestly incorrect, Alliance assumes information provided by others is accurate. Changed conditions or information occurring or becoming known after the date of this report could affect the results and conclusions presented. Unless otherwise required by law or regulation, this report shall not be shared with any Third Party without the express written consent of Alliance. Alliance accepts no responsibility for damages, if any, suffered by any Third Party which makes use of the results and conclusions presented in this report.

Table of Contents

	Page
EXECUTIVE SUMMARY	4
1. INTRODUCTION	5
1.1 Description of the Site and the Study Area	5
2. RELEVANT GUIDELINES AND REGULATIONS AND POLICIES	5
2.1 Provincial Policy Statement (PPS) 2024	5
2.2 MECP’s D-6 Guidelines.....	6
2.3 Ontario Environmental Protection Act (EPA) and Ontario Regulation 419/05	7
2.4 Minimum Distance Separation (MDS) Document	7
3. ODOUR EMISSIONS SCREENING ASSESSMENT	8
3.1 Existing Industrial and Commercial Land Uses	8
3.2 Existing Agricultural Land Uses	8
4. FUTURE LAND USES	10
4.1 Airport Employment Growth District Secondary Plan (OPA 35)	10
4.2 Mount Hope Secondary Plan (UHOP)	10
4.3 Rural Land Use Designations (RHOP).....	10
4.4 Whitechurch Urban Boundary Expansion Area	10
5. METEOROLOGICAL CONDITIONS	11
6. CONCLUSIONS AND RECOMMENDATIONS.....	11
7. LIMITATIONS	12
Table 1 Minimum Separation Distances and the Potential Influence Areas from Sensitive Land Uses	6
Table 2 Active Industrial Facilities with Odour Emission Sources within 1000 m of the Proposed Development.....	9
Table 3 Agricultural Farms within 1500 m of the Proposed Development.....	9
APPENDIX A Urban Boundary Expansion Concept	
APPENDIX B Current Land Use within 1000-meter and 1500-meter Study Areas	
APPENDIX C City of Hamilton Official Plan Maps	
APPENDIX D Wind Rose Plot	

EXECUTIVE SUMMARY

Alliance Technical Group (Alliance), formerly ORTECH Consulting Inc., was retained to complete an odour feasibility study for the proposed Whitechurch Urban Boundary Expansion Area in Hamilton, Ontario (the “Proposed Development”). The proposed development consists of residential, institutional and commercial uses, including parks and stormwater management ponds. The purpose of this study is to assess the feasibility of the Proposed Development in relation to potential odour impacts from existing and future industrial and agricultural operations. The latest Urban Boundary Expansion Concept is shown in Appendix A.

This study was conducted in consideration of the following resources:

- The Ministry of Environment, Conservation and Parks’ (MECP’s) D-6 Guidelines.
- The Ontario Environmental Protection Act (EPA) and Ontario Regulations 419/05.
- The Ontario Ministry of Food, Agriculture and Rural Affairs (OMFRA) Minimum Distance Separation (MDS) Document Formulae and Guidelines for Livestock Facility and Anaerobic Digester Odour Setbacks (Publication 853).
- Provincial Policy Statement (PPS) 2024
- Urban and Rural Hamilton Official Plans and Secondary Plans

The location of the Proposed Development and the boundaries of the study area, consisting of the MECP D-6 1000-meter and the OMFRA 1500-meter criteria, are shown in Appendix B. Based on a review of existing land uses within the study area, potential existing odour emission sources were identified within the study areas, such as the fuel storage facility of Hamilton Airport, the autobody shops, livestock farms etc.

The Proposed Development is considered compatible with the existing industrial operations within the 1000-meter study area and based on the separation distances, potential odour impacts from these industrial uses are not anticipated to have an adverse impact on the Proposed Development. A review of the Urban Hamilton Official Plans and Secondary Plans suggests that the Proposed Development is expected to be feasible with future potential industrial or commercial developments in the 1000-meter study area from an odour impact perspective.

Feasibility of the Proposed Development with current agricultural operations within the 1500-meter study area and future agricultural operations, based on the permitted uses identified in the Rural Hamilton Official Plans and Secondary Plans, are subject to a detailed odour study.

1. INTRODUCTION

Alliance Technical Group (Alliance), formerly ORTECH Consulting Inc., was retained to complete an odour feasibility study for the proposed Whitechurch Urban Boundary Expansion Area in Hamilton, Ontario (the “Proposed Development”). The proposed development consists of residential, institutional and commercial uses, including parks and stormwater management ponds. The purpose of this study is to assess the feasibility of the Proposed Development in relation to potential odour impacts from existing and future industrial and agricultural operations within the study areas of 1000 meters and 1500 meters, respectively.

1.1 Description of the Site and the Study Area

Per the Urban Boundary Expansion Concept, the Proposed Development is expected to consist of residential areas, schools, parks, one commercial area adjacent to the airport, interior roads and stormwater management ponds. The latest Urban Boundary Expansion Concept is shown in Appendix A. There is an existing residential area west of the Proposed Development and southeast of the Hamilton Airport. The predominant land use around the Proposed Development is agricultural. There are existing residences located immediately across the Proposed Development boundary, along the peripheral roads i.e., Airport Rd., Miles Rd. and Whitechurch Rd. E.

2. RELEVANT GUIDELINES, REGULATIONS AND POLICIES

2.1 Provincial Policy Statement (PPS) 2024

Per PPS 2024,

Section 2.8.1.3 states *“In addition to policy 3.5, on lands within 300 metres of employment areas, development shall avoid, or where avoidance is not possible, minimize and mitigate potential impacts on the long-term economic viability of employment uses within existing or planned employment areas, in accordance with provincial guidelines.”*

Section 3.5.1 states, *“Major facilities and sensitive land uses shall be planned and developed to avoid, or if avoidance is not possible, minimize and mitigate any potential adverse effects from odour, noise and other contaminants, minimize risk to public health and safety, and to ensure the long-term operational and economic viability of major facilities in accordance with provincial guidelines, standards and procedures.”*

Section 3.5.2 states, “Where avoidance is not possible in accordance with policy 3.5.1, planning authorities shall protect the long-term viability of existing or planned industrial, manufacturing or other major facilities that are vulnerable to encroachment by ensuring that the planning and development of proposed adjacent sensitive land uses is only permitted if potential adverse affects to the proposed sensitive land use are minimized and mitigated, and potential impacts to industrial, manufacturing or other major facilities are minimized and mitigated in accordance with provincial guidelines, standards and procedures.”

