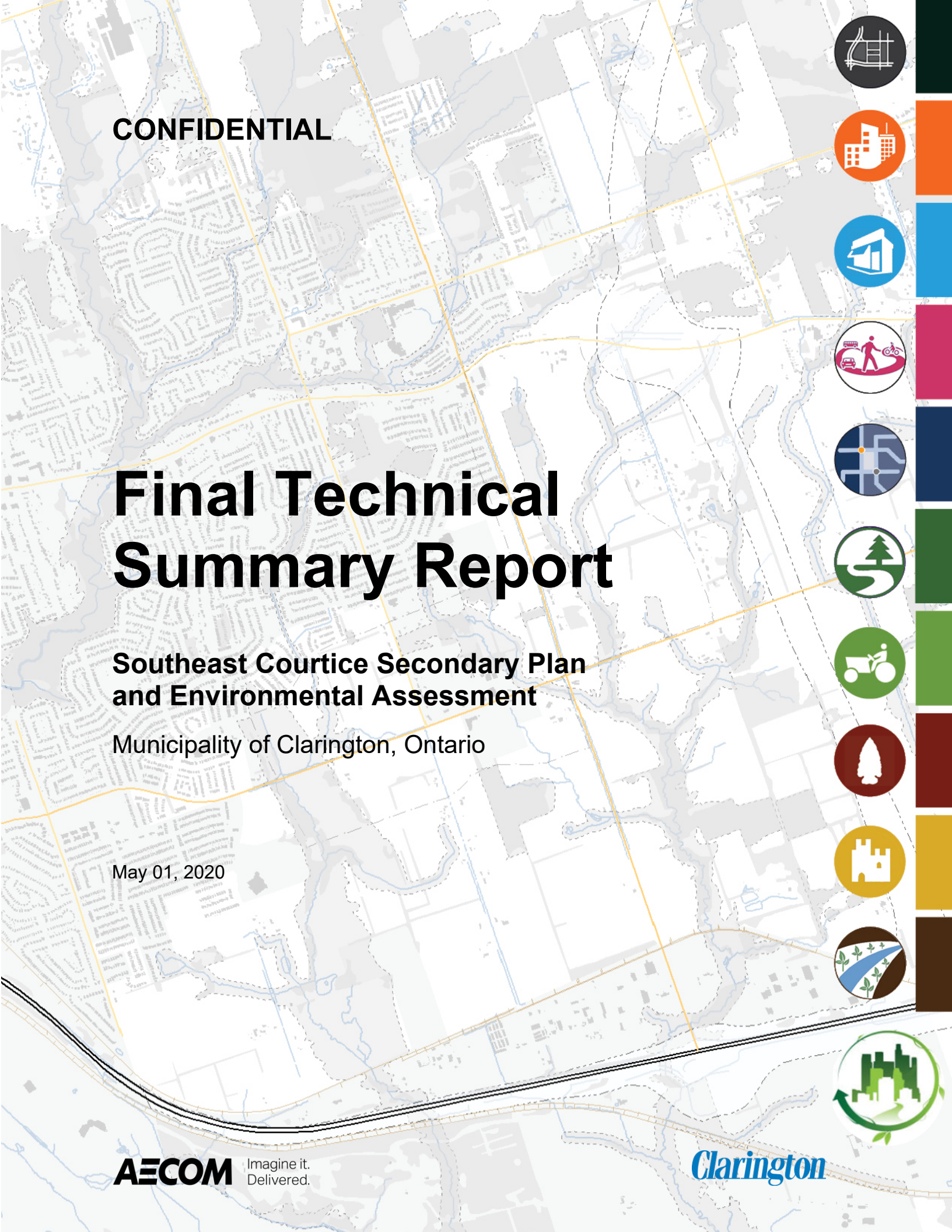
CONFIDENTIAL

Final Technical Summary Report

Southeast Courtice Secondary Plan and Environmental Assessment

Municipality of Clarington, Ontario

May 01, 2020



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1. Executive Summary

1.1 Purpose

The Municipality of Clarington has undertaken the preparation of several secondary plans that will conform to and implement the Clarington Official Plan, the Durham Region Official Plan, Provincial Policies and Plans of managing foreseeable growth to realise the community's desire for liveable, healthy neighbourhoods that are compatible with the surrounding natural environment.

AECOM Canada Ltd. together with Gladki Planning, and DBH Soil Services Inc. have been retained by the Municipality of Clarington (MoC), to assist in the preparation of the Southeast Courtice Secondary Plan (SECSP) through the integrated planning process. The primary objective of the study is to prepare a Secondary Plan for the Southeast Courtice neighbourhood in Courtice, Ontario and complete Phases 1 and 2 of the MCEA for all new arterial and collector roads, required for the Southeast Courtice Secondary Plan.

The purpose of this document is to ascertain the key objectives and strategies that will be implemented through the subsequent phases of the SECSP planning process, to achieve the goals outlined in existing policy and supporting background studies undertaken as part of Phase 1.

1.2 Integrated Approach

The integrated approach adopted for the preparation of the Southeast Courtice Secondary Plan (SECSP) area, co-ordinates the planning and approval processes for the proposed development so it satisfies the requirements of the Planning Act and the Environmental Assessment Act simultaneously.

The "Integrated Approach" is outlined in the Municipal Class EA document (Municipal Engineers Association, October 2000, as amended in 2007, 2011 and 2015) which is an approved process under the Environmental Assessment Act. The integrated EA approach is a cost-effective method of meeting the requirements of both the Planning Act and Class EA processes.

The integration process includes data collection and a background review, the identification of the opportunities and constraints as summarised in this report and the identification of alternate solutions to the problem or opportunity in concurrence with subsequent planning efforts and will be supported by public notifications, consultation events and meetings, consultation documentation and a monitoring report.

1.3 SECSP Goal and Objective

Clarington is a thriving municipality in Durham Region where open space and natural elements define the essence of the community. Southeast (SE) Courtice is a natural extension of Courtice, containing the headwaters and tributaries of Tooley Creek and Robinson Creek.

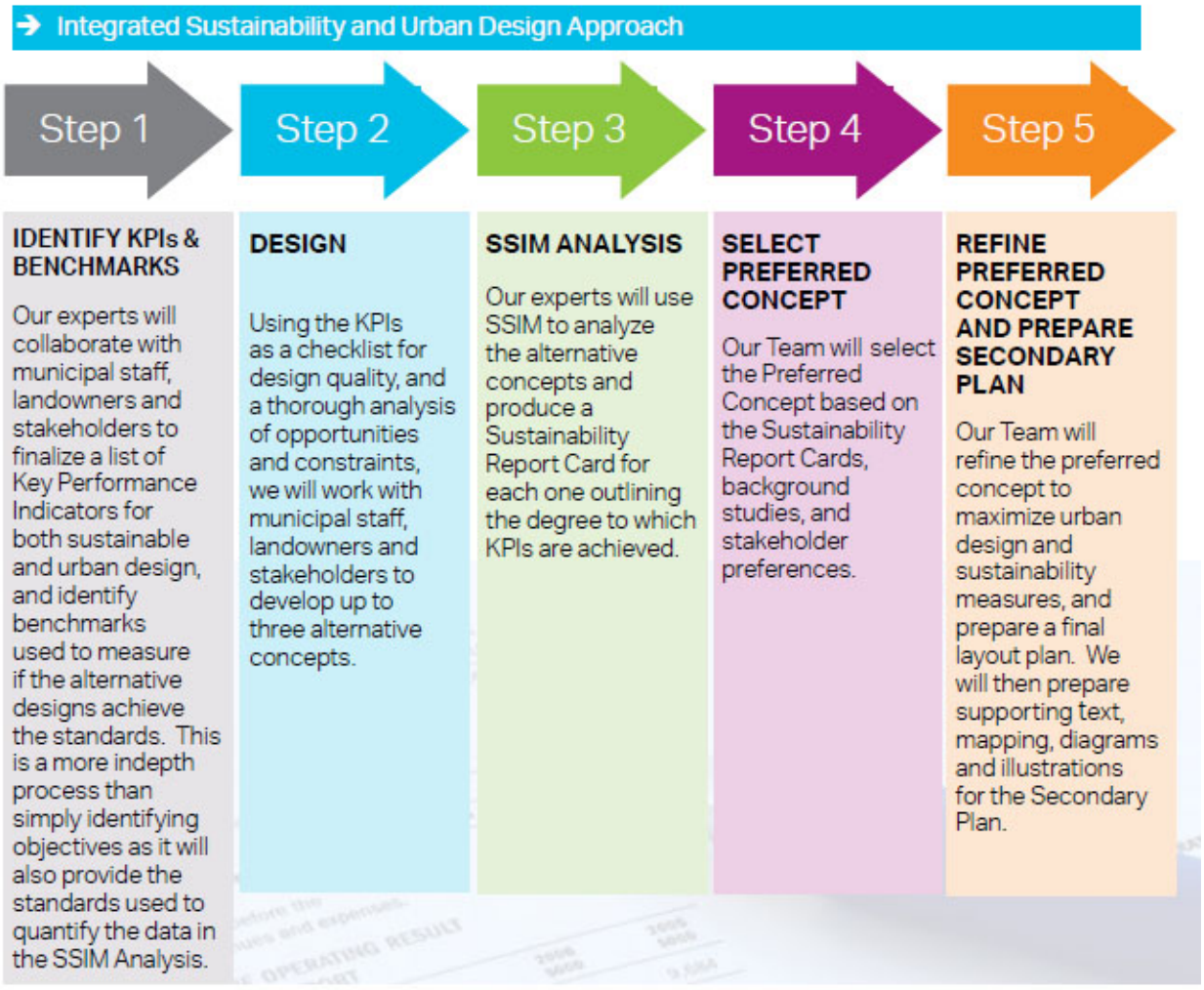
Prioritising a healthy, complete community and delivering on multi-modal transit, affordable housing and a unique sense of place, the goal of the SECSP will be to outline a strategy for the community refined by extensive community engagement. The Southeast Courtice Secondary Plan process will introduce a policy framework to guide future land use, investment and development towards a mixed use, high quality residential neighbourhood, with a strong emphasis on sustainability interwoven into all aspects of planning, design, construction and community life.

1.4 SECSP Project Approach and Methodology

The SECSP project seeks to develop a sustainable, responsive and defensible land use plan based on an objective assessment of land use options using a set of Key Performance Indicators (KPIs) created by stakeholders to measure and optimise the land use layout for future development.

The key principles articulated through this report and based on target performance areas and benchmarks identified in existing policy, will lay the foundation for refining concept land use alternatives through the planning process to finally translate into appropriate planning provisions in the Secondary Plan, Zoning By-Law and Urban Design and Sustainability Guidelines as a guide for further development. The project approach integrates sustainability into all four phases of the planning process as indicated in **Figure 1-1**

Figure 1-1: SECSP Project Phases



1.4.1 SECSP Background Studies

The preparation of a Secondary Plan requires input from supporting technical studies (COP 23.3.10). Existing conditions, development opportunities and constraints from the following independent studies undertaken as part of Phase 1 of the SECSP planning process have been summarised in this report and is intended to form the foundation for the development of alternate land use concepts through to the preferred plan in Phase 2.

Appendix A: Planning Background Report
Appendix B: Affordable Housing Analysis
Appendix C: Commercial Needs Assessment
Appendix D: Transportation Report
Appendix E: Functional Servicing Report
Appendix F: Landscape Analysis

Appendix G: Agricultural Impact Assessment

Appendix H: Archeological Assessment

Appendix I: Built Heritage and Cultural Heritage Landscape Screening

Appendix J: Natural Resources, SWS Integration

Appendix K: Sustainability & Green Principles Report

1.4.2 Related Studies

The SECSP process will determine and respond to the opportunities and concerns of the ongoing planning for Courtice Employment lands and Southwest Courtice and the Robinson Tooley Subwatershed Study 2018 (SWS).

2. SECSP Study Area

2.1 Location and Context

The Southeast Courtice Secondary Plan (SECSP) area, as illustrated in **Figure 2-1**, is a natural extension of Courtice containing the headwaters and tributaries of Tooley Creek and Robinson Creek. Predominantly greenfield, with a small section falling within the identified Clarington Built-Up Area boundary, the study area features a mix of parcel sizes and land uses, varying from larger farm parcels to smaller residential and commercial lots.

