MUNICIPALITY OF EAST HANTS

DECEMBER 2014

141-13379-00

GROWTH MANAGEMENT REVIEW

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Executive Summary

This Growth Management Review (GMR) is a process that considers land use infrastructure to help plan how and where East Hants should grow over a longer term planning horizon. Through Section Three of the East Hants Municipality Planning Strategy, Council acknowledges the significance of planning for the dynamic growth particularly in communities along Highway 102. The GMR also fits within the legislative context of the East Hants Municipal Planning Strategy, which mandates a Growth Management Review be completed for Growth Management Areas (GMA) every five years and Reserve Areas (GRA) every 10 years.

This report respects those steps outlined under Policy P3-19 of the East Hants Municipal Planning Strategy, with the exception of requirement P3-13 (i), 'Agricultural Impacts Review'. With that said, Task 4.9 will incorporate requirement (i) into future land use and boundary expansion recommendations and recommendations included in the Section on Policy Review.

This Growth Management Review is a response to the desire for growth in East Hants to occur in a sustainable manner by identifying suitable areas where future residential and commercial development should occur and reviews the opportunities and constraints of sustainable, cost efficient growth. Areas of investigation have included reviewing population densities, remaining serviceable land, soft services, transportation and environmental analysis.

This report integrated its findings with those of the Sewer Capacity Study (SCS) (WSP, 2014). This SCS assisted in understanding the fiscal implications associated with wastewater infrastructure and potential upgrades within the GMA and GRA boundaries and considered the potential for undeveloped areas within each of them.

The GMR looks at the existing capacity of each of the GMA and GRAs existing capacity to accommodate growth. This involved examination of the study area's developable lands, environment constraints; infill and densification opportunities; wastewater infrastructure and servicing constraints. The focus is a high-level analysis of factors and potential growth opportunities of the study areas.

We recognize that implementing the recommended densities urbanized areas and mandating Conservation Design guidelines in GRAs will require a level of commitment from Council and community consultation during implementation. With regard to increasing density, developing design guidelines are key to ensuring that intensification and higher density urban growth are done well and gains community support.

The impact of community services, environmental factors and transportation are examined at through Sections 5 to 8. They conclude with recommendations for Council to consider amending sections of the existing Growth Management Policies and summary of recommendations from this report.

The East Hants MPS and Secondary Planning Strategies are the enabling tools and by their nature are more comprehensive and consider details at a neighbourhood scale. These plans may be undertaken to further assist in implementing the findings from this study.

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INTRODUCTION

This Growth Management Review was initiated by the Municipality of East Hants for the purpose of identifying suitable areas where future residential and commercial development should occur within the Municipality. The review identifies the growth and development potential of the East Hants communities; and reviews the opportunities and constraints of sustainable, cost efficient growth.

Communities can grow physically through an increase in population, or increase in land area; however, unplanned physical growth can result in undesirable stress on existing municipal services such as water, wastewater, transportation and other systems. A Growth Management Review (GMR) is a process that examines land use and supporting municipal infrastructure to better understand how and where municipalities should grow over a long term planning horizon. A GMR is a response to the Municipality's desire for growth to occur in a sustainable manner by addressing economic, social and environmental considerations.

1.1 MUNICIPAL GROWTH MANAGEMENT AREAS

The review is focused on the existing boundaries of the *Municipal Growth Management Areas* (GMA) and *Growth Reserve Areas* (GRA). Prior to enabling any changes to these boundaries, Policies P3-18 and P3-19 of the *East Hants Municipal Planning Strategy* require completion of an impact assessment and land use suitability review.

Generally the steps outlined under Policy P3-19 include a review of whether growth management, or reserve boundary area can accommodate changing community needs and future growth. Based on this review, Municipal Council may expand or reduce existing boundaries, or create a new GMA, or new GRA.

This review outlines the following:

a) Estimation of population density within the *Growth Management* and *Growth Reserve* areas;
b) Identification of the remaining supply of serviced land within the GMA's and the anticipated rate of consumption;
c) Determination of the desired density required to achieve optimal efficiency and cost effectiveness in the delivery of services and infrastructure;
d) Determination of the ability to provide "soft" services such as schools, police, and fire protection;
e) Identification of the environmental impacts which may occur as a result of increased development activity;
f) Determination of the adequacy of transportation routes;
g) Determination of the ability to provide adequate recreation and open space opportunities;
h) Identification of the financial costs associated with modification of existing boundaries; and
i) Identification of other planning related concerns as applicable.

This Growth Management Review is based on the requirements outlined above and findings outlined in the Sewer Capacity Study (WSP, 2014).

Research conducted for this review involved the assessment of regional demographics, proposed future developments, land use patterns, and existing wastewater service provided by East Hants. Based on the results of these analyses WSP provides boundary recommendations for the GMAs and GRAs and associated cost implications.

This report summarizes these analyses and provides planning recommendations to facilitate orderly and planned growth of the Municipality for the next 30 years, and to improve the provision, quality and affordability of services in the region.

1.2 WASTEWATER INFRASTRUCTURE CHARGE

Currently, East Hants collects a capital cost contribution of $3,000 for each new residential unit being serviced. This charge has been in place for nearly 15 years and has not been updated during that time. Based on the Sewer Capacity Study (WSP 2014), its recommends the continuation if a uniform capital cost recovery charge of $5,000 per housing unit. This increase is calculated on projected cost for upgrades associated with the sustainable management of the wastewater infrastructure in each of the GMA's. East Hants may elect to modify this updated infrastructure charge to fund long-term upgrade and of the Wastewater Infrastructure System.

2

BACKGROUND AND CONTEXT

2.1 EAST HANTS

East Hants is large regional municipality centrally located in the Province of Nova Scotia along major transportation arteries servicing the capital of Halifax (See Figure 1). Its land area is 1,887 sq.km with a population of approximately 23,195 people (census 2011). East Hants is one of fastest growing Municipalities in Nova Scotia. It has a 5 year 3.4% growth rate that exceeds the Provincial rate of 0.9%. In total there are 59 communities in East Hants and of these six villages is contained within a Growth Management Area. Figure 2 illustrates the location of the main communities.

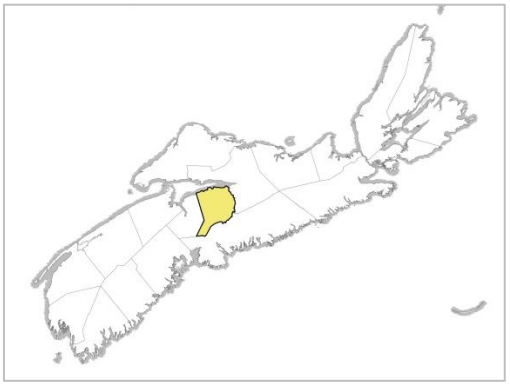


Figure 1: Location of East Hants

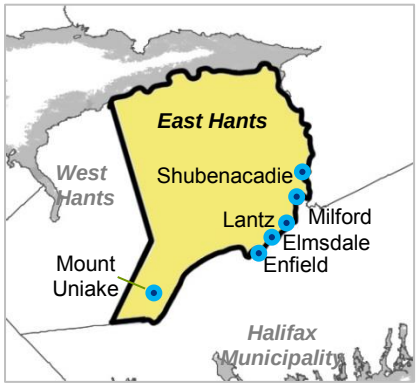


Figure 2: Detail of East Hants GMA's

In recent years, Communities and Towns have encountered increased demands to provide high quality, sustainable municipal services to residents. In response to these challenges, the East Hants Municipal Planning Strategy (MPS) seeks to "*deliver services to its residents in a financially responsible manner, while fostering sustainable development, preserving the natural environment and creating a high quality of life for all*". This MPS established guidelines and policies for growth management to guide the growth and public investment. The principle direction of these policies is, "*to infill existing urbanized areas and direct and focus future urbanized growth in specified areas*." These policies are intended to reduce costs,

provide high quality, efficient services to the community and reduce the negative and sometimes long-term unsustainable costs associated with urban sprawl.

The goals of the MPS are:

- To manage growth for orderly and economic development in context with servicing programs.
- To support the preservation and protection of areas, buildings, sites and features that illustrate and enhance the Municipality's heritage and character.
- To balance opportunities for walking, bicycling, and public transit with opportunities for traveling by car within the Municipality.
- To manage and direct orderly infrastructure expansion to minimize and eliminate urban sprawl.
- To reinforce village centers as the focal point of commercial and community activity within communities.
- To allow flexible policies and regulations which permit opportunities for the principles of new urbanism to be incorporated into residential and subdivision design and development.
- To create communities that are both attractive and functional.

3

GROWTH MANAGEMENT AREAS

To manage future growth within East Hants in a responsible manner, Section 3 of the East Hants MPS identifies areas for growth and investment, called Growth Management Areas (GMA), and for long-term growth, called Growth Reserve Areas (GRA). A GMA encourages compact development on available lands, to be designed in a manner that encourages the efficient delivery of municipal infrastructure and services. A GRA is intended to reserve lands for future residential and commercial development with the highest possibility of being developed in a manner that is logical and cost efficient for the Municipality. Therefore they are intended to remain largely undeveloped and without access to municipal water and sewer services. A GRA boundary Table 3.1 provides a summary of GMAs and GRAs within East Hants.

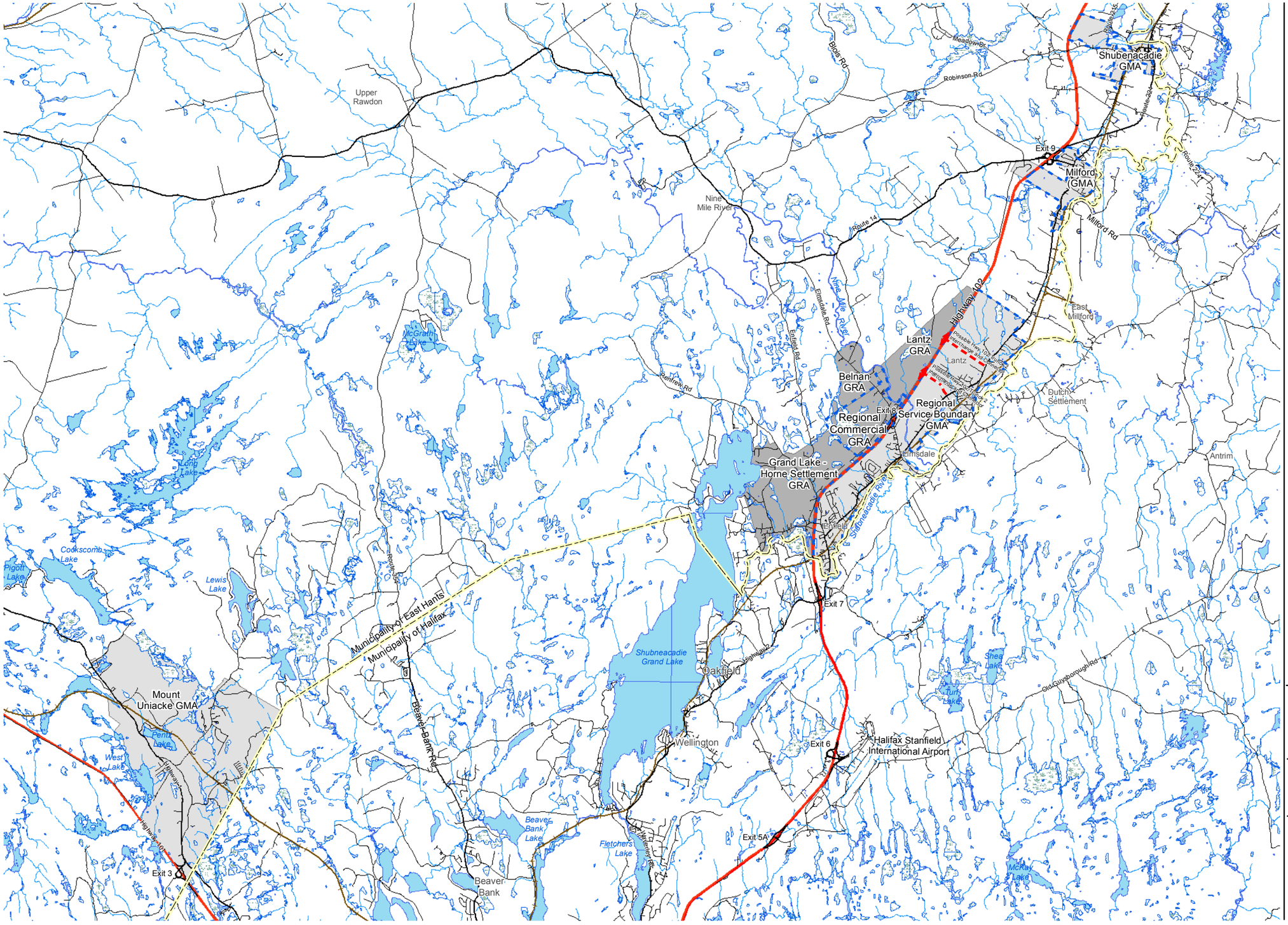
The GMAs and GRAs of East Hants are:

GMAs	Sanitary Services	Water Services
1 - Regional Serviceable Boundary (Enfield, Elmsdale, Lantz)	Yes	Yes
2 – Milford GMA	Yes	No
3 - Shubenacadie GMA	Yes	Yes
4 - Mount Uniacke GMA	No	No

GRAs	Sanitary Services	Water Services
1 – Lantz GRA	On-site	
2 - Grand Lake/Horne Settlement GRA	On-site	
3 – Belnan GRA	On-site	
4 – Regional Commercial GRA	Yes	Partial

The purpose of this Growth Management Review is primarily to review the existing boundaries of the existing GMAs and GRAs based on the requirements outlined in Polices P3-18, 19, 28 and 29, which permit a review of the boundaries.

The following Map 1 illustrates the GMAs and GRAs of the Municipality of East Hants. Subsequent Maps 2-14 can be found in Appendix A.



EAST HANTS
We live it!

Growth Management Review

MAP 1
CONTEXT MAP

0 0.4 0.8 1.6 2.4 3.2 4 km

SCALE 1:125,000

NORTH

WSP
1 SPECTACLE LAKE DRIVE
DARTMOUTH, NOVA SCOTIA CANADA, B3B 1X7
PHONE: 902 835-9955 - FAX: 902 835-1645 - WWW.WSPGROUP.COM

Name: 141-13379-104

Population Calculations

Population calculations for each of the communities are aligned with those of the Sewer Capacity Study (2014, WSP). For the purposes of this study, the existing residential population densities for residential development within each of the communities have been calculated using house counts based on the most recent aerial photos and mapping of the study area. The Study assumes 3.35 persons per dwelling unit. Although this figure is slightly greater than the existing household size (2.6 persons per dwelling unit), it was assumed that this higher household density would provide an appropriate contingency for system design consistent with the future growth potential of young families. To remain consistent, this contingency is also used to calculate the anticipated rate of consumption and financial impacts associated with wastewater infrastructure improvements.

3.1 MILFORD GMA

Milford is located in the Shubenacadie River Valley, east of Highway 102 and west of the Shubenacadie River. The Milford Industrial Park is located to the west of Highway 102. Milford is home to the regional junior-high and high schools. Municipal wastewater services are offered within the GMA boundary. Water service is limited to on-site for both residential and commercial development.

It is estimated the Milford GMA (Map 3) currently has a serviced population of 1,109 persons. Table 3.4 outlines potential growth scenarios assuming a higher growth rate of .5%, median rate of 0.25% and no growth.

Table 3.4 - Milford Serviceable Population Growth*

	2014	2016	2021	2026	2031	2036	2041	2046
High Growth (0.5% per year)	1,109	1,120	1,148	1,177	1,207	1,238	1,269	1,301
Medium Growth (0.25% per year)	1,109	1,115	1,129	1,143	1,157	1,172	1,186	1,201
No Growth (0% per year)	1,109	1,109	1,109	1,109	1,109	1,109	1,109	1,109

** Based on House count - number of house x 3.35 person per house*

Using the higher estimated population growth within the Milford GMA would result in 192 additional persons over 35 years, or 57 additional units (based on 3.35 persons/unit).

3.1.1 Remaining Serviceable Land

The Milford GMA is approximately 276 Ha (682 ac) in area. The available land for infill (highlighted in Map 3A), is approximately 44.2 Ha (109.2 ac), which represents approximately 16% of the total GMA is available for infill.

3.1.2 Desired Density

Presently, the population density of the gross developed area is approximately 4.8 persons/Ha, or 2 persons/acre. Dependent on the use on-site water, maintaining the existing development pattern of two (2) persons/acre is likely. Table 3.5 provides a summary of the potential infill available on undeveloped lands under the exisitng density of 4.8 persons per Ha (2 persons per ac).

Table 3.5 - Milford Potential Density on Infill lands

Density	Infill Area (ac)	persons/acre	Additional Population	Units	Units/acre*
Maintaining	109	2	218	65	0.6

**Based on House count - number of house x 3.35 person per house*

Infill of available lands using the existing development pattern of 2 persons per acre would permit growth trends to continue for the 35 year growth expectation.

Increasing density in a manner that maximises use of existing services and wastewater infrastructure lines would assist in limiting costs associated with such services. The principal factor limiting density is the limitations of on-site groundwater capacity. Increasing the density Milford's could be considered is serviced by a central water supply and assist in establishing a more compact village form of development.

3.1.3 Anticipated Rate of Consumption

At an assumed higher growth, the rate of land consumption at 5 persons/Ha (2/ac), of the available 44.2 Ha, would be 38 years. Based on this factor it is recommended the Municipality maintain the existing Milford GMA boundary to encourage infill on developable lands within the service boundary.

3.1.4 Financial Impact

The existing Milford Wastewater Treatment Plant (WWTP), a Sequencing Batch Reactor (SBR) facility constructed in 2012, has plenty of treatment capacity to service any anticipated future growth within the Milford Service Boundary. The existing WWTP currently meets its discharge permit requirements and is anticipated to meet future regulatory requirements evolving from the CCME Wastewater Strategy. The Sewer Capacity Study (WSP, 2014) recommends that existing central wastewater collection and transmission systems within the Milford Service District be extended as required to meet the servicing requirements of any new development that will be serviced by the Milford Wastewater Treatment Plant (WWTP).

Charges for Local Improvements should continue to be applied to support the upgrade and expansion of the Milford wastewater collection and transmission system necessary to support future development as it is approved.

3.1.5 Recommendations

- Maintain the existing boundary for the Milford GMA
- Consider encouraging increased density through provision of central water supply to Milford.
- Encourage new development within the Milford GMA to take advantage of the available capacity within the existing Milford Wastewater Treatment Plant.
- Continue to collect the wastewater infrastructure charges from all future development within the Milford Service District to fund operation and maintenance of the local wastewater collection, transmission and treatment system within the service boundary.

3.2 SHUBENACADIE GMA

Shubenacadie is the most northern GMA of East Hants and is located along the Shubenacadie River and adjacent Highway 102 transportation corridor and the CNR Railway alignment which run from Truro to Halifax. The designated Shubenacadie Growth Management Area (Map 2) provides central services including water and sanitary sewer services.

