IMAGINE
BREMNER
GROWING A NEW COMMUNITY

Bremner Growth Management Strategy

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ISL Engineering and Land Services

APPLICATIONS MANAGEMENT CONSULTING LTD.

URBAN STRATEGIES INC.

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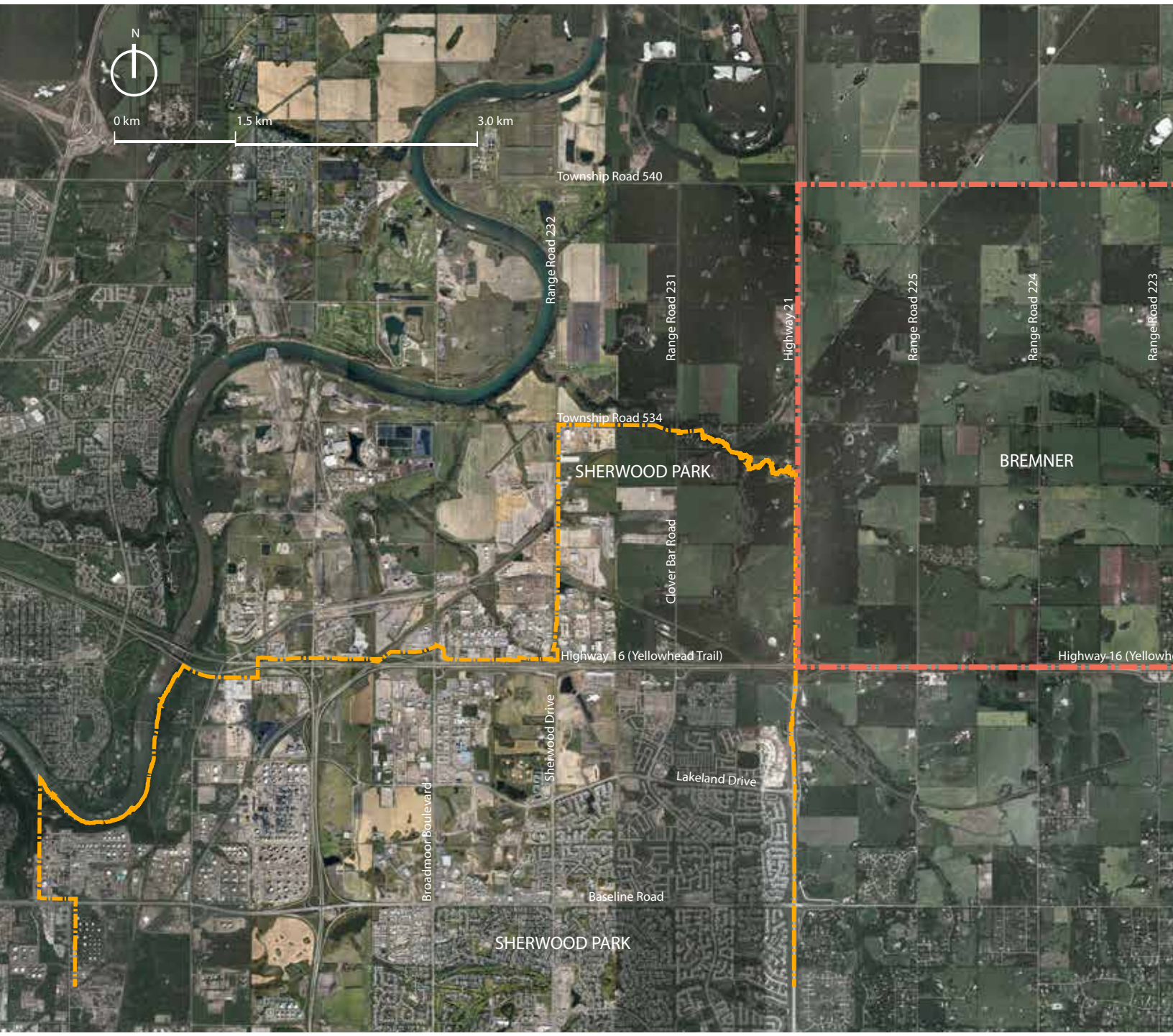
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BREMNER
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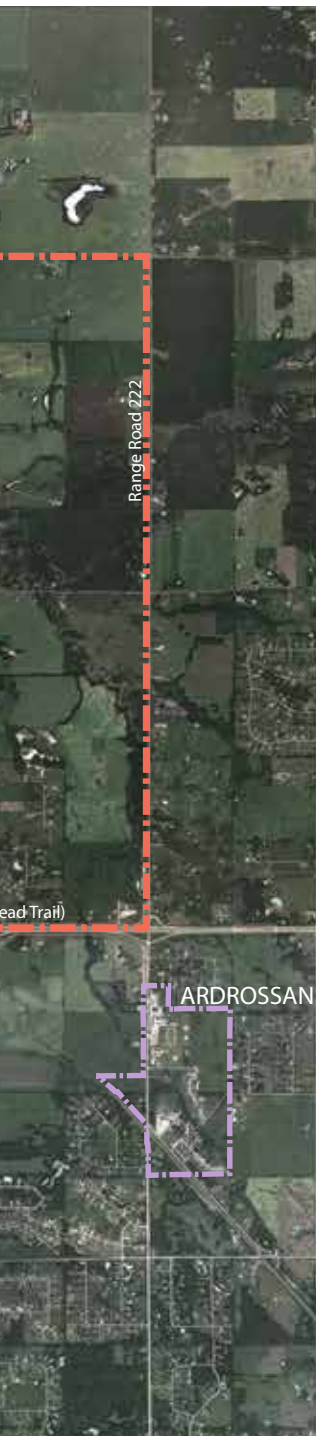
SHERWOOD PARK



1 Introduction

Alberta's Capital Region is prospering and growing. Its population is expected to increase by 300,000 by 2044. This growth will affect all parts of the region as people look for homes and communities based on personal lifestyles, housing affordability, and access to employment and education opportunities. Strathcona County, with its strong economic base and high quality of life, will continue to attract new residents, potentially more than 67,000 by 2044. Since the mid-1950s, Sherwood Park has provided a place for many newcomers to settle, but this, the county's first urban community, is nearly built out.

The County began considering potential locations for a new urban community in 2001 and, in the Municipal Development Plan (MDP) adopted in 2007, identified 4,175 hectares (10,300 acres) northeast of Sherwood Park as the Urban Reserve Policy Area. The area, called Bremner, is bounded by Highway 21 on the west, Range Road 222 on the east, Township Road 540 on the north and Highway 16 on the south. It was named after Charles Bremner, a prominent citizen in the first half of the 20th century, whose historic home is a County-owned landmark in the area. The Capital Region Growth Plan, approved in 2009, includes Bremner within a Priority Growth Area. In 2013, the County initiated "Imagine Bremner" to develop a growth management strategy for the area. This document is the culmination of a 16-month study of the challenges and opportunities associated with growing a new community in Bremner.

Purpose of this document

The purpose of this growth management strategy (GMS) is to describe and illustrate a vision, community design concept and set of policy directions intended to guide more detailed planning in Bremner, should the County decide to proceed with its development. Information in this report may also assist Council in comparing growing in Bremner versus other areas in the County, namely the Colchester area, south of Sherwood Park and Highway 628, which was designated a Rural/Urban Transition Policy Area in the 2007 MDP and included within Priority Growth Area B in the Capital Region Growth Plan.

How the document is structured

The document is composed of seven sections:

Section 2 Context, summarizes important background to the Bremner Growth Management Strategy, including previous studies and other relevant planning documents.

Section 3 Plan Area, looks at existing conditions in Bremner and the opportunities and challenges they would create for developing a new urban community.

Section 4 Planning Process, describes the major tasks and extensive consultation undertaken to prepare the GMS.

Section 5 Vision and Principles, describes and illustrates the qualities and features a new community in Bremner should have, based on public input and best practices in sustainable community design.

Section 6 Community Design Concept, describes and illustrates how a new community in Bremner should be structured by land use, environmental and open space features, roads and other major infrastructure.

Section 7 Policy Directions, recommends land use, urban design and other policies that will help ensure the community is developed as envisioned.

Section 8 Implementation, outlines the various planning tools and other measures that will be needed to implement the GMS.

2 Context

Plans for a new community should acknowledge both the history of the place and plans that have come before, including ones that are still current. This section provides background that informs the Bremner Growth Management Strategy, including County and regional policy documents to which the strategy needs to conform. In setting the context for growing a new community, it looks back at Strathcona County's development over the past century before focusing on more recent studies and plans. The section concludes by establishing general parameters for the development of a new community in terms of population and required land area.

2.1 Strathcona County's Historical Growth

Historically Strathcona County has been a largely agricultural community with small hamlets to serve the needs of the rural population. In the early 20th century, where Highways 16 and 21 meet today, was a place called Horton's Corner and later Hortonburg, after Harry Horton, who opened a store there in 1896. After the Grand Trunk Pacific Railroad was laid in 1909, the hamlet was renamed Bremner, after prominent citizen Charles Bremner. Home to a number of businesses and a recreation grounds, the hamlet was a hub of activity in the early decades of the 20th century but gradually faded and disappeared with construction of the Trans-Canada Highway.

The county's development into the mixed urban and rural community of today began in the 1950s, when Council approved the first major urban development as a home for oil industry workers in 1953. The urban population of the county grew rapidly over the next few decades, doubling between 1961 and 1971, and again between 1971 and 1981. The county's urban/rural population split has shifted steadily toward urban as Sherwood Park has grown. In 2012, Sherwood Park's population was approximately 65,000, or about 71% of the county's total population of 95,000.

With the development of the North of Yellowhead Area Concept Plan area over the next decade, Sherwood Park will be fully developed. Existing country residential subdivisions east and south of Sherwood Park prevent the community from expanding in those directions, and proximity to heavy industry prevents residential growth to the north. To accommodate anticipated future growth, the County needs to develop a new, relatively self-contained urban community.

For the first half of the 20th century, Strathcona County was entirely rural, experiencing steady but modest growth. Since the 1960s, with the development of Sherwood Park, the county's urban population has increased significantly from decade to decade and this is expected to continue.

Figure 2.1

Population: 1901-1951

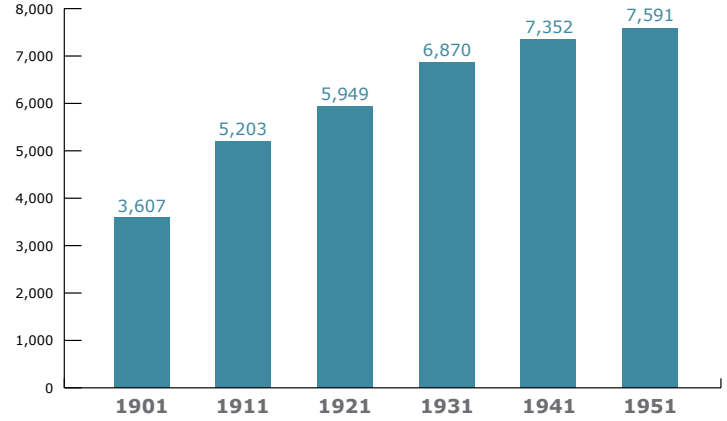
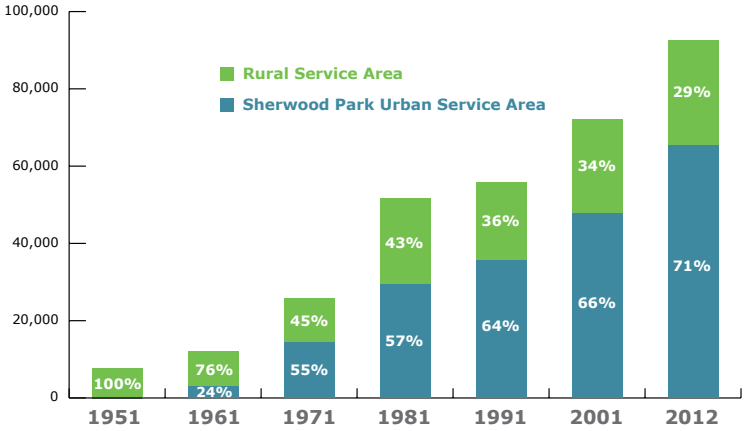


Figure 2.2

Urban & Rural Population: 1951-2012



2.2 The Path to Bremner

The Bremner area was first identified as a potential location for urban development in 2001 when the County completed a Future Areas Feasibility Study. The study evaluated four potential future urban areas in the west half of the county, between Leduc County and Fort Saskatchewan. A decision matrix was developed to evaluate the suitability of each potential growth area within seven categories: land development constraints, environmental considerations, land use, infrastructure, transportation network, other services and developable land.

Based on this analysis, one area was eliminated from further consideration due to the extent of existing oil and gas exploration activity in the area. Two areas were identified as preferred Future Urban Areas in the Municipal Development Plan (MDP). One of these areas was a hybrid option combining parts of two of the four potential future urban areas under consideration. It covered approximately 80% of the Bremner area as it was ultimately defined. The other area, south of Whitemud Drive between Anthony Henday Drive and Highway 21, was approximately equivalent to the area known as Colchester.

The 2001 study was followed by an Evaluation of Urban Growth Options report that evaluated three geographic areas—the Bremner and Colchester areas identified in the Future Areas Feasibility Study, as well as a third area extending north from the hamlet of Ardrossan. Each of the options was evaluated against growth management principles in the areas of environment, community, servicing, economy and management. The report eliminated the Ardrossan area as an option because its distance from Sherwood Park would result in considerably higher servicing costs than the other two options. It concluded that the Colchester area was the preferred option due, in part, to its lower class of agricultural land and access to infrastructure.

In 2007, Council approved a new MDP for the County that identified Bremner as the "Urban Reserve Policy Area" and Colchester as the "Rural/Urban Transition Policy Area". The MDP required both the Bremner area and the Colchester area to conduct growth management strategies prior to more detailed planning being completed. In 2009, the Capital Region Growth Plan was created, which identified both Bremner and Colchester within Priority Growth Areas for future urban development. Amendments were made to the MDP to reflect the Capital Region Growth Plan and identify both areas for future urban growth. In 2012, Council initiated the preparation of a growth management strategy for Bremner.

2.3 Strathcona County Strategic Plan

Strathcona County's Strategic Plan, *Powering our New Tomorrow*, serves as the foundation for all municipal plans and activities. The Strategic Plan establishes a vision for the County in 2030 as a specialized municipality that is a welcoming place to live for all and a model of ecological integrity. Eight priority areas are identified to help the County achieve the vision, grouped under five pillars of sustainability:

Economy

- World leading petrochemical cluster
- Effective and efficient municipal infrastructure
- Diverse economy

Governance

- Cooperative partnerships with community, business, industry and neighbouring governments

Social

- Helping, caring and safe community
- Healthy and active community

Cultural

- Vibrant, creative community

Environment

- Protect our environment and preserve biodiversity

2.4 Municipal Development Plan

The MDP sets out a strong vision for sustainability in Strathcona County and in new growth areas in particular. The County's sustainability and growth management objectives directly related to Bremner include:

- Demonstrate leadership towards applying sustainable practices throughout the community.
- Adopt a framework that ensures future community planning implements and builds sustainable and complete neighbourhoods that create a sense of community within the municipality.
- Adopt an approach to achieving sustainability that is forward-looking, responsible, adaptive, innovative and integrated.
- Ensure an adequate and suitable land base exists to accommodate urban growth needs.

Reflecting the County's Strategic Plan, the MDP requires that decisions involving future growth and development consider the pillars of sustainability. Specifically, the following 12 themes are to be considered when evaluating sustainable development: Land, Water, Natural Habitat, Carbon, Food, Transport, Materials, Economy, Waste, Well-being, Culture and Equity.

The MDP requires that a growth management strategy (GMS) be adopted by Council prior to any further planning or subdivision in either Bremner or Colchester. Until an Area Concept Plan based on the GMS is adopted, the policies for Agriculture-Large Holdings will continue to apply (Policy 4.19f). The MDP states that the GMS will include higher density development and mixed use components in conformity with the intent of the Capital Region Growth Plan (outlined on the following pages).

Policy 4.9 states that the County will ensure all new growth pays for itself and will not be a burden on the existing ratepayers, and will recognize the desirability of inter-generational equity. Policy 4.19a states that the County will ensure growth management strategies take into account appropriate transitioning of the built form, from urban to rural with regard to residential development. In addition, the County will ensure growth management strategies address potential fringe conflicts with existing agricultural operations throughout the stages of development (Policy 4.19e).

Policy 4.20 states that the following components must be incorporated into the plan for any potential growth area, whether urban or rural:

a) Consideration of future interchange requirements;

b) Appropriate setbacks and transitions from industry and pipeline corridors within the plan area as well as adjacent lands;

c) Transportation networks and efficiencies including the impacts on existing communities such as Sherwood Park;

d) Efficient water, sewer, stormwater and shallow utility infrastructure;

e) Environmental and farmland conservation;

f) Transit orientated compact development;

g) Timing and sequence of development;

h) Diversity of uses where possible, including employment, housing, community services, social needs and open spaces;

i) Resource and energy efficiencies of buildings, infrastructure, waste management; and

j) Community and urban design.

Policy 4.21 of the MDP sets out requirements for the types of analysis to be undertaken as part of the GMS, including:

a) Opportunities and constraints;

b) Water, sewer, stormwater and other infrastructure costs;

c) Transportation networks, including the impacts on existing communities such as Sherwood Park;

d) Environmental and farmland conservation;

e) Transit, municipal service efficiencies and financial impact;

f) Timing and sequence of build out as it relates to servicing, financial and infrastructure impacts;

g) Regional context with respect to infrastructure, land use, employment, transportation efficiencies and impacts;

h) Scenarios on various options to accommodate a diversity of uses - employment, housing, community services, social needs and open spaces within each area; and

i) Access to existing commercial development in Strathcona County in the short term.

Finally, Policy 4.22 states that the GMS for Bremner shall address the need to provide safe and efficient transitions between the City of Edmonton's heavy industry and residential land uses.

2.4 Capital Region Growth Plan

Established in 2008, the Capital Region Board (CRB) consists of representatives from the 24 municipalities in the Alberta Capital Region. The purpose of the board is to facilitate regional cooperation and coordination on long range planning and decision making to maximize prosperity, sustainability and quality of life in the region. The board's initial task was to prepare and implement an integrated growth plan for the Capital Region, focused on land use, transit, affordable housing and geographic information systems (GIS).

The Capital Region Growth Plan: Growing Forward was approved by the Capital Region Board in 2009. The plan emphasizes greater integration of land uses and joint planning of transportation and housing to optimize infrastructure investments and responsibly manage growth. To limit the footprint of urban development, the Growth Plan identifies seven priority growth areas within the region and sets population density targets for each. The Bremner area is included within Priority Growth Area F, which has a density target of 30-40 dwelling units per net residential hectare.

Among the principles underpinning the land use component of the Growth Plan the following are most relevant to the Bremner GMS:

- Preserve and protect the environment
- Protect natural resources
- Minimize the impact of development on regional watersheds and airsheds
- Support expansion of medium and higher density residential housing forms
- Create inclusive communities
- Support public transit
- Support innovative and affordable housing options
- Integrate transportation systems with land use
- Support the expansion of transit services in various forms

2.5 Projected Future Growth and Urban Land Requirement

The CRB projects that the population of Strathcona County will grow by 49 to 73% to reach between 138,000 and 160,000 by 2044 (Source: Capital Region Population and Employment Projections, September 2013). This represents an increase of between 45,500 and 67,500 people based on the 2012 population of 92,500. Much of this growth can be accommodated in existing and planned communities. The undeveloped areas of Sherwood Park south of Highway 16 have room for approximately 9,600 people. The approved Cambrian Crossing Area Structure Plan, for the area of Sherwood Park north of Highway 16 and west of Highway 21, includes residential lands that are expected to accommodate approximately 11,500 people. In addition, the county's hamlets of Ardrossan, Josephburg and South Cooking Lake have been planned to accommodate 5,000 more residents in total. When all this planned growth is subtracted from the overall growth projections for the county, the difference is between 19,400 and 41,400. Based on historic trends, 20% of this growth is expected to occur in the county's rural areas, leaving a population of between 15,500 and 33,100 people to be accommodated in new urban areas not yet planned (see Table 2.1).

Table 2.1

Accommodation of Population Growth to 2044

	Low	High
Projected County Population in 2044	138,000	160,000
Minus County Population 2012	92,500	92,500
Projected Population Growth	45,500	67,500
Minus Growth that can be Accomodated in Existing Plans		
Sherwood Park (including Cambrian Crossing)	21,100	21,100
Hamlets	5,000	5,000
Remaining Growth	19,400	41,400
Minus Growth that will go to Rural Areas (20%)	3,900	8,300
Urban Growth to be Accommodated in a New Urban Area (80%)	15,500	33,100
Dwelling Units (based on 2.5 persons/unit)	6,200	13,240

Table 2.2

Land Requirements for a New Urban Community

Use		Land Required (ha)			
		6,200 dwelling units		13,240 dwelling units	
		30 du/nrha*	40 du/nrha	30 du/nrha	40 du/nrha
Residential	Net Residential	206	155	441	331
	Total Gross Residential (net x 1.5)	309	233	662	497
Retail	Net Retail	17		37	
	Total Gross Retail (net x 1.5)	24		52	
Parkland	Neighbourhood Parks	23		50	
	Community Parks	31		66	
	County-Wide Parks	62		132	
	Total Gross Parkland	116		248	
Community Facilities	Indoor Recreation Facilities	5		15	
	Schools	24		56	
	Fire Stations	1		2	
	Total Gross Community Facilities	30		73	
Total Development Land Required		**479**	**403**	**1035**	**870**

*du/nrha = dwelling units/net residential hectare

New urban residential land required

From the county's unplanned urban growth of 15,500 to 33,100 people by 2044, the amount of land required for a new urban community can be estimated (see Table 2.2). Based on the assumption that the number of people living in each new dwelling unit will average 2.5, this population range translates to 6,200 to 13,240 units. To meet the CRB's density target of 30 to 40 dwelling units per net residential hectare, between 155 hectares of net residential land (6,200÷40) and 441 hectares (13,240÷30) will be required. These figures need to be inflated by 50% to account for the land required for hard infrastructure to service the new homes, including roads, utilities and stormwater management facilities. The resulting gross residential land requirement is 233 to 662 hectares.