The Study Area is bounded to the north by Durham Highway 2 and Hancock Road to the east, while the western boundary is located east of Prestonvale Road and the southern boundary is just south of Bloor Street. The study area is 25% within the Robinson Creek Watershed (to the west) and 75% within the Tooley Creek Watershed (to the East).

The lands to the north and west of the SECSP Area are predominantly built out urban areas characterised by low density residential and some commercial properties.

Portions of the lands to the south of the SECSP Area are contained within the Courtice Urban Area and comprise Agricultural, Employment and Major Transit Station areas uses The designated employment uses are not yet developed and currently the subject of another secondary planning exercise (The Courtice Employment Lands).

The lands to the east comprise a narrow strip of non-farm estate residential units (north of Bloor Street along Hancock Road) and agricultural lands, wooded areas and stream courses south of Bloor Street. The future Highway 418 further east (a north-south link between Highway 407 and Highway 401) is currently under construction and is situated approximately 300-400 metres east of Hancock Road.

Built form consists of:

- Farm structures and related dwellings;
- Single detached dwellings along portions of Courtice Road and Trulls Road;
- Three places of worship along Bloor Street, east of Trulls Road (Hope Fellowship Church) and at the intersection with Courtice Road (Family Worship and Outreach Centre and Ebenezer United Church);
- A flea market complex on Bloor Street in between Trulls Road and Courtice Road;
- A retail plaza southeast of the intersection of Courtice Road and Highway 2; and
- The Courtice Paramedic Response Station south of the retail plaza.

Figure 2-1: SECSP Location & Context

Southeast Courtice Secondary Plan

Planning

Mar 26, 2019		Datum: NAD 1983 UTM Zone 17N Source: MNRF, Durham Region Image: MoC
P#: 60582225		Figure #

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3. Recommendations & Evaluation Criteria

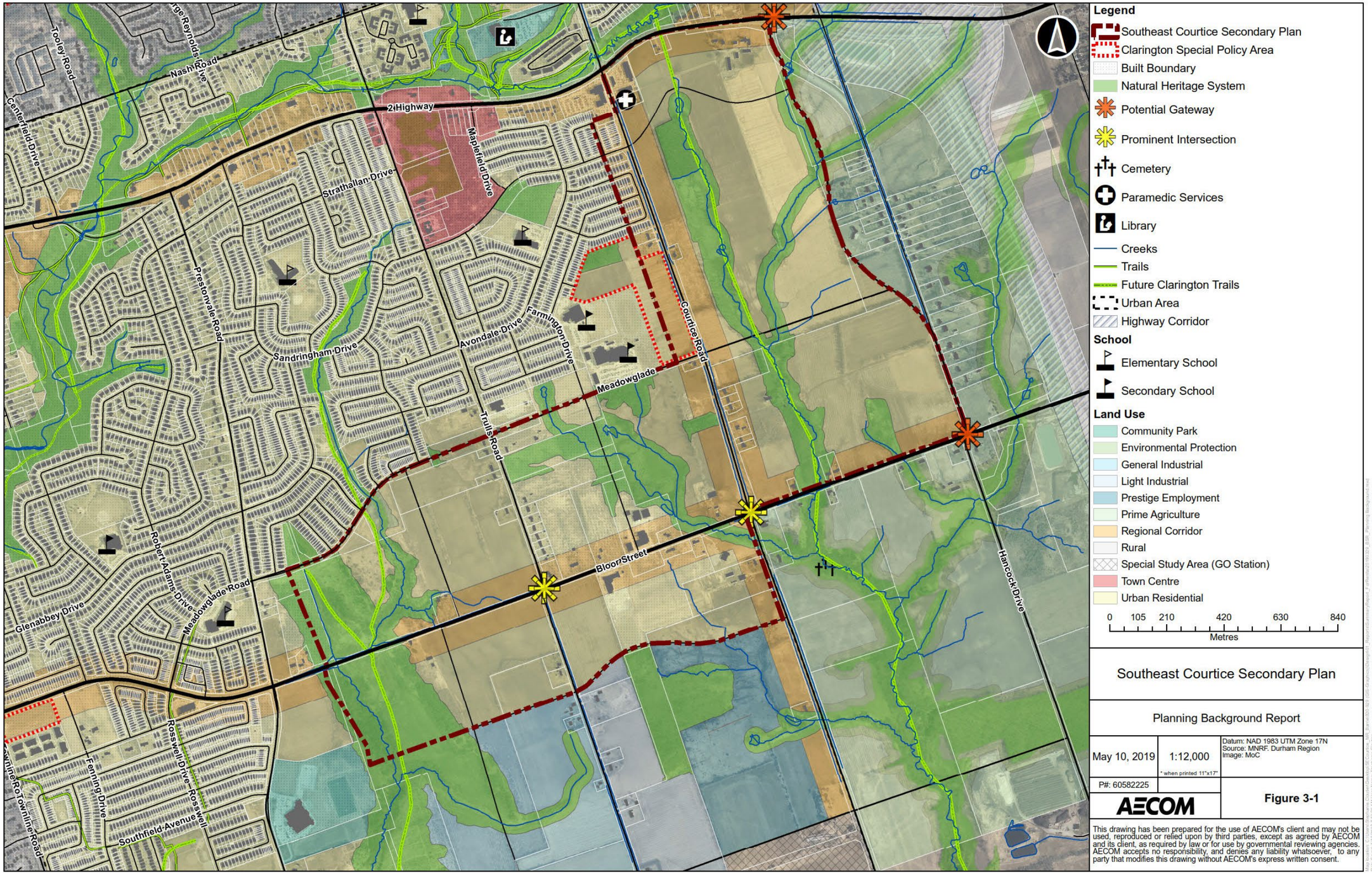
3.1 Planning Background Report

- Create a healthy, complete community through an efficient land use pattern realizing a mix of land uses, a sustainable density distribution, a variety of housing form, sizes and tenures.
- Create a walkable neighbourhood, encouraging the use of transit and active transportation through an interconnected grid-like pattern of streets, flexible block size, concentrating population within the Regional Corridors to promote Transit Oriented Development (TOD) facilitating access to transit & public amenities and designing streets for all users: pedestrians, cyclists, motorists, and transit riders of all ages and abilities.
- Create a sense of place and identity by designing Prominent Gateways and intersections as community focal points, where the public realm and built form combine to create an attractive urban environment, whose significance will be emphasized through building massing and height, materiality, street furniture, landscaping, and public art.
- Protect, maintain and enhance natural heritage and hydrologically sensitive features, designated Environmental Protection (EP) Areas, recognising their potential to serve as the backbone of an open space system, which includes urban trails that provide access to nature and increase pedestrian permeability.

Table 3-1: Planning Background (KPIs)

KPI	Low Performance (undesirable)	Moderate Performance (MANDATORY/ DESIRED)	Maximum Performance (aspirational)
Gross Density	<50 residents + jobs / ha	50 residents + jobs / ha	>50 residents + jobs / ha
Residential Density in units/net ha (uph)	<85 uph – Regional Corridor (RC) <19 uph – Adjacent to arterials & edge of neighbourhood (NE) <13 uph - Internal to neighbourhood (NI)	**85 uph** – Regional Corridor **19 uph** – Adjacent to arterials & edge of neighbourhood **13 uph** - Internal to neighbourhood	>85 uph – Regional Corridor >19 uph – Adjacent to arterials & edge of neighbourhood >13 uph - Internal to neighbourhood
Built Form & Mix % (Low: Mid: High)	RC - >40:<40:<20 NE/NI**< 100% ground related	**RC - 40:40:20** NE/NI - 100% ground related	RC - <40:>40:>20

Figure 3-1: Planning Background (Clarington OP)



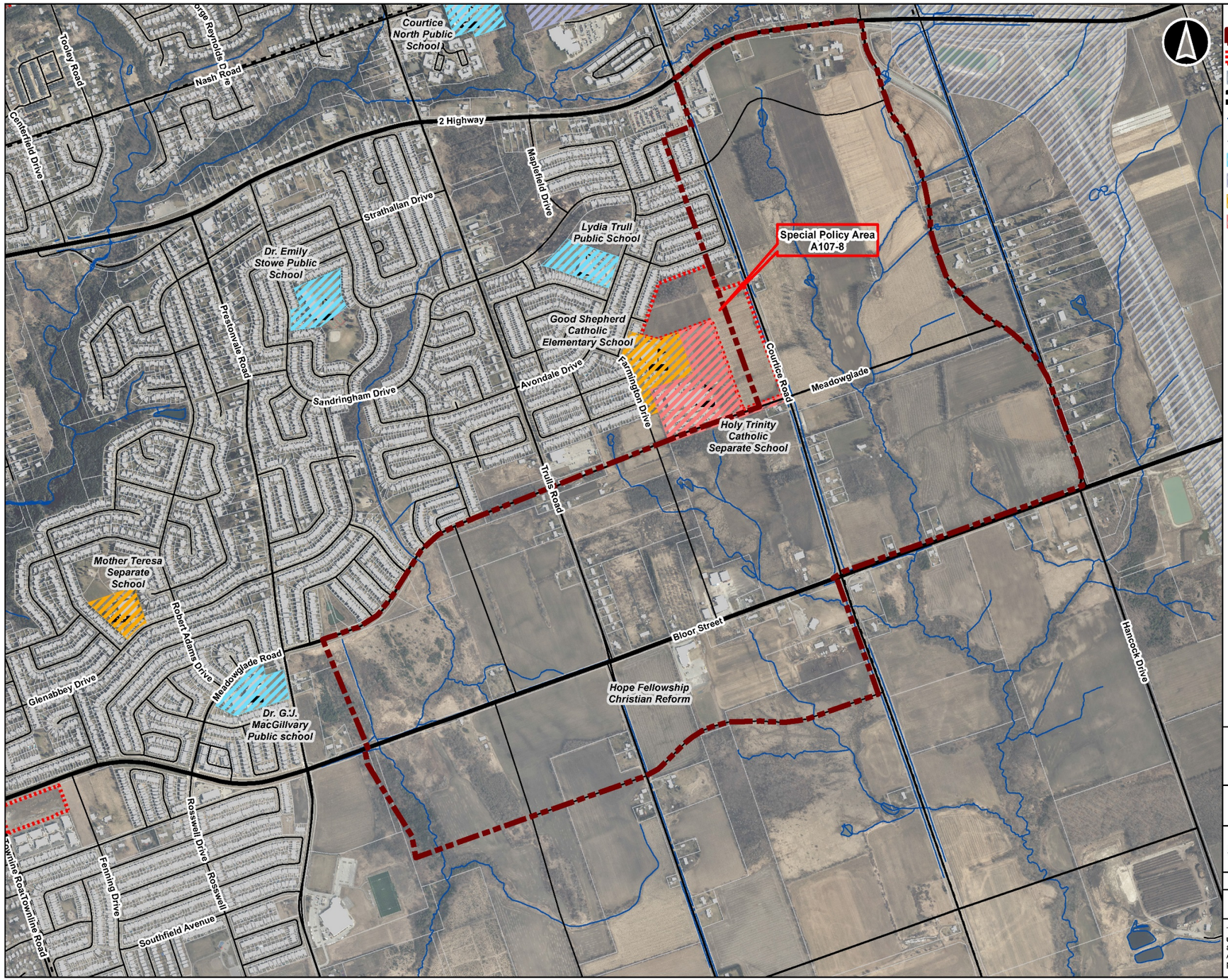
3.2 School Boards

- Planning to accommodate changing student populations is generally a co-ordinated effort between the two coterminous boards providing school service to the Clarington area, the Kawartha Pine Ridge District School Board and the Peterborough Victoria Northumberland and Clarington District School Board.
- The School Boards determine the requirement for new school sites in new development areas. They are commenting partners in applications for new development and may comment on the configuration of site plan and subdivision applications to ensure pedestrian safety and accommodate population projections and amend school accommodation requirements. The Boards are also key stakeholders through the secondary plan process and use estimated pupil yields, capacity of existing schools and policies on busing to determine the requirements for new school sites. The Municipality of Clarington also sets requirements for the identification of school sites through its official plan. While the selection of school sites is ultimately the determination of the School Boards, section 18.5 of the Clarington Official Plan provides the opportunity to implement policies around the siting of new elementary and secondary schools. Key requirements are listed below:
  - Elementary/Secondary Schools - minimum site area of approximately 2.5 ha/ 8 ha respectively;
  - Schools are to be accessible by many modes and should be sited with significant frontage on collector or minor arterial roads and never on a Type A arterial;
  - School design should include safe bicycle routes, pedestrian crossings, sidewalks and pickup and drop off zones; and,
  - School sites should generally be considered together with new park sites.
- Planning for schools within the Southeast Courtice Secondary Plan area will be an iterative process. The school board will review the general capacity of area schools based upon Long-term Accommodation Plans prepared by each board and will advise on the need for new area schools based upon pupil population projections yielded from new development and an assessment of preliminary population and unit types.

