



Mackenzie County
moving forward!

MUNICIPAL DEVELOPMENT PLAN (MDP)

Bylaw # 735/09

November 10, 2009

**Prepared by:
ISL Engineering and Land Services Ltd.**

TABLE OF CONTENTS

1.0	Introduction	1
1.1	Plan Purpose	1
1.2	Interpretation	1
1.3	Context	2
1.4	Economy	5
1.5	Transportation	7
1.6	General Municipal Plan	7
2.0	Process, Principles and Vision	9
2.1	MDP Planning Process	9
2.2	Strengths, Themes and Guiding Principles	10
3.0	General Development Strategy	13
3.1	General Development Objectives	13
3.2	General Development Policies	14
4.0	Agriculture	17
4.1	Agriculture Objectives	18
4.2	Agriculture Policies	18
5.0	Country Residential Development	23
5.1	Country Residential Objectives	23
5.2	Country Residential Policies	23
6.0	Hamlets	25
6.1	Hamlet Objectives	25
6.2	Hamlet Policies	25
6.3	Fort Vermilion	26
6.4	Fort Vermilion Policies	27
6.5	La Crete	28
6.6	La Crete Policies	29
6.7	Zama City	29
6.8	Zama City Policies	30

7.0	Residential	31
7.1	Hamlet Residential Objectives	31
7.2	Hamlet Residential Policies	31
8.0	Commercial	33
8.1	Commercial Objectives	33
8.2	Commercial Policies	33
9.0	Industrial	35
9.1	Industrial Objectives	35
9.2	Industrial Policies	36
10.0	Environmental Stewardship	39
10.1	Environmental Stewardship Objectives	39
10.2	Environmental Stewardship Policies	40
11.0	History, Recreation and Tourism	43
11.1	History, Recreation and Tourism Objectives	43
11.2	History, Recreation and Tourism Policies	44
12.0	Crown Lands	47
12.1	Crown Land Objectives	47
12.2	Crown Land Policies	47
13.0	Transportation	49
13.1	Transportation Objectives	49
13.2	Transportation Policies	49
14.0	Utilities	53
14.1	Water Supply	53
14.2	Wastewater Collection and Treatment	53
14.3	Stormwater Drainage	54
14.4	Solid Waste Disposal	55
14.5	Utility Objectives	55
14.6	Utility Policies	55

moving forward!

15.0	Intermunicipal Planning	59
15.1	Intermunicipal Planning Objectives	59
15.2	Intermunicipal Planning Policies	59
16.0	Monitoring, Review and Implementation	61
16.1	Monitoring	61
16.2	Review	61
16.3	Implementation	61

Appendices

Appendix A Population Growth

Tables

Table 1:	Historic Population Growth, 1981-2006	3
Table 2:	Historic Population Distribution, 1981-2006	4
Table 3:	Projected Population Growth, 2006-2031	5
Table 4:	White Area and Better Agricultural Lands	17

Charts

Chart 1:	Summary of Assessment and Municipal Revenue by Category	5
----------	---	---

Maps

	Following Page
Map 1: Location	2
Map 2: Soil Classification	6
Map 3: Policy Areas	14
Map 4: Greater Fort Vermilion Policy Areas	30
Map 5: Greater La Crete Policy Area	(following Map 4)
Map 6: Zama City Policy Areas	(following Map 5)
Map 7: Greater High Level Policy Areas	60

1.0) INTRODUCTION

1.1 Plan Purpose

The purpose of this Plan is to provide clear direction for Mackenzie County's Council and Administration. The Plan is intended to guide growth and development of the County to 2031 and to accommodate a population of 17,237.

This Municipal Development Plan (MDP) guides future development by defining the vision, principles, objectives, and policies of the County with respect to planning matters. The MDP, in addition to applicable Provincial legislation, provides a foundation for the preparation of more detailed land use plans; is intended to be used in conjunction with Mackenzie County's Land Use Bylaw to implement the policies of this Plan; and to inform residents and developers of Mackenzie County's future land use strategy.

The Plan has been prepared in accordance with Section 632 of the Municipal Government Act, and replaces the previous General Municipal Plan, Bylaw 010/95 which was adopted in January 1995.

1.2 Interpretation

For the purpose of interpreting this MDP, the following definitions shall apply:

Better Agricultural Land means those lands which are designated as Class 1, 2, 3 or 4 by the Canada Land Inventory (CLI) Soil Capability for Agriculture, or rated in excess of 28% by the Rural Farmland Assessment (RFA) or equivalent, and may be confirmed through site inspections and/or independent soils analysis. This definition may exclude any parcel or portion(s) thereof which by reason of slope, configuration, size, or surrounding land use is determined by the County to be an unviable farm parcel.

Country Residential Development means a multi-lot residential subdivision which results in more than two residential parcels.

Natural Areas means those areas that are generally unsuitable for development due to the presence of excessive or unstable slopes, the potential for erosion or flooding, or contain sensitive ecological habitat. This definition applies to lakeshores, rivers and other water courses, river valleys, forests and vegetation, unique topographic features and viewscapes, environmentally hazardous lands, and important wildlife habitat and corridors.

Farmstead Separation means the subdivision of land from an unsubdivided quarter section to accommodate an existing, habitable residence and related improvements.

Statutory Plan means a Municipal Development Plan, Intermunicipal Development Plan, or Area Structure Plan prepared and adopted in accordance with the Municipal Government Act.



- 1.2.2** All other words or expressions shall have the meanings respectively assigned to them in the Municipal Government Act, the Subdivision and Development Regulation, and the Land Use Bylaw.
- 1.2.3** With the exception of those lands contained within an Intermunicipal Development Plan or joint plan, the policies set forth in this Plan apply to all lands contained within the corporate boundaries of Mackenzie County. If a situation arises that the applicable Intermunicipal Development Plan or joint plan does not address, the relevant policies contained in this Plan shall apply.
- 1.2.4** The land use boundaries identified in this Plan are considered approximate and not absolute. Any minor adjustments or variances that may be necessary to land use policy areas shall not require an amendment to this Plan.

1.3 Context

1.3.1 Location

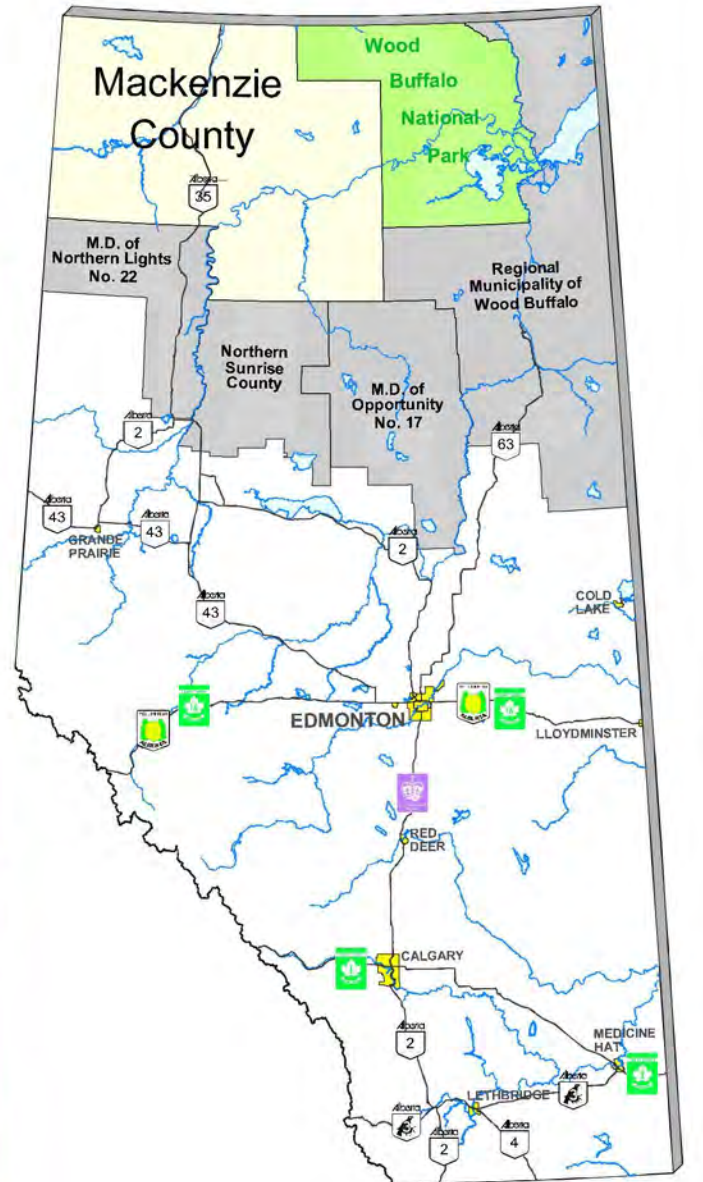
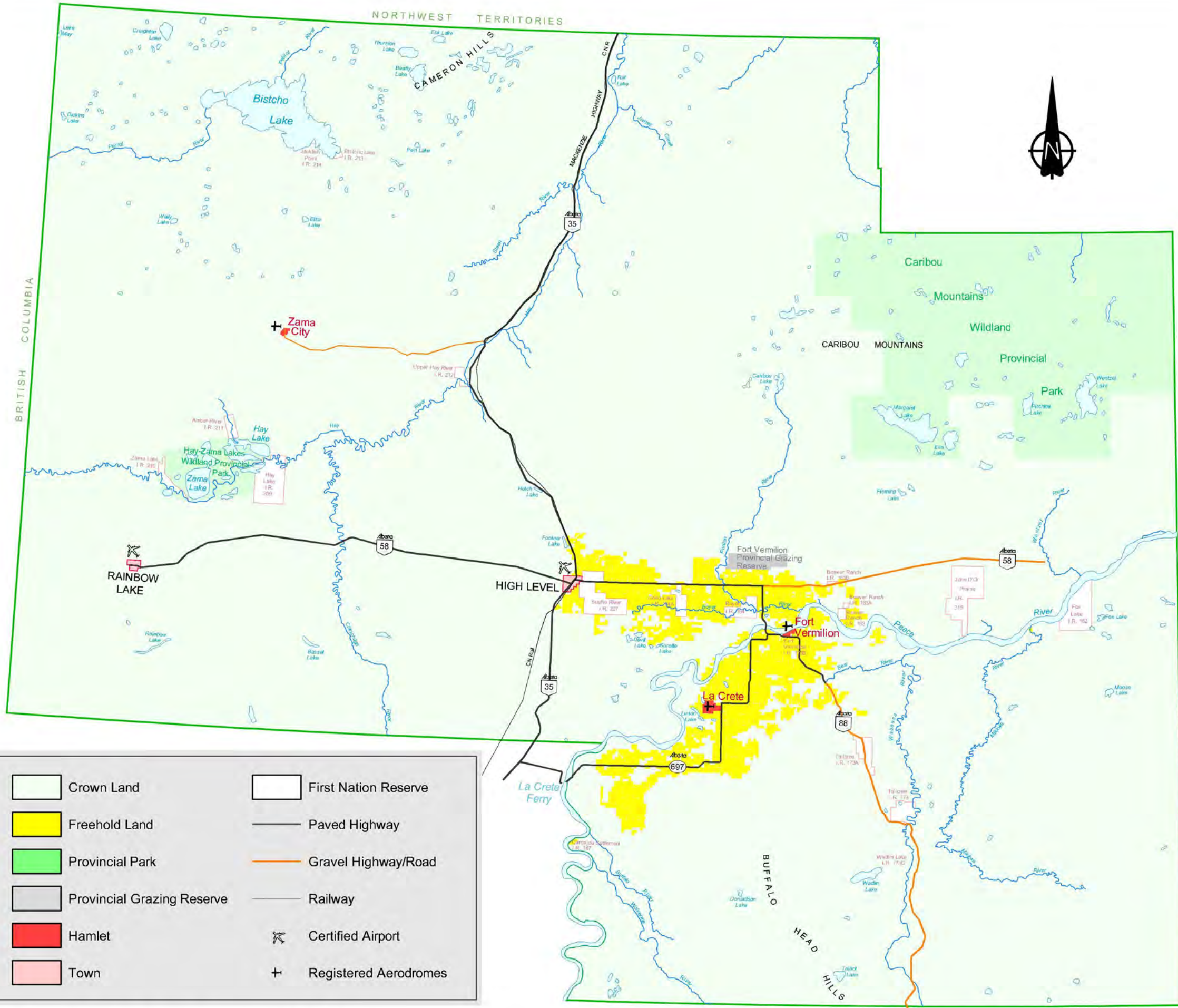
Mackenzie County is located in the northwest portion of Alberta, and with approximately 82,000 square kilometres under its jurisdiction it is the largest municipality in the Province. Mackenzie County, as shown on Map 1, is bordered by the Province of British Columbia to the west, the Northwest Territories to the north, Wood Buffalo National Park and the Regional Municipality of Wood Buffalo to the east, and the Municipal District of Northern Lights No. 22, Northern Sunrise County, the Municipal District of Opportunity No. 17 to the south. The Town of High Level, the Town of Rainbow Lake and several Indian Reserves are located within the boundaries of the County, but operate independently from the municipality.

1.3.2 Municipal Designation

Mackenzie County began as Improvement District (I.D.) No. 23 and was managed by the Province of Alberta prior to 1995. On January 1, 1995, I.D. No. 23 changed its status from an I.D. to a Municipal District (M.D.) and changed its name to the M.D. of Mackenzie No. 23. Over four years later, the M.D. changed its status from a M.D. to a Specialized Municipality in order to provide for government and management of a vast municipality with unique communities. In 2007, the M.D changed its name to Mackenzie County.

1.3.3 Topography

Mackenzie County includes of a variety of dramatic landscapes consisting of vast mixed wood and boreal forest to the north and west, a number of significant mountain ranges and hills, including the Caribou Mountains in the northeast, Cameron Hills to the north, and the diamond-bearing Buffalo Head Hills in the south and east. Rich agricultural lands are located in the south portion of the County, and many lakes and rivers, including the Peace River are located throughout the County. Much of the County's forested area is publicly owned and managed by Alberta Sustainable Resource Development.





	Crown Land		First Nation Reserve
	Freehold Land		Paved Highway
	Provincial Park		Gravel Highway/Road
	Provincial Grazing Reserve		Railway
	Hamlet		Certified Airport
	Town		Registered Aerodromes

**MACKENZIE COUNTY
MUNICIPAL DEVELOPMENT PLAN**

MAP 1 - LOCATION

N.T.S.



Looking north into the Peace River Valley

1.3.4 Population and Demographics

As of 2006, Mackenzie County's population was 10,002. Since 1981, the County's population has increased by 71.4%, which results in an average growth of 833 people every five years. The County's most significant growth occurred over two periods

Table 1: Historic Population Growth, 1981-2006

Federal Census Year	Population	Net Change	Percent Change
1981	5,837	n/a	n/a
1986	6,942	1,105	18.9%
1991	7,260	318	4.6%
1996	7,980	720	9.9%
2001	8,829	849	10.6%
2006	10,002	1,173	13.3%

(Source: Statistics Canada, 1981-2006 Federal Census)

within this 25-year timeframe, as shown in Table 1. It grew by over 1,100 people between 1981 and 1986 and again between 2001 and 2006.