Land required for new community facilities

A new urban community consists of much more than housing. Land is also required for community facilities, such as parks, schools and indoor recreation facilities, and for retail uses. Based on the County's target parkland ratio of 7.5 hectares per 1,000 residents, 116 to 248 hectares of parkland should be planned for a population of 15,500 to 33,100. Four to six primary schools will be needed at the bottom end of this population range, depending on whether they are K-6 or K-9 schools; 8 to 12 primary schools will be needed for the higher population. The higher population would also require one high school, whereas the lower population likely would not generate demand for one. The estimated land required for all schools and indoor recreation facilities, as well as fire halls, is 30 to 73 hectares.

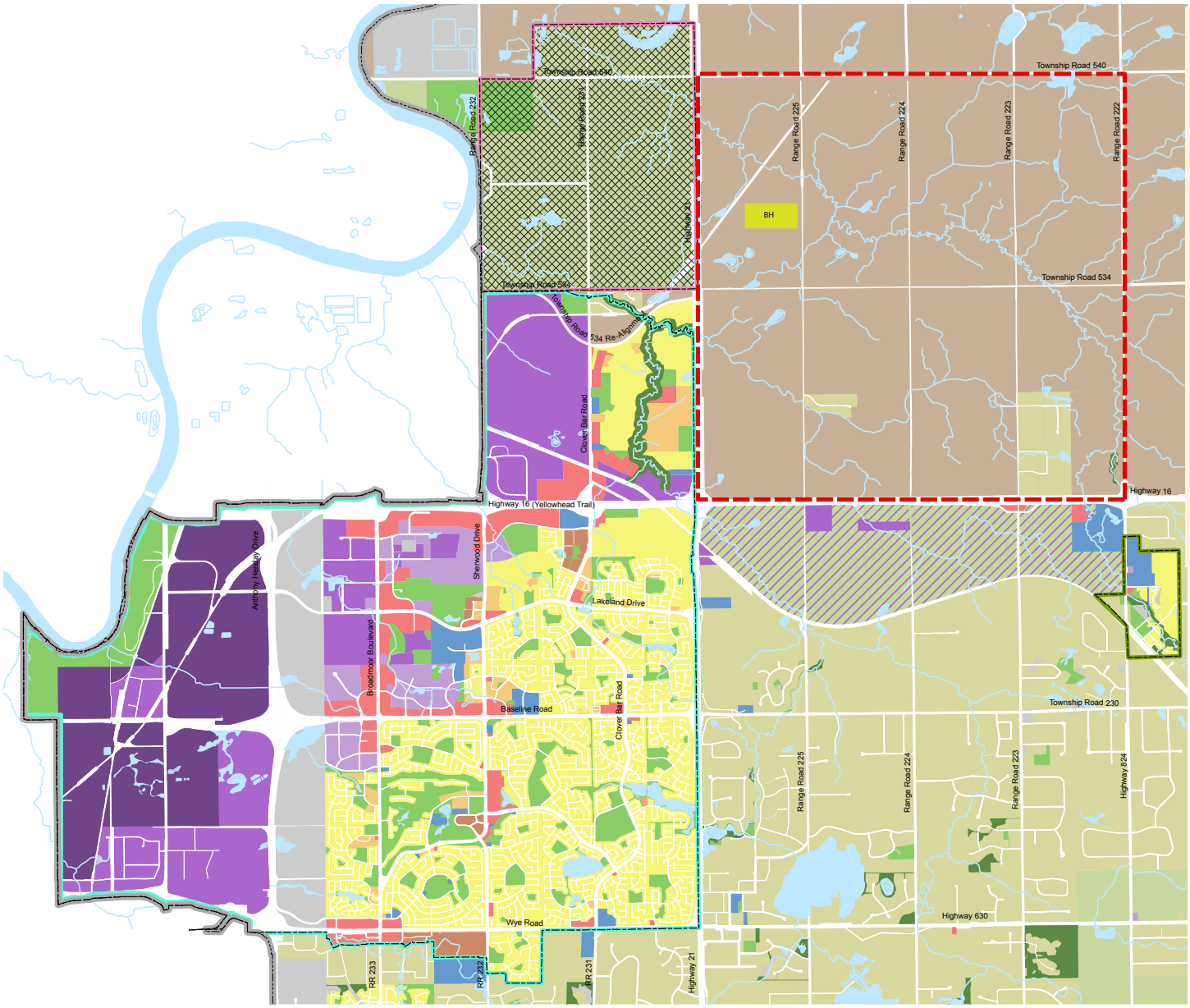
Land required for retail uses

According to the County's 2010 Retail Market Analysis, there is an average of 2.8 square metres of retail space in the county for every resident. If this ratio remains constant over the long term, a new community with a population of 15,500 to 33,100 would demand 43,400 to 92,680 square metres of new retail space. This translates to 17 to 37 hectares of net retail land, based on a retail density of 2,500 square metres per hectare. Inflating these figures by 40% to account for infrastructure to service the land, the gross retail land requirement is 24 to 52 hectares.

Land required for industrial and office development

The 2013 Industrial Lands Strategy concluded that Strathcona County would likely require 178 hectares of additional industrial land to meet the projected need over the next 30 years. Since then, industrial uses have been proposed for the 570 hectares that comprise the Transition Urban Reserve Policy Area, north of Sherwood Park. In addition, in 2013, the County initiated a study of the opportunity for employment uses on 874 hectares on the south side of Highway 16, across from Bremner, designated the Development Expansion Area. Because of this industrial land capacity in the county, while areas in Bremner may be suitable for office and light industrial uses and it is desirable to plan for some such uses to create a complete community, there is no specific target for business park and light industrial uses in Bremner. There is also no need to plan for medium or heavy industrial uses in Bremner.

Figure 2.3
The Bremner Area in Context



CONTEXT LEGEND

- Watercourse
- Water Body
- Bremner Study Area
- Sherwood Park
- Transition Urban Reserve Area (Future non-residential development)
- Hamlet of Ardrossan
- County Boundary
- Agriculture
- Residential (Country and Rural)
- Residential (Low Density)
- Residential (Medium Density)
- Residential (High Density)
- Mixed Use Urban Village
- Commercial
- Commercial (Low Intensity/Business Park)
- Industrial Light/Medium
- Development Expansion Area (Future Light Industrial and Commercial)
- Industrial (Heavy)
- Institutional
- Parks, Open Space and Recreation
- Utilities
- BH Bremner House Property

Development is being planned immediately to the west and south of the Bremner area. To the west, the Cambrian Crossing Area Structure Plan includes areas for industrial, residential and commercial development. An interchange at Highway 21 and Township Road 534, and a flyover south of the interchange would directly connect Cambrian Crossing to a new community in Bremner. The remainder of Bremner's western boundary abuts the Transition Urban Reserve Policy Area, which has been proposed for industrial uses. Immediately south of Bremner, the Development Expansion Area that extends to the CN railway line is currently being studied as a potential area for commercial, light industrial and public service uses. The lands north and east of Bremner are intended to remain agricultural.

Total urban land required to 2044

Adding the land required for residential, community and retail uses together, the total requirement varies from 403 hectares, based on 15,500 people at 40 units per net residential hectare, to 1,035 hectares, based on 33,100 people at 30 units per net residential hectare (see Table 2.2). This represents as little as 10% of the total area of Bremner and as much as 25%. Looking beyond 2044 and assuming a continuing high rate of growth, approximately half of Bremner would be required to accommodate growth to 2074.

Based on the above land needs analysis, and the analysis of existing uses and natural features in Bremner, it is recommended that not all of the area be planned for urban development and that, at a minimum, the area north of Pointe-aux-Pins Creek be maintained for agricultural uses for the foreseeable future.

3 Plan Area

Bremner does not present a clean slate for urban development. The growth management strategy recognizes the features and uses that define the area today. This section describes existing conditions in Bremner, as well as the infrastructure surrounding the area to which future development would need to connect.

3.1 Natural Features

The Bremner area contains a number of significant environmental features that warrant protection. Strathcona County completed a preliminary biophysical assessment of Bremner to identify the environmental features that can be dedicated as Environmental Reserve (ER) under the Municipal Government Act (MGA), as well as other features that the County should strive to protect using its Municipal Reserve (MR) dedication. The assessment included a site survey, a desktop study of previous environmental reports, a review of historical air photos and site visits.

The biophysical assessment determined that Pointe-aux-Pins Creek is a locally-significant feature within the county. It contains diverse valley vegetation, is an important wildlife corridor and wetland habitat, and is considered the best example of ravine habitat in the county.

Old Man Creek, tributaries of the creeks, and numerous wetlands were also identified for protection as Environmental Reserve (see Figure 3.1). The biophysical assessment also identified significant upland features such as tree stands that may be protected using the Municipal Reserve dedication. The County's MDP directs that treed areas should be protected using other tools where possible.

Figure 3.1 also shows opportunities to conserve or re-establish open space linkages between existing significant natural features. Such linkages would help to protect wildlife habitats and corridors, create a trail network and generally enhance recreational opportunities.

Figure 3.1
Natural Features

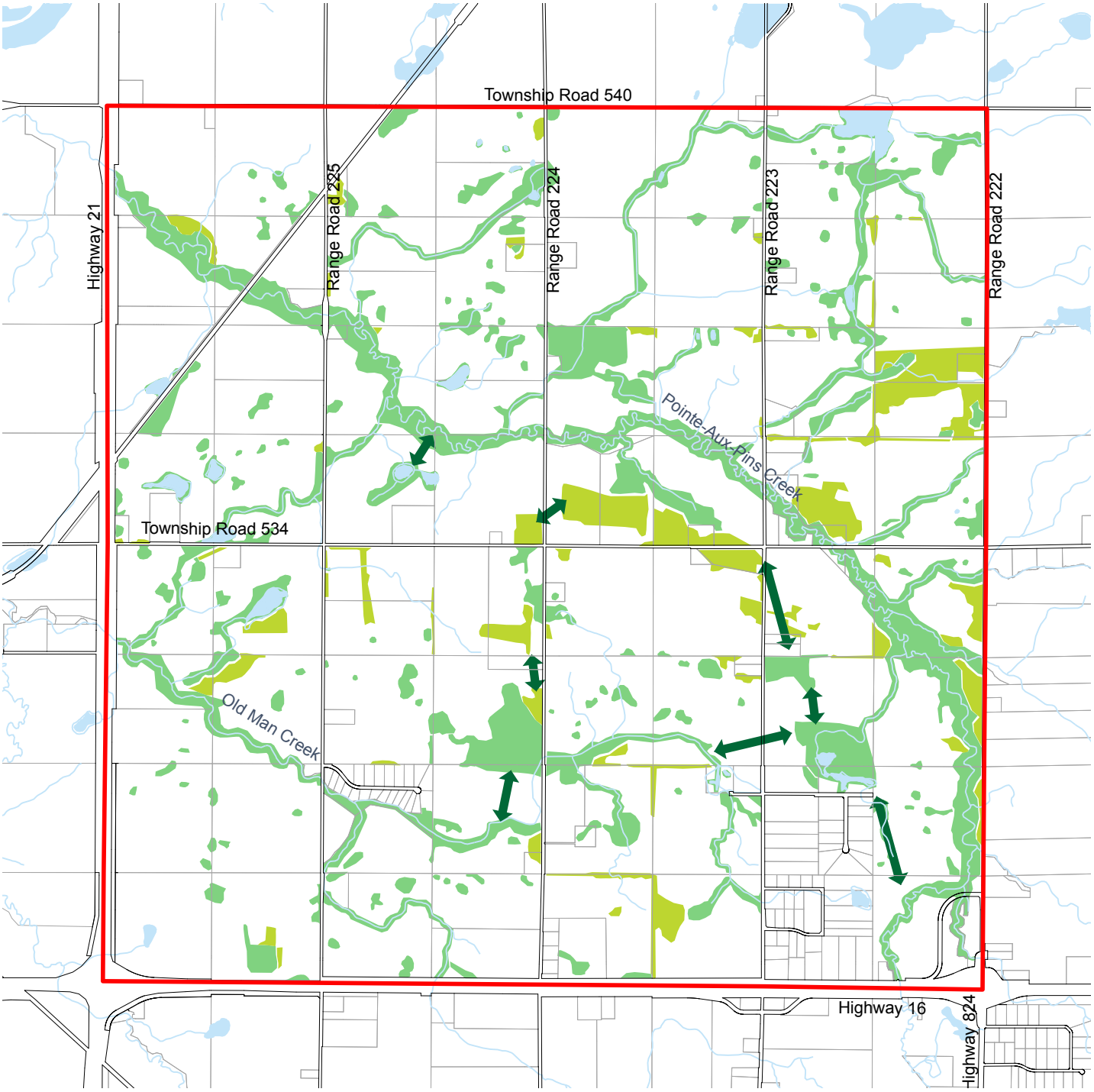
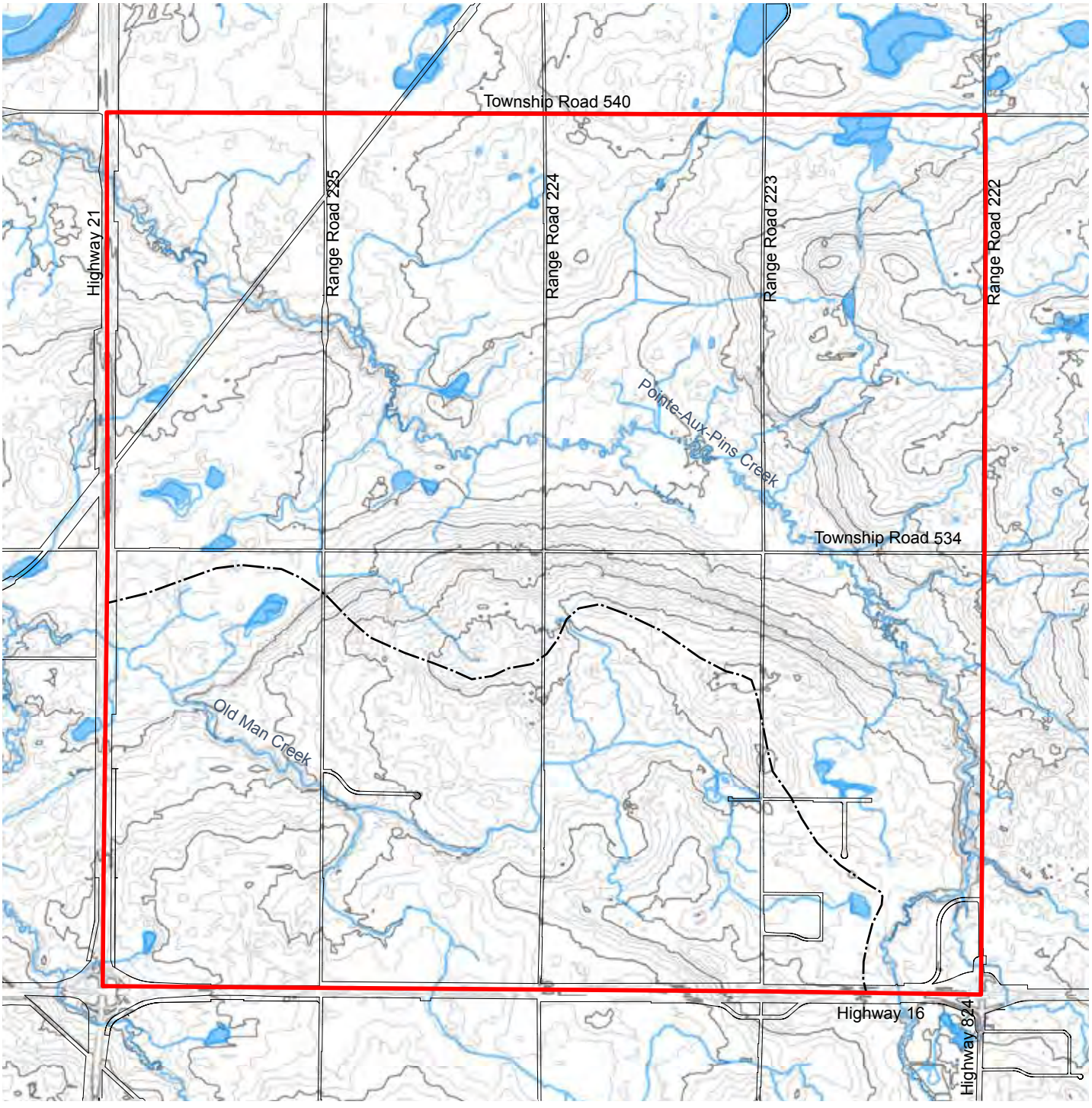


Figure 3.2
Topography



3.2 Topography

The Bremner area exhibits substantial topographical relief of 80 metres (see Figure 3.2). The relief ranges from an elevation of 706 metres in the southeast at the intersection of Highway 16 and Range Road 223, to 626 metres in the lowest reaches of Pointe-aux-Pins Creek in the northwest as it passes under Highway 21 just south of Township Road 540. Generally, there is a ridge that curves through the south half of the area, as well as another ridge/high area located in the northeast.

Steep slopes can be found along the banks and in the hummocky areas of the creeks, as well as at the edges of the ridges. The landscape in the Bremner area varies from hummocky with high reliefs to gently undulating. Steep slopes are indicated by closely spaced contour lines, which can be observed in the centre of the Bremner area in particular. Further analysis will be needed to confirm if these slopes should be considered undevelopable.

3.3 Agricultural Soils Capability

The quality of soils for agricultural purposes in Alberta is described through a soil capability classification based on Agriculture and Agri-Food Canada's Soil Capability Classification of Agriculture. This classification system determines the characteristics of soils through a soil survey.

Of the approximately 4,109 hectares of land within Bremner, about 43% (1,744 hectares), located in the northeast and southwest of Bremner, is designated Class 1, which is the best soil capability with no significant limitations for agriculture use for crops. Based on an aerial photo analysis, approximately 70% of this land is currently being cultivated.

Of the remaining land in central and southeast Bremner, 48% (1,939 hectares) is composed of Class 2 soils with moderate limitations that restrict the range of crops or require moderate conservation practices, and 8% (321 hectares) is composed of Class 3 soils with moderately severe limitations that restrict the range of crops or require special conservation practices. Class 6 soils, capable only of producing perennial forage crops and for which improvement practices are not feasible, make up slightly more than 1% (48 hectares) of Bremner generally located in the most northwest part, coincidental with the Pointe-aux-Pins Creek valley and top of bank. Table 3.1 summarizes the classification of land within Bremner.

Table 3.1
Agricultural Soils Capability

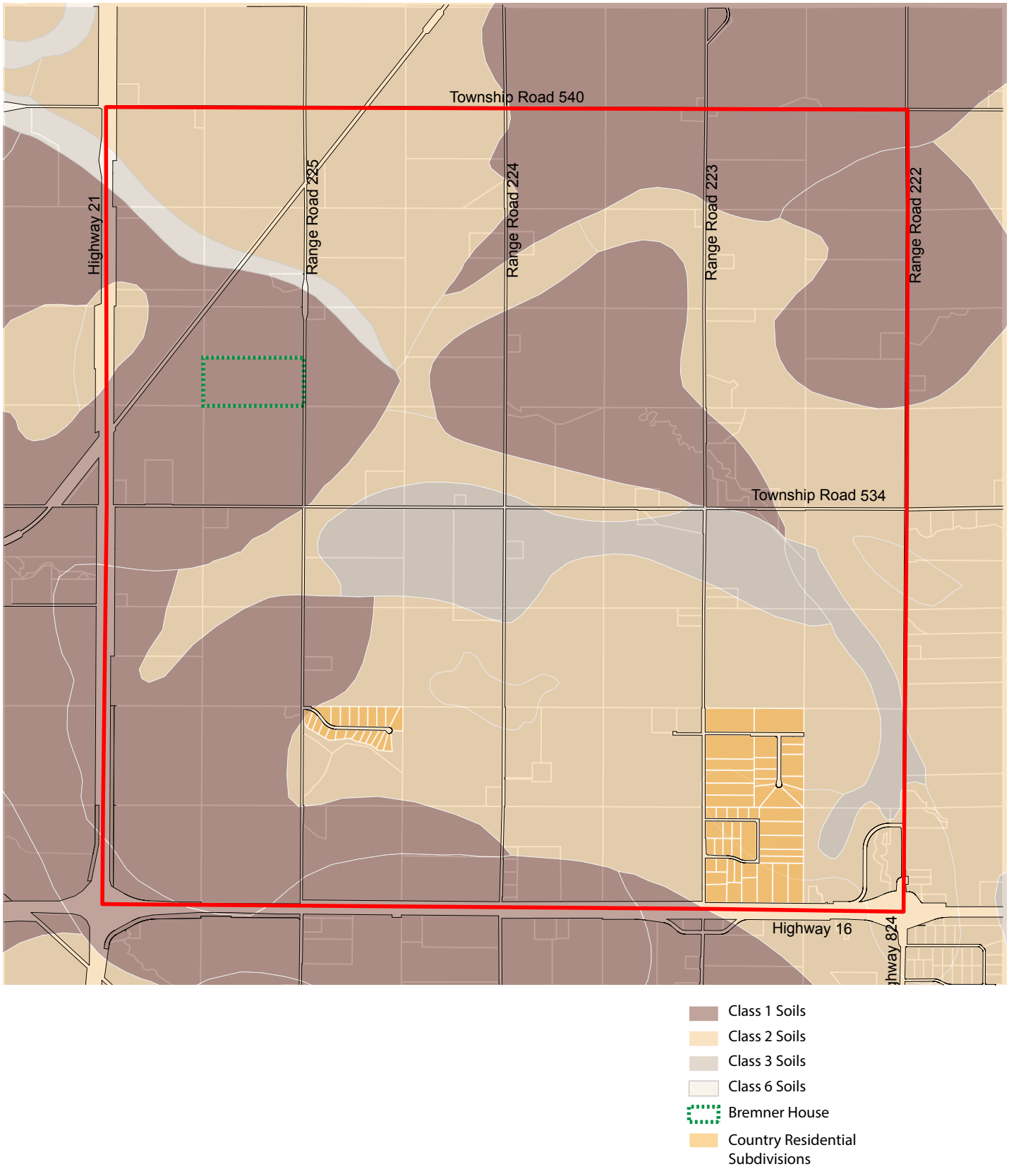
Approximate Area		
Soil Classification	Area (ha)	Area (%)
1	1,744.3	43.0
2	1,939.0	47.9
3	320.7	7.9
6	47.6	1.2

3.4 Existing Development

The Bremner area today is mostly agricultural with little existing development. The southern portion of the area contains two pockets of country residential subdivisions, Queensdale Place North and South, east of Range Road 223, and Tidan Heights, east of Range Road 225. There is also a private agricultural research and development facility in the southeast corner of the area.