Table 3-2: Access to Schools (KPIs)

KPI	Low Performance (undesirable)	Moderate Performance (MANDATORY/min. DESIRED)	Maximum Performance (aspirational)
Access to Elementary School (m)	>800 m (>10 minutes walking)	400 to 800 m (5 to 10-minute walking distance)	≤400 m (≤5-minute walking distance)
Shared Amenity	<75% located adjacent to public park/ community facility	75% located adjacent to public park/ community facility	>75% located adjacent to public park/ community facility

Figure 3-2: Existing Schools



Legend

- Southeast Courtice Secondary Plan
- Clarington Special Policy Area
- Highway Corridor
- Urban Area
- Creeks

Schools

- Public Elementary School
- Public Secondary School
- Separate Elementary School
- Separate Secondary School

0 105 210 420 630 840
Metres

Southeast Courtice Secondary Plan

School Boards

Apr 12, 2019	1:12,000 * when printed 11"x17"	Datum: NAD 1983 UTM Zone 17N Source: MNRF, Durham Region Image: MoC
P#: 60582225		**Figure 3-2**

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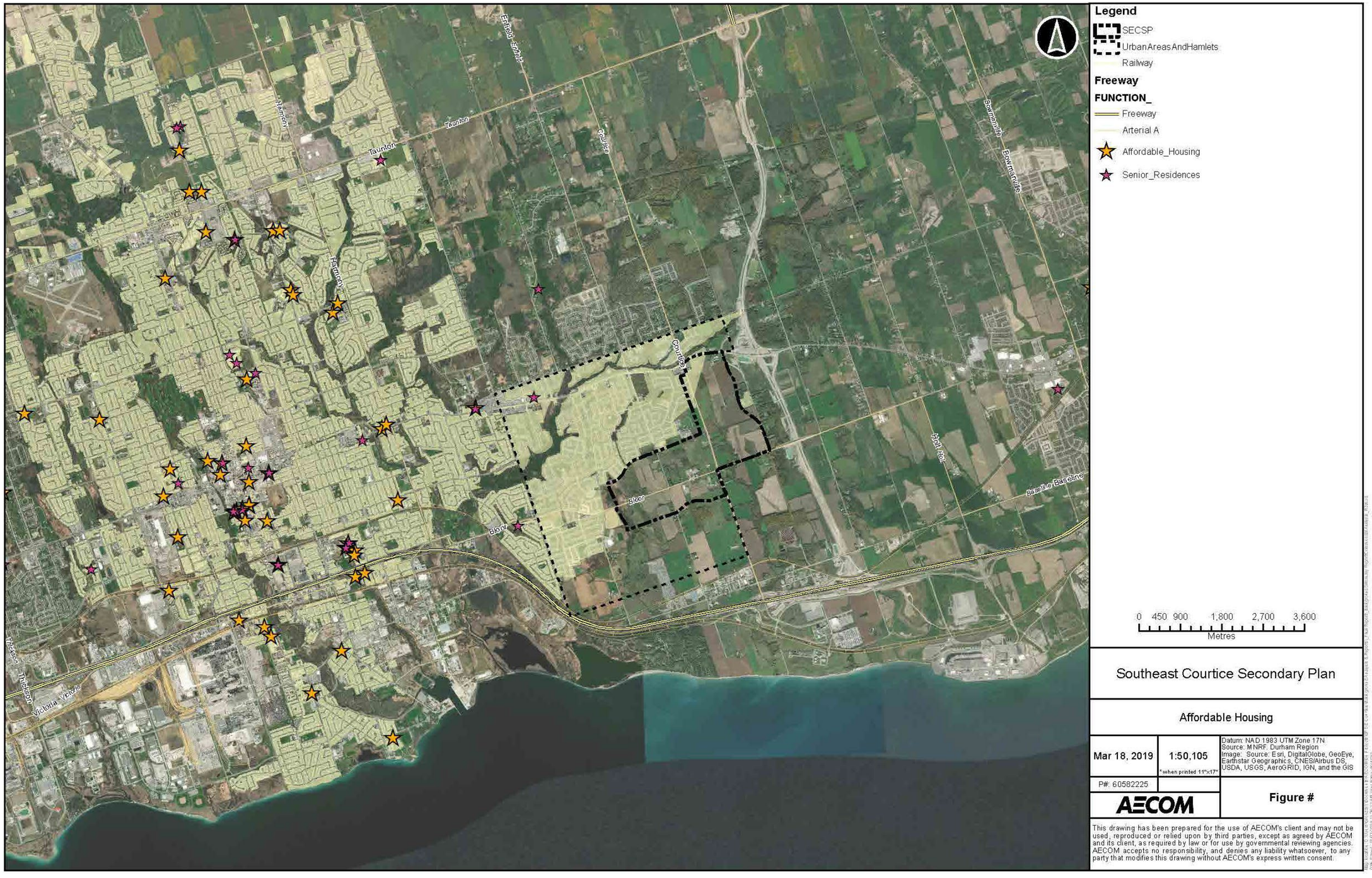
3.3 Affordable Housing

- Clarington is expected to see strong demand for housing going forward which will create opportunities for new housing options within the municipality. A large share of the projected housing units needed to meet future population growth will be accommodated within SE Courtice
- That said, previous housing unit forecasts indicated stronger demand for housing relative to population growth than current projections are indicating. Further, the mix of housing being projected is expected to see higher demand for apartment units than previously forecast.
- Overall, 72% and 28% of future units are expected in ground-oriented, and apartment housing types respectively. These targets should be seen as a minimum as policy in the OP suggests a mix even more heavily weighted to apartment units.
- In terms of affordability, an expansion to the thresholds identified in the OP is suggested which would aim to align all housing to be affordable to the range of expected future households. To meet this, approximately 13% of future units in SE Courtice will need to be non-market units affordable to those making less than $40,000 per year (assuming a max of 30% of income to be spent on housing), while a further 13% will need to be market rental units in order to meet the needs of those households making between $40,000 and $60,000 per year expected within the community by 2031.

Table 3-3: Affordable housing - (KPIs)

KPI	Low Performance (undesirable)	Moderate Performance (MANDATORY/min. DESIRED)	Maximum Performance (aspirational)
Housing Mix	>72% Ground Oriented <28% Apartment Units	72% Ground Oriented 28% Apartment Units	<72% Ground Oriented >28% Apartment Units
Affordable Housing	<13% non-market units <13% purpose-built rental units	13% non-market units 13% purpose-built rental units	>13% non-market units >13% purpose-built rental units

Figure 3-3: Affordable Housing – Opportunities & Constraints



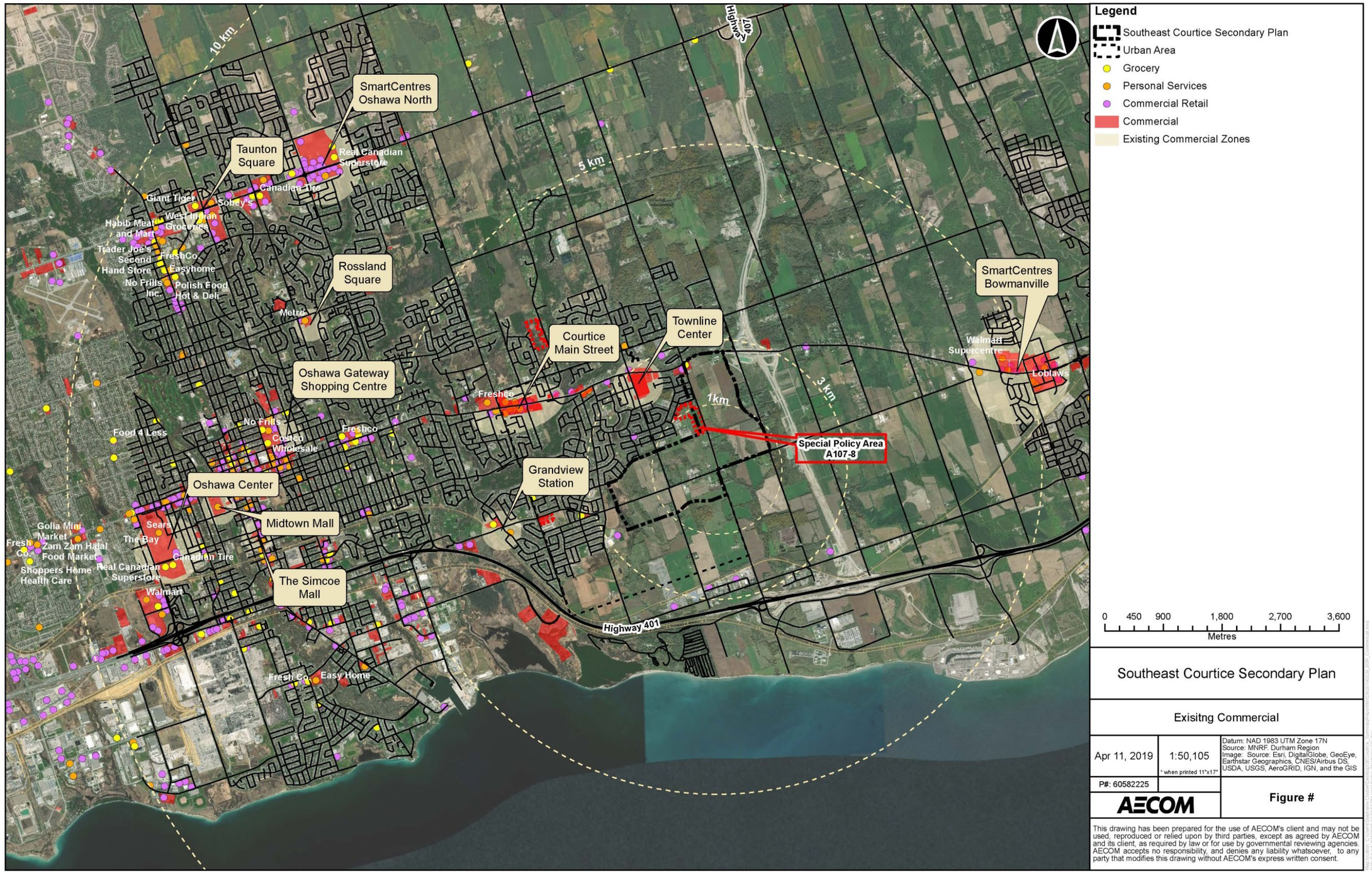
3.4 Commercial Analysis

- Significant population growth in SE Courtice and surrounding areas due to new development will drive demand for new retail services in the local area.
- Policy with the Clarington Official Plan encourages new retail development within SE Courtice and surrounding Secondary Plan areas in a variety of forms to provide for retail commercial services in close proximity (800 m) of new residents.
- Current retail development at Courtice Main Street, as well as Smart Centres Bowmanville and central Oshawa are located in close proximity to SE Courtice and can be expected to meet a significant share of future demand for retail services. Additional retail floor space planned for the corner of Highway 2 and Trulls Rd. can be expected to provide the majority of new floor space to service demand generated by future population growth.
- Given competing and future planned supply, retail uses within the SE Courtice Secondary Plan area will be modest and focus largely on servicing the day-to-day convenience needs of residents. Projections indicate demand for between 10,600 and 13,300 square metres of retail space at build-out of the Secondary Plan.

