



Hamilton



ELFRIDA GROWTH AREA STUDY

Interim Summary Report



AUGUST 2, 2018

Golf Club Rd

PROJECT TEAM

CLIENT

Manager, Community Planning and GIS	Christine Newbold
Senior Project Manager, Community Planning and GIS	Alissa Mahood
Project Manager, Community Planning and GIS	Melanie Pham
Planning Technician, Community Planning and GIS	Joseph Buordolone
Information Systems Planner, Community Planning and GIS	Richard Paola



WSP

Planning, Landscape Architecture and Urban Design	Chris Tyrrell, Randall Roth, Cindi Rowan, Jennifer Sisson
Transportation	Brett Sears, Syed Ubaid Ali, Samantha Leger
Natural Heritage	Margaret Pugh
Agriculture	Clark Gunter, Bill MacMillan, Annette Blazeiko
Water and Wastewater	Beth Scott and Karen Lenkiewicz
Stormwater Management	Thomas Raso



SUBCONSULTANTS

Policy, Urban Design and Engagement	Ron Palmer, Donna Hinde, Stacey McCulloch <i>The Planning Partnership</i>
Retail-Commercial	Andrew Browning <i>Cushman and Wakefield</i>
Cultural Heritage and Archaeology, and Aboriginal Engagement	Joel Konrad, Beverly Gardner, Jennifer Ley, Eric Beales <i>Archaeological Services Inc.</i>
Populations and Demographics	Tom McCormack <i>Metro Economics</i>

The Planning Partnership



TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	OVERVIEW	3
1.2	THE STUDY AREA	3
1.2.1	AREA CONTEXT	4
1.2.2	DEMOGRAPHICS	4
1.3	POLICY CONTEXT	7
1.3.1	PROVINCIAL PLANNING FRAMEWORK	7
1.3.2	MUNICIPAL PLANNING FRAMEWORK	12
1.4	WORK PLAN AND APPROACH	25
1.5	CONCURRENT MUNICIPAL STUDIES	26
1.5.1	MUNICIPAL COMPREHENSIVE REVIEW AND LAND BUDGET ANALYSIS	26
1.5.2	SUBWATERSHED STUDY	26
2.0	BEST PRACTICES	27
2.5.1	TRADITIONAL NEIGHBOURHOOD DEVELOPMENT	28
2.5.2	NEW URBANISM	31
2.5.3	TRANSIT-ORIENTED DEVELOPMENT	32
2.5.4	NEIGHBOURHOOD RETAIL/MIXED-USE/LIVE-WORK	33
2.5.5	AGE-FRIENDLY DESIGN	34
2.5.6	LOW IMPACT DEVELOPMENT/GREEN INFRASTRUCTURE NETWORKS	35
2.5.7	SUSTAINABLE CITIES	37
2.5.8	URBAN AGRICULTURE	37
2.5.9	COMPLETE STREETS	38
2.5.10	NODES AND CORRIDORS	38
3.0	PHASE 1 – PROJECT LAUNCH, AREA ASSESSMENT AND VISION	39
3.1	OVERVIEW	40
3.2	KEY DIRECTIONS	41
3.3	RESULTS	43

4.0	PHASE 2: SECONDARY PLAN LAND USE AND DESIGN OPTIONS	45
4.1	CONCEPTUAL DEVELOPMENT OPTIONS	46
4.1.1	PLANNING AND URBAN DESIGN	47
4.1.2	TRANSPORTATION	52
4.1.3	CULTURAL HERITAGE	52
4.1.4	NATURAL HERITAGE	53
4.1.5	WATER AND WASTEWATER MANAGEMENT	54
4.1.6	STORMWATER MANAGEMENT	55
4.1.7	AGRICULTURE	56
4.1.8	FINANCIAL	57
4.1.9	SUMMARY	57
4.2	ELFRIDA SECONDARY PLAN FRAMEWORK	57
4.2.1	VISION STATEMENT	58
4.2.2	GUIDING PRINCIPLES	58
4.2.3	OBJECTIVES FOR A SUCCESSFUL COMMUNITY	58
5.0	PHASE 3A: COMMUNITY STRUCTURE	61
5.1	PRELIMINARY COMMUNITY STRUCTURE IDEAS	62
5.2	COMMUNITY STRUCTURE IDEAS PLAN EVALUATION	64
5.3	WHAT WE HEARD	65
6.0	NEXT STEPS AND THE PREPARATION OF THE PREFERRED PLAN	67
6.1	COORDINATION WITH GRIDS 2	68
6.2	SUPPORTING PLANS/STUDIES	68
6.3	OFFICIAL PLAN AMENDMENT (SECONDARY PLAN)	68
6.3.1	PHASING PLAN	68
6.3.2	URBAN DESIGN GUIDELINES	68
6.4	ZONING BY-LAW AMENDMENTS AND FUTURE DEVELOPMENT APPLICATIONS	69
6.5	COMMUNITY AND STAKEHOLDER CONSULTATION	69

FIGURES

<i>Figure 1: Elfrida Growth Study Area</i>	2
<i>Figure 2: Existing Conditions</i>	5
<i>Figure 3: Elfrida Growth Study Area (yellow), Census Dissemination Areas (red), and Wards 9 and 11</i>	6
<i>Figure 4: Greenbelt Plan Designations</i>	11
<i>Figure 5: Preferred Growth Option in GRIDS (2006) - Elfrida</i>	13
<i>Figure 6: Land Use</i>	15
<i>Figure 7: Rural Site-Specific Designation, RHOP Vol. 3 Chapter B</i>	16
<i>Figure 8: Natural Heritage Constraints</i>	18
<i>Figure 9: Airport Influence Area</i>	19
<i>Figure 10: Bedrock Resource Areas</i>	21
<i>Figure 11: Zoning</i>	23
<i>Figure 12: Secondary Plans</i>	24
<i>Figure 13: Elfrida Growth Study Timeline</i>	25
<i>Figure 14: Connected and Permeable Streets</i>	28
<i>Figure 15: Ground Floor Retail / Apartments</i>	28
<i>Figure 16: Density Example for a Residential Neighbourhood Area</i>	29
<i>Figure 17: Density Example for a Mixed-Use Regional Corridor Node</i>	30
<i>Figure 18: Neighbourhood Retail and Live/Work Spaces</i>	31
<i>Figure 19: Pedestrian-Focused Community Design</i>	32
<i>Figure 20: Pedestrian-Oriented Design Precedents</i>	33
<i>Figure 21: Walkable and Accessible Destinations Enhance Social Inclusion</i>	34
<i>Figure 22: Examples of LID Green Infrastructure</i>	35
<i>Figure 23: Urban Agriculture and Recreation Precedents</i>	36
<i>Figure 24: Agrarian Urbanism Example Block Layouts</i>	36
<i>Figure 25: Active Transportation / Complete Street Precedents</i>	38
<i>Figure 26: Elfrida Development Programs</i>	46

FIGURES (CONTINUED)

<i>Figure 27: Conceptual Development Option 1</i>	48
<i>Figure 28: Conceptual Development Option 2</i>	49
<i>Figure 29: Conceptual Development Option 3</i>	50
<i>Figure 30: Community Structure Ideas Plan</i>	66

TABLES

<i>Table 1: Population Growth within the Greater Golden Horseshoe by Municipality (top 30)</i>	6
<i>Table 2: Population and Dwellings by Area from 2011 to 2016</i>	6
<i>Table 3: Intensification and Density Targets</i>	9
<i>Table 4: NHS Category and Feature Types</i>	17
<i>Table 5: Food Strategy Summary of Recommendations</i>	20

1.0 INTRODUCTION



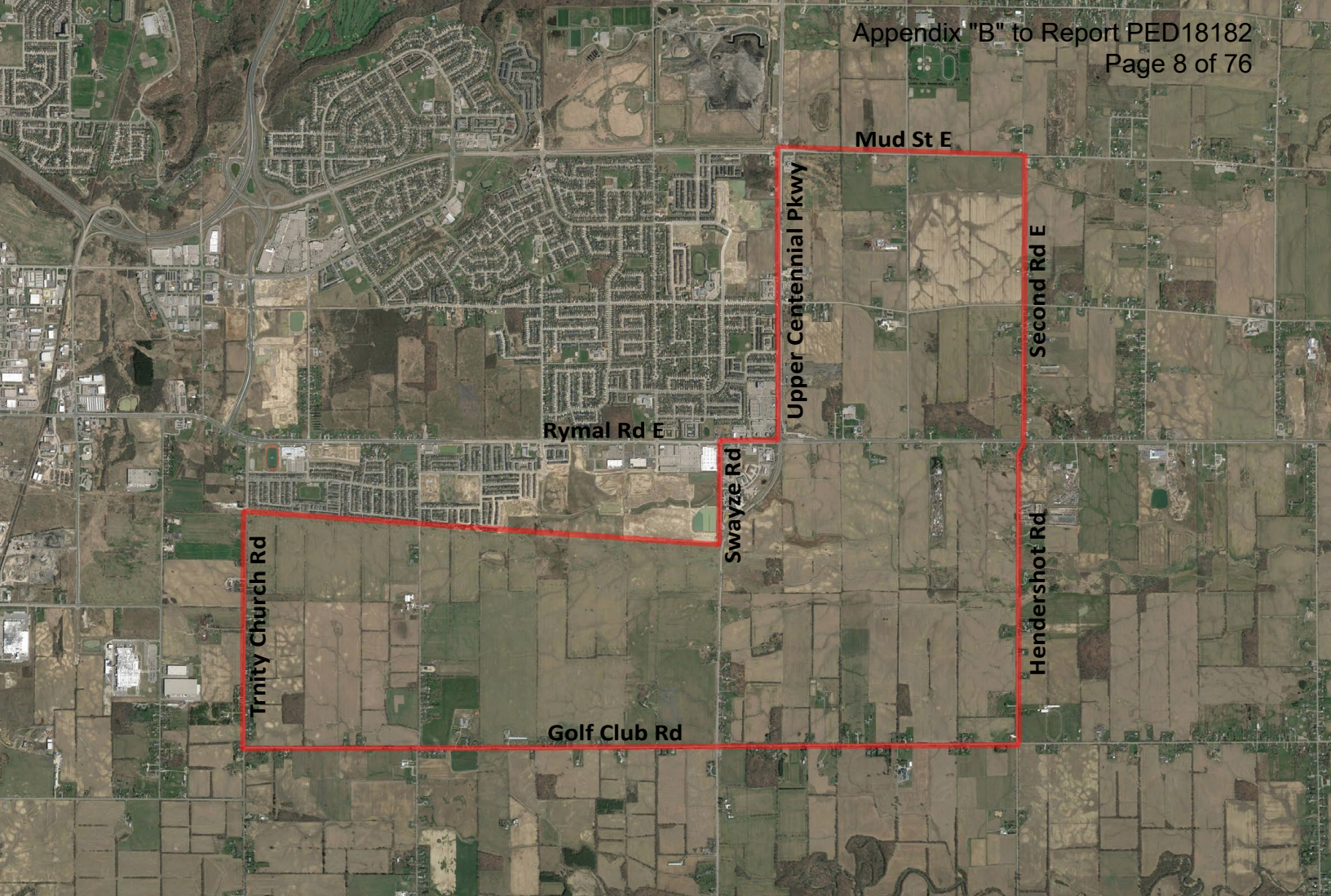


Figure 1: Elfrida Growth Study Area

1.1 OVERVIEW

WSP is leading a multi-disciplinary team commissioned by the City of Hamilton to develop a future urban vision for the Elfrida Growth Study area (hereafter referred to as 'Elfrida' or the 'study area'). The results of this work will establish clear direction and guidance for future development in this community by setting out contemplated uses, design objectives, development policies and infrastructure and transportation master planning. This report is a summary of that process to date; it documents the current context, key directions, strategies and guidelines, as well as an overview of relevant documents, policies and existing conditions. It further provides a summary of the public consultation undertaken as a component of this study, an analysis of other precedent communities, and evaluations of the conceptual development options prepared for this study.

It is important to note that the City is still completing its update of the 2006 Growth Related Integrated Development Strategy (GRIDS 2). This work will confirm how much land is required to 2031, and will also determine how much land is required to accommodate growth to 2041. Previous Council decisions have identified Elfrida to be the preferred area for future growth to 2031. This detailed background research was also compiled as part of the Existing Conditions Report, which was received by Planning Committee on October 17, 2017.

Studies which contribute to the development of this study and a Secondary Plan for Elfrida include:

- GRIDS 2 (Municipal Comprehensive Review)
- Land Budget Analysis
- Subwatershed Study
- Transportation Master Plan
- Water and Wastewater (W&WW) Servicing Master Plan
- Agricultural Impact Assessment
- Commercial Lands Review

Additional supporting studies, including a Phasing Strategy, Urban Design Guidelines, Natural Heritage Review, Cultural Heritage Assessment, Archaeological Resource Assessment, and Financial Investment Strategy will also

contribute to this study. Refer to Section 1.5 for more information on the concurrent studies.

This work will provide the framework to accommodate future growth and the creation of this new community through a new Secondary Plan applying to lands within the Elfrida Growth Area Study.

The Elfrida Growth Area Study is being completed in four phases:

Phase 1: Background study and baseline mapping, high level visioning, design principles and information analysis.

Phase 2: Land use options for consideration with input from the various aligning studies.

Phase 3a: Preferred community structure ideas.

Phase 3b: Preferred land use plan and policies and phasing/implementation strategy.

1.2 THE STUDY AREA

The study area consists of approximately 1,256 hectares of land and 223 individual properties situated along the south-eastern urban boundary of the City of Hamilton. It lies within a boundary formed by Mud Street East to the north; Hendershot Road to the east; Golf Club Road to the south; Trinity Church Road to the west; following the Hydro Corridor south of Rymal Road East to the North; Swayze Road to the West; Rymal Road to the North; and Upper Centennial Parkway to the West. Elfrida also encompasses portions of Highland Road East, First Road East, Regional Road 20 (east end of Rymal Road), Highway 56 (south end of Upper Centennial Parkway) and Fletcher Road. **Figure 1** illustrates the study area.

The study area also features the headwater features of five creek systems: Hannon Creek, Stoney Creek, Twenty Mile Creek, Upper Davis Creek and Sinkhole Creek. Elfrida is within 10 kilometres of John C. Munro Hamilton International Airport, and at certain points is within three kilometers from Red Hill Valley Parkway, connecting the area to the QEW and Highway 403.

1.2.1 AREA CONTEXT

Hamilton is comprised of a combination of unique natural landscapes and communities steeped in culture. It also features the industrial heritage that helped to build Canada, as well as bustling arts, education, and health care sectors which are driving current growth.

Elfrida is nestled against the southeastern edge of the current urban boundary of Hamilton, one of Ontario's fastest growing metropolitan areas. Since 1981, Hamilton has been listed as the ninth largest metropolitan area in Canada and the third largest in Ontario. Spurred by this growth, City Council endorsed the Growth Related Integrated Development Strategy (GRIDS) on May 18, 2006. GRIDS evaluated a number of alternatives for urban growth within and beyond the existing urban boundary. Through public consultation and extensive review, an alternative structured around a system of 'Nodes and Corridors' was identified as the preferred structure for future growth for the City up to 2031. A settlement area boundary expansion (subject to a Municipal Comprehensive Review and Secondary Plan process) to include Elfrida within the urban area of Hamilton was part of the preferred growth scenario; this was removed from the Urban and Rural Hamilton Official Plans by the Province of Ontario and remains subject to appeal. Currently, a second iteration of GRIDS (GRIDS 2) is underway to further analyze growth needs for the City up to a planning horizon of 2041. More information on GRIDS, GRIDS 2 and the policy framework in Hamilton can be found in Section 1.3.2 of this report.

A site visit was conducted on March 20, 2017, to observe and document current uses within the Elfrida Growth Study area. The area is predominantly being used for agricultural fields and residential purposes, with some fragmented commercial and industrial developments. These include a Tim Horton's and TD Canada Trust Bank, U-Haul Co. Ltd. and Cooper Equipment Rentals, Skyway Lawn Equipment Ltd (Golf Cart Dealer), Bill's Mushroom Farm, Dorr Foods and Satellite Equipment Rentals (Tool Rental Service), as well as salvage yards. Current agricultural uses vary from crop production to livestock and horse farms. Natural heritage features present include woodlots and hedgerows, along with some areas prone to ponding during storm events. There are linear ribbons of rural residential development fronting onto Trinity Church Road, Fletcher Road, Golf Club Road, Highway 56 (Upper

Centennial Parkway), Regional Road 20 and Highland Road East, with scattered single detached dwellings throughout the Elfrida Growth Study area typically associated with existing farms. A small employment park can also be found along the Elfrida Growth Study area boundary of Swayze Road, centered on Portside Street. Immediately north of the employment park is a strip of commercial development fronting onto Rymal Road East. There are also two institutional uses along Regional Road 20: Our Lady of the Assumption Catholic Elementary School and Our Lady of the Assumption Roman Catholic Church.

Additional landmarks and community features have been identified near the study area, these were presented at the first public information centre. Refer to **Figure 2** for this map.

1.2.2 DEMOGRAPHICS

An analysis of local demographics was provided by Metro Economics and is outlined in full in the Existing Conditions Report. The following is a brief summary of that analysis.

Over the last decade the population of the Hamilton census metropolitan area (CMA) grew by 74,100; 45,300 from Hamilton, 25,400 from Burlington and 3,400 from Grimsby. The CMA's population is projected to grow by 160,000 over the next decade, at a pace more than double that of the past decade. Hamilton is likely to receive the majority of that population growth. The expected accelerated pace of population growth in the area reflects the rate of growth in job opportunities both nearby and in Hamilton itself, the latter confirmed by the expanding pace of new commercial, institutional and industrial construction.

1.2.2.1 RECENT TRENDS IN POPULATION GROWTH

Among the 112 municipalities that collectively define the Greater Golden Horseshoe (GGH), Hamilton ranks sixth in terms of absolute population growth over that span. **Table 1** summarizes the population growth for the top 30 of 112 municipalities within the GGH.

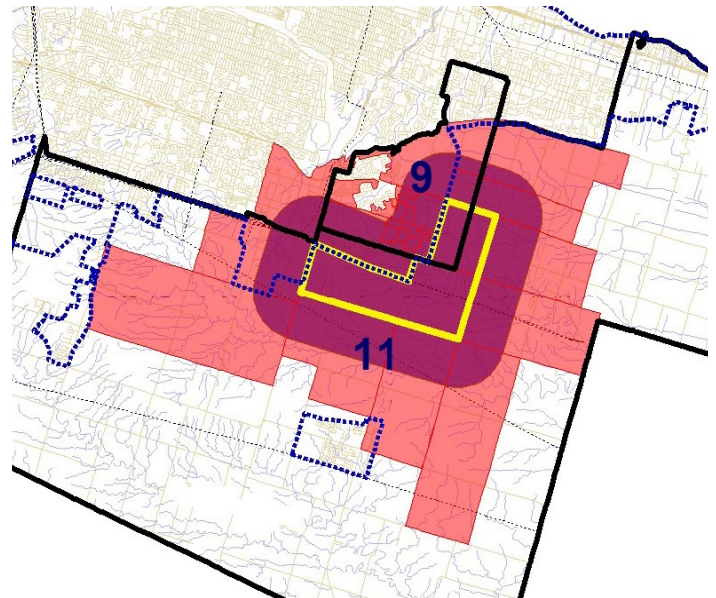
Overall, between 2011 and 2016 the population of the Hamilton CMA grew by 26,500 people (or by 3.7 percent) while the population of the City of Hamilton itself grew by almost 17,000 people (or 3.3%) according to recently released census data (2016).

Table 1: Population Growth within the Greater Golden Horseshoe by Municipality (top 30)

Ranked by Absolute Change from 2011 to 2016				
	2011	2016	Change	%
Toronto	2,615,060	2,731,571	116,511	4.5
Brampton	523,906	593,638	69,732	13.3
Markham	301,709	328,966	27,257	9.0
Milton	84,362	110,128	25,766	30.5
Vaughan	288,301	306,233	17,932	6.2
Hamilton	519,949	536,917	16,968	3.3
Kitchener	219,153	233,222	14,069	6.4
Oakville	182,520	193,832	11,312	6.2
Guelph	121,688	131,794	10,106	8.3
Ajax	109,600	119,677	10,077	9.2
Oshawa	149,607	159,458	9,851	6.6
Richmond Hill	185,541	195,022	9,481	5.1
Whitchurch-Stouffville	37,628	45,837	8,209	21.8
Mississauga	713,443	721,599	8,156	1.1
Burlington	175,779	183,314	7,535	4.3
Clarington	84,548	92,013	7,465	8.8
Bradford West Gwillimbury	28,077	35,325	7,248	25.8
Top 30	7,329,687	7,767,322	437,635	6.0
(% Share)	83.7	84.0	90.0	

Source: MetroEconomics

Figure 3: Elfrida Growth Study Area (yellow), Census Dissemination Areas (red), and Wards 9 and 11



Source: City of Hamilton, GIS Department

1.2.2.2 ELFRIDA AREA

The Elfrida Growth Study area can be compared to Hamilton overall by examining census data for dissemination areas (DAs) that fall within Elfrida. Refer to **Figure 3** for a map of the DAs within the Elfrida Growth Study area.

According to the 2011 and 2016 census data, Elfrida is among the highest growth areas within the City, with an increase of approximately 5,000 people, or 21.2% growth, far above the City average of 3.3%, as shown in **Table 2**. The Heritage Green and Rymal Road Secondary Plan areas are located within the Elfrida DAs and are the primary locations of growth.

Table 2: Population and Dwellings by Area from 2011 to 2016

Geographic Area	Population				Dwellings			
	2011	2016	Change	% Change	2011	2016	Change	% Change
Hamilton City	519,950	536,920	16,970	3.3%	214,545	222,920	8,375	3.9%
Ward 9	27,170	30,015	2,845	10.5%	10,065	11,015	950	9.4%
Ward 11	36,110	45,180	9,070	25.1%	13,205	16,050	2,845	21.5%
Elfrida DAs	23,395	28,335	4,960	21.2%	7,639	9,076	1,437	18.8%
Ward 12	34,825	38,745	3,920	11.3%	11,770	13,160	1,390	11.8%
Ward 15	25,280	28,475	3,195	12.6%	8,735	9,890	1,155	13.2%
Ward 8	49,660	52,220	2,560	5.2%	18,060	19,060	1,000	5.5%

Source: City of Hamilton, GIS Department

1.3 POLICY CONTEXT

Elfrida is well positioned for urban development as land supply becomes scarce across the Greater Golden Horseshoe. Its adjacency to the City of Hamilton's urban boundary, the Elfrida Community Node, and proximity to future higher-order transit networks / planned infrastructure improvements strengthens this relationship.

The following section is a high-level summary of the legislative documents that govern the City of Hamilton and the Elfrida Growth Study area. A policy review was conducted as part of the Existing Conditions background analysis. More detailed planning policy context can be reviewed in the Existing Conditions Report, dated September 20, 2017. The following provides a brief summary.

In Ontario, the *Planning Act* is the primary legislative framework for land use planning. When dealing with planning matters, municipalities in Ontario must also consider other related legislation such as the 2014 Provincial Policy Statement (PPS), the *Places to Grow Act*, a number of growth policies including the 2017 Greenbelt Plan, and the 2017 Growth Plan for the Greater Golden Horseshoe, as well as local planning frameworks.

1.3.1 PROVINCIAL PLANNING FRAMEWORK

1.3.1.1 PLANNING ACT

The *Planning Act* governs how municipalities in Ontario may plan and regulate the use of land.

The Province's key land use concerns are identified as matters of provincial interest in Section 2 of the *Planning Act*. Planning decision-makers are required to have regard to, among other matters:

- Protection of ecological systems and agricultural resources;
- Conservation of natural and cultural resources;
- Efficient provision and use of infrastructure, energy and water;
- Adequate provision and distribution of community facilities;
- Provision of a full range of housing and employment opportunities;

- Financial and economic sustainability;
- Protection of public health and safety;
- Appropriate location and orderly development of growth and communities; and,
- The mitigation of greenhouse gas emissions and adaptation to a changing climate (as added by Bill 68, the *Modernizing Ontario's Municipal Legislation Act*, which received Royal Assent on May 30, 2017).

Section 3 of the *Planning Act* allows the Province to issue Provincial Policy Statements as well as Provincial Plans with which all municipal planning decisions must be consistent. These documents articulate how the Province expects municipalities to address matters of Provincial interest.

