

# The Estates of Arborfield

## Area Structure Plan

Portion of NE 15-67-13-W4M

Lac La Biche County

June 2016

SE DESIGN AND CONSULTING INC.

ENGINEERS • CONSULTANTS • SURVEYORS

## Table of Contents

<b>1</b>	<b>Introduction.....</b>	<b>1</b>
1.1	Plan Purpose.....	1
1.2	Authority of the Plan .....	1
1.3	Timeframe of the Plan.....	2
1.4	Ownership .....	2
1.5	Location and Boundary.....	2
1.6	Existing Land Use and Development Patterns.....	2
1.7	Plan Rationale.....	4
<b>2</b>	<b>Planning Context.....</b>	<b>5</b>
2.1	Lower Athabasca Regional Plan.....	5
2.2	Lac La Biche County Municipal Development Plan (MDP) Bylaw 13-020 .....	5
2.3	Lac La Biche Lake Management Plan Area Structure Plan .....	6
2.4	Lac La Biche County Land Use Bylaw (LUB) 12-024.....	7
2.5	Other Relevant Planning Policies.....	7
2.5.1	<i>Lac La Biche Watershed Management Plan, 2009</i> .....	7
2.5.2	<i>Public Consultation Summary</i> .....	7
<b>3</b>	<b>Site Analysis &amp; Development Suitability .....</b>	<b>8</b>
3.1	Topography and Drainage .....	8
3.2	Natural Features.....	8
3.2.1	<i>Biophysical Overview and Wetland Assessment</i> .....	8
3.3	Geotechnical Conditions.....	10
3.4	Historical and Cultural Resources.....	10
3.5	Adjacent Land Uses and Impacts.....	10
3.5.1	<i>Resource Extraction</i> .....	11
<b>4</b>	<b>Development Concept.....</b>	<b>16</b>
4.1	Future Land Uses .....	18
4.1.1	<i>Residential Policies</i> .....	18
4.1.2	<i>Parks and Open Space</i> .....	18
4.2	Transportation.....	19
4.2.1	<i>Roadway Network Policies</i> .....	19
4.3	Utilities.....	19
4.3.1	<i>Storm Water Management and Facilities (SWMF) Policies</i> .....	19
4.3.2	<i>Waste Water Collection System (Sanitary) Policies</i> .....	22
4.3.3	<i>Water Supply and Distribution Policies</i> .....	22
4.3.4	<i>Shallow Utilities Policies</i> .....	23
4.4	Community Services .....	26
4.4.1	<i>Emergency Services</i> .....	26
4.4.2	<i>Solid Waste and Recycling</i> .....	26
4.4.3	<i>Schools</i> .....	26
<b>5</b>	<b>Implementation .....</b>	<b>27</b>
5.1	Development Phasing.....	27
5.2	Redistricting and Subdivision .....	27
	Appendix.....	28

## List of Figures

- Figure 1 – Regional Context
- Figure 2 – Existing Topography
- Figure 3 – Natural Features
- Figure 4 – Site Photos
- Figure 5 – Existing Districting
- Figure 6 – Development Concept
- Figure 7 – Storm Water Collection System
- Figure 8 – Sanitary Sewer System
- Figure 9 – Water Distribution System

## Tables

- Table 1: Land Use Distribution
- Table 2: Demographic and Density Profile

## Appendices

- Appendix I – Alberta Energy Regulator Land Development Information, March 23, 2015
- Appendix II – Solid Earth., Geotechnical Inc. Geotechnical Investigation Proposed Country Residential Serviced Subdivision NE 15-67-13-W4M, Alberta. June 16, 2015.
- Appendix III – Green Plan Ltd., Biophysical and Wetland Assessment and Impact Report (WAIR) Niles Subdivision NE 15-67-13-W4M, Lac La Biche, Alberta. January 29, 2016.
- Appendix IV – Alberta Culture and Tourism, Historical Resources Act (HRA) Clearance letter. April 17, 2015.
- Appendix V – Lac La Biche County, General Municipal Servicing Standards Drawing G-07 for a Typical Cross Section for Asphalt Concrete Pavement Surfacing Paved Local Road 8.0m
- Appendix VI– SE Design and Consulting Inc. Typical Dry Hydrant Design. April 11, 2016.