Table 3-4: Commercial Analysis (KPIs)

KPI	Low Performance (undesirable)	Moderate Performance (MANDATORY / min. DESIRED)	Maximum Performance (aspirational)
Land Use Mix	<10,000 m^2 of retail	10,000 – 13,500 m^2 of retail	>13,500 m^2 of retail
Access to Local Retail	>10 min walk shed (800 m)	10 min walk shed (800 m)	<10 min walk shed (800 m)
Access to Personal Services	>10 min walk shed (800 m)	10 min walk shed (800 m)	<10 min walk shed (800 m)
Proximity to Cafes/ Restaurants / Bars	>15 min walk shed (800 m)	15 min walk shed (800 m)	<15 min walk shed (800 m)

Figure 3-4: Commercial/ Retail - Opportunities & Constraints



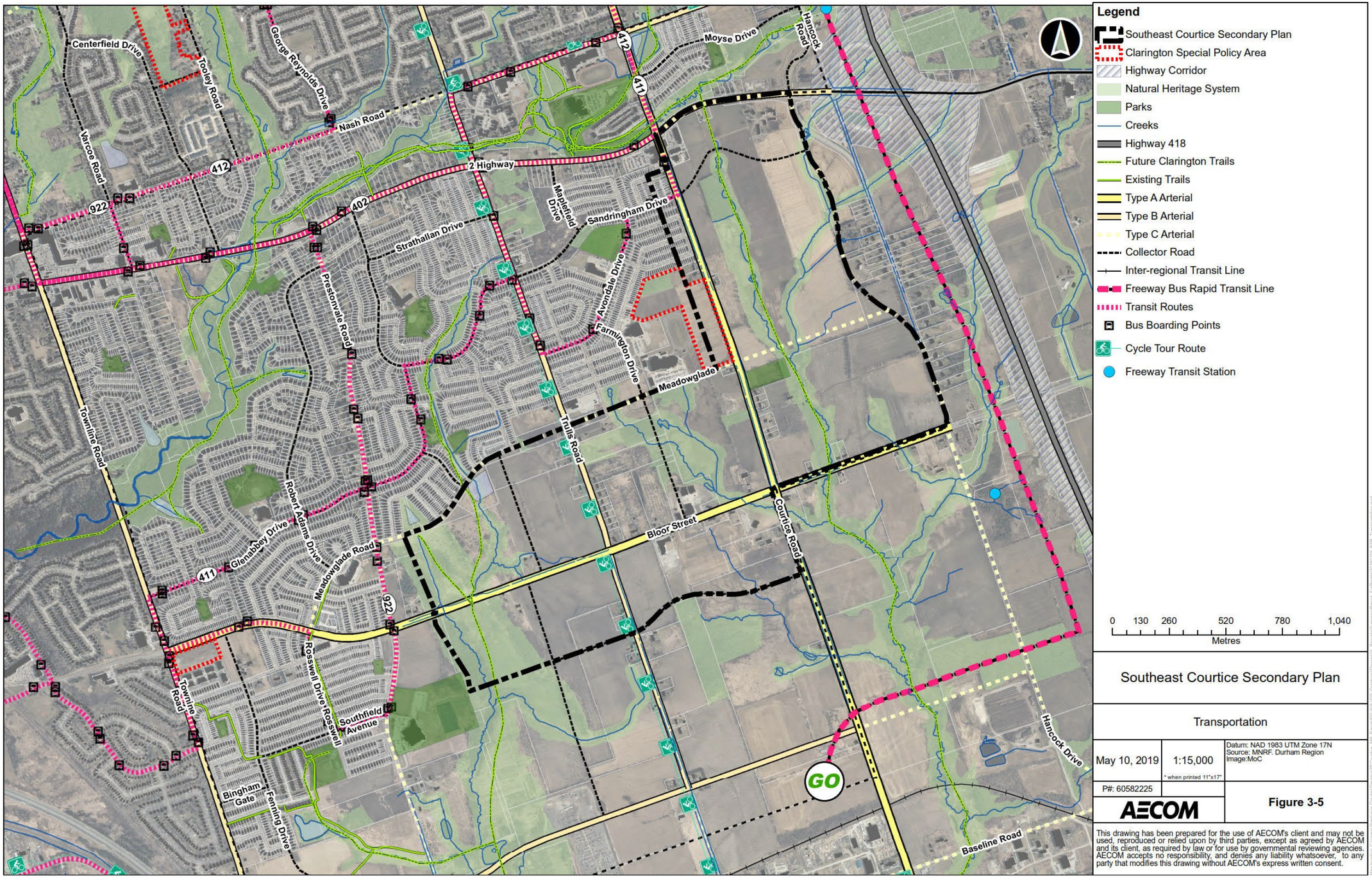
3.5 Transportation Needs Analysis

- **Road Network:** A combination of corridor improvements, road extensions & new roads are planned to support the development of the SECSP area. All arterial, collector & local roads shall have sidewalks and street trees on both sides of the R.O.W.
- **Transit Network:** The future Courtice GO Station as part of Metrolinx's "Big Move" Regional Transportation Plan, Highway 2 Durham Rapid Transit, and enhanced local Durham Region Transit (DRT) service are planned to increase general public transit connectivity and service promoting transit as an alternative travel mode for the area and surrounding community.
- **Active Transportation:** Identified as a priority, an Active Transportation network will be developed in co-ordination with the Municipality's Complete Streets and Transportation Master Plan initiatives. Regional and municipal cycling facilities and active transportation additions are planned throughout the study area as both primary, short term and long-term improvements. The TMP identifies a desire for active transportation to see an increase in mode share over the years, by making walking and cycling more practical and attractive.
- **Walkability:** Layout communities and a Collector road network of appropriate block sizes supported by an integrated cycling and pedestrian spine network to the future Courtice GO station for 'last mile' connectivity, to allow for 100% transit coverage, promoting walking and cycling facilities that reflect the utilitarian versus recreational nature of different cyclists, and also the variability in cycling skills.
- Avoid or minimize **crossings of watercourses**, consider a single crossing within a definable watercourse reach. Avoid or minimize intrusion into natural heritage lands, such as wetlands, woodlots, and areas of significant natural interest. Avoid cultural and built heritage resources, where possible
- Develop a transportation network integrating complete streets principles to provide for a robust, connected and flexible network that serves the mobility and accessibility of all road users (motorists, transit, cyclists, and pedestrians).Planning will also aim to strengthen the **relationship between land use- transportation** and consider a variety of area constraints that impact the planning of the area transportation network, such as watercourses, wetlands, woodlots, areas of significant natural interest, and cultural and built heritage resources.

Table 3-5: Transportation Needs Analysis (KPIs)

KPI	Low Performance (undesirable)	Moderate Performance (MANDATORY / min. DESIRED)	Maximum Performance (aspirational)
Transit Coverage Residences + Jobs (R+J)	50% (R+J) or higher > 400 m from transit stop/station	75% (R+J) within 250 m – 400 m from transit stop/station	75% (R+J) < 250 m from transit stop/ station
Access to Existing / Planned Amenities	% residential area with <3 facilities within 800 m walking distance	% residential area with 3 facilities within 800 m walking distance	% residential area with >3 facilities within 800 m walking distance
Av. Block Length	75% > 400 m	75% within 250 – 400 m	75% <250 m
Intersection Density	<45 intersections / sq.km	45 intersections / sq.km	>45 intersections / sq.km
Pedestrian/Bike Score	<0.75 (0 = poor; 1=desired)	0.75 (0 = poor; 1=desired)	>0.75 (0 = poor; 1=desired)

Figure 3-5: Transportation - Opportunities & Constraints



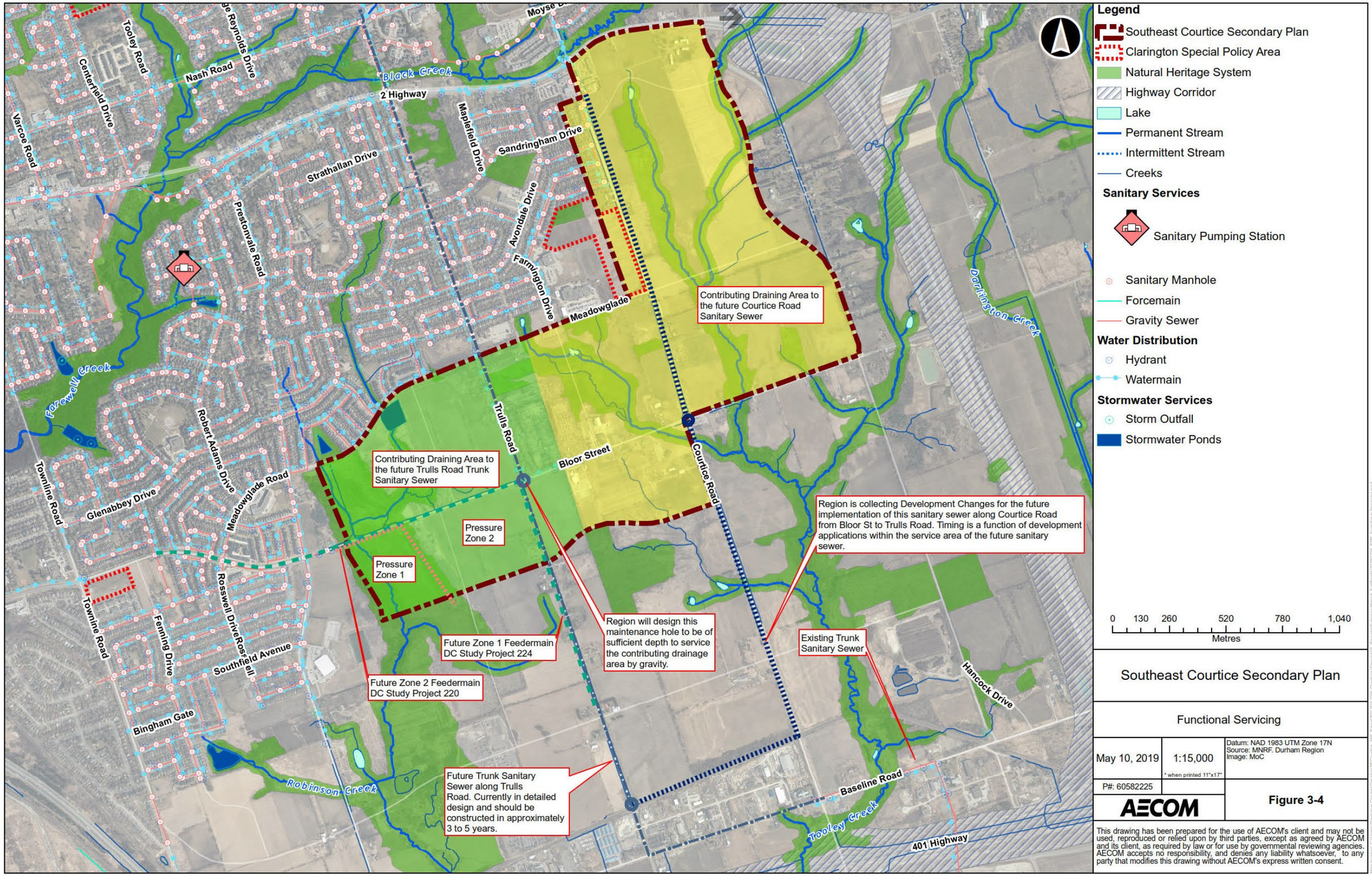
3.6 Functional Servicing

- The Region of Durham's 2018 Development Charges (DC) Study identifies the trunk water / wastewater infrastructure needed to provide servicing capacity to the study area with associated capital expenditure in 2019, confirming capacity for the development of the study area in accordance with the growth assumptions of the Regional Official Plan.
- The study area is currently serviced by a 300 mm water main and two pressure zones. Pressure zone 1 services approximately 4 Ha of the southwest corner of the study area located south of Bloor St. The remainder of the study area is serviced by pressure zone 2. The study area is not currently serviced by any existing sanitary or storm sewers.
- All new development will need to design and construct local watermains, sanitary sewer systems and minor/major drainage systems (storm sewers/overland flow routes) that connect to the future trunk / sub-trunk infrastructure as identified in the Region's 2018 Development Charge (DC) Study. The future extension of local service infrastructure needed to service the Study Area will be implemented by means of future approved development applications and constructed within the future municipal roadways and existing Regional roadways as required to achieve connectivity to available outlets/ looping needs.
- The implementation and completion of DC Project 234 provides the opportunity for sequential phasing, prioritising the development of the westerly study area, to minimize financial implications to the Municipality of servicing, operating and cost recovery by optimizing the use of existing infrastructure and services and efficient use and extension of future infrastructure and services.
- A preferred land use plan developed with appropriate land use designations will be refined through iteration with the ongoing *Robinson and Tooley Creek Subwatershed Study* (R/T SWS). Increased surface water runoff will be mitigated by reducing imperviousness through appropriate land use designations; Low Impact Development (LID) measures in public lands including ROWs, Parks and Buildings & SWM Pond implementations identified by the Stormwater Management Plan (SWMP), which will identify location of the SWM ponds and be used as a basis for the development of the major/minor drainage system within the SECSP & Best Management Practices (BMPs) as identified by government agencies including DFO, MECP, MTO, MNRF, CLOCA, Durham Region & Clarington.