The majority of the population is located within the County's rural area. La Crete is the largest and fastest growing of the County's three Hamlets. Fort Vermillion is the

second largest Hamlet and has a stable population. Zama City is the smallest Hamlet yet experiences dramatic population fluctuations as it hosts many temporary residents that work in the surrounding oil and gas fields.

1.3.4.a Historic Population Distribution

As shown in Table 2, Mackenzie County has experienced a shift in its rural/Hamlet population distribution. The percentage of residents living in the rural has decreased from 76.7% in 1981 to 69% in 2006. This is largely due to the consistent growth of La Crete, which has significantly outpaced growth in the rural areas.

Table 2: Historic Population Growth, 1981-2006

Federal Census Year	Fort Vermilion		La Crete		Zama City		Rural Areas		Total Pop.
	Pop.	Percent	Pop.	Percent	Pop.	Percent	Pop.	Percent	
1981	752	12.8%	479	8.2%	129	2.2%	4,477	76.7%	5,837
1986	823	11.9%	689	9.9%	178	2.6%	5,252	75.7%	6,942
1991	782	10.8%	902	12.4%	128	1.8%	5,448	75.0%	7,260
1996	775	9.7%	1,215	15.2%	217	2.7%	5,773	72.3%	7,980
2001	818	9.3%	1,783	20.2%	130	1.5%	6,098	69.1%	8,829
2006	714	7.1%	2,166	21.7%	225	2.2%	6,897	69.0%	10,002

(Source: Statistics Canada, 1981-2006 Federal Census)

This trend appears to be levelling off as the growth rate of the County's rural areas nearly equalled the combined growth rate of the County's three Hamlets between 2001 and 2006. This may be due to the emergence of country residential development in proximity to La Crete and High Level.

1.3.4.b Projected Population Growth

Using a straight linear method based on average historic growth rates between 1996 and 2006, Mackenzie County's population is anticipated to grow at a rate of 11.5% every five years to approximately 17,237 people by 2031. As presented in Appendix 1, it is anticipated that approximately 10,612 or 61% of residents will reside in the County's rural area by 2031 based on an average five-year growth rate of 9%. The anticipated population of each Hamlet by 2031 is 781 in Fort Vermilion (2% every

Table 3: Projected Population Growth, 2006-2031

Growth Projections			
Year	Conservative 5.75%	Anticipated 11.5%	Optimistic 21.25%
2006	10,002	10,002	10,002
2011	10,577	11,152	12,127
2016	11,185	12,435	14,705
2021	11,828	13,865	17,829
2026	12,509	15,459	21,618
2031	13,228	17,237	26,212

five years), 5,390 in La Crete (20% every five years) and 453 in Zama City (15% every five years). These trends demonstrate the County is urbanizing, however this demographic transition does not mean that either population has greater importance, as they rely heavily on each other.

Mackenzie County recognizes that it is difficult to project population into the future due to ever-changing global and local economic conditions and demographic trends. Therefore, Table 3 includes conservative and optimistic population projections for the County, while Appendix A presents conservative and optimistic projections for the rural area and the three Hamlets. These different sets of projections provide for a range of future growth potential for the County.

1.4 Economy

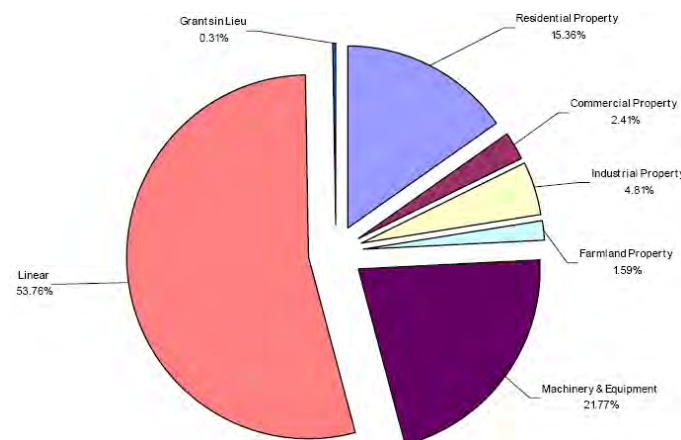


Chart 1: Summary of Assessment and Municipal Revenue by Category

Mackenzie County's diverse economy and its natural resource base make it a thriving municipality. The region's economy, historically rooted in the fur trade, includes the agri-business, forestry, and oil and gas industries as shown in Chart 1: Summary of Assessment and Municipal Revenue by Category. With primary resources providing the economic base, the development of a strong support service sector has evolved. The diversified economic base provides the County with a balance of industries, and generally protects its economy from severe market fluctuations.

1.4.1 Agriculture

Agriculture plays a driving role in County's economy, and specifically the economies of Fort Vermilion and La Crete. In fact, Mackenzie County's amount of improved agricultural land has grown by more than three times since 1971, and is currently home to approximately 700 farms, or 218,000 hectares of farmland. Agricultural activity accounts for 50% of the land use in the County's White Area and it is primarily concentrated in two areas: east of High Level along Highway 58; and the lands around Fort Vermilion and La Crete.

Agricultural support industries established within the County include farm suppliers, trucking firms, equipment dealerships, feed mills, seed cleaning co-operatives and grain terminals. These industries are located throughout the County, however they are typically located around La Crete and High Level.

Map 2 shows soil classification within the County, in accordance with the Canada Land Inventory (CLI) Soil Capability for Agriculture.

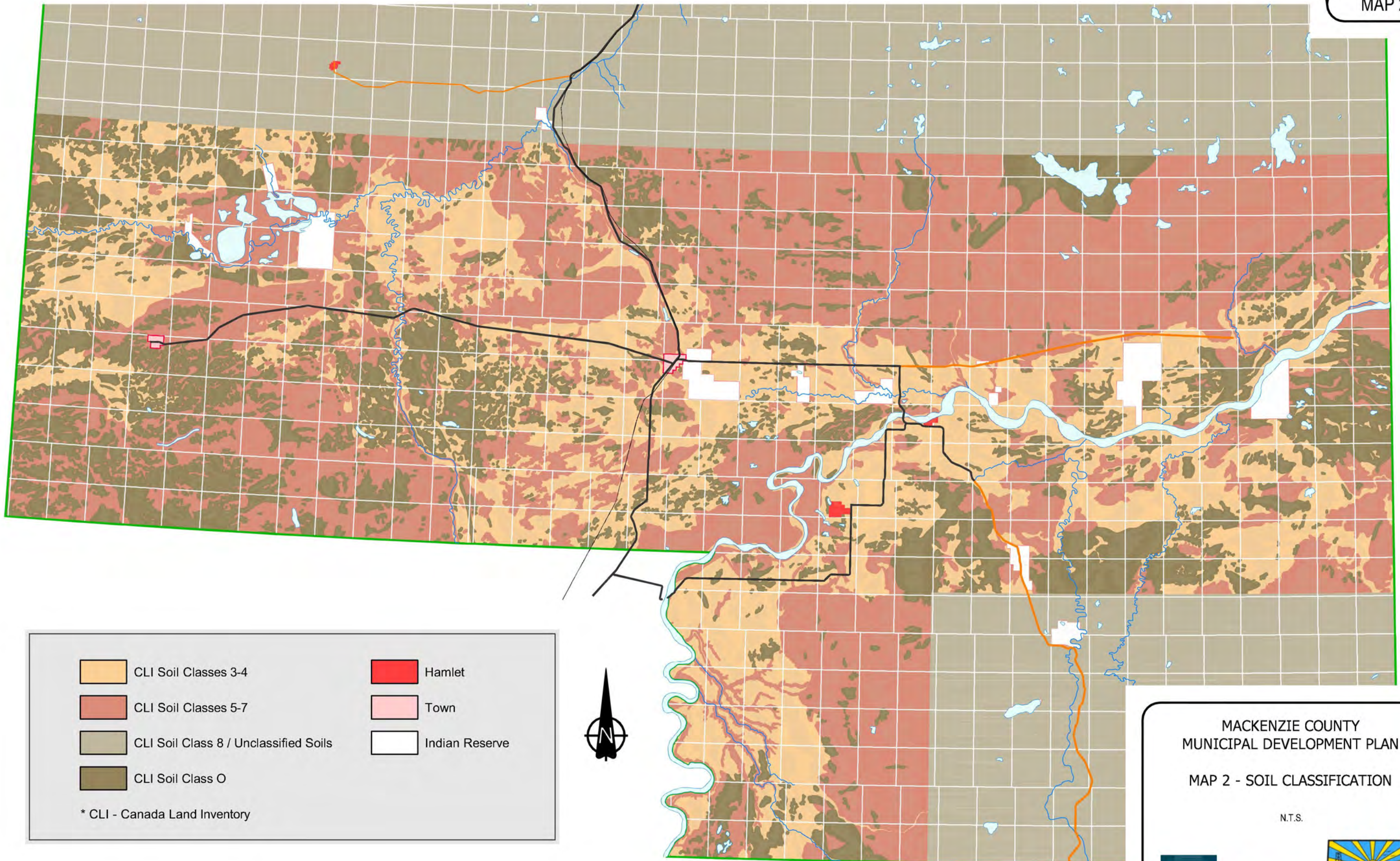
1.4.2 Forestry








Considering the vast majority of Mackenzie County is forested, it is natural that the forestry industry is a significant employer in Fort Vermilion and La Crete. Several sawmills are located in the County, including La Crete Sawmills, Footner Forest Products, and Tolko Industries.

1.4.3 Oil and Gas

The oil and gas industry plays a significant role in the County's economy. In fact, oil and gas is primarily responsible for the founding of Zama City. Approximately 36% and 80% of the Peace Region's natural gas and light-medium crude oil reserves are located within the County respectively. The majority of exploration is concentrated in the western portion of the County near Zama City, Rainbow Lake and High Level. The oil and gas industry is the County's most significant revenue generator as it represents the majority of its tax base.

Due to the population, employment and overall growth generated by these three major industries, the tourism, transportation, retail/wholesale trade, finance, business/community service, construction and public administration industries have been firmly established in the County.



	CLI Soil Classes 3-4		Hamlet
	CLI Soil Classes 5-7		Town
	CLI Soil Class 8 / Unclassified Soils		Indian Reserve
	CLI Soil Class O		

* CLI - Canada Land Inventory

MACKENZIE COUNTY
MUNICIPAL DEVELOPMENT PLAN

MAP 2 - SOIL CLASSIFICATION

N.T.S.




1.5 Transportation

Mackenzie County is served by three major transportation systems: road, air, and rail. The road system includes Highway 35, also known as the Mackenzie Highway, Highway 88, also known as the Bicentennial Highway and Highway 697 which are the primary entrances into Mackenzie County from the south. Highway 58, which runs east and west, serves the Town of Rainbow Lake and the oil and gas fields in the western portion of the County, and several Indian Reserves and agricultural areas in the east.

Two certified airports, located near the Town of High Level and the Town of Rainbow Lake, and three registered aerodromes located near Fort Vermilion, La Crete and Zama City, operate within the County. The Great Slave Railway operates a rail line through, which originates in the Grimshaw area and terminating in Hay River in the Northwest Territories.

1.6 General Municipal Plan

Since the adoption of the previous General Municipal Plan (GMP) in 1995, Mackenzie County has grown by more than 3,000 people. In 2006, the County approved Area Structure Plans (ASP) for the Hamlets of Fort Vermilion, La Crete and Zama City. These Plans were developed in compliance with the GMP and outline specific land uses and policy direction for each community. The County's economic performance, expansion of farming activity, the growth of La Crete and the demand for country residential development has put pressures on Mackenzie County's long range inventory of future agricultural, residential, commercial and industrial lands. These factors have made it necessary to review the GMP.

Many of the previous Plan's policies were concerned with the protection of the agricultural land base, encouraging the continued accommodation of resource-related developments, such as forestry and oil and gas preserving the County's natural environment, and promoting economic development throughout the County.

Many of the policies contained in the 1995 Plan remain sound. However, changes over the past 14 years in demographics, the economy, and development patterns have required a review of the GMP.

2.0) PROCESS, PRINCIPLES AND VISION

2.1 MDP Planning Process

The development of this Plan was guided by the Going Forward plan review process to develop a long range land use concept, community vision and policies. The Going Forward process was grounded in technical analysis, and gathering feedback from stakeholders, which included members of Mackenzie County's Council, Administration, and residents. This collaborative process was designed to acknowledge existing policy, recognize current trends, respect community values, and develop a practical and logical strategy for future development.

Mackenzie County's Council and Administration sponsored the Going Forward process between September 2008 and July 2009, and provided opportunities for the public and other stakeholders to make suggestions and provide feedback about the Municipal Development Plan, including:

- Key interviews with Mackenzie County's Council and Administration on August 27, 2008;
- Advertisements in the County Image, Mackenzie County's website and three local radio stations requesting public input, starting in November 2008;
- The provision of a survey to County residents in November 2008, which was available on Mackenzie County's website, at all high schools in the County, and all County offices. The purpose of the survey was to develop an understanding of community values, develop a vision of the future, and identify areas of concern;
- A public open house was held in La Crete on April 28, 2009, in Fort Vermilion on April 29, 2009, in High Level on May 5, 2009, and in Zama City on May 6, 2009 to present the draft MDP. A total of 108 people attended the four open houses.



May 5, 2009, Public Open House in High Level, Alberta



- . A comment form was distributed at each open house to solicit feedback on the future land use concept and draft policies of the MDP, which were prepared as a result of a technical review and initial community feedback. Advertisements were placed in the March/April 2009 issue of the County Image inviting the public to attend the open houses;

2.2 Strengths, Themes and Guiding Principles

The Going Forward plan review process identified community strengths, major themes for future development, and guiding principles for Mackenzie County.

2.2.1 Community Strengths

Four community strengths emerged in this process and demonstrated that Mackenzie County:

1. Values its history and rural lifestyle;
2. Offers a small town quality of life;
3. Values its cultural diversity; and
4. Is proud of its natural resources and amenities.

2.2.2 Major Themes

Participants in the Going Forward plan review process overwhelmingly described that Mackenzie County is a desirable place to live and to raise a family. Participants also identified that they like Mackenzie County's Hamlets and rural areas, and value the services and amenities these areas currently provide. Participants clearly stated that they want diversity in employment opportunities to choose from, new facilities and recreation amenities, such as a health care centre and a swimming pool, and improvements to infrastructure, such as paving roads, and better phone service to meet their needs in the future. Mackenzie County's greatest challenge will be to balance the benefits and costs of current and future development and still provide a desirable place to live and to raise a family.