1.3.1.2 PROVINCIAL POLICY STATEMENT (2014)

The 2014 Provincial Policy Statement (PPS) was issued under Section 3 of the *Planning Act* and came into effect April 30, 2014. The PPS provides Provincial direction related to key land use planning principles, including: building strong communities, wise use and management of resources, and protecting public health and safety. All development and decisions made by a municipality on planning matters must be consistent with the PPS.

Section 1.0 of the PPS sets out policies associated with efficient land use and development patterns that support healthy, livable and safe communities, protects the environment and public health and safety, and facilitates economic growth.

Section 1.1.3 *Settlement Areas*, governs the practices of urban boundary adjustments or settlement area expansions. An expansion is only permitted at the time of a comprehensive review and only where it has been demonstrated that significant opportunities for growth within the settlement area cannot be accommodated over the identified planning horizon (2031), and that planned services (infrastructure and public service facilities) will be financially viable and protect the public and the natural environment. Additionally, in prime agricultural areas, alternative locations must be evaluated and determined to be unsuitable, the expansion must comply with the Province's minimum distance separation formulae (MDS) and it must mitigate impacts from proposed development on agricultural operations. In compliance with these policies, required studies for potential settlement area expansion are currently underway. These include both

a Municipal Comprehensive Review and an agricultural assessment associated with this study.

The core essence of Section 1 of the PPS is to ensure municipalities are planning for complete communities that contain a wide range of amenities, services, and features to cater to a broad range of residents. These principles are found throughout the Existing Conditions report and the existing policies and design guidelines which apply to the study area:

- Section 1.1.3.6 provides policies on new development in designated growth areas and indicates that this growth is to occur in a manner that is compact in form and provides a mix of uses and densities that allow for the efficient use of land, infrastructure and public service facilities adjacent to existing built-up areas.
- Section 1.4.1 on housing includes policies on providing a range and mix of housing types and densities required to meet projected requirements for current and future residents.
- Section 1.5.1 states that healthy and active communities should be promoted by planning and providing a full range of built and natural settings for recreation, including trails and parklands, as well as recognizing protected areas and minimizing negative impacts on these areas.
- Section 1.6.3, which speaks to infrastructure, states that before consideration is given to developing new infrastructure and public service facilities, use of existing facilities should be optimized and opportunities for adaptive re-use should be considered, wherever feasible.

Section 2.1 notes that Natural Heritage features are to be protected for the long term, emphasizing ecological function and biodiversity of natural heritage systems. Protections for various features, such as significant wetlands, woodlands and valleylands are provided for and protected under these policies. The development of the Elfrida Growth Study area will adhere to these regulations and seek to enhance the natural heritage systems where possible.

Section 2.2, which speaks to Water, directs that planning authorities are bound to protect, improve or restore the quality and quantity of water through various means. It is the intent of this study, and the related Water and Wastewater Servicing Master Plan, to enhance and protect water quality and quantity through this process.

Section 3.1, Natural Hazards, directs development away from areas of erosion or flooding hazards or that would be made inaccessible due to flooding, and encourages development to avoid being adjacent to these areas. This will be an important consideration in the future development and design of Elfrida.

These policies guided the development of the land use explorations through this study.

1.3.1.3 GROWTH PLAN FOR THE GREATER GOLDEN HORSESHOE (2017)

Effective July 1, 2017, a new Growth Plan replaced the original Growth Plan, which was first released 11 years ago in 2006. Now in effect, all decisions on planning matters must conform to the updated Plan. Upper- and single-tier municipalities' conformity work is to be completed by 2022. Approved growth targets will continue to apply until the next Municipal Comprehensive Review (MCR) is approved and in effect (s.2.2.2). The settlement area boundary expansion that is anticipated as part of the City ongoing MCR and Land Budget Analysis would be subject to the provisions of the 2017 Growth Plan.

As the study area is not within the current delineated urban area boundary for the City of Hamilton, a settlement area boundary expansion is required to allow for future urban development within the area. Section 2.2.8 of the Growth Plan states that a municipality may only allow an expansion to a settlement area boundary through a Municipal Comprehensive Review (MCR). By definition, an MCR is "*a new official plan, or an official plan amendment, initiated by an upper- or single-tier municipality under Section 26 of the Planning Act that comprehensively applies the policies and schedules of [the Growth Plan]*". Although the policies dictating when a settlement area expansion is warranted have not significantly changed (s.2.2.8(2)), new policies which further dictate how the most appropriate location will be determined for the proposed expansion have been included (s.2.2.8(3)). Whereas the previous Growth Plan only looked to Section 2 and 3 of the PPS for guidance, new criteria in determining appropriate locations are related to planned infrastructure and community facilities; servicing capacities; and natural heritage systems and agricultural lands. In this regard, the Growth Plan (2017) allows for opportunities to build a case for expansion in ways that were not permitted by the 2006 Plan, such as within the Protected Countryside of the Greenbelt Plan (s.2.2.8(3)(m)).

With this update, and the array of other planning reforms which have taken place this year, it is important to understand exactly how the changes to the Growth Plan will affect the desires and capabilities of Hamilton, specifically in regards to lands within the Elfrida Growth Study area. The updated Growth Plan contains largely more detail in its policies than its predecessor, while also covering a wider range of topics. The following section outlines key updates that are most important when considering growth scenarios proposed for the Elfrida Growth area. The City’s MCR process will identify the planned density targets for the designated greenfield areas in Elfrida, based on the Growth Plan requirements.

1.3.1.3.1 DESIGNATED GREENFIELD AREAS

The definition of ‘Designated Greenfield Areas’ has been altered within the new Growth Plan (2017):

“Lands within settlement areas but outside of delineated built-up areas that have been designated in an official plan for development and are required to accommodate forecasted growth to the horizon of this Plan. Designated greenfield areas do not include excess lands.”

The new definition states that these areas are required to accommodate growth. Section 2.2.7 goes further in outlining the manner of growth and development

within Designated Greenfield Areas. From a high level perspective, new development in these areas is to be planned, designated, zoned and designed to support the achievement of complete communities, active transportation, and viable integration of transit services (s.2.2.7(1)). On a quantitative level, the Plan sets out density targets for these areas, which are outlined below.

1.3.1.3.2 INTENSIFICATION AND DENSITY TARGETS

All intensification and density targets have been increased by the 2017 update to the Growth Plan. **Table 3** outlines the previous and updated intensification and density targets. The greenfield density requirement is now 80 persons and jobs per hectare.

Natural heritage features and areas, and natural heritage systems and floodplains will be excluded from the measurement of density targets for designated greenfield areas, provided development is prohibited in these areas (s.2.2.7(3)). Under the 2017 Growth Plan, additional uses will also be excluded from this density calculation:

- Rights-of-way for electrical transmission lines, energy transmission pipelines, freeways, and railways;
- Employment areas; and
- Cemeteries.

Table 3: Intensification and Density Targets

Target	2013 Consolidation	2017 Update
Intensification Target (s. 2.2.2(1)) Minimum % of residential development occurring annually within each upper- or single-tier municipality within the delineated built-up area	40%	60% (by 2031, and each year thereafter) Transition policy: Current intensification targets in Official Plans shall apply until the next MCR is approved. After the next MCR, and each year following until 2031, a minimum of 50% will be required.
Density Target – Designated Greenfield Areas (s.2.2.7(2)) Within each upper- or single-tier municipality within the designated greenfield areas	50 residents and jobs combined per hectare	80 residents and jobs combined per hectare <i>Note: this applies over the entire designated greenfield area; certain features are excluded from this calculation.</i>
Density Target – Employment (s.2.2.5(5)(a)) Jobs per hectare within employment areas	Not previously required – however, these areas were previously included under the greenfield density target.	Upper- and single-tier municipalities must develop an employment strategy that establishes minimum density targets for all employment areas.

Source: Growth Plan for the Greater Golden Horseshoe, 2013 Office Consolidation & 2017 Update

These exclusions will impact the City's ability to meet their designated greenfield targets. Despite these minimum requirements, Council may still request alternative targets through the next MCR, if the municipality can demonstrate that this target cannot be achieved and that the alternative target will meet a list of requirements. All of these changes influence the manner in which development must be approached within the Elfrida Growth Area Study, in order to validate the proposed settlement area boundary expansion.

1.3.1.3.3 AGRICULTURAL AREAS

In accordance with the Growth Plan (2017), the Province is to identify an Agricultural System for the Greater Golden Horseshoe.

On February 9, 2018, the Province released the Implementation Procedures for the Agricultural System in Ontario's Greater Golden Horseshoe and accompanying mapping for the Agricultural System to provide supplementary direction to the Growth Plan (2017). This agricultural mapping is currently in effect and identifies all lands within the Elfrida Growth Study area as prime agricultural areas. In implementing the Agricultural System, the City, through its MCR may refine or augment the provincial mapping in a manner consistent with the Growth Plan and implementation procedures. Where settlement area boundary expansions are proposed, prime agricultural areas are to be avoided, and an Agricultural Impact Assessment will be used to determine the location of the expansion based on minimizing and mitigating the impact on the Agricultural System and evaluating alternative locations. Where prime agricultural areas cannot be avoided, lower-priority agricultural lands are to be considered for settlement area expansion.

The Province also released a Draft Agricultural Impact Assessment (AIA) Guidance Document, March 2018, to provide guidance in undertaking an AIA by clearly outlining the AIA requirements; provide technical guidelines and relevant information to ensure consistency when preparing an AIA; and provide a suite of mitigation measures and resources to avoid, minimize and mitigate impacts on agriculture. The AIA to be prepared for the Elfrida Growth Area Study will be undertaken in accordance with these Provincial guidelines.

1.3.1.4 GREENBELT PLAN (2017)

The Greenbelt Plan was adopted by the Province of Ontario to protect environmentally sensitive land and farmlands in Ontario's Golden Horseshoe area from urban development. As with the Growth Plan, the 2017 Greenbelt Plan is an updated plan which replaced the original Greenbelt Plan, first released in 2005. The Elfrida Growth Study area is outside of the Greenbelt Area and is not subject to the policies of this Plan. Refer to **Figure 4** for a map of adjacent Greenbelt Plan Designations.

The surrounding lands to the south, east and northeast, are all designated as part of the Greenbelt Plan's Protected Countryside. The Protected Countryside designation is broken down into several subcategories, one being the Agricultural System (prime agricultural areas, specialty crop areas and rural areas) and the other being the Natural System (Natural Heritage System and Water Resources System). The Greenbelt Natural Heritage System designation also applies to lands to the south of the Elfrida Growth Study area. The potential for further urban expansion into these areas is extremely limited. Future urban development within the Elfrida Growth Study area should consider edge treatments and transition to agriculture.

The recent updates to the Greenbelt Plan have expanded the protections afforded under the previous Greenbelt Plan and emphasized the development of complete communities. For example, there are new goals with regard to agriculture; planning for local food and near-urban agriculture and consideration for impacts of development are promoted. Consideration of climate change has also been added to the Plan; planning and managing natural heritage systems to improve resilience and reducing greenhouse gas emissions are also goals of the Plan. The updated Greenbelt Plan will be considered in the design of the Elfrida Growth Study area. This will include appropriate transition and edge planning where the Elfrida Growth Study area is adjacent to lands within the Greenbelt Plan.

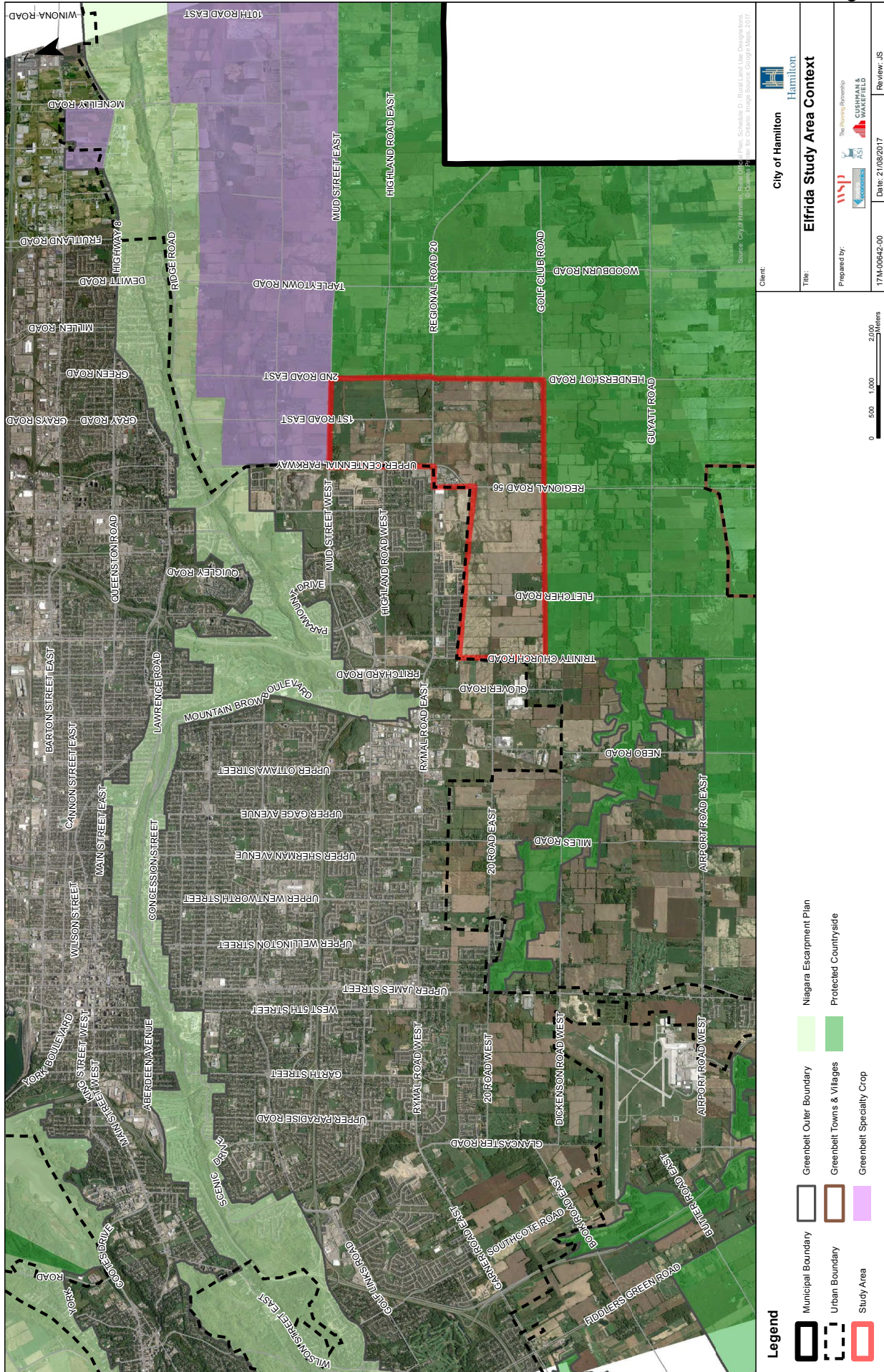


Figure 4: Greenbelt Plan Designations

1.3.2 MUNICIPAL PLANNING FRAMEWORK

1.3.2.1 VISION 2020 (1997)

In 1992, Hamilton residents were asked to envision what their City would look like in 25 years. The result of this engagement exercise was Vision 2020, a community-driven vision for the future of Hamilton. The four main principles that Vision 2020 builds on are:

- Fulfilling human needs, including peace, access to clean air, water, food, shelter, education, arts, culture and employment;
- Maintaining and restoring the environment, including careful management and planning, reducing waste and protecting nature;
- Inviting the public to identify problems and solutions; and
- Finding the best way to use today's resources to meet current and future needs.

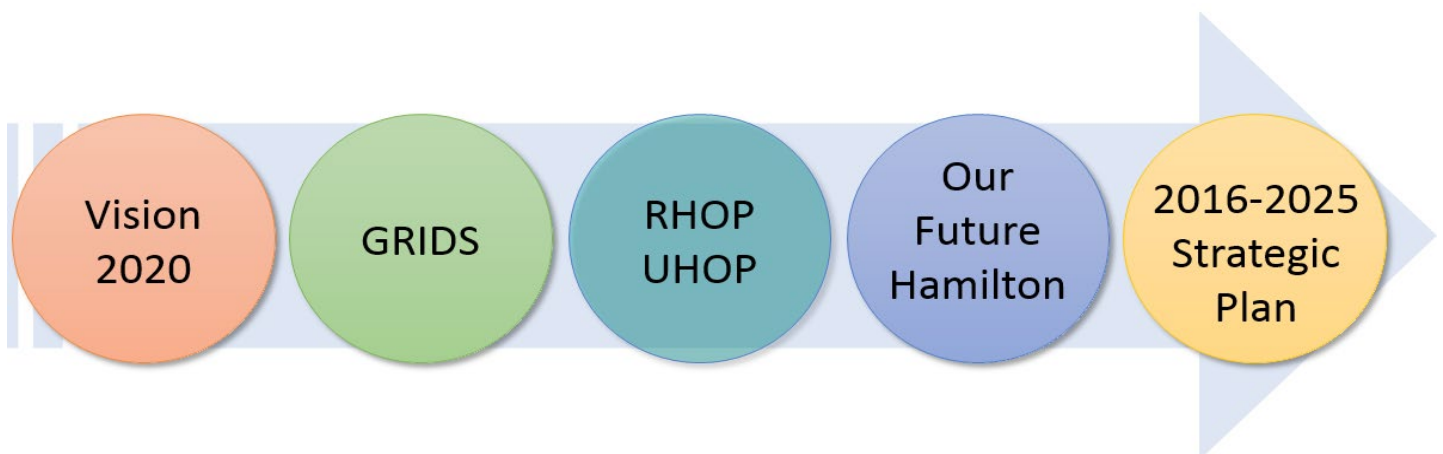
The implementation of Vision 2020 has been monitored through 14 key theme areas for the last 25 years. Reviewed every 5 years, these themes and progress reports were used to measure how well Hamilton has done at obtaining the goals and objectives of Vision 2020. The results of the ongoing monitoring of this plan point to a need for balance, including weighing the need for new lands for housing, industry and job creation vs. the need to keep green space and preserve agricultural lands. This balance is integral to Elfrida, and serves as the foundation which GRIDS was built on.

A new community vision, Our Future Hamilton, was recently adopted in 2017, following extensive community engagement. This vision sets out a road map for the community over the next 25 years. Refer to Section 1.3.2.4 for more information on Our Future Hamilton.

1.3.2.2 GROWTH RELATED INTEGRATED DEVELOPMENT STRATEGY (GRIDS) (2006)

The direction for growth in the Elfrida Growth Study area comes from the Growth Related Integrated Development Strategy (GRIDS) which reviewed options to accommodate Hamilton's future population and employment growth. The City of Hamilton initiated the GRIDS process in 2003 to identify a broad land use structure, including the associated infrastructure, economic development and financial implications, to serve the City over the next 30 years. The City's three infrastructure Master Plans were undertaken as part of the GRIDS process (transportation, water and wastewater, and stormwater).

GRIDS determined that roughly 75% of planned growth could be provided within the existing built boundary in the Downtown, Sub-Regional and Community Nodes and along Primary and Secondary Corridors, but some growth was anticipated to occur on new greenfield lands. A need for an urban boundary expansion was identified to satisfy the anticipated demand for a full range of housing needs, particularly semi- and single detached homes. In addition to this, populations in rural areas were anticipated to experience a slight decline over the next 15 years to 2031. This, along with other major trends such as declining household sizes, aging populations and an increase in immigration and migration, will impact not only where to grow, but how.



1.3.2.2.1 ELFRIDA GROWTH STUDY AREA AND COMMUNITY NODE

In reviewing opportunities for potential future growth areas, Elfrida was selected as the preferred growth option, in large part because of its potential to use existing infrastructure more efficiently, with current infrastructure having capacity to accommodate growth. The presence of commercial uses and lands to the west of Upper Centennial Parkway were also noted as having capacity to serve a greater population. GRIDS identified Elfrida as a preferred location for a potential urban boundary expansion under the Nodes and Corridors approach, noting this approach has *“the best opportunity to enhance delivery of social services through greater economies of scale, foster more vibrant neighbourhoods through the creation of mixed-use, live-work environments and protect human health through transit improvements and more walkable built environments”*. Refer to **Figure 5** for a map of the preferred growth option identified by GRIDS.

The recommended Nodes and Corridors structure for the City identified the Elfrida Growth Area and a new Community Node at Upper Centennial Parkway and Regional Road 20, with higher-order transit corridors along Upper Centennial Parkway and Rymal Road.

The proposed community node at Upper Centennial Parkway and Regional Road 20 is intended to be a central

focus and core of the Elfrida community, containing a mix of commercial, residential and civic buildings, and open spaces. This node will be important in defining the area and serving as a future transit hub, linked with other areas through higher-order transit and accessible by a variety of modes, including walking and cycling.

GRIDS was approved by Hamilton Council in 2006 and formed the basis for many of the policies of the Urban Hamilton Official Plan. The Official Plan policies associated with the recommendations of the GRIDS study are currently under appeal. As noted in Section 1.1, GRIDS is being updated (through GRIDS 2) as part of the MCR and Land Budget Analysis being undertaken concurrently with this study.

1.3.2.3 CITY OF HAMILTON OFFICIAL PLANS

Hamilton has two official plans for guiding development and managing change: an Urban Hamilton Official Plan (UHOP) and a Rural Hamilton Official Plan (RHOP). The Elfrida Growth Study area falls within the rural area of the City, under the RHOP.

Elfrida was included as a special policy area in the RHOP adopted by Council on September 27, 2006. This special policy area outlined the process and studies required to incorporate the lands into the urban boundary. When

Figure 5: Preferred Growth Option in GRIDS (2006) - Elfrida



the RHOP was approved by the Province on December 24, 2008, the Province removed the special policy area. This modification was appealed by landowners and those appeals remain outstanding. The UHOP, adopted July 9, 2009, included a more general set of policies that addressed the requirements for an urban boundary expansion, and a policy reference to Elfrida as a future growth area. When the UHOP was approved, the Province removed the references to Elfrida as a growth area, but the policies on urban boundary expansion requirements were left in the UHOP.

The study area is currently subject to the policies of the RHOP, but through the City's MCR and Land Budget Analysis, portions of Elfrida are anticipated to be brought into the urban boundary through an urban boundary expansion and will then be subject to the UHOP.

1.3.2.3.1 LAND USE POLICIES

According to Schedule D of the RHOP, Rural Land Use Designations, lands within the study area are currently designated as Agriculture, Rural, and Open Space (see **Figure 6**).

Agricultural and agricultural-related uses are the predominant uses contemplated in the Agriculture designation (Section D.2.1). Additional permitted uses identified include mushroom operations, tree farms, farm greenhouses, farm-related industrial and commercial uses and on-farm secondary uses, agri-tourism, a winery, brewery or cidery, and nursery and (secondary) landscape contracting, subject to the conditions of the Official Plan and in accordance with the Zoning By-law.

The Rural designation also permits agricultural and agricultural-related uses, as well as other resource-based rural uses and institutional uses serving the rural community, such as commercial water-taking for bottling or bulk transport, resource-based recreation and tourism, tree farm or nursery, retail greenhouse, kennel, and institutions serving the rural community in accordance with the provisions of the Official Plan and Zoning By-law (Section D.4.1).

The Open Space designation applies to the closed Satellite Golf Centre and Tim Hortons coffee shop located at the southeast corner of Upper Centennial Parkway and Mud Street. According to Section C.3.3 of the RHOP, Open space

designations are meant to recognize *"public or private areas where the predominant use of, or function of the land is for recreational activities, conservation management and other open space uses"*. Contemplated uses include uses such as parks, resource-based recreational and tourism uses, recreation/community centres, trails and pathways, seasonal campgrounds, woodlots, forestry and wildlife management areas, hazard lands and cemeteries.

Many of the policies in the RHOP state the intention to leave agricultural lands, particularly prime agricultural lands, as agricultural lands (RHOP, Sections D.0, D.1.3, D.1.4, D.2.0, D.2.2.1, D.3.1 and D.4.0). It is important to note under the RHOP, Section D.2.2.1 (Other Provisions), which is currently under appeal, it states *"lands designated Agriculture shall not be redesignated for non-agricultural uses"*.

It is additionally important to note that Council has identified a potential need for additional lands to support the forecasted growth for the City. The Province prepared growth forecasts for Hamilton from 2001-2031 with an anticipated growth of an additional 170,000 people, 80,000 new households and 100,000 new jobs in that time frame (RHOP Section A.2.2, and Schedule 3 of the 2006 Growth Plan, 2013 Office Consolidation). The new Growth Plan (2017) has increased these numbers further: an additional 150,000 residents from 2031 to 2041, and 40,000 new jobs from 2031 to 2041 (Schedule 3 of the 2017 Growth Plan). The City is reviewing these figures through GRIDS 2, the component of the MCR that will ensure conformity with the 2017 Growth Plan.