Bremner House, built in approximately 1912 by early settler Charles Bremner, is located on 80 acres (32.4 hectares) on the west side of Range Road 225, just south of Pointe-aux-Pins Creek. Strathcona County purchased the house in 2004 to preserve as a piece of the community's heritage. Several restoration projects were carried out on the house between 2009 and 2012.

Figure 3.3
Agricultural Soils



3.5 Pipelines and Risk Management

Numerous pipelines that will pose development constraints run through the Bremner area. The northwest corner contains high vapour pressure and product pipelines, and natural gas pipelines run along Highway 16 and most of the length of Township Road 540. The required setbacks from pipelines are established and regulated by the Alberta Energy Regulator (AER), and are determined by the specific content of the pipeline. Strathcona County has also established proposed setbacks from oil and gas infrastructure and land use activities through its Cumulative Risk Assessment.

In accordance with the standards of the Major Industrial Accidents Council of Canada (MIACC), Strathcona County's Cumulative Risk Assessment for the heavy industrial area identifies risk management buffers which are implemented in the Land Use Bylaw through the Heavy Industrial Overlay (HIO). These buffers restrict land uses within a certain distance of the heavy industrial area in the western portion of Sherwood Park. Though the HIO does not affect the Bremner area, Strathcona County is currently exploring the possibility of creating an overlay for oil and gas infrastructure within new growth areas which would mirror the land use restrictions in the HIO.

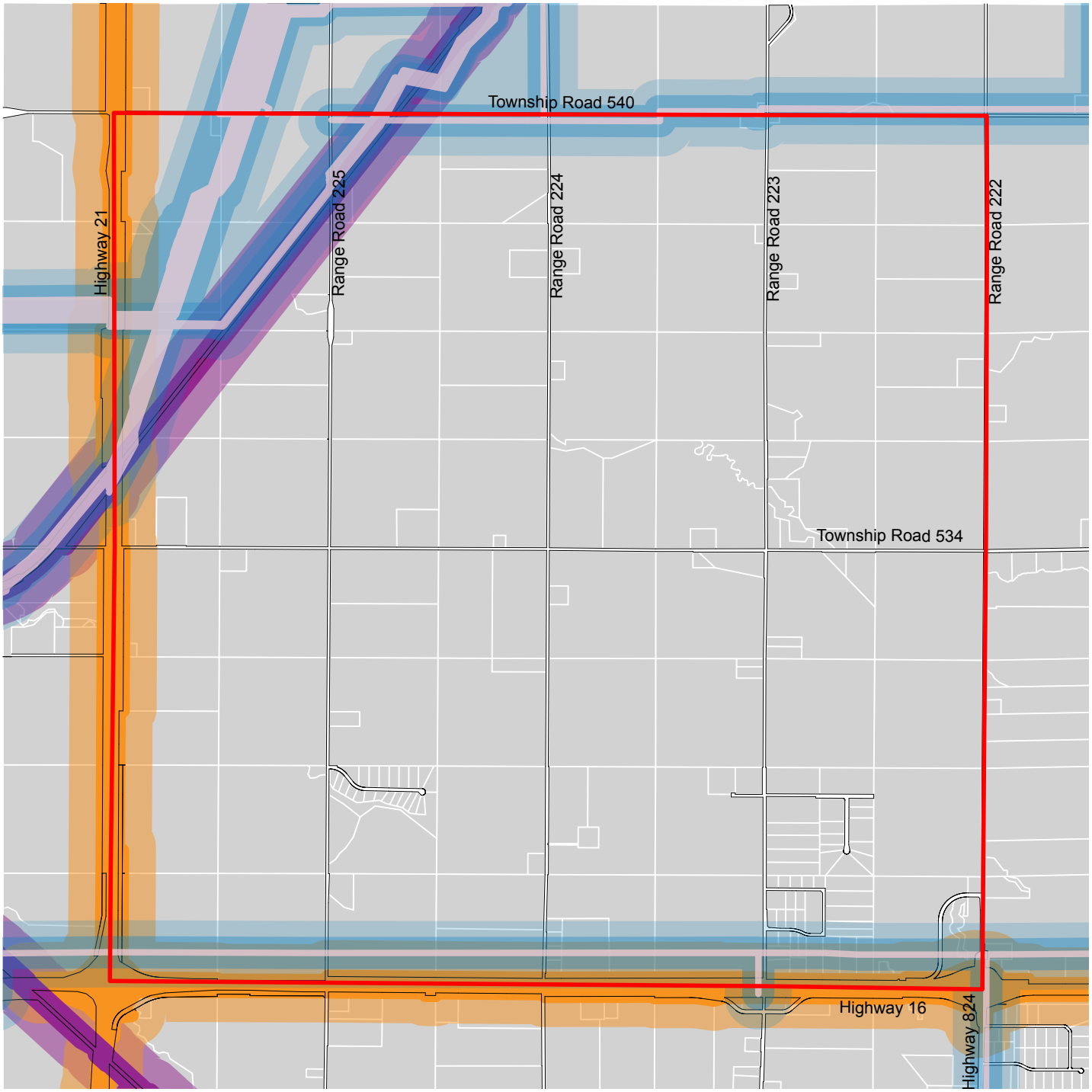
The pipeline map for the Bremner area (Figure 3.4) indicates the buffer zones that would be required from pipelines, railways and highways in Bremner, should Strathcona County implement such an overlay. A total buffer zone of 250 metres would be required from the pipeline right-of-ways, which is broken down into a 120 metre buffer for a $1x10^{-5}$ risk contour, and an additional 130 metres for a $1x10^{-6}$ risk contour. For highways, the $1x10^{-5}$ risk contour would be 50 metres, and for railways, the $1x10^{-5}$ risk contour would be 70 metres. In both cases the total buffer zone for the $1x10^{-6}$ risk contour would still be 250 metres. The $1x10^{-6}$ contour represents the societally acceptable level of risk related to an industrial accident.

If Strathcona County decides to implement the HIO restrictions for pipelines, railways and highways, this will mean a range of sensitive uses would be prohibited. Between the right-of-way and the $1x10^{-5}$ risk contour these include residential and institutional uses, some industrial uses, and many commercial uses, excluding retail. Between the $1x10^{-5}$ and $1x10^{-6}$ risk contours, residential uses and some institutional and industrial uses would be prohibited. In addition, a number of other uses would be discretionary within the overlay.

As Strathcona County has not yet resolved whether it will implement an overlay for oil and gas infrastructure within the Bremner area, the growth management strategy (GMS) respects the proposed setbacks for pipelines and the railway, but relaxes them for the highways, recognizing the significant constraints they would impose on land uses along Highways 21 and 16.

Figure 3.4

Pipeline, Highway and Railway Risk Contours



3.6 Transportation Infrastructure

The Bremner area is bounded by major regional roadways along its southern and western edges, which create challenges to providing access to a new community. Highway 16 is a paved four-lane divided highway that runs along the south edge of the area. It is part of the Trans-Canada Highway system and is designated as a "Freeway" by Alberta Transportation. It provides an important connection to Sherwood Park, Edmonton and other parts of the Capital Region, as well as other Canadian destinations. Highway 21 is a major four-lane north-south provincial highway that runs along Bremner's western boundary and along the east edge of Sherwood Park. It provides an important high-capacity link to Alberta's Industrial Heartland to the north and the Fort McMurray region, through connection to other highways. Highway 21 is designated as an "Expressway" but is under consideration by Alberta Transportation as a "Freeway". The eastern and northern edges of the Bremner area are bounded by two-lane Strathcona County roads. Township Road 540 runs east-west and connects to Highway 21; Range Road 222 runs north-south and provides access to Highway 16 and the hamlet of Ardrossan to the south.

At present, access from the Bremner area to the surrounding roadways is by way of at-grade intersections on Highway 16 at Range Road 224 and 225 and on Highway 21 at Township Road 534, Township Road 540 and a service road connection north of Highway 16. There are existing Freeway Intersection Removal Agreements in place for the intersections of Range Roads 224 and 225 and Highway 16, with predetermined closure dates for at-grade road access. Both Highway 21 and Range Road 222 connect to Highway 16 via interchanges. Connections to a future urban community in Bremner would require additional grade-separated interchanges and flyovers. Interchanges will require approval by Alberta Transportation.

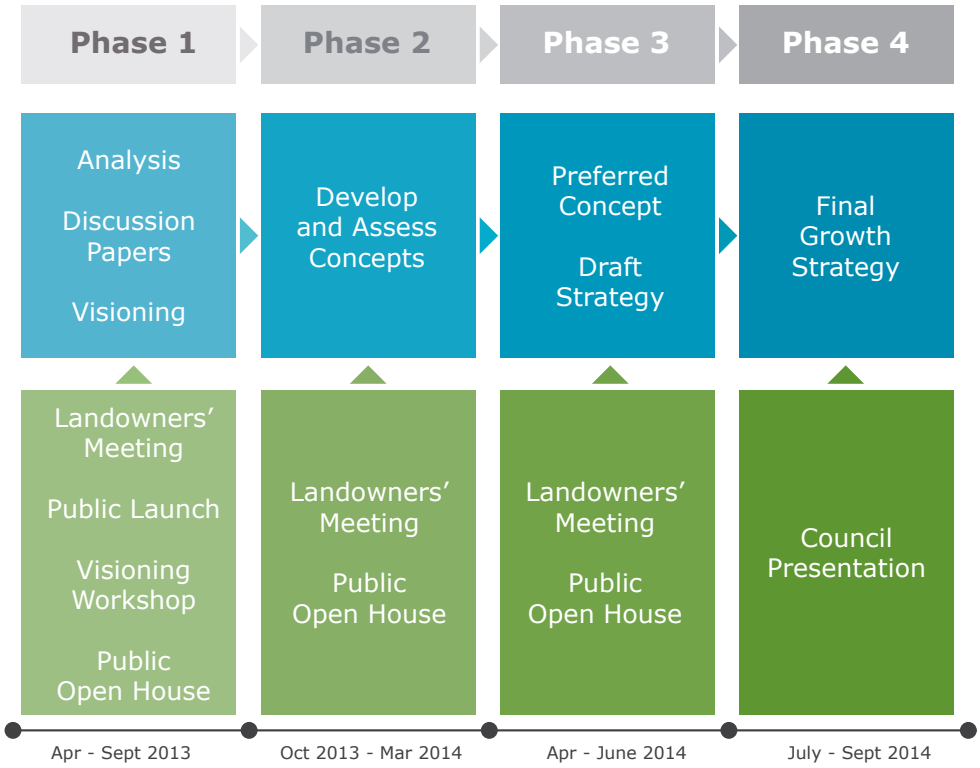
A CP railway transects the northwest corner of the Bremner area and crosses Highway 21 via an underpass. The orientation of the active railway isolates a triangular piece of land, which is also restricted by the presence of high vapour pressure and product pipelines that run parallel to the railway and extend farther west. Taking into account the buffers described in Section 3.5, this means the northwest corner of the site is not suitable for residential development.

3.7 Water, Wastewater and Stormwater Servicing

The Bremner area is located within a reasonable distance from existing utility infrastructure, which allows for servicing options. Currently, Strathcona County receives water from EPCOR at the 34 Street/92 Avenue booster station location. There is also an existing Capital Region Northeast Water Service Commission (CRNWSC) 400 mm water line that passes through the northwest corner of the site, and a 600 mm EPCOR/900 mm CRNWSC water line located about nine kilomtres to the west across the North Saskatchewan River. An existing wastewater trunk is located 3.2 kilometres west of Bremner on Range Road 232, and development is being planned between it and Bremner (West of 21 Area Concept Plan), which will result in the extension of wastewater servicing toward Bremner. Finally, Pointe-Aux-Pins and Old Man creeks, along with their tributaries, can be used to convey controlled and treated stormwater discharges from the area.

4 Planning Process

The development of the Bremner Growth Management Strategy (GMS) followed a highly consultative four-phase process, described below. At the beginning of the project, a robust communications and public engagement plan was developed under the banner of "Imagine Bremner: Growing a New Community" to ensure a comprehensive approach to informing, engaging and collaborating with key target audiences to support the development of the GMS.



4.1 Phase One

To start the consultation process, in April 2013 interviews were carried out with key stakeholders from government, industry, community groups and other organizations. The purpose of the interviews was to inform stakeholders about the project and hear their thoughts and aspirations about a new community in Bremner. The list of stakeholders interviewed included representatives from:

- Strathcona County Council
- Capital Region Board
- Alberta Environment
- Alberta Transportation
- City of Edmonton
- Elk Island Public School Board
- Elk Island Catholic School Board
- Local development industry
- Local business community
- Utility providers
- Non-profit housing providers
- Community groups
- Youth groups and seniors' committees

On the evening of April 24, 2013, a landowners' meeting was held to inform landowners in Bremner and their representatives about the growth management strategy (GMS) initiative. Information on the project purpose, timeline and process was presented, followed by a question and answer period. Landowners in and directly adjacent to the Bremner area were sent letters of invitation to the meeting, and approximately 150 attended.

A public launch event attended by approximately 80 residents was held on the evening of June 12, 2013. Three Strathcona County community leaders spoke about their thoughts on the county today and their dreams and aspirations for a new community in the county. A series of visioning workshops took place over the course of three days following the project launch. Two community workshops were held for the general public, one on the evening of Thursday, June 13 and one on the morning of Saturday, June 15. An all-day community leaders' visioning workshop was held on Friday, June 14 for the Technical Advisory Committee (made up of County staff), as well as invited key stakeholders including representatives from the development industry, the school boards, faith groups and agricultural organizations. The launch and visioning workshops were advertised through the Sherwood Park News, the County's digital display boards and project website, the project blog, a media release and a media advisory.

Following the public and stakeholder consultation, a preliminary vision and principles were developed from the feedback received. An analysis of existing conditions in Bremner and relevant planning documents was also undertaken to understand the technical opportunities and constraints related to developing in Bremner, and to assess the population projections and land needs for a new community. These were presented to the public at an open house on November 27, 2013. In addition to the methods of publicizing the event used for the launch, an advertisement was placed on the back of Strathcona County buses. Approximately 120 people attended the open house.

4.2 Phase Two

In September 2013, a two-day design charrette was held with members of the Technical Advisory Committee and additional County staff. The participants were split into four groups and asked to develop community design concepts for Bremner, having consideration for the vision and principles, technical opportunities and constraints, and best practices in community design. The outcomes from the charrette informed the development of three alternative community design concepts for a new community. These were then evaluated based on the extent to which they achieved the vision and supported the principles. The concepts and analysis were presented at three events held in March 2014: a landowners' meeting on March 17, a roundtable with the local development community on the morning of March 18, and a public open house on the evening of March 18.

The landowners' meeting and open house were publicized using the same methods used for previous events. For the developers' roundtable, members of local the development community were invited by mail or telephone, and a general invitation was also extended through the local chapter of the Urban Development Institute. Approximately 108 people attended the landowners' meeting and 82 people attended the open house. Thirteen people representing eight development companies and three related stakeholder groups attended the developers' roundtable.

Community design concepts produced by groups at the charrette.

4.3 Phases Three and Four

A recommended community design concept was developed based on the analysis of the three initial concepts and feedback from the events in March. Preliminary policy directions were also created to provide detailed guidance on how to achieve the vision and principles for Bremner. The concept and principles were presented at a landowners' meeting on June 11, 2014, which was attended by 58 people, and a public open house on June 12, 2014, which was attended by 47 people.

In the final phase of the project, feedback from the open house and landowners' meeting informed the finalization of the community design concept and preparation of the Bremner Growth Management Strategy. The final document will be presented to County Council at a public meeting in the fall of 2014.

5 Vision and Principles

An overarching vision and eight guiding principles for a new community in Bremner emerged from the consultations held in the spring of 2013. They were presented to the public at an open house in November 2013. The vision and principles are rooted in the concept of sustainable development, which is at the heart of the County's Municipal Development Plan. In broad terms, this means that development in the new community in Bremner should be environmentally and fiscally responsible and support social well-being and cultural diversity.

5.1 Vision

Bremner will be a **GREEN** community, where:

- A network of natural features, parks and other open spaces provides a backdrop for development and a setting for a range of ecological functions and recreational activities.
- Agriculture continues on urban and rural land, and innovative businesses serving agriculture are thriving.
- New development demonstrates best practices in environmental sustainability.
- The design of neighbourhoods, streets and parks encourages residents to be healthy and active—to walk, cycle and generally be outdoors.

Bremner will be a **CONNECTED** community, where:

- Most residents can walk to a food store, a park and a transit stop.
- Transit provides easy access to points within Bremner, Sherwood Park and Edmonton, and roads provide easy access to the regional highway network.
- Streets and pathways provide direct connections between neighbourhoods for pedestrians, cyclists and drivers.
- Mixed-use places and community facilities bring people together for daily activities, recreation and cultural celebrations.

Bremner will be a **DIVERSE** community, where:

- There are a variety of educational and employment opportunities, and businesses of all sizes can find a home.
- There are distinct urban places with a variety of destinations for shopping, dining, culture and entertainment.
- People of all ages, cultures and walks of life are welcome and can find housing that meets their needs, and existing residents can remain in the community as their housing needs change.

5.2 Principles

1 Protect and Enhance the Natural Environment

Bremner's significant natural features, including Pointe-aux-Pins Creek and Old Man Creek, should be protected and enhanced for their environmental functions and as central elements of an interconnected, publicly accessible open space system. Opportunities to expand and link natural areas, and generally promote good stewardship of the land, should be encouraged. Future development should have an appropriate relationship to natural features to maintain their integrity and maximize public enjoyment. Adverse impacts from development and public access should be managed and minimized. Green design and technologies should be features of all development. Energy efficiency should be maximized and waste minimized.

2 Maintain and Support Agriculture

Bremner should maintain distinctly urban and rural qualities as it evolves. Agricultural uses should be maintained on lands planned for urban development until they are required to accommodate growth. Business parks and commercial areas should accommodate and encourage agriculture-related businesses which are appropriate in urban settings, such as research and development facilities. Urban forms of agriculture and community gardens should be integrated into the fabric of the community. Bremner House should become a destination and gathering place to learn about and celebrate the area's heritage.

3 Reinforce and Diversify the Economy

Bremner should accommodate a range of employment opportunities that support and complement the broader county and regional economies. Professional service firms and other office uses should be attracted to business parks and mixed-use centres. Residents and businesses should have access to facilities for higher education and skills training, and entrepreneurship should be encouraged. There should be a variety of opportunities in the retail and services sector, including affordable locations for small businesses. Innovative agri-businesses should have a prominent place in the new community.

4 Accommodate a Diversity of Housing

A range of housing types, from apartments and secondary suites to large detached houses, should be planned in Bremner to ensure people from all backgrounds and households of all sizes can find a home. Everyone who works in or close to Bremner should be able to find affordable options to live there. Young adults and new families should be able to find affordable apartments and starter homes to rent or own. Houses of different types, sizes and prices should be available to growing families. Older adults should have housing options that allow them to remain within their neighbourhood as they age and downsize. The density of housing should vary across the community, with each neighbourhood containing a distinct mix of housing types and architectural styles. Existing country residential properties will be integrated into the future fabric of Bremner.

5 Provide Transportation Options for Everyday Travel

Bremner should be a community where walking, cycling and transit, in addition to driving, are common modes of travel for daily trips and where many households do not rely on cars to get around. Street networks should be highly interconnected to allow transit service to be delivered efficiently and encourage walking and cycling. The concept of complete streets should guide the design of streets. A comprehensive trail network should complement and link to the street system. Areas where residential, commercial and institutional uses are within walking distance of one another should be planned. Roads and transit should efficiently connect Bremner to key destinations outside the community, including Sherwood Park and Edmonton.

6 Create Strong, Distinctive and Safe Neighbourhoods

The future residential neighbourhoods in Bremner should have distinct, attractive characteristics, including a mix of housing types, architectural diversity, well-landscaped open spaces and tree-lined streets with sidewalks. Homes and front porches of varying designs should contribute to stimulating and lively streetscapes, where neighbours interact and children play. Parks should contribute to the identity of neighbourhoods, and natural features should be highly visible and accessible—an asset for all residents to enjoy. The community should be designed to provide a safe and secure environment for residents of all ages.

7 Establish a Hierarchy of Mixed-use Places

The neighbourhoods of Bremner should be complemented and linked by distinctive mixed-use places, where residential, commercial and institutional uses come together to create vibrant centres. While Strathcona County's civic and cultural hub will remain in Sherwood Park, a single town centre should accommodate higher density forms of housing, office space and a variety of retail, service and entertainment uses, as well as community facilities. The pedestrian-oriented urban setting of the town centre should reinforce Bremner's unique sense of place and encourage creative enterprises. Smaller-scale activity nodes serving residents within walking distance should mix apartments, everyday retail amenities and community uses. Mixed-use centres should be compact, relatively dense and highly walkable in all seasons. Public open spaces should provide opportunities for gathering, recreation and cultural programming.

