

**BYLAW 09-003  
OF  
LAC LA BICHE COUNTY**

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A BYLAW OF LAC LA BICHE COUNTY IN THE PROVINCE OF ALBERTA TO ADOPT AN AREA STRUCTURE PLAN FOR THE LAGOON LAKE AREA.

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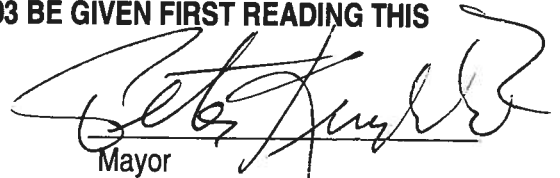
WHEREAS under the authority and pursuant to Section 633 of the Municipal Government Act, Chapter M 26, R.S.A. 2000, and amendments thereto, Council may enact a bylaw adopting an Area Structure Plan;

AND WHEREAS the owners/developers of lands legally known as Pt. of the W ½ 23-68-14-W4M, and Pt. NW ¼ 14-68-14-W4M desire to prepare an Area Structure Plan to govern the future development of the said lands;

NOW THEREFORE under the authority and pursuant to the provisions of the said Municipal Act, and by virtue of all other enabling powers, the Council of Lac La Biche County, duly assembled, enacts as follows:

1. The Lagoon Lake Area Structure Plan of W ½ 23-68-14-W4M and Pt. NW ¼ 14-68-14-W4M for Lac La Biche County, attached hereto as Schedule 'A', is hereby adopted.
2. This bylaw shall come into effect upon passing of the third reading.

**MOTION BY COUNCILLOR STROMQUIST THAT BYLAW 09-003 BE GIVEN FIRST READING THIS 13<sup>TH</sup> DAY OF JANUARY, 2009.**



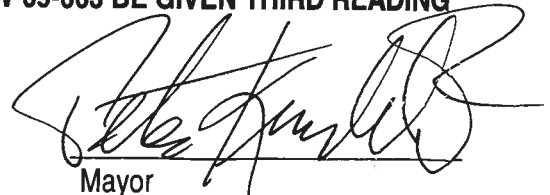
\_\_\_\_\_  
Mayor



\_\_\_\_\_  
Chief Administrative Officer

**MOTION BY COUNCILLOR UGANECZ THAT BYLAW 09-003 BE GIVEN SECOND READING THIS 10<sup>th</sup> DAY OF MARCH, 2009.**

**MOTION BY COUNCILLOR COUTNEY THAT BYLAW 09-003 BE GIVEN THIRD READING THIS 10<sup>th</sup> DAY OF MARCH, 2009.**



\_\_\_\_\_  
Mayor



\_\_\_\_\_  
Chief Administrative Officer

Schedule 'A'

# LAGOON LAKE AREA STRUCTURE PLAN

W ½ 23-68-14-W4M

NW ¼ 14-68-14-W4M

Lac La Biche County, Alberta



Submitted to



Lac La Biche County  
welcoming by nature.

Prepared for



Submitted by

ARMIN A. PREIKSAITIS  
& ASSOCIATES LTD.

In  
association  
with



December 2008

# Lagoon Lake Area Structure Plan

*Land Legally Described as*

W ½ 23-68-14 W4M  
NW ¼ 14-68-14 W4M  
Lac La Biche County

Submitted to



Prepared for



Prepared by

ARMIN A. PREIKSAITIS  
& ASSOCIATES LTD.

In Association with



December, 2008

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## 1.0 INTRODUCTION

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### 1.1 Purpose

The purpose of the Lagoon Lake Area Structure Plan (ASP) is to provide a policy framework to facilitate orderly country residential subdivision and development of the lands included as part of the ASP area.

This ASP complies with the requirements of Section 633 of the Municipal Government Act (MGA) and the information provided is consistent with the Appendix B – Plan Information Requirements of the Lakeland (Lac La Biche) County Municipal Development Plan (MDP).

### 1.2 Plan Area

The ASP area consists of lands legally described as W ½ 23-68-14 W4M and NW ¼ 14-68-14 W4M, including only the portion(s) which are bounded to the east by Lagoon Lake and to the south by Lac La Biche. The ASP area is located approximately 40 kilometres north of Lac La Biche, and approximately 7 kilometres west of the Hamlet of Owl River. Refer to *Map 1 – Location*. The ASP area encompasses approximately 52.55 hectares (129.85 acres)<sup>1</sup> of land.

### 1.3 Land Ownership

The property is owned by Time Developments Ltd. and was previously owned by Les and Emma Bates.