Section 2.3.2.1 (e) states, “In identifying a new settlement area or allowing a settlement area boundary expansion, planning authorities shall consider whether the new or expanded settlement area complies with the minimum distance separation formulae.”

2.2 MECP’s D-6 Guidelines

MECP’s D-6 guidelines (the “Guidelines”) recommend a 1000-meter study area for land use proposals, define three classes of industrial facilities: Class I, Class II and Class III (see definitions below), and define Sensitive Land Uses. Guideline D-6 also defines Minimum Recommended Separation Distances (MSDs) and Potential Area of Influence (AOI) between industrial facilities, and sensitive land uses for each Class, as shown in Table 1. The class designations are based on the potential for noise, dust and odours.

A Class I Industrial Facility is “A place of business for a small scale, self-contained plant or building which produces/stores a product which is contained in a package and has low probability of fugitive emissions. Outputs are infrequent and could be point source or fugitive emissions for any of the following: noise, odour, dust and/or vibration. There are daytime operations only, with infrequent movement of products and/or heavy trucks and no outside storage”.

A Class II Industrial Facility is “A place of business for medium scale processing and manufacturing with outdoor storage of wastes or materials and/or there are periodic outputs of minor annoyance. There are occasional outputs of either point source or fugitive emissions for any of the following: noise, odour, dust and/or vibration, and low probability of fugitive emissions. Shift operations are permitted and there is frequent movement of products and/or heavy trucks during daytime hours”.

A Class III Industrial Facility is “A place of business for large scale manufacturing or processing, business characterized by: large physical size, outside storage of raw and finished products, large production volumes and continuous movement of products and employees during daily shift operations. It has frequent outputs of major annoyance and there is a high probability of fugitive emissions”.

Table 1: Minimum Separation Distances and the Potential Influence Areas from Sensitive Land Uses

Class	Recommended Minimum Separation Distance (m)	Potential Influence Area (m)
I	20	70
II	70	300
III	300	1000

Although Guideline D-6 suggests that distances are normally measured from property line to property line, there is an allowance for measuring from a specific source to sensitive receptors. Guideline D-6 also discusses reducing the minimum separation distance required based on mitigation at industrial sites and provides for exceptions to the Recommended Minimum Separation Distances for some development sites including infilling.

Facilities that do not meet the definition of any one of the three classes are expected to have virtually no potential for creating noise, odour, dust or vibration that would give rise to complaints. The definitions and examples in the MECP Guidelines relevant to air quality concerns were used to characterize each of the nearby facilities. The D-6 Guideline includes “residences, senior citizens homes, schools, daycare facilities, hospitals, churches and other institutional uses” as sensitive land uses.

2.3 Ontario Environmental Protection Act (EPA) and Ontario Regulation 419/05

Environmental Compliance Approvals (ECA) and Environmental Activity and Sector Registry (EASR) are two permitting instruments for industrial facilities, under Section 9 of the EPA, which follow the requirements of Ontario Regulation 419/05 (O. Reg. 419/05) and Ontario Regulation 1/17 (O. Reg. 1/17). In general, low risk industries follow the EASR process while more complex industrial operations require an ECA.

Per O. Reg. 419/05, facilities emitting air contaminants are required to comply with MECP’s air quality standards at all off-site receptor points. Odours, which are categorized as a nuisance, are regulated at sensitive receptors such as schools, residences, long-term care homes, etc., either through the air quality criteria in O. Reg. 419/05 or through specific terms and conditions in the ECA or EASR documentation. Industrial facilities with existing permits (ECAs or EASRs), as identified in Table 2, are expected to meet the MECP’s air quality standards at the nearest off-site receptors.

2.4 Minimum Distance Separation (MDS) Document

The Ontario Ministry of Food, Agriculture and Rural Affairs (OMFRA) MDS document recommends a 1500-meter area of study for establishing the MDS I setbacks from the livestock facilities, aiming to mitigate land use conflicts and minimize nuisance complaints associated with odours. Guidance on the MDS formulae is documented in OMAFRA’s MDS Document, 2017.

In accordance with the PPS, new land uses in prime agricultural areas and rural lands must adhere to MDS I before approving proposed lot creation, re-zoning, or re-designation, as outlined in the MDS Document's implementation guidelines. When a setback is deemed necessary, measurements are taken as the shortest distance between proposed structures and either manure storages, anaerobic digesters, or the livestock-occupied sections of the barns.

3. ODOUR EMISSIONS SCREENING ASSESSMENT

The odour emissions screening assessment was based on readily available information, such as conceptual development plans, satellite imagery, Access Environment website (MECP's map-based tool), etc., and direct observations conducted during the field visit on November 29, 2024.

3.1 Existing Industrial and Commercial Land Uses

According to Table 2, multiple Class I to II industrial facilities were identified within the 1000-meter study area. The classification of these facilities is based only on their odour emissions potential. All of the existing industrial facilities were found to be located at a distance adequate enough to prevent adverse odour impacts on the Proposed Development.

3.2 Existing Agricultural Land Uses

A summary of existing agricultural farms within a 1500-meter study area is provided in Table 3, as identified during the field visit and from the satellite imagery. MDS setbacks are intended to mitigate concerns arising from potential impacts of agricultural operations, such as odours, noise, and traffic, with a specific emphasis on livestock facilities near residential areas.

The MDS formulae and guidelines consider the following land use type for calculating the setback distances:

- Type A Land Uses (Less Sensitive), characterized by lower density human occupancy, including industrial uses, and less densely populated areas.
- Type B Land Uses (More Sensitive), characterized by higher density human occupancy, including new or expanding settlement area boundaries.

Typically, Type B Land Uses tend to generate MDS setbacks that are twice the distance of MDS Type A Land Use setbacks. The Proposed Development is considered to be a Type B Land Use. The nature of farm operations (Table 3), i.e., type of livestock or type of crop, the capacity of the farms, etc., are not fully known at this stage. Due to these data gaps, it is not possible to calculate the MDS I of these existing farms.