8 Provide a Full Range of Recreational and Cultural Amenities

Bremner should build upon the many existing amenities in the County that contribute to healthy communities and a high quality of life. Residents of all ages should have easy access to parks, trails and a full range of indoor recreation facilities. Parks or squares should be central, highly visible elements within all neighbourhoods, designed for passive enjoyment, active recreation and cultural programming. Trails and pathways should provide access to natural areas and link open spaces, encouraging outdoor activity year-round. Facilities for producing and enjoying art, theatre and other cultural activities also should be a central feature of the community.

6 Community Design Concept

This section translates the vision and principles for a new community in Bremner into a community design concept "the concept"—a high-level plan intended to provide the basis for an Area Concept Plan and guide subsequent, more detailed plans for development, including Area Structure Plans.

6.1 How the Concept was Developed

The community design concept emerged from an evaluation and technical assessment of three initial concepts presented to the public for feedback in March 2014. Although different from one another, all three concepts supported the vision and principles for a new community and shared the following characteristics:

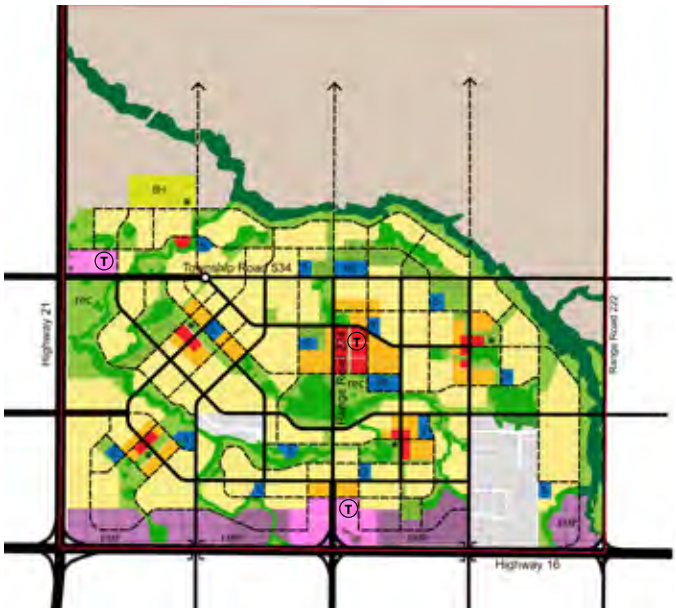
- Pointe-aux-Pins Creek as the northern boundary of development
- Conservation of agricultural land north of Pointe-aux Pins Creek
- Existing country residential subdivisions maintained and integrated
- Mix of housing types within neighbourhoods
- Interconnected environmental and open space network
- Grid of primary roads
- Township Road 534 and Range Road 224 as major entry points
- Multiple mixed-use centres
- Employment lands on Highway 16
- Two major recreation facilities

Legend

- Agriculture
- Country Residential Neighbourhoods
- Low-density Neighbourhoods
- Medium-density Neighbourhoods
- Mixed-use & High-density Neighbourhoods
- Small Community Recreation Centre
- HS — High School
- S — Other School
- Institution
- Business Park
- Light Industry
- T — Transit Hub
- BH — Bremner House
- rec — Major Recreation Centre with Sports Fields
- Parkland
- Environmental Reserve
- Upland Features
- Major Arterial Road (5-6 lanes)
- Minor Arterial or Major Collector (4 lanes)
- Minor Collector (2-3 lanes)

Figure 6.1

Concept A: 21st Century Sherwood Park



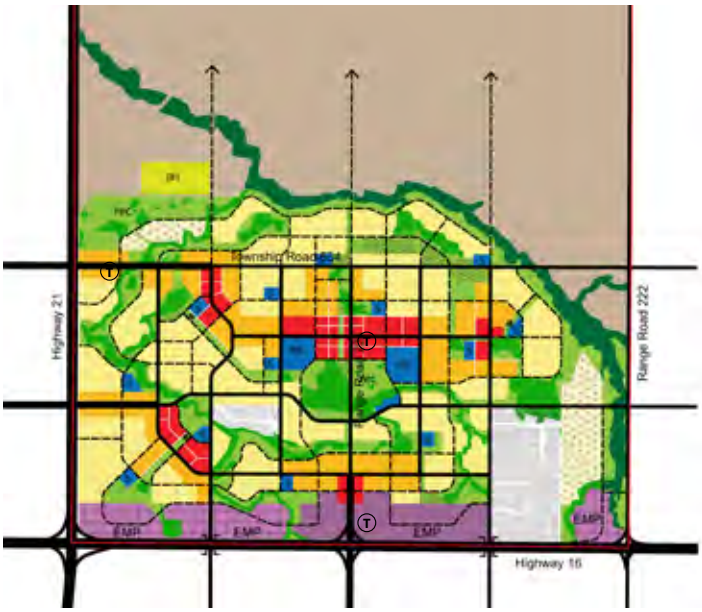
Concept A was designed to be a 21st century version of Sherwood Park. It maintained a high percentage of neighbourhoods that are predominantly composed of single family homes but also included other housing options and had an overall higher density, in line with Capital Region Board requirements. It incorporated an interconnected street network and mixed-use "Village Centres" within walking distance of most residents. A commercial node off Highway 16 would accommodate larger, stand-alone stores. Compared to the other concepts, Concept A conserved more upland features such as woodlots, had the smallest centres and accommodated less employment.

Table 6.1 Concept A Statistics

Population	Net Residential Density	Dwelling Units	Potential Employment
62,300 people	30 du/nrha*	23,500 units	8,400 jobs

Figure 6.2

Concept B: Complete Centres



Concept B was characterized by a series of mid-sized, mixed-use centres that could be easily connected by transit. These larger, more complete centres meant Concept B accommodated more apartment buildings, a greater variety of businesses and more employment overall. The dispersal of medium-density and higher-density neighbourhoods across the community resulted in more diverse neighbourhoods than in the other concepts. Concept B also included two additional country residential neighbourhoods at the periphery of the community.

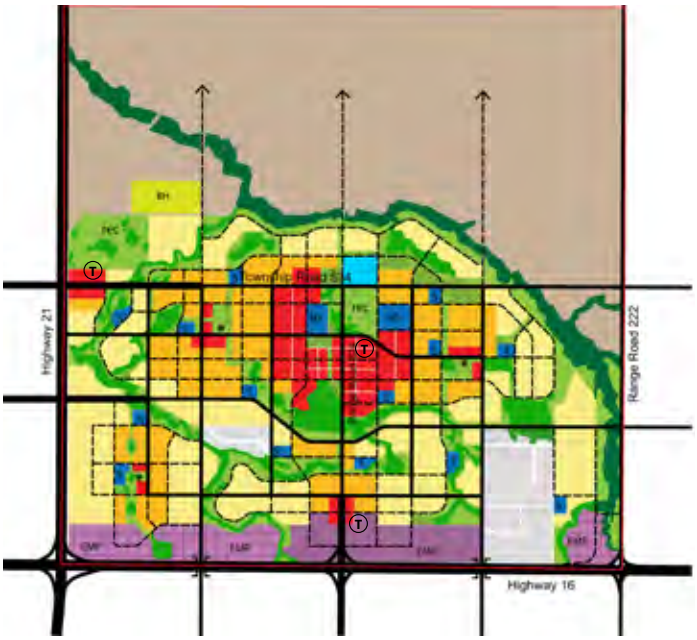
Table 6.2 Concept B Statistics

Population	Net Residential Density	Dwelling Units	Potential Employment
64,400 people	35 du/nrha*	25,400 units	9,700 jobs

*du/nrha = dwelling units/net residential hectare

Figure 6.3

Concept C: Downtown Strathcona County



Concept C was designed to achieve the highest overall density among the three concepts and establish, over time, a large Town Centre that would function like a downtown for the county, with a wide variety of businesses and attractions, and potentially an institution of higher learning. Together with the business park and industrial areas along Highway 16, the Town Centre had the potential to accommodate a relatively high level of employment. Smaller Village Centres would serve peripheral neighbourhoods. The concentrations of medium-density and high-density housing, along with commercial uses, in and around the primary centre made Concept C the most transit-supportive of the three concepts.

Table 6.3 Concept C Statistics

Population	Net Residential Density	Dwelling Units	Potential Employment
69,500 people	40 du/nrha*	28,100 units	12,400 jobs

*du/nrha = dwelling units/net residential hectare

Table 6.4 compares the three concepts for Bremner, assessing them against the eight principles established for the new community. Each concept has its strengths, and none is better than the others in all respects.

✓ = Good
✓✓ = Better
✓✓✓ = Best

Table 6.4 Evaluation of the Concepts

Principle	Concept A	Concept B	Concept C
Maintain and enhance the natural environment	✓✓✓	✓✓	✓✓
Maintain and support agriculture	✓✓	✓✓	✓✓
Reinforce and diversify the economy	✓	✓✓	✓✓✓
Accommodate a diversity of housing across neighbourhoods	✓	✓✓✓	✓✓
Provide transportation options for everyday travel	✓	✓✓	✓✓✓
Create strong, distinctive and safe neighbourhoods	✓✓	✓✓	✓✓
Establish a hierarchy of mixed-use places	✓	✓✓✓	✓✓
Provide a full range of recreational and cultural amenities	✓✓	✓✓	✓✓

Fiscal Impact Analysis

To assess the impact of each of the three initial concepts for a new community on the County's residential property tax rate, a fiscal impact analysis was undertaken. It concluded that the three concepts would have a very similar impact on the tax rate. The analysis took 2013 as the base year using the County's 2013 operating budget data and municipal tax rates. It assumed that development in the Bremner area would not commence until 2020, and, based on population forecasts, projected that Concepts A and B would be built out at the end of 2057 and Concept C would be built out at the end of 2059. The fiscal impact model assumed there would continue to be some residential development outside of Bremner in the county and considered the impacts of this growth, as well as the impacts of continuing to service existing development. The model also assumed that industrial growth would continue at an average annualized rate in line with industrial growth in the County over the past 30 years.

Assessment projections were developed for each of the concepts, as well as projections of future soft capital requirements and hard infrastructure costs for Bremner. The analysis found that as the community grows in population, hard and soft infrastructure costs generally would be in line with increasing revenues from the development. At full build-out, the projected municipal tax rates are projected to be consistent with today's rate and vary by only 2.5% across the three concepts.

Since the fiscal impact analysis showed the three concepts to be very similar, it did not affect the development of the recommended concept.

Transportation Analysis

A technical analysis of the highway accesses shown in the three concepts, and alternative locations for interchanges, revealed that the limited access opportunities will restrict the ultimate population of a community in Bremner and the amount of commercial development. The analysis assumed that almost 60% of commuters in Bremner will be traveling to and from points west, i.e., Edmonton and Sherwood Park, and mostly by car (though many by transit, too). On this basis, the maximum population will be approximately 55,000 and the maximum amount of major retail development will be approximately 130,000 square metres (1.4 million square feet). To accommodate this amount of growth, one new systems interchange will be required at Highway 21 and Township Road 534 and two interchanges will be required on Highway 16, between Highway 21 and Range Road 222, in addition to a flyover on each highway.

6.2 Recommended Community Design Concept

The evaluation of the three initial concepts against the principles, together with public feedback and the additional transportation analysis, informed the development of the recommended community design concept for a new community in Bremner. The maximum population figures determined by the transportation analysis provided parameters for the concept and mean that less land will be required for development than was shown in the three initial concepts. A preliminary version of the concept was presented for public comment in June 2014.

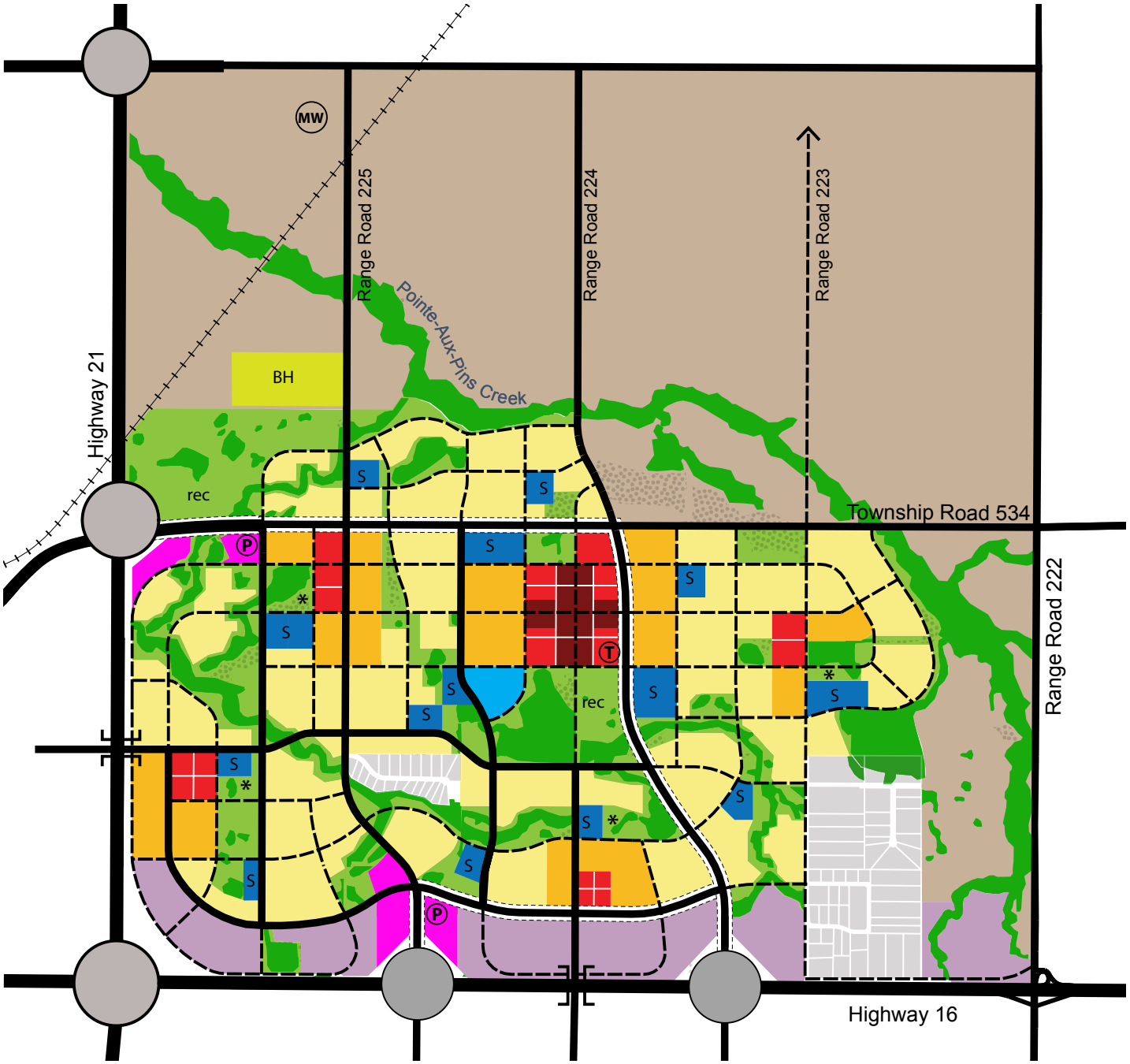
The recommended community design concept is broken down by its structuring elements of land use, environment and open space, transportation and servicing, and described in the following sections.

6.2.1 Land Use

The pattern of land uses in the recommended community design concept supports the concept of complete communities, where many routine destinations are within walking distance and there are a variety of housing options. Each component of the land use concept is intended to have somewhat distinct characteristics while complementing and supporting adjacent components.

- Low-density Neighbourhoods are intended to contain a mix of lower density housing comprised predominantly of detached dwellings (approximately 60%) but also semi-detached dwellings and duplexes (20%) and townhomes (20%).
- Medium-density Neighbourhoods are intended to accommodate a mix of low-rise housing, including townhomes (approximately 50%), detached dwellings (20%), semi-detached dwellings and duplexes (20%) and apartments in low-rise buildings generally up to four storeys (10%).
- Mixed-use Centres are intended for higher-density forms of housing, including apartments in low-rise buildings (approximately 50%), townhomes (30%) and apartments in mid-rise buildings up to nine storeys (20%). These areas would also accommodate small-format and mid-size retail and other commercial uses in stand-alone buildings or integrated with residential uses in mixed-use buildings.

Figure 6.4
Land Use Concept



Legend

- Low Density Residential
- Medium Density Residential
- Mixed-use Centres
- Town Centre Commercial Core
- Business Park Area
- Major Retail Area
- School (Municipal Reserve)
- Institutional
- Community Centre
- Parkland (Municipal Reserve)
- Environmental Reserve
- Upland Feature
- Major Recreation Centre and Sports Fields
- Agriculture
- Bremner House Property
- Railway line
- Highway Flyover
- Arterial Road
- Collector Road
- Transit Station
- Park and Ride
- Interchange
- Potential Meltwater Facility

- Major Retail Areas are intended primarily for large-format retail stores and other auto-oriented commercial uses that will complement but not compete with retail offerings in the Mixed-use Centres.
- Business Park Areas are intended for a range of employment uses and business types, including office buildings and light industrial uses. These areas are envisioned to contain businesses in sectors targeted for growth in the county, including health care, finance, and professional, scientific and technical services. However, since there are other large areas in the county planned or proposed for industrial and other employment uses, including lands immediately west and south of Bremner, the build-out of the Business Park Areas may take several decades.
- Institutional land is intended to be reserved for a major institution such as a college, university or healthcare facility, should one decide to locate in Bremner. Preferred locations for schools are identified next to the open space system, but will have to be confirmed in consultation with the school boards as Area Structure Plans are prepared. Larger sites are appropriate for high schools or joint K-9 school sites.

Table 6.5 provides statistics associated with each of the land use designations. The numbers are not intended to be prescriptive but are based on assumptions tied to the principles for a new community in Bremner and the policy directions contained in the next section. For example, the mix of housing types across the community is consistent with the principle and targets for housing diversity, and the yields for the mixed-use centres assume a balance of housing and retail, with complementary office uses.

Table 6.5
Recommended Community Design Concept Statistics

Housing

Residential Land Use	Gross Land Area (ha)	Net Land Area (ha)[1]	Housing Mix[2]	Average Density (du/ nrha)	Total Units
Low Density	658	441	60/20/20/0/0	28	12,300
Medium Density	198	132	20/20/50/10/0	44	5,800
Mixed-use	103	34	0/0/30/50/20	90	3,100
Total	**958**	**607**		**35**	**21,200**

1 – Net land area excludes roads, utilities and stormwater management facilities. In Mixed-use Centres, land for stand-alone retail is also excluded.

2 – Housing mix expressed as percentages of detached / semi-detached & duplexes / townhomes / low-rise apartment dwellings / mid-rise apartment dwellings.

3 – Population estimates are based on 2.8 persons per detached/semi-detached home, 2.5 persons per townhome and 1.5 persons per apartment dwelling.

	Detached and Semis	Townhomes	Apartment Dwellings	Population
	9,900	2,500	0	33,800
	2,300	2,900	600	14,700
	0	900	2,100	5,500
Total	**12,200**	**6,300**	**2,700**	**54,000**

Unit Mix by Typology

Housing Typology	Total Units	Unit %
Detached and Semis	12,200	58%
Townhomes	6,300	30%
Apartment Dwellings	2,700	12%
Total	**21,200**	

Parkland and Environmental Open Space

Employment Land Use	Land Area (ha)
Parkland[1]	350
Environmental Reserve	180
Total	**530**

1 – Includes land for community centres.

Employment

Employment Land Use	Gross Land Area (ha)	Net Land Area (ha)[1]	Retail GFA (sq. m.)	Office GFA (sq. m.)	Retail Jobs	Office Jobs	Industri-al/Office Jobs
Mixed-use	103	39	96,400	19,300	2,400	700	0
Major Retail	45	34	84,300	0	1,700	0	0
Business Park	202	144	0	0	0	0	5,000
Total	**350**	**216**	**180,700**	**19,300**	**4,100**	**700**	**5,000**
Total Jobs	**9,800**						

1 – Net land area excludes roads, utilities and stormwater management facilities. In Mixed-use Centres, land for stand-alone residential uses is also excluded.