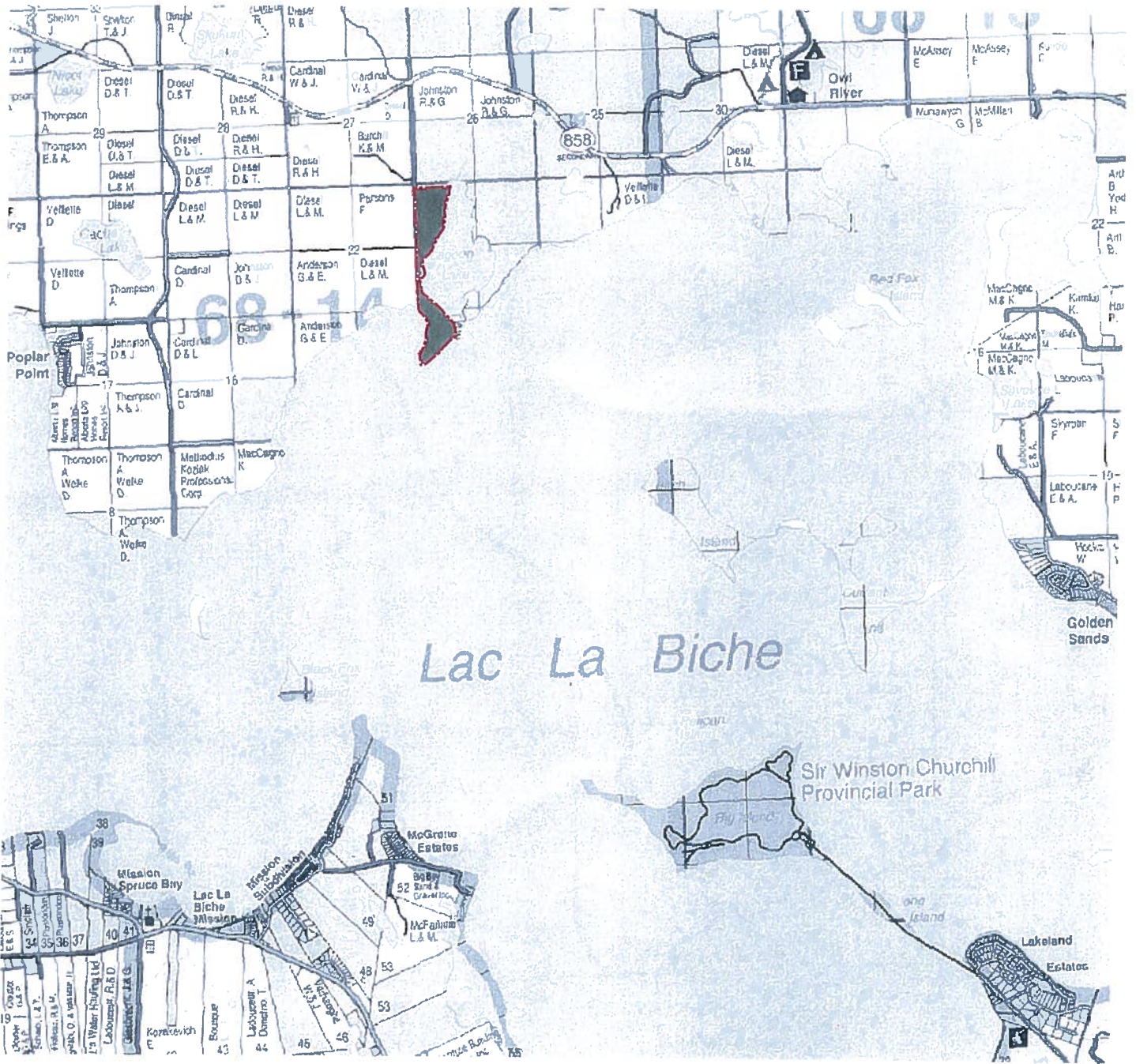
### 1.4 Project Team

An interdisciplinary project team including the following firms were retained to complete the Lagoon Lake Area Structure Plan and supporting technical studies: Altamira Consulting Ltd., Armin A. Preiksaitis & Associates Ltd., EnviroMak Inc., GENIVAR (formerly EXH Engineering Services Ltd.), Thurber Engineering Ltd., Shelby Engineering Ltd., and the client, Time Developments Ltd.

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<sup>1</sup> Gross Area of Lagoon Lake Area Structure Plan is based on a map combining legal parcel information for AltaLIS and a survey of the shoreline of Lagoon Lake and Lac La Biche. Areas have been calculated based on this digital map rather than the Certificates of Title for the parcels because, due to the variable nature of the shoreline of Lagoon Lake, it would not be accurate to use the area provided in the Certificates of Title.





**Legend**

 ASP Area

**Map 1  
Location**

**Lagoon Lake  
Area Structure Plan**

0 0.75 1.5 3 km



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## 2.0 POLICY CONTEXT

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### 2.1 Enabling Legislation

#### *Municipal Government Act (R.S.A. 2000, c. M-26)*

The *Municipal Government Act* (MGA) provides the enabling legislation for ASPs. The MGA enables municipalities to adopt ASPs to establish a framework for future subdivision and development. The Lagoon Lake ASP complies with all provisions of the MGA, including Sections 633, 636, and 692. The MGA states:

*"Section 633(2) An area structure plan*

*(a) must describe*

*(i) the sequence of development proposed for the area,*

*(ii) the land uses proposed for the area, either generally or with respect to specific parts of the area,*

*(iii) the density of population proposed for the area either generally or with respect to specific parts of the area, and*

*(iv) the general location of major transportation routes and public utilities,*

*and*

*(b) may contain any other matters the council considers necessary"*

This ASP outlines the sequence of development, land uses, number of lots, population densities, transportation, and municipal services for the ASP area.

*"Section 636(1) While preparing a statutory plan a municipality must*

*(a) provide a means for any person who may be affected by it to make suggestions and representations,*

*(b) notify the public of the plan preparation process and of the means to make suggestions and representations referred to in clause (a),*

*(c) notify the school authorities with jurisdiction in the area to which the plan preparation applies and provide opportunities to those authorities to make suggestions and representations"*



An Open House was held on December 6, 2007 to allow the public to provide feedback and comment on the proposed development. The results of the Open house are summarized in Section 6.0 Community Consultation.

Also, the local school boards were contacted during the drafting of this ASP for their comments and input regarding the proposed development.

## 2.2 Compliance with the Lakeland County Municipal Development Plan Bylaw No. 07-006

The Lakeland (Lac La Biche) County Municipal Development Plan (MDP) identifies the ASP area as falling within both the Rural Policy Area and the Lakeshore Policy Area. The following is a brief summary of the relevant MDP policies, as well as a commentary on how the proposed concept development responds to these policies. The ASP must also comply with the MDP policies established to protect the environment. These policies and responses are also outlined below.

### 5.4 Rural Policy Area

The objective of the Lakeland (Lac La Biche) County's *Rural Policy Area* is to "support the rural character of the County by allowing country residential development surrounded by the agricultural land base." The following are the pertinent *Rural Policy Area* policies and with a response of how they are addressed by this ASP.

*Policy 5.4.2(a): Rural Policy Area Land Uses: Support country residential, home occupations, recreation, tourism, and agricultural uses in areas designated as Rural Policy Area on the Future Land Use Concept (Schedule D).*

Response: A portion of the lands that are included in the Lagoon Lake ASP are within the Rural Policy Area while a portion are within the Lakeshore Policy Area. Country Residential and recreation uses are proposed.

*Policy 5.4.2(b): Plan Matrix: Require all applications for subdivision to be accompanied by a Plan Matrix (Appendix A) completed by the developer to the satisfaction of Lakeland (Lac La Biche) County to determine whether an Area Structure Plan, Conceptual Scheme or neither is required.*

Response: Lac La Biche County has confirmed in a letter dated December 5, 2007 that an Area Structure Plan would be required for the development. Also, the Plan Need Evaluation Matrix, which is used to determine if an Area Structure Plan or Conceptual Scheme is needed, indicates that any development that produces 3 or more lots does require an area structure plan.

*Policy 5.4.2(c): **Plan Information Requirements:** Require all Area Structure Plans and Conceptual Schemes submitted to Lakeland (Lac La Biche) County to fulfill, at a minimum, the Plan Information Requirements (Appendix B).*

Response: The Lagoon Lake Area Structure Plan complies with the Plan Information Requirements of the Lakeland (Lac La Biche) County Municipal Development Plan.