In Alliance's experience, the livestock farms (chicken) with an outdoor open manure (liquid) storage tank can have MDS I ranging from 500 meters to 1000 meters. Therefore, there is a potential for odour impacts from these agriculture farms at the Proposed Development. Alliance is in the process of acquiring the specific operational information on these farms from the City of Hamilton. The actual MDS I of each farm will be calculated based on the operational information of each farm.

Table 2: Active Industrial Facilities with Odour Emission Sources within 1000 m of the Proposed Development

Active Facilities Within Study Area	Address	Operations	Permit Type	Distance to the Site	D-6 Classification	Within AOI?	Within MSD?	Modelled?	Comments
Felix Auto	3705 Upper James St.	Autobody shop	None	380	I	No	No	No	Fugitive odour emissions expected; Odour impacts not anticipated at the Proposed Development
NV Auto	3840 Hwy 6	Autobody shop	None	830	I	No	No	No	Fugitive odour emissions expected; Odour impacts not anticipated at the Proposed Development
DHL Express (Canada) Ltd.	9270 Airport Road	Courier services	EASR	910	I	No	No	No	Odour emissions are not expected
Interpipe Inc.	3320 Miles Rd.	Pipe supplier	None	960	II	No	No	No	Odour emissions are not expected
Hamilton Airport Fuel Facilities Corporation	9300 Airport Road	Fuel storage facility	ECA	960	I-II	No	No	No	Fugitive odour emissions expected; Odour impacts not anticipated at the Proposed Development

Table 3: Agricultural Farms within 1500 m of the Proposed Development

Farm ID	Agricultural Farms Within Study Area	Address	Operations	Distance to the Site	Comments
Farm 1	Kammerer Heritage Farm	7374 English Church Rd. E	Poultry farm	890	A chicken farm with an outdoor, uncovered manure storage tank
Farm 2	Unknown	7166 English Church Rd. E	Unknown	1492	The type of farm is unknown
Farm 3	Don Mair Farms	6305 Airport Rd. E	Beef Cattle	790	Beef cattle farm; permanently closed per online research; uncovered manure storage tank visible from satellite imagery
Farm 4	Unknown	6360 Airport Rd. E	Unknown	700	The type of farm is unknown; the uncovered manure storage tank visible from satellite imagery
Farm 5	Burthlene Farms	7049 Chippewa Rd. E	Beef Cattle	1350	Beef cattle farm; possible outdoor manure stockpiles visible from satellite imagery

4. FUTURE LAND USES

A preliminary review of the permitted uses on the current vacant lands within the study areas was done to determine the feasibility of the Proposed Development. For this purpose, the current Secondary Plans in the Urban Hamilton Official Plan (UHOP) and the Rural Hamilton Official Plan (RHOP) were reviewed, which are available through the City of Hamilton's website.

4.1 Airport Employment Growth District Secondary Plan (OPA 35)

According to OPA 35 and the Airport Employment Growth Secondary Plan map shown in Appendix C, some of the vacant lands within the 1000-meter study area, west of the Proposed Development are designated as Airport Reserves. The permitted uses on these lands are airport storage, maintenance and operation facilities. Based on the existing land uses in the area, the potential odour sources on these lands could be fuel facilities and repair shops with paint booths. However, the existing residential uses between the airport reserve lands and the Proposed Development would impose the regulatory requirements of meeting provincial air quality limits through an ECA or an EASR on such future developments. Hence, the Proposed Development is considered feasible with the Airport Reserve lands.

4.2 Mount Hope Secondary Plan (UHOP)

A preliminary review of the Mount Hope Secondary Plan was done, and the permitted uses on the vacant lands, west of the Proposed Development, were identified as mainly mixed-use or district commercial. Based on the list of permitted uses on these lands, the potential odour emissions from industrial sources are not anticipated. Further, the existing residential areas in the Mount Hope Secondary Plan would restrict the development of any significant odour sources. Hence, the Proposed Development is considered feasible with these lands.

4.3 Rural Land Use Designations (RHOP)

The majority of the land located north, south, and east of the Proposed Development is prime agricultural land. Per Rural Land Use Designations (RHOP), the permitted uses are agricultural and agricultural-related uses, such as mushroom production, livestock farming, cannabis production, grain dryers, feed mills, etc. From the satellite imagery, these adjacent lands appear to be fully occupied with agricultural and agricultural-related operations. Alliance is currently not aware of current planning applications to the City for redevelopment of these lands. The feasibility of the Proposed Development with these agricultural lands is subject to a detailed odour study.

4.4 Whitechurch Urban Boundary Expansion Area

If the Proposed Development requires a sewage pumping station (SPS), then the odour emissions from the SPS should also be addressed through the detailed odour study. There is an existing SPS located approximately 1.25 km north of the Proposed Development, which is operated by the City of Hamilton.

This SPS is equipped with a carbon filtration unit and operates under an ECA. If the Proposed Development requires an SPS, then it may be subjected to an ECA permit.

5. METEOROLOGICAL CONDITIONS

Appendix D shows the wind rose plot, which was prepared using the 2023 meteorological data from Environment and Climate Change Canada (ECCC) weather station at the Hamilton Airport. As per the wind rose plot, the predominant wind directions are from the west and northeast of the Proposed Development. The lands immediately west of the Proposed Development are occupied by Mount Hope Secondary Plan lands which are mainly residential or commercial, which are not expected to create significant odour impacts at the Proposed Development.

The existing and future light industrial uses in the Mount Hope Secondary Plan, such as autobody shops, etc., are not expected to cause significant odour impacts at the Proposed Development due to the presence of existing residential uses in the area, subjecting such light industrial developments to regulatory requirements. The agricultural uses in the southwest and northeast of the Proposed Development are potentially significant odour sources.

6. CONCLUSIONS AND RECOMMENDATIONS

Alliance completed an odour feasibility study for the proposed development in the Whitechurch Urban Boundary Expansion Area in Hamilton, Ontario. The purpose of this study was to assess the feasibility of the Proposed Development with existing potential odour emission sources i.e., industrial facilities within a study area of 1000 meters and agricultural operations within a study area of 1500 meters. Based on a review of existing land uses within the study areas, potential existing odour emission sources were identified within the study areas, such as the fuel storage facility of Hamilton Airport, the autobody shops, livestock farms etc.