Sections B.2.1 to B.2.3 of the UHOP are under appeal to the Ontario Municipal Board and not yet in effect, however, the existing policy (B.2.2.2) notes *"[t]he exact limits of the lands to be included as part of the urban boundary expansion shall be determined as part of a municipally initiated comprehensive review and secondary plan"* (Urban OP, Section B.2.2.1). Additionally, one of the policies under appeal notes that this may occur *"in prime agricultural areas, [if] the lands do not comprise specialty crop areas, there are no reasonable alternatives that avoid prime agricultural areas and there are no reasonable alternatives on lower priority agricultural lands [Mod 4(c)]"* (Urban OP, Section B.2.2.3.d). The policy that was previously in effect (B.2.2.3.d) notes *"an assessment of agricultural capability which considers directing urban growth onto those lands*

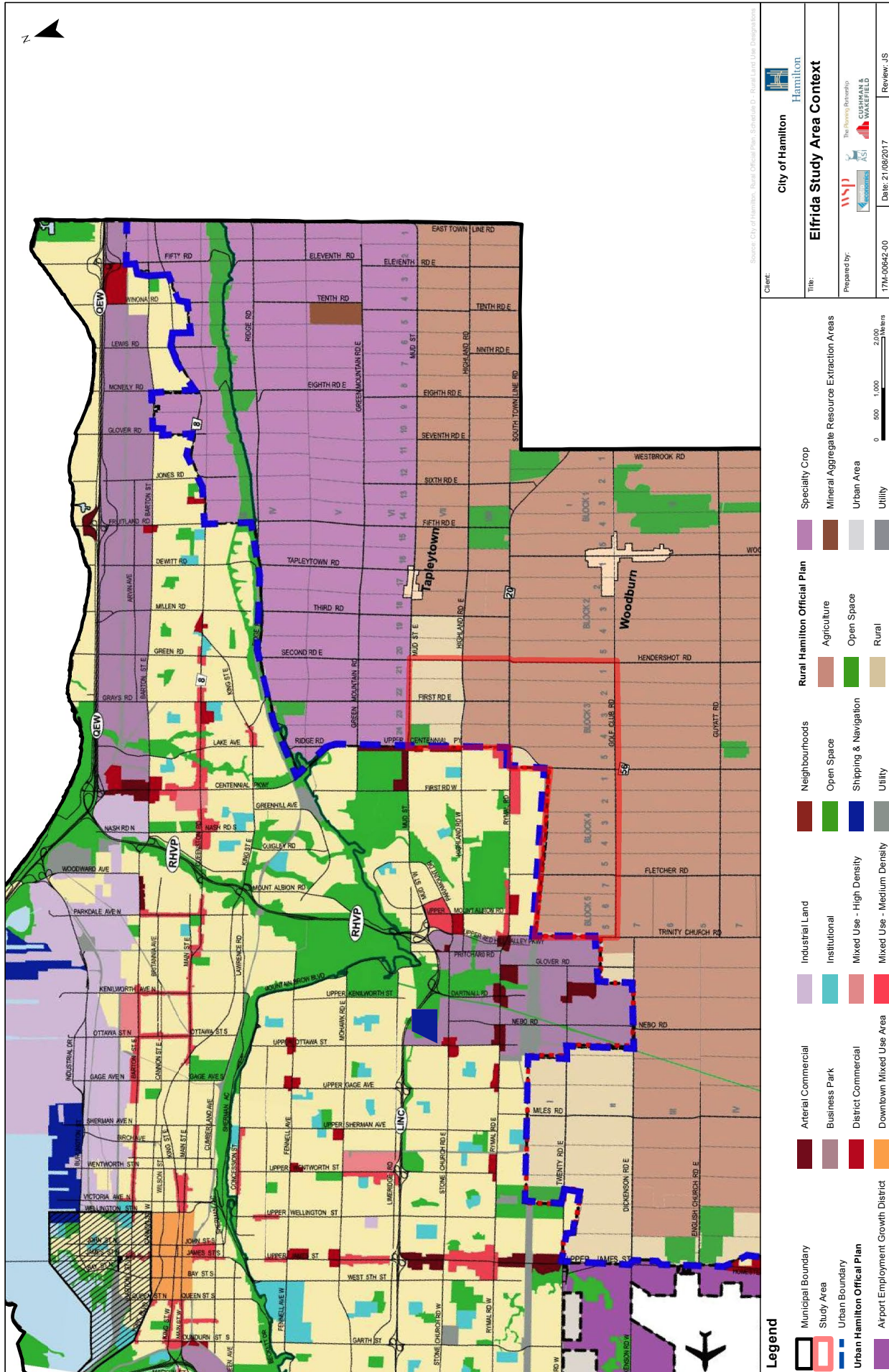


Figure 6: Land Use

which are or are not on lower priority lands, which are designated Agriculture" is required as part of a municipal comprehensive review (MCR).

SITE SPECIFIC DESIGNATIONS

A Rural Site-Specific Policy, R-21, in the RHOP applies to the lands inside the northwest edge of the Elfrida Growth Study area, surrounded by Rymal Road East, Swayze Road and Regional Road 56. These properties are also known as 2200, 2250 and 2260 Rymal Road East; Portside Street; and 51, 101, 151 and 175 Swayze Road. Refer to **Figure 7** for a map of the area.

The Site-Specific Policy permits industrial uses that do not require large amounts of water and have low waste emissions (i.e. 'dry' industrial uses) and accessory uses that serve the industrial and business uses, such as commercial uses, public utilities and limited residential uses.

These lands are to be serviced on municipal water and sanitary services and development is required to be undertaken in a comprehensive manner. All development will be subject to Site Plan Approval and several site-specific design policies apply.

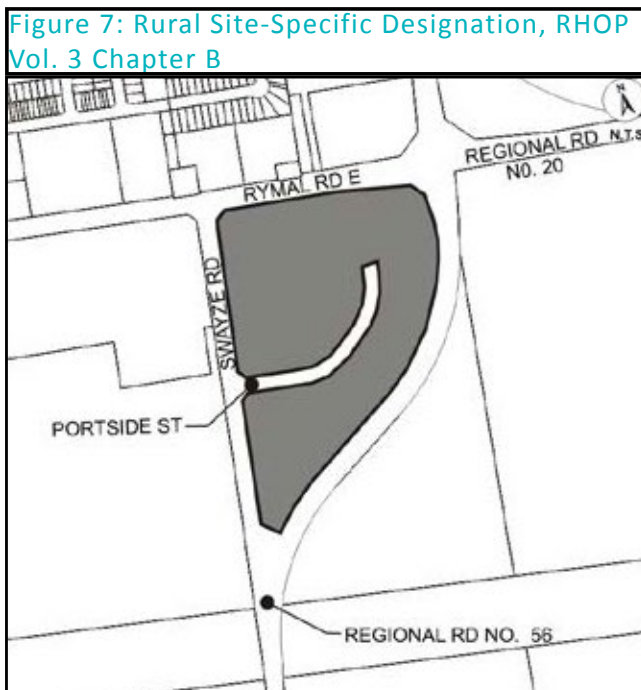


Figure 7: Rural Site-Specific Designation, RHOP
Vol. 3 Chapter B

A policy also exists to require a landscape entrance feature area at the north-east corner of the site to identify a gateway entrance to the former Township of Glanbrook.

1.3.2.3.2 URBAN EXPANSION POLICIES

Under Section B.2.0 of the UHOP, Policy B.2.1.1 notes that the "urban boundary defines the area where all urban development occurs". Lands within the urban boundary are intended to accommodate a 20 year supply of land for the City's projected growth. The City has directed a significant amount of intensification to the urban nodes, corridors and neighbourhoods within the existing urban boundary. However, to accommodate future growth, it is anticipated that an urban boundary expansion is still required. Section B.2.2 of the UHOP notes that the expansion of the Urban Boundary will require a MCR and secondary plan. The MCR, Land Budget Analysis and GRIDS 2 currently underway are being used to determine what additional lands are required to meet the increased projected growth for the City to 2041. The exact limits of lands to be included as part of an urban boundary expansion is required to be determined. Once complete, the results of these studies will inform and be incorporated into the Elfrida Growth Area Study.

1.3.2.3.3 NATURAL HERITAGE SYSTEM

The City of Hamilton uses a systems-based approach to identify and assess natural features and their functions. Through the RHOP and UHOP, a Natural Heritage System (NHS) has been identified for the City of Hamilton.

Table 4 outlines the Natural Heritage System Categories and Feature Types.

The Study Area is currently governed by the RHOP. As lands are anticipated to be brought into the urban area and the boundary between the UHOP and RHOP would be adjusted, consideration must also be given to the UHOP and its policies. More specifically, consideration for how any differences in these policies are addressed through land use planning and secondary plan development as lands transition into the urban area will be an important component of this study.

Both the RHOP and UHOP provide consistent goals with respect to the Natural Heritage System:

- Protect and enhance biodiversity and ecological functions;
- Achieve a healthy, functional ecosystem;
- Conserve the natural beauty and distinctive character of Hamilton’s landscape;
- Maintain and enhance the contribution made by the Natural Heritage System to the quality of life of Hamilton’s residents;
- Restore and enhance connections, quality and amount of natural habitat;
- Provide opportunities for recreational and tourism uses where they do not impact natural heritage features; and
- Monitor and periodically assess the condition of Hamilton’s natural environment.

The NHS within the City of Hamilton consists of two major components: Core Areas and Linkages. Core Areas within the City of Hamilton NHS are consistent between the RHOP and UHOP and include several natural heritage feature types in four categories: key natural heritage features, key hydrologic features, provincially significant features and local natural areas, as well as any Vegetation Protection

Zones associated with the features. Features included within these categories are listed in **Table 4**. Direction regarding the size of these zones is provided in the UHOP and RHOP and refined through more detailed studies, as appropriate. The NHS within the Elfrida Growth Study area can be seen in **Figure 8**.

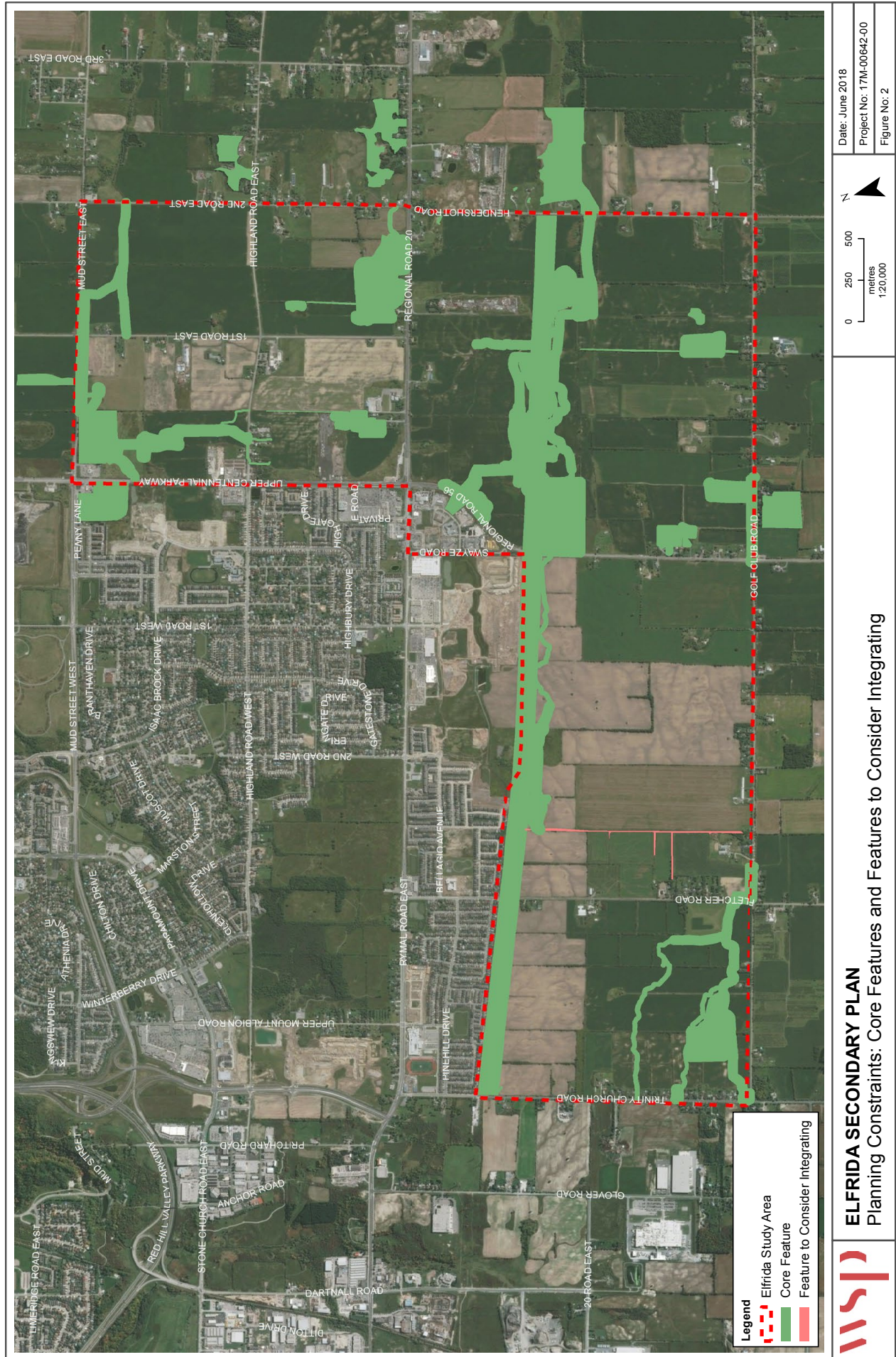
Linkages provide important ecological connections between natural areas allowing for the movement and transfer of plants and animals, and can provide other important hydrological and ecological processes. As such, linkages form an important component of a functional systems-based NHS. The UHOP additionally provides direction with respect to the protection of hedgerows that demonstrate an ecological or additional linkage function. In addition to Core Areas and Linkages, the Greenbelt NHS and Protected Countryside are included in the RHOP NHS.

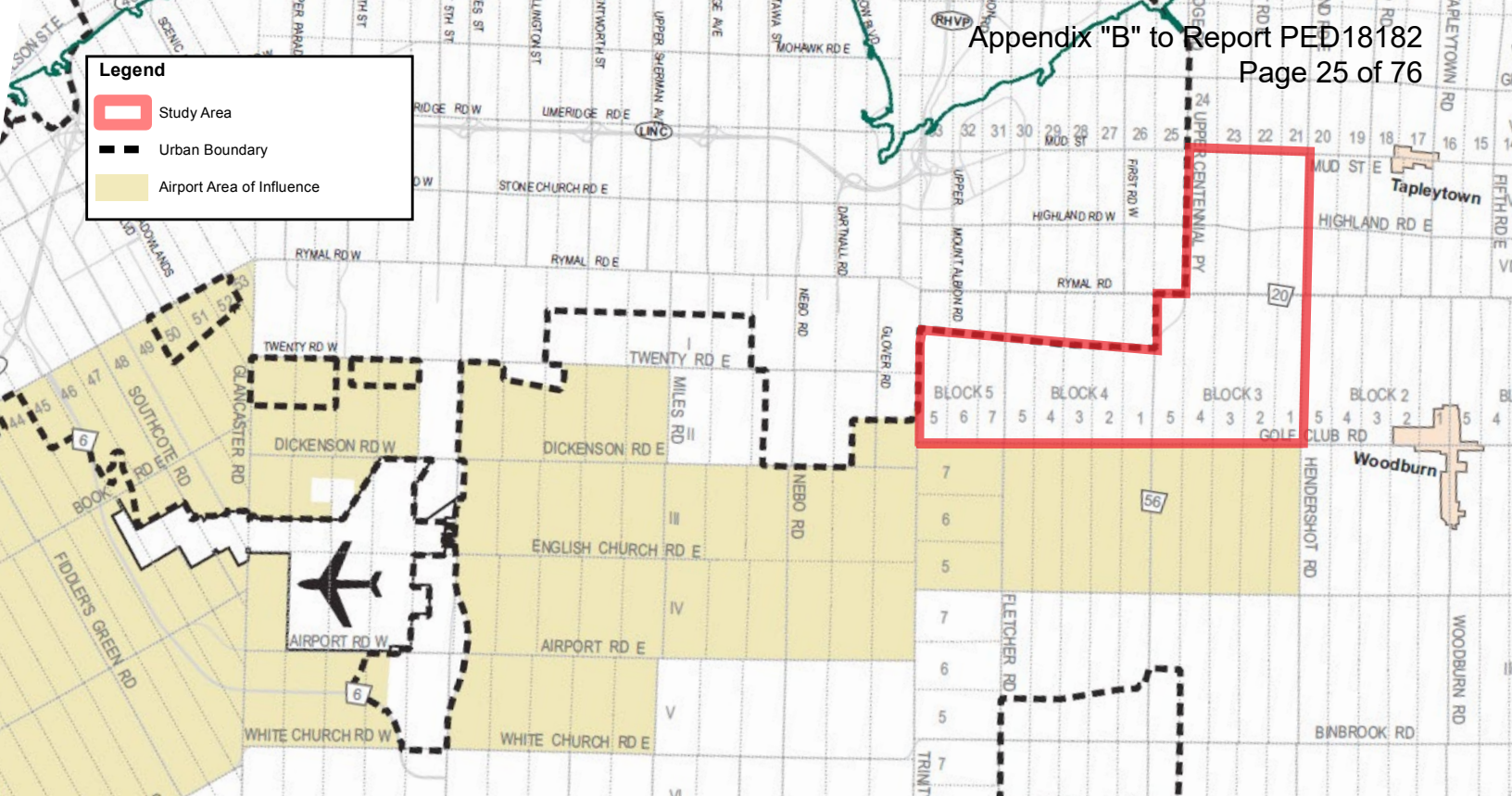
Within the Elfrida Growth Study area, the RHOP has identified a NHS at a high level, providing an overview, but not an intricate level of detail. The ongoing draft Subwatershed Study builds upon the NHS defined in the RHOP to confirm and, where appropriate, add further detail or features to the NHS. This Study will further refine the NHS boundaries, based on the findings of this and other concurrent studies.

Table 4: NHS Category and Feature Types

NHS Category	Feature Types
Key Natural Heritage Features	Significant habitat for endangered and threatened species Fish habitat Wetlands Life Science Areas of Natural and Scientific Interest Significant Valleylands Significant Wildlife Habitat Sand barrens, savannahs and tallgrass prairies Alvars
Key Hydrologic Features	Permanent and intermittent streams Lakes and their littoral zones Seepage areas and springs Wetlands
Local Natural Areas	Environmentally Significant Areas Unevaluated wetlands Earth Science Areas of Natural and Scientific Interest

Note: Provincially Significant Features are contained within Key Natural Heritage Feature and Key Hydrologic Features categories.





Source: City of Hamilton, RHOP Volume 1, Schedule F

Figure 9: Airport Influence Area

1.3.2.3.4 AIRPORT AREAS OF INFLUENCE

The Rural Hamilton Official Plan (RHOP) shows that the Elfrida Growth Study area is outside of, but still adjacent to the Airport Influence Area south of Golf Club Road and west of Trinity Church Road, as shown in **Figure 9**. The Airport Influence Area provides additional policy direction to protect for the operation of the John C. Munro Hamilton International Airport. Additional design criteria may apply related to tall buildings (e.g. requirement for rooftop signal lighting).

1.3.2.3.5 SOURCE PROTECTION

The Elfrida Growth Study area is not located in or near any Source Protection Vulnerable Areas as identified on Volume 1: Schedule G of the RHOP – Source Protection Vulnerable Areas.

1.3.2.4 OUR FUTURE HAMILTON (2015)

Our Future Hamilton was a visioning exercise for the City which connected with over 55,000 people through various means, including online videos and surveys, social media, lemonade stands at events and festivals, interviews, workshops and presentations. The aim of this process was to gather ideas from the community and residents

about their vision for the future of Hamilton over the next generation, creating opportunities to learn from best practices and educate the public. The key priorities are a reflection of the City of Hamilton, its communities and people, their values and future goals. These priorities include Community Participation and Engagement, Economic Prosperity and Growth, Healthy and Safe Communities, Clean and Green, Built Environment and Infrastructure, and Culture and Social Diversity. These priorities will be carried forward into the design for the Elfrida Growth Area Study.

1.3.2.5 HAMILTON STRATEGIC PLAN (2016-2025)

Hamilton’s Strategic Plan identifies a vision for the City as a whole to “*be the best place to raise a child and age successfully*”. As part of that vision, the 2016-2025 Strategic Plan aims to encourage high quality public services in an effort to create a healthy, safe, prosperous and sustainable community. The Plan’s mission is “*to provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner*”. The Strategic Plan incorporates the Our Future Hamilton principles, using them to help set the future goals and vision for the City as a whole.

Key objective areas for the Strategic Plan which apply to the Elfrida Growth Study area include creating healthy and safe communities, being clean and green, embracing culture and diversity, and building infrastructure and environment that promotes the visions and goals of the Strategic Plan. All key objectives will be considered in the Elfrida Growth Area Study.

1.3.2.6 CULTURAL PLAN (2013)

The City of Hamilton’s Cultural Plan (2013) was the result of the ‘Love Your City’ Project initiated in 2008 (formerly known as the Our Community Culture Project in Phase 1). The Cultural Plan’s aim is to provide a basis for planning a sustainable and vibrant City through Municipal Cultural Planning, a practice which is gaining international attention. Eight Transformational Goals for the Cultural Plan, founded on best practice research and stakeholder input, outline the key qualities of Municipal Cultural Planning:

- Culture as an Economic Engine (culture attracts new businesses, investment, jobs, and talent);
- Downtown Renewal (culture is core to downtown renewal);
- Quality of Life Quality of Place (culture is a cornerstone in vibrant, competitive and unique communities);
- Build Tourism (people want to visit places that offer exciting, authentic experiences);
- Neighbourhood Revitalization (culture supports neighbourhood transition and vitality);

- Build Community Identity, Pride and Image (culture gives the community vitality and a sense of identity); and
- Creativity for All (creative expression helps people to grow, prosper and innovate).

These goals will inform the incorporation of culture and cultural engagement into the Elfrida Growth Area Study.

1.3.2.7 HAMILTON FOOD STRATEGY (2016)

The Hamilton Food Strategy is a strategic document focused on access to healthy food for all residents. The Food Strategy is divided into 4 main goals:

- Support food friendly neighbourhoods to improve access to healthy food for all;
- Increase food literacy to promote healthy eating and empower all residents;
- Support local food and help grow the agri-food sector; and
- Advocate for a healthy, sustainable, and fair food system with partners and at all levels of government.

Within these 4 goals there are 14 recommendations, and 46 actions which tie into the recommendations. **Table 5** summarizes key recommendations of the Food Strategy that will be considered in designing Elfrida.

Table 5: Food Strategy Summary of Recommendations

System-wide	Ensure that food system enabling policies, tools, and other approaches are in place.
Food Production	Support and create diverse ways for people to grow food in the urban landscape and support participation in urban agriculture activities.
Food Access and Consumption	Promote physical access to healthy, local foods in all neighbourhoods.
Food Access and Consumption	Integrate food literacy and food systems education and training where residents live, learn, work, and play.
Food Access and Consumption	Support the physical and social infrastructure needed to empower citizens to take action

Source: Hamilton Food Strategy (2016)

1.3.2.8 AGGREGATE ASSESSMENT (2017)

The City of Hamilton has conducted an assessment of the aggregate resources within the Elfrida Growth Study area to evaluate the future development potential of Elfrida in relation to identified aggregate resources and Policy 2.5.2.5 of the PPS (under 2.5 - Mineral Aggregate Resources). While selected bedrock resources are available in 37% of the total Elfrida Growth Study area, that amount accounts for less than 3% of the total selected bedrock resources available throughout the City of Hamilton's rural area. This means there are other locations available for the protection and extraction of this resource.

The assessment concludes that blasting will be required to allow for residential development in Elfrida. Policy direction can be provided in the Secondary Plan to promote the recovery of blasted material for reuse elsewhere.