Currently, it is estimated the Shubenacadie GMA has a serviced population of 874 persons. Historically, growth in the area has been limited, in large part due to constraints associated with limited capacity of the sanitary wastewater treatment plant (WWTP). Table 3.1 outlines potential growth scenarios within the Shubenacadie GMA from no growth (0%) to a maximum growth rate of 0.5%/yr.

Table 3.1 - Shubenacadie Serviced Population Growth*

	2014	2016	2021	2026	2031	2036	2041	2046
High Growth (0.5% per year)	874	883	905	928	951	975	1,000	1,025
Medium Growth (0.25% per year)	874	878	889	901	912	923	935	947
No Growth (0% per year)	874	874	874	874	874	874	874	874

** Based on house count - number of house x 3.35 person per house*

Assuming the higher estimated population growth scenario of 0.5% per year, would result in the arrival of 151 additional persons or 45 units (based on 3.35 persons/unit), over 32 years, which averages out at 1.5 new housing units per year.

3.2.1 Remaining Serviceable Land

The Shubenacadie GMA is approximately 233 Ha (576 ac) in area, of which 89.3 Ha (233 ac) is already developed. The land available for infill (highlighted in Map 2) is approximately 143.7 Ha (355 ac in area), which represents approximately 61% of the total GMA.

3.2.2 Population Density

The current population density of the existing developed areas within the GMA is approximately 5 persons/acre (12.5 persons/Ha). The largest parcel of land area for potential infill is subject to a Development Agreement for the Heights of Shubenacadie. It is approved for an equivalent of 500 single unit dwellings. Based on 3.35 persons per unit, the proposed gross population density for this single development is approximately 7 persons/acre (17.5 persons/Ha).

Population growth and increased density in developments such as the Heights of Shubenacadie could support the expected upgrade or replacement of the existing wastewater treatment plant. Table 3.2 outlines three density scenarios or potential growth for the remaining lands including existing density, medium increase and higher increase. It is evident that the remaining undeveloped area within the GMA has the potential to accommodate significantly more housing units than may be expected over the study time horizon.

Table 3.2 - Shubenacadie Potential Density on Infill lands

Density	Infill Area Ha	Infill Area (ac)	Persons/ acre	Potential Additional Population	Units	Density Units/acre*
Existing	143.7	355	5	1,775	530	1.5
Medium Increase	143.7	355	7	2,485	742	2.1
Higher Increase	143.7	355	10	3,550	1,060	3.0

**Number of houses x 3.35 person per house*

Infill of available lands using the existing development pattern with a density of 5 persons per acre within available lands would permit existing growth trends to continue well past the 35 year growth expectation. In part, the low historic growth trend has been a result of the insufficient capacity of the existing wastewater treatment plant to service new development. To support longer-term cost efficient infrastructure improvement and the replacement of the WWTP, this report recommends the Municipality consider the medium increase in population density of seven (7) persons/acre (17.5 persons per Ha).

3.2.3 Anticipated Rate of Consumption

If we assume the higher density of 10 persons/acre, the total land consumption would be approximately 9 Ha, of the available total 143.7 Ha, over the 35 year time horizon. Table 3.3 provides a summary of the population increase that may be anticipated within the GMA should the higher growth rate be achieved. If additional development is encouraged, resulting in matching the present regional growth rate of 1.5 %/yr the additional population would be 598 for a total serviced population of 1,472 persons. The rate of land

consumption at a density of seven (7) persons/acre would be approximately 85 acres (34.4 Ha) over the 35 year time horizon.

Table 3.3 – Accelerated Growth

Growth Rate (%)	Number of Years	Total Population (persons)	Population Increase (persons)	Lot Increase
0%	35	874	0	Nil
0.5%	35	1040	166	50
1.0%	35	1238	364	109
1.5%	**35**	**1472**	**598**	**178**
2.0%	35	1748	874	261
2.5%	35	2074	1200	258

3.2.4 Financial Impact

No additional growth can currently be accommodated within the GMA without replacing or adding capacity to the wastewater treatment plant. As recommended by the Sewer Capacity Study (WSP, 2014), a new wastewater treatment plant should be constructed in the near future to accommodate a minimum serviced population of 1,400 persons (including commercial development). The Sewer Capacity Study outlines the capital cost of upgrades. If there is none to minimal growth in Shubenacadie cost of upgrades considered per household is shown to be approximately $95,000. The Report suggests that encouraging new development could help to defray the cost of a new WWTP and reduce per household cost.

3.2.5 Wastewater Treatment Plant Requirements

Encouraging development to support infrastructure renewal in Shubenacadie

The existing Shubenacadie Wastewater Treatment Plant (WWTP) is reaching the end of its serviceable life and has little available capacity to service future growth. While the existing WWTP currently meets its discharge permit requirements, it is anticipated that future regulatory requirements evolving from the CCME Wastewater Strategy will require upgrade or replacement of this facility in the near future.

The lack of available treatment capacity at the existing WWTP is a significant constraint on any new development within the service boundary. Accommodation of larger residential development projects within the service boundary, such as Heights of Shubenacadie, will require the construction of a new WWTP. The 2007 Development Agreement for Heights of Shubenacadie establishes an approach that could be considered for future subdivisions and single unit development in Shubenacadie. It

acknowledges that, “initially the Municipality agrees to provide no sanitary sewage capacity” and that the onus for making improvements to the wastewater system is on the Developer. It further states that to enable future off-site improvements to the Shubenacadie central sanitary sewer and water system, the developer will be required to contribute capital cost infrastructure charges at the same rate as currently prevails within the boundary of the East Hants Regional System.

The high-level capital cost for construction of the new WWTP has been estimated at $3.75 million, including allowances for design fees (10%) and contingency (15%). An option the Municipality should consider is encouraging new development within the Shubenacadie GMA boundary to recover a portion of the capital and maintenance costs of the new WWTP. Construction of a new plant would therefore provide enhanced service to the existing community, while also supporting new development within the service boundary.

Stand Alone Capital Cost Funding

As outlined in the Sewer Capacity Study, if we assume one-third of the capacity of a new wastewater treatment plant is required to service existing development within the community, then the remaining two-thirds of the WWTP capacity would be available to service future development. Of the new WWTP’s estimated capital cost of $3.75 million, approximately two-thirds could be attributed to future growth within the service boundary. If an infrastructure charge for wastewater connection of $5,000 per new residential unit is assumed, the total cost of the excess capacity of the new WWTP could be recovered with the long-term development of 500 residential units. The Heights of Shubenacadie development is approved for this number of new units and could potentially assist in recovering a major share of the projected cost of the new WWTP. The remainder of the cost of the new WWTP could be borne by the Municipality, or existing residents.

Shared Capital Cost Funding

Alternatively, to assist in funding the construction of a new WWTP, the Municipality may wish to access funding from more senior levels of government through programs such as the Provincial-Territorial Infrastructure Component (PTIC) of the Building Canada Fund (BCF), which supports infrastructure projects of national, regional and local significance that contribute to economic growth, a clean environment, and stronger communities. Over the next ten years, the new PTIC-SCF of the Building Canada Fund allocates to municipalities within Nova Scotia approximately $42.6 million per year, with the funds distributed to the municipalities across the province according to total population.

The new Shubenacadie WWTP would qualify for funding under the Small Communities Fund (SCF) component of the PTIC. Under the current formula for the PTIC-SCF, the Municipality would be responsible for one-third of the capital cost of the new WWTP or $1.5 million. Through collecting capital cost contributions from new development, East Hants could recover their portion of the capital cost ($1.5 million based on a $5,000 charge) with the development of 300 residential lots or 60% of the Heights of Shubenacadie development.

Recommendations:

- Consider increasing population density of the GMA to seven (7) persons/acre (17.5 persons per Ha) with the intent of encouraging a pattern of development that supports longer-term cost efficient infrastructure improvements and the replacement of the WWTP.
- Support new development within the Shubenacadie GMA boundary to recover a portion of the capital and maintenance costs of the new WWTP. The new plant would provide enhanced service to the existing community and new development within the service boundary.
- Maintain the existing boundary for the Shubenacadie GMA
- Continue to collect wastewater infrastructure charges on new development within the Shubenacadie GMA.
- Update the wastewater infrastructure charge to reflect recommendations of the Sewer Capacity Study recommendations
- Seek additional funding support for the construction of a new WWTP from Federal and Provincial levels of government through programs such as the PTIC-SCF component of the Building Canada Fund.

3.3 REGIONAL SERVICEABLE BOUNDARY GMA

The Regional Serviceable Boundary GMA comprises serviced areas within the Communities of Enfield, Elmsdale, and Lantz, and includes an area of residential, commercial, institutional and industrial development (Map 4). The area is bounded by the Shubenacadie River on the east, and south Highway 102 on the west, and the rural area to the north.

It is estimated the Regional Serviceable Boundary currently has a serviced population of 6,593 persons. Recent population growth within the Corridor has been approximately 1.25% per year or 6.4% over 5 years. Table 3.6 outlines growth projections under potential growth scenarios for the Corridor using information provided in the East Hants Socioeconomic Study.

Table 3.6 - Regional Serviceable Boundary GMA Population Growth*

	2014	2016	2021	2026	2031	2036	2041	2046
Population Projects Based on Historic Change (1.25%/yr)	6,593	6,759	7,191	7,651	8,141	8,662	9,217	9,806
Population Projects Based on Lower Growth (0.4%/yr)	6,593	6,646	6,780	6,917	7,057	7,199	7,345	7,493
Average of two (2) methods (0.825%/yr) – Minimum Growth	6,593	6,702	6,986	7,284	7,599	7,931	8,281	8,650

** Based on House count - number of house x 3.35 person per house*

Using the average of the two methods (0.825%/yr), which is considered a conservative assumption, results in a projection of an additional 2,057 persons over 35 years, within the Regional Serviceable Boundary GMA.

3.3.1 Remaining Serviceable Land

The Regional Serviceable Boundary GMA encompasses an area of approximately 1,501 Ha (3,711 ac). Available undeveloped land for infill within the GMA (highlighted on Map 4A), is approximately 740.5 Ha (1,830 ac). This represents approximately 49% of the overall GMA that can be considered for infill in the future.

As stated in the Sewer Capacity Study (WSP) the present capacity of the Regional wastewater treatment plant constrains future development on the remaining on serviceable lands in the GMA. According to assumptions in the Sewer Capacity Study, the Regional system has capacity to service an additional

growth equaling 1,000 people. The report further states, development in the GMA that has been approved, or being constructed represents approximately 649 people. The remaining capacity is a serviceable population of 351. If we assume the average of 3.35 person per single unit, the remaining capacity may accommodate approximately 104 units.

3.3.2 Desired Density

Development densities across the Regional Serviceable Boundary vary depending on the history, age and configuration of the subdivisions. In general, the average population density within the Regional Serviceable Boundary ranges from 8 to 12 persons per acre (PPA) or 20 to 30 persons per Hectare (PPHa).

Based on current proposed developments in the District and goals of the providing a range of home types at on or near existing services, it is recommended that future residential developments within the Regional Serviceable Boundary should be presumed to have a population density of 18 PPA or 45 PPHa). All undevelopable lands, including floodplain, wetlands, and environmental buffer zones adjacent brooks and streams will be excluded from the future population density calculations.

Figure 3.1: Density of a community at 18 persons/ acre | Source: Transportblog.co.nz

Table 3.7 provides a summary of the potential additional population that may be accommodated within the undeveloped area within the Regional Serviceable Boundary.

Table 3.7 – Potential Additional Population on Available Lands in the RSB

Infill Area (ac)	persons/acre	Additional Population	Units	Units/acre*
1,830	18	32,936	9,832	5.4

**Based on House Count - number of house x 3.35 person per house*

Infill of available lands using the proposed density of 18 PPA would permit growth trends to continue well beyond the 35 year growth expectation of 2,116 persons. Should the larger developments proposed in Lantz proceed the total number of additional residents will increase significantly.

Form of Development

Residential Development within the Regional Serviceable Boundary shall encourage development of "complete communities" which provide the services and opportunities for new and existing residents to live, work, and stay active in close proximity and support the diverse needs for residents at all stages of life. The proposed density of 18PPA assists in the development and sustainability of such communities. In regards to increasing density, it is advised East Hants develop design guidelines to ensure that intensification and higher density urban growth is done well and gains community support.

Within each GMA, residential development should generally incorporate a **variety of housing options**, with the possibility of supporting existing, or new commercial uses, open spaces, and public amenity areas. The two types of residential development include:

Low Density Residential

Low Density Residential uses include single detached and semi-detached housing, on lots ranging from 34' to 50' lot frontages'. Low Density Residential housing should accommodate a variety house sizes, price ranges and architectural treatments.

Streetscape at 18PPA – Lakeside, Washington

Medium Density Residential

The Medium Density Residential should provide a range of housing types to residents and accommodate building forms ranging from townhomes to clustered housing and from mixed-use development to multi-unit residential buildings (ranging from 3-5 storeys). The distributed of Medium Density Residential uses should be located in proximity to public amenities, retail and employment areas, and potential future transit routes.

4 unit townhouse, Fairfax Gardens

3.3.3 Anticipated Rate of Consumption

If the Municipality were to realize the historic growth trends, which predicts a population increase of 3,321 over 35 years the total land required at the optimized density would be 74.7 Ha (184.5 ac), which still represents only 10% of the available developable lands within the serviceable boundary. At the average growth rate of 0.825%/yr and a population density of 45 persons/ha (18PPA), a rate of land

consumption within the available 740.5 Ha, would be 47.5 Ha (117.5 ac). Maintaining the GMA Boundaries of Enfield, Elmsdale and Lantz is recommended.

3.3.4 Financial Considerations

Wastewater collected within the Regional Serviceable Boundary is transmitted through a series of wastewater pumping and forcemain systems and gravity trunk sewers to the Lantz WWTP located adjacent the floodplain of the Shubenacadie River, immediately south of the Shaw Brick Plant at Lantz. The Sewer Capacity Study (WSP, 2014) notes that the existing wastewater transmission system within the District, which includes 18 sanitary pumping and forcemain systems and segments of gravity trunk sewers is relatively old and recommends that many portions of the system be upgraded.

3.3.5 Recommendations

The Community of Enfield is among the most highly developed areas within the Regional Serviceable Boundary. All future development within the Community of Enfield will have a gross population density of 18 persons per acre (45 persons per hectare).

The Community of Elmsdale, which includes the original village centre around the intersection of Highway 214 and Highway 2, is among the most highly developed commercial area within the Regional Serviceable Boundary. In addition to residential, commercial, and institutional development, the community includes limited industrial activity including a lumber sawmill operation, wood treatment facility and a landscaping business.

Within the Regional Serviceable Boundary, Lantz has the largest land area available for future development. Two large scale residential developments are proposed on the lands owned by Shaw Group and Armco. All future development within the Regional Serviceable Boundary communities should be approved using a gross population density of 18 persons per acre (45 persons per hectare).

It is anticipated the complete development of the lands owned by the Shaw Group and Armco has the potential to house approximately 22,000 additional residents which would result in a total serviced population of nearly 30,000 persons.

Recommendations:

- Charges for Local Improvements should continue to be applied to support the upgrade and expansion wastewater collection and transmission system necessary to support future development as it is approved.
- Maintain the GMA Boundaries of Enfield, Elmsdale and Lantz.

- Consider mandating a target a population density of 18 persons per acre (45 persons per hectare) for all future slated development in the Regional Serviceable Boundary.
- Update and expand the Lantz WWTP in phases to include sufficient capacity to service the existing serviced population plus the anticipated additional population growth within the Regional Serviceable Boundary.
- Encourage new development within the Regional Serviceable Boundary to support the capital cost of updating the area's wastewater collection and transmission system and the proposed upgrades to the Lantz Wastewater Treatment Plant.
- Seek additional funding support for the proposed upgrades to the regional wastewater collection system and the Lantz WWTP from Federal and Provincial levels of government through programs such as the PTIC-SCF component of the Building Canada Fund.
- Develop design guidelines to ensure that intensification and higher density urban growth is done well and gains community support.

3.4 MOUNT UNIACKE GMA

Mount Uniacke is located off Highway 101, approximately half way between the centre of Halifax and the Community of Windsor. Mount Uniacke is bordered by Halifax Regional Municipality on the south and the Municipally of West Hants on the north.

It is estimated the Mount Uniacke GMA (Map 5) currently has approximately 960 homes with 3,216 persons based on a house count of a density of 3.35 persons per house. Table 3.8 outlines growth potential under three scenarios that assume a high annual growth rate of 0.20%, median growth rate of 0.15% and the current growth rate of 0.10% per year.

Table 3.8 – Mount Uniacke Population Growth Projections*

	2014	2016	2021	2026	2031	2036	2041	2046
High Growth (0.2% per year)	3216	3229	3261	3294	3327	3361	3394	3428
Medium Growth (0.15% per year)	3216	3226	3250	3274	3299	3324	3349	3374
Low Growth (0.10% per year based on historic growth)	3216	3222	3239	3255	3271	3287	3304	3321

**Based on a house count of a density of 3.35 persons per house*

Using the median estimated population growth rate of 0.15% per year would result in the addition of 158 more persons, or 47 more units (based on 3.35 persons/unit) within the community over the next 32 years.

3.4.1 Remaining Serviceable Land

The Mount Uniacke GMA has a total area of approximately 2,384 ha (5,891 ac). The Majority of the area is undeveloped with approximately 1,594 Ha (3,914 ac) or 77% of the GMA available for infill in the future. Currently, all development is using on-site water and wastewater systems and there are no central water or wastewater services provided within the GMA.

3.4.2 Desired Density

Presently, the population density of the gross developed areas is very low and based entirely on on-site water and wastewater services. This density should be considered flexible and increased density should be permitted where ground water capacity and quality permits. To increase population density with the GMA, the Municipality may choose to consider provision of a central Municipal water service for the village core in the future. East Hants may wish to consider block purchase of treated water from Halifax Water and existing transmission system in Highway 1 at Upper Sackville to the Village of Mount Uniacke.

Currently, with only on-site water available to residents, the existing development pattern of two (2) persons/acre is likely.

3.4.3 Anticipated Rate of Consumption

At the assumed higher growth rate of 0.2% per year and a density of 2 persons per acre, the amount of available land within the GMA significantly exceeds the 30 year growth horizon of this review. Based on this factor it is recommended the Municipality maintain the existing Mount Uniacke GMA boundary and encourage infill on developable lands in the GMA boundary.

The rate of land consumption may be impacted by the extensive proposed residential and commercial developments in the adjacent Municipalities. In Upper Sackville a 491-lot subdivision has been approved next to McCabe Lake. In West Hants, Terra Firm Developments is starting construction on a multi-phased resort community with the potential for several hundred lots in the next few years. As the adjacent area develops, interest in new development in areas off the Mount Uniacke GMA may also emerge.