The Proposed Development is considered compatible with existing industrial operations within the 1000-meter study area and based on the separation distances, potential odour impacts from these industrial uses are not anticipated to have an adverse impact at the Proposed Development. A review of the Urban Hamilton Official Plans and Secondary Plans suggests that the Proposed Development is expected to be feasible with future potential industrial or commercial developments in the 1000-meter study area from an odour impacts perspective.

The feasibility of the Proposed Development with current agricultural operations within the 1500-meter study area and future agricultural operations, based on the permitted uses identified in the Rural Hamilton Official Plans and Secondary Plans, are subject to a detailed odour study.

7. LIMITATIONS

The assessment, conclusion and recommendations in this report are based on the information provided by Whitechurch Landowners Group Inc., documented technical guidance from regulatory bodies such as MECP, Province of Ontario and OMAFRA available in the public domain, Official Plan documents by the City of Hamilton and Alliance’s professional opinion. This report is prepared exclusively for Whitechurch Landowners Group Inc., their representatives, and stakeholders in the Proposed Development (Appendix A). The assessment presented in this report does not apply to other sites. Any changes to the site plan may require revision of this assessment. The report should not be misconstrued as a comprehensive odour assessment report for the Site. In addition to industrial emission sources, other emission sources identified in this report may or may not impact the proposed development.

APPENDIX A

**Urban Boundary Expansion Concept
(1 page)**

WHITE CHURCH BOUNDARY EXPANSION AREA



LEGEND

- SUBJECT LANDS
- RESIDENTIAL
- INSTITUTIONAL
- PARK / OPEN SPACE
- COMMERCIAL
- STORM WATER MANAGEMENT POND
- PIPELINE / TRAIL NETWORK
- NATURAL HERITAGE SYSTEM
- 26m COLLECTOR RIGHT OF WAY
- ARTERIAL RIGHT OF WAY
- CHIPPEWA RAIL TRAIL

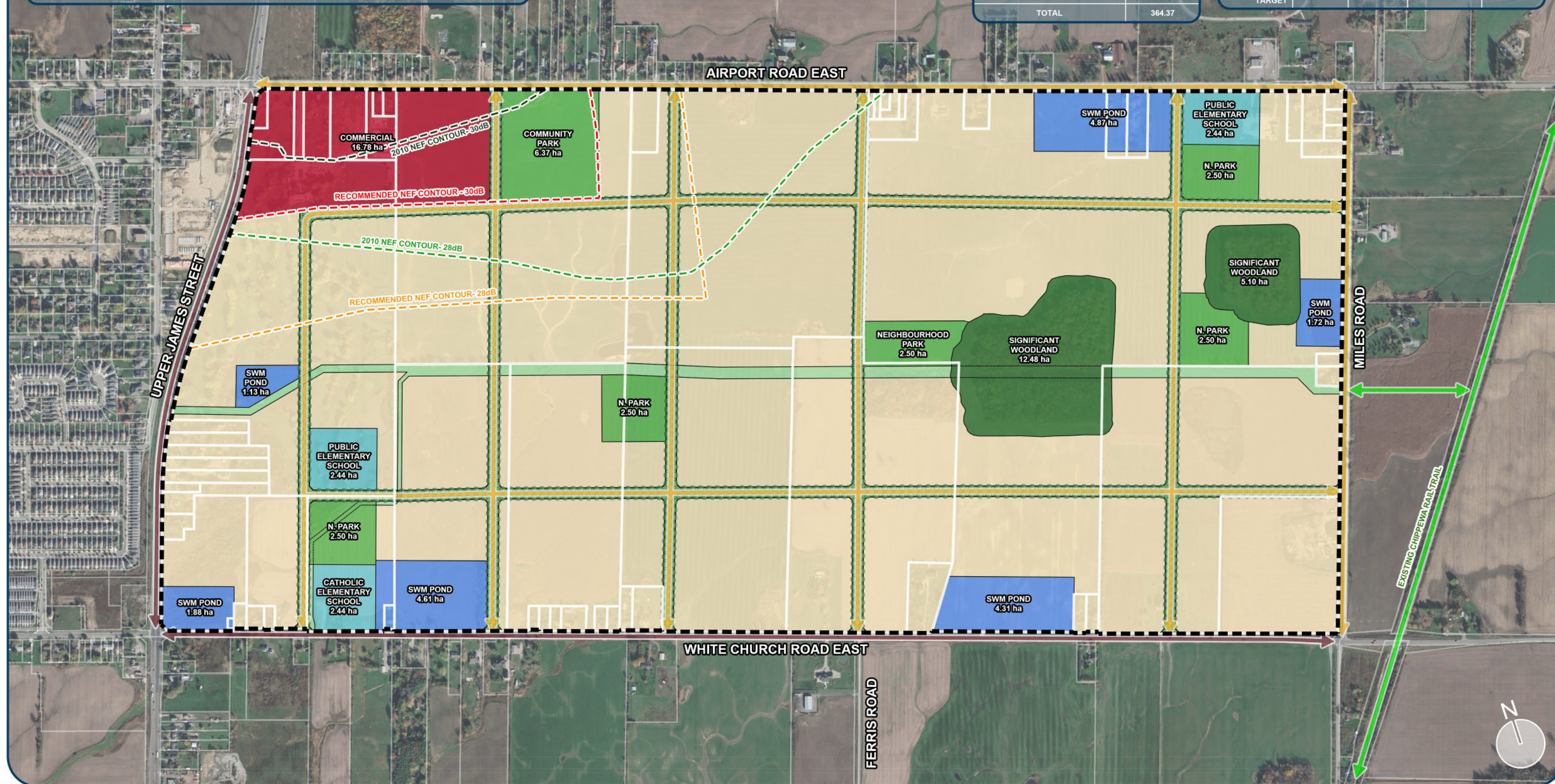
LAND USE SCHEDULE

ITEM	AREA (ha)
RESIDENTIAL	249.44
INSTITUTIONAL	7.32
PARK / OPEN SPACE	18.88
COMMERCIAL	16.78
STORM WATER MANAGEMENT POND	18.52
PIPELINE / TRAIL NETWORK	6.59
NATURAL HERITAGE SYSTEM	17.57
RIGHT OF WAY	29.27
TOTAL	364.37