*Policy 5.4.2(d): **Clustered Residential Development:** Preserve environmentally sensitive and agricultural land for agricultural use by encouraging applicants for rural residential subdivisions to incorporate cluster design as a means of preserving agricultural land for agricultural uses, while applying appropriate buffering to reduce conflict*

Response: A very small part (1.36 acres) of the Lagoon Lake ASP area is being used to produce hay. No agricultural operations exist nearby that would present a land use conflict. No forestry, environmentally sensitive areas (e.g. ecological reserves, special natural projects) and / or endangered or threatened species were noted in the Biophysical Site Assessment conducted by EnviroMak Inc.

*Policy 5.4.2(h): **Protect Natural Resources:** Direct new subdivision and development, particularly residential uses, away from active and potential non-renewable resources so as not to constrain the extraction of the resources.*

Response: There is no evidence that gravel deposits exist within the ASP area from the Geotechnical Report conducted by Thurber Engineering Ltd.

## **5.7. Lakeshore Policy Area**

The objective of Lakeland (Lac La Biche) County's *Lakeshore Policy Area* is to "protect and enhance the environment, educate property owners and ensure that the appropriate approvals are obtained from the various levels of government."

*Policy 5.7.2(a): **Land Uses:** Support sensitive residential, home occupation, and recreational development in areas shown as Lakeshore Policy Area on the Future Land Use Concept (Schedule D).*

Response: The Area Structure Plan proposes the development of 125 single family dwellings consistent with development standards and regulations contained in Country Residential (CR) District. The CR District allows for Home Business (Major) as a discretionary use. Portions of the site will be zoned Natural Open Space (NOS) for the purpose of non-motorized recreational use and environmental protection in conformance with Lac La Biche County MDP.

*Policy 5.7.2(b): **Site Plan:** Require that a site plan be submitted with any development application that includes the location of all accesses, principal and accessory structures, potable water source, private sewage disposal system, existing vegetation and topography.*

Response: It is recognized that this will be a requirement at the Development Application Stage. Portable water will be trucked into the subdivision and stored in individual private cisterns. Sewage (wastewater) will be piped from individual dwellings units to communal holding tanks and then trucked for disposal to the nearest sewage lagoon.

*Policy 5.7.2(c): **Construction Plan:** Require the submission of a Construction Plan with any development application for development occurring on the shoreline of a water body detailing the measures that will be used to minimize erosion, sediment discharge or other environmental damage during construction.*

Response: This issue can be addressed at the time detailed engineering drawings are prepared and a servicing agreement is entered into.

*Policy 5.7.2(d): **Shoreline Restoration:** Require that a legible aerial photograph of the shoreline taken in the last 10 years be submitted for any development application that includes the shoreline of a water body, to assist Lakeland County in determining the shoreline's health and any measures required for its improvement.*

Response: A site survey was conducted by GENIVAR with County staff in applying the Riparian Setback Matrix Model.

*Policy 5.7.2(e): **Retaining Vegetation:** Encourage the retention of as much of the existing site vegetation as possible.*

Response: Section 7.4 of the Environmental Protection Plan and Mitigation Measures of the Proposed Lac La Biche Development Subdivision (Lagoon Lake in Pt. NW 14 and W 23-68-14 W4M) dated March 31, 2008 prepared by EnviroMak Inc. notes that development on "wet lands will be avoided" and development will "be positioned in a manner that minimizes tree removal of more than necessary mixedwood forest."

*Policy 5.7.2(f): **Education Programs:** Support the funding and programs necessary for ongoing education of residents with regard to waterfront living and the protection of riparian areas.*

Response: An Environmental Protection Plan has been prepared by EnviroMak Inc. that Time Developments Ltd. can provide to residents of the subdivision as part of the Purchase Agreement for individual lots.

*Policy 5.7.2(g): **Distributing Resources:** Educate Property owners by distributing Alberta Sustainable Resource Development booklet "Caring for Shoreline Properties", "Living on Water's Edge"*

Response: Time Developments Ltd. intends to provide potential purchasers with a copy of the booklet "Caring for Shoreline Properties, Living on the Water's Edge."

*Policy 5.7.2(h): **Stormwater Management Plan Requirements:** Require development applications in the Lakeshore Policy Area to be accompanied by a stormwater management plan that includes the following information, at a minimum:*

*Topography;*

*Watershed and development in relation to it;*

*Proposed minor drainage system (ditches / pipes / catch basin locations);*

*Proposed major drainage systems (direction of surface drainage);*

*Proposed on-site detention / retention facility (location / size);*

*Location of outflow / outfall structures; and*

*Any related modeling and calculation information."*

Response: A Stormwater Management (SWM) Plan has been prepared by GENIVAR and has been included as part of the Technical *Appendix D – Conceptual Servicing Report* and is outlined in section 5.4 of this document.

## **6.2 Environmental Policies**

The objective of Lakeland (Lac La Biche) County's Environment policies is to "protect the integrity of the natural environment, its ecosystems and biological diversity while protecting life and property from inappropriate development in hazardous areas."

*Policy 6.2(f): **Environmental Reserve Dedication:** Require the dedication of Environmental Reserve and / or registration of environmental reserve easements at the time of subdivision.*

Response: This will be done at the subdivision approval stage depending upon whether Lac La Biche County prefers an Environmental Reserve Dedication and / or registration of environmental reserve easement.

*Policy 6.2(g): **Environmental Reserve:** Requires that environmental reserves be dedicated at the subdivision stages to Lakeland County between the natural boundary of the permanent water body and the developable land, as per the Riparian Setback Matrix Model.*

Response: On Monday, September 17, 2007 GENIVAR and representatives from the County confirmed required setbacks from the permanent water body by applying the Riparian Setback Matrix Model. The agreed to Established Riparian Setback Line is reflected in *Map 3 – Land Use Concept*.

### **2.3 Lac La Biche Lake Management Plan Area Structure Plan, Ministerial Order 551/90**

An amendment will be required to remove the ASP area from the Lac La Biche Lake Management Plan Area Structure Plan to form this Lagoon Lake Area Structure Plan.

### **2.4 Lakeland County Land Use Bylaw (Bylaw No. 07-005)**

The existing zoning for the ASP area is *Agricultural (AG)*. An application to amend the Land Use Bylaw from *Agricultural (AG)* to *Country Residential (CR)* and *Natural Open Space (NOS)* has been submitted concurrently with this ASP.