Table 3-6: Functional Servicing (KPIs)

KPI	Low Performance (undesirable)	Moderate Performance (MANDATORY / min. DESIRED)	Maximum Performance (aspirational)
Imperviousness (%)	<50% of all LID features in public lands (ROW-Park-Institutional)	50% of all LID features in public lands (ROW-Park- Institutional)	>50% of all LID features in public lands (ROW-Park- Institutional)
Watercourse Crossings (no.)	<500 m apart	Min. 500 m – 700 m apart	>700 m apart
Development permeability (DP)	Post <75% pre- DP	Post= 75% pre-development permeability (a range of +/- 1% is acceptable)	Post=pre-development permeability
Protection of HDF	<100% of High Constraint Moderate / low constraint - Function not preserved	100% of High Constraint HDF Moderate constraint - Function preserved	<100% of High Constraint Moderate / low constraint - Function preserved

Figure 3-6: Functional Servicing - Opportunities & Constraints



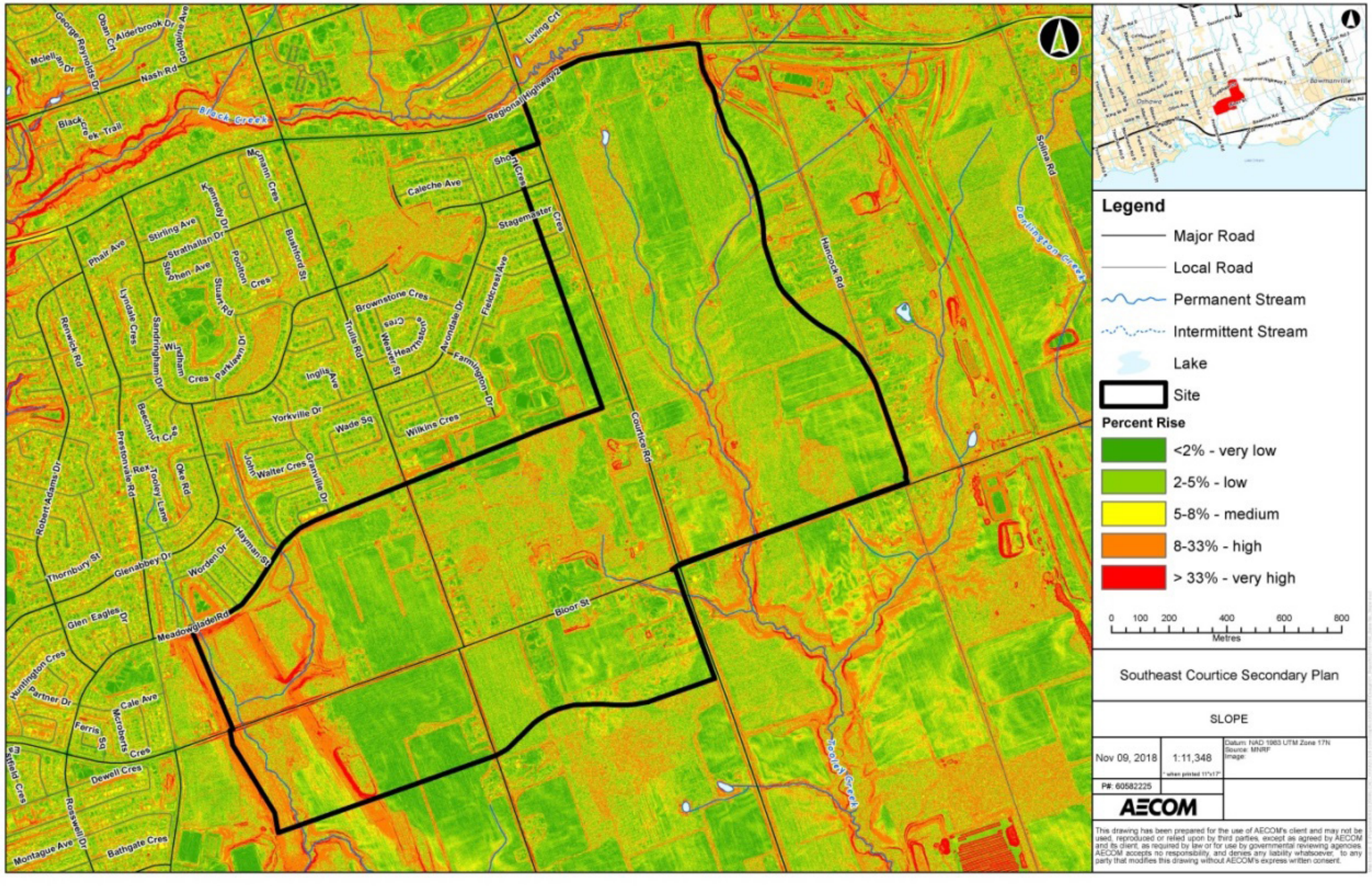
3.7 Landscape Analysis

- With no significant landform or slope concerns, the study area can support the higher intensity development targets as directed by existing policy.
- Protect, preserve and enhance ecological diversity & environmental stability while improving accessibility and suitability for low-intensity recreation.
- Avoid significant changes to landform and maintain the natural drainage pattern to minimize the risk of flooding.
- Create a hierarchy of nodes, prominent intersections, view and vistas along landscaped boulevards that promote legibility and way finding within the community.
- Create a hierarchy of parks and open space connected by a robust active transportation network which would contribute to creating a sense of place while improving mobility options and serving the recreational needs of the residents.
- Recommend provisions for low impact development to minimize hard surface infrastructure, enhance stormwater infiltration and increase permeability. Techniques to maximize energy efficiency and water conservation should be integrated into the design of streetscapes, parks and other outdoor public spaces (e.g., green streets, native / drought tolerant landscaping; LED street lighting; shade plantings and structures; rain gardens).
- Integrate Stormwater Management facilities with landscape amenities (e.g., loop trail around ponds, establish viewpoints) and community gardens/orchards within buffers or parkland.
- Encourage habitat connectivity and maintain the function of existing linkages where possible

Table 3-7: Landscape Analysis (KPI)s

KPI	Low Performance (undesirable)	Moderate Performance (MANDATORY/min. DESIRED)	Maximum Performance (aspirational)
Post Development Tree Cover Target	<30% of total site area	30% of total site area (a range of +/- 1% is acceptable)	>30% of total site area
% Ecologically Sensitive Areas Conserved	<100% high constraints protected	100% high constraint area protected	100% high constraint area protected • Mitigation and/or compensation to offset impact of development in Moderate constraints areas • Incorporation of low constraint features into site-level plans • Enhancement of the existing NHS as recommended in the SWS
Parkland Dedication	< 1ha/300 dwelling units	1ha / 300 dwelling units	>1ha / 300 dwelling units

Figure 3-7: Landscape Analysis



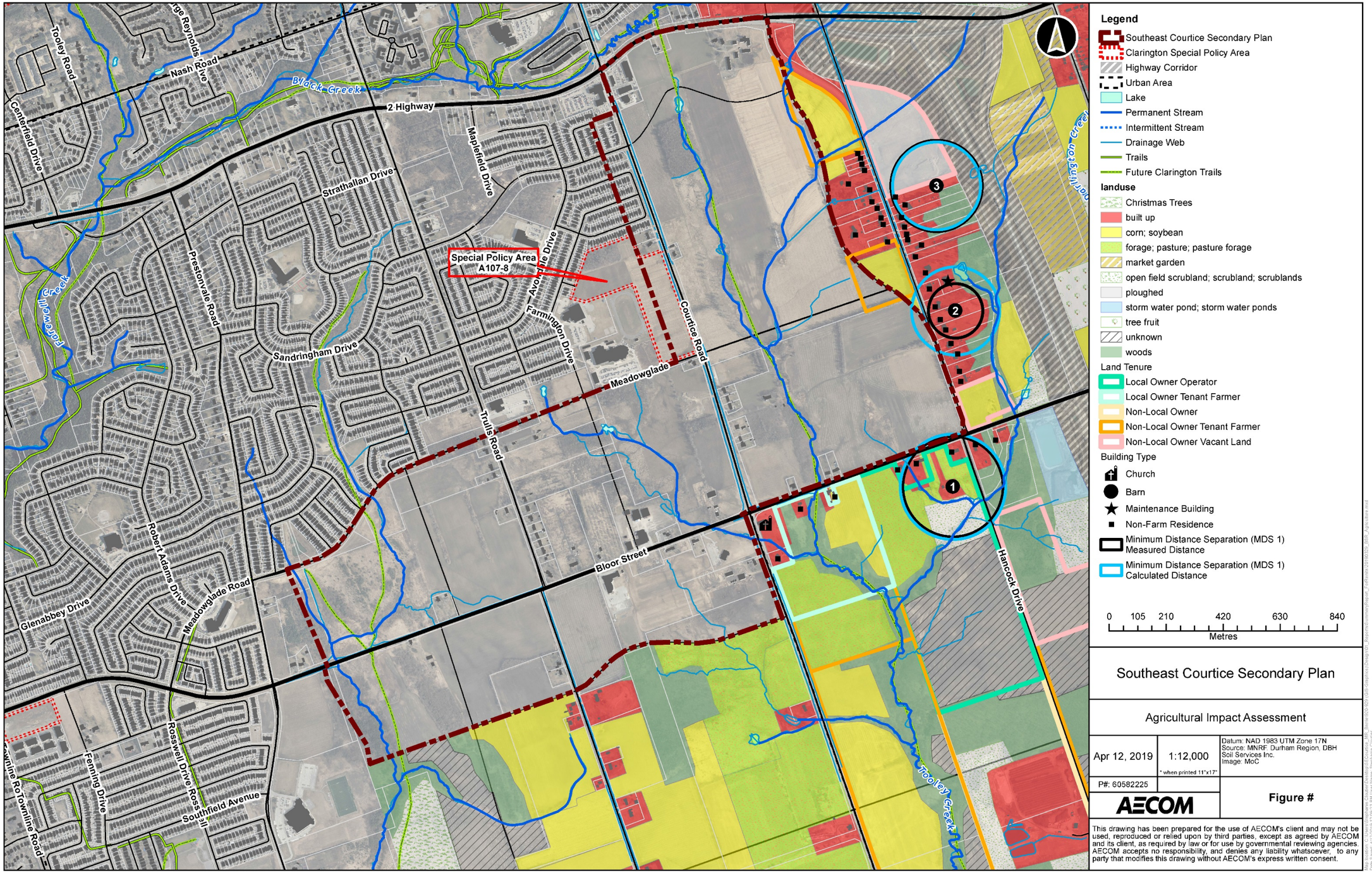
3.8 Agricultural Impact Assessment

- It is evident from a review of the parcel data that the 'Prime Agriculture' Area is exhibiting the decline of agriculture due to the presence of numerous smaller parcels and the degree of Non-Local ownership on the larger parcels.
- The development of the SECSP area is not expected to be a great source in traffic related impacts to agriculture as the transportation routes in the area are already well traveled by non-farm vehicles.
- Avoidance Measures to address potential edge, traffic & surface water quality & quantity impacts should consider the design of internal road systems to direct urban traffic to alternate roads, thereby avoiding roads that are used by farm vehicles/equipment; maintain or enhance the agricultural drainage (streams, creeks, rivers); avoid water erosion through effective stormwater management.
- Mitigation measures to minimize conflicts and preserve agricultural functioning should consider:
  - the use of natural heritage features or a road, a wall or berm or adequate fencing to separate agriculture from non-agricultural land uses creating a defined boundary;
  - use plantings/vegetation as buffer areas to minimize impermeable surfaces, maximize vegetated areas to maintain/ enhance groundwater/ surface water supplies used by adjacent agricultural operations or to reduce visual impacts/sounds;
  - use reduced speed limits on roads that abut agricultural areas and implementation of surface and/or groundwater monitoring in areas where adjacent agricultural operations make use of surface the water as part of their normal farm practices.