POPULATION

POLICY DOCUMENT	NET RESIDENTIAL DENSITY (UPH)	PEOPLE PER HECTARE	ESTIMATED NUMBER OF UNITS (@ 3.5 PERSON PER UNIT)	ESTIMATED POPULATION
WHITE CHURCH SECONDARY PLAN	31	77	7,629	26,703
PROVINCIAL PLANNING STATEMENT	20	50	4,954	17,340
URBAN HAMILTON OFFICIAL PLAN TARGET	28	70	6,936	24,275

- NOTES:
- Base information prepared by A.T. McLaren Limited
 - Aerial Imagery: Google Earth 2023

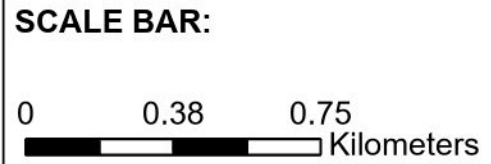
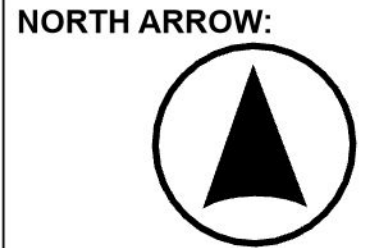


APPENDIX B

**Current Land Use within 1000-meter and 1500-meter Study Areas
(1 page)**

PROJECT TITLE:
Land Use Map
- Whitechurch Urban Boundary
Expansion

- LEGEND:**
- Whitechurch Urban Boundary Expansion
 - 20m Buffer
 - 70m Buffer
 - 300m Buffer
 - 1000m Buffer
 - 1500m Buffer