3.4.4 Financial Impact

As in Horne Settlement, the low density of the existing development and the remoteness of the GMA from central water or wastewater services, it is recommended that all future development within the Mount Uniacke GMA be developed either single unit as-of-right with independent on-site services or under Conservation Design guidelines similar to those adopted by the Halifax Regional Municipality in 2006.

Conservation Design is intended to maintain a more rural development pattern and manage growth in areas such as East Hants' Growth Reserve Areas. Policy can be further developed to limit the impacts of growth in area designated "reserve". Objectives of conservation design are:

- Foster environmentally sustainable development;
- Minimize future costs of municipal service and infrastructure maintenance
- maintain natural/agricultural resource base of rural areas;
- maintain/provide opportunities to establish a network of interconnected open space and trail networks.

A key aspect of conservation design is requiring completion of a Level 1 and Level 2 Groundwater Assessment Study to confirm the availability of adequate quantities of domestic water. It can also encourage a central wastewater collection and treatment infrastructure systems to further reduce impact on natural systems. Through Development Agreement for each Conservation Design development encourages low impact design.

3.4.5 Recommendations

- Maintain the existing GMA boundary.
- Establish a land use policy to organize development within the Mount Uniacke GMA to as-of-right for single unit lots and Conservation Design for subdivision development with independent on-site water and wastewater services.

4

GROWTH RESERVE AREA REVIEW

4.1 GRAND LAKE HORNE SETTLEMENT GRA

The Grand Lake Horne Settlement (GLHS) GRA (Map 4) includes significant residential development on estate lots, each with its own independent on-site groundwater supply and on-site wastewater system discharging treated effluent to the earth. Approximately 57% of the gross area within the GLHS GRA remains undeveloped. To date central water and wastewater services have not been extended from the Regional Serviceable Boundary across Highway 102 to any development within the Horne Settlement GRA. Municipal water service has, however, been extended along Park Road from the Regional Serviceable Boundary at Elmsdale to the Elmsdale Business Park. There is currently no plan to extend this potable water transmission system into the Horne Settlement GRA.

Based on a house count and density of 3.35 persons per house, the current population in Horne Settlement is estimated at 1,200 persons.

Table 4.1 provides a summary of population growth estimates within the GLHS GRA for a high, medium and low growth scenario.

Table 4.1 - GLHS Population Growth Projections

	2014	2016	2021	2026	2031	2036	2041	2046
High Growth (0.5% per year)	1200	1412	1243	1274	1306	1339	1379	1408
Medium Growth (0.25% per year)	1200	1206	1221	1236	1252	1268	1284	1300
No Growth (0% per year)	1200	1200	1200	1200	1200	1200	1200	1200

Using the higher estimated population growth rate of 0.5% per year would result in 208 additional persons over 32 years, or 62 additional units (based on 3.35 persons/unit).

4.1.1 Remaining Serviceable Land

The GLHS GRA has an area of approximately 821 ha (2,039 ac). The land available for infill is approximately 468 ha (1,162 ac), which represents approximately 57% of the total GRA. The development of estate lots in the area has resulted in a disconnected development pattern. The remaining lands would therefore present challenges to the introduction of higher density developments that can be efficiently connected to central wastewater and water services.

Due to the concentration of development in the GRA and the disconnected pattern that development has occurred, limits the intent of these lands being used as a "growth reserve" for future urbanized style of development. Also, the disparate growth pattern presents challenges and potentially higher costs to introducing more dense developments connected to central wastewater and water connections. Based on Growth Management Policies, the Municipality seeks to manage the growth in the Grand Lake Horne Settlement area and encourage development that protects the environment and does not require expansion of infrastructure and associated costs. It is therefore recommended the area's designation continue to be GRA, but one that encourages infill not requiring central water or wastewater services.

4.1.2 Desired Density

Presently, the density of the gross developed areas is approximately 0.8 persons/hectare, or 2 persons/acre. This density should be considered flexible and increased density should be permitted where groundwater capacity and quality permits. Table 4.2 provides a summary of the potential increase in total additional population within the GRA with a density of 2.0 persons per acre.

Table 4.2 - GLHS Potential Density on Infill lands

Density	Infill Area (ac)	persons/acre	Additional Population	Units	Units/acre*
Maintaining	1162	2.0	2324	694	0.6

**Based on 3.35 person per house*

4.1.3 Anticipated Rate of Consumption

Infill of available lands using the existing development pattern of 2 persons per acre would permit growth trends to continue past the 35 year growth horizon.

4.1.4 Financial Impact

Due to the low density of the existing development and the remoteness of the GRA from the Lantz WWTP, which serves the Regional Serviceable Boundary, it is recommended to manage infrastructure costs future development within the Hornes Settlement GRA be developed either single unit as-of-right

with independent on-site services or under Conservation Design guidelines for subdivisions as outlined in Section 3.4.4 (Mount Uniacke GMA).

4.1.5 Recommendations

- Continue GRA designation that encourages infill without central water or wastewater services
- Manage new infill development within the Grand Lake Horne Settlement area using either on-site wastewater treatment or a central wastewater collection system and treatment plant under a Conservation Design policy.
- Negotiate a Development Agreement for each Conservation Design development complete with a requirement for a Level 1 and Level 2 Groundwater Assessment and a Wastewater Master Plan designed to meet the needs of the overall development.

4.2 BELNAN GRA

The Belnan GRA (Map 4), located to the north of the East Hants Business Park along Highway 214, is bounded by the Nine Mile River on the east, a small stream on the west, and the Elmsdale Business Park on the south. Existing development within the GRA is largely low-density residential and agricultural activities, with significant areas of undeveloped land that is suitable for future development as residential subdivisions at a density of up to 18 persons per acre (PPA) or 45 persons per hectare (PPHa).

Table 4.3 - Belnan Population Growth Projections*

	2014	2016	2021	2026	2031	2036	2041	2046
High Growth (0.5% per year)	335	338	347	356	365	374	383	393
Medium Growth (0.25% per year)	335	337	341	345	350	354	358	363
No Growth (0% per year)	335	335	335	335	335	335	335	335

Using the higher estimated population growth would result in 58 additional persons over 32 years, or 17 additional units (based on 3.35 persons/unit).

4.2.1 Remaining Serviceable Land

The Belnan GMA has an area of approximately 206 ha (509 ac). The available land for infill is approximately 128 ha (320 ac), which represents approximately 62% of the GMA is available for infill.

4.2.2 Desired Density

Presently, the density of the gross developed areas is approximately 1.63 persons/hectare, or 0.65 persons/acre. This density should be considered flexible and increased density should be permitted where ground water capacity and quality permits. To increase efficiency of the regional wastewater infrastructure the Municipality may choose to consider of provision of Municipal water service within the GRA. If we assume maintaining the on-site water the existing development pattern of two (2) persons/acre is likely.

Table 4.4 provides an estimation of the total potential infill populations based on a density of 2 persons per acre.

Table 4.4 - Belnan Potential Density on Infill lands

Density	Infill Area (ac)	persons/acre	Additional Population	Units	Units/acre*
Maintaining	320	2.0	640	191	0.6

**Based on 3.35 person per house*

4.2.3 Anticipated Rate of Consumption

Infill of available lands within the Belnan GRA using the existing development pattern of 2 persons per acre would permit growth trends to continue beyond the 35 year growth expectation. It is recommended that Belnan GRA continue to maintain its Boundary with the intent of it being an area for future urbanization for the Municipality.

4.2.4 Financial Impact

While there are currently no central services within the Belnan GRA, municipal water and wastewater infrastructure systems are located near the southern boundary of the GRA within the Elmsdale Business Park. The wastewater collection and transmission system serving the Business Park and the Trunk Gravity Sewer located in Highway 214 in Elmsdale will require significant upgrade in the future to meet the long-term requirements of the Elmsdale Business Park and the Belnan GRA. The municipal water system could be designed during upgrades to have sufficient capacity to service the GRA when and if extension is required.

As an area of reserve for future growth, development in Belnan should be carefully managed to prevent the disconnected land pattern emerging in Grand Lake Horne Settlement GRA. Therefore, it is recommended to manage growth and infrastructure costs within the Belnan GRA be developed either single unit as-of-right with independent on-site services or under Conservation Design guidelines for subdivisions as outlined in Section 3.4.4 (Mount Uniacke GMA).

4.2.5 Recommendations

- Maintain the existing Belnan GRA boundary
- Control development within the Belnan GRA pending completion of a Water and Wastewater Master Plan for long-term development within the Belnan GRA, the Business Park, the Community of Elmsdale, and the Highway 214 Corridor.
- Encourage new development within the Blenan GRA using either single unit as-of-right with independent on-site services or under Conservation Design guidelines for subdivisions as outlined in Section 3.4.4 (Mount Uniacke GMA).
- Negotiate a Development Agreement for each Conservation Design development complete with a requirement for a Level 1 and Level 2 Groundwater Assessment and a Wastewater Master Plan designed to meet the needs of the overall development.

4.3 LANTZ GRA

The Lantz GRA (Map 4), located north of Highway 102 and east of the Nine Mile River, comprises undeveloped forest lands without any significant development to date. When a new highway interchange, scheduled for construction in the vicinity of the core of the Community of Lantz in the next decade, has been built, significant pressures will materialize for the development of the Lantz GRA.

4.3.1 Remaining Serviceable Land

The Lantz GRA has a gross area of approximately 355 ha (878 ac) with no existing residential or commercial development.

4.3.2 Desired Density

The proximity of the Lantz GRA to the Lantz WWTP and to the municipal water transmission system at the Lantz Storage Tower makes the Lantz GRA a candidate for future development with central services. It is recommended that, a design population density of 18 persons per acre (PPA) or 45 persons per hectare (PPHa) should be established in the future to achieve an efficient residential development fabric within the Lantz GRA.

4.3.3 Anticipated Rate of Consumption

The Regional Serviceable Boundary presently has developable lands to accommodate over 30 years of growth. . It is recommended that the existing Boundary of the Lantz GRA continue to be maintained with

the intent of it being an area for future serviced urbanization for the Municipality. Interest in future development within the Lantz GRA may emerge when the new highway interchange has been built.

Before new development occurs in the Lantz GRA completion of a secondary planning strategy for the area could be undertaken. To assist the Municipality, landowners of the collective prosperities could be required to complete a Land Suitability Assessment and develop concept plans. This work can be overseen and guided by East Hants and municipally appointed steering committee to ensure compliance with the interests and polices of the Municipality. We recommend East Hants consider mandating through policy a Comprehensive Master Plan for the Lantz GRA needs to be completed before any development can be considered.

4.3.4 Financial Impact

In the short term, it is recommended that residential development be restricted within the Lantz GRA pending significant uptake of residential potential within the Regional Serviceable Boundary. It is also recommended that the trunk wastewater infrastructure systems within the Shaw/Clayton lands and the Armco lands be designed with sufficient capacity to accommodate future sanitary flows from the Lantz GRA.

4.3.5 Recommendations

- The Municipality should maintain the existing boundary of the Lantz GRA
- Limit the development of serviced and unserviced development within the Lantz GRA pending significant uptake of development within the Regional Serviceable Boundary
- Consider mandating through policy a Comprehensive Master Plan for the Lantz GRA needs to be completed before any development can be occur.
- In the intermediate term, design the trunk wastewater infrastructure systems within the Shaw/Clayton lands and the Armco lands with sufficient capacity to accommodate future sanitary flows from the Lantz GRA.

5
ENVIRONMENTAL CONSTRAINTS

The Community Plan for East Hants is intent on the protection of water, land and air environments within the Municipality. The natural environment of East Hants is one of its core assets. On the northern boundary is the Fundy Tidal Basin and the mouth of the Shubenacadie River, one of Nova Scotia's largest freshwater systems, which meanders through the region. Historically the Shubenacadie River system was a major trading canal for Nova Scotia supporting the growth of communities along its shores. The East Hants environment also supports various agricultural, forestry and recreational activities. The Municipality has therefore implemented measures to protect the natural environment.

Maps 6-9 (Appendix A) provide an inventory the hydrological constraints, flood plains and species at risk in the GMAs and GRAs.

5.1 HYDROLOGICAL CONSTRAINTS

Hydrological constraints include water courses, wetlands and 20 m riparian buffers. With the Shubenacadie River prone to flooding its banks, the 1 in 20 year and 1 in 100 year flood plains have also been mapped.

- Within the Shubenacadie GMA there are rivers, streams and wetlands. The major environmental constraint is the 1 in 20 year flood plain. The majority of flooding associated with the 1 in 20 year flood occurs outside the boundary of the GMA. There are flood risks on the future Heights of Shubenacadie lands, but the approved site design has accommodated this risk.
- Within the Milford GMA are a minor number of wetlands and the floodplain of the Shubenacadie River. The mapping suggests the majority of lands within the GMA boundary are not flood prone
- Hydrological constraints within the Regional Serviceable Boundary and Regional Commercial GRA (Map 8) are similar. There are flooding risks along the Nine Mile and Shubenacadie Rivers. This is particularly evident where the Nine Mile meets the Shubenacadie. There are also several minor waterways and some wetlands located throughout each community.
- In the Mount Uniacke GMA are several smaller lakes and wetlands connected to the waterways running through the area.

5.2 SPECIES AT RISK

Significant Habitats and Species Mapping is prepared by the Nova Scotia Department of Natural Resources (DNR). Species at Risk are legally protected under the NS Endangered Species Act. The sub categories represented in the mapping are endangered, threatened and vulnerable species. Endangered species include species of bats, migratory birds, plants and mammals. Species of Concern are also listed by DNR. Typically they are given either red or yellow status. Table 5.1 provides a summary of the definitions of species at risk.

Table 5.1 - Species at Risk Categories

Status Category	Definition
Endangered	a species facing imminent extirpation or extinction
Threatened	a species likely to become endangered if limiting factors are not reversed
Vulnerable	a species of special concern because of characteristics that make it particularly sensitive to human activities or natural events

Source: DNR Nova Scotia, 2014

Summary:

- Within the Shubenacadie and Milford GMA the Provincial mapping for Species does not show any species of concern or risk being located within the Boundary.
- The majority of species of concern, or at risk, within the GMAs and GRAs (Map 8) are populating the waterways and riparian areas running through each community.
- There are no species at risk in the Mount Uniacke GMA

5.3 CONSERVATION DESIGN RECOMMENDATION

A review of Section 8 of The East Hants Municipal Planning Strategy (MPS) indicates that there are a number of policies to protect the integrity of the natural and ecological environment. The MPS presently covers a variety of environmental protection areas.

Particularly, policies under Section 8.3 Preservation and Enhancement of Water Resources enable the Municipality to control development that may impact the quality and quantity of groundwater. Policies P8-25 through P8-39 are designed to address issues related to floodplains and their effect on groundwater. Policies P8-40 to P8-55 also provide a number of provisions to address a variety of groundwater related

issues such as protection of water supply areas, water intake areas, watershed protection, watercourse greenbelts, and water pollution controls.

Some aspects of open space conservation are also addressed through policies of Section 8 of the MPS. These include Policy P8-8 regarding native forest growth and P8-19 through P8-23 regarding the establishment of an Environmental Risk Zone and its protection. Tree preservation is another aspect of the MPS that is dealt with in detail through implementation of Policies P8-61 and P8-62.

In addition to the present Policies, Section 3 of this review recommends that the Municipality consider adopting policies to require a Conservation Design approach for future subdivisions in Belnan, Horne Settlement and Mount Uniacke. The following is a summary of the main features of Conservation Design Development.

Conservation Design Development

As mentioned in Section 4 of the report, it is recommended that the Municipality consider mandating through policy that subdivision residential development in the communities of Belnan, Horne Settlement, and Mount Uniacke adopt Conservation Design guidelines and standards. As outlined in section 3.4.4, this form of development is based on protecting the culturally and environmentally sensitive areas while enabling sensible residential development through a public process. The residential density permitted through Conservation Design Development may be enforced through two methods of development; traditional and cluster style configuration.

The sensitive environmental areas protected through this process may include:

Primary Conservation Features

- Riparian Buffers and Watercourse Setbacks
- All Wetlands
- 1:100 Year Flood Plains
- Rock Outcroppings
- Class 1-3 Agricultural Soils
- Agricultural Activities
- Slopes in excess of 30%
- Potential Archaeological Sites
- Groundwater Recharge Areas
- Significant Habitat and Endangered Species

Secondary Conservation Features

- Scenic Views
- Heritage Properties
- Historic Buildings and Features
- Mature Forest and other Vegetation with their Health Status and Condition
- Trails and Natural Networks
- Parks and Natural Corridors
- Current and Past Land Uses

Other Features

- Sufficient traffic capacity
- Existing building and any other facilities
- Ground water quality and quantity

6

TRANSPORTATION

6.1 EXISTING AND FUTURE TRANSPORTATION NETWORKS

The primary mode of travel within the Municipality is by privately-owned passenger vehicle. The region is located along the Highway 101 and the 102 north-south corridor which provides excellent highway connections to adjacent regions, both to the north and south of the area. As Map 10 illustrates, the Municipality has ready access to Highway 102 via Exit 7 to the south from Trunk 2, Exit 8 from Route 214 in Elmsdale, and Exit 9 to the north from Trunk 14 in Milford. Future planning is underway to determine the location for construction of an additional interchange between Highway 102 Exits 8 and 9 in the vicinity of Lantz.

Trunk 2, the primary collector road through the area, runs through the Municipality along the east side of Highway 102 in a north-south direction. Route 214 and Trunk 14 provide the primary east-west connections across Highway 102. The future interchange planned in the Lantz area will provide an opportunity for an additional east-west connection and to serve proposed large-scale development proposed for the area.

6.2 ROADS AND INTERSECTIONS EXPERIENCING CAPACITY ISSUES

The estimated 2013 Annual Average Daily Traffic (AADT) two-way volumes for primary roads in the development area as recorded in *Traffic Volumes Primary Highway System 2004 to 2013* (NSTIR) include the following:

- Highway 102 south of Route 214 – 23,000 vehicles per day (vpd)
- Highway 102 north of Route 214 – 21,000 vpd
- Route 214 east of Highway 102 – 12,800 vpd
- Route 214 – 0.75 km west of Garden Road – 4,000 vpd
- Trunk 2 – Halifax – Hants County Line – 6,300 vpd
- Trunk 2 – 1.5 km south of Lantz – 6,900 vpd

Areas that are presently experiencing traffic capacity issues include:

- Highway 102 northbound exit ramp to Route 214
- The entrance to the Elmsdale Shopping Centre on Route 214
- The section of Route 214 between Highway 102 and Trunk 2
- Intersection of Route 214 and Trunk 2 is beginning to show need for enhanced capacity

While the section of Trunk 2 between Route 214 and Lantz is not currently experiencing a capacity problem, additional anticipated development is expected to increase volumes within the next few years to cause pressure on this section of road.