# 1 Introduction

---

## 1.1 Plan Purpose

This Area Structure Plan (ASP, plan) establishes the conceptual land use, transportation and servicing pattern for the south portion of NE 15-67-13-4 within the legal jurisdiction of Lac La Biche County, in order to implement the general policies of the Municipal Development Plan (MDP), Bylaw No.13-020. The plan will create a residential estate subdivision to the north east of the Hamlet of Lac La Biche. As required by Sections 3.1.2 and 3.1.3 of the MDP, the ASP describes the following:

- Conformity to the municipal planning framework;
- The sequence of development proposed for the area;
- The land uses and densities proposed for the area;
- The impact of the development on adjacent land uses and environment;
- The general location and connection to the County’s transportation network including routes and public utilities, circulation patterns and on-site and off-site traffic impacts and required roadway upgrades;
- Land suitability for the proposed development including environmental, historical and cultural aspects;
- Development scope;
- Infrastructure and site services including water supply, stormwater management and sewage disposal with supporting documents as required under Policy 3.1.10 of the MDP;
- Municipal and Environmental Reserve dedication; and
- Community Services.

## 1.2 Authority of the Plan

The preparation and submission of the ASP is in accordance with Section 633 of the *Municipal Government Act* (“the Act”) and conforms to the general policies stated in the Lac La Biche County Municipal Development Plan Bylaw No.13-020 and the Lac La Biche County Land Use Bylaw No. 12-024.

### **1.3 Timeframe of the Plan**

The ASP will build out based on a market demand. The developer is proposing a phasing strategy that will use infrastructure investments and land in a fiscally responsible manner. The plan anticipates that the first phase of the development will begin in 2016. Development phasing is further discussed under Section 5.

### **1.4 Ownership**

This current owner of the entire plan area is Mr. Marty Niles. This plan has been prepared on behalf of the registered owner.

### **1.5 Location and Boundary**

The subject lands are located in Lac La Biche County, north east of the Hamlet of Lac La Biche. The primary access to the site is from Lakeland Drive on Range Road 132 north. **Figure 1 – Regional Context**, illustrates the overall context of the plan area. The plan boundary includes lands legally described as the south portion of NE 15-67-13-4, approximately 26 hectares.

### **1.6 Existing Land Use and Development Patterns**

At the time of ASP preparation, the site exists in its natural state and is predominantly in agricultural use with some areas under tree cover. The entire plan area is districted as Serviced Estate Residential 2. There are no pipelines and underground utilities within the plan area as per information obtained from Alberta Energy Regulator in Appendix I.

The Estates of  
Arborfield  
NE 15-67-13-4  
Area Structure Plan  
Lac La Biche County

Legend:

 - PROPOSED SUBDIVISION  
LOCATION

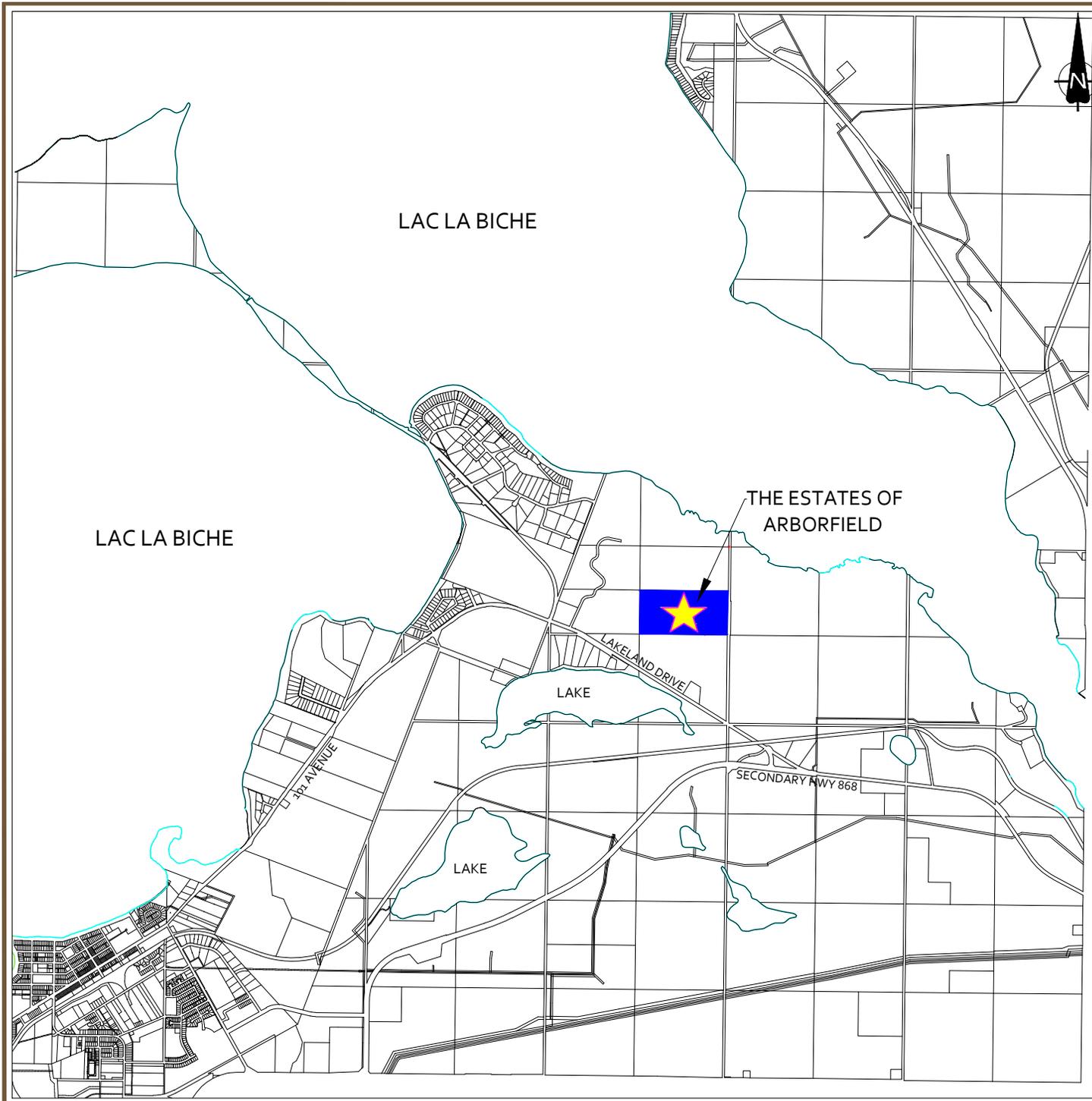


Figure 1  
Regional Context

## 1.7 Plan Rationale

The Hamlet of Lac La Biche is located 225 km northeast of Edmonton and falls within the jurisdiction of Lac La Biche County. The diverse economy of the region includes agriculture, manufacturing, forestry, service and retail trade, and tourism. Lac La Biche serves as major commercial centre and gateway to the north for the oil and gas



sector. With a strong provincial and regional economy, the County's strategic location makes it attractive from a residential and business development perspective. Lac La Biche County has seen unprecedented growth in recent years. The overall population saw 13% growth including a 20% increase in the rural areas between 2001 and 2006. This growth is further supported by the County's 2013 municipal census data indicating a permanent population of 9,094 from 8,402 in 2011<sup>1</sup> and an additional 3,126 temporary residents for a combined total of 12,220.<sup>2</sup> The regional trading population is approximately 16,500 and during the summer months the population increases to over 30,000 with cottagers and tourists visiting the area. The developer believes these trends will support the market for multi-lot residential estate development with future opportunities in the resource sectors. Shifting demographics are changing rural agricultural landscapes making this area attractive for residential housing because of its proximity to services in urban centres, such as Lac La Biche, and excellent access to recreational amenities that enhance the attributes of rural living with housing options.

---

<sup>1</sup> Lac La Biche Municipal Development Plan. June 2013 pg.3

<sup>2</sup> Lac La Biche County. County Municipal Census, July 2013.

## 2 Planning Context

---

The *Municipal Government Act* (RSA 2000, M-26) legislates municipal planning. Section 633 of the *Act* allows municipalities the power to adopt an ASP as a bylaw. This ASP has been prepared within the context of the approved statutory plans for Lac La Biche County, as well as other non-statutory master planning and servicing documents which provide guidance for future land use and development initiatives.