## 3.0 SITE CONTEXT AND DEVELOPMENT CONSIDERATIONS

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### 3.1 Site Context

Proximity to Lac La Biche and the recent paving of Highway 881 make the ASP area well suited for country residential development. With population growth and continuing resource development in Lac La Biche County and the Conklin area, demand for housing in the Lac La Biche area is strong. This strong demand makes the preparation of the Lagoon Lake ASP timely. Also, given the proximity of the ASP area to Owl River, the additional population could help revitalize the community and possibly provide the necessary impetus to reopen the service station and general store.

The rolling topography of the ASP area provides an opportunity to develop country residential lots with views of Lac La Biche, Lagoon Lake and wetland areas. It is anticipated that homes within the subdivision will be of high value, significantly adding to the County's assessment and tax base.

### 3.2 Topography, Soils and Vegetation

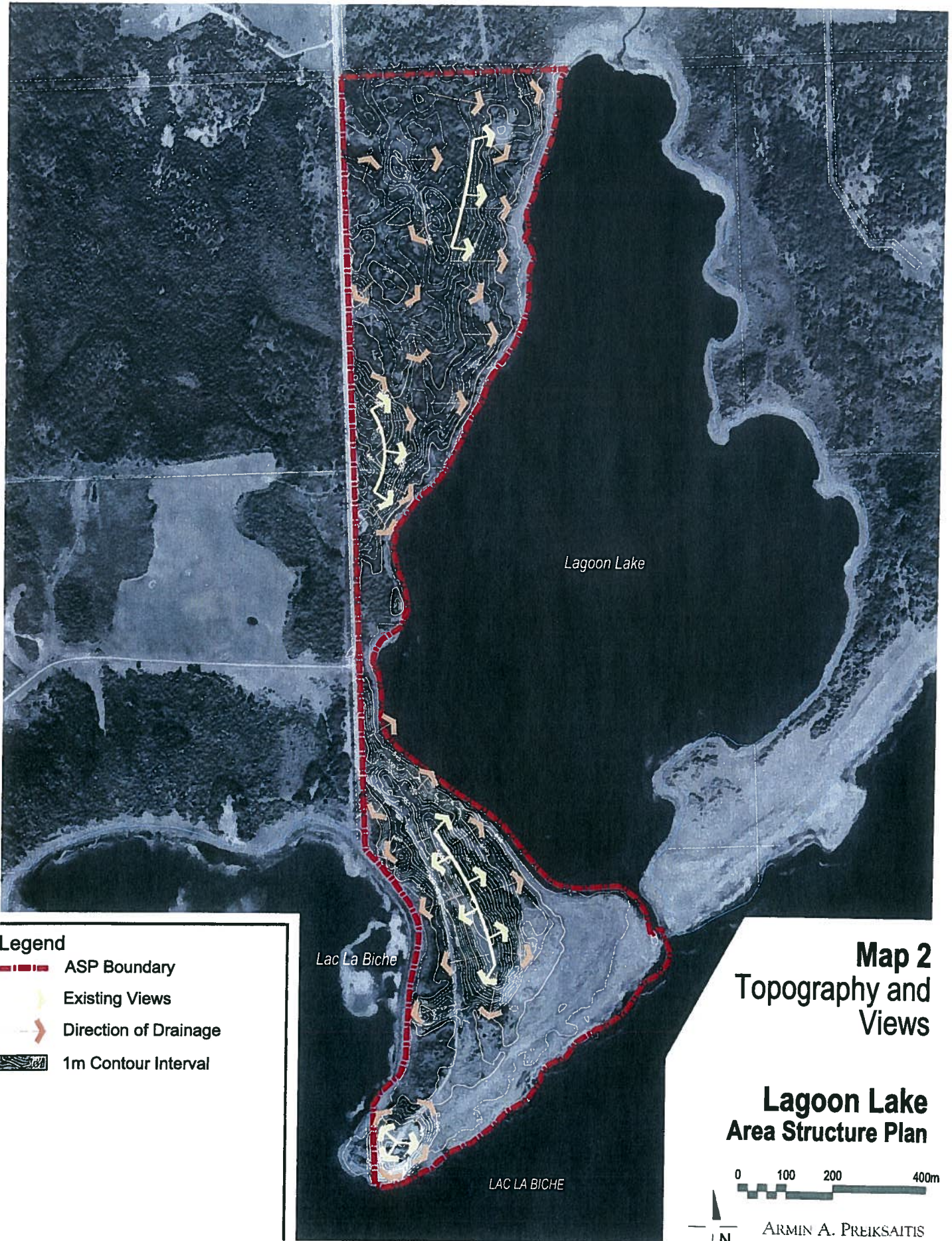
*Map 2 – Topography and Views* shows the physical characteristics and site analysis of the ASP area.

#### 3.2.1 Topography





The ASP area is located in an undulating moraine (till) landscape with a rolling topography, contributing to the watershed as a typical medium-sized drainage to Lac La Biche. The general terrain of the area consists of sloping ground from the northwest down to the southeast of the northern section of the ASP area and from the northeast and the southwest of the southern section. This topography provides view opportunities of both Lagoon Lake and Lac La Biche, making this property well suited for lakefront and lake view multi-lot country residential development. Some site grading may be required to accommodate country residential development.

Some areas with steep slopes have been identified within the ASP area. In order to comply with *Policy 6.4(b) Development on Slopes Greater than 15%*, a Slope Stability Assessment has been completed by Shelby Engineering Ltd. and is enclosed as *Appendix J* of the ASP. Its findings conclude that Shelby Engineering Ltd. is "*of the opinion that the lots with slopes up to 30% are suitable for development and are generally conducive for dwellings with walkout configurations.*"

Examination of the biophysical factors associated with the Lagoon Lake property indicates that no major issues arise that cannot be addressed through an Environmental Protection Plan. However, the amount of land available for subdivision should be examined, considering the extent of the wetlands, some topography issues and possible lands that may be affected by



**Legend**

-  ASP Boundary
-  Existing Views
-  Direction of Drainage
-  1m Contour Interval

**Map 2  
Topography and  
Views**

**Lagoon Lake  
Area Structure Plan**



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high water levels. In addition, with the potential of increased boat access and boat use on Lagoon Lake, the environmental sensitivity and potential harm and disturbance to the narrow and shallow channel between Lac La Biche and Lagoon Lake will need to be addressed.

Refer to *Appendix B – Biophysical Site Assessment* for detailed information on the ASP area.