6.3 RECOMMENDED IMPROVEMENTS

As recommended in the Trunk 2/Route 214 Corridor Traffic Study (CBCL, 2014), improvements which may be considered to alleviate capacity constraints in the development area include:

- Reconstruction of the Route 214 intersections with the Highway 102 northbound exit ramp and the Elmsdale Shopping Centre entrance;
- Intersection upgrades at the Highway 102 southbound ramp at Route 214
- Construction of a two-way left turn lane on Route 214 between Highway 102 and Trunk 2;
- Construction of new Highway 102 interchange with a connector to Trunk 2 in Lantz;

When the planned Lantz Connector interchange is constructed, there will be an opportunity to access lands on the west side of Highway 102 in the Lantz GRA. This interchange also creates the opportunity to plan for a north-south collector through the Lantz GRA on the west side of Highway 102 between Route 214 and Trunk 14. Long range planning should consider a collector road on the west side of Highway 102 between the new Lantz interchange and Route 214, as well as a northerly connection towards Trunk 14. When designed the associate capital infrastructure costs of this connector and potential bridge should be covered from potential new development in the area.

Similarly, internal street connections should be required between neighbouring subdivisions to facilitate short trips within residential communities and reduce unnecessary traffic on Trunk 2.

6.4 IMPLEMENTATION PRIORITY

Improvements should be considered in the following order:

1. Construction of the two-way left turn lane on Route 214 and intersection improvements at the Highway 102 ramp / Shopping Centre entrance;

2. Construction of the new Highway 102 interchange and connector;
3. Planning and corridor preservation of the western collector road within Lantz GRA.

6.5 ACTIVE TRANSPORTATION CONSIDERATIONS

Active Transportation or AT as an alternative to motorized travel is becoming a more significant mode of travel in many communities. By providing infrastructure and bridging gaps in a transportation network, AT modes can contribute to a more efficient and convenient network for area residents. Trunk 2 provides the primary north-south route in East Hants linking residential subdivisions to schools, employment, recreation facilities, and retail opportunities. Trunk 2 currently has sidewalk through the southern areas and most of the developed portion of the Municipality. Additional considerations for cyclists through the corridor should be reviewed as portions of Trunk 2 are repaved.

Route 214 provides an important connection from Trunk 2 towards retail and employment opportunities. AT modes should be considered along this route from Trunk 2 to Park Road through the Highway 102 interchange area as plans are developed to provide street improvements required along this street.

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7

COMMUNITY SERVICES

Community services are all those services available to residents, property owners, business owners and visitors within and around a community. When assessing the provisions of community services within a community or region, it is apparent that regardless of who is providing the service, the geographic distribution of those services are inter-related. For example, where schools are located, we are likely to also find parks and community spaces and they are usually located adjacent to housing developments.

This section considers the emergency services, educational, recreational and active corridor connections in the East Hants GMAs. A range of information sources were used to assemble the mapping of the current facilities (see Appendix A). Sources of information include mapping provided by the local municipality; communication with local officials; school listings and related information from the local school board.

7.1 MUNICIPAL SERVICES

Each GMA within East Hants offers a complement of community services. Public Schools and Fire Services are located in each GMA, and the RCMP provides police services within the community. As growth continues, the Municipality should continue to maintain the level of service in each community while balancing the investment between new assets and existing facilities.

As outlined in Table 7.1 and illustrated on the subsequent Community Services maps (Appendix A), services are distributed throughout the various GMAs with the majority being centred in the Regional Serviceable GMA and the Regional Commercial GRA.

7.1.1 Recommendation:

- Maintain the existing GMA boundaries and encourage continued urbanization of the areas which will assist the Municipality to continue to provide these services in an efficient cost effective manner.

TABLE 7.1: COMMUNITY SERVICES AVAILABLE IN EACH GMA

Community Services	Shubenacadie	Milford	Lantz	Elmsdale & Commercial GMA	Enfield	Mount Uniacke
			Regional Service			
Fire Department	Y	Y	Y	Y	Y	Y
Police/RCMP Station					Y	Y
Sidewalk	Y	Y	Y	Y	Y	
Health Centre				Y		
Schools						
Number	1	2	1	1	1	1
Grades	P-5	6-12	P-5	P-5	P-5	P-9
Projects Capacity for 2016*	55%	60%*	67%	97%	82%	52%
Recreational Facilities:						
Sports Fields	Y	Y	Y			Y
Recreation Centre / Pool		Y	Y			
Ball Diamond	Y	Y	Y		Y	Y
Library				Y		Y
Museum/Heritage Site	Y					Y

Maps 11-13 (Appendix A) illustrate the placement of each community service within the GMA. Map 14 is a detail of the multi-purpose linear trail connections for the corridor recommended in the review.

7.2 EMERGENCY SERVICES

The RCMP is responsible for policing all communities in East Hants. There are two RCMP detachments, one located in Enfield with access to Highway 102 and Truck 2. The other detachment is located in Rawdon with a district office near the Mount Uniacke Elementary and Middle School.

Fire services are located in each community. These include:

- Shubenacadie and District Fire Brigade
- Milford and District Emergency Services
- Lantz Fire and Emergency Services
- Elmsdale and District Fire and Emergency
- Enfield Volunteer Fire Department
- Mount Uniacke

7.3 RECREATION

Each GMA in East Hants has its own recreation areas. The shared facilities for the region include East Hants Sportsplex, located in Lantz, and the East Hants Swimming Pool, located in Milford next to the Hants East Rural High School.

East Hants Sportsplex is operated by the East Hants Arena Association and offers comprehensive recreation programming. Facilities include two (2) ice rinks, as well as indoor running track, field house and sport fields, community rooms and a golf driving range. The Sportsplex offers a large complement of recreational programs including, football, martial arts, hockey, soccer, rugby, softball and aerobics classes.

Each GMA has access to local sport fields. In Shubenacadie there is the Kirkpatrick Soccer Field and Shubenacadie Halls and Grounds Baseball Field. In Milford there is Milford Recreation Field and another at the High School, and in the Regional Serviceable Boundary there are numerous sport fields including the Legion Ball Diamonds and the Peter Smith Memorial Field.

7.3.1 Recommendation:

- The Municipality should continue to monitor use of recreational services within each GMA and encourage residential growth be located near existing services.

7.4 MAKING CONNECTIONS

As introduced in the report entitled, An Active Transportation Strategy for the South Corridor (mcue, 2013) there is an opportunity to introduce a multi-use trail system connecting existing and future communities along the 'Elmsdale-Enfield-Lantz' Regional Serviceable Boundary linear corridor. As shown on Map 2, lands between Highway 102 and Highway 2 contain several recreational facilities, schools, residential subdivisions, parks and open spaces, as well as the Regional Centre Main Street Village Centre and the Exit 8 Commercial Centre. Introducing a multi-use trail system will link these amenities and neighbourhoods in an effort to strengthen community connectivity and encourage active and healthy living.

The multi-use trail should be designed to function as a backbone of the pedestrian circulation network; accessible to pedestrians, cyclists, and maintenance vehicles. Wherever possible and economically feasible, the trail should be designed to a 3.0 metre wide asphalt surfaced standard to support varying modes of transportation. The trail network should also incorporate interpretive signage to inform residents about the area's local history and ecological systems that surround this network.

Figure 7.1: Crusher Dust Multi-Use Trail

Introducing this multi-use trail network serves several objectives, including: creating a walkable community that encourages safe and environmentally-friendly methods of transportation; and promoting future community and neighbourhood design that puts the pedestrian first. Future developments should consider how they can tie into this trail network, and what amenities and features could be included to enhance it. This is particularly important in the large undeveloped properties within the Lantz GRA, where development has yet to occur.

The Municipality of East Hants has the opportunity to introduce a three-tiered active transportation network:

- The existing Highway 2 sidewalk maintains active and efficient street presence along the major vehicular link between the 'Elmsdale-Enfield-Lantz' corridor
- A new linear multi-use trail between Highway 102 and Highway 2 will promote social and community cohesion through connecting neighbourhoods to amenities

- A future multi-use trail in the Lantz GRA encouraging environmentally-conscious development focused on connecting people to nature and with other community members.

7.5 SCHOOLS

The schools within the East Hants region are the responsibility of the Chignecto-Central Regional School Board. Within the four communities GMAs there are seven schools. Of these schools, three elementary schools are located in the Regional Serviceable Boundary, one elementary school is in Shubenacadie, and there is a P-9 school in Mount Uniacke. Middle School and High School students residing within the central region are transported by bus to schools located in Milford.

The Chignecto-Central Regional School Board's Identification Report (2012) analyzed the growth and decline of the schools' enrollment. The report analyzed the enrollment in 2011 and projected expected enrollment for 2016. The following table summarizes the report's findings.

Table 5.2: Enrollment Trends and Capacity Expenditure 2011 – 2016

			Current (2011)		Projected Enrolment (2016)		
Schools	Grades	School Capacity	Enrolment	Capacity Utilization	Enrolment	Capacity Utilization	Growth or Decline
Shubenacadie District Elementary School	P – 5	264	149	56%	144	55%	Decline
Hants East Rural High	9 – 12	1380	865	63%	828	60%	Decline
Maple Ridge Elementary (Lantz	P – 5	330	241	73%	220	67%	Decline
Elmsdale District Elementary	P – 5	440	409	93%	425	97%	Growth
Enfield District Elementary	P – 5	374	299	80%	308	82%	Growth
Uniacke District School	P – 9	792	403	51%	411	52%	Growth
Riverside Education Centre	6 – 8	678	572	84%	609	90%	Growth

Source: Chignecto-Central Regional School Board's Identification Report (2012)

Elementary and secondary school enrollments vary by geographic location. Currently, all schools have capacity for new students. The School Board's report anticipates declining enrollment in half of them. Of the schools with predicted growth, the increase for Mount Uniacke District School is minor with a predicted utilization of only 52%. It is the elementary schools in Enfield and Elmsdale that have the highest percentage of utilization with capacity estimated to be between 82–97%. At the present rate for growth the two schools are expecting five (5) additional students each year between them.

With the population expected to grow at an annual rate of 1.4% in the Regional Serviceable Boundary the capacity for elementary schools may need to be considered. In Nova Scotia the responsibility of monitoring school capacity is the Regional School Boards. The Municipality should continue to update the Chignecto-Central Regional School Board on new developments and request comments. This cooperation will be valuable as larger scale developments proposed for Lantz begin to be developed.

7.5.1 Recommendation:

- Continue to update the Chignecto-Central Regional School Board on new developments and request comments on applications.

8

GROWTH MANAGEMENT POLICY AMENDMENTS

In reviewing this report's recommendations in relation to the Growth Management Policies of P3-18 and P3-19 of the East Hants Municipal Planning Strategy, some revisions are recommended. These are organized by area, changes are highlighted in blue and, or struck-through, and include:

Mount Uniacke Growth Management Area

Policy Goal

Council's goal is to promote and encourage a combination of residential and commercial growth within designated portions of Mount Uniacke by establishing a Growth Management Area. The purpose of the Mount Uniacke Growth Management Area is unique in that it is intended to act as both a growth management and growth reserve area simultaneously. Sidewalk construction is not required in Mount Uniacke Growth Management Area as Municipal sewer and water services are not installed. Road paving is required to reduce the occurrence of problems experienced in the past and to improve level of service to residents.

P3-14 – A (New)

Council shall establish through policy and land use bylaw to permit in Mount Uniacke Areas, through Development Agreement, Conservation Design for subdivision development and require independent on-site water and wastewater services.

Growth Management Area Expansion

As this Sewer Capacity Study and this report emphasizes, the existing boundaries offer East Hants capacity to maintain the present growth trend over a 35 year horizon. We therefore recommend continuing to concentrate growth in the GMAs and review of the boundaries every ten years.

P3-18

Council may undertake a study to review the existing boundaries of the Growth Management Areas as determined necessary, but shall at a minimum do so once **every ten (10)** ~~five (5) years~~.

The focus within the GMA boundaries is on developing residential and commercial uses in a manner that is sensitive to environmental constraints and managing infrastructure and municipal services in a cost-effective manner. Therefore we recommend revision of P3-19 (h) regarding agricultural impacts to be required for a proposed expansion.

P3-19(h)

Identify the agricultural impacts, through an Agricultural Impact Study, where the proposed expansion ~~or contraction~~ of existing boundaries could involve or directly abut (excluding roads) (AR) Zoned lands; …

Growth Reserve Areas

Policy Goal

It is a goal of Council to designate portions of land where future urban development will be directed and thus, where Municipal services and infrastructure may eventually be provided. These Growth Reserve Areas are considered to have the highest and most logical potential for residential and commercial development.

P3- 21 A (New)

Council shall establish through policy and land use bylaw to permit in the Grande Lake Horne Settlement and Belnan Growth Reserve Areas through Development Agreement Conservation Design for subdivision development and require independent on-site water and wastewater services.

Lantz Growth Reserve Area

Policy Goal

Council's goal is to allocate the remaining portions of Lantz, north of Highway 102, to accommodate future residential, commercial, and industrial growth.

P3-23

Council shall promote residential development within the Lantz Growth Reserve Area. Council may consider placing all or portions of the Growth Reserve Area under a Comprehensive Development District to allow for a mixed-use community, alternative development standards, or

higher residential densities, consistent with the intent of the Neighbourhood Comprehensive Development District (NCDD) Designation as outlined in Section 5 of this strategy. **A Comprehensive Master Plan for the Lantz GRA shall be completed before any development is approved and require a significant uptake of development within the existing Regional Serviceable Boundary.**

Growth Reserve Area Expansion and New Growth Reserve Areas

Policy Goal

Residential and commercial development is affected by a number of factors beyond the scope of planning. Council's goal is to provide for flexibility to review and modify Growth Reserve Areas.

As part of the ten year study prescribed in Policy P3-29, we recommend a new subsection requiring an agricultural assessment be required to gauge the implications of revising either the expansion or contraction of a GRA boundary on agricultural lands.

P3-29 (j) New

Identify the agricultural impacts, through an Agricultural Impact Study, where the proposed expansion or contraction of existing boundaries could involve or directly abut (excluding roads) (AR) Zoned lands;

9

CONCLUSION

In summary, the East Hants Growth Management Review (GMR) is a response to the desire for growth to occur in a sustainable manner that addresses economic, social and environmental considerations. The Study focused on higher level concerns such as population and wastewater systems, provision of community services, transportation impacts, and environmental features.

The GMR also fits within the legislative context of East Hants Community Plan which requires a review of the GMAs and GRAs at regular intervals to consider revision of their boundaries.

This review considered the fiscal implications for the Municipality in regards to wastewater servicing in the urbanizing areas. It recommends an increase of the Wastewater Infrastructure charge. This increase is intended to support regeneration of the Shubenacadie sanitary system and enable new developments to occur in a fiscally responsible manner.

The review also encourages that future development in unserviced GRAs and GMAs to be environmentally sensitive by introducing policy to encourage low-impact conservation design.

In the long term, continuing to contain development within the existing GMAs will continue to offer efficiencies by reducing the amount of infrastructure needed to sustain growth. New development will promote sustainability through increased density. Further, there is an opportunity to explore the benefits of allowing the community to increase connectivity through establishing a series of multi-purpose trails that will connect community destinations and services to one another.

Improved efficiencies in providing municipal services will enable growth to support and maintain service provisions to the larger region. Through maximizing municipal services, the Municipality will have the opportunity to continue its growth in the region, attracting new residents and businesses based on the lifestyle, services, and employment advantages offered in East Hants.

9.1 SUMMARY OF RECOMMENDATIONS

Capital Cost Charge

- Review of capital cost charge to support the sustainability of delivering high quality efficient services to the community. Charges for Local Improvements should continue to be applied to support the upgrade and expansion of the Milford wastewater collection and transmission system necessary to support future development as it is approved.

Milford GMA

- Maintain the existing boundary for the Milford GMA
- Consider encouraging increased density through provision of central water supply to Milford.
- Encourage new development within the Milford GMA to take advantage of the available capacity within the existing Milford Wastewater Treatment Plant.
- Continue to collect the wastewater infrastructure charges from all future development within the Milford Service District to fund operation and maintenance of the local wastewater collection, transmission and treatment system within the service boundary**.**

Shubenacadie GMA

- Maintain the existing boundary for the Shubenacadie GMA
- Consider increasing population density of the GMA to seven (7) persons/acre (17.5 persons per Ha) with the intent of encouraging a pattern of development that supports longer-term cost efficient infrastructure improvements and the replacement of the WWTP.
- Support new development within the Shubenacadie GMA boundary to recover a portion of the capital and maintenance costs of the new WWTP. The new plant would provide enhanced service to the existing community and new development within the service boundary.
- Continue to collect wastewater infrastructure charges on new development within the Shubenacadie GMA.
- Update the wastewater infrastructure charge to reflect recommendations of the Sewer Capacity Study recommendations
- Seek additional funding support for the construction of a new WWTP from Federal and Provincial levels of government through programs such as the PTIC-SCF component of the Building Canada Fund.

Regional Serviceable District GMA's

- Maintain the GMA Boundaries of Enfield, Elmsdale and Lantz.
- Charges for Local Improvements should continue to be applied to support the upgrade and expansion wastewater collection and transmission system necessary to support future development as it is approved.
- Consider mandating a target population density of 18 persons per acre (45 persons per hectare) for all future slated development in the Regional Serviceable Boundary.
- Update and expand the Lantz WWTP in phases to include sufficient capacity to service the existing serviced population plus the anticipated additional population growth within the Regional Serviceable Boundary.
- Encourage new development within the Regional Serviceable Boundary to support the capital cost of updating the area's wastewater collection and transmission system and the proposed upgrades to the Lantz Wastewater Treatment Plant.
- Seek additional funding support for the proposed upgrades to the regional wastewater collection system and the Lantz WWTP from Federal and Provincial levels of government through programs such as the PTIC-SCF component of the Building Canada Fund.
- Develop design guidelines to ensure that intensification and higher density urban growth is done well and gains community support.

Mount Uniacke GMA

- Maintain the existing GMA boundary.
- Establish a land use policy to organize development within the Mount Uniacke GMA to as-of-right for single unit lots and Conservation Design for subdivision development with independent on-site water and wastewater services.

Grand Lake Horne Settlement GRA

- Continue GRA designation that encourages infill without central water or wastewater services
- Manage new infill development within the Grand Lake Horne Settlement area using either on-site wastewater treatment or a central wastewater collection system and treatment plant under a Conservation Design policy.
- Negotiate a Development Agreement for each Conservation Design development complete with a requirement for a Level 1 and Level 2 Groundwater Assessment and a Wastewater Master Plan designed to meet the needs of the overall development.

Belnan GRA

- Maintain the existing Belnan GRA boundary
- Control development within the Belnan GRA pending completion of a Water and Wastewater Master Plan for long-term development within the Belnan GRA, the Business Park, the Community of Elmsdale, and the Highway 214 Corridor.
- Encourage new development within the Belnan GRA using either single unit as-of-right with independent on-site services or under Conservation Design guidelines for subdivisions as outlined in Section 3.4.4 (Mount Uniacke GMA).
- Negotiate a Development Agreement for each Conservation Design development complete with a requirement for a Level 1 and Level 2 Groundwater Assessment and a Wastewater Master Plan designed to meet the needs of the overall development.