### 2.1 Lower Athabasca Regional Plan

Under the authority of the *Alberta Land Stewardship Act* (ALSA) and the *Alberta Land-use Framework* (ALUF,) the Lower Athabasca Regional Plan (LARP) was approved by the Government of Alberta in August 2012. The regional plan “identifies and sets resource and environmental management outcomes for air, land, water and biodiversity, and will guide future resource decisions while considering social and economic impacts.” ALSA requires that municipal planning including the Municipal Development Plan be compliant with the provisions of the regional plan. The ASP meets the general policies set for residential use and land development in the MDP as outlined in the following section.

### 2.2 Lac La Biche County Municipal Development Plan (MDP) Bylaw 13-020

The Lac La Biche County MDP Bylaw 13-020, *Map 6A*, designates the plan area for Residential Estate use. Part 4 of the MDP specifically addresses future residential development in the vicinity of the Hamlet of Lac La Biche. The policy encourages residential growth areas surrounding the Hamlet to protect from incompatible uses; and identifies opportunities for a diverse range of housing forms to meet residential demand from economic growth in the oil sands sector. The development expansion of land is to be handled efficiently and must ensure that environmentally sensitive areas are appropriately addressed. This ASP meets the general Residential Objectives stated in Part 6 Country Residential Development of the MDP to:

- Direct new multi-lot residential development to prescribed areas;
- Establish clear criteria for the development of multi-lot country residential subdivisions;
- Make more efficient use of existing infrastructure and improve service delivery; and
- Reduce the non-agricultural development footprint outside existing hamlets and established country residential nodes.

In accordance with the MDP, an environmental review, prepared by a qualified professional biologist or environmental specialist, accompanies the preparation of this ASP. The review identifies and assesses the environmental significance and sensitivity of existing vegetation, wetlands, other waterbodies and groundwater, alluvial aquifers, wildlife habitat and unique physical features. Reviews shall include appropriate measures for mitigating, enhancing and protecting environmentally sensitive and significant features, which may be incorporated into the subdivision and/or development review process. Subdivisions located in proximity to permanent water bodies or wetlands require that an Environmental Reserve be determined in accordance with *Riparian Setback Matrix Model*. Details of the review are provided under subsection 3.2.1.

### **2.3 Lac La Biche Lake Management Plan Area Structure Plan**

The Lac La Biche Lake Management Plan (LLBLMP) adopted under Ministerial Order #551/90 on August 16, 1990, provides policies and establishes a future development pattern for an area adjacent to the south shore of Lac La Biche. The LLBLMP was adopted as a Land Use Order by the Improvement District at the time, as a precursor to the preparation of a lake management plan, and is considered an Area Structure Plan under the previous *Planning Act*. Map 1 outlines the land use pattern for the plan area. The Arbor Fields ASP falls within the Rural Conservation Area, and establishes a predominant land use pattern that predates and is inconsistent with the current MDP. However, it provides management policies to maintain and enhance the natural resource and environment of the planning area. Among the relevant policies applicable to the Estates of Arbor Fields ASP are the requirements outlined under Section 3.1 for residential development include:

- sufficient quantity and quality of ground water;
- a setback of 35 metres from top of river and stream valley breaks;
- development prohibited on slopes in excess of 15%, and in or adjacent to areas characterized by unique vegetation species or fish and wildlife habitats;
- one single family dwelling per lot; and
- requirements for an historical resources impact assessment.

The Arbor Fields ASP complies with the outlined policies. Upon adoption of this ASP, this area will be removed from the Lac La Biche Management ASP and will be governed by this adopted Plan.

## 2.4 Lac La Biche County Land Use Bylaw (LUB) 12-024

The entire plan area was redistricted from Agricultural District (AG) to Serviced Estate District (ES2) on June 28, 2011 through Bylaw 11-012 as an amendment to the LUB. Future residential subdivision and development shall conform to the provisions of this district.