Table 3-8: Agricultural Impact Assessment (KPIs)

KPI	Low Performance (undesirable)	Moderate Performance (MANDATORY / min. DESIRED)	Maximum Performance (aspirational)
Barrier within Secondary Plan Boundary	Fence, local road	Collector road (min 23 to 26 m ROW) or higher classification with min. 2 rows of tree planting)	Vegetated buffer including berms, trees, vegetation
Urban Agriculture (local food production)	Lot level only - Garden space in Semi-detached Detached dwellings	Lot level + Dedicated Lots (programmed space within parkland dedication)	Lot level + Dedicated lots (Orchards / Fruit / Vegetable gardens integrated into public parks, buffers to major roadways, vegetation protection zone or enhancement /restoration areas

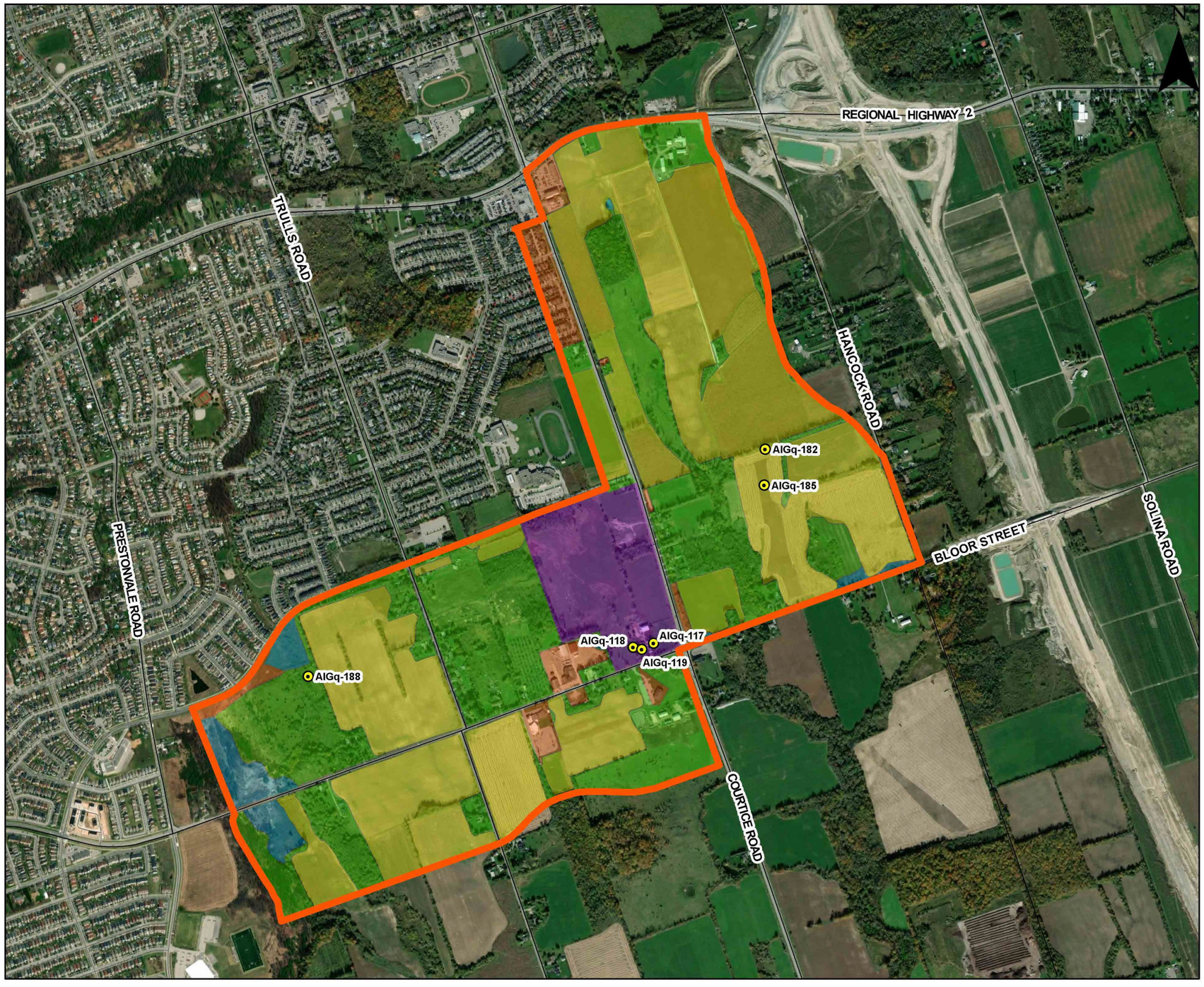
Figure 3-8: Agricultural Impact Analysis

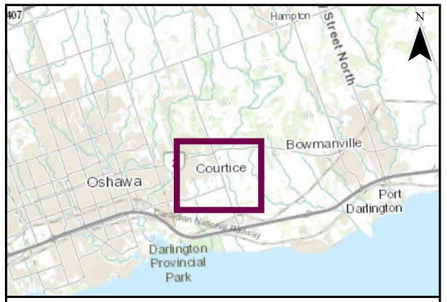


3.9 Archeological Assessment

- Prior to any land alteration, the areas marked in green require a Stage 2 AA in the form of test pit survey as per Section 2.1.2 of the Standards and Guidelines for Consultant Archaeologists (MTCS 2011). Additionally, the areas marked in yellow require a Stage 2 AA in the form of pedestrian survey prior to any land alteration as per Section 2.1.1 of the Standards and Guidelines for Consultant Archaeologists (MTCS 2011).
- The areas marked in red have been subject to deep and extensive disturbance and do not require further archaeological work. These areas should be cleared of further archaeological concerns.
- Areas marked in blue are permanently low and wet. These areas should be cleared of further archaeological concern.
- Areas marked in purple have been previously subject to Stage 1-2 AA and, with the exception of archaeological sites which require further archaeological assessment (Supplementary Documentation), contain no further archaeological potential. These areas should be cleared of further archaeological concern.
- As further archaeological assessment is required, archaeological concerns for SECSP area in Clarington, Ontario have not been fully addressed. Archaeological sites recommended for further archaeological field work or protection remain subject to Section 48 (1) of the Ontario Heritage Act and may not be altered, or have artifacts removed from them, except by a person holding an archaeological license.

Figure 3-9: Archeological Assessment





Legend

- Study
- Sites Located in Study

Stage 1 Archaeological Assessment Result

- Stage 2 Test Pit Survey Required
- Stage 2 Pedestrian Survey Required
- Disturbed - No Further Work Required
- Permanently Low and Wet - No Further Work Required
- Previously Assessed (Archaeoworks Inc., 2014)

0 125 250 500 750
Meters

Southeast Courtice Secondary Plan
Stage 1 Archaeological Assessment

Results and Sites Found Within Study Area

Mar 2019	1:12,500	Datum: NAD 1983 UTM Zone 17N

AECOM

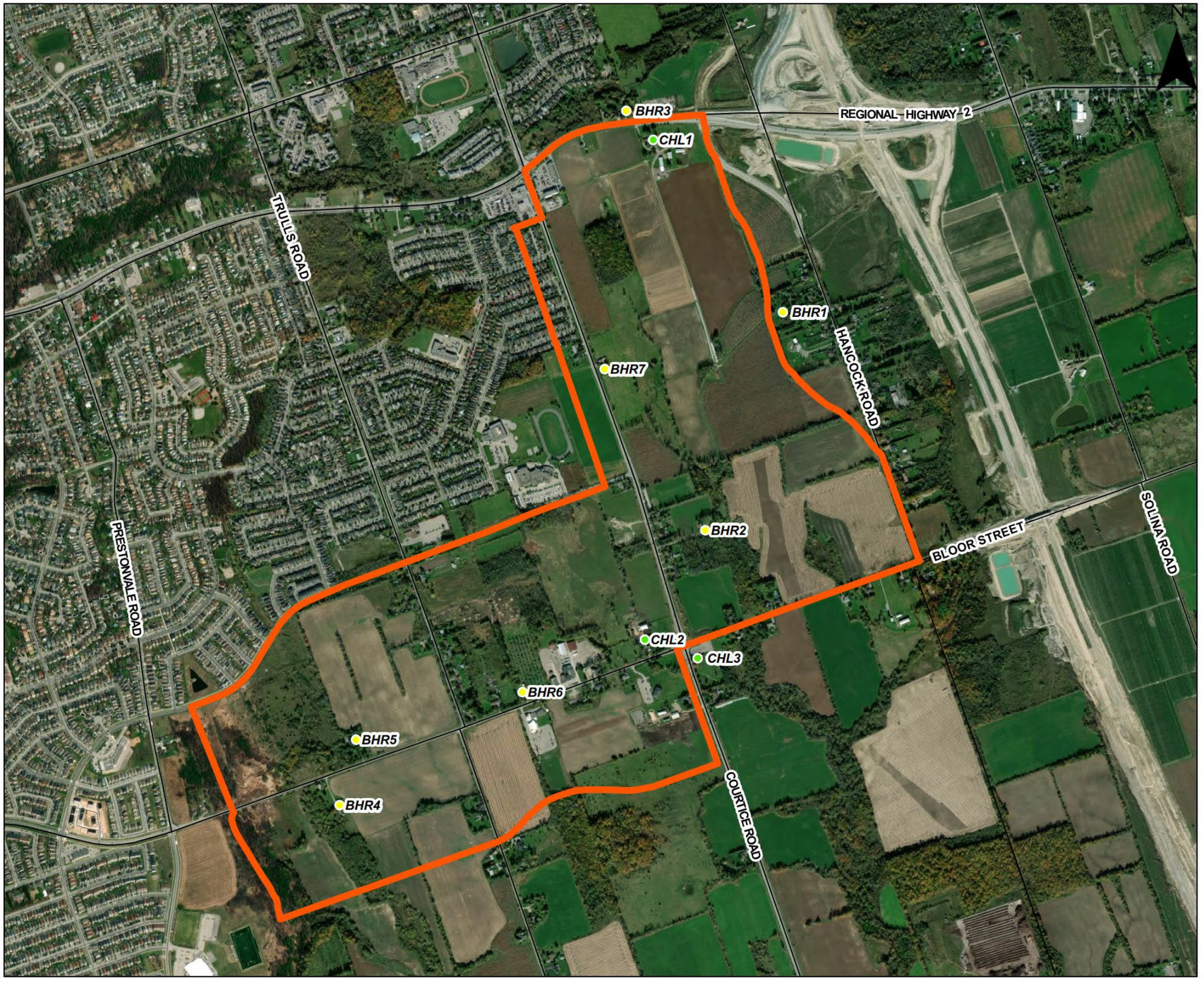
Figure 3-9

Map Portion: C:\Users\Stephanie.Chuter\Desktop\GIS\Courtice_SummaryReport\BASRIE\EN20-929 (GIS-Graphics)\Design\01_Reports\SummaryReport_ForRenteAArchaeology.mxd
Date Saved: 3/26/2019 10:33:33 AM

3.10 Built Heritage & Cultural Heritage Landscape Screening

- The BHCHL was completed to identify known and potential cultural heritage resources within the Study Area. The BHCHL will allow the Municipality of Clarington to quickly and efficiently identify properties with recognized or potential cultural heritage value or interest. This information is necessary to inform future planning decisions regarding the SESCP.
- In total, three CHLs and seven BHRs were identified as part of the BHCHL for the SECSP. This includes two secondary resources (CHL1 and BHR 2) , one primary (CHL 2) and three candidate resources (BHRs 4, 5 and 6) that are located within the Study Area, one primary resource (CHL 3), one secondary resource (BHR 1) and one candidate resource (BHR 3) that are located adjacent to the study area. These resources were identified as having heritage value by the Municipality of Clarington. Additionally, AECOM identified one property (BHR 7) with potential heritage value as part of the August 2018 field review.
- AECOM recommends that the cultural heritage value or interest of the seven built heritage resources and three cultural heritage landscapes will be assessed in a Cultural Heritage Evaluation Report (CHER) will evaluate the resources against *Ontario Regulation 9/06, Criteria for Determining Cultural Heritage Value or Interest* (O. Reg. 9/06) and *Ontario Regulation 10/06* Criteria for Determining Cultural Heritage Value or Interest of Provincial Significance (O. Reg. 10/06).