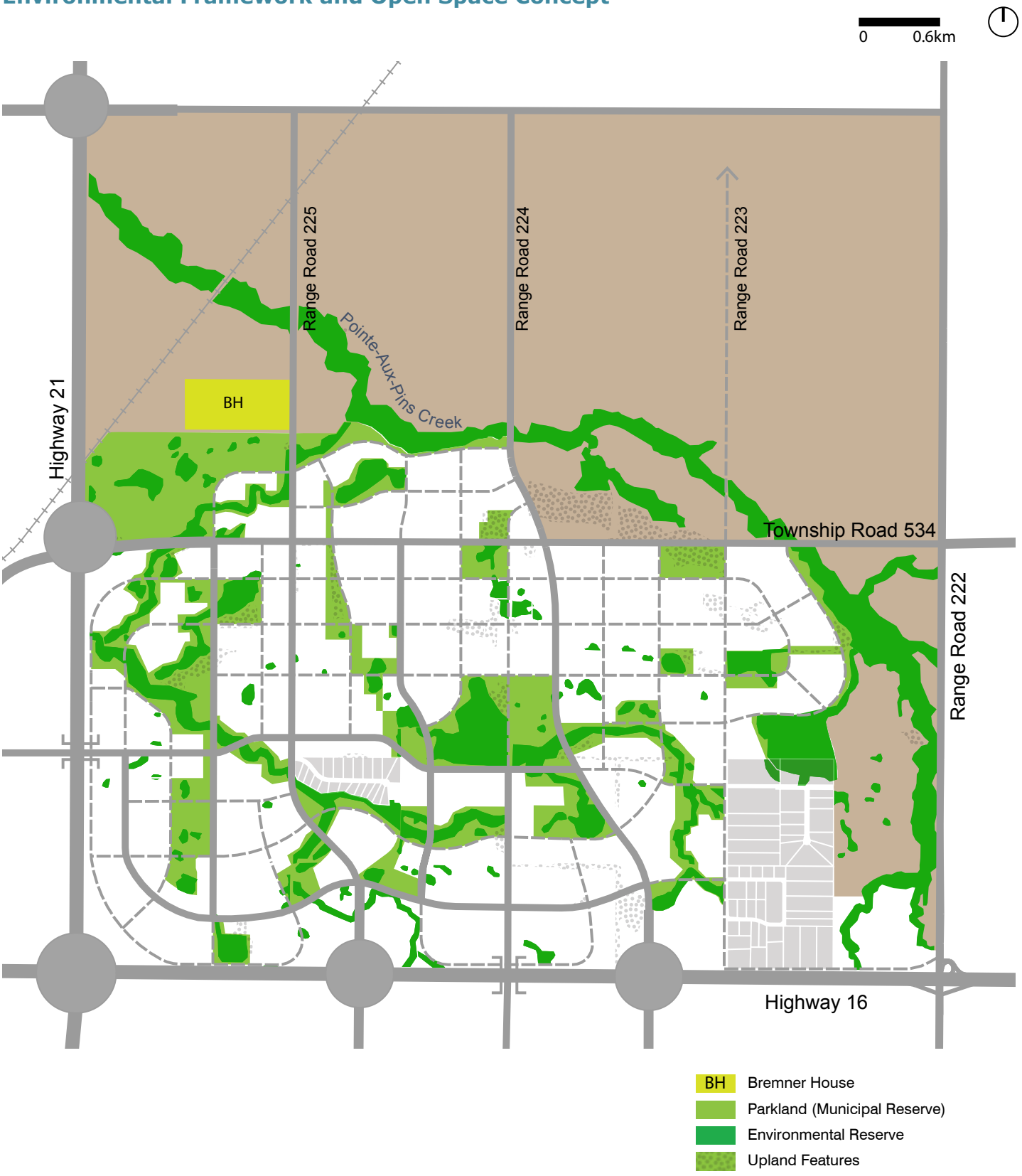
Community Facilities

	# of Facilities	Land Area
Schools	14 K-9	90.4 ha
	2 HS	
Other Institutions	1	12.6 ha
Major Recreation Centres	2	-
Local Community Centres	4	-
Library	1	-

Note: All figures are approximate.

Figure 6.5

Environmental Framework and Open Space Concept



6.2.2 Environmental Framework and Open Space Concept

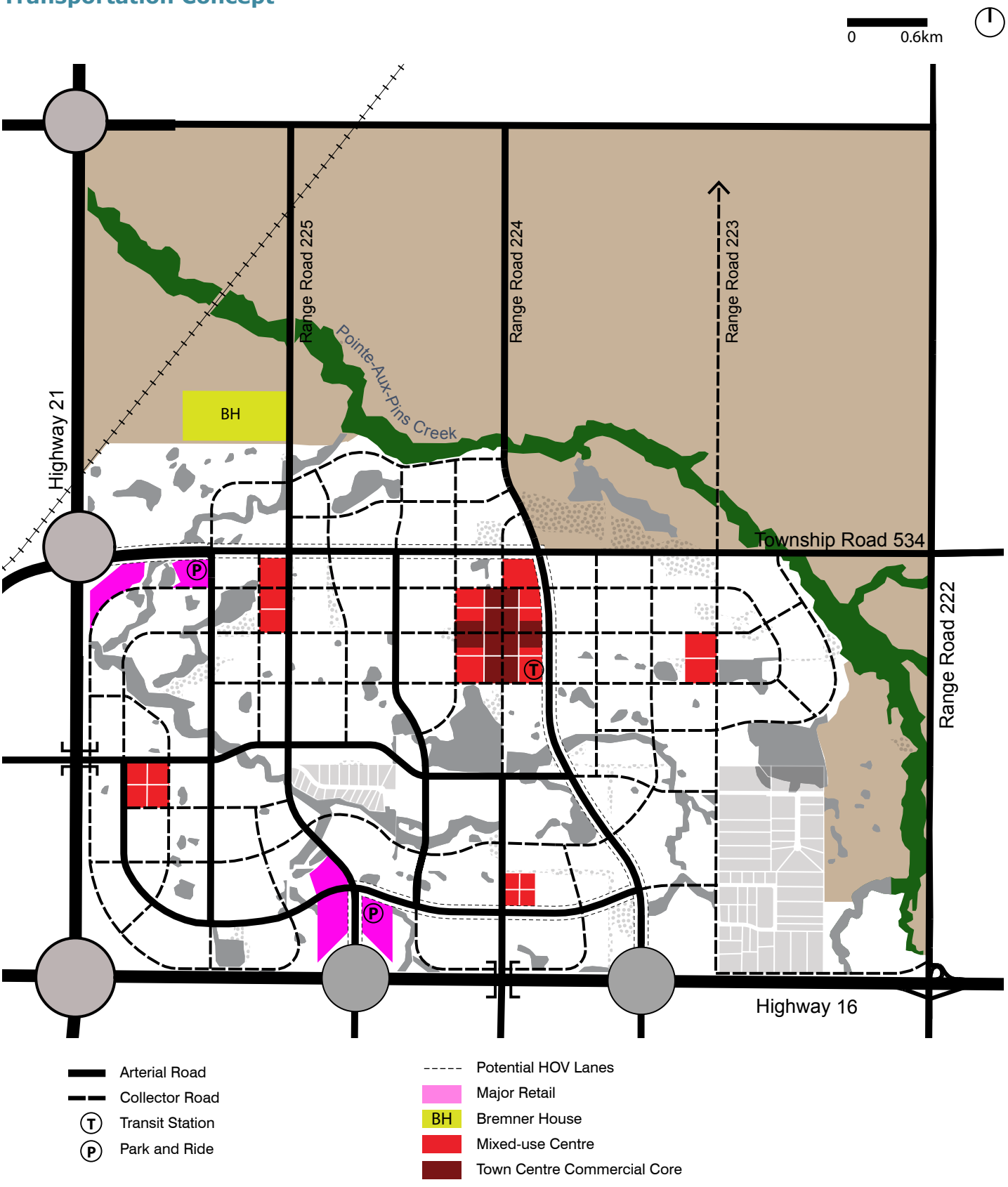
As in the three initial community design concepts, the existing natural features establish the armature for an interconnected open space system that protects and links areas for future designation as Environmental Reserve. The Bremner House property and Pointe-aux-Pins Creek, and significant natural features south of the creek, form a natural boundary for the community. Old Man Creek, forested areas and wetlands will provide the backdrop for parks and linear open spaces that enhance the natural features while accommodating recreation, including an extensive, interconnected trail network. Lined for the most part by public streets, the greenspace system will be highly visible and accessible, enhancing the image of neighbourhoods and the quality of life for all residents.

A central park adjacent to a forest and, in time, the future Town Centre will become a major gathering place for the community and signature open space. There is also an opportunity for a large sports park and major indoor recreation centre to serve the entire county south of Bremner House. Dotted with natural features, it would provide an appropriate transition from future development to the historic County-owned property that itself will become an increasingly popular destination through heritage interpretation, programming, and potentially additional cultural and recreational facilities. Locating schools adjacent to the major open space system, where possible, will enhance educational and recreational opportunities for students.

The boundaries of the greenspace network are conceptual and will need to be refined based on detailed biophysical assessments and parks and open space master plans. The width of linear open spaces between or adjacent to Environmental Reserve, for example, may need to be reduced to optimize Municipal Reserve dedication for parkland and other community facilities. Nevertheless, the goal of an interconnected open space network should be maintained.

Figure 6.6

Transportation Concept



6.2.3 Transportation Concept

A series of interchanges and flyovers will be required to connect the Bremner area to the surrounding road network. Plans for upgrading the existing interchange at Highway 16 and Highway 21 are being developed already, but this interchange does not provide direct access to the Bremner area. A systems interchange will be required at Highway 21 and Township Road 534, and two parclo-style service interchanges will be required along Highway 16, roughly equally spaced between Highway 21 and Range Road 222. The spacing of these interchanges is consistent with the spacing of interchanges in other urban areas in the Capital Region. A flyover midway between Highway 16 and Township Road 534 will connect the Bremner area to Cambrian Crossing on the west, and a flyover at Range Road 224 will connect it to the Development Expansion Area on the south and to existing and future roads further south that lead west to Sherwood Park. Given the limited highway access, service roads will be needed along Highways 16 and 21 to provide good access to development along the edges of the highways.

The Capital Region Board's transportation planning anticipates an important role for Township Road 540 as a link to a future north-east regional highway connection and bridge across the North Saskatchewan River. Range Roads 224 and 225 will need to be upgraded in order to accommodate anticipated increases in traffic to and from Township Road 540. Further transportation analysis and consultation with Alberta Transportation will be required at the Area Concept Plan stage.

The grid pattern of the road network within the Bremner area supports not only efficient vehicular movement but also walking, cycling and transit. The major arterials, shown in a solid black line on the transportation concept (previous page), provide connectivity through the entire community. Township Road 534 provides a continuous east-west connection from Highway 21 to Range Road 222, and the arterials extending from the two interchanges on Highway 16 link up with the alignments of Range Roads 224 and 225 to provide continuous north-south connections through to Township Road 540. The grid pattern of arterial roads will help distribute traffic evenly across the community and prevent any one road from becoming wide enough that it acts as a barrier between neighbourhoods. Arterial roads should generally be four lanes, except near the highway interchanges, where it is likely that six lanes will ultimately be needed to accommodate high volumes of traffic entering and exiting the highways.

The remainder of the primary road network, represented by dashed lines, shows the general location and alignments for future collector roads. The precise alignments of these roads will be determined during the preparation of Area Structure Plans, and additional collector roads may be required, but as this network is refined it will be essential to ensure it remains highly interconnected. As local roads are woven into the collector and arterial network, they should add finer-grain grids with frequent connections to the collectors.

Over time, public transit is intended to become an increasingly common way of moving around Bremner and connecting to destinations outside the community. The transportation concept identifies locations for major transit facilities and routes. Two park and ride facilities are located in Major Retail Areas at the gateways to the community, where buses will have easy access to the interchanges. An urban transit station providing a transfer point between local and regional routes is located in the future Town Centre. The Village Centres should be highly accessible by transit and therefore planned with furnished indoor bus waiting areas. A conceptual route for high-occupancy vehicle (HOV) lanes which will accommodate buses and other high-occupancy vehicles on major arterials has also been identified. The HOV lanes could be converted to a bus rapid transit route in the long term.

6.2.4 Servicing Concept

Water

There are one temporary and three permanent servicing options for delivering potable water to the Bremner area using existing transmission systems as connection points, but no clear recommendation can be made at this time as there are uncertainties associated with each option. Further study, as well as negotiation with EPCOR and the Capital Region Northeast Water Service Commission (CRNWSC), is required.

Connecting to the existing 400mm CRNWSC waterline that runs through the northwest corner of the Bremner area may be viable for providing temporary servicing during initial development phases, although ultimately an additional (permanent) service connection will likely be required.

Permanent servicing option 1, which may be the most likely option, consists of constructing a waterline from the 34 Street/92 Avenue booster station towards the north and east along Anthony Henday Drive and through the Edmonton Clover Bar Industrial Area to the west boundary of Bremner. Permanent servicing option 2, also connecting at the booster station but bringing the waterline south and east of Sherwood Park to the south boundary of Bremner, may also be feasible if servicing of the Colchester area along Highway 628 is also desired. Permanent servicing option 3 involves a new transmission line to tie into the 900 mm CRNWSC line between north of the Clareview Reservoir and the far northeast boundary of the City of Edmonton. The transmission line would require a new river crossing and would connect to the northwest corner of the Bremner area. The alignment and length of this transmission

Figure 6.7
Servicing Concept

main would depend on whether or not EPCOR was to allow the transmission line to be located within their franchise area.

A series of onsite reservoirs will be required to provide potable water storage for the Bremner development area. One or two reservoirs, located at either local high points or at the connection location to Bremner, are anticipated and potential locations are shown on Figure 6.7. The location and number of reservoirs are subject to a detailed engineering study. Given that there is considerable topographical relief within Bremner (elevations ranging from 706 m to 646 m), multiple pressure zones will be required, with some low areas possibly gravity fed from hilltop reservoirs. Pumping will be required for areas located at higher elevations. Water will be distributed through a municipal pipe system network and a detailed hydraulic analysis including computer modeling will be required at the Area Concept Plan (ACP) stage.

Wastewater

Offsite wastewater servicing for the Bremner development area can be provided by the Southeast Regional Trunk Sewer (SERTS) located 3.2 kilometres west of Bremner on Range Road 232, which discharges to the ACRWTP on Township Road 540. One deep (10+ metre depth) offsite wastewater trunk through the West of 21 ACP area would be required to connect the Bremner wastewater system to SERTS. This trunk could be oversized to service both Bremner and the West of 21 ACP area, however it is anticipated that a separate trunk will be required due to the differences in the timing of the two developments. The oversizing options should be explored before the development of the West of 21 ACP area proceeds.

A detailed engineering study will be required to determine the precise location and depth of the upstream end of the Bremner trunk at the west Bremner boundary. It will likely be located near Township Road 534 or within the area up to one kilometre north. To achieve full gravity servicing of Bremner, the design profile of the West of 21 ACP trunk needs to consider the low lying lands between Township Road 534 and Pointe-Aux-Pins Creek.

Onsite wastewater servicing (see Figure 6.7) will be provided by a series of gravity wastewater sewers and trunks generally following the topography to the offsite trunk connection point. It is anticipated that all the flows will be conveyed to a main trunk on or near Township Road 534 just east of Highway 21, where it will cross the highway and connect to the oversized West of 21 ACP trunk. Detailed analyses of the onsite wastewater trunk system will also be needed at the ACP stage for Bremner.

Stormwater

The Bremner area is drained by Pointe-Aux-Pins and Old Man creeks. Along the creeks and tributaries there are several existing natural areas (wetlands, tree stands, wildlife habitats) which will be retained as Environmental Reserve or Municipal Reserve upon development. At several locations there is opportunity to create enhanced park and recreation areas with the conservation of environmental features such as tree stands and natural wetlands, as described above, combined with engineered wetlands or wet ponds for stormwater management.

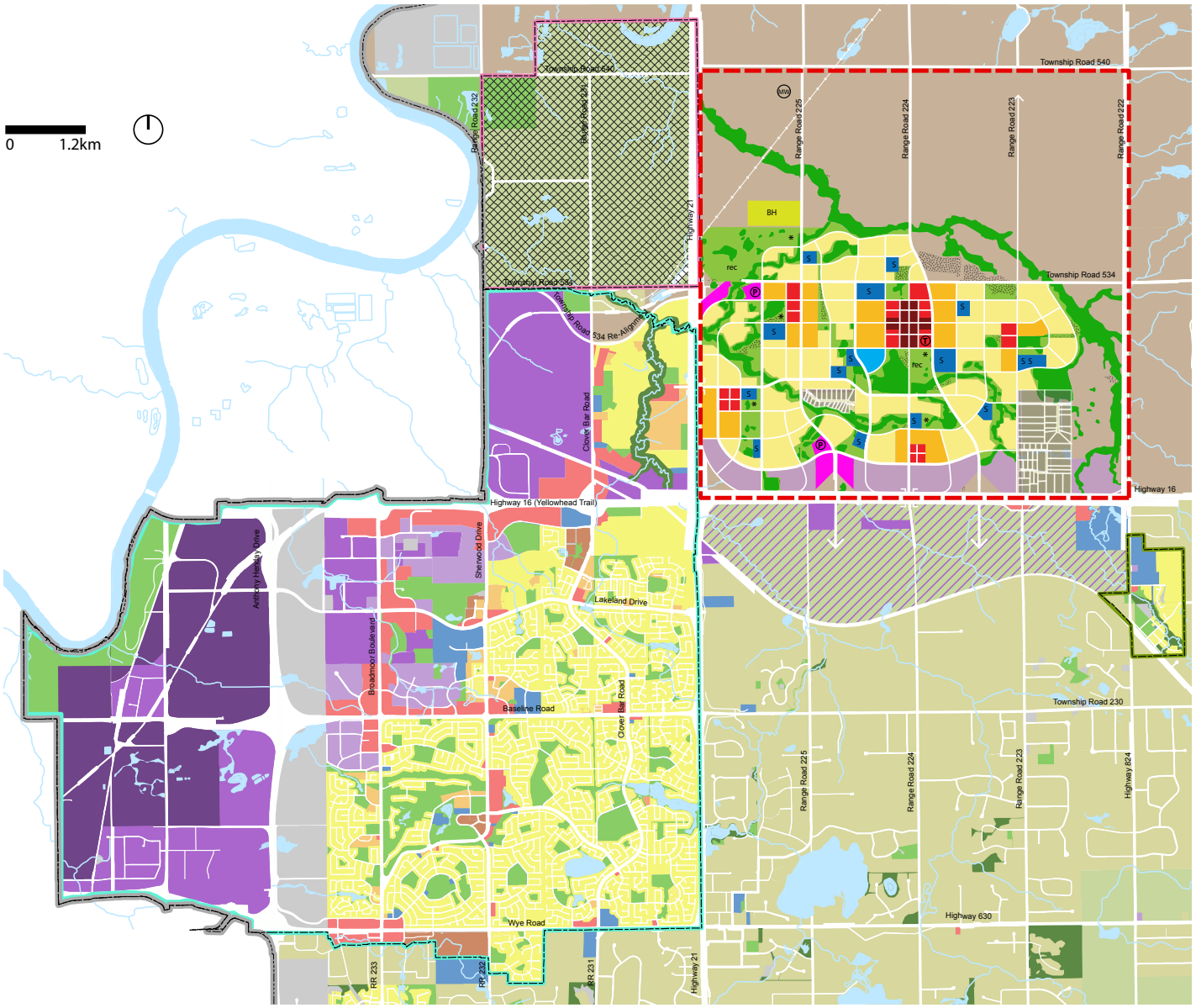
Onsite stormwater servicing will be provided through a number of storm sewer systems discharging to the stormwater management facilities (SWMF). Most facilities can be located adjacent to Old Man Creek or Pointe-Aux-Pins Creek, or one of their tributaries, which will also serve to receive facility discharges. Where the creek channels are not deeply incised into the surrounding landscape, resulting in an elevation difference between the creek and pond insufficient for discharge by gravity, a storm outlet pipe or channel may have to be extended at a minimum slope from the SWMF outlet to a downstream (lower elevation) section of the creek. A detailed engineering study is needed at the ACP stage to establish the stormwater management facility locations and preliminary water level elevations.

Further study is needed to establish an allowable maximum release rate (e.g. L/s/ha) and potentially an allowable average annual discharge volume (mm/year). The allowable maximum release rate is typically based on peak pre-development runoff rates and is required due to limited downstream conveyance capacities in the creeks and culverts. The potential for limiting the annual discharge volume is required to protect the downstream creeks from accelerated rates of erosion that can result from increased runoff volumes discharging at controlled rates from stormwater management facilities for extended periods of time. The need for controlling annual volume should be based on a detailed assessment of the erosion potential within the Old Man and Pointe-aux-Pins creek systems between Bremner and the North Saskatchewan River. The assessment of the downstream reaches of Old Man and Pointe-aux-Pins creeks is also needed to confirm that these creeks can be used to convey runoff from Bremner.

There are opportunities for sustainable stormwater management practices to be incorporated into Bremner such as Low Impact Development (LID) features like bioswales and rain gardens and Best Management Practices (BMPs) such as constructed wetlands. These may be used to complement or replace some conventional stormwater infrastructure. The use of LIDs and BMPs will improve the water quality and reduce the annual volume of stormwater being discharged to the receiving creeks. While there is not necessarily any specific offsite stormwater infrastructure required for servicing Bremner, some erosion protection measures may be required depending on the selected annual discharge rate and susceptibility of the downstream creeks to erosion.

The context map below shows how the structure of a new community in Bremner would be different from the urban structure of Sherwood Park and how the two communities would be connected to one another.

Figure 6.8
The Recommended Community Design Concept in Context



CONTEXT LEGEND

- Watercourse
- Water Body
- Bremner Study Area
- Sherwood Park
- Transition Urban Reserve Area (Future non-residential development)
- Hamlet of Ardrossan
- County Boundary
- Agriculture
- Residential (Country and Rural)
- Residential (Low Density)
- Residential (Medium Density)
- Residential (High Density)
- Mixed Use Urban Village
- Commercial
- Commercial (Low Intensity/Business Park)
- Industrial Light/Medium
- Development Expansion Area (Future Light Industrial and Commercial)
- Industrial (Heavy)
- Institutional
- Environmental Reserve
- Parks, Open Space and Recreation
- Utilities

BREMNER LEGEND

- Low Density Residential
- Medium Density Residential
- Mixed-use Centres
- Town Center Commercial Core
- Business Park Area
- Major Retail Area
- S School (Municipal Reserve)
- Institutional
- * Community Centre
- Parkland (Municipal Reserve)
- Environmental Reserve
- Upland Feature
- rec Major Recreation Centre and Sports Fields
- Agriculture
- BH Bremner House Property
- Railway Line
- Highway Flyover
- T Transit Station
- P Park and Ride
- MW Potential Meltwater Facility

7 Policy Directions

The community design concept described in the previous section should guide the structuring elements needed to support the vision for a new community in Bremner. General and specific policies regarding all aspects of the community will be required to ensure the vision is achieved and the principles are met. This section provides direction for such policies, which should be entrenched in an Area Concept Plan and Area Structure Plans for Bremner, should Council decide to proceed with growth in the area. Since the policy directions are recommendations at this stage, they state what the County, developers and others should do as they design and build a new community. Translating the directions into policy, in most cases, will be a simple matter of replacing "should" with "shall."