COMPANY NAME:
Alliance Technical Group

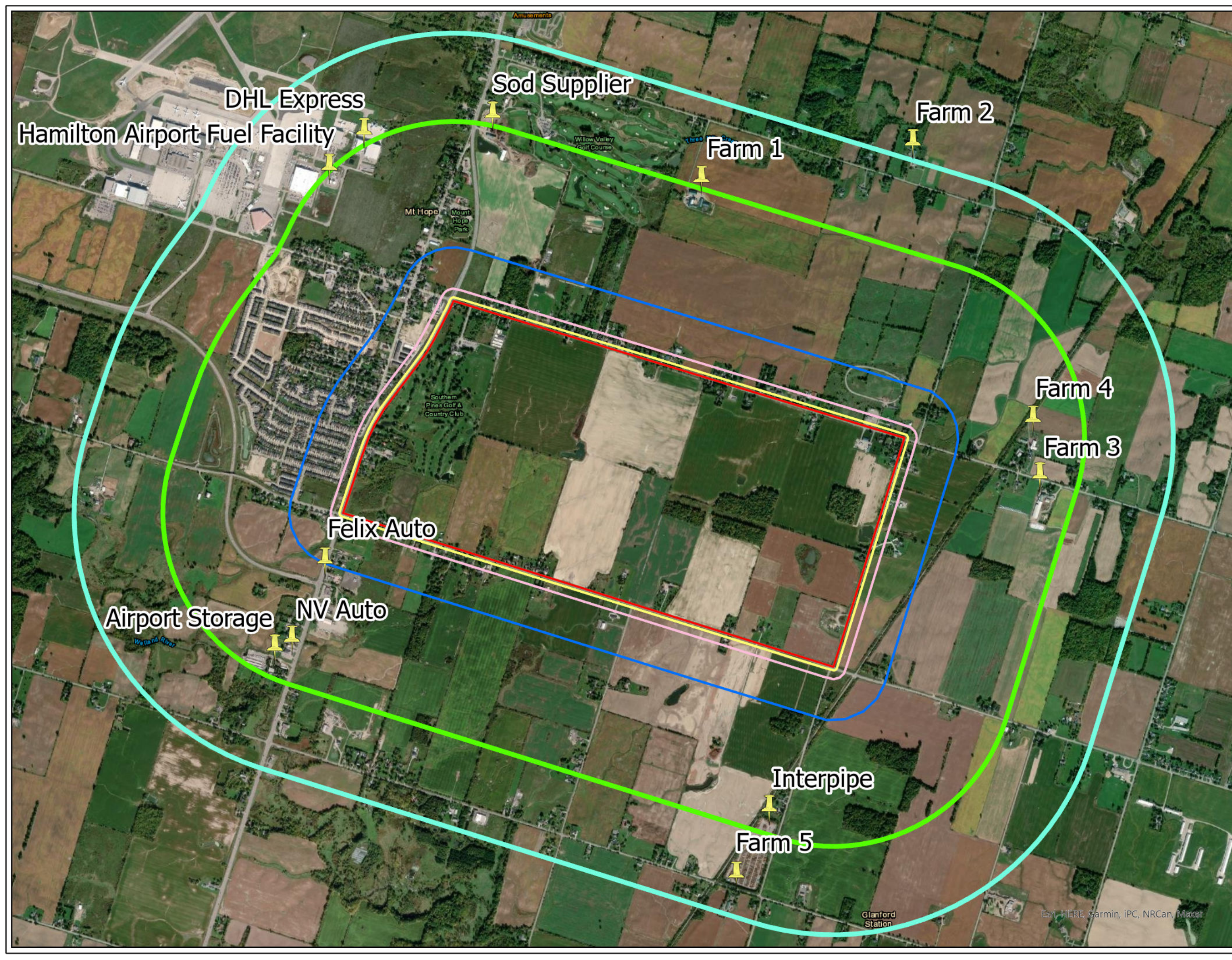
PREPARED BY:
Jenoshan Sivakumar

PREPARED DATE:
11/12/2024

SOURCE:
City of Hamilton
Datum: WGS 1984 UTM Zone 17N

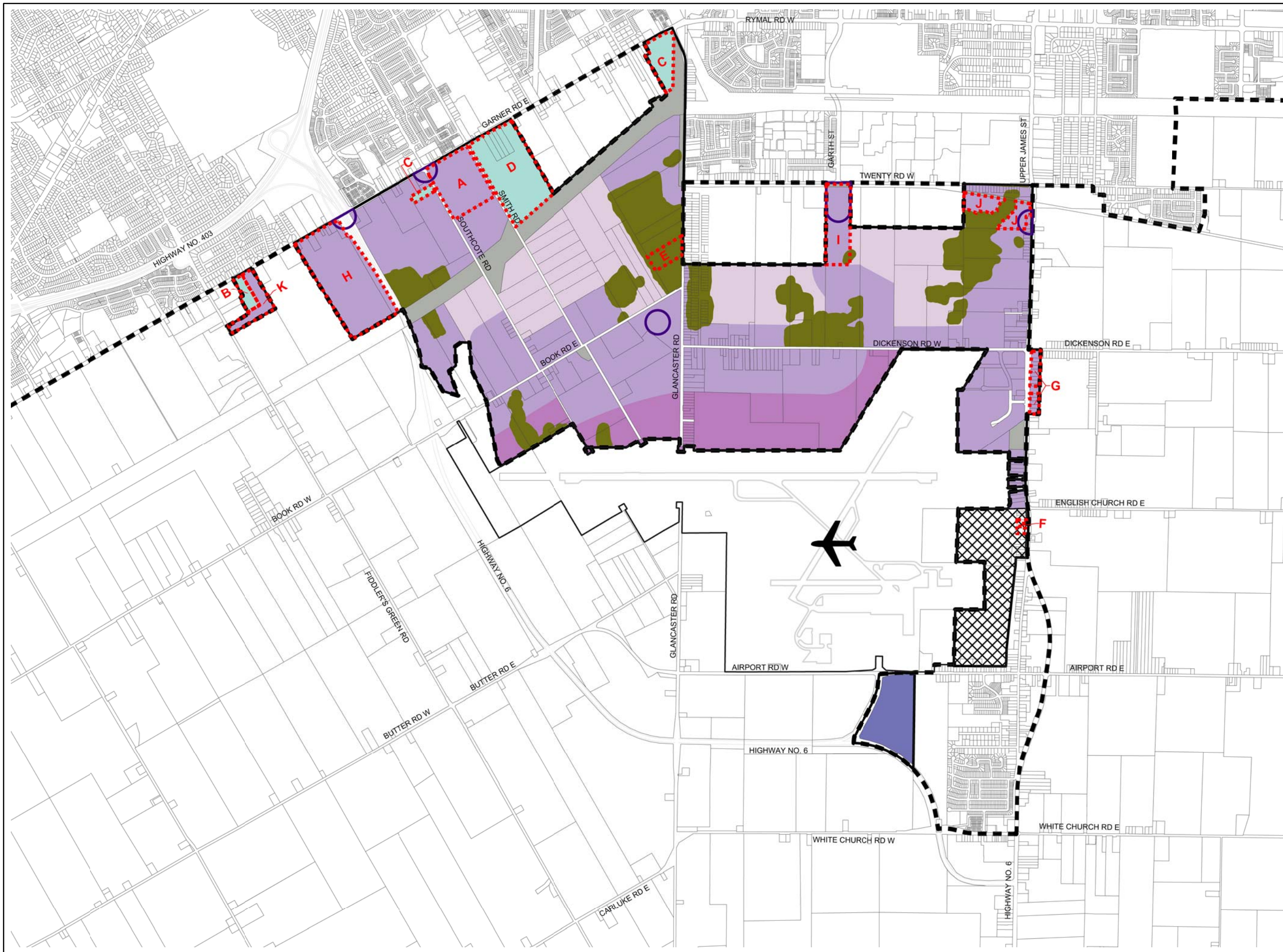
PROJECT NUMBER: 92889

CLIENT: Whitechurch Landowners Group Inc.



APPENDIX C

**City of Hamilton Official Plan Maps
(3 pages)**



Legend

- Land Use Designations**
- Airport Light Industrial
 - Airport Prestige Business
 - Airport Related Business
 - Airside Industrial
 - Institutional
 - Natural Open Space
 - Airport Reserve
 - Utilities
- Other Features**
- Area or Site Specific Policy
 - Employment Supportive Centres
 - John C. Munro Hamilton International Airport
 - Urban Boundary
 - Secondary Plan Boundary

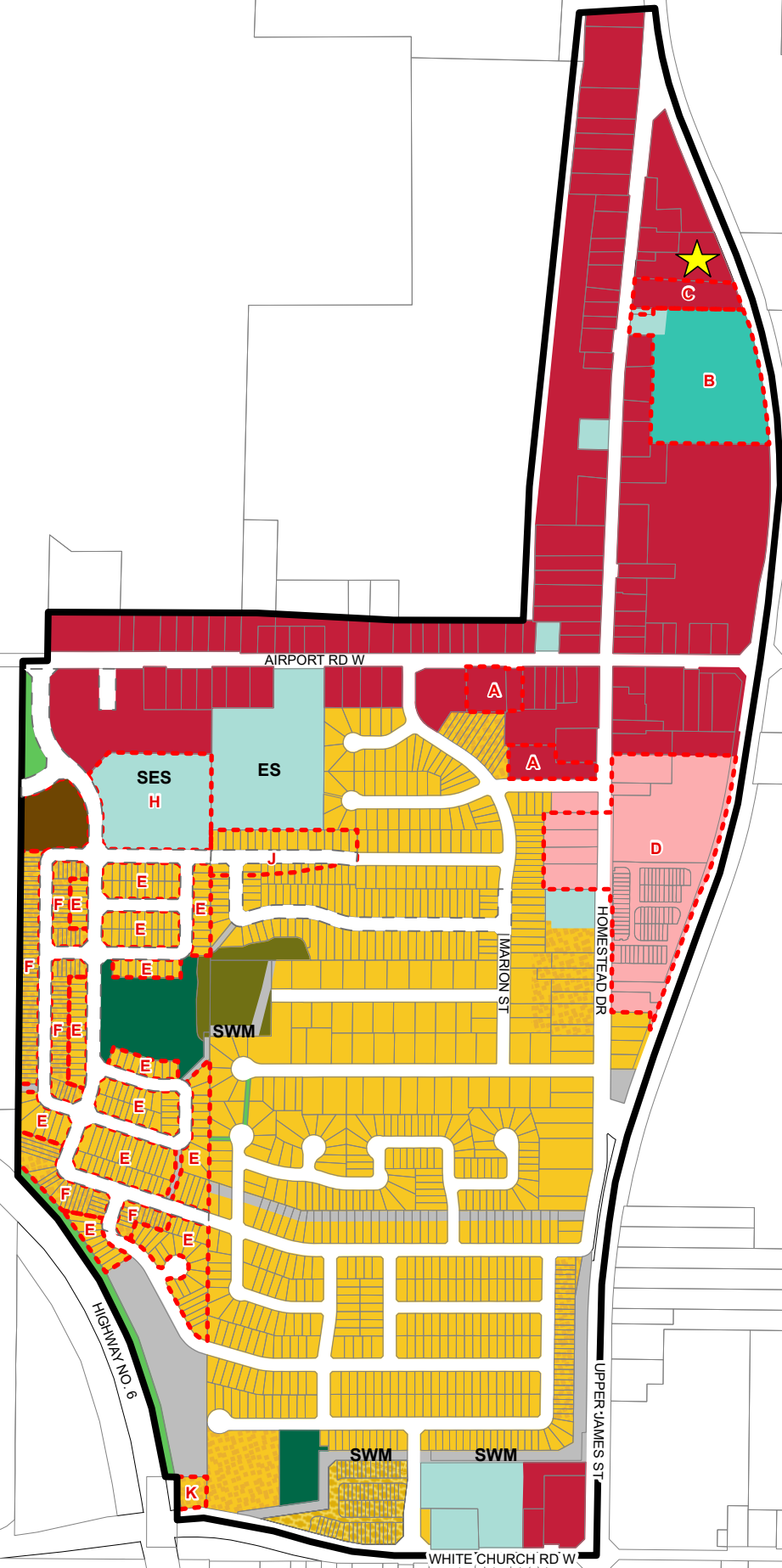
Urban Hamilton Official Plan
Airport Employment
Growth District Secondary Plan
 Land Use Plan
 Map B.8-1