1.3.2.8.1 AGGREGATE RESOURCE INVENTORY (2010)

The Aggregate Resources Inventory (ARI), completed in 2010, is an inventory and evaluation of the aggregate resources in the City, based on 2007 field assessments and previous studies of the area. The investigation outlines the quantity and quality of aggregate within the City overall,

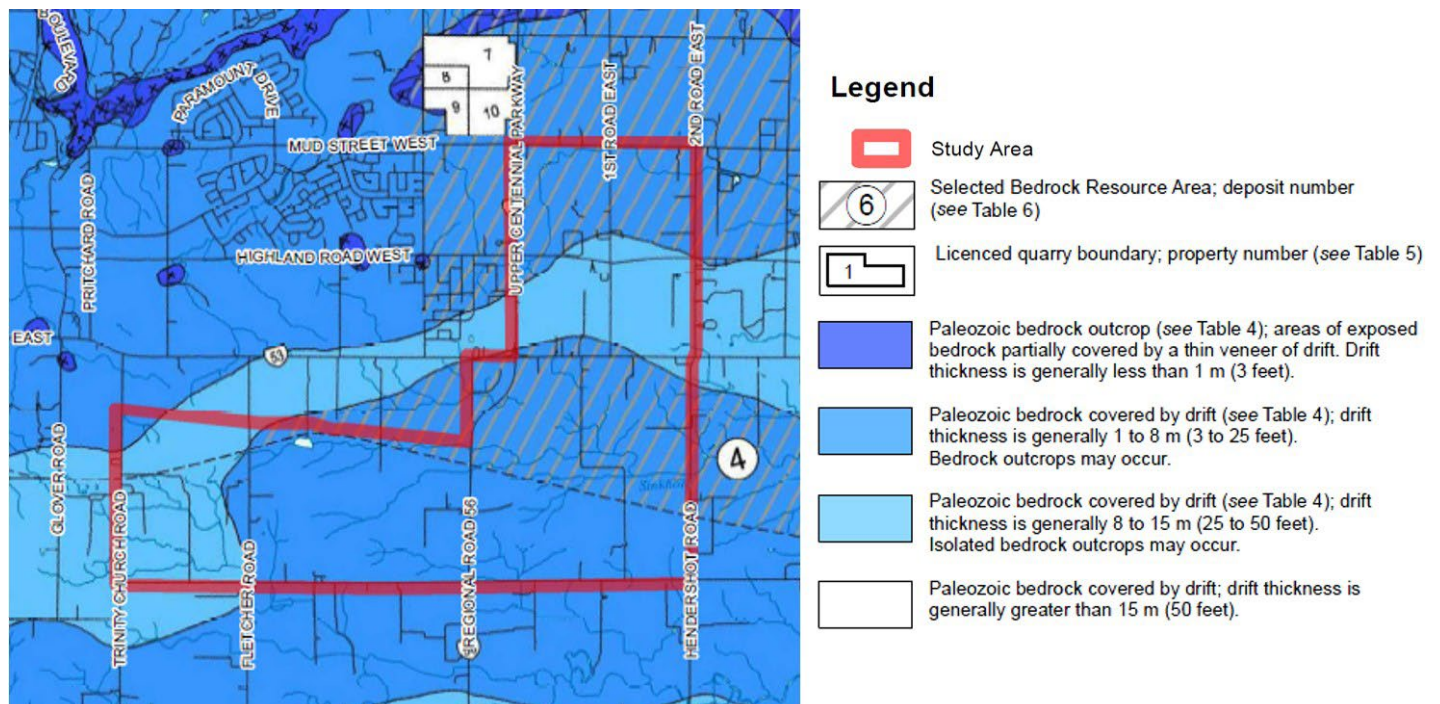
and is part of the Aggregate Resource Inventory Program for areas designated under the *Aggregate Resources Act* (ARA).

Bedrock Resource Areas 3 and 4 have been identified within the Elfrida Growth Study area. Paleozoic bedrock covered by 1-8m of drift and 8-15m of drift, where some bedrock outcrops may occur, cover the entirety of the Elfrida Growth Area Study lands. Other surficial deposits may be present, but no sand and gravel resource areas (primary, secondary or tertiary) are identified in the study area.

Refer to **Figure 10** for a map of the bedrock resource areas, as shown in the ARI (2010). Resource areas may be identified wholly or partially for extractive development or resource protection, depending on the feasibility of extraction which is influenced by existing uses, among other considerations.

To date, no interest in aggregate extraction has been identified within the Elfrida Growth Study area. Consideration of the existing resources, and sensitivity and compatibility with the existing licensed quarry northwest of the Elfrida Growth Study area, will be a key factor in the phasing of future development in Elfrida.

Figure 10: Bedrock Resource Areas



Source: City of Hamilton, Aggregate Resource Inventory (2010)

1.3.2.9 ZONING AND SITE PLAN CONTROL

The existing zoning designations in the study area are rural and institutional in nature. Zoning By-laws 3692-92 (Stoney Creek), 464 (Glanbrook) and 05-200 were reviewed as they apply within or adjacent to the study area. In general, lands within the study area are zoned:

- A - Agricultural
- HC - Highway Commercial
- IS - Small Scale Institutional
- M - Business Park
- MR - Rural Industrial
- OS - Open Space
- RC - Rural Commercial
- RR - Rural Residential

Refer to **Figure 11** for a map of the current zoning. Urban development within Elfrida would require an amendment to the Zoning By-law to implement the use permissions, zone standards, and parking requirements for the new community.

Site Plan Control By-law 15-176 already applies City-wide to specific types of development, exempting agricultural buildings and small-scale residential uses (e.g. single or semi-detached, or duplex dwellings). New lands brought into the urban boundary would remain subject to that By-law, with applicable development automatically subject to Site Plan Control.

1.3.2.10 SECONDARY PLANS

The study area is adjacent to several existing Secondary Plans. These include the West Mountain (Heritage Green), the Rymal Road, and the Nash Neighbourhood Secondary Plan Areas. The Trinity West Secondary Plan is also in close proximity to Elfrida. Consideration of these adjacent communities and their planned design is important to ensure connectivity, continuity and compatibility. Refer to **Figure 12** for a map showing adjacent Secondary Plan designations.

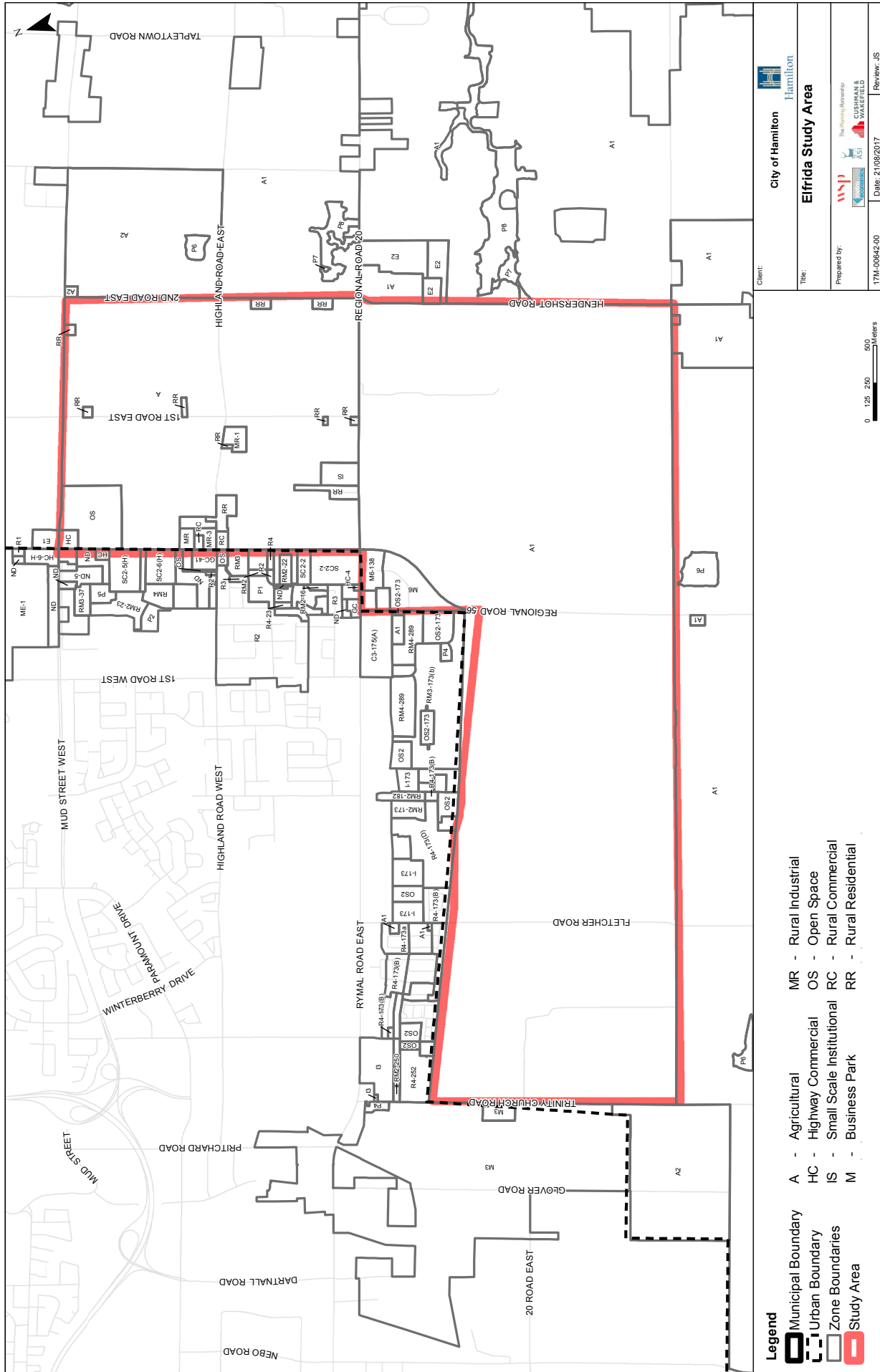


Figure 11: Zoning

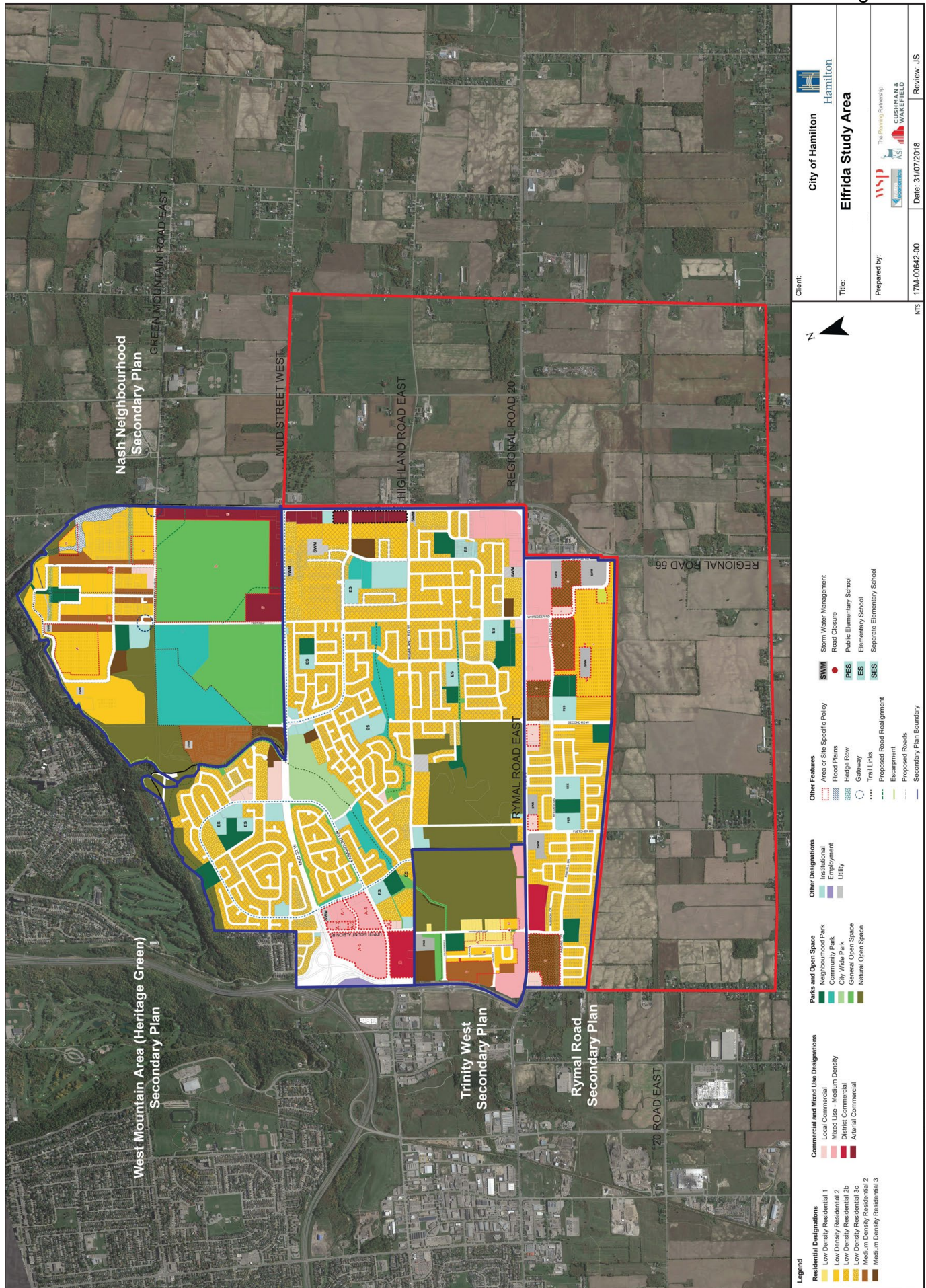


Figure 12: Secondary Plans

1.4 WORK PLAN AND APPROACH

The Elfrida Growth Area Study is an important project at a City-wide level, as it will identify how growth can be accommodated to the year 2031 and beyond (pending the results of the GRIDS 2 and MCR projects), in a sustainable and purposeful way that enhances community identity and meets the needs of the City and the policies of the Province over the long-term.

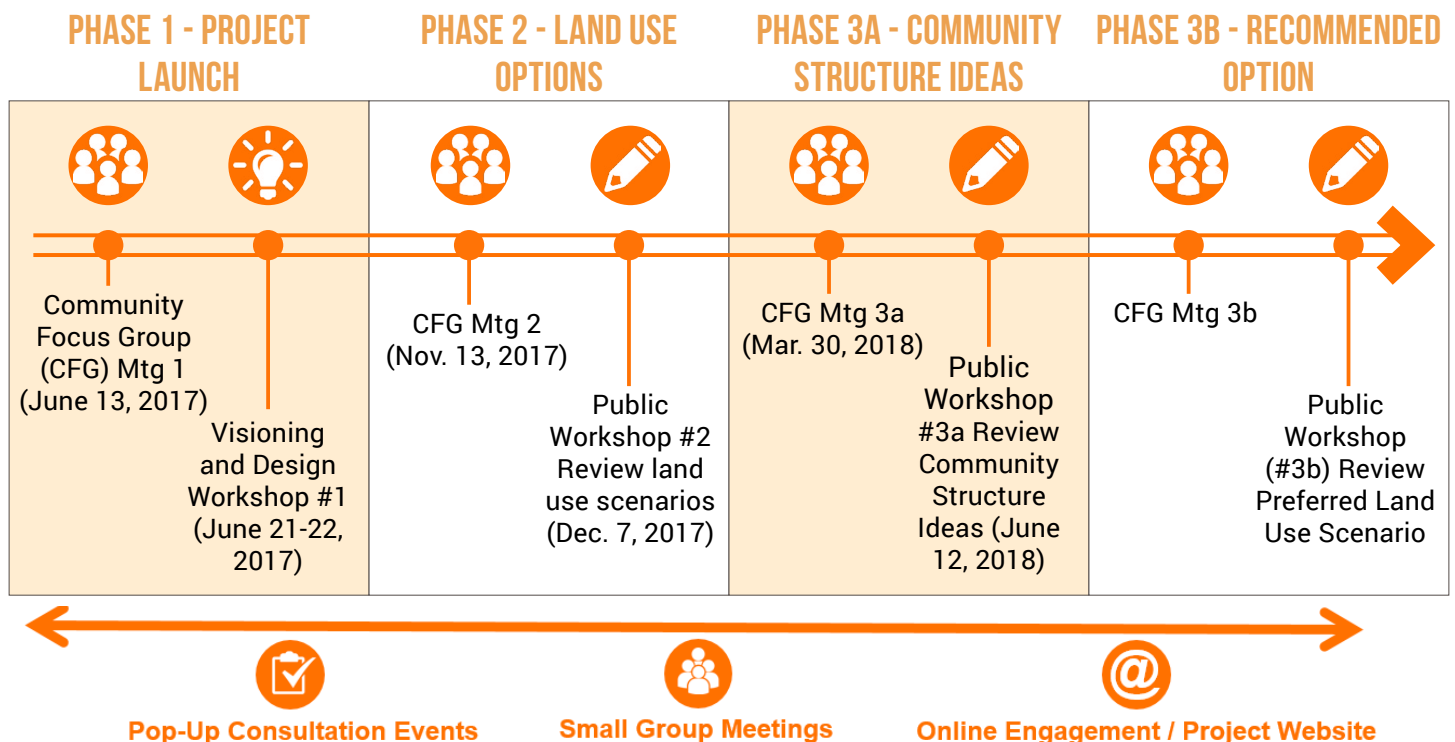
In order to achieve this, the following consultation events and meetings have taken place:

- 3 Community Focus Group meetings
- 3 Public Workshops
- Various meetings with City staff and stakeholders

For more information on the results of the consultation, refer to Section 5.3 of this report.

This project is being undertaken in 4 phases: Project Launch, Land Use Options, Community Structure Ideas and Recommended Option. The timeline illustrated in **Figure 13** below shows these phases and generally outlines the implementation plan for this project.

Figure 13: Elfrida Growth Study Timeline



1.5 CONCURRENT MUNICIPAL STUDIES

Several additional studies are being carried out concurrently with this study which are necessary to inform the Elfrida Growth Area Study.

1.5.1 MUNICIPAL COMPREHENSIVE REVIEW AND LAND BUDGET ANALYSIS

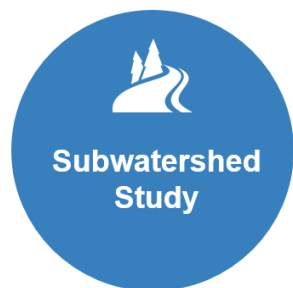
The MCR and Land Budget Analysis (GRIDS 2) are being led by the Policy Planning, and Planning and Economic Development Department at the City of Hamilton. The MCR and Land Budget Analysis are required to



ensure the City's Official Plans remain in conformity or are consistent with the Provincial Policy Statement (2014) and various Provincial Plans, including a determination as to the supply of urban land needed to accommodate growth and meet minimum density targets up to the year 2041. The information that comes as a result of these studies will be incorporated in future work on the Elfrida Growth Area Study.

1.5.2 SUBWATERSHED STUDY

This Subwatershed Study is being led by the Growth Management, and Planning and Economic Development Department at the City of Hamilton. The Subwatershed Study began in 2015 and is being conducted in three phases as outlined below. The Elfrida Growth Area Study will review and implement the findings of the Subwatershed Study to ensure that natural heritage and environmental constraints are considered,



negative impacts are mitigated and core areas and linkages are afforded the protection they require.

Phase 1 of the Subwatershed Study is a review of the existing environmental constraints and will include all required modelling for the watershed as well as an inventory of the natural environment. Phase 1 of the Study aims to record the general character of the subwatershed area and provide a clear understanding of the major issues and opportunities. The Draft report on Phase 1 was completed in May 2018.

Phase 2 of the Subwatershed Study will assess the impacts of future land use changes as identified in the Elfrida Growth Area Study on the natural environment. Phase 2 aims to develop a subwatershed management strategy that:

Phase 3 of the Subwatershed Study is intended to outline the preferred subwatershed management strategy. It will also provide the framework for implementation and monitoring with requirements for appropriate phasing, financing, operation of facilities, monitoring, mitigation and contingency plans in compliance with the Subwatershed Study.

- Protects the critical elements of the subwatershed and prevents environmental degradation;
- Provides adequate flexibility for integration with adjacent development and redevelopment areas;
- Assists in the establishment of open space linkages;
- Identifies opportunities and constraints to development;
- Provides a strategy to manage existing land uses;
- Details location, functional design and area requirements for stormwater management facilities; and,
- Identifies restoration and enhancement opportunities.

2.0 BEST PRACTICES



The following are a selection of the most common and well-known best practices for complete and healthy communities, which will be used to inform the future development of Elfrida. Examples of best practices and precedent images can be seen in **Figure 14** through **Figure 25**. Where possible, these will be implemented through the secondary plan policies and urban design guidelines to be prepared. These practices combine physical design, policy, economics and community organization to create vibrant communities, with equal opportunities for all to access the services and facilities required for daily living.

As noted in Section 1.3.1.3.2, a key factor in the development of Elfrida is planning to achieve a minimum density of 80 persons and jobs per hectare. This density is calculated as the ratio of residents and jobs to land area but excludes lands identified as Natural Heritage features, electricity transmission lines (e.g. Hydro corridors), railways, freeways, employment areas (industrial), and cemeteries.

Density can vary and is calculated as an average across the entire City designated greenfield area. Refer to **Figure 16** and **Figure 17** for examples of what approximately 80 persons and jobs per hectare may look like.



Figure 14: Connected and Permeable Streets

2.5.1 TRADITIONAL NEIGHBOURHOOD DEVELOPMENT

The concepts central to Traditional Neighbourhood Development (TND) are based around diversifying land uses to create dense, walkable communities at a neighbourhood scale, consisting of compact, mixed-use neighbourhoods with a distinct centre. It is an urban design and planning tool that encourages a work-live-play approach to development, creating clusters that incorporate multiple modes of transportation including pedestrian, cycling and transit, as well as ample open and public spaces within a short walking distance of every residence. Other principles of TND include preservation/reutilization of structures with historic or architectural significance; integrating nature into the form of development, creating pedestrian-friendly streets that encourage all modes of transportation; emphasizing transit; and encouraging economic diversity. A TND approach encourages an interconnected network of streets with front porches and rear lanes for parking at the rear. Development leads to denser 'urban' and walkable centres which could reduce residents' reliance on their cars and create areas that generate economic benefit while at the same time support a healthy residential population.



Figure 15: Ground Floor Retail / Apartments



Distinct neighbourhood character defined by built form



Neighbourhoods defined by centrally located parks



Townhouses with lane accessed garages



Pedestrian scaled streets with built form close to the street line



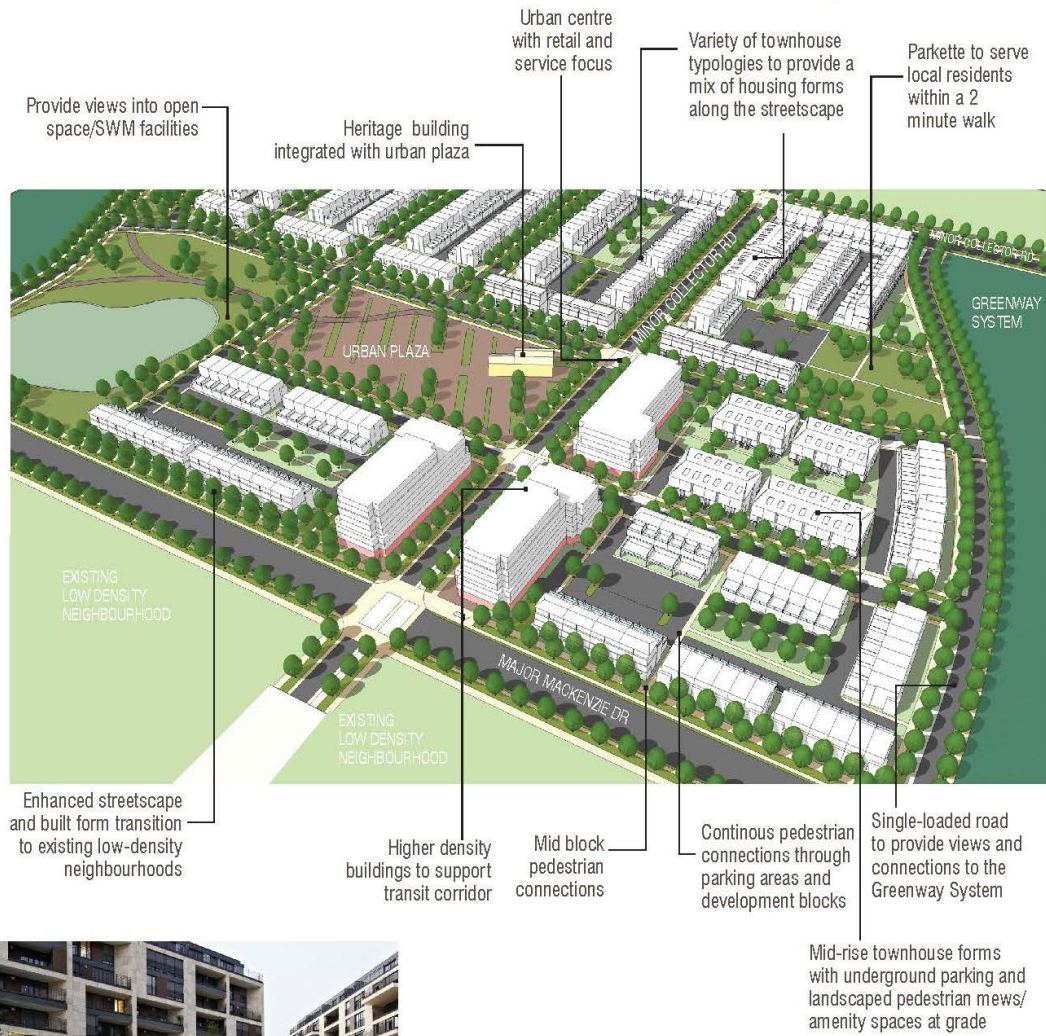
Institutional buildings centrally located in the community



Mid-rise development with a mix of uses

Source: The Planning Partnership and the City of Markham

Figure 16: Density Example for a Residential Neighbourhood Area



Urban square/cafe seating as a place to meet and gather



Transportation hubs connect different modes of local and regional transit, are mixed-use nodes, and support higher densities.