The steep terrain and riparian areas associated with the shoreline of Lac La Biche and Lagoon Lake will be defined at the detailed design stage. These areas will remain undeveloped and development setbacks which may be required from these areas will be provided in accordance with *Section 6.0 - Environment* of the Lakeland (Lac La Biche) County MDP.

### **3.2.2 Soils**

Soils found in the ASP area are described in *Appendix A - Geotechnical Investigation*. Topsoil was noted in most of the test holes and varied in thickness from 25mm to 200mm. Layers of clay and sand were encountered in all of the test holes either at ground surface or underlying the topsoil, extending to a depth of about 10.4m below existing ground surface. The clay found in the ASP area is typically described as “firm to very stiff”. The sand found in the ASP area is described as “loose to compact”. The results of the geotechnical investigation by Thurber Engineering Ltd. indicate that the site is generally suitable for the proposed residential development. However, it should be noted that further investigation may be required once the proposed subdivision layout is known.

### **3.2.3 Vegetation**

Approximately 98% of the ASP area remains in its natural state. Vegetation in the ASP area is dominated by mixed wood forest and riparian areas associated with the shoreline of Lagoon Lake and Lac La Biche. The majority of the ASP area is covered by boreal mixed wood forest with wetlands and riparian areas also covering a portion of the ASP area. A small portion of the ASP area is currently being used as agricultural hay land. There are five wetlands in the ASP area including one Class III, three Class IV, and one Class VII wetlands. Due to their connection with the shoreline, three of the existing wetlands may be considered as Crown Land.

Refer to *Appendix B – Biophysical Site Assessment* for detailed information on the vegetation for the ASP area.

## **3.3 Existing and Surrounding Land Use**

Existing land uses in the ASP area are illustrated on *Map 2 – Topography and Views*.

As illustrated on *Map 2 – Topography and Views*, approximately 98% of the ASP area is in a natural state and has not been cleared for agricultural or other uses. There has been limited agricultural influence on the landscape with a only small portion of the area being converted by cultivation and surface manipulation to hay land. There are two residences on the site. The

permanent residence, to the south, covers a small area of approximately 0.11 ha, and the other residence to the north is a small abandoned cabin.

There is no issue of incompatibility between the proposed development and surrounding land uses as the majority of the surrounding area is undeveloped agricultural land.

### **3.4 Environmentally Sensitive Areas**

Consistent with the requirements of the Lakeland (Lac La Biche) County MDP, environmentally significant areas will be dedicated as *Environmental Reserve (ER)* based on clear science and engineering criteria.

Development on wetlands and riparian areas will be avoided. Development on steep slopes will be subject to a slope stability analysis which is being undertaken for the ASP area. No forestry, environmentally sensitive areas, or endangered or threatened species were noted through the Biophysical Site Assessment conducted by EnviroMak Inc. for the ASP area. See *Appendix B – Biophysical Site Assessment*.

An Environmental Protection Plan has been prepared by EnviroMak Inc. that can be implemented as part of the purchase agreement for the sale of individual lots. The method of implementation of this plan is subject to further discussion with Lakeland (Lac La Biche) County at the subdivision approval stage.

Where feasible, existing wooded areas will be protected by the creation of lots that incorporate forested lands into their holdings.

### **3.5 Historical Resources Impact Assessment**

A Historical Resources Impact Assessment was conducted for the ASP area by Altamira Consulting Ltd. dated September 2006. All areas of the development were inspected. Eight previously located archaeological sites were revisited and three new archaeological sites were recorded.

The proposed development lands contain three sites that show evidence of historical significance, two archaeological sites and one historic period archeological site. However, no historic structures were recorded and no paleontological sites or materials were found in the ASP area. Refer to *Appendix G – Historical Resources Impact Assessment* for a full description of the archaeological sites and assessments. A Clearance Letter provided by Alberta Culture and Community Spirit Heritage Resource Management, dated April 7, 2008, indicates that the site has received clearance and is approved for development. This letter can be found in *Appendix H – Historical Resources Act Clearance Letter*.

It should be noted that, if any historical resources or artifacts are found during the construction process, the Historic Resources Management Branch shall be contacted and construction will be halted until further clearance has been obtained.

### **3.6 Potential Impact on Schools**

Students living in the ASP area are currently bussed to the Town of Lac La Biche to attend school. Northern Lights School Division #69 has been contacted with regard to the potential impact of future multi-lot country residential development in the ASP area on school capacity. Northern Lights School Division #69 indicated that they can accommodate any additional school age children associated with this development. No concerns were raised with regards to the proposed development.

### **3.7 Fire, Police and Emergency Services**

The ASP area is located within the Owl River Fire District. This District is qualified to fight wild fires and control house fires. Additional fire support can be provided by the Lac La Biche Fire District. The response time from the Lac La Biche Fire District may be insufficient to prevent the burning of a structure, but adequate to prevent the fire from spreading. Implementation of Fire-smart guidelines is recommended for development in the ASP area. Fire flow capabilities will meet the fire protection requirements of the *Lakeland County General Municipal Servicing Standards*, at the subdivision stage.

The ASP area will be served by the Lac La Biche RCMP Detachment, however, they have indicated that an increase in staff may be necessary. Depending on the location of the patrol car, response time is estimated at 30 minutes to the ASP area.

Ambulance service in the ASP area is provided by Lac La Biche Regional EMS and can accommodate additional development in the ASP area. Response times are estimated at 15 to 20 minutes.



## 4.0 LAND USE CONCEPT

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### 4.1 Planning Principles

Based upon an analysis of the existing policy context, adjacent land uses, and the physical characteristics of the ASP area, a Land Use Concept for the ASP area has been developed, as shown in *Map 3 – Land Use Concept*. The Land Use Concept reflects the following planning principles.

1. Provide for orderly, economic and efficient residential development
2. Protect and enhance the natural environment particularly the riparian area along the lakeshore
3. Avoid land use conflicts between rural residential and agricultural land uses
4. Maintain high environmental standards for waste and stormwater drainage

### 4.2 Land Use Concept

The land uses for the ASP area are outlined in *Map 3 – Land Use Concept*.