Figure 3-10: Built Heritage & Cultural Heritage Landscape Screening



Legend

- Study Area Location
- Study Area
- Built Heritage Resource
- Cultural Heritage Landscape

0 125 250 500 750

Meters

Southeast Courtice Secondary Plan and EA

Built Heritage Resources and Cultural Heritage Landscapes

Study Area

Jan 2019	1:12,500	Datum: NAD 1983 UTM Zone 17N

AECOM

Figure 10-2

Map location: \\cabot1\p\02\Acom\Projects\60622\60622-CAD_GIS\620-629 (GIS-Graphics)\Design\01_Reports\MXD_BHF\pmd2_StudyArea.mxd
Date Saved: 1/7/2019 10:00:33 AM

3.11 Natural Resources, Surface Water, Hydrogeology

- **Natural Heritage Systems (NHS)** – several categories of terrestrial and aquatic constraints have been identified in the SWS and further categorised as high, medium or low constraints. High constraint areas are the most sensitive which should be excluded and, in some cases, buffered from development. The constraints identified by the SWS will form the baseline conditions for development within the SECSP study area.
- **Flood Hazard** – floodplain mapping for existing conditions has been confirmed by the SWS and will be inform future land use and transportation decisions.
- **Erosion Hazard** – meander belt widths are identified which identify areas that should be excluded from development.
- **Headwater Drainage Features** - with CLOCA implementing headwaters mapping, the SWS provides these additional constraints to SECSP for inclusion in the assessment of the extent and type of land use being proposed for future development.
- **Top of Bank/Valleylands** – identification of valleylands and "top of bank" features identified constrain potential land development.
- **Hydrogeologic (water balance)** – Locations of groundwater recharge and discharge are identified by the SWS. Water Balance criteria provided by the SWS shall be reviewed to inform the extent and type of Low Impact Development (LID) implementation.
- The following considerations may be made when developing the Transportation Networks for the new development;
  - Major Roads may traverse High Constraint areas to ensure good connectivity;
  - Features outside of Study Area boundary that new connection could impact.

Table 3-9: Natural Resources (KPIs)

KPI	Low Performance (undesirable)	Moderate Performance (MANDATORY / min. DESIRED)	Maximum Performance (aspirational)
Imperviousness (%)	▪ <50% of all LID features in public lands (ROW-Park-Institutional)	▪ 50% of all LID features in public lands (ROW-Park-Institutional) (a range of +/- 1% is acceptable)	▪ >50% of all LID features in public lands (ROW-Park-Institutional)
Watercourse crossing	▪ <500 m apart	▪ Min. 500 m – 700 m apart	▪ >700 m apart
Recharge areas	▪ Post <75% pre-development permeability	▪ Post= 75% pre-development permeability (a range of +/- 1% is acceptable)	▪ Post=pre-development permeability
Protection of HDF	▪ <100% of High Constraint HDF ▪ <50% of moderate / low constraint HDF with function preserved/ modified	▪ 100% of High Constraint HDF ▪ 50-75% of moderate / low constraint HDF with function preserved/ modified	▪ <100% of High Constraint HDF ▪ >75% of moderate / low constraint HDF with function preserved/ modified

Figure 3-11 Constraints Mapping

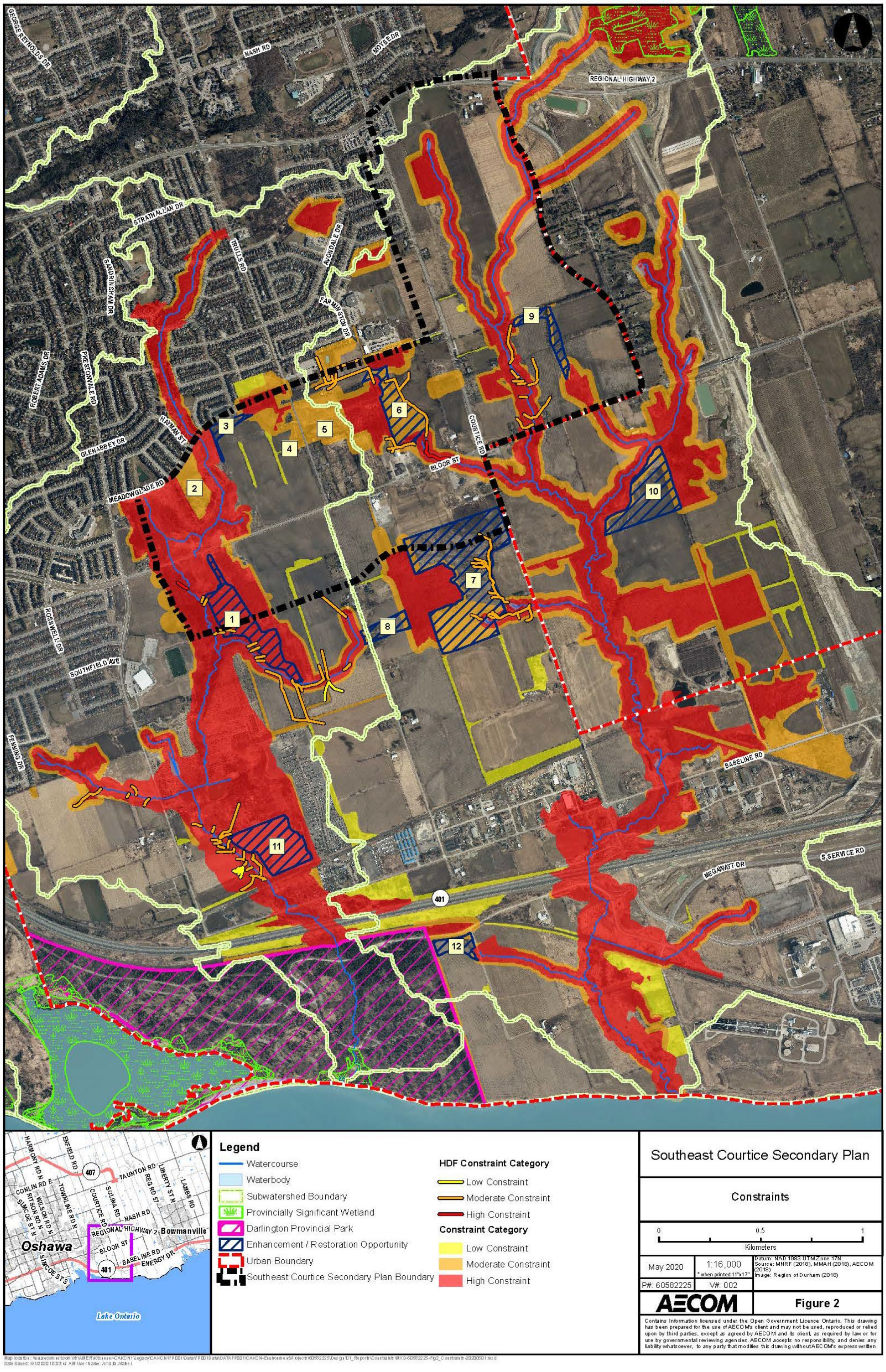


Table 3-10: Natural Resources - Opportunities & Constraints

Constraint Level	Included Features	Caveats	Management Recommendation
High	**Natural Hazards: Confirmed** • Meander Belt and Regulatory Flood Line **Natural Hazards: Requiring Detailed Site Investigation** • Slope Hazard and Long-term Stable Slope Setback (top-of-bank may be confirmed/refined by future studies) **Natural Heritage System Features: High Sensitivity/Quality** • Significant Woodlands • Wetlands over 0.5 ha that are part of the NHS and considered to be of high sensitivity/quality • Fish Habitat and Riparian Corridors **Other Constraints** • HDFs with a "Protection" classification (to be treated as Fish Habitat and • Riparian Corridors under the NHS)	Generally, no development should occur in High Constraint areas. Several specific exceptions may be applicable to Flood Hazard Constraints as outlined in the SWS and noted below; • Stormwater management facilities shall be encouraged to locate outside of the flood hazard. However, quantity control facilities may be permitted within the flood hazard provided they are outside of the 1:100-year floodplain. Quality treatment facilities may be permitted provided they are outside of the 1:25-year floodplain. Both quantity and quality facilities must: – ensure outlets are outside of the 2-year floodplain; and – demonstrate there is no impact on flood hydraulics and flood storage; – be located outside of the NHS as defined in the Watershed Plan. • Public infrastructure (e.g. roads, sewers, flood and erosion control works) and various utilities (e.g. pipelines) may be permitted if it has been demonstrated to the satisfaction of CLOCA that there is a demonstrated need to locate in the flood hazard. • Public parks (e.g. passive or low intensity outdoor recreation and education, trail systems) may be permitted if it has been demonstrated to the satisfaction of CLOCA that there is no alternative location outside of the flood hazard	No development intrusion is generally allowable. Permissible Uses include; ▪ Unpaved Trails / Elevated boardwalks through wetlands ▪ Naturalized parkland ▪ Stormwater ponds Arboretum Non-Permissible Uses include; ▪ Paved Trails ▪ Manicured parkland
Moderate	**Natural Heritage System Features: Moderate Sensitivity/Quality: Confirmed** • Wetlands over 0.5 ha that are isolated and/or of lower sensitivity/quality • Category 1 and 2 Hedgerows Identified as Linkages • Natural Heritage System Features: Requiring Detailed Site Investigations • VPZs (exact dimensions to be confirmed; some development may be acceptable if it is considered a 'compatible' land use) • SAR setbacks (e.g., butternut 50 m habitat radius, where a health assessment has not yet been completed) • Complex ELC units containing both High/Medium Constraint and Low Constraint, e.g., wetland/cultural meadow complex (detailed delineation and mapping of wetland boundaries required) • Agricultural/pasture lands evidencing hydrologic function (e.g., ponding, saturated soils, wetland plants) in which it may be appropriate to complete additional hydrologic analysis • Areas providing candidate/unconfirmed SAR habitat or SWH (presence/absence of habitat to be confirmed through further studies) **Other Constraints** • HDFs with a "Conservation" or "Mitigation" classification	Development plans affecting Moderate Constraint features will be subject to site-specific study and completion of a Scoped Environmental Impact Study (EIS) to determine whether the proposed actions will have a significant negative impact on the identified features/functions. Mitigation and/or compensation measures may be recommended to offset impacts. In the case of hedgerows, generally it is the linkage function that is valued, so some modification or even relocation of the hedgerow feature may be considered so long as the function is maintained. In the case of VPZs adjacent to High Constraint features, these should be subject to a scoped EIS to determine appropriate VPZ widths and ensure no impact to key form or function of the adjacent High Constraint. "Conservation" HDFs are expected to be classified as Fish Habitat and Riparian Corridor (per NHS) following the completion of any proposed relocation, if relocation is approved.	Some development intrusion may be acceptable, pending further site-specific study to confirm the presence/ absence or define the boundaries of features (e.g., in the case of candidate SWH or wetlands) or assess the degree of impact of the proposed works. **Permissible Uses include;** • Multi-use Trails / Elevated boardwalks through wetlands • Naturalized & manicured parkland • Environmental Learning Parks • Wetland Park – conservation/ education/ local tourism • Urban Ecology Centre
Low	**Natural Features not Eligible for Inclusion in the NHS** • Wetlands smaller than 0.5 ha • Woodlands that do not meet the criteria for Significant Woodlands per the Municipal Official Plan and do not exhibit other indicators of significance (rare species, hydrologic function, etc.) • Category 3 and 4 Hedgerows, and other hedgerows not assessed as part of the subwatershed study due to their lack of connectivity to other features (e.g., narrow windbreaks between agricultural fields) **Other Constraints** • Groundwater Recharge Areas • HDFs with a "No Management Required" classification	Features may be considered for incorporation into site-level plans where possible (e.g., parks or SWM blocks, preservation of individual specimen trees, alignment with rear lot lines or trail routes, etc.).	Development intrusion is not restricted by existing policies and regulations, but it is suggested that features be considered for incorporation into site-level plans where possible to avoid net loss of natural cover.