A variety of housing types and forms provide housing choices, with access to open spaces, amenities, services, and transit.

Dollar Hamlet Park, Markham, ON

Source: The Planning Partnership and the City of Markham

Figure 17: Density Example for a Mixed-Use Regional Corridor Node



Figure 18: Neighbourhood Retail and Live/Work Spaces

2.5.2 NEW URBANISM

According to the Congress for the New Urbanism, “*New Urbanism is a planning and development approach based on the principles of how cities and towns had been built for the last several centuries: walkable blocks and streets, housing and shopping in close proximity, and accessible public spaces. In other words: New Urbanism focuses on human-scaled urban design*”. The approach focuses on putting pedestrians first by providing improved transit options, accessible travel ways, increasing density and mixing land uses. By doing so, communities are enhanced and strengthened as there is a greater diversity and a finer grain of development which is carefully designed, with public spaces as an important element. New Urbanism is a planning and urban design approach which encompasses a range of scales and community design best practices,

such as traditional neighbourhood development, transit-oriented development, and complete streets. New urbanism incorporates the idea of a ‘transect’ or sequence of development patterns, ranging from rural to urban. This is applicable to Elfrida, which borders the Greenbelt Plan-Protected Countryside and requires careful thinking about the nature of the urban edge and transition to higher density areas.

2.5.3 TRANSIT-ORIENTED DEVELOPMENT

Transit-oriented development (TOD) is a development approach centred around concentrating clusters of mixed land uses, including residential, around transit, particularly rapid transit systems such as Bus Rapid Transit (BRT) or Light Rail Transit (LRT). The goals of TOD are to create compact and walkable communities where one is not reliant on a car to carry out daily activities; to reduce traffic congestion and energy consumption; and generally to improve quality of life. This approach has many of the same goals as TND and New Urbanism, with refinements to create transit-supportive neighbourhoods. In this approach, the transit system is an essential element and driver of the development patterns. With the expected population growth in Elfrida and aspirations for higher-order transit adjacent to, and potentially within the study area, this approach is very relevant and should be integrated with the overall development patterns, land use strategy and interior circulation and transit network.



Transit-Oriented Development Example

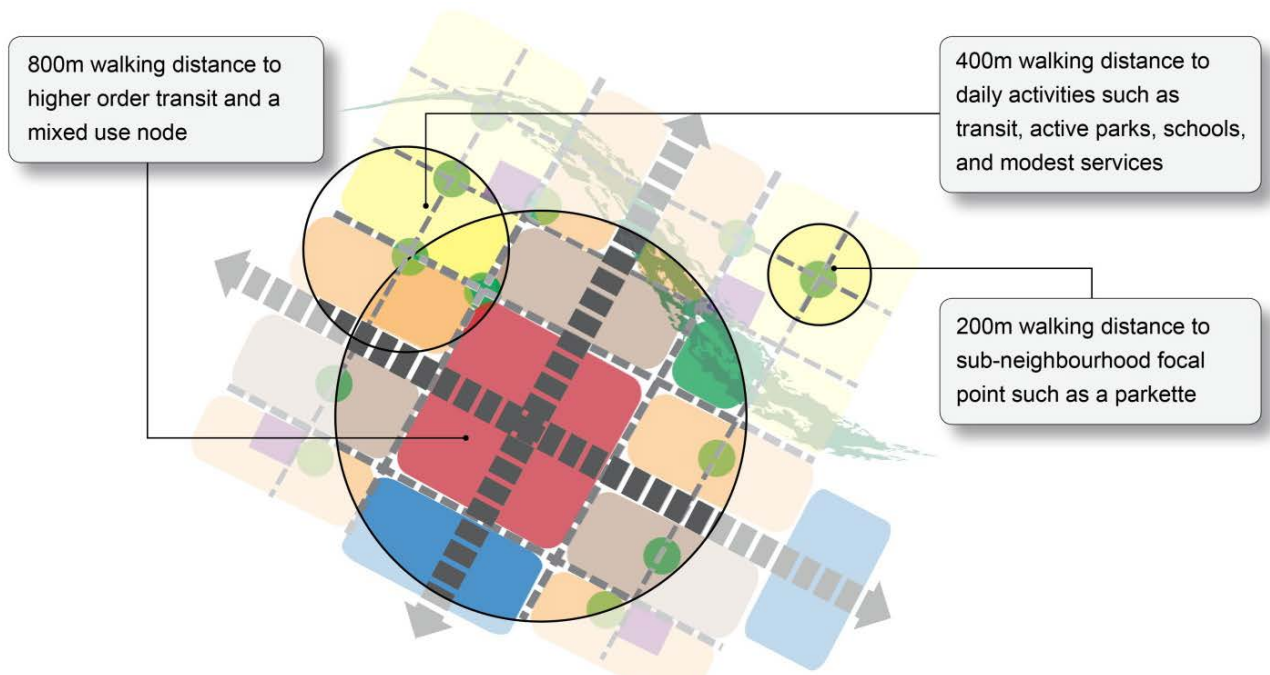


Figure 19: Pedestrian-Focused Community Design



Figure 20: Pedestrian-Oriented Design Precedents

2.5.4 NEIGHBOURHOOD RETAIL/ MIXED-USE/LIVE-WORK

Mixed-use neighbourhoods which include retail and possibly live-work spaces allow a diversity of uses and a higher density of development. When implemented in conjunction with other similar best practices and approaches like TND, TOD and New Urbanism, mixed-use communities can become significant economic generators that at the same time reduce the negative impacts of sprawl. Retail and commercial spaces mixed with residential uses at a finer grain can reduce the need for personal vehicles and provide a 'built-in' market for the retailers, increasing stability and resiliency in these areas, as well as contributing to active transportation and pedestrian-friendly streets.

2.5.5 AGE-FRIENDLY DESIGN

The concept of age-friendly design or lifelong neighbourhoods is centred around a culture of inclusion and the encouragement of well-being for people of all ages, particularly on the far ends of the age spectrum whose specific needs may otherwise be overlooked in traditional design. Age-friendly design considers a number of elements within a community, including outdoor spaces, transportation, housing, social inclusion and participation, communication and availability of information, employment and civic participation, education and health services. A prevalence of walkable destinations, social and economic diversity, presence of transit, programming and events, parks and public art all contribute to healthy communities for all. Age-friendly cities are vibrant places that encourage interaction and a positive environment for people of all ages. A mix and diversity of housing choices, built form and tenures can be incorporated through age-friendly design to provide desirable housing options for a range of demographics.

Age-friendly design integrates more seamlessly populations of different ages by being more attentive to their needs, and can not only improve quality of life for residents of all ages, but can result in a more connected community. Age-friendly design ensures that individuals and families can be comfortable and engaged in the community as children and youth, and remain in the community as they age. Many of the elements of TND, TOD, mixed-use neighbourhoods and New Urbanism also contribute to age-friendly design.

The *Accessibility for Ontarians with Disabilities Act (AODA)* and related design standards are intended to identify and prevent barriers for people with disabilities. Age-friendly design supports and is enhanced by accessibility considerations, incorporating the requirements of the Ontario Building Code seamlessly into communities and exceeding the minimum requirements, where feasible, to provide public and private spaces that are welcoming and accessible for all.



Figure 21: Walkable and Accessible Destinations Enhance Social Inclusion



Figure 22: Examples of LID Green Infrastructure

2.5.6 LOW IMPACT DEVELOPMENT/ GREEN INFRASTRUCTURE NETWORKS

Low Impact Development (LID) refers to a set of sustainable approaches to stormwater management through community design. These approaches utilize green infrastructure strategies to take an ecosystem-based approach to stormwater management. The strategies encompass a range of scales, from community planning (e.g. cluster development to reduce impervious surface area) and reducing the disturbance of existing functioning hydrology patterns, to very site-specific 'green infrastructure' such as vegetated swales, green roofs and pervious pavement to slow runoff and increase infiltration.

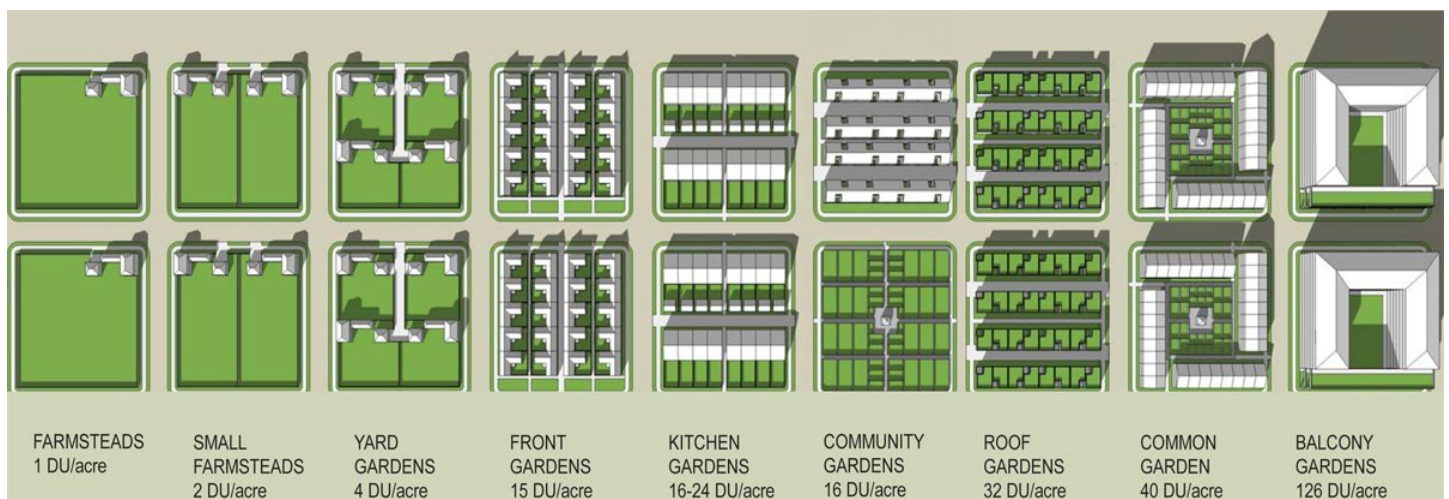
LID includes five core requirements:

- Conserve natural areas;
- Use a watershed approach to minimize the impact on hydrology;
- Maintain flow rate and duration to pre-development levels;
- Use decentralized green infrastructure and source controls throughout; and
- Control pollution and promote education on LID values.

When these strategies are effectively implemented (at various scales), the result can be a significant decrease in the quantity of runoff, and an increase in the quality of stormwater as well as a healthy environment within the development. From an environmental and economic perspective, the long-term benefits of LID for a community such as Elfrida are significant in that this approach can contribute to sustainability and resilience while reducing construction and long-term maintenance costs associated with traditional municipal stormwater management systems.



Figure 23: Urban Agriculture and Recreation Precedents



Source: Duany Plater-Zyberk, "Theory and Practice of Agrarian Urbanism", 2011.

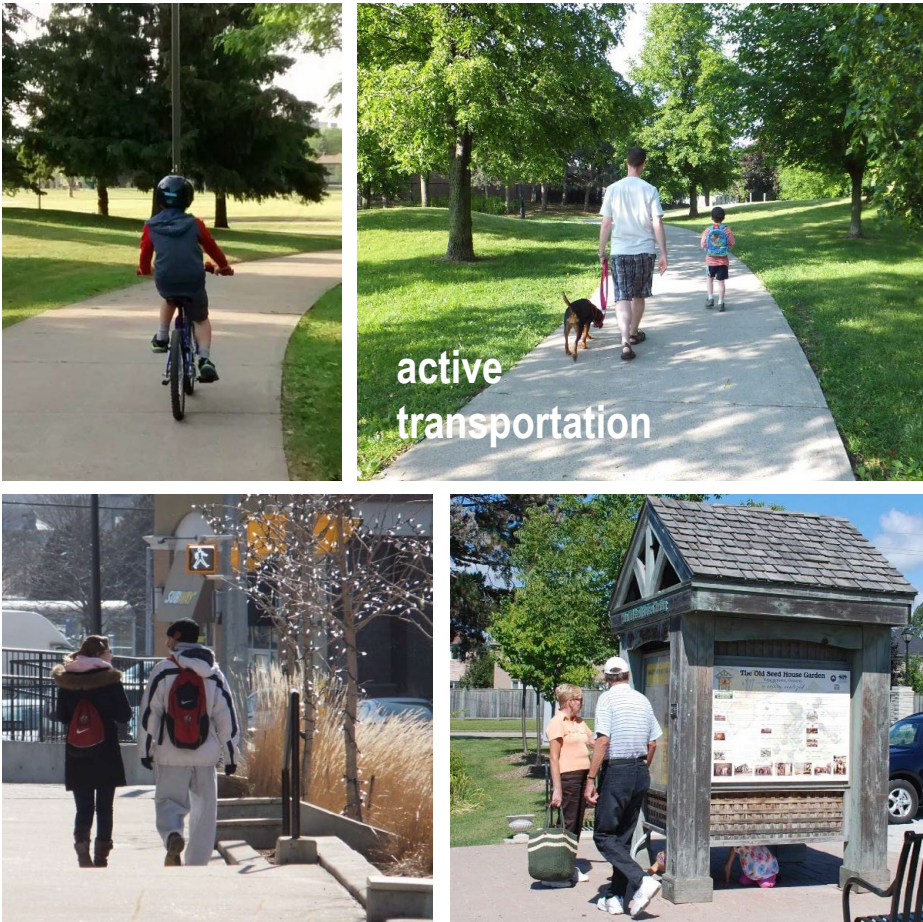
Figure 24: Agrarian Urbanism Example Block Layouts

2.5.7 SUSTAINABLE CITIES

Sustainable community design takes a holistic approach to sustainability at all levels of community development. Sustainable cities seek to reduce their overall environmental impact through minimizing outside inputs of food, water and energy while reducing outputs of heat, pollution, waste, carbon dioxide and methane. Sustainable community design focuses on the interconnections between the traditional three pillars of sustainability: environment, economics and society/culture. Sustainable cities also seek to be resilient and adaptable to cope with climate and social change. These approaches incorporate all of the previously noted design principles and best practices, while also emphasizing energy independence and district energy programs, urban agriculture, technology and 'smart city' design, and City-wide recycling, composting and waste management approaches. Certification programs such as Leadership in Energy and Environmental Design - Neighbourhood Development (LEED ND) can also contribute to sustainability in urban design.

2.5.8 URBAN AGRICULTURE

To achieve the goals of sustainability and resilience, supporting and developing local food sources is vital. Modern approaches are re-integrating agriculture into urban form, incorporating a range of agricultural uses throughout all density levels. Integrated agriculture contributes to the economy, environment and culture of a community, from reducing the carbon footprint of food imports, providing food security, and encouraging active lifestyles to creating a local economy. Urban agriculture can take many forms, most commonly as rooftop and community gardens, truck farms and balcony planters. The integration of urban agriculture into cities can go beyond these approaches, developing the City plan around sustainable food production. The preservation of agricultural heritage is as vital as the ongoing productivity of the lands. Modern approaches to urban agriculture seek to increase the productivity of the land by intensifying both development and agricultural production, with multiple forms of agriculture incorporated throughout different densities. Food production, farmers markets, festivals, fairs and harvests can become events which bring the community together for shared activities. Refer to **Figure 23** and **Figure 24** for examples of urban agriculture.



transit supportive



Figure 25: Active Transportation / Complete Street Precedents

2.5.9 COMPLETE STREETS

A ‘complete streets’ approach to developing movement corridors de-emphasizes the car and results in streets designed for all ages, abilities, and modes of travel. Safe and comfortable access for pedestrians, bicycles, transit users and the mobility-challenged is integral to the design and planning of the street and transportation network. This is an essential element in planning modern cities and urban centres. A successful complete streets approach integrates people into every stage of development, encouraging a sense of ownership and buy-in. Developing transport networks from this perspective is essential to a healthy and active community, and is an important aspect of transit-oriented development as it reduces the need for car ownership and encourages alternative modes of transport. Complete streets also are vital to healthy and active lifestyles, sustainability and age-friendly development. Hamilton has developed a Complete Streets policy termed ‘Complete-Livable-Better Streets’ which is included in the Transportation Master Plan review and update.

2.5.10 NODES AND CORRIDORS

The principle of nodes and corridors within urban form ties closely with transit-oriented development and other best practices already noted. It looks at development as a series of lower-density areas and pedestrian-oriented higher-density clusters of activity. Transit and transportation corridors intersect and connect the various nodes. The built form of corridors is predominantly street-oriented (including transit facilities) with a mix of commercial, retail and residential uses. In Elfrida, future development can be focused in an organized way that is aligned with transit infrastructure and the City’s overall approach to growth management and which allows concentrated development along the length of the corridor to create dense and walkable environments. A transit-first approach for Elfrida will be necessary to support the planned densities for the future community.

3.0 PHASE 1 – PROJECT LAUNCH, AREA ASSESSMENT AND VISION



3.1 OVERVIEW

Phase 1 of this study included an Existing Conditions Report which documented background information, reviewed Provincial legislation and regulations, and identified preliminary opportunities and constraints in consideration of ongoing concurrent studies such as the Subwatershed Study and GRIDS 2.

The preliminary goals of the study identified through the Existing Conditions Report were to:

- Create a vibrant, complete community that will be a desirable place to live, work, play and learn, and that will be viewed as a model in innovative greenfield development;
- Identify opportunities and constraints for land use within the study area;
- Review existing land uses and ensure sensitive and sympathetic interface between urban and agricultural/rural land uses;
- Establish a policy framework to support the recommended land use designations and implementation strategy to accommodate planned growth to the year 2041;
- Identify an internal transportation network, including roads, transit, bike lanes, pedestrian walkways and trails, taking into consideration the City's overall Transportation Master Plan;
- Integrate a comprehensive stormwater management/drainage plan for the lands, in alignment with and as directed by the Elfrida Subwatershed Study;
- Provide a comprehensive water and wastewater servicing strategy (including infrastructure location and sizing), in accordance with the City's Integrated Water and Wastewater Master Plan for the Lake Based Systems. Capacity. The need for a water tower and/or sewage pumping station shall be considered through development of this strategy;
- Preserve and protect natural heritage areas, as identified in the Natural Heritage System in accordance with the Subwatershed Study;
- Preserve and protect cultural heritage resources and landscapes, where identified and feasible, in accordance with the recommendations of this study;

- Identify locations for open space designations, park and recreational amenities and opportunities for a comprehensive trail system that effectively serves the community, integrating parkland and stormwater management facility locations, as appropriate;
- Identify the amount and type of commercial area to meet the needs of the community;
- Identify and prepare a strategy for appropriate phasing of development that will ensure minimal impact to agricultural operations in the area; and
- Prepare a financial strategy and cost sharing agreements with 1 to 5 year capital budget plan.

A community consultation strategy was initiated during this phase, and the first public engagement event included a visioning session in which the preliminary goals and objectives for the study, as well as an overall vision, were determined (refer to Section 4.2 of this report).

In a second round of public engagement, the initial goals and objectives for the study area were brought to life through a series of design charrettes with members of the public, the project team, City staff and stakeholders, which resulted in 6 preliminary land use concepts.

For more information, refer to the June 2017 Community Meeting information in the Consultation Summary Report.

3.2 KEY DIRECTIONS

Through the work completed in Phase 1, including the background information review, policy directions, and the principles identified by the public, a list of 26 key directions were produced. These key directions have been considered throughout all phases of this process. These key directions will be carried forward into the future master planning and design work to be undertaken for the Elfrida Growth Study area. The key directions are:

PLANNING AND URBAN DESIGN

1. Design for a healthy community which supports the quality of human well-being and active lifestyles, nourished and nurtured by an interrelationship between the built environment and nature that facilitates equal opportunities for social, psychological, physical, and spiritual and cultural development for all individuals and the community alike.
2. Design for a diverse community which supports a wide array of lifestyles and activities, by including a range of land uses and building types. Preserved nature, sustainable agriculture and active spaces support a diversity of housing, vibrant retail, integrated employment and civic facilities.
3. Design for a contextual community which transitions meaningfully into its surroundings, creating new connections to existing amenities, respecting existing built-up areas and maintaining effective buffering and relationships with natural areas.
4. Design for a coherent community which organizes itself around well-defined public spaces and cultural amenities, using architecture, transportation networks and the landscape to frame identifiable urban places that celebrate local history and culture, natural and built heritage. Building phases function individually, and contribute to the overall community identity.



TRANSPORTATION

5. Create a transportation network which promotes health and safety by integrating health into the transportation network, promoting active transportation, and age-friendly non-auto networks.
6. Foster a connected and accessible on-road and off-road pedestrian path network which promotes a culture of walking.
7. Build an extensive on-road and off-road cycling network which can connect cyclists for utilitarian, commuting and recreational uses.
8. Create an expanded transit network that can support ridership demand until the implementation of rapid transit through the proposed LRT / BRT routes (25-year horizon).
9. Design a complete street network that incorporates elements of 'Complete-Livable-Better Streets'. These would be supportive of all modes of travel as well as supporting vehicle and goods movement (including agricultural equipment).



CULTURAL HERITAGE

10. Integrate significant built heritage resources into new development proposals.
11. Designate significant built heritage resources and significant cultural heritage landscapes under Section 29 of the *Ontario Heritage Act*.
12. Incorporate where possible, principal cultural heritage elements into the evolving future landscape where opportunities for conservation may exist.
13. Protect and maintain as much as possible the rural character of the area, including tree lines, fencing, etc., associated with the portions of roadscapes and agricultural lands.



NATURAL HERITAGE

14. Identify and explore land use design options that enhance or are compatible with the Natural Heritage System.
15. Identify and integrate compatible recreation opportunities that connect the community to the Natural Heritage System.
16. Consider enhancement opportunities and opportunities to integrate non-core features into the design (e.g. hedgerows).



STORMWATER

23. Proposing conventional stormwater management facilities (wet ponds and dry ponds) in addition to innovative Low Impact Development measures would significantly contribute toward achieving environmental objectives in addition to municipal objectives, and would collectively provide sustainable drainage infrastructure within Elfrida.
24. Minimizing the percentage of impervious surfaces as well as adopting Green Infrastructure techniques and Low Impact Development (LID) standards would reduce rates of surface water flow and run-off, improve water quality, and mitigate stream erosion downstream of future development.



AGRICULTURE

17. Agricultural lands where the use would likely remain agricultural will be identified, evaluated, and considered throughout the planning and design process.
18. Any adverse impacts on agricultural operations and on the agri-food network from expanding settlement areas will be avoided or, if avoidance is not possible, minimized and mitigated as determined through an agricultural impact assessment.
19. Mitigate potential impacts during the transition from an agricultural setting to a more urban setting and promote the inclusion of urban agriculture.