Lantz GRA

- The Municipality should maintain the existing boundary of the Lantz GRA
- Limit the development of serviced and unserviced development within the Lantz GRA pending significant uptake of development within the Regional Serviceable Boundary
- Consider mandating through policy that a Comprehensive Master Plan for the Lantz GRA needs to be completed before any development can occur.
- In the intermediate term, design the trunk wastewater infrastructure systems within the Shaw/Clayton lands and the Armco lands with sufficient capacity to accommodate future sanitary flows from the Lantz GRA.

Regional Commercial GRA

- Maintain the existing Regional Commercial GRA boundary.
- Continue the current land use policy regarding the development of serviced commercial lots within the Commercial GRA

Transportation

- Internal street connections should be required between neighbouring subdivisions to facilitate short trips within residential communities and reduce unnecessary traffic on Trunk 2.

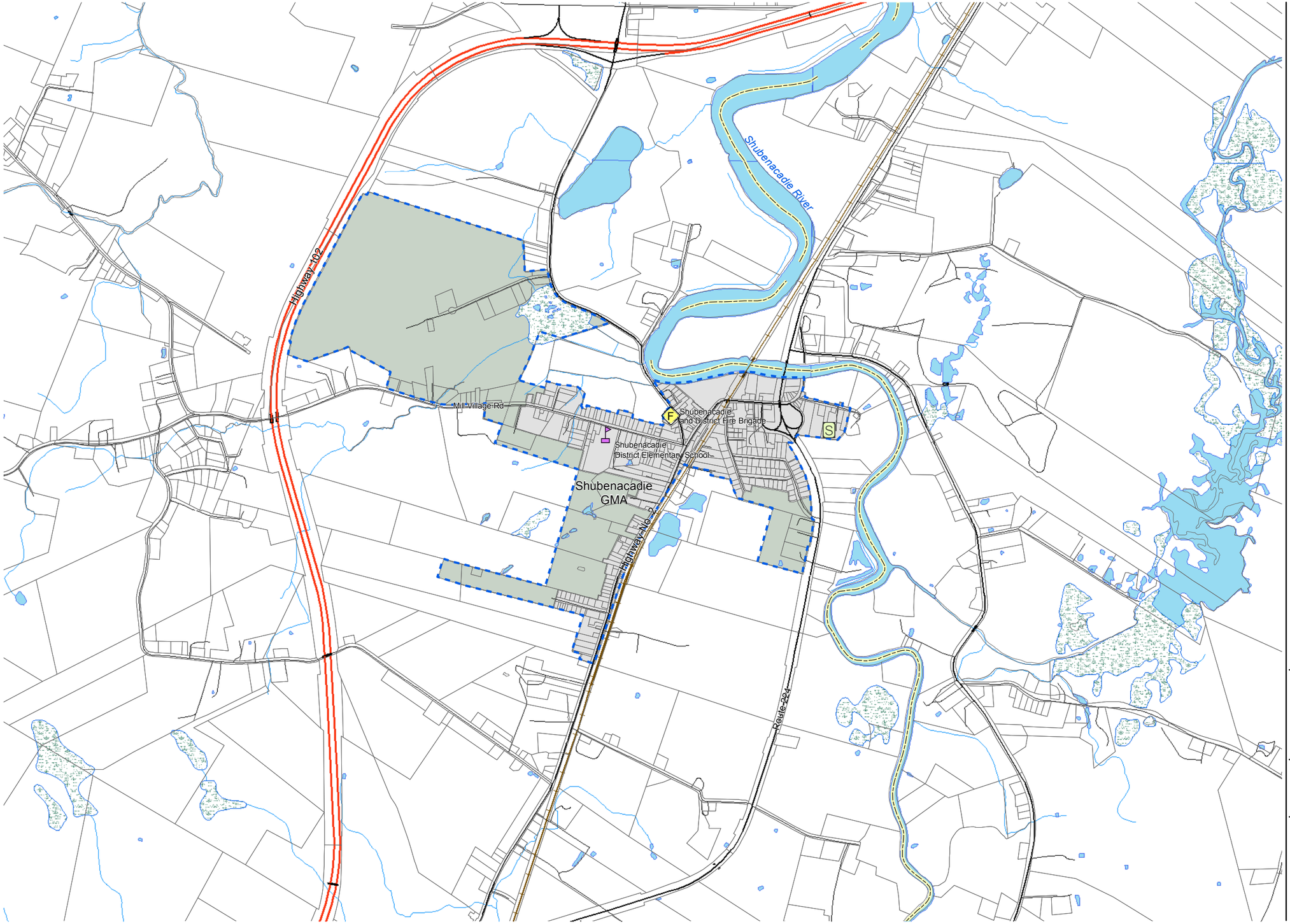
- Additional considerations for cyclists through the corridor should be reviewed as portions of Trunk 2 are repaved.

Community Services

- Maintain the existing GMA boundaries and encourage continued urbanization of the areas which will assist the Municipality to continue to provide these services in an efficient, cost effective manner
- Continue to monitor use of recreational services within each GMA and encourage residential growth be located near existing services.
- Introduce a three-tiered active transportation network:
    - The existing Highway 2 sidewalk maintains active and efficient street presence along the major vehicular link between the 'Elmsdale-Enfield-Lantz' corridor
    - A new linear multi-use trail between Highway 102 and Highway 2 to promote social and community cohesion through connecting neighbourhoods to amenities
    - A future multi-use trail in the Lantz GRA encouraging environmentally-conscious development focused on connecting people to nature and with other community members.
- Continue to update the Chignecto-Central Regional School Board on new developments and request comments on applications.

APPENDICES

APPENDIX A - MAPS



Legend

- Municipal Boundary
- Service Boundary
- Growth Management Area (GMA)
- Potential Lands for Infill

Services

- Schools
- Fire Stations
- Sanitary Treatment Plant

EAST HANTS
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Growth Management Review

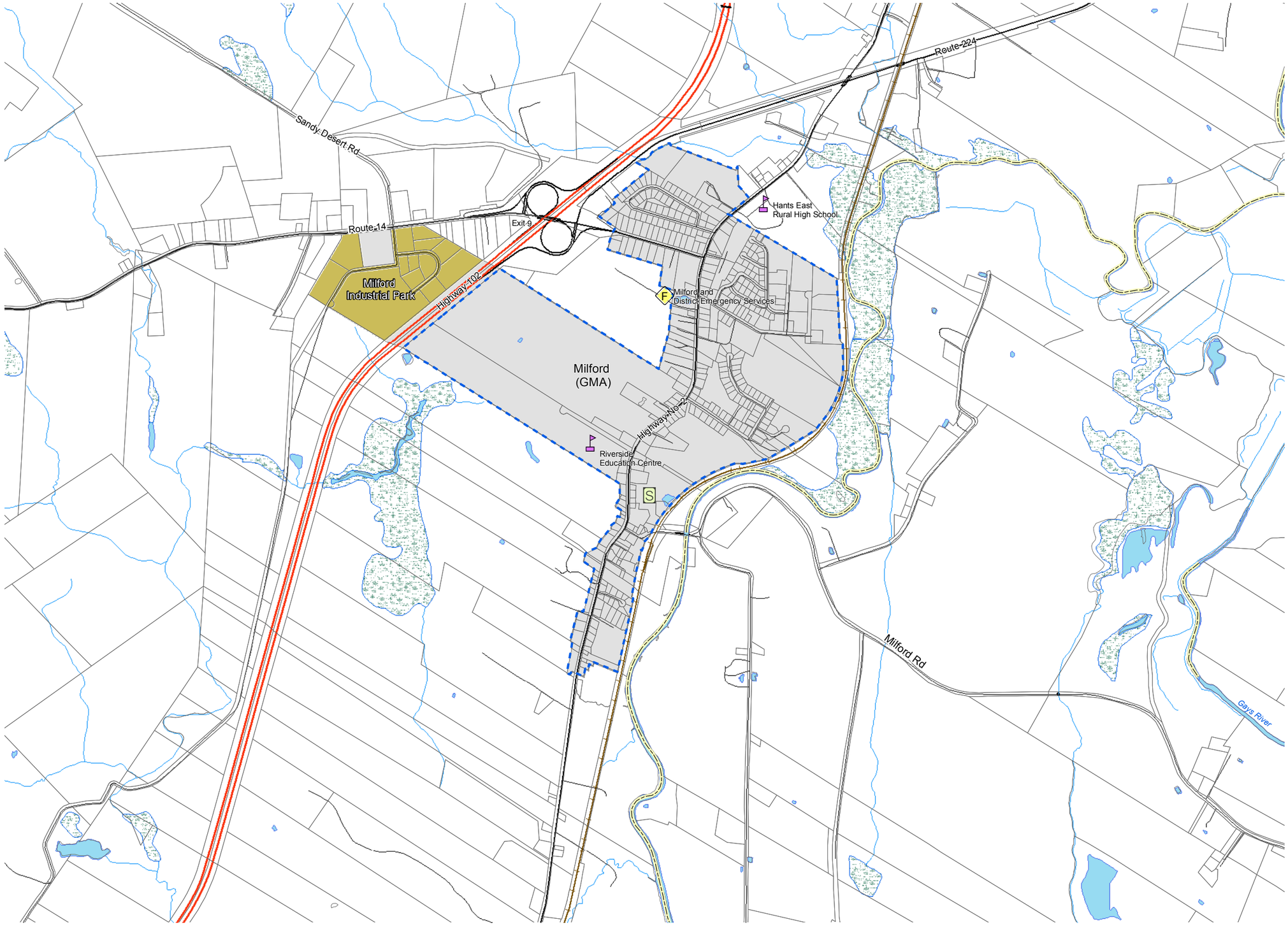
MAP 2
BOUNDARY REVIEW
Shubenacadie

0 0.05 0.1 0.2 0.3 0.4 0.5 0.6 km
SCALE 1:20,000

NORTH

WSP
1 SPECTACLE LAKE DRIVE
DARTMOUTH, NOVA SCOTIA CANADA, B3B 1X7
PHONE: 902 835-9955 - FAX: 902 835-1645 - WWW.WSPGROUP.COM

Name: 141-13379-105A



Legend

- Municipal Boundary
- Service Boundary
- Growth Management Area (GMA)
- Proposed Development (Partially Developed)

Services

- Schools
- Fire Stations
- Sanitary Treatment Plant

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Growth Management Review

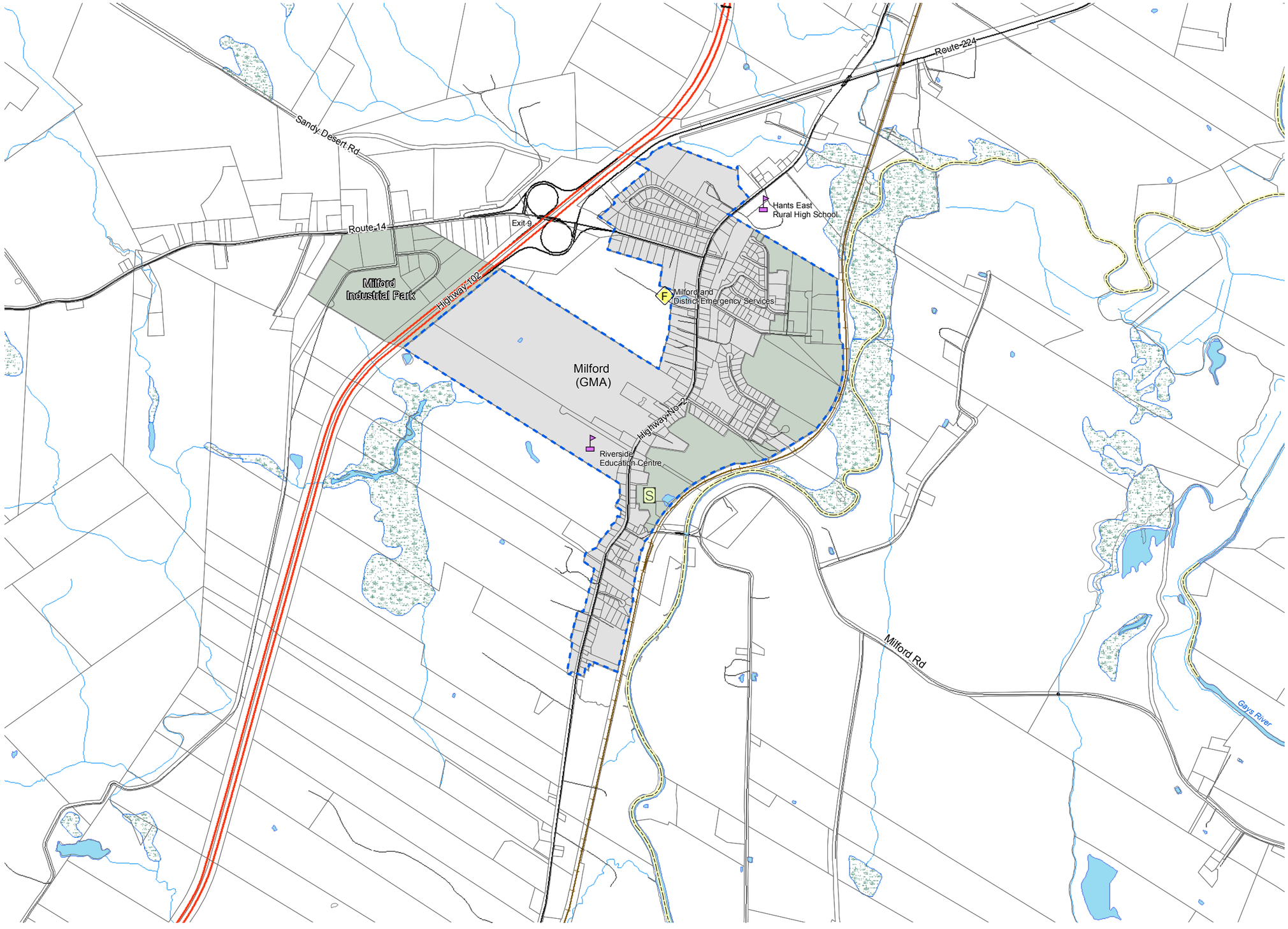
MAP 3
BOUNDARY REVIEW
Milford

0 0.05 0.1 0.2 0.3 0.4 0.5 0.6 km
SCALE 1:20,000

NORTH

WSP
1 SPECTACLE LAKE DRIVE
DARTMOUTH, NOVA SCOTIA CANADA, B3B 1X7
PHONE: 902 835-9955 - FAX: 902 835-1645 - WWW.WSPGROUP.COM

Name: 141-13379-105B



Legend

- Municipal Boundary
- Service Boundary
- Growth Management Area (GMA)
- Lands Available for Infill

Services

- Schools
- Fire Stations
- Sanitary Treatment Plant

EAST HANTS
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Growth Management Review

MAP 3A
BOUNDARY REVIEW
INFILL LANDS

Milford

0 0.05 0.1 0.2 0.3 0.4 0.5 0.6 km

SCALE 1:20,000

NORTH

WSP
1 SPECTACLE LAKE DRIVE
DARTMOUTH, NOVA SCOTIA CANADA, B3B 1X7
PHONE: 902 835-9955 - FAX: 902 835-1645 - WWW.WSPGROUP.COM

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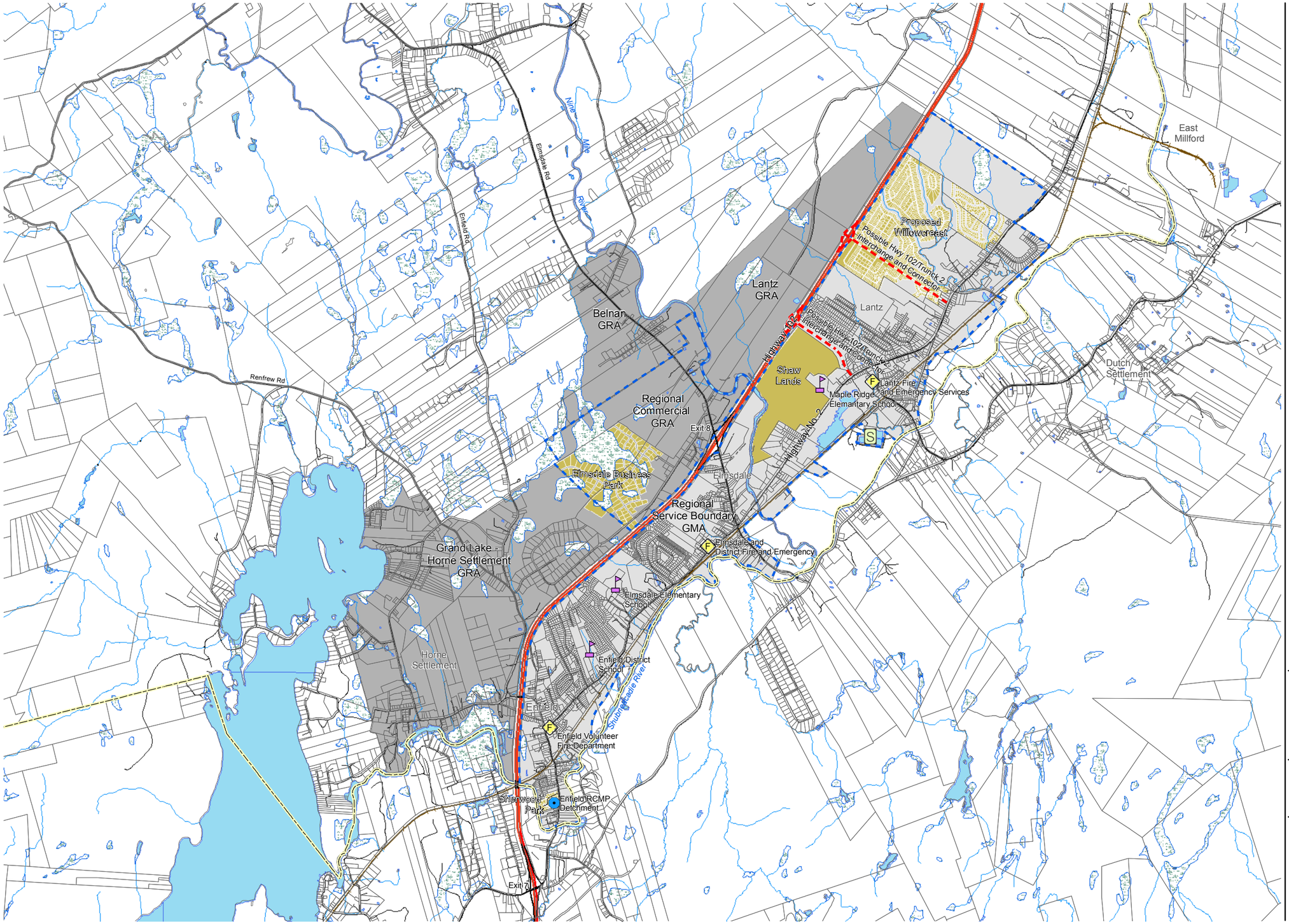

Legend

- Municipal Boundary
- Possible Interchange/Connector
- Service Boundary
- Growth Management Area (GMA)
- Growth Reserve Area (GRA)
- Proposed Development