## 2.5 Other Relevant Planning Policies

### 2.5.1 Lac La Biche Watershed Management Plan, 2009

Sewage management, protecting the drinking water source and human development issues within the Lac La Biche watershed have made watershed management planning a priority for Lac La Biche County. In partnership with other stakeholders, the County developed a watershed management plan for the Lac La Biche Watershed. The plan strives to balance environmental, community and economic issues with government legislation for the protection and management of water resources. Consistent with the goals, objectives and recommendations of the Plan, the Estates of Arbor Fields ASP:

- ensures that the Riparian Setback Matrix Model is used for the development, where applicable;
- includes a groundwater availability and quality assessment; and
- includes a biophysical assessment of wetlands including values and compensation recommendations at the time of subdivision.

### 2.5.2 Public Consultation Summary

In addition to Section 636 of the MGA that details public notification requirements when a municipality is to approve a statutory plan, the developer carried out a public consultation in accordance with Lac La Biche County's *Policy No. PI-61-001 – Consultation Requirements for Planning and Development Processes*. The purpose of the policy is to increase public involvement in planning and development to “*inform decisions making, increase understanding, acceptance and ensure more enduring solutions.*” Two public open houses were hosted at the Bold Centre that provided a conversation space for adjacent landowners and the general public to provide comments on the overall development concept. The open houses were advertised for two consecutive weeks in the local paper.

The first open house was held on July 20, 2015 from 5:00 pm to 7:00 pm. Three (3) people attended, with only one attendee an adjacent landowner, while two were from the general public. One participant during the open house had questions about absorption rates and the economic viability of such a development given the economic situation. No concerns about the development were received.

A second open house was held on April 20, 2016 from 6:00 pm to 7:30 pm. Two people attended, both representatives from the County administration. No additional comments were received either in person, via email or phone regarding the proposed plan.

## 3 Site Analysis & Development Suitability

---

### 3.1 Topography and Drainage

The dominant landform is undulating, high relief with a limiting slope of 4%. The general topography in the plan area slopes from the northeast to the southwest. Elevations range from approximately 587 m (above sea level) along the east most boundary to 583 m (above sea level) at the west boundary. Existing vegetation, topographic and drainage characteristics are illustrated in **Figure 2 – Existing Topography**, **Figure 3 – Natural Features**, and **Figure 4 – Site Photos**.

### 3.2 Natural Features

The site is located in the Boreal Forest Natural Region, Central Mixedwood Natural Subregion of Alberta. The Boreal Forest Natural Region occupies most of northern Alberta, and extends south almost to Calgary. The plan area consists of three major vegetation community types: Boreal Mixedwood stands; wetland site and pasture, mature willows and a dugout in the rest of the area. At present, the majority of the plan area is undeveloped consisting of pasture land for cattle and vegetation consisting of upland grasses, clover and thistle. Three low lying areas within the plan boundary show the characteristics and features of wetlands and required a further investigation through a Biophysical Overview and Wetland Assessment Impact Report (WAIR), draft dated January 29, 2016 prepared by Green Plan Ltd., as summarized below. The main purpose for undertaking a Biophysical Overview and WAIR was to satisfy the requirements of municipal policy and bylaws, and provincial requirements under the *Water* and *Public Lands Acts*.

#### 3.2.1 Biophysical Overview and Wetland Assessment

The proposed plan area overlaps three wetlands, and therefore has the potential to trigger the *Provincial Water Act* and *Provincial Public Land Act*. The *Water Act* requires an approval for construction activities that disturb, alter, infill or drain a watercourse, as such applications must be supported by a Wetland Assessment and Impact Report (WAIR). The *Public Lands Act* regulates the bed and shore of all permanent and naturally occurring water bodies. Three wetlands were delineated within the study area. As per the Alberta Wetland Classification System, 2015, the delineated boundaries are provided in the WAIR in the appending documents. The three wetlands total an area of 0.365 ha, and are identified as:

- W1- a graminoid fen of 0.227 ha;
- W2- includes a temporary marsh of 0.0811 ha and a wooded deciduous swamp of 0.0102 ha; and
- W3- is a temporary marsh of 0.0471 ha.