7.1 The Natural Environment

The policy directions below support Principle 1, Protect and Enhance the Natural Environment. They focus on methods to conserve and protect significant natural features, ensuring that they are integrated appropriately into the community and enhanced as central elements within the community.

7.1.1 Conservation of Significant Natural Features

The community design concept for Bremner identifies the general location and size of land to be dedicated as Environmental Reserve (ER). The precise boundaries of the ER will be delineated through future detailed studies undertaken as part of an Area Concept Plan (ACP) or Area Structure Plans (ASPs). The ER and open space linkages will provide a framework for development.

7.1.2 Defining Environmental Reserve

Rivers, lakes, creeks, wetlands, other bodies of water and unstable lands should be taken as and encompassed by a buffer that is dedicated as Environmental Reserve. The width of the ER buffer should be measured from the top of bank and should be a minimum of 10 metres in width.

The top of bank should be considered to be the top of the waterbody's valley or ravine. Where banks are not well defined (e.g. in the case of lakes and wetlands) the top of bank would be equivalent to the 1:100 year floodplain.

The width of the ER buffer from the top of bank should be determined through a combined analysis of:

- A Top of Bank Survey completed by an Alberta Land Surveyor
- A Slope Stability Study to determine potential for erosion and unstable slopes
- A Floodplain Analysis to determine the 1:100 year floodplain
- A Biophysical Assessment to determine the area needed for pollution control and ensuring the integrity of the feature

Additional ER buffer should be required in situations where it is needed to ensure appropriate access to bed, bank and shore for landscape management activities and for recreational trails outside of unstable slopes or areas susceptible to erosion.

Controlled public access should be provided to allow residents to enjoy natural features.

7.1.3 Wetlands

Development in Bremner should achieve "No Net Loss" of wetland functions. Wherever possible, wetlands should be conserved in their existing location. Where conservation is not possible, replacement should occur in accordance with Provincial wetland policy as well as Strathcona County's Wetland Conservation Policy.

7.1.4 Creek Crossings

Creek crossings should use bridges as opposed to culverts over Old Man Creek and tributaries south of Pointe-aux-Pins Creek, as generally identified in the community design concept, to minimize impacts to aquatic and terrestrial habitats and the natural environment generally. Bridges will be important to establishing a grid of streets within the new community and preventing barriers between neighbourhoods.

7.1.5 Uses Adjacent to Environmental Reserve

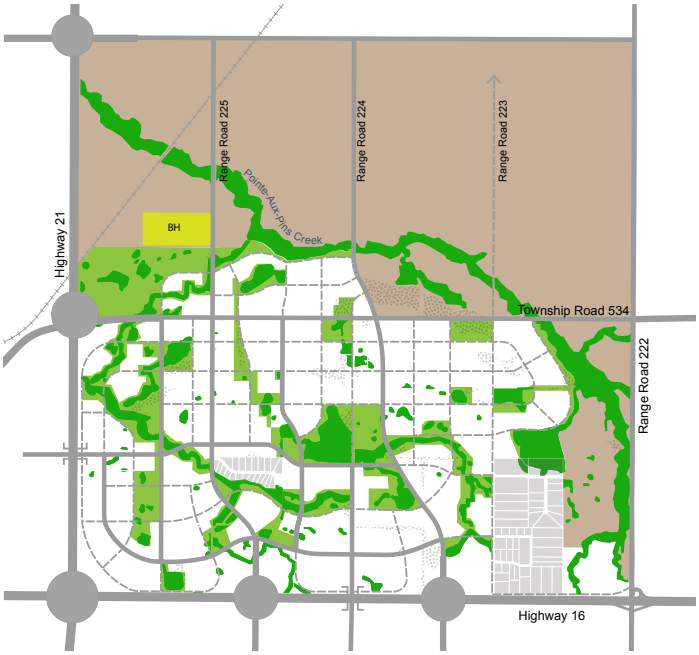
Parks, stormwater management facilities and public streets are appropriate uses adjacent to ER, provided they are designed to have minimal adverse impact on environmental features. Private development that backs onto ER should be limited to ensure environmental features provide a broad public benefit to the community and its residents. Where private development is permitted to back onto ER, safe public access along the feature via a public pathway should be provided. Public access to the public pathway between buildings should also be provided at regular intervals.

7.1.6 Access to Environmental Reserve

Generally, trails, boardwalks and lookout points should be used to provide controlled public access to ER while protecting the environmental function of the feature. Area Structure Plans should conceptually identify trail alignments through ER, where appropriate.

7.1.7 Upland Features

The community design concept incorporates woodlots and other significant natural features that do not qualify as ER into the major open space system. Such features should be incorporated into the design of parks and other public open spaces wherever possible, as part of the Municipal Reserve dedication.



7.1.8 Conservation and Management Plans

The County should consider preparing conservation and management plans for Pointe-aux-Pins Creek and Old Man Creek to address such matters as:

- Permitted and prohibited recreational uses in significant natural areas
- Areas for habitat restoration or enhancement and the means by which this will be achieved
- Guidelines for new open spaces linking natural areas
- Areas for erosion control
- Detailed guidelines for uses adjacent to or integrated with significant natural areas, including parks, stormwater management facilities, streets and private open space

7.1.9 Stormwater Management

The County should apply its Best Management Practices (BMPs) for stormwater management in Bremner to ensure any adverse impacts on creeks, tributaries and other natural features are minimized. The County will occasionally update the BMPs to reflect current best practice.

7.2 Agriculture

The policies below support Principle 2, Maintain and Support agriculture. They are primarily intended to ensure farming can continue as the community builds out but also promote agricultural services and urban forms of agriculture within the community.

7.2.1 Agriculture Master Plan

An Agriculture Master Plan for Strathcona County is under development. The policy directions below should inform the master plan but may also be revised, refined and/or augmented based on its recommendations.

7.2.2 Continued Use of Agricultural Land

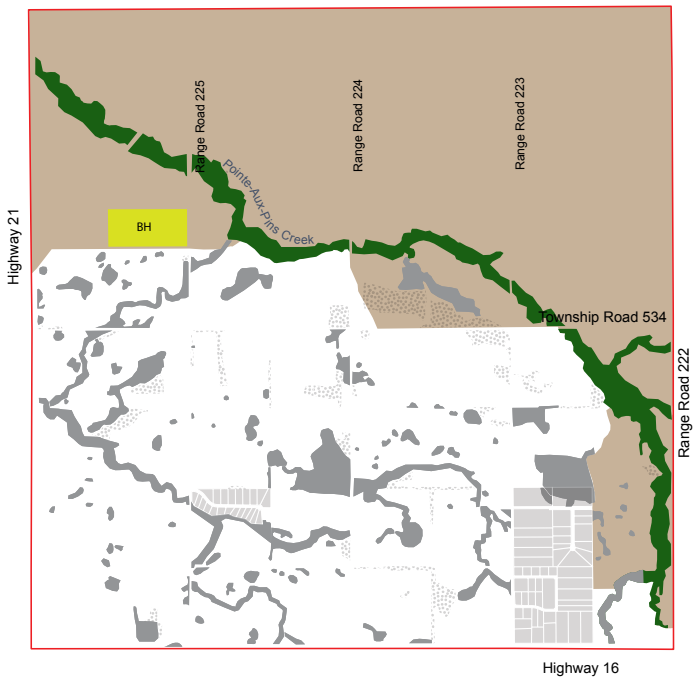
Lands shown on the community design concept as agriculture should continue to be designated Agriculture – Large Holdings. Consideration of these lands for urban development may be reviewed when approximately 75% of the lands designated for urban uses have been built out and following preparation of a comprehensive growth management strategy and Area Concept Plan (ACP) for the lands.

7.2.3 Contiguous Development

To maintain the viability of active farmland south of Pointe-aux-Pins Creek and avoid land use conflicts as the new community develops, the urban community should develop in a contiguous manner and avoid creating fragments of farmland.

7.2.4 Buffers

To prevent land use conflicts, developers should provide appropriate open space buffers between urban development and farmland where no natural buffer exists. The buffer should be designed to be easily integrated with urban development if and when development takes place on the farmland.



Bremner should feature community gardens for local food production.

7.2.5 Management of the Rural-Urban Interface

There are three areas south of Pointe-aux-Pins Creek intended to remain in agricultural use—around the Bremner House property, east of Range Road 224 and north of Township Road 534, and west of Range Road 222. Given the proximity of these lands to future development, the County may consider special agricultural land use policies to minimize adverse effects of urban development on agricultural lands and operations while not precluding urban development in the long term.

7.2.6 Multi-Modal Use of Roads

Roads north of Pointe-aux-Pins Creek will require improvement to accommodate increased traffic, pedestrians and cyclists, however adequate space for farm machinery should be maintained. New urban roads south of the creek that will service farmland during Bremner's development also should be designed to safely accommodate farm machinery.

7.2.7 Agricultural Services and Innovation

Commercial and industrial businesses that support agriculture, including businesses engaged in agricultural research and development, should be considered in Business Park Areas in Bremner. Greenhouses should be considered where such uses can be appropriately buffered from other employment uses and residential areas.

7.2.8 Urban Agriculture

To promote urban agriculture in Bremner, the County's future Agriculture Master Plan should identify opportunities, policies and guidelines related to rooftop gardens, community gardens, vertical farms and other forms of urban agriculture.

7.2.9 Food Production in Parks

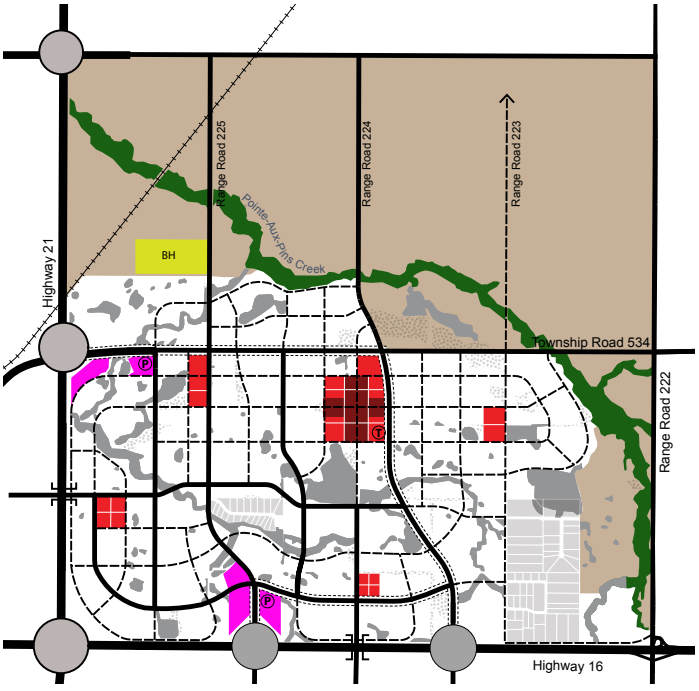
The design of all parks should consider locations for community gardens and the inclusion of fruit-bearing trees in landscape plans, in balance with other park programming needs.

7.2.10 Farmers' Markets

Plans for Village Centres and the Town Centre within Bremner should identify potential locations for farmers' markets.

7.3 Transportation and Streets

The policies below support Principle 5, Provide Transportation Options for Everyday Travel. The overall intent is to ensure the new community is designed so that people can get around easily by car, foot, bicycle or transit. By establishing a road network and hierarchy that provide convenient multi-modal access to all destinations within the community, residents generally should enjoy equal access to employment, education and retail opportunities, regardless of age, abilities or income. A fine-grained grid network of streets should be developed and the concept of complete streets and guidelines such as the NACTO Urban Street Design Guide *(http://nacto.org/usdg/)* should guide the design of individual streets.



7.3.1 Interconnected Street Network

The transportation network should provide a high level of connectivity through a fine-grained street grid that prioritizes the safety and convenience of vulnerable users over vehicular traffic. All elements of the street network should have a distinctly urban configuration. While combinations of straight and curvilinear streets may be used to form the street grid, the use of conventional suburban style elements such as loops, crescents and cul-de-sacs should not be considered as these elements will diminish the functionality and connectivity of the street network.

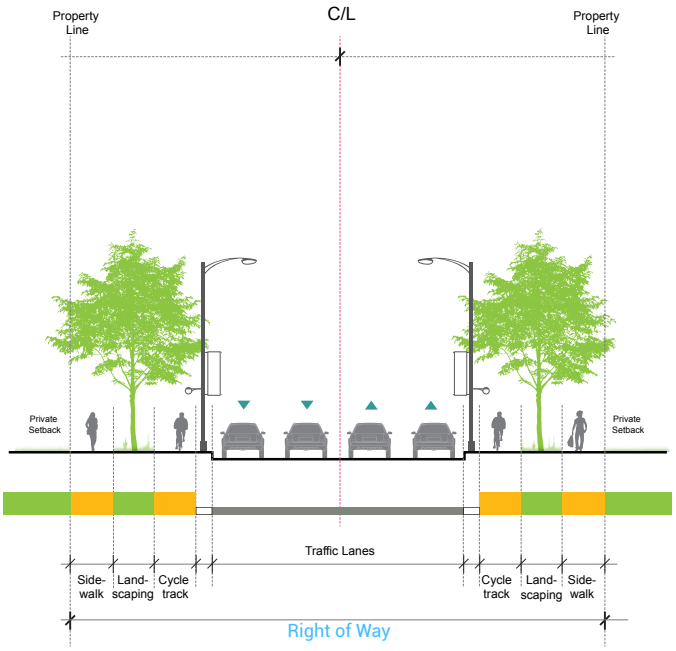
7.3.2 Updated Engineering Standards

To support and enable a multi-modal circulation system, the County should revise its current subdivision design standards to reflect best practices and a "complete streets" design philosophy that favours slower vehicular circulation and prioritzes the quality, safety and convenience of pedestrian, cyclist and transit movement.

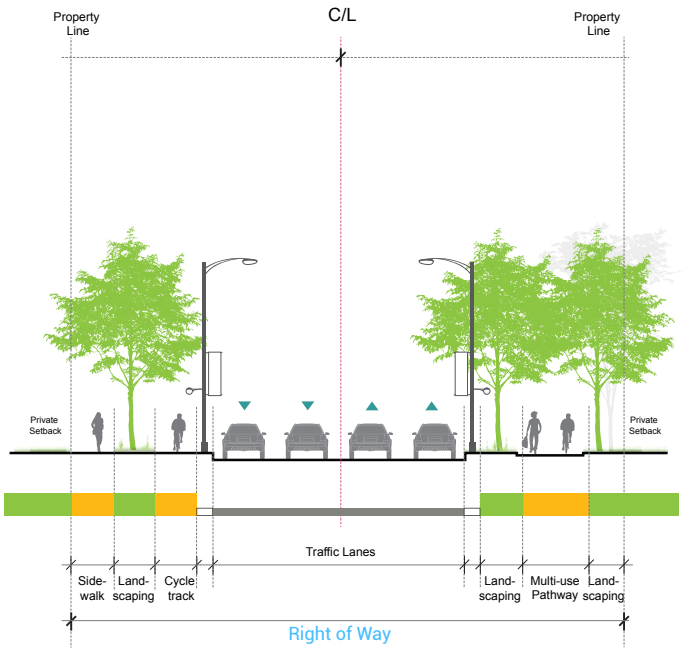
7.3.3 Roundabouts

Where minimal pedestrian movement is planned, roundabouts at intersections can help to manage traffic efficiently and safely. Where walking is strongly encouraged, roundabouts may not be appropriate, specifically in and surrounding Mixed-use Centres, schools, community centres, and at transit stops. Intersection types that prioritize safety and convenience for pedestrians and cyclists should be utilized in these areas.

Typical Arterial in Bremner



Arterial with Multi-Use Pathway



Arterial roads should have sidewalks and cycle tracks and/or multi-use pathways.

7.3.4 Access to Arterials

Along the approaches to highway interchanges, access from local roads to arterials, and vice versa, should be limited. Generally, however, local roads should be allowed to intersect with arterials, with appropriate traffic controls, to maximize connectivity for all travel modes and evenly distribute vehicular traffic.

7.3.5 Target Speed Approach

Rather than using the conventional design speed approach, the County should adopt a "target speed" approach for all roads that considers the needs of all modes. For example, a target speed of 50-60 km/h should be considered for arterial roads.

7.3.6 Pedestrian and Cyclist Infrastructure

All roads should have provision for pedestrians and cyclists on both sides. Generally, collector and minor arterial roads should have sidewalks and separated bike lanes or cycle tracks. Major arterial roads should have either a sidewalk and separated cycle track or a multi-use pathway on either side.

Cycle tracks should be separated from traffic.

7.3.7 Community Connections

The County should apply its Trails Strategy to ensure pedestrian and bicycle routes between Sherwood Park and a new community in Bremner are planned. Pedestrian and bicycle routes should also be planned between Bremner and the Development Expansion Area and Ardrossan.

On-street parking should be provided throughout the community, particularly in mixed-use centres.

7.3.8 Transit Centres

Transit centres with park and ride facilities should be planned at arterial gateways connecting to Highways 16 and 21. Transit centres oriented to pedestrians and cyclists should be planned in Village Centres and the Town Centre and served by regional transit. All transit centres should include secure, weather-protected bicycle storage facilities.

7.3.9 High-Occupancy Vehicle (HOV) Lanes

As shown on the transportation layer of the community design concept, the major arterial roads into and out of Bremner should be designed to include high-occupancy vehicle lanes, which could evolve to become dedicated bus rapid transit lanes.

7.3.10 Transit Priority Measures

Transit priority measures such as pass-through lanes should be considered at interchanges near park-and-ride facilities. All intersections of arterial roads and arterial/collector roads should be designed to accommodate transit priority measures such as queue-jumps.

7.3.11 Comprehensive Trail Network

An interconnected trail network utilizing open spaces and road right-of-ways should complement and link to the road network.

7.3.12 Reduced Parking Standards

To prevent an oversupply of parking and encourage walking, cycling and transit use, the County should develop reduced parking standards for Village Centres and the Town Centre. The reduced parking supply requirements should be prescribed in areas well-served by transit, establish parking maximums, and allow parking to be shared among commercial, institutional and high-density residential uses.

7.3.13 On-street Parking

To support commercial and residential uses, particularly in Mixed-use Centres, and to optimize the use of streets in off-peak periods, on-street parking should be considered throughout the new community.

7.3.14 Public Realm and Leafy Streets

Integrating trees into the design of every street is vital to the creation of a more pedestrian-oriented transportation system. Rows of trees should be a fundamental part of the design of all roads. Boulevards should be wide enough to accommodate snow storage and allow trees to fully grow between the roadway and the pedestrian zone. Underground utilities should also be planned to allow tree growth. Roads with centre medians 3.5 metres or greater in width should include a suitable line of centre-median trees to reinforce the desired urban aesthetic and more restrained vehicular operating speeds.

7.4 Utility Infrastructure, Stormwater Management and Energy

Municipal services and energy are typically the hidden elements of a community but are fundamental to ensuring it functions sustainably. The policy directions below emphasize opportunities to integrate natural resources and systems into the design of the community and minimize impacts on the environment.

7.4.1 Municipal Services

All urban development will be serviced with municipal water, wastewater and stormwater utilities. The location and capacity of the major water transmission and wastewater/ stormwater trunks will be determined through a detailed servicing study prepared for an Area Concept Plan.

7.4.2 Stormwater Management

Generally, storm drainage should be managed with a system of wetlands, wet ponds, and low impact development (LID) or green infrastructure such as bio-swales that maximize infiltration and use biological processes to treat run-off. In Village Centres and the Town Centre, the County should consider permitting alternative methods of stormwater management such as urban swales and structural soil cells/suspended pavement systems, to optimize land for development and public open spaces.

7.4.3 Low Impact Development (LID)

The County should consider allowing a reduction in the size of conventional stormwater infrastructure (e.g., pipes) and management facilities (e.g., wet ponds) where extensive use of LID systems throughout a development is proposed, provided the stormwater flowrate and volume reduction benefits of the LID can be demonstrated through a detailed stormwater study.

7.4.4 Existing Wetlands

Existing wetlands and drainage courses should be integrated with future stormwater management schemes where topographically possible, since placing stormwater facilities adjacent to wetlands and drainage courses will provide an ecological benefit.

7.4.5 Enhancing Environmental Reserve

The County should consider permitting new wetlands and wet ponds adjacent to Environmental Reserve where they will enhance wildlife habitat opportunities.

7.4.6 Stormwater Reuse

At the Area Structure Plan stage, opportunities for stormwater reuse should be explored such as reuse of stormwater to irrigate parks, gardens and landscaping in accordance with applicable legislation.

7.4.7 Renewable Energy

Use of renewable energy sources and high-efficiency systems should be considered for all development in Bremner. Geothermal and district heating systems should be considered where the scale and density of development and mix of uses would support an efficient system, for example, in the Mixed-use Centres. Rooftop solar panels should be considered for all forms of development across the community. The County should develop incentives to encourage the integration of renewable energy in Bremner.

7.5 Residential Areas

The policy directions below would apply primarily in both the Low-density and Medium-density Neighbourhoods, as identified in the community design concept, but also include more general housing policies. Besides supporting Principle 5, Accommodate a Diversity of Housing, they also support Principle 6, Create Strong, Distinctive and Safe Neighbourhoods.

7.5.1 Minimum Density Target

The minimum overall residential density target for planning areas subject to Area Structure Plans (ASPs), including Mixed-use Centres, should be no less than 35 units per net residential hectare.