2.2.3 Ten Principles

If Mackenzie County is going to succeed in creating a desirable place to live and to raise a family, then any decision made by Council, Administration or stakeholders must recognize the four community strengths, the major themes and the following ten principles, which were identified in the Going Forward plan review process:

1. Agriculture is the most important land use in the rural area;
2. The history and culture of our unique Hamlets will be celebrated;
3. Development and growth shall be directed to specific locations;
4. Residents can find adequate, affordable accommodation;
5. Economic diversity shall be promoted;
6. The integrity of natural areas shall be protected;
7. Parks and recreation areas shall be provided;
8. The transportation system shall be safe and convenient;
9. Servicing shall be extended economically and efficiently; and
10. A unified regional vision shall be created.

These principles are the core values that: reflect the character of the community as identified in the Going Forward process; will provide a consistent set of principles for every decision made by Council or Administration; and shall provide a foundation for the vision, objectives and policies of the MDP.

2.3 Mackenzie County Vision

Any plan for future land use and development must be based on a vision of the future. This particular vision is intended to inspire and to articulate where Mackenzie County is headed.

Mackenzie County is a prosperous community that recognizes the value of its natural environment, local culture and history, and diverse economy. The County will encourage development that creates great places where people want to live and visit, develops economic opportunities, preserves the qualities people love about their communities, and protects natural areas. This vision is unified by a community spirit that makes Mackenzie County a desirable place to live and to raise a family.

3.0) GENERAL DEVELOPMENT STRATEGY

The general development strategy focuses on Mackenzie County's quality of life and describes a pattern of strategic growth and development. The strategy encourages new growth in specific areas to effectively use land and existing infrastructure and at the same time invests time, attention, and resources in existing communities.

In general, the MDP reflects the County's past land use pattern, current community values, and desired future. Historically, Mackenzie County has been a rural, resource based community, however the emergence of Fort Vermilion, La Crete and Zama City as urban communities has changed the character of the County. Today, Mackenzie County residents value the amenities, opportunities and quality of life accommodated in both its rural and urban areas.

The MDP recognizes that:

- Better Agricultural Lands and agricultural operations are protected to ensure the County has a productive agricultural land base that will provide an abundance of food products and supports the families involved in the agri-business.
- Country residential developments are located in identified development nodes where services and infrastructure are readily available or planned.
- Development within Hamlets shall include a mix of residential types to accommodate different needs and tastes, a well-defined central commercial area, and industrial areas that are located in industrial parks and in identified development nodes.
- Open space, natural areas and historic resources shall be protected and where necessary, effectively integrated within developments to maintain their cultural and ecological importance.

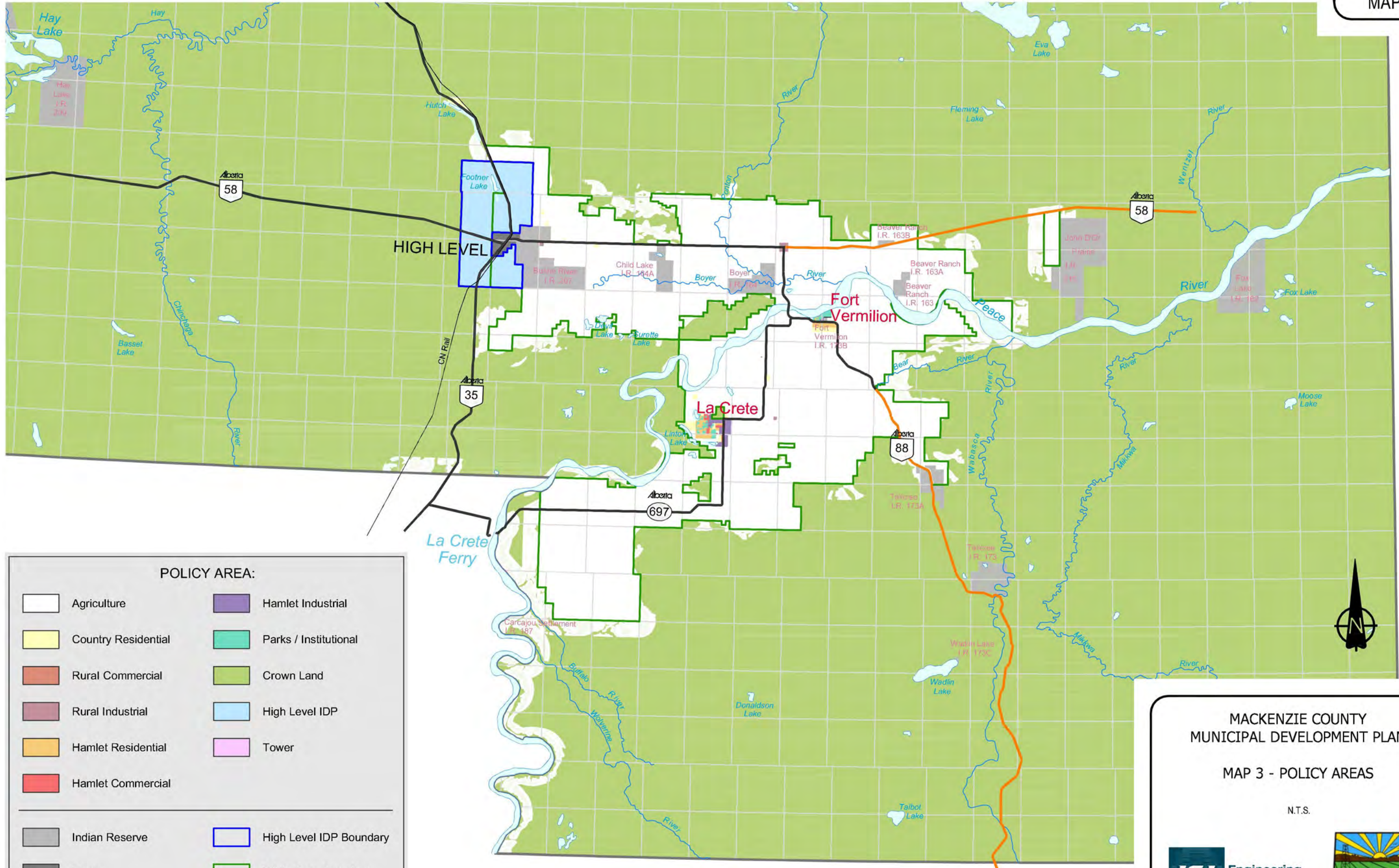
3.1 General Development Objectives

- Accommodate growth and development that is orderly, meets County guidelines and standards, and enhances Mackenzie County.
- Maintain the rural character of the County.
- Involve the community in the planning process.
- Ensure an adequate and suitable land base exists to accommodate Hamlet growth.



3.2 General Development Policies

- 3.2.1** Mackenzie County shall conform to the policies of the Province of Alberta and the Provincial Land-use Framework and any subsequent Regional Plan when considering MDP updates, MDP amendments, Land Use Bylaw amendments, or other development proposals.
- 3.2.2** Mackenzie County shall plan for development that contributes to its fiscal, social and environmental well-being.
- a. Mackenzie County may develop targets or thresholds to monitor changes to the environment, and may develop methods to mitigate or eliminate a local or regional effect.
- 3.2.3** Future development in Mackenzie County shall conform to the Policy Areas illustrated on Map 3. Maps 4 - 7 provide more detailed information about Policy Areas, however each map is designed to provide the County with a broad framework for development and are not intended to be interpreted on a site-by-site basis.
- 3.2.4** Development within Hamlets shall be orderly, efficient and contiguous.
- 3.2.5** Mackenzie County shall discourage the removal of Better Agricultural Land from production, or its fragmentation
- 3.2.6** Mackenzie County encourages early dialogue with the public, development industry, and other affected stakeholders to facilitate an efficient and effective development review process.
- 3.2.7** Mackenzie County may require the adoption of an Area Structure Plan, to be prepared in accordance with Section 633 of the Municipal Government Act, or the approval of a Neighbourhood Structure Plan, or an Outline Plan prior to subdivision or development. These Plans shall address the following issues to the satisfaction of the County:
- a) conformity with this Plan, other statutory plans and the Land Use Bylaw;
 - b) impacts on adjacent uses and mitigation methods, such as the provision of any suitable buffers or setbacks;
 - c) proposed land uses and population projections;
 - d) proposed methods of water supply, stormwater management and sewage disposal;
 - e) access and internal circulation;
 - f) allocation of municipal and environmental reserve;
 - g) suitability of the development site in terms of soil stability, groundwater level, and drainage;
 - h) a method by which developers pay for off-site costs; and
 - i) any other matters identified by the municipality.
- 3.2.8** When land is developed or redeveloped, Mackenzie County may require developers to enter into a development agreement with the County.



POLICY AREA:

	Agriculture		Hamlet Industrial
	Country Residential		Parks / Institutional
	Rural Commercial		Crown Land
	Rural Industrial		High Level IDP
	Hamlet Residential		Tower
	Hamlet Commercial		
<hr/>			
	Indian Reserve		High Level IDP Boundary
	Town		White Area Boundary

**MACKENZIE COUNTY
MUNICIPAL DEVELOPMENT PLAN**
MAP 3 - POLICY AREAS

N.T.S.



- 3.2.9** The order of development staging shall give first priority to infilling of existing serviced areas followed by areas where infrastructure can be economically extended.
- a) Infill development of any land use type should be attuned to the scale and design of the surrounding built environment to integrate the proposed developments into existing areas.
- 3.2.10** Mackenzie County shall facilitate economic development through planning and implementation strategies developed in Intermunicipal Development Plans, joint agreements, and Area Structure Plans.
- 3.2.11** Mackenzie County may consider the preparation of:
- a) gateway and corridor studies to improve the appearance of entrances to the County, Hamlets or major corridors; and
 - b) architectural controls and guidelines for the development of specific areas of Mackenzie County to enhance the quality of development.
- 3.2.12** The Land Use Bylaw shall establish standards for development in Mackenzie County and implement the policies of this Plan.



Gateway entrance to Fort Vermilion

4.0) AGRICULTURE

Agriculture is an important part of the County's culture, economy and identity. Despite limited locations of high quality soils and short growing seasons, the high quality soils located around High Level, Fort Vermillion, and La Crete allow for the production of successful pea, oat, canola and alfalfa crops. These lands are also subject to the most pressure for non-agricultural development. Consequently the protection and expansion of the agricultural land base is a necessity, and will assist in the continued viability of farming as an economic activity.

Approximately 4,669 km² or 5.7% of the lands within Mackenzie County are located within the Province's White Area, as described in Table 4¹. This area is reduced to 4,417 km² or 5.3% after deducting Hamlets (Fort Vermilion and La Crete) or different jurisdictions (i.e., the Town of High Level or Indian Reserves). Of the remaining White Area, approximately 3,142 km² or 71% of these lands are considered Better Agricultural Land, while the balance of the lands are designated as Class 5, 6, 7, 8, O (Organic Soils) or W (Water) by the Canada Land Inventory (CLI) Soil Capability for Agriculture. These lands may be viable for agricultural production despite their CLI classifications due to local farming techniques and the longer days the County experiences during the growing season.

Since the County has limited agricultural lands within the White Area, the County has identified Better Agricultural Land in the Green Area that is within 3.2 km (2.0

Table 4: White Area and Better Agricultural Lands

	Area (km²)	Area (ha)	Area (%)
Mackenzie County	82,584.2	8,258,420	
Total White Area	4,668.8	466,884	--
less High Level	21.1	2,106	--
less Indian Reserves	208.5	20,854	--
less Fort Vermilion	5.3	531	--
less La Crete	17.1	1,712	--
Remaining White Area	4,416.8	441,681	100%
Better Agricultural Land	3,142.2	314,220	71%
Class 5, 6, 7, 8, O or W Land	1,274.6	127,461	29%



¹ The majority of land in Mackenzie County is owned by the provincial Crown and is commonly referred to as Green Area. These lands are managed by several provincial departments and boards that set the rules for lands use. The balance of lands in the County, known as the White Area, is comprised of land owned by homeowners, farmers, companies and the County and Crown.

mi) of the White Area for future agricultural purposes. The identified lands amount to approximately 356 sections or 923 km². Mackenzie County considers that these lands are contiguous to existing or future agricultural activities and is seeking the conversion of 213 sections or 552 km² of land from Green Area to White Area.

The contiguous expansion of agricultural activities allows for the logical extension of rural infrastructure and the delivery of cost-effective services along specific corridors, namely Highway 58 between High Level and Lawrence River and Highway 35 between High Level and the County's southern boundary.

4.1 Agriculture Objectives

- Preserve Better Agricultural Land for agricultural land uses.
- Encourage the diversification and sustainable intensification of agricultural practices.
- Minimize the impact of non-agricultural uses on existing agricultural operations.
- Accommodate the separation of a farmstead from a quarter-section.
- Accommodate single lot vacant country residential developments.



Harvesting in Mackenzie County

4.2 Agriculture Policies

- 4.2.1** All lands in the County shall be deemed to be agricultural lands unless otherwise designated by the MDP, an approved statutory or non-statutory plan, the Land Use Bylaw, or provincial legislation.

- 4.2.2** In the Agricultural Policy Area, Better Agricultural Land shall be preserved for agriculture operations.
- a) Mackenzie County shall encourage the maintenance of the 64.8 ha (160 acre) quarter-section or river lot as the basic farm unit.
 - b) Mackenzie County shall encourage the retention and/or development of windbreaks between agricultural parcels and shelterbelts around farmsteads.
- 4.2.3** Proposed developments which are determined to be better suited in an urban setting shall be discouraged in an Agricultural Policy Area.
- 4.2.4** Lands in the Agricultural Policy Area, as shown on Map 3 may be developed for agricultural industries, highway commercial uses, home-based businesses, public uses and utilities, recreational uses, resource extraction industries, and rural industrial land provided that:
- a) the proposal is in conformance with statutory plans and the Land Use Bylaw;
 - b) they cannot logically be used for agricultural purposes;
 - c) they do not disrupt existing agricultural operations (i.e., creation of weed problems);
 - d) the proposal is not within proximity to Hamlets, High Level, or Rainbow Lake;
 - e) they are suitable in terms of soil stability, groundwater level, and drainage;
 - f) they are accessible, serviced, or in serviceable locations; and
 - g) they are not within identified natural areas.
- 4.2.5** Mackenzie County shall pursue the redesignation of Green Area lands to White Area lands within 3.2 km (2.0 mi) of the current White Area boundary, as shown on Map 3. These lands shall be designated for future agricultural purposes.
- a) Better Agricultural Land should be given a higher priority than lands designated as Class 5, 6, 7, 8, O, or W by the Canada Land Inventory (CLI) Soil Capability for Agriculture.
 - b) Mackenzie County may pursue the conversion of Green Area lands to White Area lands within 3.2 km (2.0 mi) of Highway 58 between High Level and Lawrence River or Highway 35 between High Level and the County's southern boundary. These lands shall be designated for future agricultural purposes.
- 4.2.6** Mackenzie County supports and encourages sustainable agricultural practices which reduce impacts on the natural environment. These practices include: nutrient management, sustainable grazing and riparian management, integrated crop management, responsible pest management and greenhouse gas awareness.