3.12 Summary – Development Potential

Strategically located along three regional corridors and in close proximity to the Courtice Employment lands and Courtice GO Station, the SECSP study area is positioned to absorb a significant portion of the projected growth for the Courtice Urban area. Particular emphasis is given at all levels of policy, to the importance of managing this growth.

Outlined below is a summary of development opportunities and constraints as recognised through the background studies, to ensure Southeast Courtice develops as a healthy, livable and sustainable community:

- **Natural Heritage and Landscape**. While the natural heritage system is a constraint to development, as a key part of Courtice's identity, integrated with parkland and active transportation linkages, it provides an opportunity to create a vibrant and connected network of public space that enables a variety of opportunities for active and passive recreation.
- **Efficient Land Use Pattern and Urban Form.** Intensification is strongly advocated and is an opportunity to realise a complete and affordable community through incorporating an appropriate mix of uses and housing types & easy access to public facilities and amenities.
- **Multimodal Community**. Complete Streets with a range of transportation options, including public transit and active transportation will be a priority and is an opportunity to move towards a low carbon community. Particular emphasis should be placed on a connected grid network of appropriate block sizes for effective connectivity and improved permeability.
- **Urban Design and Placemaking.** Regional Corridors often barriers to integrated community development, can present an opportunity to test innovative urban design approaches and planning techniques to transform a vehicular dominated arterial into an urban corridor, create a sense of place and celebrate the history and character of Courtice.
- **Sustainable Infrastructure and Low Impact Development.** Community Planning, particularly for predominantly greenfield sites provides an opportunity to promote energy efficiency, plan for resiliency, protect agricultural lands and optimise energy consumption through the sustainable neighbourhood planning, green infrastructure and low impact development to address climate change and maintain a region-wide strong sustainable base.

The Evaluation parameters identified through each study and summarised in **Table 3-11** provide a benchmark to measure & optimize planning outcomes. Used to assess Land Use Alternatives in Phase 2, they will also be used to refine and optimise the preferred Land Use plan in Phase 3.

Table 3-11: Evaluation Criteria (KPI)

KPI	Low Performance (undesirable)	Moderate Performance (MANDATORY / DESIRED)	Maximum Performance (aspirational)
The Built Environment - Efficient Land Use Pattern and Urban Form			
Gross Density	<50 residents + jobs / ha	50 residents + jobs / ha	>50 residents + jobs / ha
Residential Density in units/net ha (uph)	<85 uph – Regional Corridor (RC) <19 uph – Adjacent to arterials & edge of neighbourhood (NE) <13 uph - Internal to neighbourhood (NI)	**85 uph** – Regional Corridor **19 uph** – Adjacent to arterials & edge of neighbourhood **13 uph** - Internal to neighbourhood	>85 uph – Regional Corridor >19 uph – Adjacent to arterials & edge of neighbourhood >13 uph - Internal to neighbourhood
Built Form & Mix % (Low: Mid: High)	RC* - 50:50:0 NE/NI**< 100% ground related	**RC - 40:40:20** NE/NI - 100% ground related	RC - 30:40:30
Access to Elementary School (m)	>800 m (>10 minutes walking)	400 to 800 m (5 to 10-minute walking distance)	≤400 m (≤5-minute walking distance)
Shared Amenity	<75% located adjacent to public park/ community facility	75% located adjacent to public park/ community facility	>75% located adjacent to public park/ community facility
Housing Mix	>72% Ground Oriented <28% Apartment Units	72% Ground Oriented 28% Apartment Units	<72% Ground Oriented >28% Apartment Units
Affordable Housing	<13% non-market units <13% purpose-built rental units	13% non-market units 13% purpose-built rental units	>13% non-market units >13% purpose-built rental units
Land Use Mix	<10,000 m^2 of retail	10,000 – 13,500 m^2 of retail	>13,500 m^2 of retail
Mobility - Creating a Multimodal Community			
Access to Local Retail	>10 min walk shed (800 m)	10 min walk shed (800 m)	<10 min walk shed (800 m)
Access to Personal Services	>10 min walk shed (800 m)	10 min walk shed (800 m)	<10 min walk shed (800 m)
Transit Coverage Residences + Jobs (R+J)	50% (R+J) or higher > 400 m from transit stop/station	75% (R+J) within 250 m – 400 m from transit stop/station	75% (R+J) < 250 m from transit stop/ station
Access to Existing / Planned Amenities	% residential area with <3 facilities within 800 m walking distance	% residential area with 3 facilities within 800 m walking distance	% residential area with >3 facilities within 800 m walking distance
Av. Block Length	75% > 400 m	75% within 250 – 400 m	75% <250 m
Intersection Density	<45 intersections / sq.km	45 intersections / sq.km	>45 intersections / sq.km
Pedestrian/Bike Score	<0.75 (0 = poor; 1=desired)	0.75 (0 = poor; 1=desired)	>0.75 (0 = poor; 1=desired)

KPI	Low Performance (undesirable)	Moderate Performance (MANDATORY / DESIRED)	Maximum Performance (aspirational)
Sustainable Infrastructure			
Imperviousness (%)	<50% of all LID features in public lands (ROW-Park-Institutional)	50% of all LID features in public lands (ROW-Park-Institutional)	>50% of all LID features in public lands (ROW-Park-Institutional)
Watercourse Crossings (no.)	<500 m apart	Min. 500 m – 700 m apart	>700 m apart
Groundwater Recharge Areas	Post <75% pre-development permeability	Post= 75% pre-development permeability (a range of +/- 1% is acceptable)	Post=pre-development permeability
Protection of HDF	<100% of High Constraint Moderate / low constraint - Function not preserved	100% of High Constraint HDF Moderate constraint - Function preserved	<100% of High Constraint Moderate / low constraint - Function preserved
Natural Heritage and Landscape			
Post Development Tree Cover Target	<30% of total site area	30% of total site area (a range of +/- 1% is acceptable)	>30% of total site area
% Ecologically Sensitive Areas Protected, restored, enhanced	<100% high constraints protected	100% high constraint area protected	100% high constraint area protected • Mitigation and/or compensation to offset impact of development in Moderate constraints areas • Incorporation of low constraint features into site-level plans • Enhancement of the existing NHS as recommended in the SWS
Parkland Dedication	< 1ha/300 dwelling units	1ha / 300 dwelling units	>1ha / 300 dwelling units
Barrier within Secondary Plan Boundary	Fence, local road	Collector road (min 23 to 26 m ROW) or higher classification with min. 2 rows of tree planting)	Vegetated buffer including berms, trees, vegetation
Urban Agriculture (local food production)	Lot level only - Garden space in Semi-detached Detached dwellings	Lot level + Dedicated Lots (programmed space within parkland dedication)	Lot level + Dedicated lots (Orchards / Fruit / Vegetable gardens integrated into public parks, buffers to major roadways, vegetation protection zone or enhancement /restoration areas

4. Key Principles & Big Moves

Protect & Enhance Environmental Protection Areas

Preserve and enhance for ecosystem value, but look for opportunities to serve additional functions as

- Part of the stormwater management system
- Places of passive or active recreation – either within or adjacent
- Part of the active transportation system

Manage the Regional Corridors

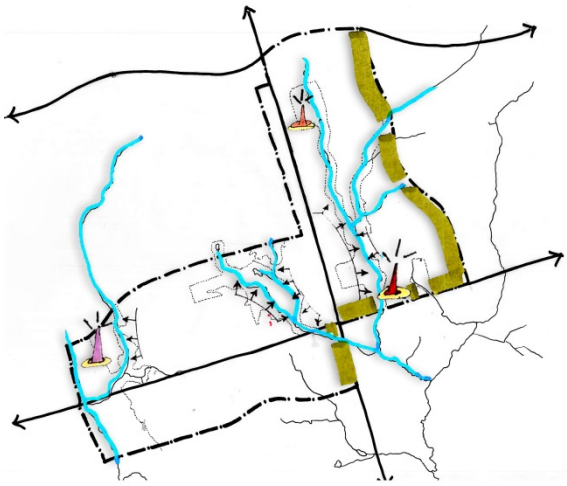
So often the restrictions around Regional Corridors create barriers, become back of house spaces or are mitigated in unappealing ways within our communities

- Create attractive, walkable, destinations along the Regional Corridors
- Undertake urban design and land use planning that works with rather than against these roadways
- Orient development to the Regional Corridors

Use the Landscape as Placemaking Tool

They are the defining characteristic of the area

- Use watercourses and gateway features, for recreation, to define sub area boundaries
- Build roads and development to enhance them not erase them
- Maintain and enhance views across ravines and into natural heritage areas;
- Use views or buffers from agriculture as benefits not drawbacks – berms as parks, setbacks as opportunities for views etc.



Create a Heart for Southeast Courtice

- Large scale retail won't be supportable here, but a small-scale concentration of 10,000 to 13,000 m^2 could provide opportunities for eating, grocery shopping and socializing
- Incorporate schools or community facilities into retail area to add critical mass
- Build on existing activities such as churches, flea market etc. to enhance existing community patterns and social integration

Build for Everyone

- Incorporate a wider mix of housing types (72% ground oriented, and 28% apartment style units) but also look at allowance for laneway suites, basement suites, lock off suites in apartments, etc.
- Approximately 13% of units within the SE Courtice Plan will need to be non-market units affordable to households making less than $40,000 per year and an additional 13% as market rental for those between $40,000 and $60,000 per year

Phase Development

- Move from west to east to support infrastructure implementation
- Include retail into later phases when population can support it

5. Conclusion

The future development of Clarington will be pursued in a manner that ensures current needs can be met without compromising the ability of future generations to meet their own needs. *(2.2.1 Clarington Official Plan 2018)*

SECSP is a significantly sized development and will have its own identity, while contributing to the larger Courtice and Clarington communities. Although predominantly residential, it will feature a mix, location and intensity of uses that allow many needs to be met locally, while also having access to broader amenities in the surrounding areas.

The multi-disciplinary background review outlined in this report provided an understanding of the development context and laid the foundation for further planning and subsequent development to realise this vision for the Southeast Courtice Secondary Plan Area.

Informed by a Phase 1's detailed understanding of the existing policy direction, extensive background analysis, key Urban Design (UD) and Sustainability Principles (SP) and the performance evaluation criteria, Phase 2 involved the development of three alternative landuse concepts whose approach and strategies were informed by globally accepted, locally applicable best practices and precedent examples for good Neighbourhood Design (ND) and Community Development (CD).

While all land use options sought to ensure the protection of highly sensitive environmental areas and to create complete and healthy neighbourhoods with a focus on active transportation, mix of land uses and diverse housing types and tenures within walking distance to shopping, services, schools and amenities, each alternative explored a unique competing development objective.

Further refinements were made to the Landuse Scenarios, based on stakeholder input and the identified Key Performance Indicators (KPIs) leading to the development of the Preferred Land Use Plan, the Draft Secondary Plan, Sustainability and Urban Design Guidelines to be further implemented through the use of a Zoning By-law.