RETAIL-COMMERCIAL

25. There is room for considerable population growth within the Primary Trade Area (which encompasses the study area, and beyond)—in the range of 35,100 persons—without a requirement for additional provision of retail-commercial lands.
26. The Primary Trade Area/Study Area does not have to match the City's average shopping centre space per capita; it can exceed it, but should not be drastically higher.



WATER AND WASTEWATER

20. Consider ease of connecting any future water and wastewater infrastructure to the City's existing water and wastewater infrastructure.
21. Maintain or enhance drinking water quality.
22. Provide efficient wastewater collection with a focus on the protection of property and the environment.



The key directions were presented at the initial public consultations for this study, held in June 2017. Refer to the Consultation Summary Report for more information on consultation events.

3.3 RESULTS

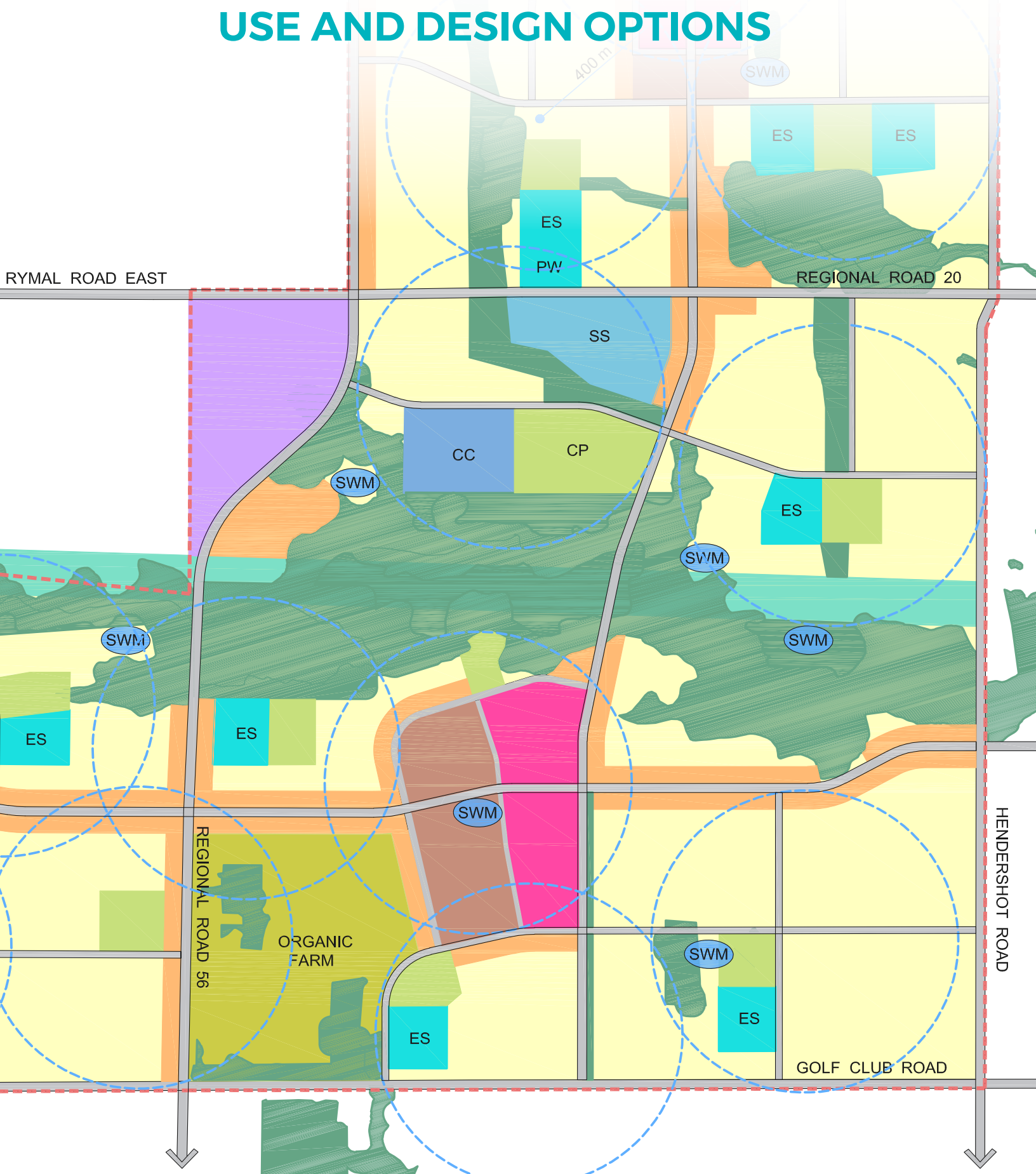
The results of the first Phase of this study include the overall principles and key directions and the vision that emerged through the first public consultation event. The vision statement is further discussed in Section 4.2.1 of this report, which is:

“The Elfrida Community is envisioned to become a complete, healthy, transit-supportive, mixed-use community that is compact, well-connected and both environmentally and economically sustainable, through a long-term strategy that respects the neighbouring land uses.”

Some general themes that emerged through this process are:

- Due to anticipated growth, an expansion of the urban boundary of Hamilton will likely be required. Elfrida was selected as the preferred location through the City-initiated GRIDS study and initial adoption of the UHOP and RHOP. GRIDS 2, the MCR and Land Budget Assessment are answering questions with respect to land needs to accommodate growth to 2041 across Hamilton.
- Transportation networks require further study, and a City-wide Transportation Master Plan update has been adopted. Building on the extensive work done by the City, transportation for Elfrida will focus on active and alternative transportation networks and complete streets.
- Elfrida will look, feel, and function differently from almost any other new community in Ontario. Health, diversity, and sustainability will be important to the urban design of the area, as well as ensuring that design is context-sensitive and creates a unifying community identity.
- While the Primary Trade Area around Elfrida is highly supplied with retail and commercial uses for the current population, full build-out would require more retail/commercial spaces. Small-scale local and mixed-use retail development may still occur as part of the overall commercial supply.
- Further study is required to determine the extent of archaeological and cultural heritage resources in and adjacent to the study area.
- Significant natural heritage resources exist and require protection; much work has already been conducted through the Subwatershed Study (running concurrent to this study) and will continue to be undertaken as this study progresses;
- Preserving agricultural lands and mitigating any adverse impacts will be important considerations as the phasing of potential development is reviewed;
- The City-wide Water/Wastewater Servicing Master Plan identified preferred servicing options, and a major construction project is currently underway on Upper Centennial Parkway to extend wastewater services in this area; and
- Sustainable design is key to the future community, including consideration for low-impact development technologies to accommodate stormwater management in a way that is integrated with the natural heritage and watershed features.

4.0 PHASE 2: SECONDARY PLAN LAND USE AND DESIGN OPTIONS



4.1 CONCEPTUAL DEVELOPMENT OPTIONS

In the first community meeting held on June 13 2017, preliminary land use designs were developed based on a program outline developed by the project team (see **Figure 26**), creating two designs per program for a total of six preliminary land use designs.

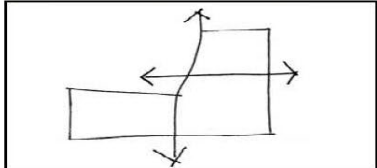
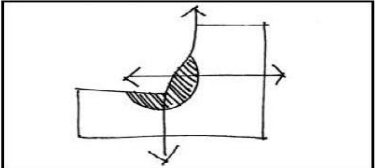
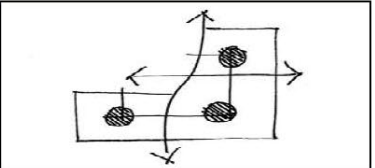
From these six preliminary land use designs, three 'land use explorations' were developed. These explorations (termed Conceptual Development Options 1, 2 and 3) were based on the different development programs presented during Phase 1, the intent being to create distinct options across different 'layers' of design, including different configurations for natural heritage, transportation, commercial/mixed-use, institutional and residential development. The three Conceptual Development Options are shown in **Figures 27** through **29**, and include:

- Conceptual Development Option One – Development Pods;
- Conceptual Development Option Two – Central Node; and
- Conceptual Development Option Three – Nodes and Corridors.

Evaluation criteria were identified and provided to City staff, consultant technical disciplines, and members of the public through the consultation events, for review and input. The Conceptual Development Options were evaluated based on a number of quantitative and qualitative criteria organized under eight theme areas. These are:

- **THEME ONE** – Ensure a compact, complete and healthy community.
- **THEME TWO** – Respond appropriately to long-term urban structure implications.
- **THEME THREE** – Develop in an environmentally appropriate manner that conserves, restores, and enhances the natural environment and its associated features and functions.
- **THEME FOUR** – Protect agricultural opportunities.
- **THEME FIVE** – Conserve cultural heritage.
- **THEME SIX** – Promote a safe, coordinated, efficient, and cost-effective multi-modal transportation network for all ages, abilities and incomes.
- **THEME SEVEN** – Promote coordinated, efficient, and cost-effective water, wastewater and stormwater management systems.
- **THEME EIGHT** – Promote fiscal responsibility.

Figure 26: Elfrida Development Programs

	Development Program 1	Development Program 2	Development Program 3
1 Natural Heritage System	given	given	given
Potential Restoration Areas	enhance all	do not consider	moderate enhancement
Mitigation HDF's (Headwater Drainage Features)	retain/enhance	retain some	retain some
Hedgerows	retain/enhance	do not retain	retain some
2 Community Structure			
Roads	disjointed, pods of development	moderately connected, focus on existing road network	permeable and connected, identify 'corridors' and 'centres'
3 Design Details			
Parks	centralized system of parks, large neighbourhood parks	very large community park, smaller neighbourhood parks	variety of parks, linked to NHS/SWM and within neighbourhood centres (small)
Commercial	no major commercial, neighbourhood focus	focus on major node, some neighbourhood commercial	mix of small and large scale retail, focused in centres and corridors
Schools	connected to park system, standard school size	school campus associated with central park	centralized in neighbourhoods, urban scale school sites
Housing Distribution	integrated and even distribution of low, medium, and high density housing in neighbourhoods	major mixed use centre at Upper Centennial Parkway and Rymal Road, high density housing focused in centre	medium and high density housing distributed in centres and corridors, medium and low residential in neighbourhoods
Employment (office/population serving)	employment related to primary road access	no employment, only major retail and schools	employment campus
Stormwater Management	focus on LID, minimize SWM ponds	all SWM ponds - traditional	combination of LID and SWM ponds
			

The technical disciplines were asked to identify, from a qualitative perspective, how each Conceptual Development Option met the criteria identified under each theme, ranking the different options as achieving most, some or few of the subject criteria. A summary of the responses received for the Land Use Concepts was compiled in two parts: a Technical Evaluation (Technical Disciplines Compiled Evaluations), and a Health Assessment Evaluation (The Planning Partnership, McMaster University, City of Hamilton Healthy and Safe Communities Department - formerly Public Health Department). The following sections summarize this work, highlighting key points identified by each technical discipline area based on the Technical Evaluation, and noting important features and design considerations that should be carried forward into the final preferred land use option.

4.1.1 PLANNING AND URBAN DESIGN

4.1.1.1 THE OPTIONS

Option 1 lacks arterial/collector road connectivity but has a significant extent of natural heritage systems, parks, open space and likely trail opportunities. Most neighbourhoods are served with parks and natural heritage areas within a walkable 400 metre radius. The predominant land use is "Residential" and majority of streetscapes will be residential in nature, with only a minimal number of Commercial nodes. The Residential areas are not distinguished by lower to higher density built forms, so the density and form of residential development in this option is uncertain.

Option 2 provides improved road connectivity and more parkland, but the level of density along the main corridors may not be high enough to support complete streets and vibrant streetscapes. Option 2 may provide the best option for implementing the currently planned alignment of the BLAST network as it focuses density at the intersection of Upper Centennial Parkway and Rymal Road. Option 2 distinguishes between Low Rise, Mid Rise and High Rise Residential uses, which provide a broader range of residential built forms and densities which would better assist in achieving the required density targets. This is not a very 'walkable' community, with only a single central node, the size and density of which may encourage a reliance

on cars. It features greater opportunities for transit than Option 1. It misses an opportunity to have greater integration of natural (or semi-natural) features into active transportation corridor opportunities and parkland.

Option 3 provides more parkland than Option 1 and provides a more extensive NHS than Option 2 (but less extensive than Option 1). Option 3 presents an opportunity for more enhanced mixed-use streetscapes within the identified nodes and along major corridors, providing for a greater variety of residential built forms and housing densities. This Option provides the greatest diversity in terms of land use to accommodate neighbourhood serving commercial and employment opportunities. The most intensive Residential uses are focused on key nodes, associated with Commercial/Mixed-uses which help to focus density at key nodes where community services and facilities may be co-located. Option 3 may not provide the best option for implementing the currently planned alignment of the BLAST network as it focuses density at the intersection of Upper Centennial Parkway and Rymal Road, however, public transit could be focused at the three nodes. Many parks abut streets, which enhances accessibility to parks. Multi-nodal design provides increased walkability and opportunities for active transportation within smaller neighbourhood areas, and most neighbourhoods have ready access to neighbourhood parks and elementary school facilities. The integration of hedgerows and Headwater Drainage Features (HDFs) will provide resiliency. Option 3 provides a more minimal NHS as compared to Option 1, but an improved NHS and recognition of the key hydrological features as compared to Option 2. The NHS is closely integrated with adjacent parks and open spaces and institutional uses to provide enhanced connectivity with these complimentary land uses.

4.1.1.2 RECOMMENDATIONS TO INFORM THE PREFERRED DESIGN

- The Subwatershed Study (SWS) has a hierarchy of natural heritage features, requiring different levels of conservation. The SWS will provide further direction as to the extent of the NHS to be conserved. The appropriate amount and configuration of NHS will provide critical input to the preferred concept plan and the extent of required parkland will assist in determining the development patterns and associated land uses.

Figure 27: Conceptual Development Option 1

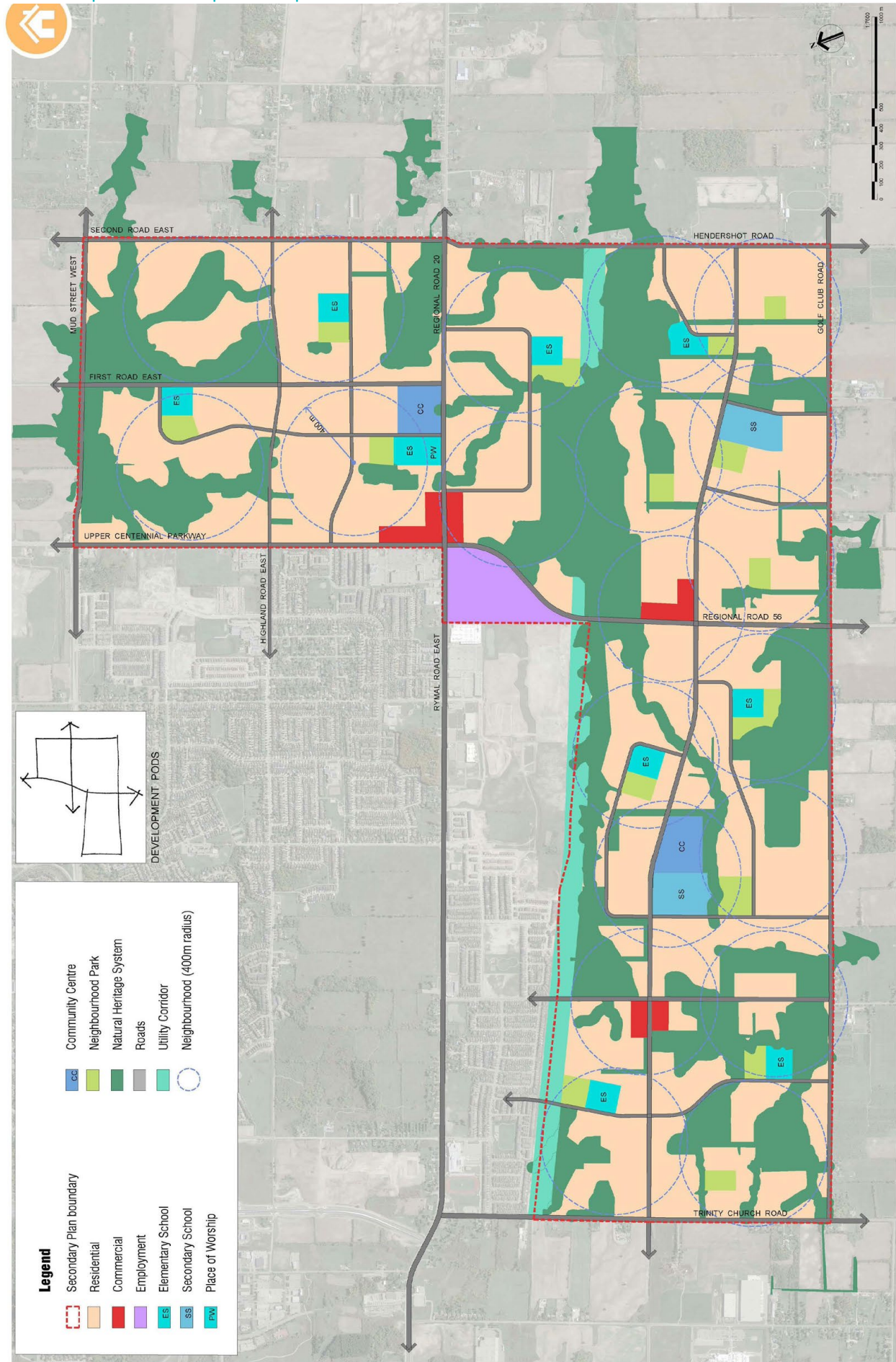


Figure 28: Conceptual Development Option 2

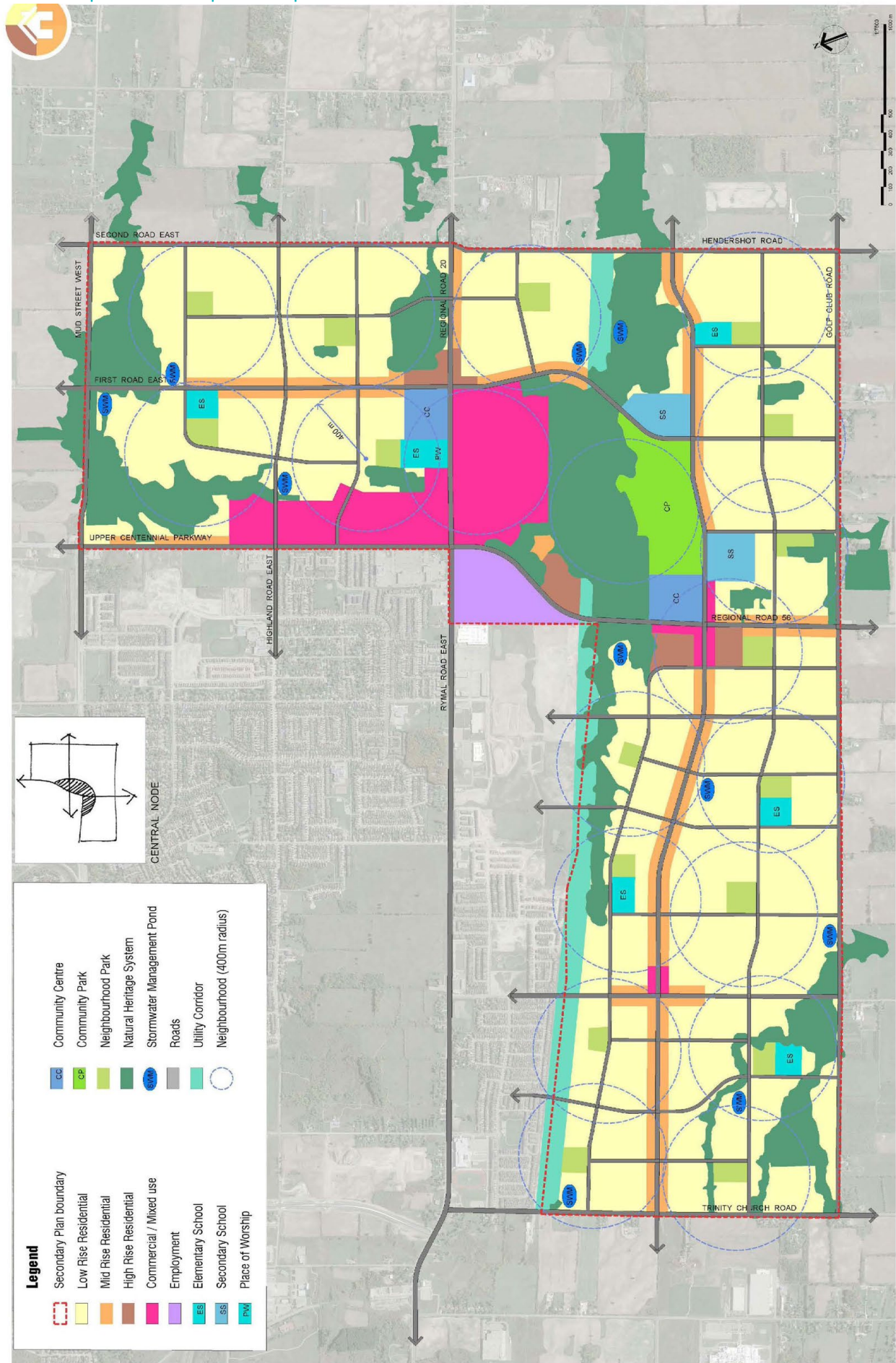
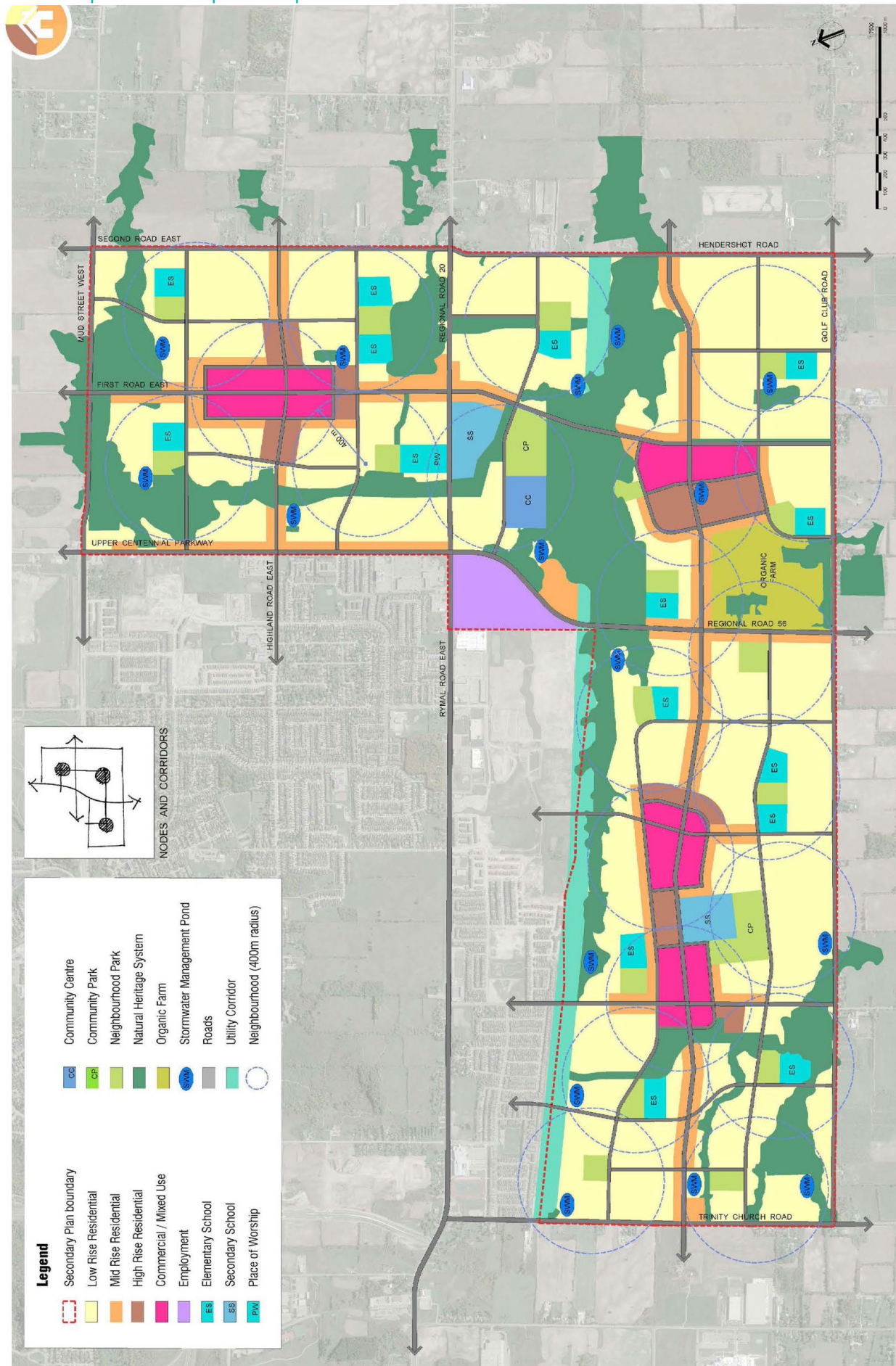