- 4.2.7** Mackenzie County shall forward approvals, registrations and authorizations from the Natural Resources Conservation Board (NRCB) to the Regional Economic Development Initiative and the Agricultural Service Board for discussion.
- a) When other municipalities and/or First Nations are considered an affected party, Mackenzie County shall invite representatives to attend the Agricultural Service Board to provide their input.
- 4.2.8** Mackenzie County encourages the development of Confined Feeding Operations (CFOs), as a way of adding value to grain crops, and providing more employment and income per hectare of land.
- a) Mackenzie County considers CFOs greater than ten times the size shown in Column 3 of Schedule 2 of Agricultural Operations, Part 2: Matters Regulation (Alberta Regulation 257/2001) as an inappropriate land use and encourages the NRCB to prohibit them in the County.
 - b) Some areas are especially suited to intensive animal operations because of good roads, plentiful water supply, superior soil conditions, and a lack of conflicting land uses. In these areas, the County may apply appropriate zoning to allow a CFO.
- 4.2.9** Applications to the NRCB for the establishment or expansion of CFOs shall not be supported by the County unless they are compatible with adjacent land uses, do not generate adverse health or environmental effects, follow the Agricultural Operations and Practices Act (AOPA) guidelines, and meet or exceed the following separation distances:
- a) 3.2 kilometres (km) from an adjacent municipality, Hamlet, Indian Reserve or a multi-lot country residential subdivision;
 - b) 1.6 km from any federal, provincial or municipal park, water body, swamp, gully, ravine, coulee or natural drainage course, and may not be located in an area subject to flooding; and
 - c) within a natural area.
- 4.2.10** CFOs should not be established or expanded where there is any risk that runoff will contaminate water supplies.
- 4.2.11** Mackenzie County shall protect existing CFOs by refusing a development permit for a new residence within the Minimum Distance Separation (MDS), as defined by AOPA, of an existing or approved CFO.
- 4.2.12** In consultation with the NRCB, Mackenzie County shall maintain an inventory of all CFOs in the County.
- 4.2.13** The subdivision of land for specialized or intensive agricultural operations, such as greenhouses and other horticultural businesses, may be considered if the following criteria are met:
- a) a detailed description of the operation, such as a business plan and any other information deemed necessary by the County; and
 - b) the proposed lot is greater than 4.05 hectares (10 acres) in size.

- 4.2.14** The subdivision of land to accommodate a farmstead separation shall be permitted if:
- a) the parcel contains an existing, habitable residence; and
 - b) the proposed parcel size can accommodate a sewer system which complies with Provincial regulations.
- 4.2.15** Farmstead separations shall be as small as possible, ideally in the 1.21 ha (3 acres) to 4.05 ha (10 acres) range, or such larger area as is needed to include improvements, shelterbelts, woodlots or other areas with no agricultural value. Woodlots included in a subdivided yard site may be subject to a conservation easement.
- 4.2.16** The subdivision of a vacant first parcel out of an unsubdivided quarter section may be permitted if the proposed parcel:
- a) where viable is on the poorest agricultural land on the quarter section;
 - b) is severed from the balance or otherwise not viable to farm;
 - c) the proposed parcel size is the minimum amount necessary to accommodate on-site amenities and services;
 - d) shall not interfere with existing agricultural operations both on the balance and on adjacent lands; and
 - e) legal and physical access is available.
- 4.2.17** A farmstead separation or a vacant first parcel out of an unsubdivided quarter section may be refused if it interferes or conflicts with:
- a) agricultural operations in the area;
 - b) existing or future roads or utilities; or
 - c) the logical and economic expansion of a nearby urban area.
- 4.2.18** One dwelling unit is permitted per parcel. Additional dwellings may be allowed in accordance with the provisions of the Land Use Bylaw.
- 4.2.19** Any residential development proposal that requires the creation of more than two lots shall be considered a multi-lot country residential development and reviewed under the policies of Section 5 of this MDP.

5.0) COUNTRY RESIDENTIAL DEVELOPMENT

There is an increasing demand for rural residential parcels as evidenced by the increasing rural population and the frequency of applications for country residential development since 1994. The County is willing to meet this demand provided that country residential development does not disrupt existing agricultural operations, negatively impact natural areas, or impede the logical growth of Hamlets.

In the past, the demand for country residential development has generally been for either farmstead separations or single parcel residential lots. These residential development types can be easily accommodated, however multi-lot country residential development is a challenge considering: the vast area of the County; good quality potable groundwater is not readily accessible in certain areas; topography and soil conditions are suitable for sewage disposal; and road access is a concern. These factors, and others such as the provision of municipal services; impacts on the agricultural community; the natural environment; the protection of Better Agricultural Land; and any impacts on urban centres, impose constraints on the design, size and location of country residential parcels. This Plan considers these elements and directs country residential development to specific locations within the County.

5.1 Country Residential Objectives

- Recognize agriculture, its related activities and industries as the predominant land use in the rural area.
- Recognize country residential development as a legitimate land use in the rural area, while minimizing potential conflicts with non-residential uses.
- Provide for the establishment of attractive, well-planned and properly serviced country residential development.
- Maintain the rural character of the County and to allow for growth of the established urban areas.

5.2 Country Residential Policies

5.2.1 To reduce conflicts with Hamlet growth and agricultural operations, and to minimize the cost of maintaining roads and other municipal services, country residential communities shall be located in a well-defined area, as shown on Maps 3 - 7, leaving the rest of the County primarily agricultural or Crown Land. These country residential areas are located in accordance with the following principles:

- a) have poor soils (CLI Class 5), except where the use of better soils may be justified because the land is adjacent to urban areas, recreational lakes or river valleys;



- b) do not limit the logical expansion of the Town of High Level, or the Hamlet's of Fort Vermillion, La Crete or Zama City;
- c) located near existing or proposed recreation areas;
- d) have potable water supply and are adequately serviced or where municipal servicing can be provided in an efficient and economical manner;
- e) have simple and direct access to paved roads and highways; and
- f) will maintain the minimum separation distance from sour gas facilities, gas and oil wells, wastewater treatment plant, landfills, existing CFOs and existing sand and gravel extraction sites as defined by Municipal Government Act, AOPA, or any other relevant legislation.

- 5.2.2** Mackenzie County may consider locations outside of the designated areas provided they meet the conditions of the Policy 5.2.1.
- 5.2.3** Mackenzie County shall require that bareland condominium residential developments meet the same requirements and standards as conventional country residential subdivisions.
- 5.2.4** Wherever possible, a landscaped or treed buffer should be provided along the boundaries of country residential lots that are located adjacent to non-residential uses.
- 5.2.5** If a quarter section being subdivided contains significant areas of Better Agricultural Land, those areas must normally be left as a single large parcel, with the residential lots concentrated on the poorer soil.
- 5.2.6** Mackenzie County supports home-based businesses in residential areas provided that the residential character of the home and the area is maintained.
- 5.2.7** Mackenzie County shall discourage the expansion of rural agricultural settlements as these communities are not intended as nodes for future Hamlet locations or future intensive residential developments.
- 5.2.8** Any future subdivisions located adjacent to a highway shall take place in a manner that protects the integrity of the highway corridor and may require a service road, subject to the requirements of Alberta Transportation.
- 5.2.9** The number and type of livestock allowed in country residential neighbourhoods shall be controlled through the Land Use Bylaw.

6.0) HAMLETS

Mackenzie County is characterized by a number of Hamlets, which shall be further developed in accordance with their expanding role as service centres for surrounding rural areas.

In order to accommodate population growth, optimize the use of existing services and to strengthen the long term viability of the facilities contained in Fort Vermilion, La Crete and Zama City, each Hamlet will grow within or contiguous to their boundaries to accommodate a long-term growth scenario. The further development and intensification of the land uses within the Hamlets will allow for more efficient use of existing infrastructure and allow the provision of a broader range of community facilities and services.

6.1 Hamlet Objectives

- Plan for a positive growth rate in all Hamlets.
- Promote the orderly and economic growth of all Hamlets.
- Provide a variety of housing types within all Hamlets.
- Plan for the future subdivision and development of residential areas.
- Facilitate growth of commercial and industrial areas.
- Provide a variety of institutional, recreational, and cultural opportunities within all Hamlets.
- Optimize the use of existing services and infrastructure and to strengthen the long term viability of all Hamlets.

6.2 Hamlet Policies

6.2.1 Mackenzie County shall review and update existing Area Structure Plans for Fort Vermilion, La Crete and Zama City to encourage the existing communities to plan for growth and provide an adequate and suitable supply of lands.

6.2.2 Maps 4 - 6 illustrates designated Hamlet growth areas. These areas are characterized by:

- a) the proximity to compatible land uses;
- b) the proximity to existing or proposed community facilities;
- c) accessibility to transportation infrastructure; and
- d) municipal servicing that can be provided in an efficient and economical manner.



- 6.2.3** Mackenzie County supports contiguous development that is adjacent to existing development in order to accommodate growth in an orderly and economical manner.
- 6.2.4** An applicant for a multi-lot subdivision within a Hamlet shall submit a Neighbourhood Structure Plan or an Outline Plan, in accordance with Policy 3.2.7 of this Plan.
- 6.2.5** Mackenzie County shall promote the growth and development of one compact, viable central business district for each Hamlet.
- 6.2.6** Mackenzie County shall encourage all Hamlet industrial uses to be located in industrial parks and shall be buffered from adjacent residential and non-compatible land uses, and:
- a) shall require that all Hamlet industrial developments are adequately serviced; and
 - b) may require landscaping or screening in order to improve the appearance of industrial areas.
- 6.2.7** Mackenzie County shall encourage the grouping of major community facilities in order to provide a focal point for the community and allow for easy access by residents.

6.3 Fort Vermilion

Fort Vermilion is located on the southern bank of the Peace River, on the north side of Highway 88. Established in 1788, it is the oldest European settlement in Alberta. The area was inhabited by First Nations people before the arrival of European settlers who, under the direction of the North West Company and the Hudson's Bay Company, established the settlement as a prosperous fur trading post.

Today, Fort Vermilion is also a service centre for its surrounding rural community and is well known for its relaxed pace, friendly atmosphere, rich history and historic sites. Fort Vermilion contains 25 Provincial and National historic sites, including the original Old Bay House, which still exists and is now part of the Fort Vermilion National Historic Site, the 1907 Clark House, the 1912 Trappers Shack, and the Dominion Experimental Farm.

Fort Vermilion also includes numerous institutional, recreational and cultural uses including public and Catholic schools, St. Theresa's Hospital, a community complex which contains a hockey rink, a dance hall and a curling rink. The Hamlet also has a Nature Trail, Bicentennial Park, a public library, three churches, a 9-hole golf course and rodeo grounds. The Fort Vermilion Airport is located to the east of the urban area. In 2006, the Hamlet had a total population of 714 residents (2006 Federal Census).

Fort Vermilion has approximately 145 ha of land designated for Hamlet residential development within its current boundaries. Based on rates of 7.25 dwellings/hectare (typical Hamlet density) and an average household size of 2.7 people/dwelling (2006 federal census), Fort Vermilion could accommodate a population of approximately 2,838. The Hamlet could accommodate approximately 8,360 people on lands south

of Highway 88, which are designated for Hamlet Residential development. Therefore, the current and future residential land supply within and adjacent to Fort Vermilion could readily absorb the projected future growth presented in Appendix A.



Old Bay House, National Historic Site, Fort Vermilion

6.4 Fort Vermilion Policies

- 6.4.1 Develop the Hamlet in general accordance with Map 4, and any applicable plans.
- 6.4.2 Preserve and promote historically significant buildings and support local initiatives that promote Fort Vermilion's culture and heritage.
- 6.4.3 Prepare a comprehensive plan for the existing Nature Trail that provides access to natural areas and connects to other community amenities.
- 6.4.4 Notwithstanding Policy 10.2.6 and Policy 10.2.7, permanent development may be permitted on lands that are contained within a 1:100 year flood plain or otherwise known to be flood-prone provided the applicant has submitted a certificate from a qualified, registered Professional Engineer or Architect indicating that the following factors have been considered in the design of the building:
 - a) Canada Mortgage and Housing Corporation guidelines for building in flood-susceptible areas;
 - b) the flood-proofing of electrical panel and heating units, and windows; and
 - c) basement and site drainage.

The County will require, as a condition of subdivision or development approval, a restrictive covenant to be registered against the title of any property within the floodplain. The restrictive covenant will hold the municipality harmless from any damage to or loss caused by flooding by the developer, third party or act of nature.

- 6.4.5** Mackenzie County may prepare a study to determine the need and or cost for the construction of a dike/levee, from River Road to the Fort Vermilion Aerodrome, along the Peace River.

6.5 La Crete

La Crete is located near the base of the Buffalo Head Hills within rich agricultural lands, approximately three kilometers west of Highway 697. La Crete, which means "the peak", was settled in the 1930s by Mennonite homesteaders. When the first highway was built into the area in the 1960s, the population began to increase as new settlers arrived. Today, La Crete is a bustling and vibrant community that is also a service centre for its surrounding rural community.

The Hamlet includes extensive walking trails, schools, the Northern Lights Recreation Centre which contains a hockey rink, curling rinks, bowling alleys, tennis and basketball courts, and a nearby aerodrome. In 2006, the Hamlet had a total population of 2166 residents (2006 Federal Census).

La Crete has a residential land supply consisting of approximately 683 ha for Hamlet residential development and approximately 150 ha for future country residential development within its current boundaries. Based on rates of 7.25 and 0.93



La Crete Mill

dwellings/hectare (typical Hamlet and country residential densities respectively) and an average household size of 2.9 people/dwelling (2006 Federal Census), La Crete could accommodate a population of 19,314. The Hamlet could accommodate another 5,445 people on lands south of its current boundaries on lands designated for Hamlet Residential development. Therefore, La Crete's current and future residential land supply could readily absorb the projected future growth presented in Appendix 1.

6.6 La Crete Policies

- 6.6.1 Develop the Hamlet in accordance with Map 5, and any applicable plans.
- 6.6.2 Support local initiatives that promote La Crete's culture and heritage.
- 6.6.3 Identify multi-family housing sites and accommodate a range of housing types and densities.
- 6.6.4 Ensure a sufficient supply of zoned and serviced commercial land available for development.
- 6.6.5 Encourage the growth of the aerodrome and commercial and industrial development within close proximity to the aerodrome.

6.7 Zama City

Zama City is located 160 kilometers northwest of the Town of High Level. The community was developed during the late 1960s when oil reserves were discovered in the area. Crown lands, which are heavily forested, surround the Hamlet. Today, the Hamlet functions as a service center for the nearby oil fields, but it also is growing into a complete community. The Hamlet includes an airstrip, a school, a hall, a skating rink, and a community park and a campground. In 2006, the Hamlet had a total population of 225 residents (2006 Federal Census).