#### 4.2.1 Country Residential

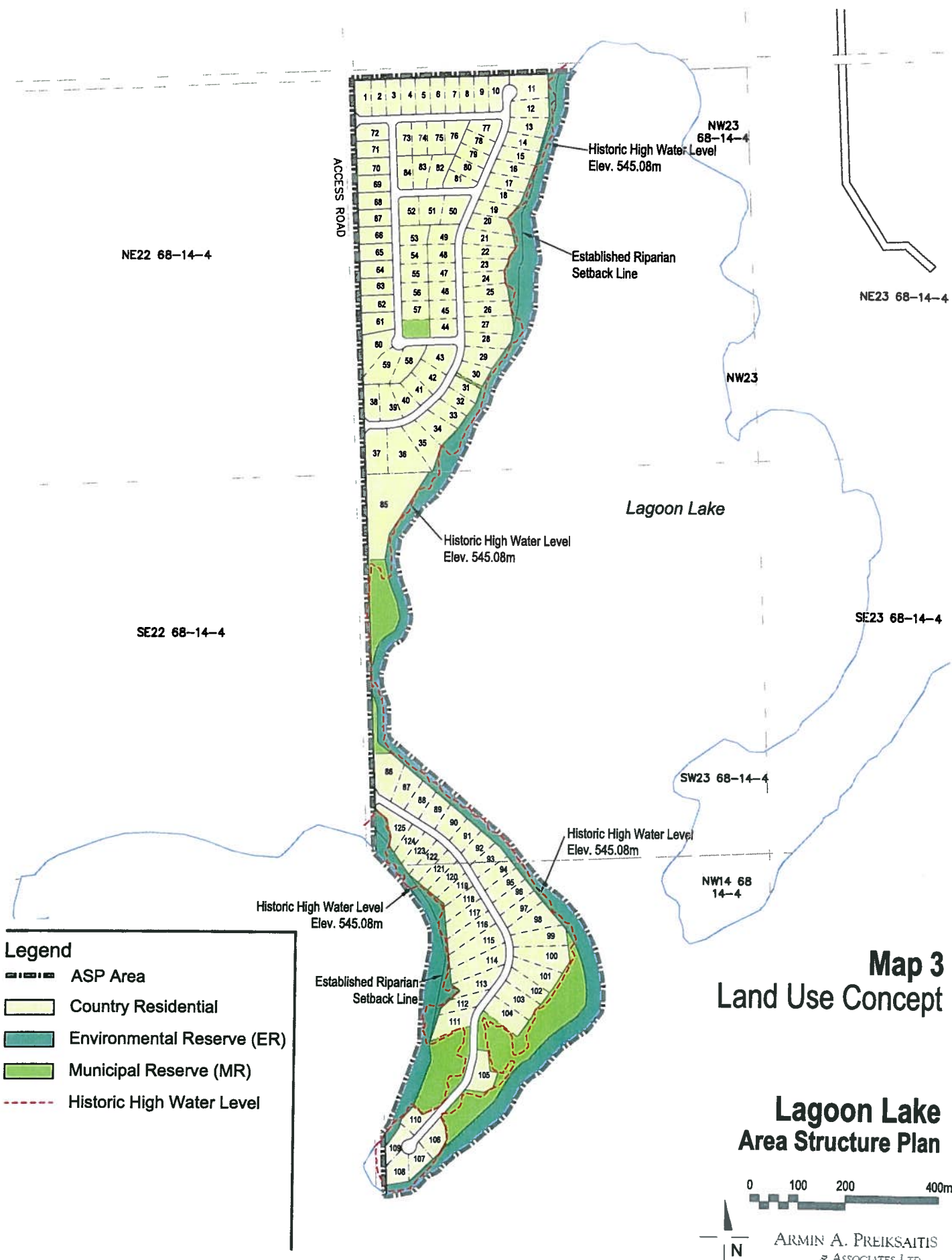
Under the terms of the Country Residential (CR) District in the Lac La Biche County Land Use Bylaw, it is stated that the minimum parcel size shall be 0.2 ha (0.5 ac). Given proposed lot sizes and land set aside for environmental and municipal reserve, it is anticipated that 125 new residential lots could be developed within the ASP area. Assuming an average household size of 3.5 persons, the ASP area could accommodate a population of 437 persons. Refer to *Table 1 – Lagoon Lake Area Structure Plan Land Use Statistics*.

#### 4.2.2 Parks and Open Space

In accordance with the policies of the Lakeland (Lac La Biche) County MDP, dedication of an ER setback adjacent to the shoreline of Lac La Biche and Lagoon Lake would provide public access to the lakes. The land use concept provides for the preservation of natural areas including an ER strip along the shorelines of Lac La Biche and Lagoon Lake. The location of the ER strip was determined by implementation of the Riparian Setback Matrix Model, approved by the County.

It is proposed that the lands within the Riparian Setback areas be dedicated as environmental reserve at the time of Subdivision, compliant with Policy 6.2(f) of the MDP. Refer to *Appendix F – Riparian Setback Calculation for Environmental Reserve*.

The development is in compliance with Lakeland (Lac La Biche) County MDP Policy 7.2(b), which requires a municipal reserve dedication of at least 10%. As shown in *Table 1 – Lagoon*








# Map 3 Land Use Concept

## Lagoon Lake Area Structure Plan



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**Legend**

-  ASP Area
-  Country Residential
-  Environmental Reserve (ER)
-  Municipal Reserve (MR)
-  Historic High Water Level

*Lake Area Structure Plan Land Use Statistics.* The developer has dedicated 12% of the gross developable area for municipal reserve. Further to discussions with Lac La Biche County, it was recommended that all municipal reserve and environmental reserve parcels are zoned as *Natural Open Space (NOS)*.

Park spaces and lake access, which will be open to the public, are included in the ASP area, creating recreational opportunities for future residents. A 0.21 ha (0.52 ac) park parcel, which will include two park benches and a children's play structure, has been proposed in the northern portion of the development. Trail development will be included within the internal road right-of-ways, providing residents with pedestrian access throughout the ASP area.

**Table 1 - LAGOON LAKE AREA STRUCTURE PLAN LAND USE STATISTICS**

	Ha	% of GDA			
<b>GROSS AREA*</b>	<b>52.55</b>				
Environmental Reserve	9.26				
<b>GROSS DEVELOPABLE AREA</b>	<b>43.29</b>	<b>100%</b>			
<b>Non-Residential Uses</b>					
Internal Roadways	4.29	10%			
Municipal Reserve (MR)	5.27	12%			
<b>Subtotal</b>	<b>9.56</b>	<b>22%</b>			
<b>Residential Uses</b>					
Country Residential (CR)	33.73	78%			
<b>Subtotal</b>	<b>33.73</b>	<b>78%</b>			
<b>Total</b>	<b>43.29</b>	<b>100%</b>			
<b>RESIDENTIAL LAND USE ANALYSIS</b>					
	Area (Ha)	Density (Units/Ha)	Units	Persons /Unit	Population
Country Residential (CR)	33.7	3.71	125	3.5	437

**NOTE:**

\*Gross Area of the Lagoon Lake Area Structure Plan is based on a map combining legal parcel information from AltaLIS and a survey of the shoreline of Lagoon Lake and Lac La Biche. Areas have been calculated based on this digital map rather than the Certificates of Title for the parcels because, due to the variable nature of the shoreline of Lagoon Lake, it would not be accurate to use the area provided in the Certificates of Title.