Figure 29: Conceptual Development Option 3



- The existing patterns of drainage on the land are important and should be integrated into the community to the extent feasible. Parks and open spaces should follow natural patterns, and the hydro corridor may provide opportunities for establishing a linear parks and open space system with NHS linkages. The headwater areas and key hydraulic features should be integrated into the open space system, and celebrated for their educational value. This also enhances the ability to seamlessly incorporate Low Impact Development (LID) techniques into the preferred concept plan.
- The intersection of Rymal Road and Upper Centennial Parkway is viewed as a future Rapid Transit stop, and a key turn in the BLAST network. Additional stops would likely be considered at Mud Street, Highland Road East, and similarly along Rymal Road East, subject to more detailed study. This should result in a Transit Oriented Design (TOD) approach, clustering higher density and mixed-use development around that node and enhancement of the public realm within the streetscape should be a priority (Option 2). The potential to move or create new transit oriented nodes in other locations should also be explored to contribute to the creation of a complete community and support transit. Local transit routes should be established to provide regular and convenient connections with the BLAST network .
- Higher density residential and mixed-use development needs to be clustered around the community nodes which provide access to rapid transit first, and local transit second. Clustering density enhances opportunities for TOD, whereas low density single use development reduces it. If the clusters are higher density, there may be greater opportunities for enhanced open space, natural areas, recreation, and urban agriculture, or more employment / cultural amenities.
- Employment, neighbourhood commercial and institutional uses should be integrated into the community to reduce commuting and encourage the use of active transportation. These uses should be focused at key nodes and along arterial corridors within the community.
- Elementary school sites should be located adjacent to public parks and Secondary school sites, where possible, should be located or be incorporated with a community centre, library, and/or recreational and sports facilities to allow for shared community facilities;
- Schools should be developed as neighbourhood hubs to allow for programs and services in schools, outside of school hours, providing accessible and centrally located services within a neighbourhood;
- Minimize the land area required for school sites in order to promote compact development and conserve land. School Boards are encouraged to build more compact facilities including multi-storey elementary schools and buildings located close to the street to promote less land-consumptive practices;
- Locate Secondary school sites along a higher order transit route with major road frontage and pedestrian and cycling access and locate Elementary schools on local transit routes with collector road frontage.
- Create connected and integrated systems of streets, buffered pedestrian and cycling supportive streetscapes, parks, open spaces, and multi-use trails.
- Integrate innovative urban agriculture throughout Elfrida (designating one farm is not practical). There is an opportunity for an Elfrida-wide, local “food network” that connects to key farms, retail stores, agricultural resources and gardens outside the study area. This is an important consideration as the study area is surrounded by prime and protected agricultural land. Urban agriculture is no longer an innovation; it is a fundamental tenet of good development. Urban agriculture should be considered through the use of community gardens which may be associated with parks.
- The edges of the study area require further consideration. Context-sensitive urban edges are imperative; the properties bordering the edges of the Elfrida community are likely to remain agricultural for the foreseeable future. However, consideration may be given to establishing transition areas along the edges which may be developed in the future to support more intensive corridor development, should the urban area be expanded at some point in the future.

4.1.2 TRANSPORTATION

4.1.2.1 THE OPTIONS

Option 1 provides limited north-south road or greenway connections, and does not support the establishment of a connected community. This lack of connectivity also negatively impacts transit opportunities by limiting connectivity between neighbourhoods.

In Option 2, first and last mile connectivity would be a challenge as everyone would be travelling to the central commercial node focused on Rymal Road and Upper Centennial Parkway. However, Option 2 may provide the best option for implementing the currently planned alignment of the BLAST network as it focuses density at the intersection of Upper Centennial Parkway and Rymal Road. With only one major node most people will have to travel longer distances through the community to reach it. There could be a negative impact on residential uses near the Commercial/Mixed-use Node as there is minimal buffers and transitions of residential uses between the low rise residential uses. Option 2 looks like a typical residential suburb with the majority of commercial uses centred in one location, which necessitates vehicular trips to this central node, and does not provide for a complete and mixed-use community.

Option 3 is best in terms of first and last mile connectivity, but may not be as preferred as Option 2 for implementing the currently planned alignment of the BLAST network, however, public transit could be focused at the three nodes. Linear green space provides alternative recreational trail opportunities to complement active transportation within the street corridors. This multi-nodal development would support active transportation as one could quickly walk or cycle to nodes; this would be faster than transit. School locations are advantageous because of their short distances from hubs. This option provides more opportunities for connected open space, and is a better option for transit with three primary nodes centred throughout the community. This option would also work best for the appropriate phasing of development, as the multi-nodal approach would provide centralized community services and facilities and neighbourhood serving commercial uses as development is phased.

4.1.2.2 RECOMMENDATIONS TO INFORM THE PREFERRED DESIGN

- An east-west and north-south framework for major streets is encouraged resulting in a more connected and modified grid-like pattern.
- Provide linear green space through the NHS and parks and open space system to complement active transportation within the street corridors.
- There could be a commuter east-west route along the major arterial road and an alternative/active east-west route along the hydro corridor/NHS. A north-south greenway system is also possible as shown in Option 3.
- The hydro corridor should be investigated for potential opportunities to support active transportation and integration with the adjacent NHS.
- Schools should be located within short distances from major nodes, and be accessible within individual neighbourhoods. Active and safe routes to school should be incorporated in the transportation network design, preferably near higher-capacity rapid transit, or local transit.
- A connected trail system should be integrated within the NHS, while providing access to major nodes, and along primary corridors.
- Consider connecting commercial destinations with greenways.
- Consider how to maximize the opportunities for enhanced active transportation connections within the significant greenways.

4.1.3 CULTURAL HERITAGE

4.1.3.1 THE OPTIONS

Option 1 retains a high level of low-rise development with the potential for retention of significant portions of existing cultural heritage resources, largely because it does not categorize density within the residential and mixed-use areas.

Option 2 proposes increased commercial development in the current location of three identified cultural heritage resources.

Option 3 has the potential to retain portions of existing cultural heritage resources.

4.1.3.2 RECOMMENDATIONS TO INFORM THE PREFERRED DESIGN

Any future development within the study area, beyond those areas that have already been assessed and cleared of any further archaeological concern, must be preceded by a Stage 2 Archaeological Assessment. This includes any proposed development within the natural heritage system (e.g. trails or improvements). The conservation of significant archaeological resources within the community should be encouraged, consistent with provincial policy requirements.

All Options have the potential to conserve significant cultural heritage resources, which must be assessed in the context of Provincial policies for the conservation of these resources. The determination of cultural heritage resources must be undertaken at a more site-specific level to understand the configuration and layout of proposed development.

4.1.4 NATURAL HERITAGE

4.1.4.1 THE OPTIONS

Option 1 conserves all core features, all Headwater Drainage Features (HDFs) with buffers, all restoration / enhancement areas and provides for a very extensive and connected NHS. There would be approximately 28% natural cover with this Option, which provides a large extent of natural cover. Option 1 does not incorporate several hedgerows identified through the preliminary hedgerow assessment as having greater significance. It also brings lands not identified as part of the NHS through the SWS into a NHS for the Elfrida area; these areas do not have direct policy support for incorporation into the NHS. Option 1 has minimal (3) north-south crossings of the NHS which minimize potential impacts. East-west road corridors minimize feature crossings within the NHS. Option 1 relies entirely on alternative (non-pond) SWM options. Option 1 provides significant opportunities to enhance habitat diversity and provides the most extensive natural cover. Option 1 is highly connected, providing significant opportunities with respect to the retention/enhancement of natural features, hydrological functions and wildlife habitat.

Option 2 conserves core features of the SWS NHS and conserves some HDFs. It also implements some

enhancement / restoration areas identified through the SWS. NHS areas identified are directly supported through existing policies (i.e., achieve minimum provincial requirements). The result, however, is a discontinuous / not fully connected NHS, which limits long-term viability (movement of wildlife, seeds and plant materials are hindered). No hedgerows are retained in this option—recommended for retention or otherwise. Option 2 features large areas of high impermeability (single mixed-use node) which may create significant run-off and low infiltration opportunities. A minimized NHS reduces the buffering capacity of these features on the landscape. With fewer stormwater management ponds, they will be larger / aggregated facilities, with little implementation of alternative stormwater management techniques. Option 2 has the largest number of north-south crossings (4) of the NHS (a smaller NHS reduces number of crossings required). East-west road corridors minimize the extent of NHS crossings. Option 2 provides limited connectivity between features and has the least amount of restoration opportunities incorporated.

Option 3 conserves core features of the SWS NHS as well as some HDFs. It implements all restoration / enhancement areas identified in the SWS. The NHS areas are generally supported through existing policies. Connectivity and consideration for natural corridors is accommodated with this Option. Moderate connectivity between large NHS features and integration of hedgerows into transportation and active transportation corridors provides opportunities for the movement and transfer of ecological materials. Implementation of restoration areas will increase habitat diversity. Some parks are located adjacent to the NHS, which enhances the parks and open space system. Some hedgerows identified for retention are not included. Some features are isolated, which may have long-term viability implications. Certain areas within the NHS extend beyond the minimum policy requirements for conservation, and challenges may be associated with including these areas within the NHS. There are only three north-south NHS road crossings which are favourable, but in part directly associated with a smaller NHS. East-west roads generally minimize feature crossings within the NHS. Option 3 incorporates restoration opportunities and provides good connectivity between the largest and most significant NHS components.

4.1.4.2 RECOMMENDATIONS TO INFORM THE PREFERRED DESIGN

- Core NHS features are required to be retained and should be conserved. Core Features contain the primary habitats for Species At Risk (SAR) and non-SAR identified through the SWS. Increased habitat diversity and natural areas will provide an increase in potential to support SAR (e.g. retention or enhancement of existing and restoration of lands to natural state). The implementation plans for restoration and enhancement and land use compatibility are most important to minimize the potential impact that may be anticipated on NHS features.
- Consider the placement of land uses relative to the NHS for complimentary land use opportunities. Large retention of natural areas, including parks and open spaces, provides buffering and infiltration opportunities to enhance the NHS. Natural areas are not intended to provide a substitute for the dedication of parkland.
- Integration of HDFs on the landscape as part of the stormwater management approach should be explored.
- Use of LID stormwater measures, where feasible, is supported as it provides at-source or treatment train infiltration, among other benefits. Considerations for how SWM can benefit the NHS and provide recreational opportunities (e.g. trails along the SWM ponds) should be explored.
- Sustainability of the NHS focuses on the movement of wildlife, seeds and plant material. Connectivity across the landscape is a key component of this. Additional consideration for increasing natural cover and achieving provincial targets will reduce impacts of urbanization, conserve and introduce habitat diversity and provide natural buffering capacity of the NHS within the community.
- There is an opportunity to integrate significant hedgerows within the preferred concept; they are a signature feature of agricultural areas and also function as wildlife corridors. The hedgerows can connect from the north NHS to the greenbelt and can be re-planted to function in an urban setting. They should be enhanced, integrated into streets and trails and should include fruit trees for wildlife benefit and to create part of the local food network as well as the NHS.

- The retention of hedgerows provides opportunities to integrate SWM buffers, with all the added benefits associated with vegetated corridors.
- Minimizing the number of road crossings and locating road crossings at narrow areas of the NHS, and through less-sensitive features should be considered.
- Placement of SWM facilities is generally acceptable in each option where they are shown.

4.1.5 WATER AND WASTEWATER MANAGEMENT

4.1.5.1 REMAINING CAPACITY IN WATER AND WASTEWATER SYSTEMS

The City has initiated a Class EA for a Pressure District 7 elevated water tank and booster pumping station (HD07A) in accordance with the recommendations of the Hamilton Southeast Mountain Water Servicing Strategy (Stantec, October 2013). The future elevated tank and booster station are expected to service future development in Elfrida as part of Pressure District 7.

A capacity assessment of the Upper Centennial Parkway (UCP) Sanitary Trunk Sewer will be undertaken as part of the ongoing update to the City-wide Water and Wastewater Master Plan. To avoid duplication of work, WSP is not required to assess the servicing capacity of the UCP Sanitary Trunk Sewer, nor comment on existing or remaining capacity in the City's existing wastewater model for all areas outside of the Elfrida Study Area.

The linear water and wastewater infrastructure that will service the Elfrida Study Area will be constructed within the road right-of-ways. The water and wastewater infrastructure is not expected to result in any additional impacts over and above those caused by the construction of the roads.

4.1.5.2 THE OPTIONS

Commercial and institutional developments typically require the highest fire flows. The large commercial centre in Option 2 could be highly demanding unless the overall space is subdivided into smaller "fire areas", due to the fire flow that would be required. However, the larger fire flows could be supplied by the trunk mains along Upper Centennial Parkway. Additionally, large diameter water mains and sewers would be required to

service the large commercial centre in Option 2 to meet the associated water and wastewater demands. Option 2 is difficult to phase in a cost-effective manner as these larger diameter watermains would require frequent maintenance (flushing) to maintain the chlorine residual for the portion of the commercial centre and residential developments that are phased in. In addition to increased maintenance costs, larger-sized systems have higher repair and replacement costs. Water can become stagnant in dead-end watermains, which increases the likelihood of water quality issues (low chlorine residuals) unless the watermains are flushed regularly. Looping is encouraged to achieve the best balance in fire flow and water quality.

The Upper Centennial Parkway (UCP) sanitary trunk sewer is constructed with various shafts along the length of the pipe where connections for future sewers have been incorporated. Based on the road network presented in each land use option, additional connections to the UCP sanitary trunk sewer may be necessary for all options. Connections in addition to those provided along the UCP trunk sewer, would add engineering and construction costs. Based on the road network presented in each land use option, Option 3 would require the most additional connections, followed by Option 2, and finally Option 1. However, this may change if additional roads connecting to Upper Centennial Parkway are included when the preferred land use option is refined.

The natural heritage system is generally located along the watercourses within the Elfrida Study Area. All watercourses in the Study Area will be retained in place. Future watermains and sewers will cross watercourses, as required, to service the development proposed in all options. Potential environmental impacts associated with watercourse crossings can be partially mitigated with trenchless technology. However, additional crossings can add engineering and construction costs.

4.1.5.3 RECOMMENDATIONS TO INFORM THE PREFERRED DESIGN

- Future watermains and sewers will cross watercourses, as required, to service the development proposed in each land use option. Impacts to the environment associated with the watercourse crossings can be partially mitigated using trenchless technologies during construction. Policies to this effect should be incorporated into the Secondary Plan.

- Determine whether there is a need for a sanitary pumping station.
- To reduce construction and long-term operational and maintenance costs, it is preferred to service the Elfrida Growth Area with all wastewater flows draining by gravity. This eliminates the need for a sanitary pumping station, which has the potential risk of an emergency overflow event in which raw sewage discharges to a nearby watercourse. A preliminary review indicated minimum slopes suitable for flows to drain by gravity are achievable in Elfrida. However, this needs to be confirmed once roads and densities are final, as roads and corridors will dictate the shortest possible lengths and depth of cover of the sewers. Cumulative cover (starting at 2.75m min.) of the sewers from trunk to upper reaches could also be a constraint.
- A clear breakdown of the population and jobs is needed to verify the water and wastewater demands, as the base demands and time-of-use patterns are different for residential and employment uses. Simply put, the greater the population and jobs, the greater the demand on the water and wastewater systems.
- Water distribution systems must be sized to meet fire flow requirements based on development type (commercial and institutional developments typically require the highest fire flows).
- Connections to the existing watermain on Rymal Road will significantly improve security and supply of the water system. Maximizing looping reduces cost while achieving the best balance between fire flows and water quality.
- Additional water storage and/or pumping capacity prior to 2041 is not expected for Elfrida, as a future planned elevated tank and booster station are expected to service the study area (as part of Pressure District 7).
- Determine whether additional connections to the UCP sanitary trunk sewer are necessary.

4.1.6 STORMWATER MANAGEMENT

4.1.6.1 THE OPTIONS

The stormwater management (SWM) approach in Option 1 is primarily Low Impact Development (LID). There are a variety of LID measures that can be implemented

successfully in southern Ontario (limited by varying site conditions). LIDs are typically implemented at the lot level or as conveyance measures as opposed to traditional end-of-pipe controls, but can also be used within municipal boulevards and in other larger applications as well. LIDs can be implemented to meet water quality, quantity and balance targets, but are best used to achieve water quality and water balance requirements. They require specialized design, construction and maintenance; however, the maintenance can often be conducted at a small scale in conjunction with other routine landscaping maintenance.

Option 2 utilizes a predominantly traditional SWM strategy. Traditional SWM measures focus on end-of-pipe controls, including wet ponds, dry ponds, and subsurface storage. This type of SWM strategy has been widely used in southern Ontario over a variety of applications. Traditional SWM measures can meet water quality and quantity as well as erosion control targets; however, the bulk of their usefulness is their ability to provide flood protection in large storm events.

Option 3 is a mix of traditional SWM and LID measures, the exact mix being determined at the detailed design stage. This option can meet water quantity, quality, balance and erosion control targets using a variety of strategies across the entire development. This is the most flexible and practical option, with the ability to achieve all SWM targets through strategic implementation.

4.1.6.2 RECOMMENDATIONS TO INFORM THE PREFERRED DESIGN

Option 3 is the preferred design option from a stormwater management perspective. It utilizes a mix of traditional end-of-pipe SWM controls and a variety of lot-level LID measures. There are benefits and challenges to each type of strategy; however, a mix of both allows for the flexibility to optimize the SWM strategy within the given specific site constraints.

It is recommended that the SWM strategy be considered at the preliminary design stage. The land-use breakdown and preliminary site plan (including grading and servicing) will be influenced by the location and number of SWM measures. For example, if a SWM pond is utilized, a pond block must be set aside to ensure there is sufficient storage space for the contributing drainage area. Additionally, the location of SWM measures, particularly LIDs, are

highly dependent on soil and ground conditions and should be considered in tandem with geotechnical and hydrogeological investigations.

All SWM measures require maintenance and ownership. The type of SWM measure determines the level of appropriate maintenance. A SWM pond, for example, is required to be cleaned out as sediment accumulates (a large and costly undertaking) but typically is performed only once every 10-20 years. The cost and scale of the operation is typically too large for a small home owner or business. On the other hand, LID maintenance can be conducted as part of routine landscaping maintenance, occurring more frequently but with substantially lower costs.

LID measures are constantly evolving with the advancement of research and technologies. Regular maintenance can incorporate new information within the constraints of the measure with little to no cost increase. Traditional SWM measures have low maintenance frequency and can be easily cataloged as part of a municipal infrastructure inventory.

4.1.7 AGRICULTURE

4.1.7.1 THE OPTIONS

There are opportunities in all options for phasing to occur in a manner that minimizes impacts on existing farm operations in the short and mid-term. Lower-priority agricultural lands should be identified for the early phases of development. This approach should be refined later in design.

4.1.7.2 RECOMMENDATIONS TO INFORM THE PREFERRED DESIGN

Urban agriculture is no longer an innovation; it is a fundamental tenet of good development. Integrated, innovative urban agriculture principles should inform the preferred concept plan. It should be part of an Elfrida-wide, local "food network" that connects to key farms, vineyards, farms stores, agricultural resources and gardens outside the study area. Consideration for urban agriculture should be integrated throughout the community.

The phasing strategy should consider the potential impacts on existing farms and farming operations, but will also

largely be contingent upon the efficient extension of infrastructure to serve the community. A detailed phasing strategy will be prepared as part of the preferred concept plan.

The interface of the Elfrida community with the abutting agricultural lands and Greenbelt Area requires further consideration with respect to the appropriate built forms.

4.1.8 FINANCIAL

4.1.8.1 THE OPTIONS

Assuming market demand is sufficient to capture the proposed supply, Option 2 would likely result in the least negative fiscal impact to the City. This is due to the option having the greatest amount of commercial and residential development yield. Higher development yield, especially in the form of commercial development, translates into greater one-time revenues from development fees, permits, etc. and ongoing revenues through property taxes and user fees for utilities. Option 3 has the second greatest yield potential, followed by Option 1 which has the highest amount of residential neighbourhoods and NHS, and the least amount of commercial development.

4.1.8.2 RECOMMENDATIONS TO INFORM THE PREFERRED DESIGN

More intensive development translates into higher infrastructure requirements and long term maintenance costs, which will need to be adequately budgeted for in the City's long-term budget and capital asset management plans in order to minimize future risk exposure. Further fiscal analysis will be undertaken to evaluate the preferred concept.

4.1.9 SUMMARY

The above sections highlight key points and considerations through the lens of each technical discipline area, noting important features to carry forward into the final preferred land use option. This, accompanied by the more detailed qualitative evaluations and modelling that still needs to be done as part of the study, will inform the development of the preferred concept for the Elfrida Growth Area Study.

4.2 ELFRIDA SECONDARY PLAN FRAMEWORK

The Elfrida Community has the potential to accommodate substantial urban development well into the future. It is expected that if fully built-out, the community may accommodate up to 80,000 persons and jobs combined.

Given the scale and the anticipated time frame for development, the Elfrida Secondary Plan will need to be phased in concert with the need for greenfield development lands that will be identified through the City's GRIDS 2 and Municipal Comprehensive Review work that is ongoing. The long timeframe for development requires a strong urban structure and policy framework that is supported by a clear vision and guiding principles that will stand the test of time. Best practices for land use planning and the delivery of community facilities and service infrastructure must be fully explored in this process, and there must be flexibility to evolve those best practices as they are improved in the long-term.

The Secondary Plan must work within the framework provided by the City of Hamilton Official Plan, but must also promote area-specific community-building in the long-term. Successful communities have a plan that includes the right balance between clear direction for development and the flexibility to respond to changing circumstances over time - policy changes, changes in engineering techniques, demographic changes and broader societal changes.

A Vision Statement with supporting Guiding Principles will be part of the Elfrida Community Secondary Plan. That framework of intent will be supported by Objectives, which are in turn implemented through policy statements. The work carried out in this community development process to date has led to a framework for the Secondary Plan document, including the draft Vision Statement, Guiding Principles and a series of Objectives for a Successful Community. The final framework and detailed policies will be included in the future recommended Secondary Plan. The policies and mapping that establish the urban structure and the policies that articulate the mechanics of urban development will be the subject of ongoing work in the Secondary Plan process, in addition to the ongoing work by the City that will guide the overall phasing strategy.

4.2.1 VISION STATEMENT

The Elfrida Community is envisioned to become a complete, healthy, transit-supportive, mixed-use community that is compact, well-connected and both environmentally and economically sustainable, through a long-term strategy that respects the neighbouring land uses.

4.2.2 GUIDING PRINCIPLES

1. Develop in an environmentally appropriate manner that protects and restores the natural environment.
2. Encourage the responsible use of resources to ensure long-term sustainability, reduce greenhouse gas emissions, and reduce demands on energy, water, and waste systems.
3. Manage growth over time that is logical, efficient and cost effective.
4. Ensure a diverse community with a mix and range of land uses to ensure a proper balance of residential, employment, community facilities and services.
5. Develop a well-designed and connected community of residential neighbourhoods that provide for a range of housing types and choices.
6. Ensure an efficient transportation network that includes mobility options, is transit supportive, includes active transportation, walking and cycling, and accommodates vehicles.
7. Provide an interconnected system of streets and pedestrian supportive streetscapes.
8. Provide for a connected and integrated parks, open spaces, and trails system.
9. Utilize green infrastructure to make use of the absorbing and filtering abilities of plants, trees, and soil to protect water quality, reduce runoff volumes, and recharge groundwater supplies.