Zama City from the air

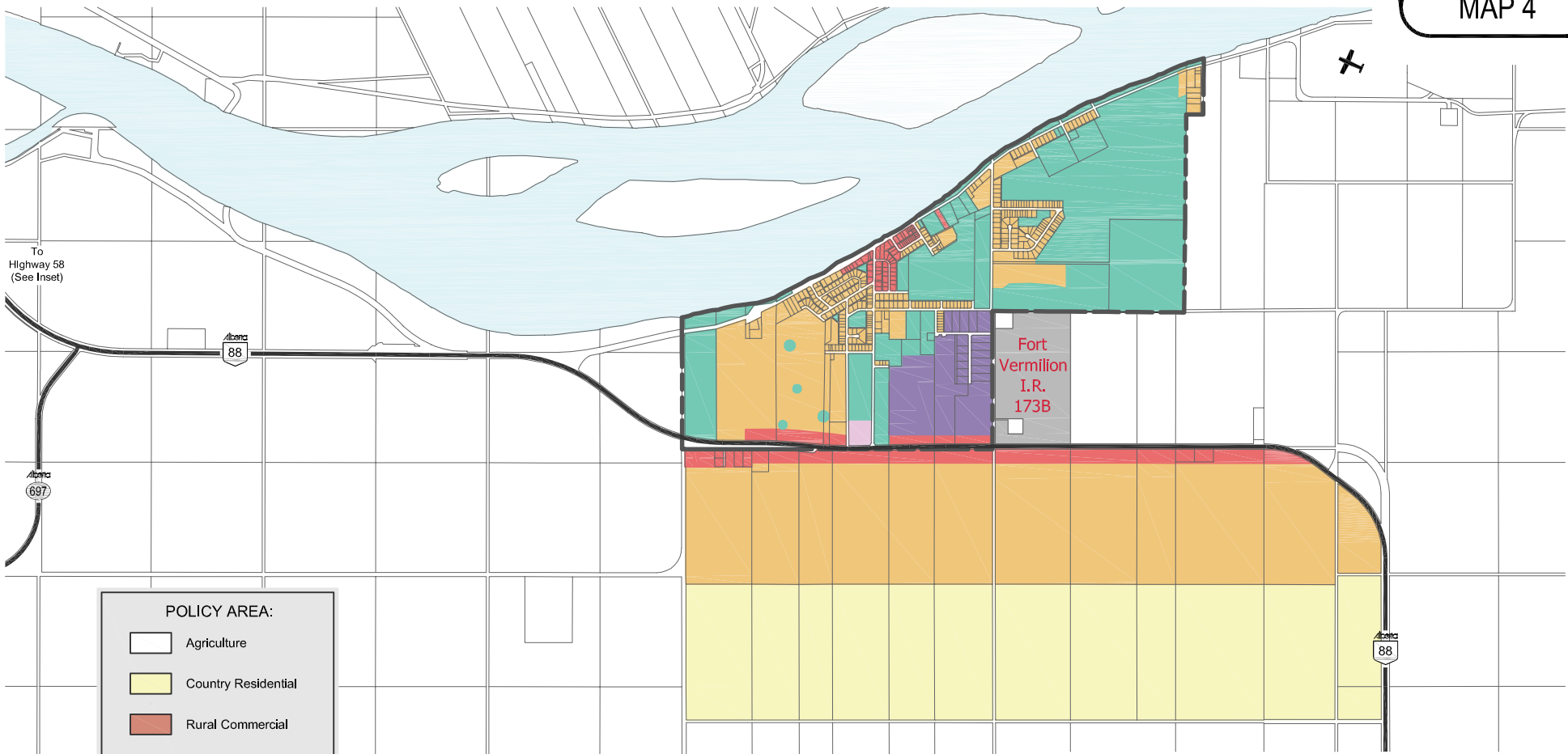
Zama City has approximately 115 ha of land available within its boundaries designated for Hamlet residential development. Also, the County is in the process of acquiring approximately 193 ha of land adjacent to the Hamlet boundaries for Hamlet residential purposes. Based on rates of 2.42 dwellings/gross developable

hectare and an average household size of 2.9 people/dwelling (mix of low and medium density residential per the East Zama City Outline Plan, 2009), Zama City could accommodate a population of approximately 2,162. Therefore, Zama City could absorb the projected future growth of all three growth scenarios presented in Appendix 1 if the County successfully acquires the adjacent land for Hamlet residential purposes.

Zama City's commercial businesses and infrastructure must also support a shadow population of approximately 5,000 people during the winter months when oil production is at its peak. This population typically lives in industrial camps within the Hamlet and adjacent areas.

6.8 Zama City Policies

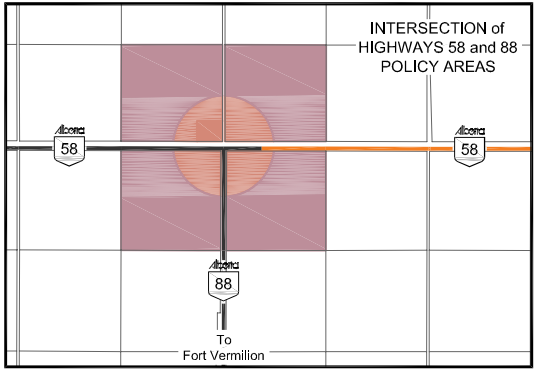
- 6.8.1** Develop the Hamlet in accordance with Map 6, and any applicable plans.
- 6.8.2** Support Zama City's role as the centre for oil and gas exploration and development in the surrounding fields.
- 6.8.3** Support the separation of residential and industrial traffic by appropriately locating residential and non-residential uses.
- 6.8.4** Provide residents with community facilities to improve local amenities and recreation opportunities.
- 6.8.5** Recognize FireSmart: Protecting Your Community from Wildfire design principles when preparing Area Structure Plans, Outline Plans, and subdivisions.



POLICY AREA:

- Agriculture
- Country Residential
- Rural Commercial
- Rural Industrial
- Hamlet Residential
- Hamlet Commercial
- Hamlet Industrial
- Parks / Institutional
- Tower



- Indian Reserve
- Hamlet Boundary









**MACKENZIE COUNTY
MUNICIPAL DEVELOPMENT PLAN**


**MAP 4 - GREATER FORT VERMILION
POLICY AREAS**

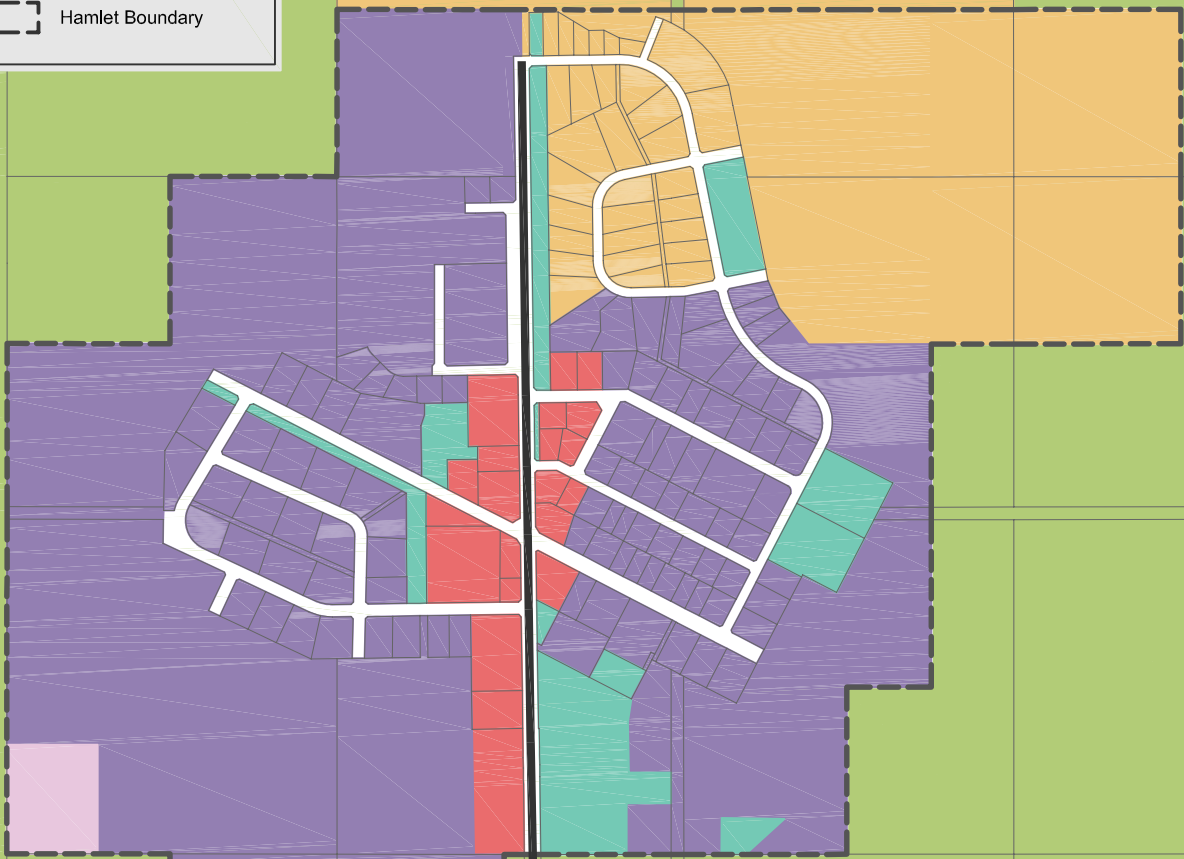
N.T.S.

POLICY AREA:

-  Hamlet Residential
-  Hamlet Commercial
-  Hamlet Industrial
-  Parks / Institutional
-  Crown Land
-  Tower



-  Hamlet Boundary



MACKENZIE COUNTY
MUNICIPAL DEVELOPMENT PLAN

MAP 6 - HAMLET of ZAMA CITY
POLICY AREAS

N.T.S.

7.0) RESIDENTIAL

The distinguishing characteristic of a community that has a high quality of life are diverse residential neighbourhoods. To encourage this outcome, Mackenzie County will provide a range of housing choices for various income groups and lifestyles throughout the County.

Mackenzie County currently accommodates a range of housing types, including but not limited to, single detached dwelling opportunities on varying lot sizes, which includes manufactured homes, multiple family development opportunities, duplex dwellings, townhouses and apartments. The Going Forward plan review process identified that stakeholders would like to see different housing types within neighbourhoods provided they are attractively designed, are located within close proximity to services, and provide both on-site and off-site amenities.

7.1 Hamlet Residential Objectives

- . To provide for orderly and staged residential growth.
- . To allow a full range of housing types in order to meet the demands of various income groups and lifestyles.
- . To promote high standards of design, safety, convenience and amenity in all residential areas.

7.2 Hamlet Residential Policies

7.2.1 Mackenzie County shall develop residential neighbourhoods in general accordance with the locations shown on Maps 4 - 6.

7.2.2 Developers should use current best practices and industry standards when preparing Area Structure Plans or Outline Plans to ensure that development improves the economy, the community and the environment. Mackenzie County should encourage that the design of neighbourhoods include:

- a) distinguishable boundaries, recognizable entrances, and one or more neighbourhood focal points to give neighbourhoods distinct identities;
- b) varying housing styles and front yard setbacks to generate visual diversity;
- c) the provision of deeper lots on collector roads and corner lots to allow greater housing setback in order to reduce visual and noise intrusion;
- d) provide a variety of park types and sizes to meet the neighbourhoods needs;
- e) orienting as many lots as possible adjacent to and within reasonable walking distance of schools, open spaces and other amenities to permit



- simple access from residences to neighbourhood amenities;
- f) providing an internal trail system linking residential uses with adjacent development and connecting to Mackenzie County's trail system;
- g) designing gradual curves in road alignments to reduce vehicular speeds, coincide with natural contours, and add to neighbourhood attractiveness; and
- h) preservation and integration of open space and natural areas.

7.2.3 The County shall support infill housing on underutilized sites provided:

- a) the development is attuned to the height, mass, scale and appearance of existing adjacent housing;
- b) the development is compatible with adjacent uses;
- c) infrastructure capacity is not compromised; and
- d) the County provides opportunity for public input.

7.2.4 Mackenzie County shall ensure that the provision of all neighbourhood amenities and infrastructure in manufactured home parks is to the same standard as in conventional residential areas.

7.2.5 Mackenzie County shall work with Mackenzie Housing and stakeholders to identify appropriate sites for affordable housing, and medium and high density housing. When determining whether a site proposed for medium or high density residential uses is suitable for such use, the County shall use the following criteria as a guide:

- a) adjacent to collector roads, or in convenient proximity to community amenities, schools, recreation opportunities, and commercial areas where the greater amenity and infrastructure capacity can afford to sustain higher densities;
- b) dispersed throughout a neighbourhood; and,
- c) attuned to the height, mass, scale, and appearance of existing adjacent housing and other lands uses.

7.2.6 Provision shall be made in the Land Use Bylaw to ensure that medium and high density residential uses provide adequate amenity areas that serve the specific density, location, and type of multiple family development.

7.2.7 Mackenzie County supports the continued development of home-based businesses provided they:

- a) meet the intent of the Land Use Bylaw; and
- b) have no significant off-site effects, or those effects are reduced or managed to the satisfaction of the neighbours.

8.0) COMMERCIAL

Historically, most commercial land use in Mackenzie County has been located in Hamlets and where there is access to services. Fort Vermilion and La Crete have been the economic focal point of the County due to their concentration of commercial activity, offices, institutional buildings, and their significant role in unifying a large County that is composed of a vast rural area.

Recently, there has been increased pressure for the development of commercial land uses in rural areas, particularly highways which serve Mackenzie County's rural residents. Due to the levels of traffic on Highways 35, 58 and 697, Mackenzie County has continually experienced a demand for highway commercial development along these corridors.

The MDP emphasizes the importance of strong and viable Hamlet central business districts and the need to meet the demands of the travelling public by designating specific areas for commercial development.

8.1 Commercial Objectives

- Provide suitable and appropriately located areas for urban and rural commercial activities.
- Emphasize each Hamlet as principal retail and service centres in Mackenzie County.
- Minimize conflict between rural and urban commercial operations.
- Accommodate the growth and development of home-based businesses.
- Broaden the County's economic base by taking advantage of retail opportunities.
- Ensure that Mackenzie County's commercial areas are attractive to tourist, regional, and local customers.

8.2 Commercial Policies

8.2.1 The location of commercial uses shall be limited to existing commercial areas, the junction of Highways 58 and Highway 88, and the locations shown on Maps 3 - 6.

8.2.2 Mackenzie County shall promote the development of one compact, viable central business district within each Hamlet, as shown on Maps 4 - 6.

- a) Mackenzie County shall consider the implementation of a Hamlet design concept in order to give a theme to each central business district and may undertake the necessary steps to implement such a theme.