## 5.0 TRANSPORTATION AND MUNICIPAL SERVICES

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### 5.1 Roadways

The ASP area is accessible from Highway 858 via Range Road 142, located along the western boundary of the ASP area. Highway 858 is approximately 1 km north of the ASP area.

Based on the estimated traffic generation associated with site development, and estimated volumes for Highways 881 and 858 in the vicinity of the development, it has been concluded that the existing Highway 858 and Range Road 142 intersection will require upgrading to a Type IIa configuration. The two intersections providing access from Range Road 142 into the ASP area will require modified Ia configuration, as a result of the site development. It is also recommended that the posted speed limit along Range Road 142 may have to be reduced due to limited intersection separation distances, proximity of the residential homes and also to accommodate the existing sight distances dependant on confirmation of available sight distances.

Internal roadways will be constructed in accordance with the *Lakeland County General Municipal Servicing Standards* and Alberta Infrastructure and Transportation Guidelines for a rural cross-section design based on a paved structure. Roadway design will be prepared in a format suitable for submission to Lac La Biche County. Internal roadway right-of-ways will include the development of a multi-use trail for pedestrian use.

On August 13, 2007, GENIVAR undertook a Traffic Impact Assessment which included data collection, field surveys, traffic counts and traffic analysis. Refer to *Appendix C – Traffic Impact Assessment*.

### 5.2 Potable Water

The water supply for the development will be trucked-in by the individual owners as necessary to keep a full cistern adjacent to their house. Well development will not be pursued.

Refer to *Appendix D – Conceptual Servicing Report*.

### 5.3 Sanitary Sewage Disposal

It was originally proposed that individual sewage holding tanks be installed on each lot and these tanks would be pumped out and trucked to the nearest sewage lagoon on a regular basis. After further discussions it was decided that the short term solution for sewage disposal within the ASP area would be to use a communal system. The proposed system would include the installation of four (4) communal tanks, which would use a gravity-low pressure system to move the sewage from individual properties to these communal tanks. These communal tanks would be pumped out on a regular basis. The exact location of these communal tanks will be addressed at the Plan of Subdivision and Servicing stage. Easements within individual residential lots will be provided for the communal tanks and indicated at the subdivision stage.

However, should it be deemed necessary to provide separate Public Utility Lots (PUL) for communal tanks, PUL's will be identified at the subdivision stage. By using communal tanks rather than individual tanks the developer hoped to reduce the amount of traffic generated by the movement of the servicing trucks. In order to maintain and operate the communal tanks, a caveat would be applied to the Certificate of Title, obliging owners to participate in a "co-op". Another option would be to prepare a Purchase Contract, which potential owners would have to sign and agree to. Refer to *Appendix D – Conceptual Servicing Report* for further details regarding this system.

The development will be serviced by combination of private septic tanks and a low pressure sewer system to be installed in the center of the road right of ways. The sewer will be directed towards a communal tank farm. The septage will be trucked to the appropriate Lac La Biche County facility in the area until such time that the County has an alternate receiving system or facility. The private sewage disposal flows are based on 250 L per person per day. Therefore, for 3.5 persons per dwelling, the daily flow per dwelling is estimated at 875 L. On each lot a 2-compartment septic tank complete with a solid storage compartment and grey water pumping system will be installed by the property owner. Solids storage compartments of private septic tanks will have to be pumped out as required (typically every few years). We are proposing a maximum storage of 5 days for the communal tank farm. These tanks will be monitored for the management of timely truck disposal.

The provision of private sewage disposal in long term will have to include the installation of a sewage lagoon, somewhere in the northern portion of Lac La Biche County. Through the Local Improvement Act, the County can then have the affected residents connected by way of the existing mains plus additional force mains and lift pump stations directing the sewage flows to the new sewage lagoon.

#### 5.4 Stormwater Management (SWM)

The preliminary design has been prepared in accordance with the requirements and guidelines of Alberta Environment and the *Lakeland County General Municipal Servicing Standards*. In accordance with Alberta Environment requirements, SWM requires approval under both the *Environmental Protection Act* and the *Water Act*. The main requirements to be met under these regulations are flow and quality control.

The ASP area is unique in regards to its natural sheet flow to surface drainage directly into the Lagoon Lake shorelines. In order to reduce or eliminate the requirement of a SWM pond system, the following Best Management Practices (BMP) will be applied to the ASP area in order to manage stormwater drainage:

- Reduced Lot Grading
- Surface Ponding
- On-Lot Infiltration Systems
- Grassed Swales
- Sediment Basins



- Piped Discharge above Flood Line of Lagoon Lake

Drainage flow within the ASP area will be controlled and directed using swales, ditches and easements where necessary. These swales and ditches will be accommodated within the rural road cross section. Erosion control measures through reduced lot grading will be implemented to prevent the flow of material into Lac La Biche. A full SWM plan will be prepared and submitted with the future subdivision application. SWM will be designed to ensure that, under the design criteria, no pollutants or deleterious materials enter the lakes. Refer to *Appendix D – Conceptual Servicing Report*.

## 5.5 Franchise Utilities

The ASP area is currently serviced by overhead single phase power. Telephone service is also located along the same overhead line. There is no cable service available in the vicinity of this proposed development. The Lac La Biche Co-op is available to service gas to the site with 60 days notice. Refer to *Appendix D – Conceptual Servicing Report*.

## 6.0 COMMUNITY CONSULTATION

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### 6.1 Summary of Results

A Public Open House was held at 7:00 p.m. on December 6, 2007 at the Owl River Hall. The Open House was advertised in the local newspaper two (2) weeks prior to the meeting. Thirteen (13) members of the general public attended this meeting. Two staff members from Lac La Biche County were also in attendance.

During the Public Open House the developer gave the opening remarks and an overall presentation of the Project. The engineering firm was on hand to provide technical support and detailed information regarding the engineering and design of the project.