7.5.2 Diverse Planning Areas

Planning areas subject to ASPs and comprised of multiple neighbourhoods should accommodate a full range of housing types and sizes. The following maximum and minimum targets for Low-density and Medium-density Neighbourhoods combined should guide ASPs and Plans of Subdivision:

- Maximum 60% single-detached and semi-detached houses
- Minimum 25% townhomes
- Minimum 10% apartments

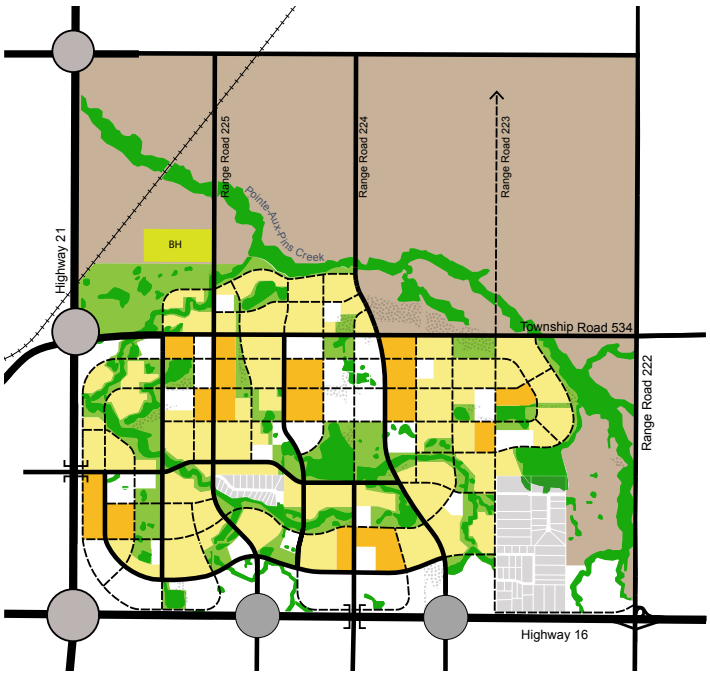
Based on these percentages, if an area meets the maximum of 60% for single-detached and semi-detached houses, 5% of its housing make up will be flexible between townhomes and apartments after it meets the minimum requirements for those two types of housing.

7.5.3 Diverse Neighbourhoods

While addressing the above overall housing target, ASPs should divide residential areas into neighbourhoods, each with a distinct housing mix that includes single detached homes, semi-detached homes, townhomes and apartments. Minimum targets for each housing type should be established for each neighbourhood, with combined targets supporting the overall targets above.

7.5.4 Medium-density Neighbourhoods

There should be a greater concentration of townhomes and low-rise apartment buildings up to four storeys in Medium-density Neighbourhoods, but low-density forms of housing should also be considered. Mid-rise apartment buildings up to six storeys should also be allowed on arterial roads. The higher density forms of housing will support vitality in the Town Centre and Village Centres as well as public transit.



Top: Low-rise apartment buildings should be common in Medium-density Neighbourhoods.

Above: Laneways should be considered throughout the community.

7.5.5 Low-density Neighbourhoods

Single-detached and semi-detached homes should be the dominant forms of housing in Low-density Neighbourhoods, but townhomes should also be common, and low-rise apartment buildings up to four storeys should be considered on collector and arterial roads.

7.5.6 Laneways

Public or private rear laneways for access, parking and common play space should be considered throughout the community. Laneways should be required for development that fronts a major street where individual driveways are not appropriate. To prevent garages and driveways from dominating neighbourhood streetscapes, laneways should also be required in Medium-density Residential areas and in Low-density Residential areas where housing is on narrow lots (less than nine metres wide). All townhouse developments should incorporate laneways.

7.5.7 Rear Lotting

To support the objective of attractive, pedestrian-friendly streetscapes, development backing onto a road should not be considered except near highways, highway interchanges and flyovers.

7.5.8 Affordable Housing Strategy

The County's Affordable Housing Strategy should address Bremner specifically and identify targets, policies and strategies for different types of affordable housing in the new community, including market ownership, non-profit rental and for-profit rental. The strategy should also consider identifying potential locations for affordable housing in Bremner. To support the Affordable Housing Strategy, the County should consider developing incentives for affordable housing initiatives led by the private sector. ASPs should describe how development will help meet the County's targets.

Neighbourhoods should be architecturally diverse with a variety of house models on each block.

7.5.9 Secondary Suites

Basement suites should be considered throughout the new community. Detached garden suites should be considered and encouraged in low-density neighbourhoods where a parking space for the unit can be accommodated behind the main house, accessed from a rear laneway or a driveway at the side of the house. Area Structure Plans should identify a minimum target for purpose-built garden suites.

7.5.10 Existing Subdivisions

The existing country residential subdivisions in Bremner should be integrated with ASPs in a manner that maintains existing road access and allows for future servicing of the subdivisions. As the opportunity arises, infrastructure in the subdivisions should be improved to be consistent with residential areas throughout Bremner. Residential intensification of the existing subdivisions may be considered, provided it is connected to municipal services and the form is compatible with neighbouring development.

7.5.11 Architectural Diversity

Houses and apartment buildings should be built of enduring and attractive materials. Individual streets and neighbourhoods should display a variety of architectural styles. The streetscape of each block of a residential neighbourhood should be defined by several house models. Building materials, porch designs and roof treatments should vary; dormers and gabled roofs should be encouraged. Attached townhouses generally should be broken up into rows of no more than eight units, and the architecture of each row should vary.

7.5.12 Eyes (and Ears) on the Street

Homes and the main living areas within them should have a strong relationship to the street. Garages should not dominate the front façade or extend from it. Front porches should be encouraged.

7.5.13 Neighbourhood Parks

The community open space system will provide a setting for neighbourhood parks with a range of amenities, but smaller parks should also be planned within residential areas to ensure all residents are within a five-minute walk of a park (approximately 400 metres).

7.5.14 Grid of Streets

Consistent with the objective to establish fine-grained grid networks of streets in residential areas, neighbourhood blocks generally should not exceed 300 metres in length.

7.5.15 Leafy Streets

At least one tree should be planted in the front yard of all new homes, close to the sidewalk, to support an inviting and comfortable pedestrian realm.

7.5.16 Solar Orientation

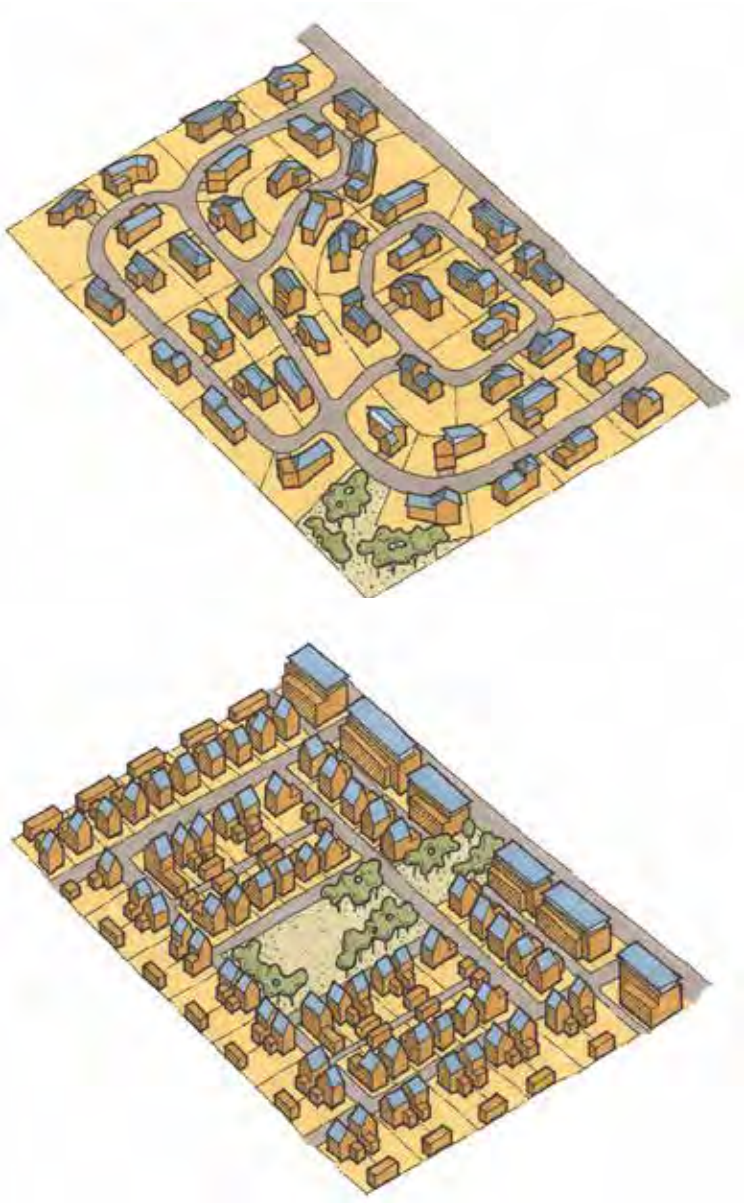
The design of neighbourhoods should seek to maximize opportunities for passive solar heating. Generally, blocks should be oriented within plus or minus 15 degrees of geographical east-west, wherever practical, with the east-west block lengths equal to or greater than the north-south block lengths.

7.5.17 Non-residential Uses

Community, institutional and small-scale commercial uses serving neighbourhoods should be considered in residential areas. Commercial uses, such as convenience stores, coffee shops and take-out restaurants, should be oriented to streets, with parking provided on the streets and in small on-site parking lots at the rear or side of the building. Large-scale institutional uses, such as schools and places of worship, should be located on peripheral sites fronting a collector or arterial road.

7.5.18 Design Guidelines

ASPs should include detailed neighbourhood design guidelines illustrating how the principles and above policies will be satisfied.



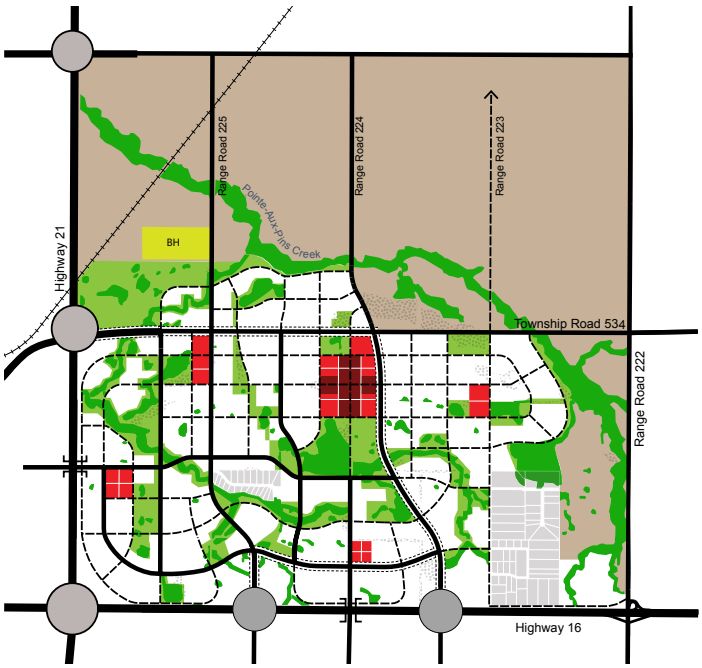
Residential areas should feature a fine-grained grid network of streets, rather than curvilinear streets.

7.6 Mixed-use Centres

Mixed-use Centres are intended to be hubs for the neighbourhoods that surround them and the larger community and, over time, they should become distinct neighbourhoods unto themselves. Mixed-use Village Centres and a larger Town Centre will be the primary locations for shopping, dining, entertainment, commercial services, cultural facilities and high-density housing, and should be planned as such.

7.6.1 Mixed Use Target

The mix of uses in Mixed-use Centres may take different forms. Generally, not more than 50% of the area of a centre, excluding public streets, should be used for stand-alone commercial uses, with the remainder used for high-density and medium density housing or mixed commercial-residential buildings, i.e., housing above ground-floor retail.



Village Centres

7.6.2 Mix of Uses

The Village Centres should contain commercial amenities for the neighbourhoods that surround them, in addition to apartment buildings up to four storeys and townhomes. Generally, each Village Centre should accommodate a grocery store and a range of smaller retail and service establishments, as well as restaurants. To ensure there is commercial vitality in the Village Centres, small and mid-size retail and restaurants should be restricted in the Major Retail Areas near the highway interchanges (see policy directions 7.8.1 and 7.8.2).

Mixed commercial-residential buildings should be encouraged.

7.6.3 Community Uses

Community centres and potentially places of worship should also be accommodated in Village Centres, generally on peripheral sites where the impacts of large parking lots can be best mitigated.

7.6.4 Street-oriented Buildings

Most of the retail uses in Village Centres should be oriented to a main street, with buildings framing the street and parking generally located at the rear of buildings to create an inviting pedestrian realm. Small parking lots at the side of buildings may also be considered.

7.6.5 Minimum Density

The minimum density of residential developments in Village Centres, including mixed residential-commercial buildings, should be 60 units per net residential hectare.

Town Centre

7.6.6 Broader Mix of Uses

Besides serving surrounding neighbourhoods, the Town Centre should contain commercial, cultural and educational uses that serve the entire community, including high schools on peripheral sites. A variety of commercial uses should be considered, including office buildings and retail establishments of all types and sizes. A community centre and places of worship will be important components of the Town Centre.

7.6.7 Commercial Core

Most retail stores and services in the Town Centre should be oriented to continuous "main streets" forming a commercial core, as generally identified in the community design concept.

7.6.8 Taller Buildings

The Town Centre should also have the greatest concentration of high-density housing, including low-rise apartment buildings up to four storeys and mid-rise apartment buildings up to nine storeys. The minimum density of residential developments in the Town Centre, including mixed residential-commercial buildings, should be 90 units per net residential hectare.

7.6.9 Large-Format Retail

Large-format retail stores in the Town Centre, such as department and home improvement stores, should have an urban format. They should have their main entrance on a street, with the bulk of their floor area located behind smaller retail units or on a second level. Parking should be located at the rear of the building, preferably on multiple levels to minimize its footprint.

Urban Design in the Mixed-use Centres

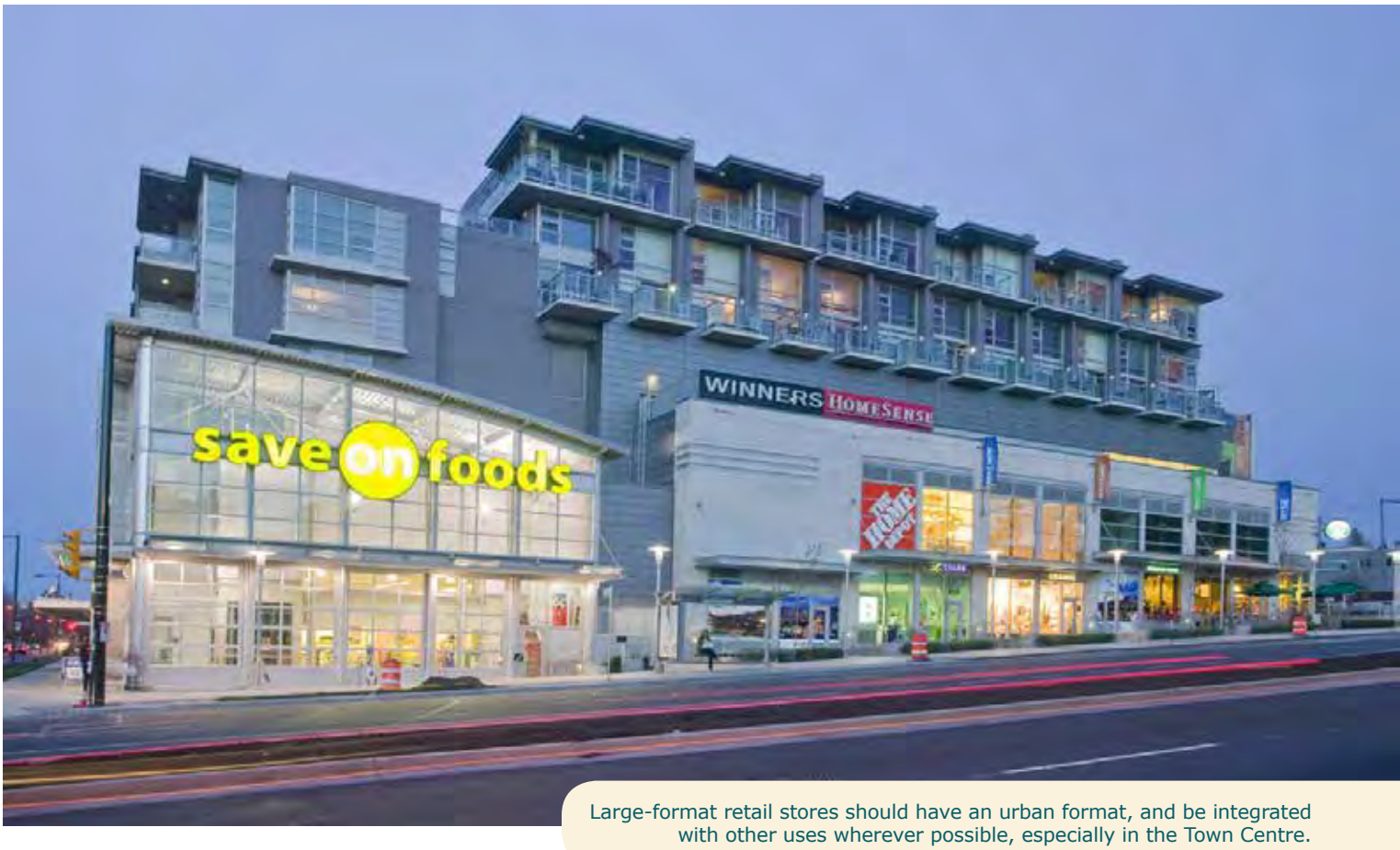
7.6.10 Pedestrian-oriented Design

Development in the mixed-use centres should adhere to the following urban design principles to ensure the centres are walkable and transit-supportive:

a) A network of streets and blocks should be developed, with blocks generally not exceeding 150 metres in length or width.

b) Buildings should face, and have their main entrance on, a public street and contribute to a traditional main street feel.

c) Retail and mixed-use buildings should have consistent setbacks to form a streetwall close to the sidewalk, accommodating a pedestrian and patio zone with a minimum width from curb to building façade of generally six metres.



Large-format retail stores should have an urban format, and be integrated with other uses wherever possible, especially in the Town Centre.

d) The minimum height of buildings at the street should be eight metres or two storeys.

e) Parking should be located at the rear or side of buildings, never in the front, and on-street parking should be provided. Side yard parking should be restricted to two rows and set back from the street, behind landscaping and pedestrian amenities.

f) The facades of retail buildings should include large clear glass windows and frequent store entrances to aid shoppers and encourage street life.

7.6.11 Planning for Intensification

Plans for stand-alone retail in Village Centres and the Town Centre should demonstrate how sites can easily evolve to accommodate more uses and increase population or employment density over time.

7.6.12 Mixed-use Development

Buildings with retail or community uses on the ground floor and residential units or office space on upper floors should be strongly encouraged in mixed-use centres. Horizontal mixed-use, where apartment buildings or townhomes are located behind retail uses, should also be encouraged.

7.6.13 Grocery Stores

Grocery stores will provide an important retail anchor in the Village Centres and Town Centre. They are encouraged to be street-related but may also be located behind smaller retail units fronting the street.

7.6.14 Small Businesses

Multi-tenant commercial developments in Village Centres and the Town Centre should be encouraged to include multiple units for small businesses and professional office space on a second storey.

7.6.15 Gathering Places

Streets within Village Centres and the Town Centre should have wide sidewalks and benches to encourage social interaction and accommodate special events. In addition, each Village Centre should include a central square or other open space for passive enjoyment and community events. Gathering spaces should be planned for four-season community use.

7.6.16 Laneways

Generally, development in Mixed-use Centres should be serviced by public or private laneways to minimize the visual impact of loading, garbage and parking areas.

7.6.17 Community Centres

The County will seek to locate a community centre with meeting space and recreational facilities in or immediately adjacent to each Village Centre. Other social services should also be located in Village Centres.

7.6.18 Land Use Plans and Design Guidelines

Area Structure Plans should include detailed plans showing how residential, commercial and community uses are to be configured in each Village Centre and how the public realm will support walking, cycling, transit use and driving. Urban design guidelines should also be prepared to guide the form and architecture of development and the design of public and private open spaces.

Examples of gathering places:
Top: A central square.
Above: Wide sidewalks with landscaping and benches.

7.7 Parks, Schools and Other Community Facilities

Community facilities are essential places for recreation, education and culture. They build community and support healthy lifestyles. The policies below should guide development of Bremner's civic infrastructure and ensure future residents have access to a full range of public amenities close to home. Since the permitted 10% Municipal Reserve dedication is generally not adequate to accommodate all of the community facilities required by a community including schools, parks and recreation centres, the County will need to create incentives that encourage a higher dedication rate.

7.7.1 Regional Park and Recreation Centre

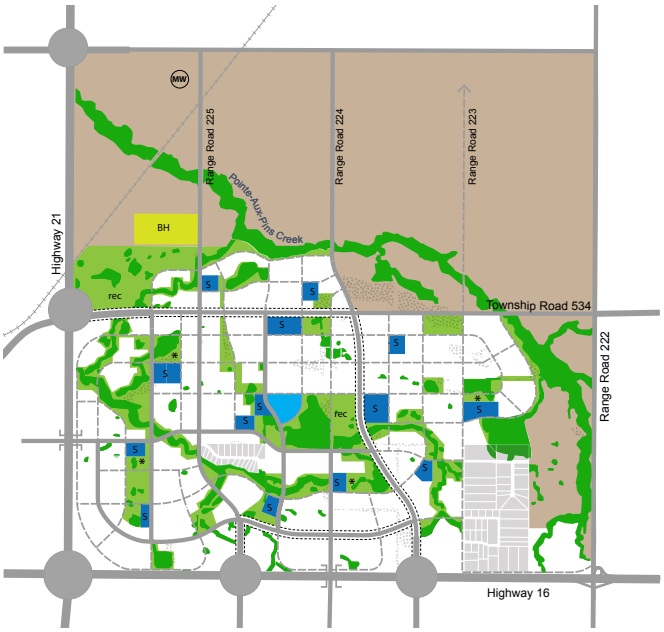
There is an opportunity in Bremner for the County to develop a regional park with a range of outdoor athletic facilities and a major indoor recreation centre on 16-24 hectares (40-60 acres) between Township Road 534 and the Bremner House property. The precise size and programming of the park and recreation centre will be based on a study of current and projected facility needs. A park in this location would provide an open space transition between urban development to the south and Bremner House.