Services

- Schools
- Fire Stations
- RCMP
- Sanitary Treatment Plant

EAST HANTS
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Growth Management Review

MAP 4

BOUNDARY REVIEW

Regional Service Corridor

0 0.15 0.3 0.6 0.9 1.2 1.5 km

SCALE 1:50,000

NORTH

WSP
1 SPECTACLE LAKE DRIVE
DARTMOUTH, NOVA SCOTIA CANADA, B3B 1X7
PHONE: 902 835-9955 - FAX: 902 835-1645 - WWW.WSPGROUP.COM

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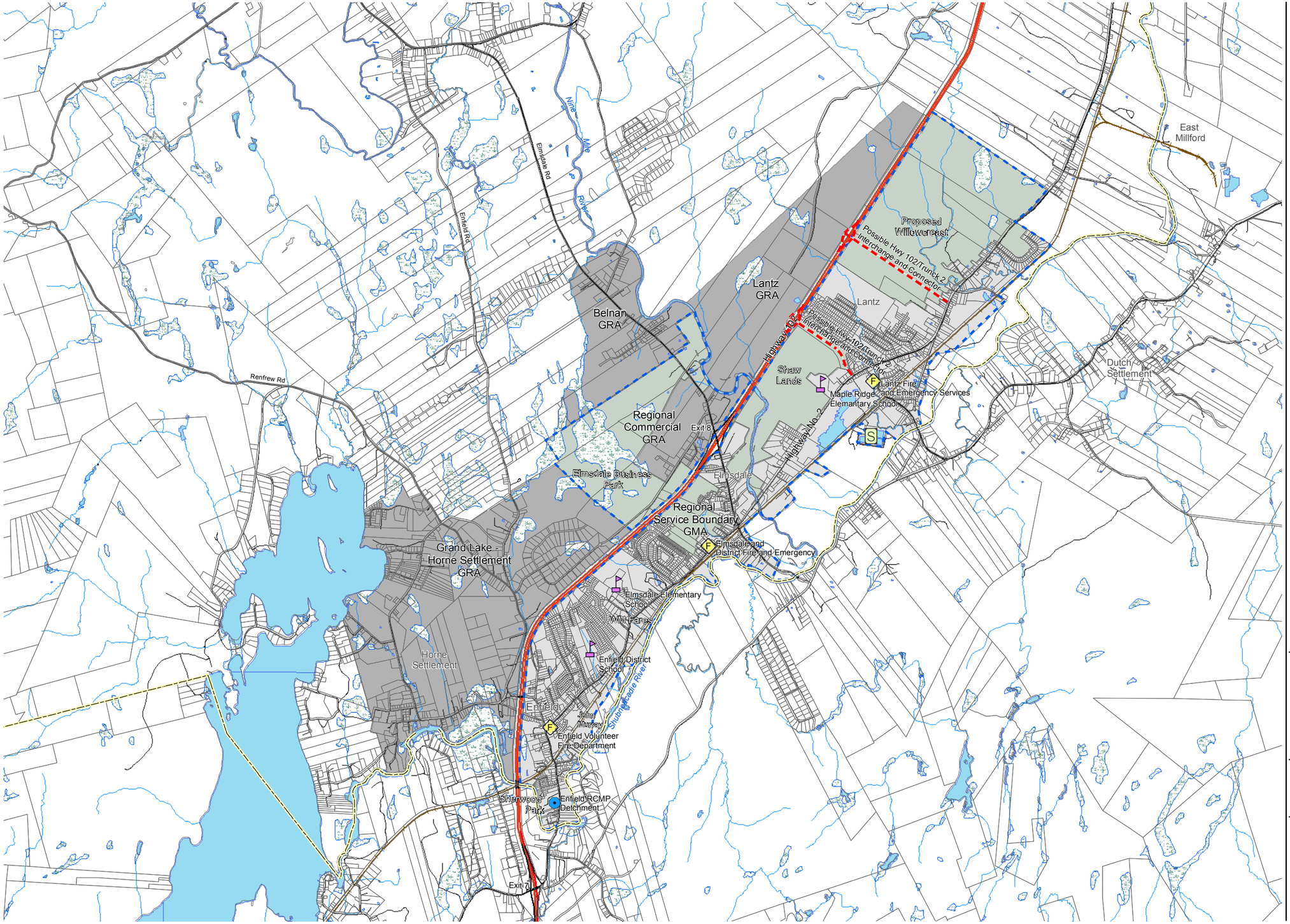

Legend

- Municipal Boundary
- Potential Interchange/Connector
- Service Boundary
- Growth Management Area (GMA)
- Growth Reserve Area (GRA)
- Potential Lands for Infill

Services

- Schools
- Fire Stations
- RCMP
- Sanitary Treatment Plant

EAST HANTS
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Growth Management Review

MAP 4A
BOUNDARY REVIEW
INFILL LANDS

Regional Service Corridor

0 0.15 0.3 0.6 0.9 1.2 1.5 km

SCALE 1:50,000

NORTH

WSP
1 SPECTACLE LAKE DRIVE
DARTMOUTH, NOVA SCOTIA CANADA, B3B 1X7
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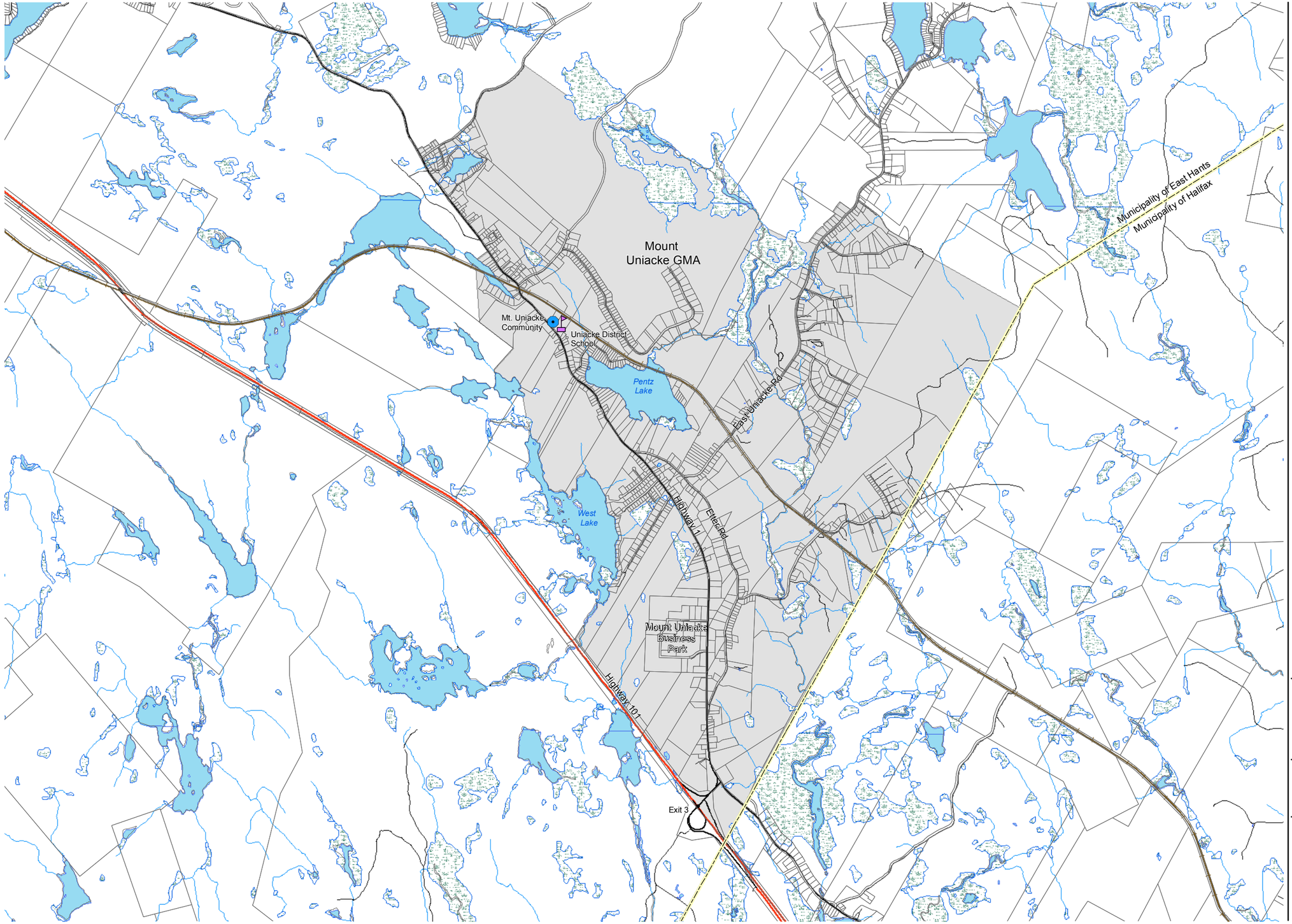

Legend

- Municipal Boundary
- Service Boundary
- Growth Management Area (GMA)

Services

- Schools
- RCMP

EAST HANTS
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Growth Management Review

MAP 5

BOUNDARY REVIEW

Mount Uniacke

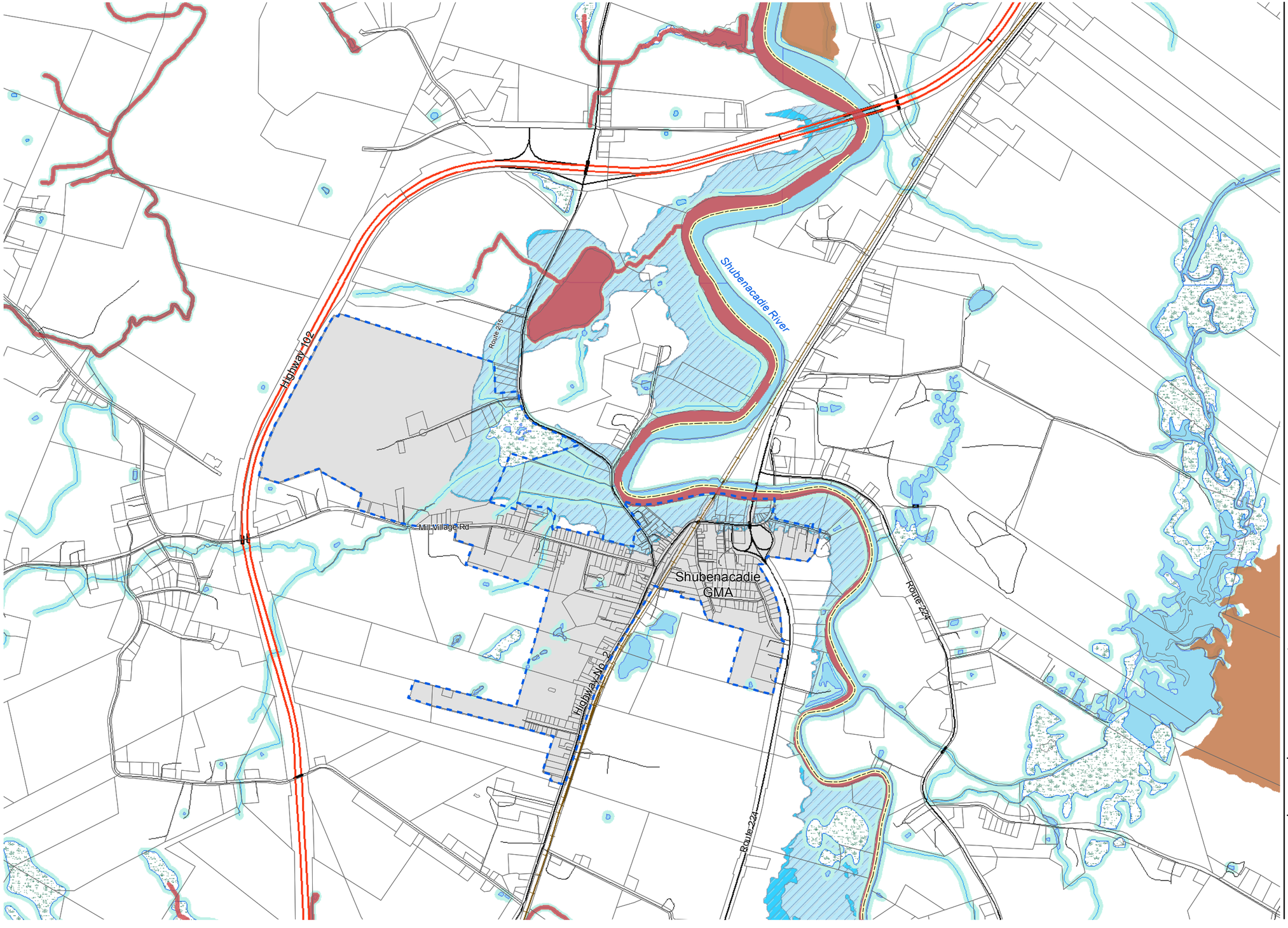
0 0.1 0.2 0.4 0.6 0.8 1 1.2 km

SCALE 1:40,000

NORTH

WSP
1 SPECTACLE LAKE DRIVE
DARTMOUTH, NOVA SCOTIA CANADA, B3B 1X7
PHONE: 902 835-9955 - FAX: 902 835-1845 - WWW.WSPGROUP.COM

Name: 141-13379-105D



Legend

- Municipal Boundary
- Service Boundary
- Growth Management Area (GMA)

Environmental Constraints

Significant Species & Habitats

- Species of Concern
- Species at Risk
- Other Habitat

Source: Nova Scotia Department of Natural Resources Significant Species and Habitats Database

Hydrographic Constraints

- 20m Water/Wetland Buffer
- Floodline-1in20yr (High Risk)
- Floodline-1in100yr (Moderate Risk)

Floodline Source: Municipality of East Hants

EAST HANTS
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Growth Management Review

MAP 6
ENVIRONMENTAL CONSTRAINTS
Shubenacadie

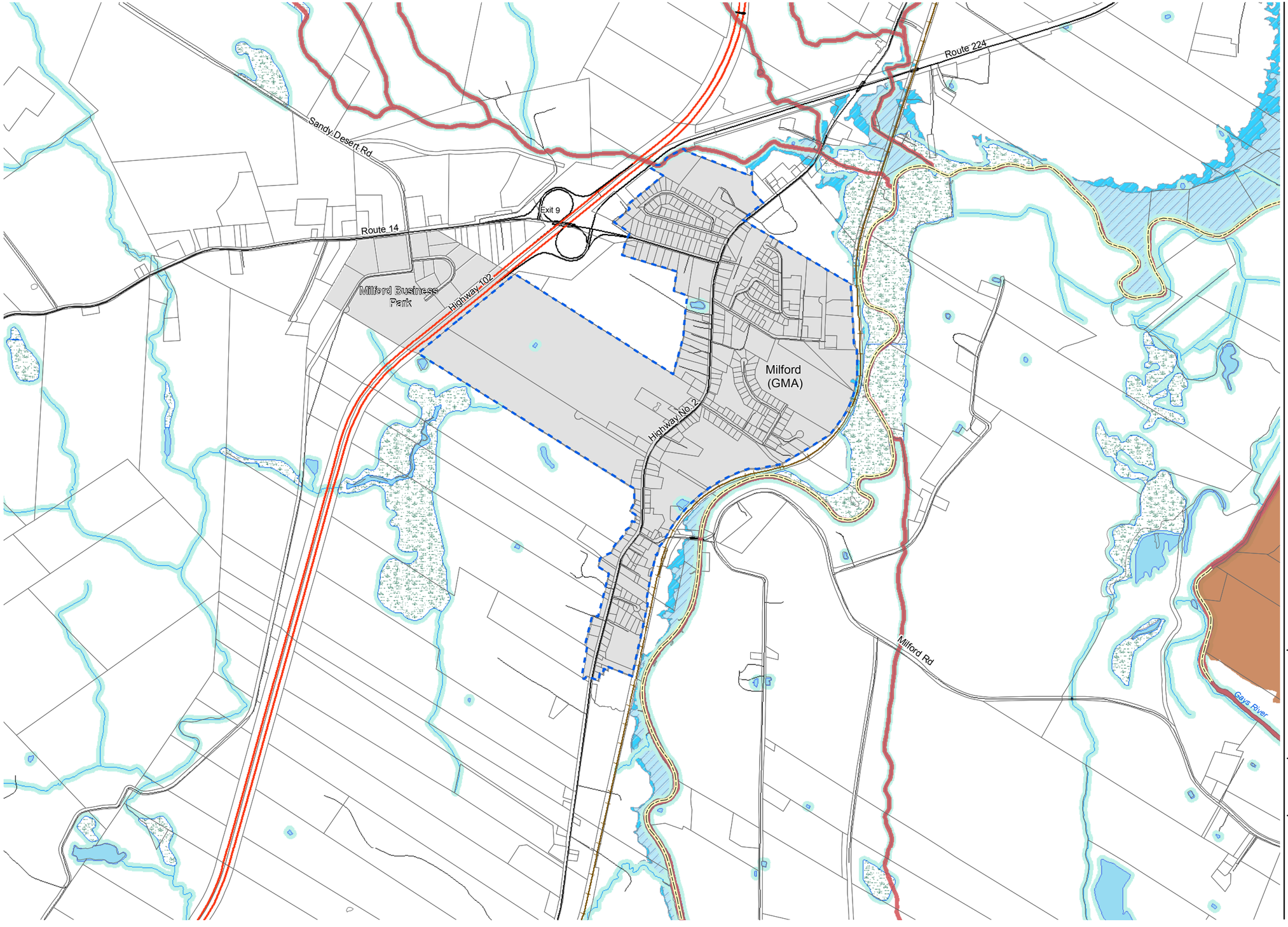
0 0.050.1 0.2 0.3 0.4 0.5 km

SCALE 1:20,000

NORTH

WSP
1 SPECTACLE LAKE DRIVE
DARTMOUTH, NOVA SCOTIA CANADA, B3B 1X7
PHONE: 902 835-9955 - FAX: 902 835-1645 - WWW.WSPGROUP.COM

Name: 141-13379-106A



Legend

- Municipal Boundary
- Service Boundary
- Growth Management Area (GMA)

Environmental Constraints

Significant Species & Habitats

- Species of Concern
- Species at Risk
- Other Habitat

Source: Nova Scotia Department of Natural Resources Significant Species and Habitats Database

Hydrographic Constraints

- 20m Water/Wetland Buffer
- Floodline-1in20yr (High Risk)
- Floodline-1in100yr (Moderate Risk)

Floodline Source: Municipality of East Hants

EAST HANTS
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Growth Management Review

MAP 7
ENVIRONMENTAL CONSTRAINTS
Milford

0 0.050.1 0.2 0.3 0.4 0.5 km

SCALE 1:20,000

NORTH

WSP
1 SPECTACLE LAKE DRIVE
DARTMOUTH, NOVA SCOTIA CANADA, B3B 1X7
PHONE: 902 835-9955 - FAX: 902 835-1645 - WWW.WSPGROUP.COM