- 8.2.3** With the exception of agricultural industries, highway commercial uses, home-based businesses, public uses and utilities, recreational uses, resource extraction industries, and rural industrial land uses, commercial uses shall not be permitted to locate on Better Agricultural Land, unless no suitable alternative location is available.
- 8.2.4** All commercial developments proposed in the Agricultural Policy Area shall be evaluated according to the following:
- a) conformity with relevant statutory plans and the Land Use Bylaw;
 - b) quality of agricultural land;
 - c) proximity to Hamlets, the Town of High Level, or the Town of Rainbow Lake;
 - d) the location of the proposed development in relationship to other commercial uses;
 - e) the servicing requirements of the proposal;
 - f) suitability of the site in terms of soil stability, groundwater level, and drainage; and
 - g) provisions for access and impacts on the transportation network.
- 8.2.5** Any proposed commercial development adjacent to Provincial highways shall be referred to Alberta Transportation for review and comment prior to a decision being issued by the County.
- 8.2.6** At the time of development, the County shall pay special attention to the scale, design, and colour of commercial uses in an effort to maximize the compatibility of development with adjacent uses, and may require the provision of buffers, such as landscaping, fences, and berms.
- 8.2.7** Mackenzie County may offer funding or managerial support to assist private sector groups to undertake programs designed to encourage the establishment of Business Revitalization Zones.

9.0) INDUSTRIAL

Industrial development and related manufacturing businesses have helped Mackenzie County to grow and diversify its economy. In order to ensure that industrial development can flourish, while at the same time being safe and compatible with existing development, care must be taken when allocating industrial uses.

Traditionally, most industrial development is located in Hamlets, close to other industry, and where there is access to infrastructure and services. Within Fort Vermilion, an industrial node is located in the southern portion of the Hamlet, while the south and west portion of Zama City includes a mix of commercial and industrial uses. Mackenzie County's largest industrial node is located on the east side of La Crete. The node includes commercial trucking operations and construction companies that support the oil and gas industry, general construction, and road building. The balance of Mackenzie County's existing industrial development is located north and south of High Level in close proximity to rail and air service and contains a wide variety of activities mainly related to the oil and gas and transportation industries as well as some related service commercial businesses.

Some types of industry seek locations outside Hamlets, such as mineral extraction developments. These industries must be planned in a careful manner as they generate employment and revenue, and therefore cannot be sterilized by incompatible surface development or cause nuisance to agricultural operations and residences.

9.1 Industrial Objectives

- . Facilitate industrial developments that support agriculture.
- . Support a concentrated pattern of industrial development.
- . Emphasize the forestry sector as a key component of Mackenzie County's economy and to facilitate its continued growth and diversification.
- . Support Mackenzie County's role as a centre for oil and gas exploration and development in the surrounding fields.
- . Promote and diversify Mackenzie County's economy by emphasizing manufacturing, transportation, and the supply of industrial goods and services.
- . Minimize the negative impacts of rural industrial development.
- . Ensure all industrial areas in Mackenzie County are attractive as feasible.



9.2 Industrial Policies

9.2.1 The location of urban and rural industrial uses, with the exception of farm-based industries (see Policy 9.2.1.a) and resource extraction operations, shall be limited to existing industrial areas, industrial parks, and the junction of Highway 58 and Highway 88, as shown on Maps 3 - 7.

- a) Mackenzie County shall support farm-based industries in agricultural areas which include, but are not limited to: livestock auction marts; concentrated livestock feed operations; grain elevators and feed mills; bulk fertilizer and/or bulk agricultural chemical distribution plants; implement dealerships; crop spraying; greenhouses; and accessory commercial operations.
- b) Mackenzie County may support resource extraction operations in agricultural areas, which include, but are not limited to the following: cement plants, sand and gravel operations, extraction and processing of natural gas and petroleum, logging and forestry operations, and coal or mineral extraction.
- c) Support for mineral extraction operations shall be contingent the mitigation or minimization of the impacts upon adjacent land uses and soil, water, and farming operations.
- d) Mackenzie County shall ensure that inappropriate surface development does not interfere with a proposed CO₂ injection project near Zama City.

9.2.2 Industrial development may be allowed in locations other than those described in Policy 9.2.1 provided they meet the following criteria:

- a) caters to the needs of agriculture, forestry, or natural resource extraction;
- b) is not suited to an urban area;
- c) does not conflict with adjacent non-industrial land uses in terms of appearance, emissions, noise, or traffic generation, unless suitable buffers are provided;
- d) the site is suitable for the proposed development in terms of soil stability, groundwater level, and drainage;
- e) has minimal transportation and servicing requirements;
- f) the tax yield is sufficient to pay the extra municipal costs of services; and
- g) the County provides opportunity for public input.

9.2.3 Industrial parks or industrial uses shall:

- a) conform to relevant statutory plans;
- b) minimize impacts on the surrounding agricultural activities and urban areas;
- c) have adequate separation distances and transition between industrial and non-industrial uses;
- d) have simple and direct access to truck routes, highways, or rail networks;
- e) are suitable to the provision of required infrastructure and services;
- f) have sufficient on-site water storage for fire protection purposes; and
- g) can accommodate a variety of types and sizes of industries.

- 9.2.4** Through provisions in the Land Use Bylaw, the County shall ensure that adequate buffers or transitional land uses are maintained between industrial and non-industrial uses when the potential exists for significant land use conflicts with regard to noise, vibration, dust, odour, environmental hazards or other safety risks.
- 9.2.5** With the exception of home-based businesses and farm subsidiary occupations, rural industrial development shall not be permitted to locate on Better Agricultural Land, unless no suitable alternative location is available.
- 9.2.6** Mackenzie County may require the preparation of a Risk Assessment at the cost of the developer, when considering an industrial use or determining the location of a potentially noxious industry that may pose potential environmental contamination or cause nuisance.
- 9.2.7** Mackenzie County shall require that development and subdivision applications in close proximity to sour gas facilities meet the standards of the Subdivision and Development Regulation (Alberta Regulation 43/2002) and Energy Resources Conservation Board guidelines, with respect to minimum separation distances, between sour gas facilities and other land uses.
- 9.2.8** Proposals to develop industrial sites immediately adjacent to the Town of High Level shall be approved only in accordance with the Town of High Level and Mackenzie County Inter-municipal Development Plan.
- 9.2.9** Mackenzie County shall continue to promote industrial development through Council and its economic development affiliations.

10.0) ENVIRONMENTAL STEWARDSHIP

Mackenzie County encourages the responsible stewardship of natural areas. Mackenzie County is rich in wildlife, and is situated within a varied landscape consisting of river valleys, vast forest areas, many lakes and watercourses and conservation areas. These natural areas provide Mackenzie County with a picturesque and rugged environment, outdoor recreation opportunities, and an ecosystem that benefits residents, visitors, and wildlife. The value of protecting these areas is demonstrated in Buffalo Head Hills, Caribou Mountains Wildland Provincial Park area, and Bistcho Lake. These areas have been carefully managed for aesthetic, recreation or environmental purposes.

10.1 Environmental Stewardship Objectives

- Outline the requirements for the planning and development of land within or adjacent to natural areas.
- Identify, protect and enhance natural areas, areas susceptible to flooding, and other significant erosion prone areas.
- Protect wildlife, waterfowl staging areas, lakes, river shore-lands, valley slopes, unique topographic features, and vegetative types which may be considered environmentally sensitive.
- Recognize the Peace River as an important natural feature.
- Maintain public accessibility to lakes and major rivers through the use of reserves at the time of subdivision.
- Reduce the risk of wildfire, loss of property or loss of life from wildfires.



Peace River: Natural Area, Wildlife Corridor and Habitat, and Low Intensity Recreation Uses



10.2 Environmental Stewardship Policies

- 10.2.1** Area Structure Plans, Outline Plans or subdivision applications, as Mackenzie County deems appropriate, shall:
- a) confirm the location and geographic extent of any natural areas, hazard lands, or historic or archaeological sites. A detailed analysis shall be undertaken by a qualified consultant with all costs borne to the developer.
 - b) integrate natural areas into the design of developments to form part of the linked and integrated parks and open space system, including the retention of forests, wildlife corridors, muskeg areas, and the provision of stormwater ponds and parks to form continuous open spaces.
- 10.2.2** Mackenzie County shall require the protection and conservation of natural areas by dedication of Environmental Reserve and Municipal Reserve, the provision of Environmental Reserve easements and conservation easements, or by other statutory means as defined by the Municipal Government Act.
- 10.2.3** The Peace River shall be preserved as a natural area, wildlife corridor and habitat and may include low intensity recreation uses.
- a) Mackenzie County may consult with the public, any applicable organizations and government agencies which may have an interest in the natural environment when identifying natural areas.
- 10.2.4** At the discretion of the County, an applicant for a subdivision approval or a development permit may be asked to show that a proposed building site is not at risk from, among other things,
- a) groundwater contamination;
 - b) flooding and/or high water table;
 - c) unstable slopes and/or ground subsidence;
 - d) soil unsuitable for sewage disposal; and
 - e) abandoned oil and gas wells.
- 10.2.5** Mackenzie County may prohibit developments which may result in a contamination of groundwater quality, natural areas, or any other feature which is determined to be environmentally significant by the County. This includes such uses as sand and gravel extraction, CFOs, and major industrial uses.
- a) The development of sand and gravel extraction operations may be permitted subject to the site being reclaimed to the satisfaction of the County and Alberta Environment, and meeting the requirements of the Land Use Bylaw.
- 10.2.6** With the exception of lands within the Hamlet of Fort Vermilion, no permanent development shall be permitted on lands that are contained within a 1:100 year flood plain or otherwise known to be flood-prone.
- a) A certificate from a qualified professional engineer will be required by the County to confirm that the development has been properly flood

proofed. For those areas where 1:100 year flood mapping does not currently exist, the County shall require a qualified professional to confirm the 1:100 year flood level of the affected river, stream or lakeshore.

- 10.2.7** Mackenzie County shall consider the use of flood hazard lands for such uses as recreational, agricultural or similar such uses not requiring permanent structures, providing the developer:
- a) submits a geotechnical study regarding the subject land;
 - b) uses appropriate flood-proofing techniques as described in the Canada\Alberta Flood Reduction Agreement;
 - c) indicates to the satisfaction of the County that the flood hazard has been mitigated; and
 - d) notwithstanding the above policies, development associated with substances of a chemical, hazardous or toxic nature, which would be an unacceptable threat to public safety if damaged as a result of flooding, shall not be permitted to locate in the 1:100 year flood hazard area.
- 10.2.8** Mackenzie County shall maintain appropriate development setbacks from lake shores, river valley breaks, an escarpment or other critical slopes as identified by Alberta Sustainable Resource Development and/or Alberta Environment Protection and/or geotechnical studies provided by the developer, to the satisfaction of the County that development can be safely undertaken.
- 10.2.9** Mackenzie County shall, as a condition of subdivision approval, require an environmental reserve or environmental reserve easement of not less than 30 metres (98 feet) in width from the high water mark of waterbodies and/or the top of bank of watercourses to the lot line. A greater setback may be required by the County based on the recommendations of a geotechnical study undertaken by a qualified professional.
- a) As a condition of development permit approval where there is no subdivision, a comparable setback of 30 metres (98 feet) shall be required from the high water mark of waterbodies and/or the top of bank of watercourses to the building. A greater setback may be required by the County based on the recommendations of a geotechnical study undertaken by a qualified professional.
 - b) Subdivision and development applications adjacent to waterbodies and watercourses may be required to prepare an engineering and/or geotechnical analysis to determine the high water mark and/or top of bank of the subject waterbody or watercourse and also to determine an adequate setback from the top of bank based on soil conditions and slope stability.

- 10.2.10** Mackenzie County shall require environmental reserve dedication in accordance with the provisions of the Municipal Government Act. Wherever possible, environmental reserves shall be linked with municipal reserves to create continuous greenways with enhanced public access.
- a) The voluntary placement of conservation easements shall be encouraged to preserve significant natural features and areas that do not qualify as environmental reserve under the provisions of the Municipal Government Act.
- 10.2.11** Mackenzie County shall require developers to recognize FireSmart: Protecting Your Community from Wildfire design principles when preparing Area Structure Plans, Outline Plans, and subdivisions, and minimize the potential for wildfire damage through:
- a) the provision of recreational facilities along the outer perimeter of the community so that the developed portions may be separated from natural areas;
 - b) the provision of a fire guard which will serve as a buffer between communities and the surrounding natural area; and,
 - c) the development of trails between developments and surrounding forested lands which may be used in an emergency for fire prevention purposes.
- 10.2.12** Mackenzie County shall obtain input from Alberta Sustainable Resource Development and the local fire fighting service in evaluating development and subdivision proposals.
- 10.2.13** Mackenzie County shall require the following as conditions for approval for residential development which is too remote to be adequately protected by existing fire fighting services:
- a) the provision of adequate water supplies for fire fighting purposes;
 - b) the use of fire resistant building methods;
 - c) the installation of spark arresters on all chimneys; and
 - d) the provision of an emergency access to developments to help prevent property damage and the potential for loss of life.
- 10.2.14** A Phase I Environmental Site Assessment (ESA) may be required for any proposed development at the cost of the developer. The ESA shall be prepared in accordance with the Canadian Standards Association Environmental Assessment Guidelines.
- 10.2.15** An Environmental Impact Assessment (EIA) may be required for any proposed development at the cost of the developer. The EIA shall include, but not be limited to the following: a description of the proposed development, a description of the biophysical environment, the prediction of effects of the proposed development on the biophysical environment, a description of the criteria used to predict the effects, and measures to mitigate negative effects.
- 10.2.16** In keeping with Alberta's "Water for Life" initiative, Mackenzie County shall work with provincial agencies and neighbouring municipalities to protect watersheds and maintain the water quality of surface and groundwater systems.

11.0) HISTORY, RECREATION AND TOURISM

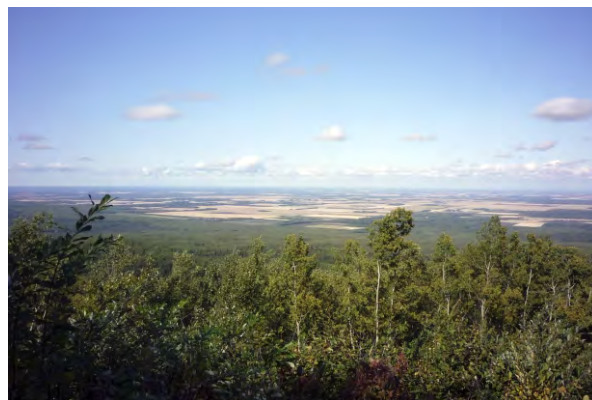
Mackenzie County encourages the responsible stewardship of its historic resources and recreation areas as these assets provide cultural and economic value to the community. For example, historic sites in Fort Vermilion provide Mackenzie County with a sense of time, place and culture that benefits residents and visitors alike. These special places are living museums that build a sense of identity and a sense of home by recognizing the past.