7.7.2 Town Centre Park and Recreation Centre

A second site for a major park and indoor recreation centre has been identified adjacent to the Town Centre. This recreation centre would be smaller than the regional facility but both indoor and outdoor components would include a range of facilities.

7.7.3 Mixed Use Recreation Centres

The County should consider integrating complementary commercial uses, such as restaurants, personal services and sports equipment/apparel stores, with the two



major recreation centres and potentially other community centres planned in Bremner.

7.7.4 Bremner House

The Bremner House property should be used for interpretation and celebration of the area's agricultural heritage, and may incorporate other compatible community facilities. While a regional park may be planned immediately south of Bremner House, the remaining lands abutting the property are intended to remain agricultural for the foreseeable future.

7.7.5 Community Parks

Community parks of at least four hectares should be located in highly visible and accessible places where they complement and link Environmental Reserve lands. Community parks should serve multiple neighbourhoods with a range of outdoor facilities and passive green space. Area Structure Plans (ASPs) should determine the size and location of community parks.

A network of interconnected trails should be used for both transportation and recreation.

7.7.6 Neighbourhood Parks

All residents should be within 400 metres (a five-minute walk) of a park. In addition to having access to community parks, each neighbourhood should feature a central gathering place with a playground, green space and seating areas. Neighbourhood parks generally should be one to two hectares and are not shown on the community design concept.

7.7.7 Linear Open Spaces and Trails

Where possible, linear open spaces should link together natural features and parks, as illustrated in the community design concept. Trails should be provided for recreation and as links within the overall transportation system. Environmental Reserve should be used to provide trail linkages where possible.

7.7.8 Dedication of Municipal Reserve

While the Municipal Government Act (MGA) restricts the Municipal Reserve dedication requirement to 10% of net developable land, the County should encourage additional dedication of Municipal Reserve where required to meet community needs.

7.7.9 Open Space Target

The County's target for the provision of public parks and open spaces to serve the new community in Bremner is one hectare for every 75 residents, or 13.4 hectares for every 1,000 residents.

7.7.10 Open Space Access and Visibility

Parks, natural areas and other public open spaces should be highly visible. At least 50% of the boundary of a park should be framed by streets. Public streets should line major environmental features wherever possible and within neighbourhoods at least 50% of the boundary of a natural feature should abut a public street or park.

7.7.11 Community Centres

In addition to two major recreation centres, the County should plan smaller community centres in or adjacent to each of the Village Centres, to be constructed in line with community growth. ASPs should confirm the locations and sizes of community centres. The programming of community centres will depend on community needs, but should include some indoor recreational facilities, meeting space and potentially other facilities such as a library or cultural venue.

7.7.12 Mitigating Impacts

Major recreation facilities should be buffered from residential areas by open spaces or other uses, such as a school or commercial use, wherever possible.

7.7.13 Schools

It is anticipated that a minimum of 14 primary schools (K-6 or K-9) and two to three high schools will be required in the new community. Preferred locations for schools, adjacent to the planned major open space system, are

Neighbourhood parks should be central gathering places with playgrounds, green space and seating areas.

identified in the community design concept. These locations should be confirmed and additional sites identified, as required and in consultation with the school boards, during the preparation of ASPs. Most residents should be within 800 metres of a primary school to encourage walking and cycling to school. High schools should be located next to the Town Centre where possible to facilitate transit use and after school employment opportunities. To optimize the use of land, the use of municipal sports fields by schools should be encouraged.

7.7.14 Joint Use Sites

The public and separate school boards should be encouraged to share school sites wherever possible. Larger school sites identified on the community design concept can either be used as high school sites or joint school sites. In addition, joint use sites for schools and other community facilities such as community centres, libraries and performance spaces should be encouraged.

7.7.15 Major Institution

A site for one or more major institutions, such as a university, college, healthcare facility or government office building, has been identified in the community design concept near the planned Town Centre. This site should be reserved for such uses at least until an ASP is prepared for the Town Centre. The site should be designed as a compact urban campus with ancillary uses such as restaurants, retail and potentially housing that support the institution(s).

7.7.16 Fire Halls

Approximately four fire halls are expected to be needed to serve a new community in Bremner. They should be located in Mixed-use Centres or residential neighbourhoods, with easy access to the arterial and collector road network.

7.7.17 Meltwater Facility

A potential location for a facility to store and melt snow has been identified in the community design concept on the east side of Highway 21, north of the new community. Such a facility should be designed to minimize any adverse environmental and visual impacts.

7.7.18 Public Works Sites

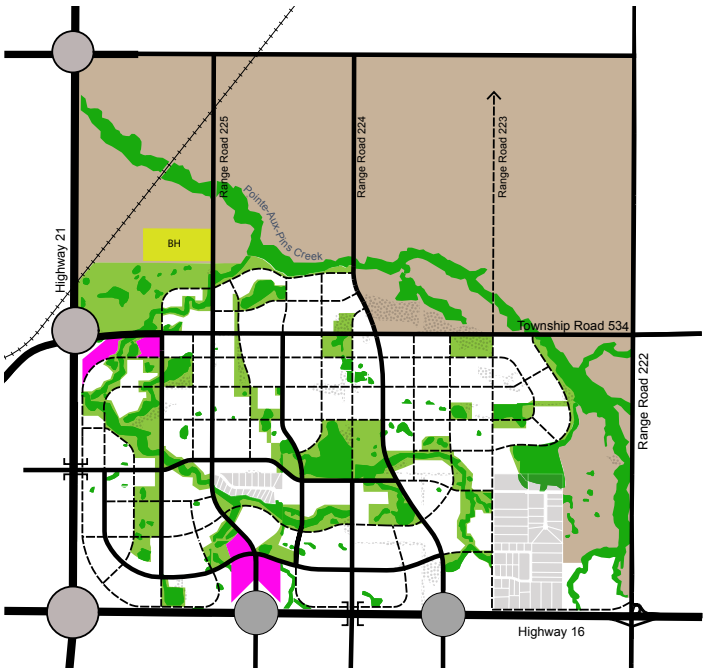
Community facilities such as public works yards and Enviroservice Stations (full service recycling stations) should be accommodated within Business Park Areas, Major Retail Areas and where appropriate buffers from residential development are provided.

7.7.19 Green Buildings

As per the County's Municipal Sustainable Buildings Policy, all public facilities in the new community should be built to a high environmental standard (e.g., LEED Gold or higher). The County should encourage all development to meet or exceed the highest green building standards in place at the time, and to this end should develop incentives for green development.

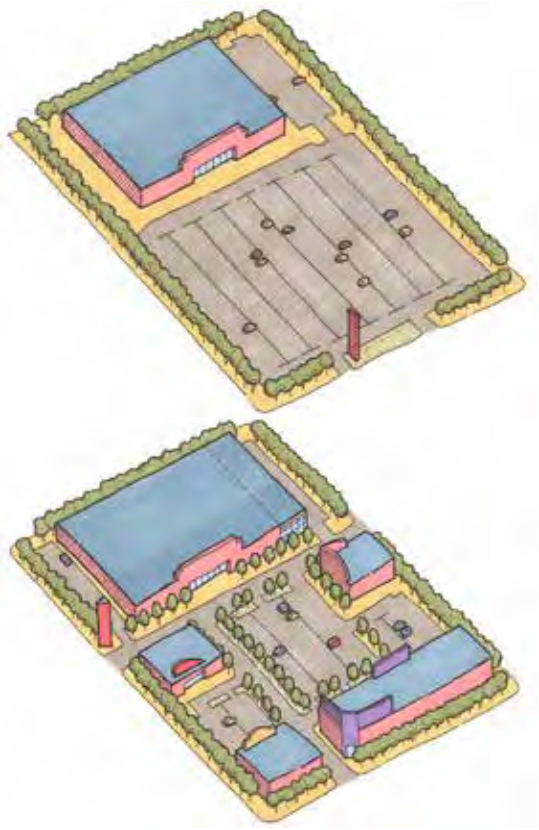
7.8 Major Retail Areas

Future residents of a new community in Bremner will seek a variety of retail establishments within the community, including large-format department and home improvement stores. Since "big boxes" are generally car-oriented, the best location for them is near the highway gateways and away from the Village Centres, which are intended to be more pedestrian-oriented. The community design concept identifies two Major Retail Areas, one at Highway 21 and Township Road 534 and the other near the first future interchange on Highway 16, east of Highway 21.



7.8.1 Large-format Retail

Major Retail Areas should be limited to large-scale, warehouse-style retail establishments as well as automobile sales and service establishments (including gas stations). Multiplex cinemas may also be considered.



Major Retail Areas can be made more hospitable by lining sites with buildings and breaking up parking with sidewalks and landscaping.

7.8.2 Mid-size and Smaller Commercial Uses

To help prevent the Major Retail Areas from competing with the Village Centres, and vice versa, mid-size and smaller retail and entertainment uses, including restaurants, should be capped at 15-20% of all development in Major Retail Areas.

7.8.3 Site Planning for All Modes

In addition to catering to drivers, Major Retail Areas should be designed to be accessed by transit, cyclists and pedestrians. Buildings should be encouraged to have main entrances close to the street. Main access driveways should be treated like streets, with sidewalks, lighting, trees, and potentially transit stops. The area in front of store entrances should have benches and bike parking.

7.8.4 Planning for Intensification

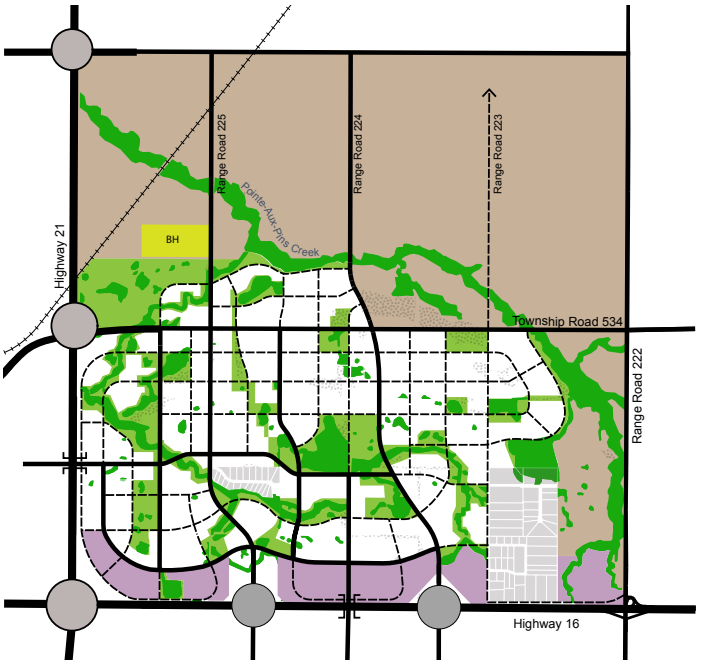
Plans for retail development should demonstrate how sites can easily evolve to add more uses over time and become more pedestrian-oriented.

7.9 Business Park Areas

The Business Park Areas are intended to accommodate a range of employment uses but would be a particularly appropriate location for office developers and tenants seeking good highway visibility and access. These areas could also be promoted to employers in sectors targeted for growth in the county, including health care, finance, and professional, scientific and technical services. Businesses that support agriculture would also be appropriate, provided they have no adverse impacts on adjacent residential or commercial uses.

7.9.1 Highway-oriented Employment

Lands adjacent to Highway 16, beyond the Major Retail Area, should be reserved for the development of business parks containing primarily office buildings and light industry. Public works and transportation facilities may also be accommodated in Business Park Areas.



Sites in Business Park Areas should be well landscaped with parking at the side or rear.

7.9.2 Clean Industries

Manufacturing and other industrial uses in the Business Park Areas should be wholly contained within buildings and have no noxious impacts. Outdoor storage should be prohibited. Facilities with low employment densities and which generate frequent truck traffic should be encouraged to locate in other, more appropriate industrial areas in the county. Outdoor storage associated with a public works or transportation facility may be considered, but such uses should be located away from public view and screened.

7.9.3 Employment Density

Employment densities in the Business Park Areas are expected to vary, but Area Structure Plans should establish minimum targets of at least 50 jobs per net hectare. Higher-density office development should be encouraged close to arterial roads to benefit from access to public transit.

7.9.4 Landscaping and Parking

Sites in the Business Park Areas, particularly front yards and employee amenity space, should be well-landscaped. Parking generally should be located at the side and rear of buildings and should be well screened from Highway 16 and adjacent roads with landscaping. Buildings along Highway 16 should present the highway and parallel service road with attractive facades and generous landscaping.

7.9.5 Accessory Retail

Retail uses should not be considered in Business Park Areas, except retail that is accessory to a business use and occupies a small portion of the development, generally no more than 15%.

8 Implementation

This document establishes a vision and principles, community design concept, and set of policy directions to guide development in Bremner. If Council decides to proceed with growth in the area, a series of steps will be required to implement the growth management strategy and ensure that the County has the tools to achieve the vision for a sustainable new community.

8.1 Statutory Documents

Municipal Development Plan

If Council accepts the growth management strategy (GMS), amendments to the Municipal Development Plan (MDP) would be required to recognize Bremner as the location of the county's next urban community. The land use map would need to be updated to include within the Urban Service Area boundary the portions of the Bremner area planned for urban development. The portions of Bremner that are shown as agriculture on the community design concept should remain within the Urban Reserve Policy Area until they are needed to accommodate urban growth.

The MDP should also establish requirements for what must be included in Area Structure Plans (ASPs) for Bremner, to ensure that they achieve the objectives of the growth management strategy. For example, in accordance with policy direction 5.8, ASPs should be required to describe how development will help meet the County's affordable housing targets.

MDP amendments will need to be forwarded to the Capital Region Board for approval.

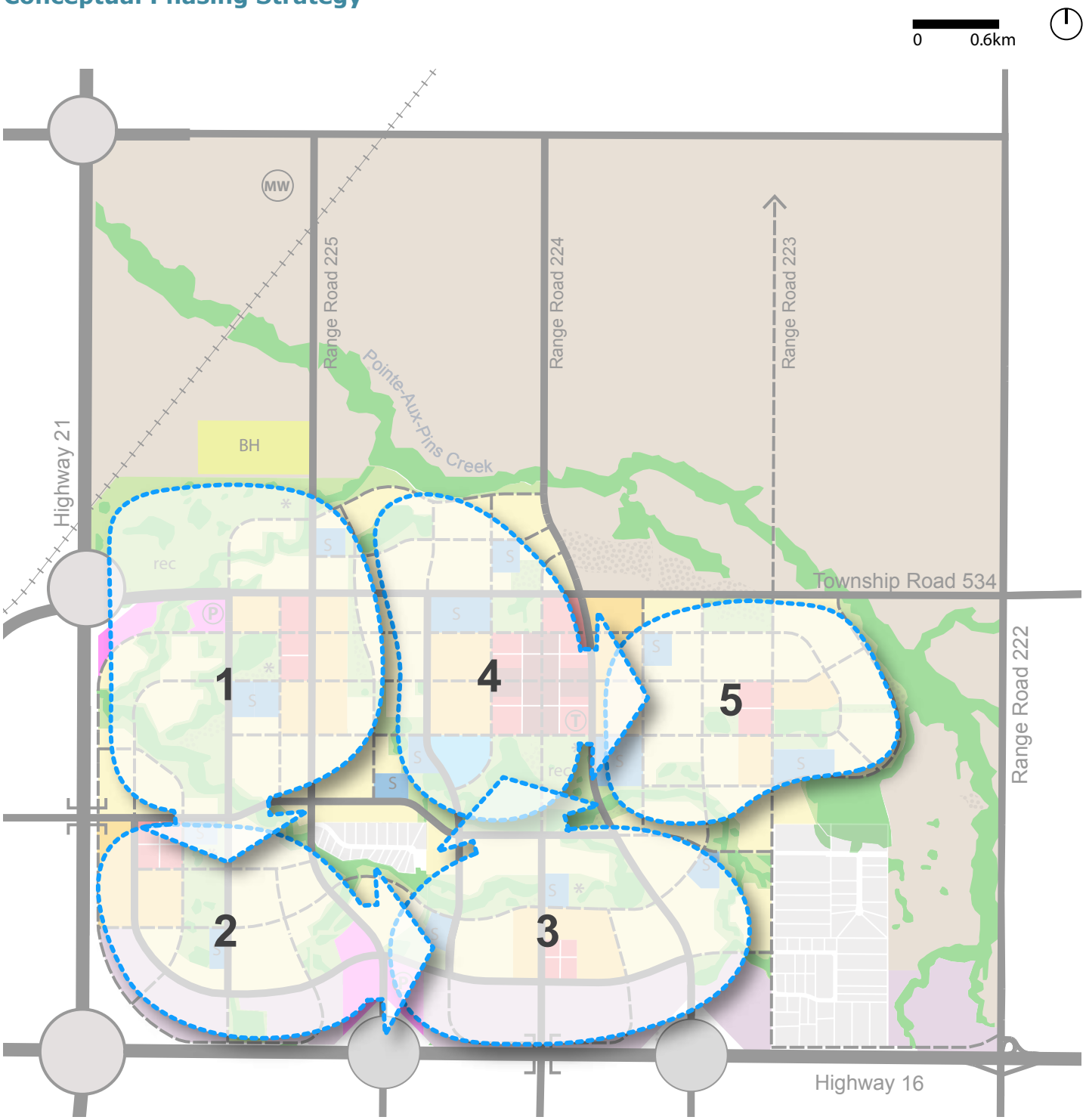
Area Concept Plan

To translate the growth management strategy into a statutory document, the next step would be for the County to prepare an Area Concept Plan (ACP) for the Bremner area. The ACP should be based on the GMS and reflect the vision, principles and community design concept described in the GMS. In most cases, the policy directions in the GMS can be easily translated into policy by simply replacing the word "should" with "shall."

The County will need to do some additional consultation as part of the development of the ACP. At a minimum, discussions will be required with Alberta Transportation regarding the interchanges on Highways 21 and 16, with EPCOR regarding water servicing options, with the school boards regarding the number and location of schools and with the City of Edmonton regarding inter-municipal issues such as transit.

Figure 8.1

Conceptual Phasing Strategy



More detailed technical studies than those undertaken for the GMS will be required at either the ACP or ASP stage. These may include, among other studies:

- A comprehensive transportation modelling study
- Detailed engineering studies and hydraulic analyses to determine servicing requirements and locations, possibly as part of an Engineering Master Plan
- Top of bank surveys, slope stability studies, biophysical assessments and floodplain analyses to define Environmental Reserve
- Conservation and management plans

Following approval by Council, the ACP would need to be submitted to the Capital Region Board (CRB) for review and approval in accordance with the Regional Evaluation Framework. CRB approval is dependent on the ACP being in compliance with the Capital Region Growth Plan.

Area Structure Plans

Once the Area Concept Plan has been adopted by Council, developers and landowners could begin to prepare Area Structure Plans (ASPs) for their land within the framework provided by the ACP. Once ASPs are in place, the Land Use Bylaw would have to be updated to reflect the new designations of the land.

Figure 8.1 shows a conceptual phasing strategy for Bremner, which should guide the timing of ASPs. Development should start from the west, near the intersection of Highway 21 and Township Road 534, as this is the most logical starting point from a servicing and connectivity perspective. Early Bremner residents would be able to easily access the shopping, services and community facilities across Highway 21 in Cambrian Crossing. From there, development should proceed south, then east. The Town Centre should not be developed until Bremner has reached a critical mass of population that is capable of supporting the retail, services and transit that it will provide. The area to the east of the Town Centre should be the last part of Bremner to develop.

It is recommended that a peer review process be established for ASPs. The purpose of the process would be to evaluate ASPs in relation to the vision, principles and policies for Bremner, as well as best practices in community design. Where appropriate, peer reviewers should provide recommendations on how ASPs should be modified to achieve the County's objectives for Bremner. In particular, the peer review group should include expertise in urban design, land use, transportation and environmental planning. The peer review group could be an extension of the sustainable neighbourhood review committee suggested in the County's SUNliving Implementation Manual.

8.2 Non-Statutory Documents and Incentives

Urban Design Guidelines

To achieve the architectural and public realm objectives for Bremner, urban design guidelines should be prepared for each component of the community. This would include Low-density and Medium-density Neighbourhoods, Mixed-use Centres, Business Park Areas and Major Retail Areas. To ensure a consistent approach across the community, the County should consider leading the development of the guidelines; however they could also be prepared as part of Area Structure Plans (ASPs).

New Engineering Standards

Policy direction 7.3.2 states that the County should revise its current subdivision design standards to reflect best practices and a "complete streets" approach. The success of Bremner's overall community design plan and transportation network depends on the creation of a multi-modal circulation system that elevates the quality, safety and convenience of pedestrian, bicycle and transit movement. Revised engineering standards are one tool that the County requires to support the development of such a system.

County-wide Studies

A number of county-wide studies that will impact and inform development in Bremner are underway, planned or recommended by the GMS. These include an Agriculture Master Plan and an Affordable Housing Strategy. The policy directions in the GMS when carried forward into an ACP and ASPs may be revised, refined and/or augmented based on the recommendations of these studies.

Incentives

Much can be achieved through strong policy, but creating a truly different community in Bremner will also require the use of incentives. To demonstrate its commitment to the vision for Bremner and encourage the development community to help implement the vision, the County should consider developing incentives to implement some of the more progressive policies of the GMS. In particular, incentives likely will be an important tool to achieving the affordable housing, green building, and renewable energy objectives of the GMS.

The Bremner Growth Management Strategy is just the first tool of many that will be needed to fully plan, design and implement a new community in Bremner. Each future study and instrument should build on those that preceded it, never losing sight of the overall vision, principles and conceptual framework of the GMS.