4.2.3 OBJECTIVES FOR A SUCCESSFUL COMMUNITY

Fundamental to achieving the Vision and its associated Guiding Principles are a number of Objectives that are intended to provide the framework for achieving a successful community. These objectives are organized as follows:

1. A Complete Community

A complete community meets people's needs for daily living throughout an entire lifetime by providing convenient access to an appropriate mix of jobs, local services, a full range of housing, including affordable housing, public services and community infrastructure including educational and recreational facilities, and a robust open space system. Convenient access to public transportation and options for active transportation are crucial elements of a complete community. Objectives are:

- To support the creation of a complete community with easy access for all residents to a wide range of uses including shopping and restaurants, parks and open spaces, employment opportunities, educational and cultural opportunities, live-work options, mobility options, a mix and diversity of housing types, and a range of community facilities, services and amenities;
- To encourage the development of a complete community that includes higher density built forms and higher intensity land uses as a way of reducing land consumption and maximizing the efficiency and cost effectiveness of municipal service infrastructure. Higher density forms of housing may also enhance life-cycle and affordable housing options; and,
- To ensure that the phasing strategy results in a complete community in each of the defined phases, and to promote incremental growth that includes all forms of housing and appropriate commercial and community facilities as development occurs.

2. A High-Quality Community

A high-quality and ultimately beautiful community includes well-designed buildings, streetscapes, parks and open spaces. A beautiful community protects natural heritage features and views and includes an accessible and well-designed system of public parks and open spaces that celebrate the site and provide opportunities for enjoyment by the entire population. A high-quality community includes destinations, landmarks, and gateways that distinguish it within its context and establish a sense of place. Crucial to a high-quality community is the attention to the interplay among built form, the public realm and the natural environment. A high-quality community should engender a sense of pride as a place to live and a sense of stewardship in its long-term care and maintenance. Objectives are:

- To develop a welcoming community that encourages and supports active living, social engagement, civic pride and the creation of a sense of place and well-being;
- To include landmarks and gateways that clearly identify where you are, and when you have entered. Landmarks must be recognizable and visible from a distance. Gateways help recognize entry points into the community. Landmarks and gateways can include buildings, structural elements and/or landscape features;
- To build beautiful streets and streetscapes. Streets need to accommodate all modes of transportation and be designed to be pedestrian friendly and safe. Building facades play a crucial role in defining the street edge, animating the street and creating the image and character of the community. Together the streets and the adjacent building facades create a streetscape;
- To ensure that parks and open spaces, including the Natural Heritage System are beautiful, accessible and are linked. Parks and open spaces need to be visible and accessible from, and integrated with the street system, and include a full array of opportunities for outdoor festivals, recreation and play, as well as quiet contemplation. High quality landscape architecture will ensure that these outdoor spaces include public art and appropriate grading, paving and planting materials that celebrate the landscape context; and,
- To require high quality architecture that transcends

a theme or a specific period in time, which is fundamental to a beautiful community. Buildings should be compatible with one another, but there must be a diversity of scale and a diversity of style through building materials, colour and architectural details.

3. A Healthy Community

A healthy community consciously seeks to improve the health of its citizens by putting public health high on the social and political agenda. Physical, social and mental wellbeing are the necessary components of public health. The built environment should be designed to be age friendly and to create a variety of opportunities to encourage residents to be physically active and socially engaged.

Public health and land use planning are intrinsically linked. Built environments that encourage physical activity can reduce the incidence of chronic diseases such as obesity, cardiovascular disease, diabetes, asthma and respiratory disease and contribute to better overall public health. Other considerations are an aging population, children, and individuals with disabilities.

A fundamental element of a healthy community is the inclusion of active transportation. Active transportation refers to any form of human-powered transportation – walking, cycling, using a wheelchair, scooters, inline skating or skateboarding. Objectives are:

- To plan for an active transportation system which is highly integrated and connected within the community, the adjacent communities, the City and to transportation systems that serve the broader Region;
- To design the community around pedestrian activity with a substantial number of destinations within walking distance, including parks, cultural and community facilities, shopping and restaurants. This approach promotes walking and cycling and encourages daily physical activity while reducing dependence on automobiles;
- To ensure that the appropriate level of infrastructure and amenities are provided along active transportation routes to ensure pedestrian comfort and enjoyable and safe environments through which to travel;
- To plan for “age-in-place” facilities within the community that anticipate changing housing needs

for an aging population;

- To plan for a community that complies with the objectives of the Accessibility for Ontarians with Disabilities Act (AODA); and,
- To ensure the implementation of Crime Prevention Through Environmental Design (CPTED).

4. A Sustainable Community

A sustainable community is environmentally healthy and resilient. It meets the challenges of climate change and other environmental issues through integrated solutions rather than through fragmented, incremental approaches that meet one objective at the expense of the others. A sustainable community manages its human, natural and financial resources equitably and takes a long-term view – one that is focused on both present and future generations. Sustainability success relies upon having specific and measurable targets for indicators related to climate change, energy use, water and waste. Objectives are:

- To protect and enhance local and regional ecosystems and biological diversity;
- To promote the responsible use of resources to ensure long-term sustainability, reduce greenhouse gas emissions, and reduce demands on energy, water and waste systems;
- To demonstrate leadership in sustainable forms of green building design and technology, including the incorporation of renewable and alternative energy sources;
- To incorporate Low Impact Design and other site design strategies to mitigate environmental impacts and create a more comfortable urban environment; and,
- To require a transportation system that promotes active transportation and reduces the reliance on the automobile as the primary mode of transportation.

5. A Resilient Community

A resilient community can effectively respond to emergencies, both related to climate change and otherwise, because it has a plan in place, responsibilities assigned and facilities available. Natural or human made disasters are considered and the necessities of life are provided, particularly for those who are most at risk. Access to power, food, water and health care is ensured, while emergency services are equipped to operate and provide assistance in all conditions. Objectives are:

- To ensure access to power, food, water and health care services during and immediately following a disaster event; and,
- To establish health care and emergency services within the community, and to ensure that they are adequately equipped to operate and provide assistance in all conditions.

6. A Viable Community

A viable community is market responsive, efficient and cost effective. Objectives are:

- To ensure that development is cost-effective and appropriate for the market place, and that the Plan has the flexibility to respond to and encourage positive changes in the market place over time;
- To optimize the use of land and infrastructure investments and to promote the coordinated, efficient and cost-effective delivery of service infrastructure and community infrastructure that is appropriate for the planned urban development forms;
- To ensure that new development is supported by a full range of mobility options, including transit, as development occurs; and,
- To ensure that all development is sustainable and financially viable over its life cycle.

5.0 PHASE 3A: COMMUNITY STRUCTURE



5.1 PRELIMINARY COMMUNITY STRUCTURE IDEAS

The Preliminary Preferred Community Structure Ideas Plan is a collection of high-level structuring elements that will be used to develop a detailed Preferred Plan. The following community structure ideas are a result of the evaluation process that was applied to the three conceptual development options in Phase 2 and feedback from public consultation. In the opinion of the consultant team, this set of ideas represents the best balance of different objectives and is the best combination of different elements from the three previous conceptual development options. The final Preferred Plan will not be developed until the City has advanced the GRIDS 2 and MCR work, and the Subwatershed Study has fully defined the NHS.

The Community Structure Ideas Plan includes the following elements:

- Major Greenlands System
- Major Road Network
- Mixed-Use Centres
- Mixed-Use Transit Corridors
- Parks and Open Space
- Community Centres
- Secondary and Elementary Schools
- Residential

These structural elements are described below.

MAJOR GREENLANDS SYSTEM

The Natural Heritage System is the initial structuring element around which all other elements are built. The Natural Heritage System has been identified based on the ongoing work of the Subwatershed Study and includes all core natural heritage features, such as wetlands, headwater drainage features, restoration areas, and the Hydro corridor. The delineation of the features has not been finalized, and is subject to the final recommendations of the Subwatershed Study.

MAJOR ROAD NETWORK

The Major Road Network includes the major connector roads within the Elfrida community. The road network is set out in a grid pattern to ensure a permeable and connected system of roads that allow for direct routes into, through, and out of the community.

The Major Road Network will need to be augmented by a complementary Secondary Road network and a local road system to ensure that there is capacity to accommodate all modes of travel.

All elements of the road network will be developed using the principle of “complete streets” and will accommodate appropriate facilities for the movement of pedestrians, cyclists, transit, and vehicles.

MIXED-USE CENTRES

The Mixed-Use Centres are key areas within the Elfrida Community that are expected to accommodate the highest concentration of uses and facilities. Four Mixed-Use Centres have been located within the community to provide multiple opportunities for amenities and services. The Mixed-Use Centres will be key destinations within the Community. Having multiple Mixed-Use Centres will facilitate a phasing strategy to ensure “complete community” development in all phases of growth.

Each Mixed-Use Centre will include urban park spaces, high-rise and mid-rise residential development, office uses, and retail and service commercial facilities. The Centres may also be appropriate locations for major institutional uses (i.e. health care and/or post-secondary educational facilities). These Centres will also be major transit hubs, designed to ensure that residents and employees can be located within an approximate 10-minute walk (800 metres) of a variety of places to live, work, learn, and play.

MIXED-USE TRANSIT CORRIDORS

The Mixed-Use Transit Corridors are the major transit routes through the Elfrida Community and will include residential uses such as stacked townhouses and mid-rise residential apartment buildings, in addition to retail and service commercial uses, office uses, community infrastructure and a range of community facilities and Secondary Schools.

The intent of the Mixed-Use Transit Corridors is to ensure a concentration of users within easy access of transit routes. The objective is that all residents and employees within a Transit Corridor are within a 2- to 5-minute walk (150 to 400 metres) of a transit stop.

PARKS AND OPEN SPACE

The Parks and Open Space system includes a large, centrally-located Community Park and numerous Neighbourhood Parks. The Community Park is located on the transit corridor and adjacent to the Natural Heritage System to support active transportation and connections to a community-wide trail system. The Community Park is significant in scale and is expected to be a major structuring element and defining feature of the Elfrida community.

The Neighbourhood Parks are located throughout the community and are centrally located within neighbourhoods to ensure that residents are within a 5-minute walk (400m) of an open space. The Neighbourhood Park system, and the 5-minute walk strategy are fundamental to achieving a healthy community.

COMMUNITY CENTRES

Two Community Centres have been located within the Elfrida community. One is located within the Community Park to allow for a sharing of uses and the other is located in proximity to the existing place of worship and a proposed Secondary school.

SECONDARY AND ELEMENTARY SCHOOLS

Two Secondary schools are provided in the Elfrida Community and located on identified Mixed-Use Transit Corridors.

Elementary schools have been located within the Residential Neighbourhoods at a walking distance of 5 minutes (400 metres) of most residents to support children walking to school. Elementary schools also act as a neighbourhood focal point, and in some locations have been located adjacent to a Neighbourhood Park, further creating opportunities for sharing of facilities.

RESIDENTIAL NEIGHBOURHOODS

The Residential Neighbourhoods are located outside of the Mixed-Use Centres and Transit Corridors and are expected to accommodate primarily low rise residential built forms, such as a mixture of single detached, semi-detached and townhouse dwellings. These Residential Neighbourhoods will include a mix and diversity of those housing types to ensure variety and choice. They may also include opportunities for small-scale retail and service commercial uses in key locations to promote active transportation.

All the Residential Neighbourhoods will be developed with a central focus and will be within a 5-minute walk (400 metres) of local transit, elementary schools and parks, and generally within a 10-minute walk (800 metres) of higher order transit and community and commercial services.

5.2 COMMUNITY STRUCTURE IDEAS PLAN EVALUATION

The Preliminary Community Structure Ideas Plan (the Plan) has been evaluated against the nine guiding principles (refer to Section 4.2.2) to establish an understanding of how the preferred structuring elements are achieving the vision for the Elfrida Community. The evaluation of the preferred elements is high level and fundamentally qualitative, relying on the professional opinion of the consultant team. Further detailed technical evaluations will be undertaken on the Preferred Plan, once identified.

The Community Structure Ideas Plan is shown in **Figure 30**.

Principle 1

Develop in an environmentally appropriate manner that protects and restores the natural environment.

Meets ✓

The Plan includes the most up-to-date natural heritage system as provided through the Subwatershed Study. The natural environment will be protected and where appropriate, restored and enhanced. Crossings of the natural heritage system have been limited and where appropriate, the NHS has been incorporated into the design of the community.

Principle 2

Encourage the responsible use of resources to ensure long-term sustainability, reduce greenhouse gas emissions, and reduce demands on energy, water, and waste systems.

Meets ✓

The Plan has been developed with the assumption that it will be required to achieve a minimum of 80 persons and jobs combined per hectare which will provide for a compact urban form. In addition, the Plan is based on an urban structure of centres and corridors which promotes mobility options such as active transportation and is transit supportive, assisting with the reduction of auto dependence and greenhouse gas emissions. The components of the

Plan are still at a preliminary level and details on energy, water, and waste reduction cannot be determined at this time, but will be subject to further evaluation.

Principle 3

Manage growth over time that is logical, efficient and cost effective.

Meets ✓

The Plan will be phased over many years with the initial phase adjacent to an existing built area with connections to existing municipal infrastructure. The multi-centred approach facilitates an opportunity to ensure that each phase of development can be a “complete community”.

Principle 4

Ensure a diverse community with a mix and range of land uses to ensure a proper balance of residential, employment, community facilities and services.

Meets ✓

The Plan provides for a diverse mix of land uses and dwelling types creating a balance of residential, commercial, employment, community facilities, and services. The Plan has been structured to allow for each phase of development to include this balance of uses.

Principle 5

Develop a well-designed and connected community of residential neighbourhoods that provide for a range of housing types and choices.

Meets ✓

The Plan will provide for a mix and diversity of housing types that include low-rise, mid-rise, and high-rise development. The high-rise development will be concentrated within the Mixed-Use Centres and Corridors, with density filtering out into the low-rise Residential Neighbourhoods.

The variety of dwelling types will create opportunities for a range of affordable and special needs housing. Having all housing forms in proximity to each other facilitates opportunities for ageing in place allowing residents to remain within their community as they age, and their circumstances change over time.

Principle 6

Ensure an efficient transportation network that includes mobility options, is transit supportive, includes active transportation, walking and cycling, and accommodates vehicles.

Meets ✓

The Plan is based on a structure of Mixed-Use Centres and Corridors and includes a modified grid system of major roads. Centres and Corridors promote an efficient transit system, and the grid pattern of roads allows for a connected system that is logical and permeable, offering a variety of routes in, through, and out of the community.

All roads, including the major transit routes, will be designed as complete streets to accommodate all users.

Principle 7

Provide an interconnected system of streets and pedestrian supportive streetscapes.

Meets ✓

As noted above, the road pattern is a modified and connected grid of roads that will accommodate all modes of transportation such as transit, walking, cycling, and vehicular movement. Complete streets are designed to facilitate the safe movement of all users regardless of the mode of transportation.

Principle 8

Provide for a connected and integrated parks, open spaces, and trails system.

Meets ✓

The Plan provides for numerous neighbourhood parks that are centrally located within the Residential Neighbourhoods and within a 5-minute walking distance (400 metres) of residents. This encourages daily physical activity and creates a central focus and gathering space for the community.

A large Community Park is located central to the Elfrida Community, adjacent to the Natural Heritage System and with access to a Mixed-Use Centre and Corridor to support active transportation and provide for active recreation opportunities within the community. The Community

Park is significant in scale and is expected to be a major structuring element and defining feature of the Elfrida Community.

Principle 9

Utilize green infrastructure to make use of the absorbing and filtering abilities of plants, trees, and soil to protect water quality, reduce runoff volumes, and recharge groundwater supplies.

At this scale, the Plan does not illustrate the application of green infrastructure. The intention is to utilize Low Impact Development (LID) strategies to assist with creating a water balance in the community, in coordination with leading edge stormwater management techniques.

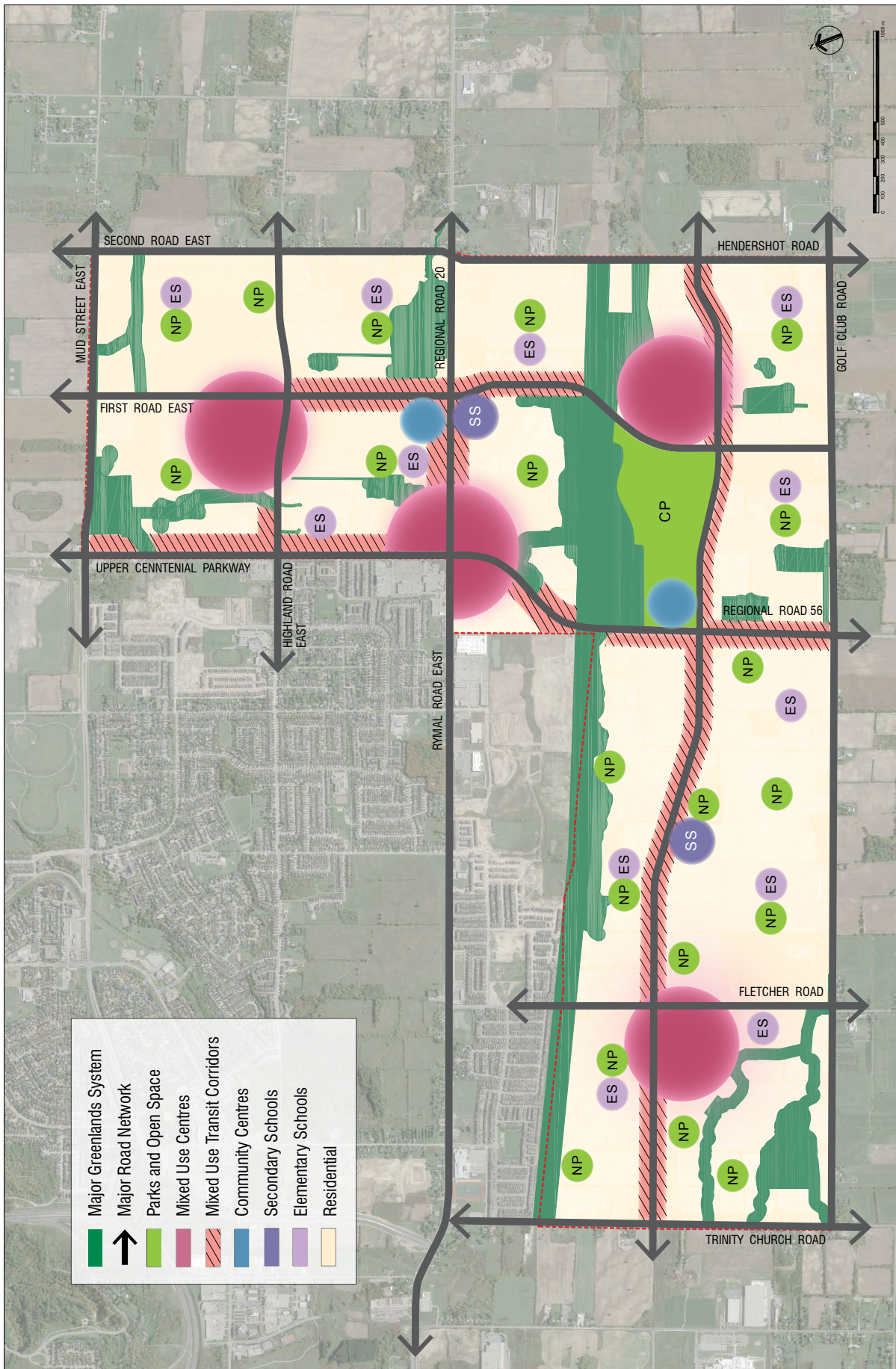
The Preferred Community Structure Ideas Plan meets all the guiding principles that can be evaluated at this level of detail. The concepts and ideas articulated on the Preferred Community Structure Ideas Plan will be further refined and enhanced once the City's work with GRIDS 2 and MCR is complete which will allow for the development of a more detailed Preferred Plan.

Recommendations and Next Steps for the implementation of the Preferred Community Structure Ideas Plan will be in accordance with the requirements of the *Planning Act*, *Growth Plan for the Greater Golden Horseshoe*, *Development Charges Act*, and other applicable legislation and associated tools to fulfill the vision for the Elfrida Study area.

5.3 WHAT WE HEARD

A summary of the public consultation feedback received on the evaluation of the Conceptual Development Options and Preferred Community Structure Ideas Plan presented during Public Information Centre #3 held on June 12, 2018 is included in the Consultation Summary Report.

Figure 30: Community Structure Ideas Plan



6.0 NEXT STEPS AND THE PREPARATION OF THE PREFERRED PLAN



The Elfrida Growth Area Study is a comprehensive and integrated planning process that will result in a Preferred Plan and Official Plan Amendment (Secondary Plan) to guide and direct future development within the study area. The following summarizes the next steps during the final Phase (3b) of the study, and additional work that will be undertaken to advance the development of the Preferred Plan for the Elfrida community.

6.1 COORDINATION WITH GRIDS 2

As previously noted, the City's ongoing GRIDS 2 and MCR work will provide critical inputs into the Elfrida Growth Area Study to determine the amount of new designated greenfield areas that are required to support an urban boundary expansion. This work will determine how much additional designated greenfield area the City requires, beyond the growth that will be accommodated within the City's existing built-up areas through intensification, to achieve the City's population and employment forecasts under the 2017 Growth Plan.

This work will inform not only the amount of designated greenfield areas that are required to 2031 and 2041, but will also serve to inform the phasing strategy for the future development of the Elfrida community.

6.2 SUPPORTING PLANS/ STUDIES

Once a Preferred Plan is identified, various other plans and studies will be prepared to evaluate the Preferred Plan and identify the required infrastructure to support the development of the Elfrida Growth Area. These plans include the Transportation Master Plan, and the Water and Wastewater Master Plan. These Master Plans will satisfy the requirements under the Municipal Environmental Assessment Act Phases 1 and 2 for the development of new infrastructure required to serve development. These Master Plans can not be undertaken until such time as the required amount of additional designated greenfield areas are identified through the City's GRIDS 2 and MCR work. Further technical studies which will be undertaken to

assess the Preferred Plan include a Financial Strategy and an Agricultural Impact Assessment.

6.3 OFFICIAL PLAN AMENDMENT (SECONDARY PLAN)

An amendment to the City's UHOP will be required to bring a portion of the Elfrida lands into the City's urban boundary. A Secondary Plan will be prepared to implement the Preferred Plan and establish more detailed land use policies and schedules to guide future development. The extent of lands to be included within the City's urban area will be dependent upon the recommendations of the City's ongoing GRIDS 2 and MCR work.

The draft framework for the Secondary Plan is discussed in further detail in Section 4.2 of this Report.

6.3.1 PHASING PLAN

Based on the inputs from the City's ongoing GRIDS 2 and MCR work, recommendations will be provided with respect to the phasing of development within the Elfrida Growth Study Area, to accommodate the City's land needs to 2031 and 2041.

This work will be augmented with the infrastructure analysis (i.e., transportation, water and wastewater services) being undertaken in support of the Elfrida Growth Area Study, to determine the most logical and efficient phasing of development, in relation to the availability of existing and planned infrastructure.

6.3.2 URBAN DESIGN GUIDELINES

To assist in implementing the Secondary Plan policies, Urban Design Guidelines (UDGs) for the Elfrida community will be prepared. It is anticipated that the UDGs will include a comprehensive list of design guidelines for the public and private realms. This will include a hierarchy of roads (confirmed through the Secondary Plan and the Transportation Master Plan), and the protection of the Natural Heritage System.

The public realm guidelines will feature parks, open space and trail systems, streetscape design, integration of amenity space, uses at-grade, fenestration, Crime Prevention Through Environmental Design (CPTED) practices, lighting, articulation, close spacing of main floor entrances/doors, patios/activity zones, and utility equipment. Design guidelines for the private realm will address development blocks and lots, built form, transition and massing, grade-related residential units, commercial / employment / other types of buildings, driveways, garages and garage access. The UDGs will be an important tool in the City's review of subsequent development applications to ensure that a high standard of urban design is achieved throughout the community.

6.4 ZONING BY-LAW AMENDMENTS AND FUTURE DEVELOPMENT APPLICATIONS

Following the approval of the Secondary Plan, and in consideration of the timing for required infrastructure improvements, development may proceed through the development approvals process in accordance with the *Planning Act*, which may include landowner-initiated applications for zoning by-law amendments, draft plan of subdivisions and site plan approvals. The City may also consider preparing a new comprehensive Zoning By-law to guide development within the Elfrida community.

6.5 COMMUNITY AND STAKEHOLDER CONSULTATION

The next phase of the work program will involve the identification of a Preferred Plan for the future Elfrida community. The Preferred Plan, as well as the draft supporting background studies, Secondary Plan and Urban Design Guidelines, will be presented to the community and stakeholders at a future Public Meeting for review and comment. Based upon these consultations, the documents will then be finalized for presentation to the City's Planning Committee.