In the same way, recreation opportunities within the County are strongly based on its magnificent landscapes of forests, watercourses and mountains. Mackenzie County provides a vast opportunity for hunting, canoeing, camping, natural and heritage resources interpretation, hiking and fishing among others. For example the majority of the lakes in the County are accessible only by float plane, ensuring they remain natural and undisturbed. Hutch, Footner, Margaret, Rainbow and Wadlin Lakes provide water recreation in a picnic and park setting, while the Peace, Hay and Wabasca Rivers provide numerous landing sites that afford breathtaking views or boat excursions.

Efforts to protect and promote these areas as tourist related facilities contribute to the success of the heritage and recreation industry, the overall economy of the municipality and its quality of life.

11.1 History, Recreation and Tourism Objectives

- Support the preservation of historic resources within Mackenzie County.
- Ensure that the design and development of parks, open space and recreation areas are suited to the goals of the community and within the financial limitations of the County.
- Promote Mackenzie County's historic sites and recreation areas as tourist destinations.



Panoramic view from Buffalo Head Hills

11.2 History, Recreation and Tourism Policies

11.2.1 Mackenzie County shall:

- a) ensure that identified and designated federal, Provincial and municipal historic resources are protected from adverse impacts associated with on-site development and adjacent land uses;
- b) support actions by community groups, organizations and individuals that assist with the preservation of historic resources for the benefit of area residents through the provision of technical assistance;
- c) work with Alberta Community Development for advice and information regarding existing and/or potential historic sites; and
- d) identify and prepare an inventory of the historical sites found within the County.

11.2.2 Mackenzie County may:

- a) protect areas which have been identified as having significant historic or recreation potential.
- b) prepare or amend management plans for historic or recreational areas; and
- c) prepare economic development plans to help ensure the long term viability of historic sites and recreation areas.

11.2.3 Mackenzie County shall encourage each Hamlet's Parks and Recreation Committee to identify recreation opportunities and sites. Parks and Institutional sites identified on Maps 3 - 7 are generalized and may be subject to size and location adjustments at the Area Structure Plan and/or subdivision stages.

11.2.4 Mackenzie County shall prepare a Recreation Master Plan, which shall be used as the basis for recreation and tourist planning in the County. The Plan may include, but not be limited to, the identification of recreation sites and the identification of all-terrain vehicle and snowmobile trail systems, or marina's and/or docks linking recreation sites and urban centres.

11.2.5 Mackenzie County shall require sufficient land be dedicated for Municipal Reserves or School Reserves, or any combination of both as a condition of subdivision approval to ensure that community requirements for neighbourhood, Hamlet, and County level facilities, such as schools, parks, golf courses, museums, and community centres are provided.

- a) The amount of Municipal Reserves or School Reserves, or any combination of both, shall be determined during the subdivision process, based on the gross developable area (GDA) of a parcel of land that is the subject of a proposed subdivision. GDA is defined, for the purpose of this Plan, as the total area of the parcel of land less the land required for environmental reserve and/or environmental reserve easement.
- b) Municipal Reserve to be dedicated will be equivalent to ten (10) percent of the GDA of a parcel of land that is the subject of a proposed

subdivision. The decision making authority may require the dedication of Municipal Reserves up to an additional five (5) percent of the parcel's developable land, as defined in Section 668 of the Municipal Government Act.

- c) Mackenzie County shall, where possible, allocate Municipal Reserve to lands adjacent to natural areas and stormwater management facilities in order to facilitate public access to these areas.
- d) Mackenzie County shall not accept land as either Municipal Reserve or School Reserve, or any combination of both, that by virtue of its characteristics is more appropriately designated as Environmental Reserve as defined by the Municipal Government Act.
- e) Where there is no need for park space in an area that is the subject of a subdivision, cash in lieu of reserve may be required in accordance with the Act.

11.2.6 Municipal Reserve dedication in a subdivision that borders a lake shall be configured in such a manner that approximately 20% of the lakeshore frontage forms part of the municipal reserve parcel.

11.2.7 Mackenzie County shall consider, as funds are available, the development of a community complex within each Hamlet. The complex, which may include schools, arenas, curling rinks and/or other major community facilities, shall be:

- a) located or grouped in a manner to provide a focal point for the community;
- b) located along major traffic routes so that large traffic volumes on local streets are avoided wherever possible; and
- c) designed to allow for walking, biking and vehicular access by residents of the community and area.

11.2.8 Mackenzie County shall:

- a) locate parks so that open space is easily accessible from every residence and the site maximizes opportunities for pedestrian access and connectivity to other amenities and uses;
- b) provide an appropriate mix of small, medium and large parks to meet the varied needs of the County's population; and
- c) design parks to ensure visibility and safety, according to Crime Prevention Through Environmental Design principles.

11.2.9 Mackenzie County shall manage the land surrounding lakes so as to preserve the quality and quantity of water to support the needs of fish and wildlife. These needs will take priority over some agricultural uses and recreational demand.

11.2.10 Wadlin Lake, Hutch Lake and Machesis Lake are regarded as recreational lakes and shall be managed to maximize the recreational value of the lake. Residential development will be subject to any other statutory plan and floodplain policies.

- a) Mackenzie County encourages the installation of municipal sewage systems at recreational lakes.

12.0) CROWN LANDS

A majority of Mackenzie County is owned by the Provincial Crown and is commonly referred to as public lands. These lands, which are classified as the Green Area, are managed by several Provincial departments and boards that set the rules for lands use, and include but are not limited to, Agriculture and Rural Development, Culture and Community Spirit, Energy, Environment, Sustainable Resource Development (SRD), Tourism, Parks and Recreation, the Energy Resources Conservation Board, and the Natural Resources Conservation Board.

The remaining White Area is comprised of land owned by homeowners, farmers, companies the County and the Crown. While landowners can make decisions about the use and management of their land, they must also follow laws, bylaws and regulations set out by municipal and Provincial governments.

Mackenzie County will complement the work of the Crown to encourage the appropriate use of Crown Lands throughout the County.

12.1 Crown Land Objectives

- Encourage the appropriate use of Crown Lands.
- Facilitate public access to Crown Land areas where deemed suitable, desirable and economically feasible.

12.2 Crown Land Policies

- 12.2.1** Mackenzie County shall support the use of Crown Lands for renewable and non-renewable resource development, limited grazing, conservation, and recreational use.
- 12.2.2** Mackenzie County shall pursue discussions with relevant government agencies to ensure that they are fully aware of any future proposed use of Crown Lands.
- 12.2.3** Mackenzie County shall encourage the preparation of an integrated resource management plan between the municipality and SRD.
- 12.2.4** Mackenzie County shall work with the Province to ensure that Crown interests in water bodies are addressed prior to development.



13.0) TRANSPORTATION

Mackenzie County's roads, railways and airports play an important role in shaping the community's urban environment and rural development. Its design must be treated as an integral part of land use planning.

The primary element for road travel in Mackenzie County is the Provincial Highway network which forms the shortest and most travelled route linking central and northwest Alberta. As a result, land uses along the network serve the traveling public. Highways 35, 58, 88 and 697 link Fort Vermilion, La Crete and Zama City to the Towns of Rainbow Lake and High Level and to the Northwest Territories and the rest of Alberta. The Provincial Highway network is managed and operated by Alberta Transportation. A County road connects Zama City to Highway 35.

Mackenzie County operates roads within the County and in the Hamlets of Fort Vermilion, La Crete and Zama City. Generally these roads are two lane right-of-ways, most of which are gravel. The County is also responsible for non-motorised transportation, including bicycles and pedestrians. Most non-motorised transportation occurs within the Hamlets.

This Plan recommends the preparation of a Transportation Master Plan to examine short, medium and long term improvements to the transportation network. On going studies, such as Area Structure Plans or other plans, will address land use, infrastructure requirements and future upgrades to the transportation network.

13.1 Transportation Objectives

- Provide an efficient and effective transportation network for the movement of people and goods in Mackenzie County.
- Guarantee sufficient right-of-way provision for roads in order to allow their expansion in the future, if necessary.
- Strive for an attractive roadside environment, in particular along Highway 697.

13.2 Transportation Policies

13.2.1 Mackenzie County shall prepare a Transportation Master Plan, which shall be used as the basis for transportation network planning in Mackenzie County.

- a) Mackenzie County shall protect transportation corridors required to implement the Transportation Master Plan.
- b) All roads shall be developed in accordance with the specifications of Mackenzie County's Minimum Design Standards for Local Improvements.



- 13.2.2** Mackenzie County shall work with Provincial and Federal governments to secure funding for the maintenance and enhancement of the highway network.
- 13.2.3** Mackenzie County shall refer all Area Structure Plans, Outline Plans, rezoning, subdivision and development applications that include land located within 0.8 kilometres of a highway to Alberta Transportation for comment.
- 13.2.4** Mackenzie County shall, in the evaluation of subdivision and development proposals, determine if there is a need for widening and/or upgrading of any roads adjacent to the proposal which are within the jurisdiction of Mackenzie County.
- 13.2.5** Mackenzie County shall not approve a subdivision or issue a development permit unless the lot has access to a maintained public road. Legal access to a lot by easement alone is unacceptable.
- 13.2.6** Mackenzie County shall encourage the incorporation of pedestrian and bicycle paths designed as integral parts of municipal parks and neighbourhoods.
- 13.2.7** As part of an agreement associated with the approval of a subdivision or the issuance of a development permit, the County may require that the developer pay for all or a portion of any public roadway or pedestrian/bicycle trail system in excess of the requirement for the proposed development. Where such improvements are required, the County will negotiate a cost sharing agreement to cover the costs associated with the additional improvements.
- 13.2.8** Where a subdivision or development is proposed within 100m of a railway line, the County may:
- a) refer the application to the railway company for advice before making a decision; and/or,
 - b) require the developer to build berms and/or fences to separate residences from railway lines;
- 13.2.9** Mackenzie County shall ensure persons proposing subdivision on land affected by pipelines or affected by easements or rights-of-way, where required as a result of the subdivision design, be responsible for moving pipelines and protected facilities into utility corridors and obtaining relaxations to any easements or rights-of-way prior to the subdivision being registered.
- 13.2.10** Pipeline easements or rights-of-way in a proposed subdivision shall only be accepted as Municipal Reserve if it can be shown that the easements or rights-of-way shall form part of a trail system which is integral to a residential subdivision.

- 13.2.11** When locating water and sewer mains, and when consulted by external agencies regarding oil or gas pipeline or major power transmission line routes, the County shall emphasize the location of these in common corridors wherever possible.
- 13.2.12** Mackenzie County shall support the expansion and increased usage of the airports and aerodromes.
- a) Airports, aerodrome sites and adjacent lands shall be developed in accordance with Mackenzie County's Land Use Bylaw and the regulations of the Airport Vicinity Protection Area.
- 13.2.13** Mackenzie County shall cooperate with adjacent municipalities and interested government agencies with regard to protecting the railway, airport, road network and other transportation facilities.

14.0) UTILITIES

Mackenzie County recently made a number of improvements to its water and wastewater utilities. In 2008 and 2009, the main lift station in Fort Vermilion was repaired and upgraded to current standards, and a new lagoon system and membrane style water treatment system were completed in Zama City. In addition, two new wells were added to the Zama City water supply system and a regional Supervisory Control and Data Acquisition (SCADA) system was installed and commissioned to connect each of the County's three water treatment systems.

14.1 Water Supply

The Hamlet of Fort Vermilion obtains its water directly from the Peace River and is treated using conventional treatment methods. The water treatment building was upgraded in 2008 with new siding, and improvements to ventilation and the chlorine system. The water treatment plant is capable of producing treated water at 1,900 m³/day.

The Hamlet of La Crete obtains its water from several groundwater wells located west of the community. The original water treatment plant was replaced with a new plant in 2005. The upgraded treatment process consists of Greensand filtration and ion exchange. The water treatment plant is capable of producing treated water at 3,900 m³/day, but the wells have capacity of 2,800 m³/day.

The Hamlet of Zama City obtains its water from four groundwater wells located west of the community. The original water treatment plant was built in 1986 and upgraded in 2009. The upgraded treatment method consists of Greensand filtration and nano-filter membranes. The water treatment plant is capable of producing treated water at 1,970 m³/day. Both fire pump and distribution piping need to be upgraded to meet current and future demands.

Supply and treatment systems have been significantly upgraded in recent years and do not represent a constraint on growth. Further expansions can be implemented if required in the future.

Distribution facilities are in good condition and are continually being upgraded to address deficiencies and meet demand. This includes storage facilities, transmission mains, and pumping facilities. The distribution system can continue to be expanded to accommodate growth, and does not represent a significant constraint for expansion.

14.2 Wastewater Collection and Treatment

Wastewater treatment in each Hamlet is accomplished by anaerobic lagoon systems. These treatment systems consist of four anaerobic pits for solids removal and digestion, facultative treatment cells and storage cells. Anaerobic pits must be sized to hold two days worth of effluent each, facultative cells must hold a minimum of 60 days worth of effluent and storage cells must hold a full year's worth of effluent.



The Hamlet of Fort Vermilion's lagoon system was constructed in the 1960s. The anaerobic pits can process 597 m³/day, the facultative cell can process 457 m³/day and the storage cell has a capacity of 338 m³/day, which will support a population of 965. The community's main liftstation was upgraded in 2008 and has sufficient capacity for the life of the equipment. The community's gravity sewer network is adequately sized for current flows.

The Hamlet of La Crete's lagoon system was constructed in the 1970's. The anaerobic pits can process 1,290 m³/day, the facultative cell can process 870 m³/day and the storage cell has a capacity of 1,254 m³/day. This facility will support a population of 2,485. Stormwater infiltration into the sewer system has been identified as a problem and is being addressed with upgrades to the collection system. The Hamlet of La Crete needs to address upgrading of its lagoon system as it is nearly at maximum capacity.

The Hamlet of Zama City's lagoon system was recently upgraded and will be operational in mid-2009. The new anaerobic pits can process 985 m³/day, the facultative cell can process 870 m³/day and the storage cell has a capacity of 660 m³/day, which will support a population of 1,900. The community's wastewater collection system will require an upgrade to the main liftstation to provide increased capacity. Expansion of the sewer system will include localized lift stations as the gravity network is at capacity.

14.3 Stormwater Drainage

The management of stormwater and snowmelt runoff is an issue in each Hamlet. Improvements to capacity are required to ensure adequate outlets for La Crete and Zama City and improvements to treatment are required in Fort Vermilion.

Stormwater drainage from the Hamlet of Fort Vermilion flows north to the Peace River. The community's stormwater drainage system is a combination of surface drainage and regular storm sewers. The stormwater system has a number of pipe outlets along the Peace River that need upgrading to repair erosion damage and provide solids removal.

Stormwater drainage from the Hamlet of La Crete is an issue as the local terrain is very flat and adequate outlets for the water are not available. The community's stormwater drainage system is essentially surface drainage with open ditches and culvert crossings.