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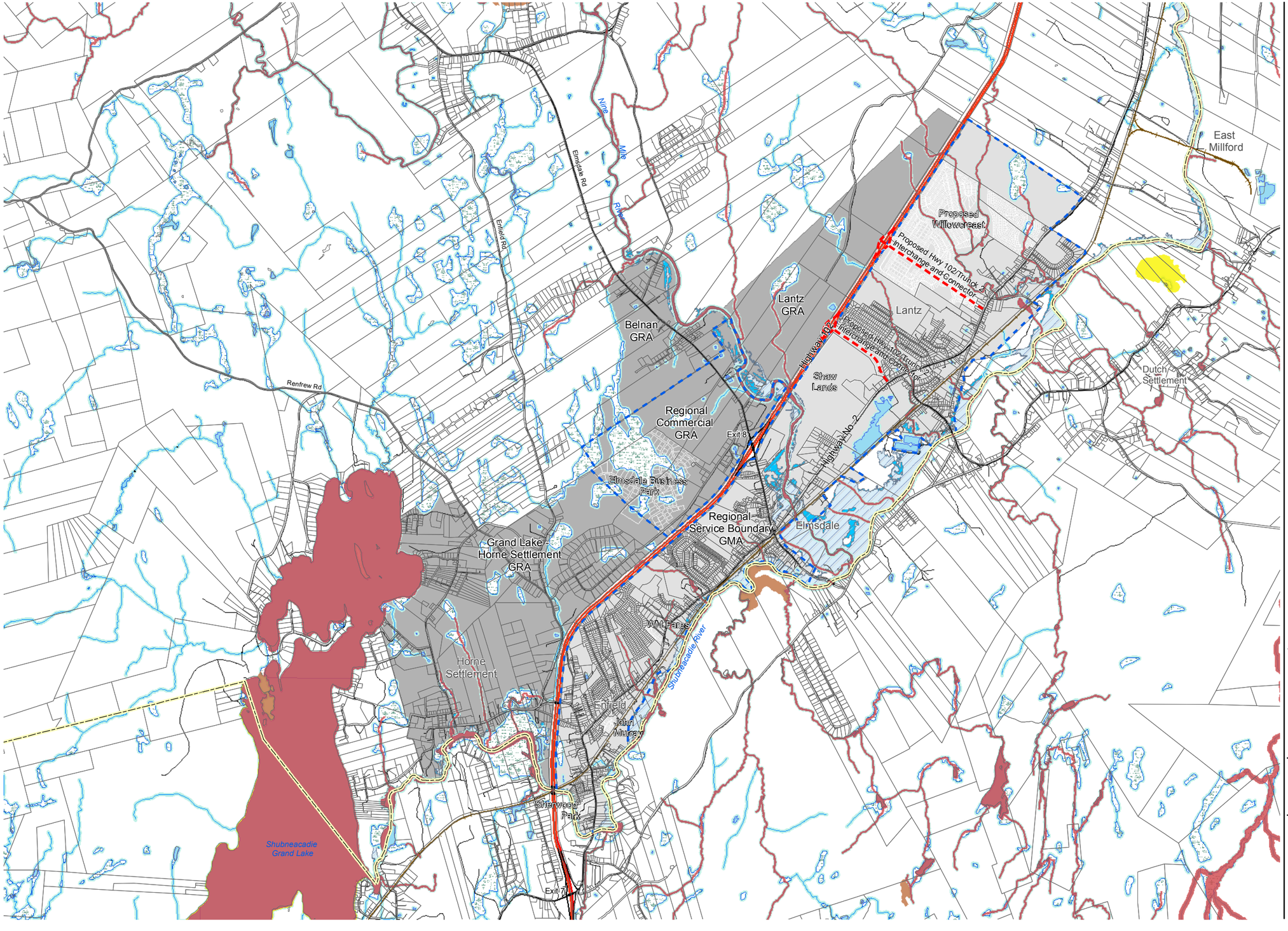

Legend

- Municipal Boundary
- Possible Interchange/Connector
- Service Boundary
- Growth Management Area (GMA)
- Growth Reserve Area (GRA)

Environmental Constraints

Significant Species & Habitats

- Species of Concern
- Species at Risk
- Other Habitat

Source: Nova Scotia Department of Natural Resources Significant Species and Habitats Database

Hydrographic Constraints

- 20m Water/Wetland Buffer
- Floodline-1in20yr (High Risk)
- Floodline-1in100yr (Moderate Risk)

Floodline Source: Municipality of East Hants

EAST HANTS
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Growth Management Review

MAP 8
ENVIRONMENTAL CONSTRAINTS
Regional Service Corridor

0 0.15 0.3 0.6 0.9 1.2 1.5 km

SCALE 1:50,000

NORTH

WSP
1 SPECTACLE LAKE DRIVE
DARTMOUTH, NOVA SCOTIA CANADA, B3B 1X7
PHONE: 902 835-9955 - FAX: 902 835-1645 - WWW.WSPGROUP.COM

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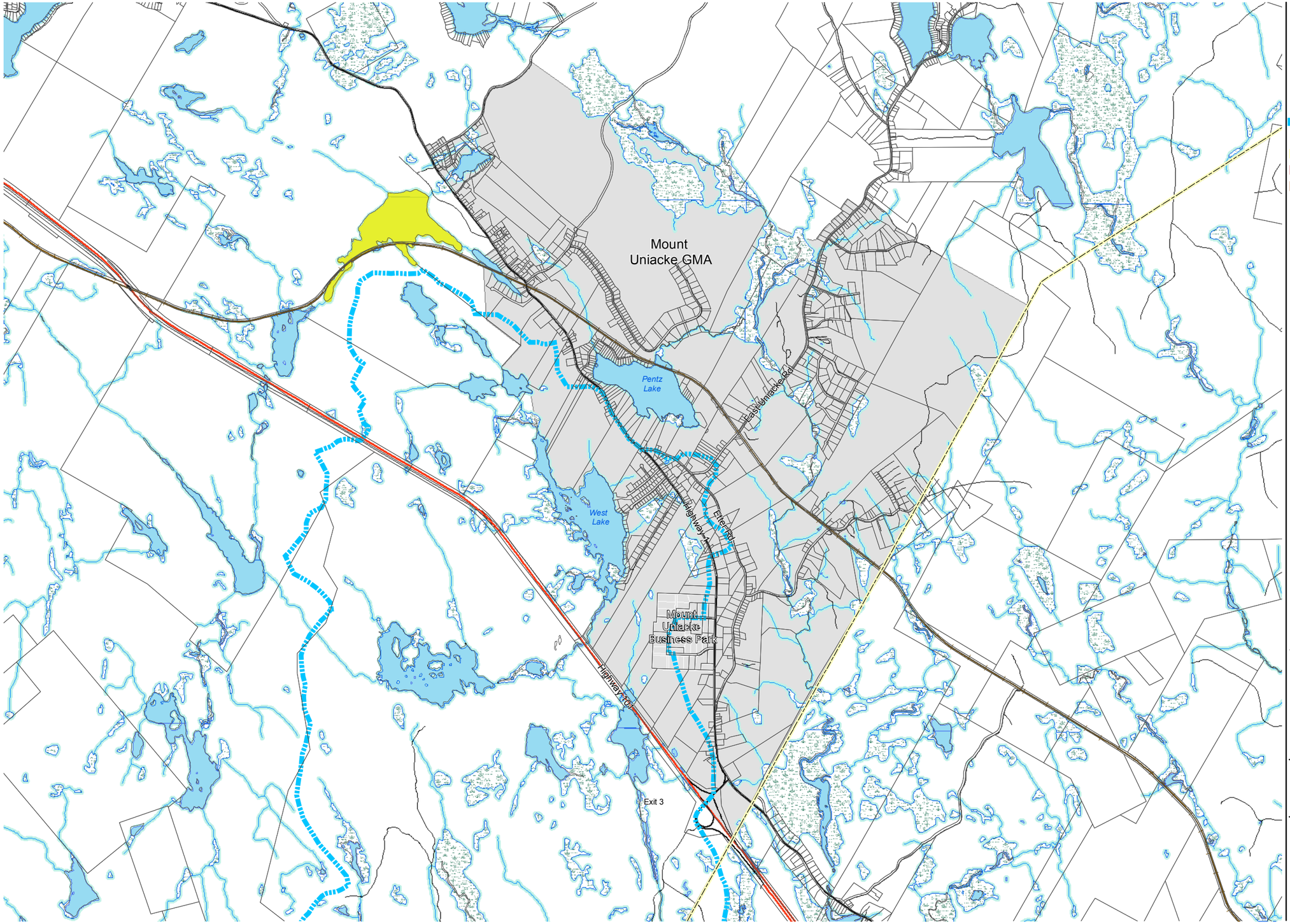

Legend

- Municipal Boundary
- Service Boundary
- Growth Management Area (GMA)

Environmental Constraints

- Pockwock Watershed Boundary

Significant Species & Habitats

- Species of Concern
- Species at Risk
- Other Habitat

Source: Nova Scotia Department of Natural Resources
Significant Species and Habitats Database

Hydrographic Constraints

- 20m Water/Wetland Buffer
- Floodline-1in20yr (High Risk)
- Floodline-1in100yr (Moderate Risk)

Floodline Mapping not available for the Mount Uniacke GMA

EAST HANTS
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Growth Management Review

MAP 9

ENVIRONMENTAL CONSTRAINTS

Mount Uniacke

0 0.1 0.2 0.4 0.6 0.8 1 1.2 km

SCALE 1:40,000

NORTH

WSP
1 SPECTACLE LAKE DRIVE
DARTMOUTH, NOVA SCOTIA CANADA, B3B 1X7
PHONE: 902 835-9955 - FAX: 902 835-1645 - WWW.WSPGROUP.COM

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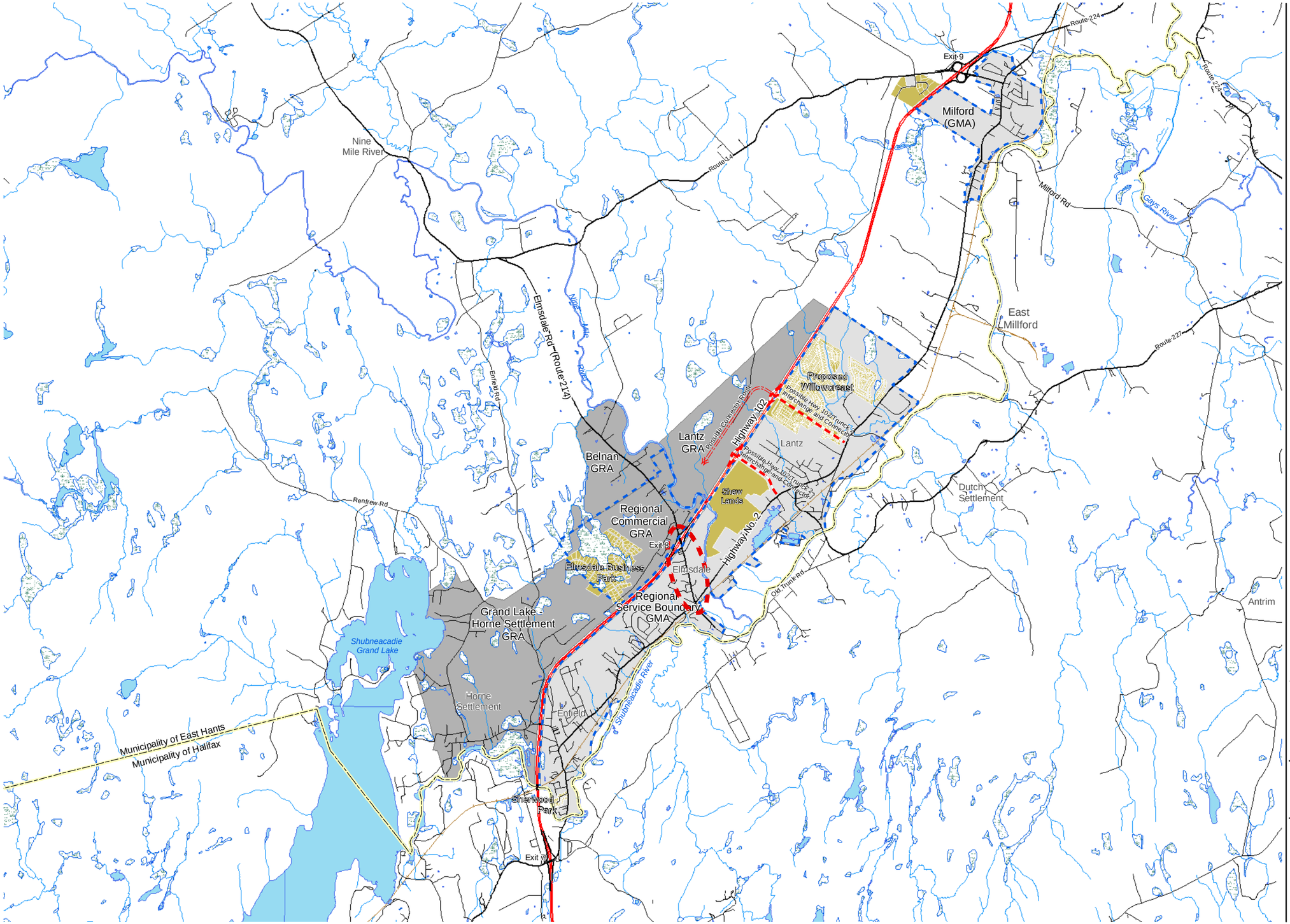

Legend

- Municipal Boundary
- Possible Interchange/Connector
- Possible Connector Route
- Service Boundary
- Growth Management Area (GMA)
- Growth Reserve Area (GRA)
- Proposed Development
- Area Experiencing Capacity Issues

EAST HANTS
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Growth Management Review

MAP 10
TRANSPORTATION

0 0.25 0.5 1 1.5 2 2.5 km

SCALE 1:70,000

NORTH

WSP
1 SPECTACLE LAKE DRIVE
DARTMOUTH, NOVA SCOTIA CANADA, B3B 1X7
PHONE: 902 835-9955 - FAX: 902 835-1645 - WWW.WSPGROUP.COM

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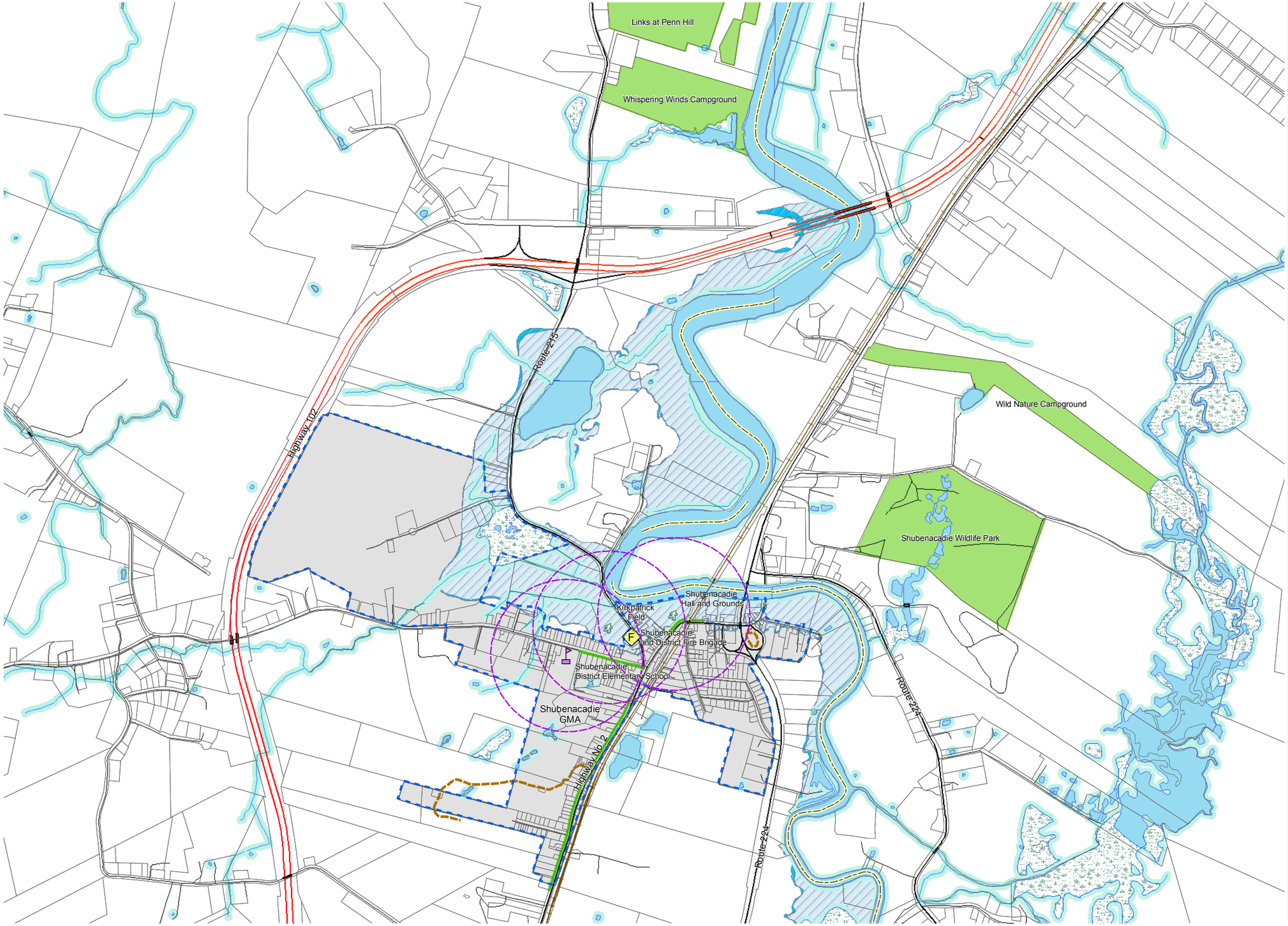


Legend

- Municipal Boundary
- Growth Management Area (GMA)
- Growth Reserve Area (GRA)
- Service Boundary
- Proposed Interchange/Connector

Environmental Constraints

- 20m Water/Wetland Buffer
- Floodline-1in20yr (High Risk)
- Floodline-1in100yr (Moderate Risk)

Assets

- Fire Stations
- RCMP
- Schools
- Sports Field
- Sidewalks
- Trail
- Recreation
- 5 Minute Walk (400 m)

EAST HANTS
We live it!