Not To Scale

Date: Sept. 20, 2018
 PLANNING & ECONOMIC DEVELOPMENT DEPARTMENT
© Teranel Land Information Services Inc. and its licensors. [2009] May Not be Reproduced without Permission. THIS IS NOT A PLAN OF SURVEY.

UHOPA NO. 69 APPEALS - PL171450

★ 3011 Homestead Drive
Appellant #4



Legend

Residential Designations

- Low Density Residential 2
- Low Density Residential 2c
- Low Density Residential 3f
- Medium Density Residential 3

Parks and Open Space Designations

- Neighbourhood Park
- Community Park
- General Open Space
- Natural Open Space

Other Designations

- Institutional
- Mixed Use - Medium Density
- District Commercial
- ES** Elementary School
- SES** Separate Elementary School
- Utility
- SWM** Storm Water Management

Other Features

- Area or Site Specific Policy
- Proposed Roads
- Secondary Plan Boundary

Council Adopted: July 9, 2009
Ministerial Approval: March 16, 2011
Effective Date: August 16, 2013

Urban Hamilton Official Plan
Mount Hope
Secondary Plan
Land Use Plan
Map B.5.4-1

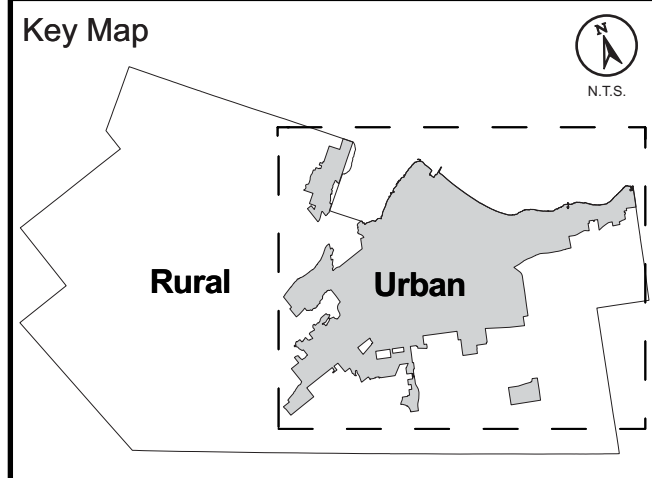
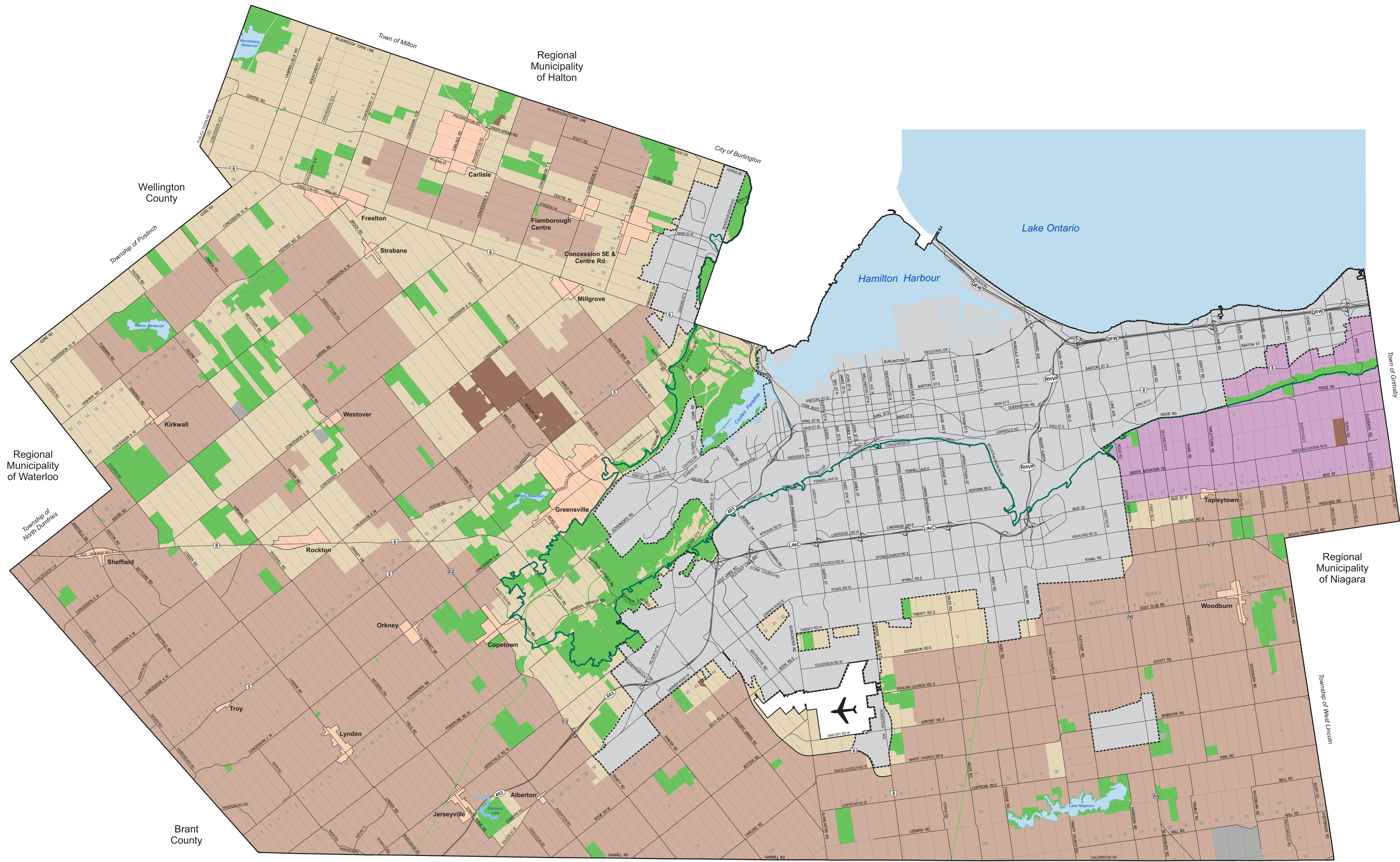
Date: May 2023