After the presentation members of the public were invited to provide feedback and ask any questions they may have of the development. The majority of questions asked by the public were regarding the SWM practices that would be used on the site. The developer and engineering firm answered these questions by providing a more detailed explanation of the proposed SWM plan. Other questions included:

- *What are the proposed sizes of houses being built?*  
The proposed size of houses being built will be regulated according to the *Country Residential District* regulation in the Lakeland (Lac La Biche) County Land Use Bylaw.
- *Where will the houses be located on the lots?*  
Location of houses will be determined by regulations set forth in *Country Residential District* of the Lakeland (Lac La Biche) County Land Use Bylaw.
- *How much tree removal is expected?*  
The amount of tree removal is expected to be minimized in accordance with the Environmental Protection Plan.
- *Are the roadways going to be paved?*  
All of the roadways internal to the subdivision will be paved.
- *How will the steep slopes of the lots be dealt with?*  
Shelby Engineering Ltd. is to provide mitigation measures for dealing with lot slopes.
- *How will the sewage be handled?*  
A gravity-low pressure sewage collection system using communal holding tanks is planned for the site.
- *Drainage off the lots into the lakes possible contamination of the lake waters?*  
The SWM and communal sewage disposal systems are designed to mitigate the runoff into or the contamination of the Lakes.

- *How will surface ponding at rear of lots be avoided?*  
A Grading Plan is to be prepared and submitted at the Subdivision stage.
- *What fire protection is being planned for the area?*  
The response time for the fire department may be insufficient to prevent the burning of a structure however it is adequate to prevent the fire from spreading. Fire flow capabilities will meet the fire protection requirements of Lakeland (Lac La Biche) County at the subdivision stage.

In conclusion, the concerns of residents attending the Public Open House have been responded to. Perhaps, the most significant change made to the Areas Structure Plan is the implementation.

## **7.0 IMPLEMENTATION**

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### **7.1 Staging**

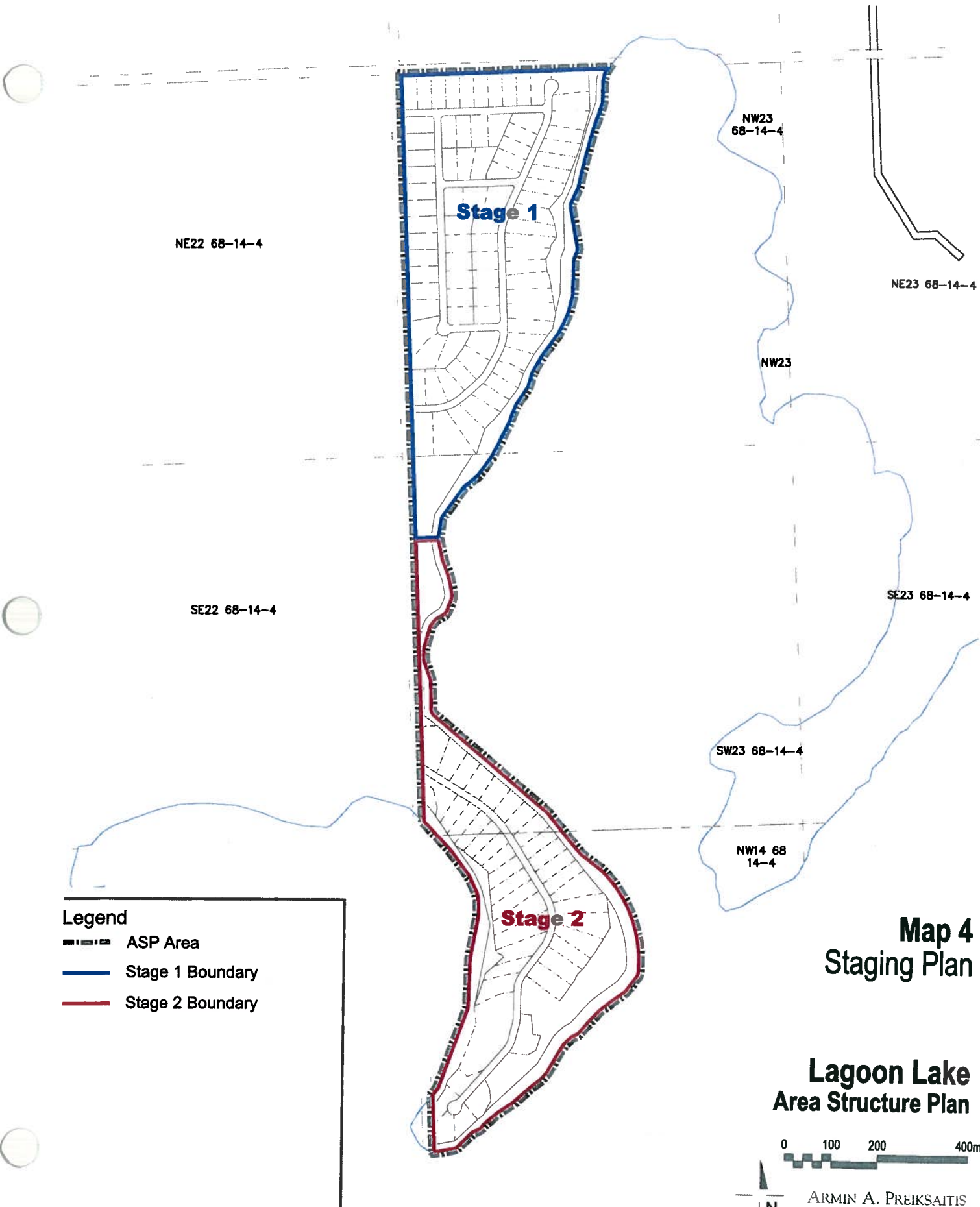
Staging in the ASP area will be based on market conditions and the logical and economic extension of the internal roadways and servicing. Staging will generally occur from north to south and from east to west. Refer to *Map 4 – Staging Plan*.

### **7.2 Amendment to the Land Use Bylaw (Bylaw No. 07-005)**




An application will be submitted concurrent with this ASP to rezone portions of the ASP area currently zoned *Agricultural (AG)* to *Country Residential (CR)* and *Natural Open Space (NOS)*.

### **7.3 Plans of Subdivision**

Plans of subdivision will be submitted to Lac La Biche County for various stages of development in accordance with Lac La Biche County policies and procedures for subdivision, and in accordance with the MGA and Subdivision and Development Regulations.



**Legend**

-  ASP Area
-  Stage 1 Boundary
-  Stage 2 Boundary

## Map 4 Staging Plan

### Lagoon Lake Area Structure Plan



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