Stormwater drainage from the Hamlet of Zama City flows overland to the south and east into low-lying muskeg marshes, eventually draining into the Hay River. Snow melt runoff from the area flows through the community late into summer. The community's stormwater drainage system is entirely surface drainage consisting of open ditches and culvert road crossings.

The planned future growth in each Hamlet can be accommodated by expanding the systems and by developing stormwater management facilities (dry or wet ponds) wherever they are required by the County.

14.4 Solid Waste Disposal

Solid waste is managed by the Mackenzie Regional Waste Management Commission, which operates a Class 2B landfill 3 km west of the Town of High Level. The County operates seven (7) solid waste transfer stations. Recycling, at this time, is not viable due to small volumes and long transport distances.

14.5 Utility Objectives

- Ensure the efficient and effective provision of water supply, sewage treatment, stormwater run-off control, and sanitary waste disposal facilities to County residents.
- Responsibly maintain and upgrade existing utility systems as budgets allow.

14.6 Utility Policies

- 14.6.1** Mackenzie County shall prepare Utilities Master Plan to upgrade and expand its water supply and sewage treatment systems as needed.
- 14.6.2** Mackenzie County may require that the developer pay for all or a portion of any utility improvement in excess of the requirement for the proposed development, as part of an agreement associated with the approval of a subdivision or the issuance of a development permit, and to facilitate future utility service provision. Where such extra improvements are required, the County shall negotiate a cost sharing agreement to cover the costs associated with the extra improvements.
- 14.6.3** Mackenzie County requires that all lots of a proposed subdivision be connected to municipal water and sewer systems when the lots are developed except where, in the County's opinion, the proposed subdivision is far enough away from existing trunk mains that extension of the mains is not economically feasible. In this context, the County shall recommend against the approval of any proposed subdivision for which connection of the new lots to municipal water and sewage systems is not intended, yet where, in the County's opinion, such connection is desirable and feasible.
- 14.6.4** In addition to the policies contained in this Plan, developers shall design and construct services in compliance with the County's Minimum Design Standards for Local Improvements.
- 14.6.5** Mackenzie County shall provide additional waterpoints and waterfills in strategic locations.
- 14.6.6** Mackenzie County shall support water conservation measures which may reduce or eliminate water utilities expansion requirements.
- 14.6.7** Mackenzie County encourages work to identify groundwater recharge areas. Land developers may be required to identify recharge areas as part of their subdivision applications.

- a) Mackenzie County may negotiate conservation easements, or require Municipal or Environmental Reserve and/or Environmental Reserve Easements covering groundwater recharge areas. If necessary these instruments may be implemented to protect tree cover surrounding groundwater recharge areas.

- 14.6.8** Mackenzie County encourages all well users to register their use of groundwater under the Water Act.
- 14.6.9** Mackenzie County may require that adequate soil testing be performed prior to subdivision and/or development to ensure that the subject parcel is suitable for the proposed use.
- 14.6.10** Mackenzie County shall ensure that parcel sizes are able to accommodate on-site services such as water distribution and sewage collection where necessary.
- 14.6.11** Mackenzie County shall discourage drainage schemes that may increase the intensity of runoff. Developers may be asked to provide engineering analysis of runoff patterns and to change their designs to minimize peak flows.
- 14.6.12** Mackenzie County shall not approve any multi-lot development which depends on a private water system unless it meets the full standards of regulatory agencies, and no contingent liability falls upon the municipality.
 - a) Any private water system serving multiple lots must be capable of supporting itself financially through the contributions of the landowners who benefit from it, and must be set up on a proper legal basis.
 - b) Any private water system must be owned and operated by an organization which has the legal right to levy charges on its customers. Two possibilities are a condominium association or a private utility company.
- 14.6.13** Mackenzie County shall consider the use of low pressure sewer systems in low density developments as a cost-effective alternative to gravity lines.
- 14.6.14** When a lot containing an existing house is to be subdivided from a larger parcel, the County shall require that the existing sewer system be inspected, and if it does not comply with the Alberta Private Sewage Systems Standard of Practice, it must be upgraded or replaced to conform before the subdivision is registered.
 - a) In low density developments, Mackenzie County shall require a similar inspection and any necessary upgrading or replacement as a condition of a development permit for the replacement or expansion of a house on a subdivided lot.
- 14.6.15** Letters of Compliance issued to lenders shall note whether or not the sewer system on a subdivided lot complies with the Alberta Private Sewage Systems Standard of Practice and if this is not known, the letter shall record that fact.

- 14.6.16** Mackenzie County intends to maintain its commitment to the disposal of solid waste through the regional sanitary landfill system.
- a) Mackenzie County should ensure that solid waste disposal sites are located and developed in a manner that shall minimize any impacts on surrounding land uses.
- 14.6.17** Mackenzie County is in favour of recycling waste or discarded materials and shall generally support the initiatives of local residents in this regard, but shall not undertake a major municipal recycling program unless the monetary benefits of such a program exceed or are similar to the program's costs.
- 14.6.18** Mackenzie County shall maintain the integrity of pipelines and utility corridors, and create shared corridors where possible, while planning for growth and development.
- 14.6.19** Utility structures, such as cellular towers, microwave towers, radio towers, wind turbines or similar infrastructure, shall be located in Agricultural Policy Areas, Industrial Policy Areas or Tower Policy Areas as shown on Maps 3 - 6.
- 14.6.20** Mackenzie County shall apply Energy Resources Conservation Board guidelines with respect to minimum separation distances between sour gas facilities and other land uses through the subdivision and development process.

15.0) INTERMUNICIPAL PLANNING

A history of cooperative planning between Mackenzie County and adjacent municipalities and jurisdictions is reflected in the recent preparation of an Intermunicipal Development Plan (IDP) and other joint agreements. The IDP with the Town of High Level is a document that recognizes that each municipality has a mutual interest in planning and development proposals near their shared boundaries and ensures that each have an interdependent role in rendering decisions for such proposals.

15.1 Intermunicipal Planning Objectives

- Maintain mutually beneficial relationships with adjacent municipalities or other stakeholders, as well as Provincial and Federal agencies to achieve the objective of regional cooperation and regional planning.
- Facilitate intermunicipal communication and referral of planning and development applications.
- To encourage the preparation of Intemunicipal Development Plans and joint agreements between Mackenzie County and adjacent municipalities or other stakeholders to provide infrastructure services.

15.2 Intermunicipal Planning Policies






- 15.2.1** Mackenzie County shall have regard for regional planning by reviewing the policies of the Province of Alberta, the Provincial Land-use Framework, approved IDPs or joint intermunicipal agreements when considering MDP amendments, Land Use Bylaw amendments or other development proposals.
- 15.2.2** Mackenzie County, when deemed necessary, shall work with adjacent municipalities to prepare new IDPs or joint intermunicipal agreements and subsequently review or update the Plan or agreements accordingly.
- 15.2.3** Planning and development applications that are subject to the Town of High Level and Mackenzie County IDP, and are located within the area shown on Map 7, shall be directed by the policies of the IDP.
- 15.2.4** Mackenzie County shall refer the following development proposals to adjacent municipalities:
 - a) matters of future annexation;
 - b) the adoption or amendment to an IDP, or this MDP; and
 - c) a proposed Land Use Bylaw, proposed amendments to the Land Use Bylaw or a proposed Area Structure Plan.







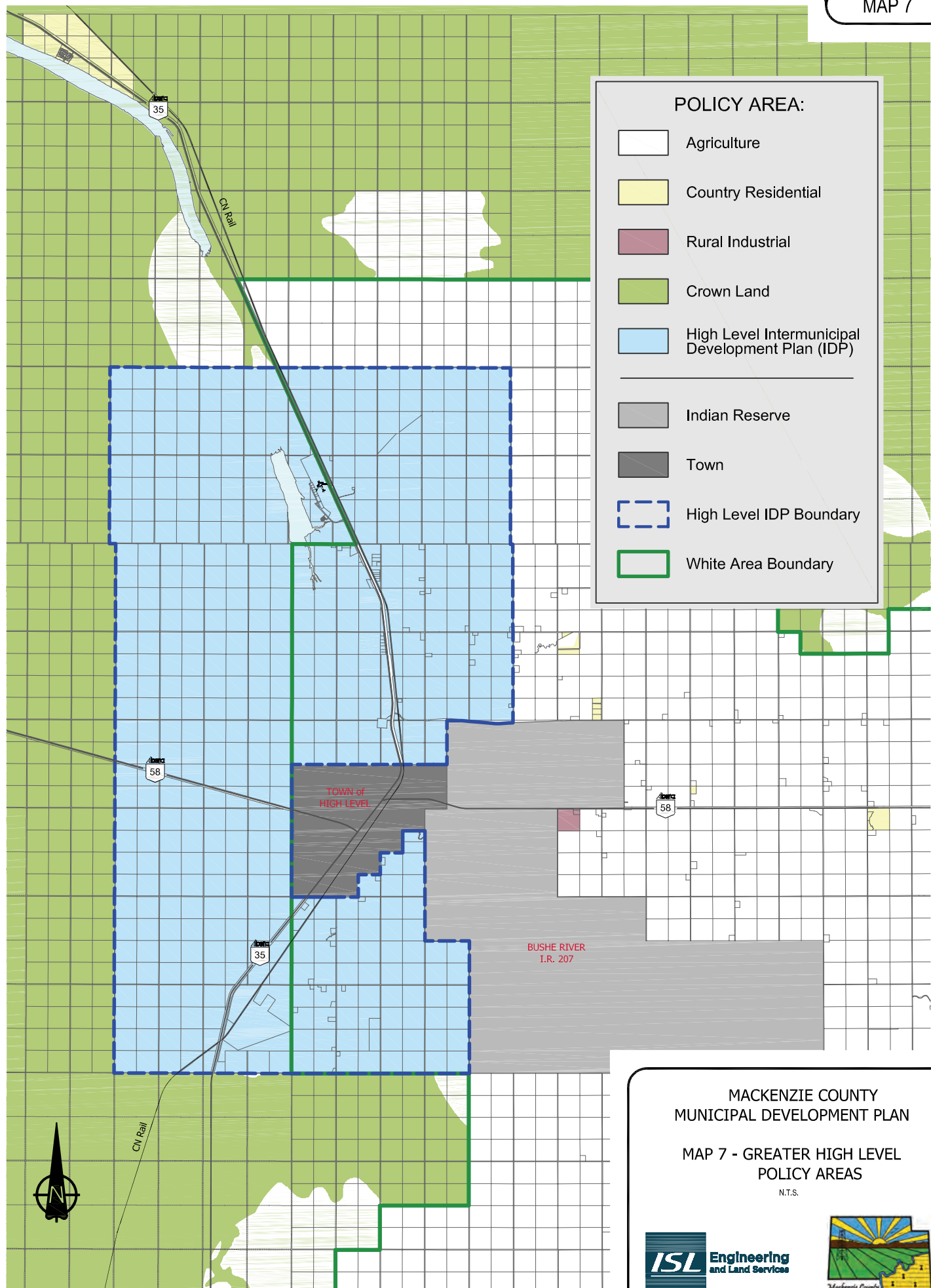
- 15.2.5** Mackenzie County shall use its authority to prohibit development near existing and proposed sewer lagoons and waste handling facilities in order to protect the public investment in these facilities.
- 15.2.6** Mackenzie County shall examine the means of sharing the costs of development for infrastructure and services with adjacent municipalities.

moving forward!

POLICY AREA:

-  Agriculture
-  Country Residential
-  Rural Industrial
-  Crown Land
-  High Level Intermunicipal Development Plan (IDP)



-  Indian Reserve
-  Town
-  High Level IDP Boundary
-  White Area Boundary



**MACKENZIE COUNTY
MUNICIPAL DEVELOPMENT PLAN**

**MAP 7 - GREATER HIGH LEVEL
POLICY AREAS**

N.T.S.

J:\12500\12518_Mackenzie_MasterPlan\02_drafting\02a_project_mapping\12518_NIDP_Maps.dwg

16.0) MONITORING, REVIEW AND IMPLEMENTATION

The Municipal Development Plan (MDP) will guide decisions about the future growth and development of Mackenzie County. More detailed planning is required through subsequent stages of the planning process from preparing or amending Area Structure Plans and Outline Plans to the daily implementation of the Land Use Bylaw (LUB) and the development approval process. Conformity between the MDP, the LUB, and intermediate planning documents must be achieved.

16.1 Monitoring

It is essential to monitor the MDP to ensure that it adequately deals with unforeseen planning and development proposals. Although the MDP is intended to be responsive, development and economic conditions continuously change. Mackenzie County's Council and Administration must be prepared at any time to consider proposed amendments to the MDP in order to deal with unanticipated conditions. If amendments are required, they shall be carried out through a transparent public consultation process.

16.2 Review

Comprehensive review of the MDP may take place every five years, as experience in other communities suggests that conditions generally change enough within this time span to warrant such review. In undertaking reviews, consideration should be given to:

1. reviewing annual land use changes and issues;
2. reviewing best practices and new development trends; and
3. communication and consultation with interest groups.

16.3 Implementation

Mackenzie County's LUB shall reflect the contents of the MDP by providing a comprehensive system for the planning of development. To ensure Mackenzie County is subdivided and developed in accordance with the vision, objectives and policies of the MDP, Council may amend the LUB, adopt an Area Structure Plan or other statutory plan by bylaw in accordance with Municipal Government Act or approve an Outline Plan or other non-statutory plan so long as the plan conforms to the MDP.



Appendix A Population Growth



Fort Vermilion Projected Population Growth, 2006-2031

Year	Conservative 0.0%	Anticipated 2.0%	Optimistic 5.0%
2006	714	714	714
2011	714	721	750
2016	714	736	787
2021	714	750	827
2026	714	765	868
2031	714	781	911

La Crete Projected Population Growth, 2006-2031

Year	Conservative 10.0%	Anticipated 20.0%	Optimistic 35.0%
2006	2,166	2,166	2,166
2011	2,383	2,599	2,924
2016	2,621	3,119	3,948
2021	2,883	3,743	5,329
2026	3,171	4,491	7,194
2031	3,488	5,390	9,712

Zama City Projected Population Growth, 2006-2031

Year	Conservative 0.0%	Anticipated 15.0%	Optimistic 50.0%
2006	225	225	225
2011	225	259	338
2016	225	298	506
2021	225	342	759
2026	225	394	1,139
2031	225	453	1,709

Rural Area Projected Population Growth, 2006-2031

Year	Conservative 5.0%	Anticipated 9.0%	Optimistic 15.0%
2006	6,897	6,897	6,897
2011	7,242	7,518	7,932
2016	7,604	8,194	9,121
2021	7,984	8,932	10,489
2026	8,383	9,736	12,063
2031	8,803	10,612	13,872

The population projections presented herein are straight linear method components of the overall County projected population growth presented in Table 3. The population projection components were prepared with the assumption that the Mackenzie County's Rural Area and each Hamlet will not experience negative growth under any of the three growth scenarios.