Not To Scale



PLANNING AND ECONOMIC DEVELOPMENT DEPARTMENT
© Teranet Land Information Services Inc. and its licensors.
[2023] May not be reproduced without permission.
THIS IS NOT A PLAN OF SURVEY.



Note: For Urban Land Use Designations, refer to Schedule E-1 of the Urban Hamilton Official Plan.

- Legend**
- Rural Settlement Areas
 - Rural Land Use Designations**
 - Agriculture
 - Specialty Crop
 - Rural
 - Mineral Aggregate Resource Extraction Areas
 - Open Space
 - Utility
 - Other Features**
 - Urban Area
 - John C. Munro Hamilton International Airport
 - Niagara Escarpment
 - Urban Boundary
 - Municipal Boundary

Council Adoption: September 27, 2006
 Ministerial Approval: December 24, 2008
 Effective Date: March 7, 2012

**Rural Hamilton Official Plan
 Schedule D
 Rural Land Use Designations**

Not To Scale
 Date: Dec. 6/23

APPENDIX D

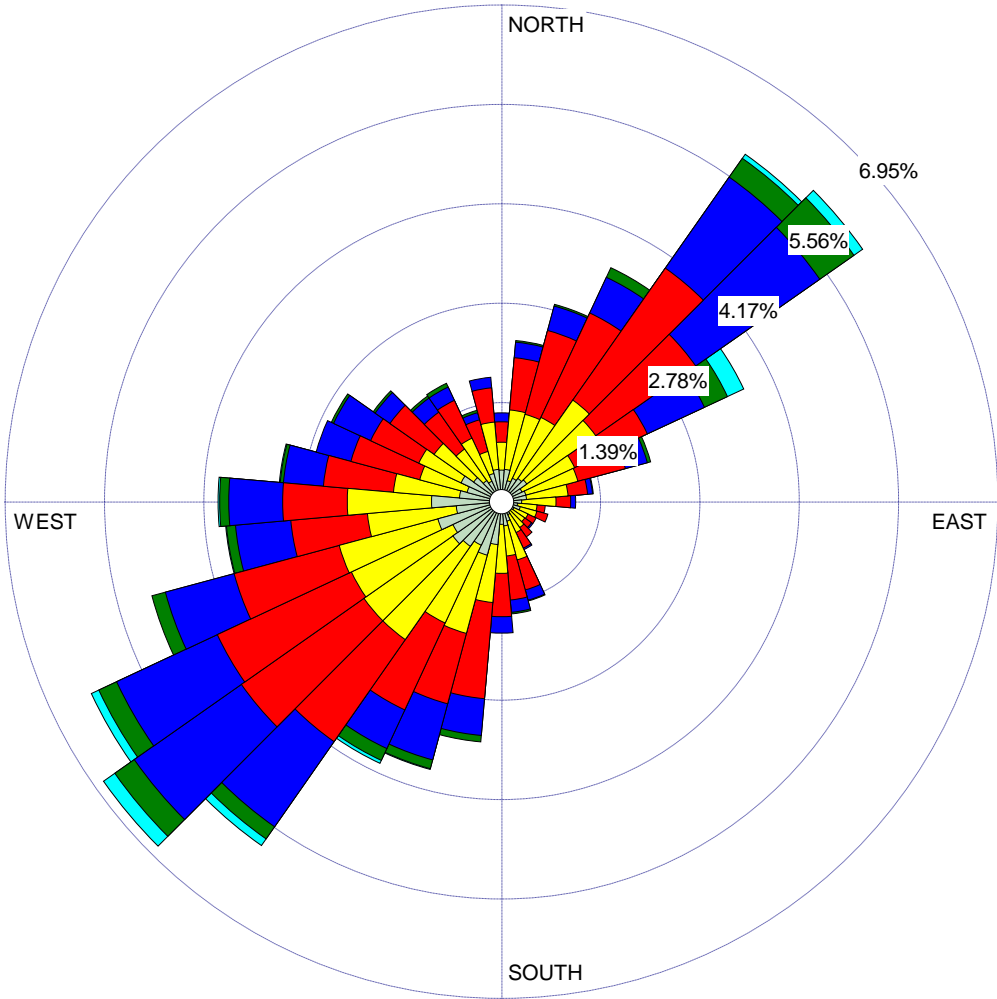
**Wind Rose Plot
(1 page)**

WIND ROSE PLOT:

Wind Rose Plot
Hamilton Airport 2023 Meteorological Data

DISPLAY:

Wind Speed
Direction (blowing from)



WIND SPEED
(m/s)

- >= 11.10
- 8.80 - 11.10
- 5.70 - 8.80
- 3.60 - 5.70
- 2.10 - 3.60
- 0.50 - 2.10

Calms: 0.00%

COMMENTS:

COMPANY NAME:

Alliance Technical Group

CALM WINDS:

0.00%

TOTAL COUNT:

8696 hrs.

AVG. WIND SPEED:

4.18 m/s



PROJECT NO.:

92725