Growth Management Review

MAP 11
COMMUNITY SERVICES
Shubenacadie

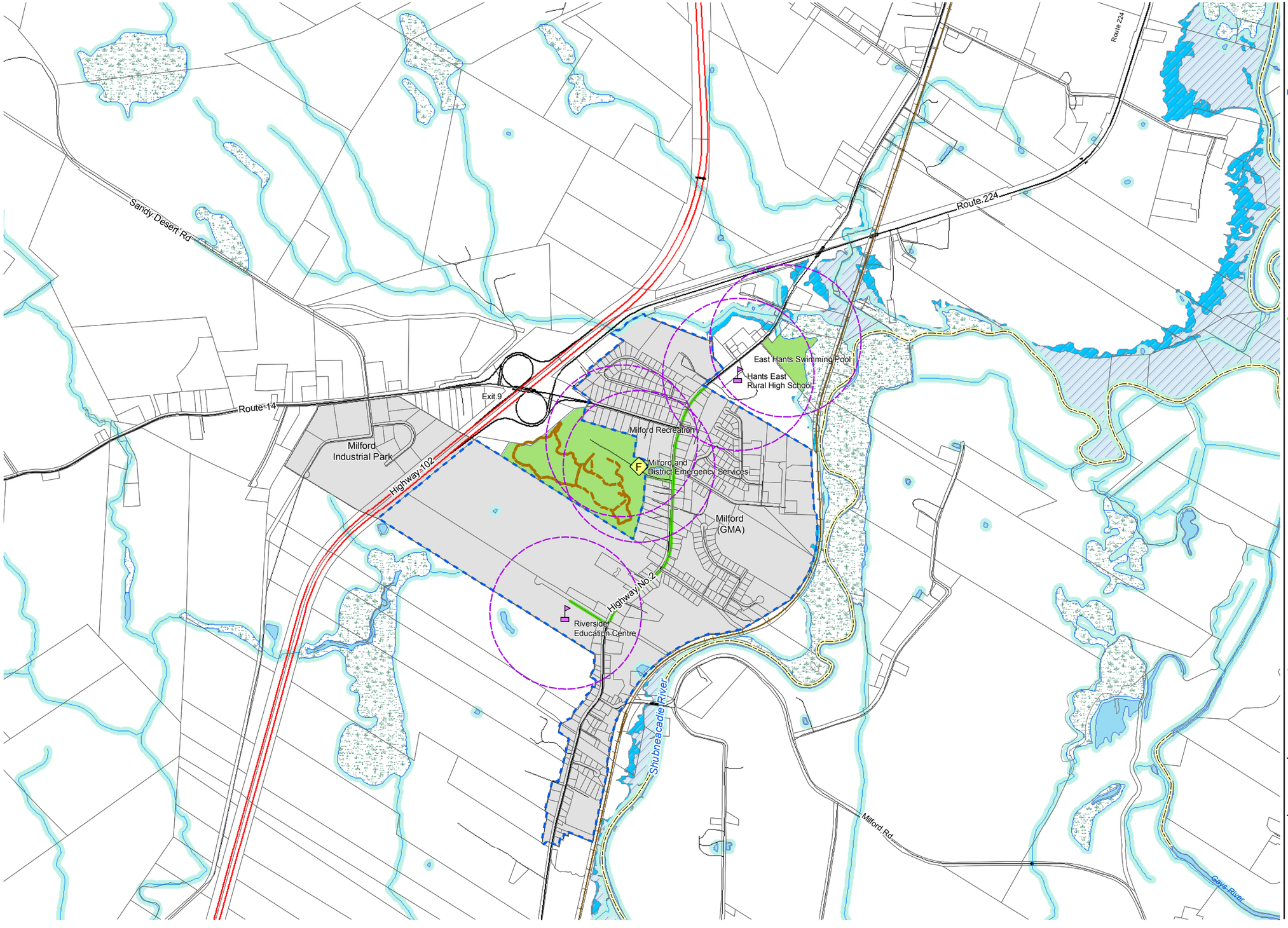
0 0.05 0.1 0.2 0.3 0.4 0.5 km

SCALE 1:20,000

NORTH

WSP
1 SPECTACLE LAKE DRIVE
DARTMOUTH, NOVA SCOTIA CANADA, B3B 1X7
PHONE: 902 835-9955 - FAX: 902 835-1645 - WWW.WSPGROUP.COM

Name: 141-13379-108A



Legend

- Municipal Boundary
- Growth Management Area (GMA)
- Growth Reserve Area (GRA)
- Service Boundary
- Proposed Interchange/Connector

Environmental Constraints

- 20m Water/Wetland Buffer
- Floodline-1in20yr (High Risk)
- Floodline-1in100yr (Moderate Risk)

Assets

- Fire Stations
- RCMP
- Schools
- Sports Field
- Trails
- Sidewalks
- Recreation
- 5 Minute Walk (400 m)

EAST HANTS
We live it!

Growth Management Review

MAP 12

COMMUNITY SERVICES

Milford

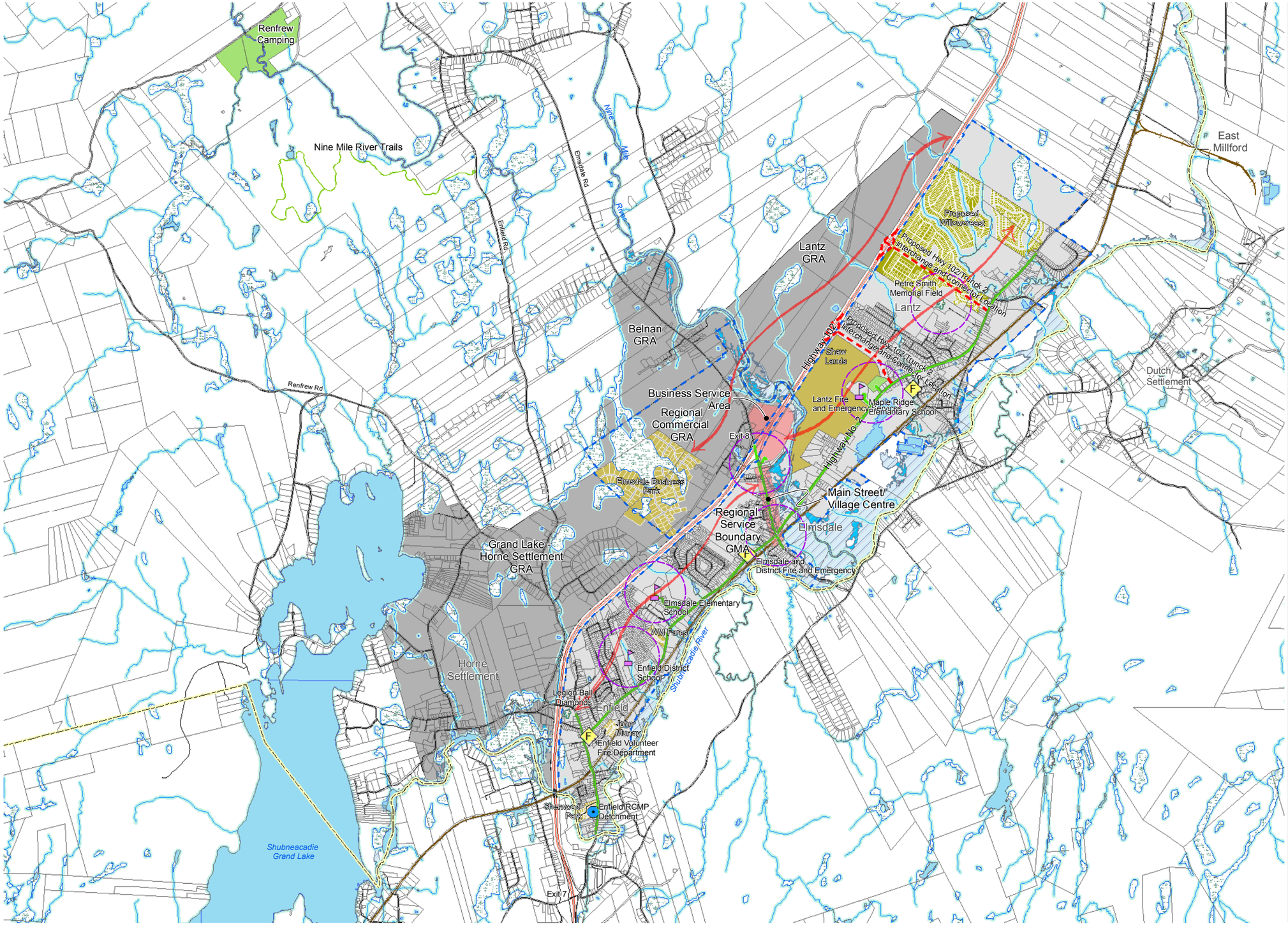
0 0.05 0.1 0.2 0.3 0.4 0.5 km

SCALE 1:20,000

NORTH

WSP
1 SPECTACLE LAKE DRIVE
DARTMOUTH, NOVA SCOTIA CANADA, B3B 1X7
PHONE: 902 835-9955 - FAX: 902 835-1645 - WWW.WSPGROUP.COM

Name: 141-13379-108B



Legend

- Municipal Boundary
- Possible Interchange/Connector
- Service Boundary
- Growth Management Area (GMA)
- Growth Reserve Area (GRA)
- Proposed Development

Environmental Constraints

- 20m Water/Wetland Buffer
- Floodline-1in20yr (High Risk)
- Floodline-1in100yr (Moderate Risk)

Assests

- 5 Minute Walk (400 m)
- Linear Connections
- Schools
- Fire Stations
- RCMP
- Sidewalks
- Business Centres
- Recreation
- Sports Field

EAST HANTS
We live it!

Growth Management Review

MAP 13
COMMUNITY SERVICES

Regional Service Corridor

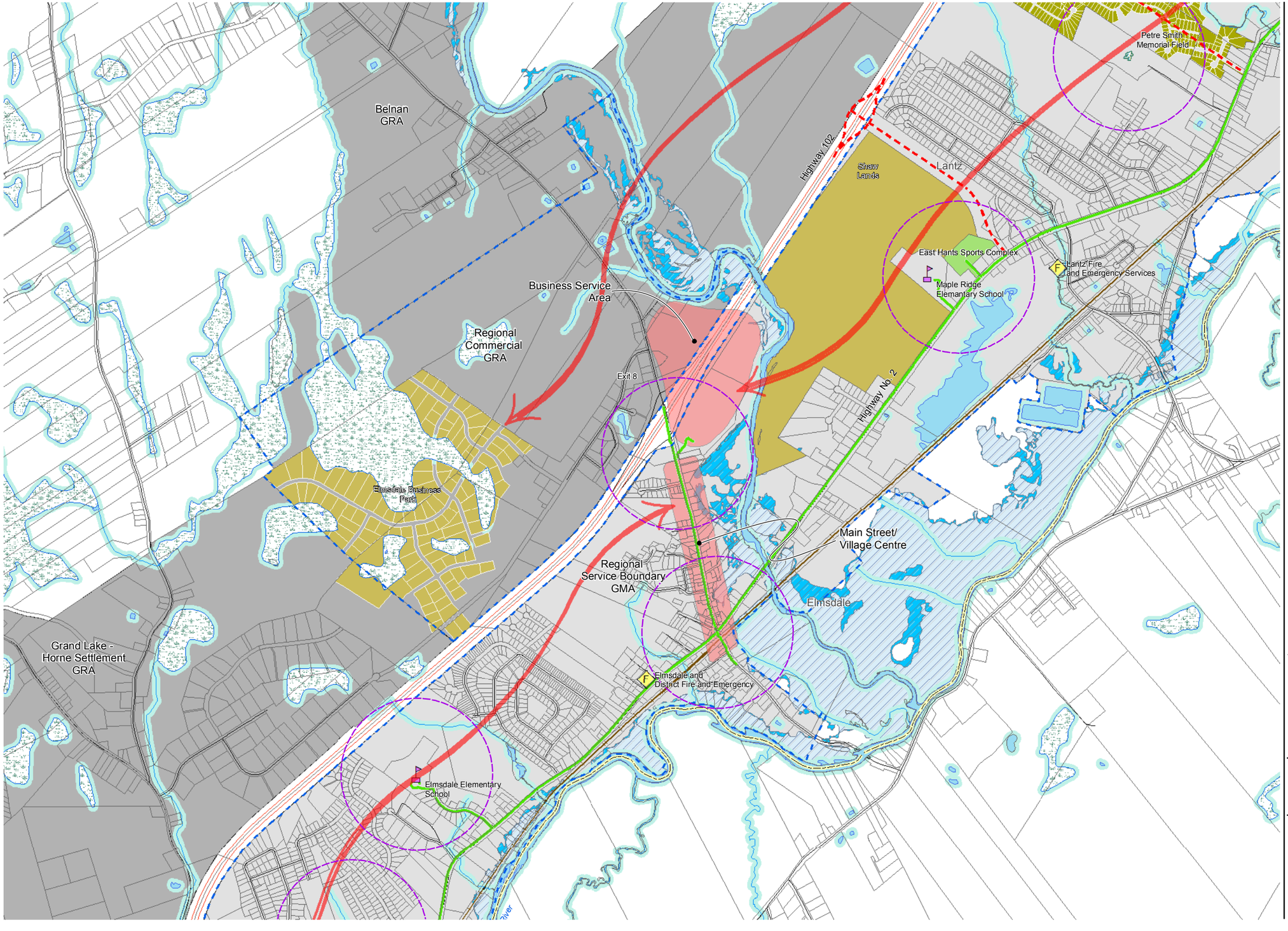
0 0.15 0.3 0.6 0.9 1.2 1.5 km

SCALE 1:50,000

NORTH

WSP
1 SPECTACLE LAKE DRIVE
DARTMOUTH, NOVA SCOTIA CANADA, B3B 1X7
PHONE: 902 835-9955 - FAX: 902 835-1645 - WWW.WSPGROUP.COM

Name: 141-13379-108C



Legend

- Municipal Boundary
- Possible Interchange/Connector
- Service Boundary
- Growth Management Area (GMA)
- Growth Reserve Area (GRA)
- Proposed Development

Environmental Constraints

- 20m Water/Wetland Buffer
- Floodline-1in20yr (High Risk)
- Floodline-1in100yr (Moderate Risk)

Assets

- 5 Minute Walk (400 m)
- Linear Connections
- Schools
- Fire Stations
- RCMP
- Sidewalks Existing
- Business Centres
- Recreation
- Sports Field

EAST HANTS
We live it!

Growth Management Review

MAP 14
DETAIL OF LINEAR CONNECTIONS
Regional Service Corridor

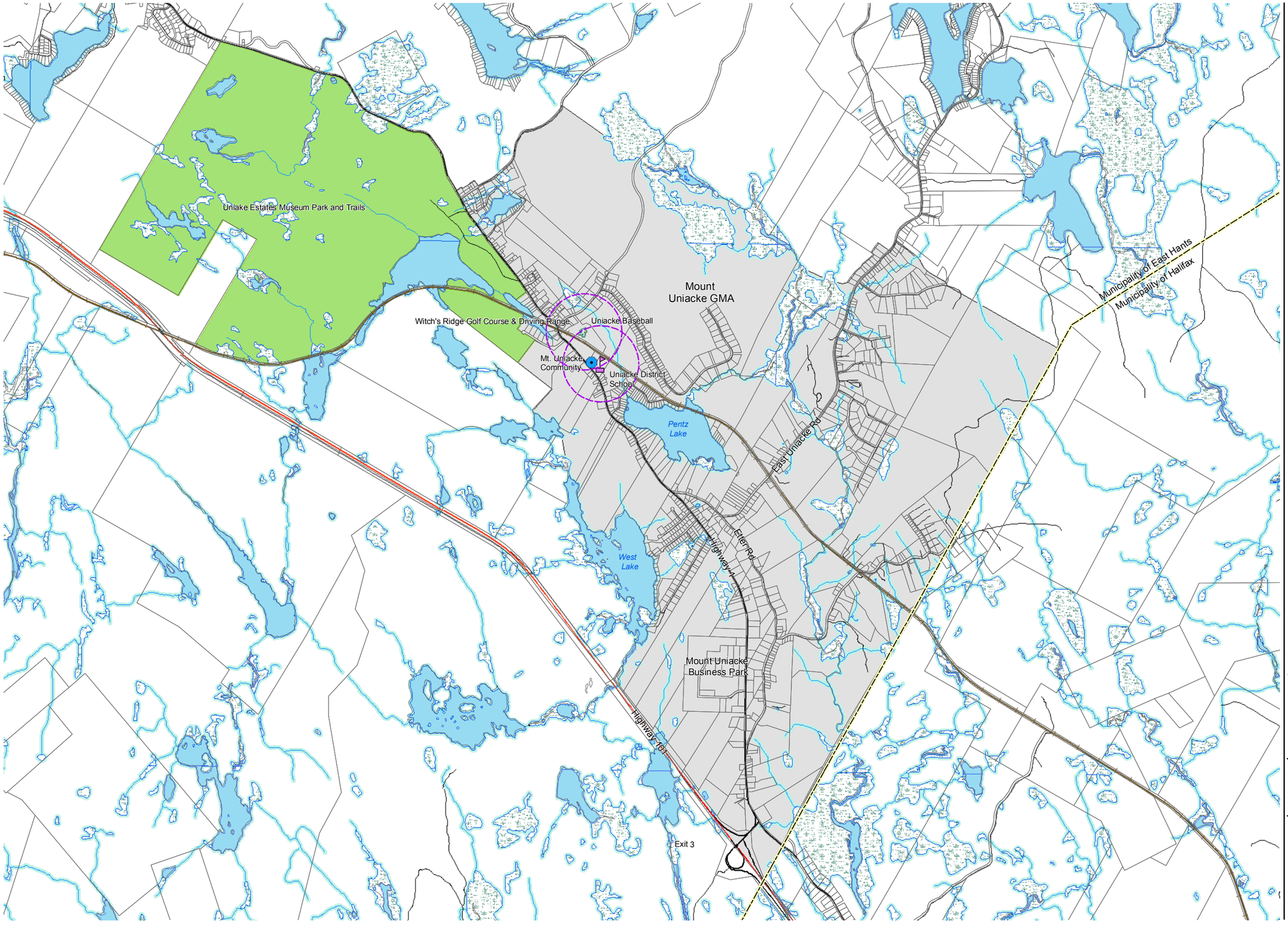
0 0.05 0.1 0.2 0.3 0.4 0.5 km

SCALE 1:20,000

NORTH

WSP
1 SPECTACLE LAKE DRIVE
DARTMOUTH, NOVA SCOTIA CANADA, B3B 1X7
PHONE: 902 835-9955 - FAX: 902 835-1645 - WWW.WSPGROUP.COM

Name: 141-13379-108C-CTR



Legend

- Municipal Boundary
- Growth Management Area (GMA)
- Growth Reserve Area (GRA)
- Service Boundary
- Proposed Interchange/Connector

Environmental Constraints

- 20m Water/Wetland Buffer
- Floodline-1in20yr (High Risk)
- Floodline-1in100yr (Moderate Risk)

Assets

- RCMP
- Schools
- Sports Field
- Recreation
- 5 Minute Walk (400 m)

EAST HANTS
We live it!

Growth Management Review

MAP 15
COMMUNITY SERVICES
Mount Uniacke

0 0.125 0.25 0.5 0.75 1 1.25 km

SCALE 1:40,000

NORTH

WSP
1 SPECTACLE LAKE DRIVE
DARTMOUTH, NOVA SCOTIA CANADA, B3B 1X7
PHONE: 902 835-9955 - FAX: 902 835-1645 - WWW.WSPGROUP.COM

Name: 141-13379-108D