An authorization is required under the *Water Act* for disturbance to the wetlands. In accordance with the Alberta Wetland Policy, 2013, wetlands are assigned to one of the four relative wetland value categories (A {highest} through D {lowest}). These categories reflect the importance of a wetland on the landscape, both from an ecological and human perspective. The Policy focuses on avoidance and minimization of impacts on all wetlands, regardless of their relative value category. For those wetlands on the property that are proposed to be disturbed, the wetland loss may either be replaced by the proponent (constructed compensation wetlands, with monitoring), or in-lieu compensation may be paid to Ducks Unlimited Canada (DUC). The requirements and expectations for wetland replacement should be discussed with Alberta Environment at the time of subdivision. The Assessment concludes that if wetland disturbance can be avoided, the largest and highest quality wetlands should be considered for conservation, in this case wetland 3 (f-g). For the wetland, the developer shall register an Environmental Conservation Easement at the time of subdivision to protect the wetland features. The Environmental Conservation Easement shall surround the entire wetland within the Lot (Lot 36) and include a minimum 5.0m development buffer. This Environmental Conservation Easement shall restrict development within this area and conserve the wetland features. The location of the Environmental Conservation Easement is shown on **Figure 6 – Development Concept**.

SE DESIGN AND CONSULTING INC. received verbal acceptance of the wetland assessment from Alberta Environment through the preparation of this area structure plan. Written approval was not provided at the time this document was adopted by Lac La Biche County. This Plan approval proceeded without the benefit of written approval from Alberta Environment, this documentation shall be required for future subdivision applications to be submitted to Lac La Biche County.

The Alberta Wetland Rapid Evaluation Tool is used to determine the relative value of each wetland. Alberta Environment may make further recommendations about compensation at the time of subdivision approval. The potential for the Crown to claim these wetlands as per the *Act* is nil. As outlined in the *Biophysical and Wetland Assessment & Impact Report* prepared by Green Plan Ltd. for this Plan, W2 (Wetland 2) is as 'A' value wetland resulting in a replacement value of 0.7304 ha to be paid when the phase that incorporates this wetland location is subdivided. The Assessment report makes further recommendations regarding the general development and construction of the subdivision with respect to surface and ground water, vegetation and habitat conservation, and design.

There are no other significant natural features are located in the plan area.

### 3.3 Geotechnical Conditions

A site specific preliminary geotechnical investigation was carried out by Solid Earth Geotechnical and summarized in a report dated June 16, 2015. A series of 12 boreholes were drilled ranging between 4.3 and 5.8 m below the existing ground surface at various locations on the site. The report summarizes the general soil and groundwater conditions and provides an assessment for site development, grading, residential construction, the construction of roadways, the installation of sewer and water systems and the construction of stormwater management facilities. The investigation found a variation of conditions throughout the site. The report concludes that the site is generally suitable for the proposed residential development and provides a number of standards and recommendations for the noted conditions to be considered at the time of development for specific improvements. The full report is provided in the Appendix documenting in more detail any recommendations or any further geotechnical investigations within the plan area.

### 3.4 Historical and Cultural Resources

Based on a referral to Alberta Culture and Tourism, the Historical Resources Management Branch indicated the site has low potential for archaeological or paleontological resources. Alberta Culture and Tourism provided approval to proceed with the development under the *Historical Resources Act* in a letter dated April 17, 2015, and is provided in the appending documents. The standard approval provides terms and conditions under the provisions of the *Act* for developers that requires further reporting and compliance should any historic resources be discovered during the time of land disturbances.

### 3.5 Adjacent Land Uses and Impacts

The plan area is surrounded by uses that generally include agriculture, forests and country residential. The adjacent land uses abutting the plan area are outlined below:

- North – Crown Land; and
- East, South and West – The lands are districted as Agricultural.

Areas to the east also include the remaining portion of the subject quarter and are districted as Serviced Residential Estate 2 and Agriculture, and lie outside of the plan area boundary. Refer to **Figure 5 – Existing Districting** for an illustration.

### *3.5.1 Resource and Pipeline Constraints*

Preliminary investigations in preparation for this plan indicate that no sour gas facilities are present in the vicinity of the proposed development. There are no resource related and underground pipelines that restrict development. This assessment is provided by the Alberta Energy Regulator, and is available in the Appendix.

The Estates of  
Arborfield  
NE 15-67-13-4  
Area Structure Plan  
Lac La Biche County

Legend:

 - DEVELOPMENT BOUNDARY

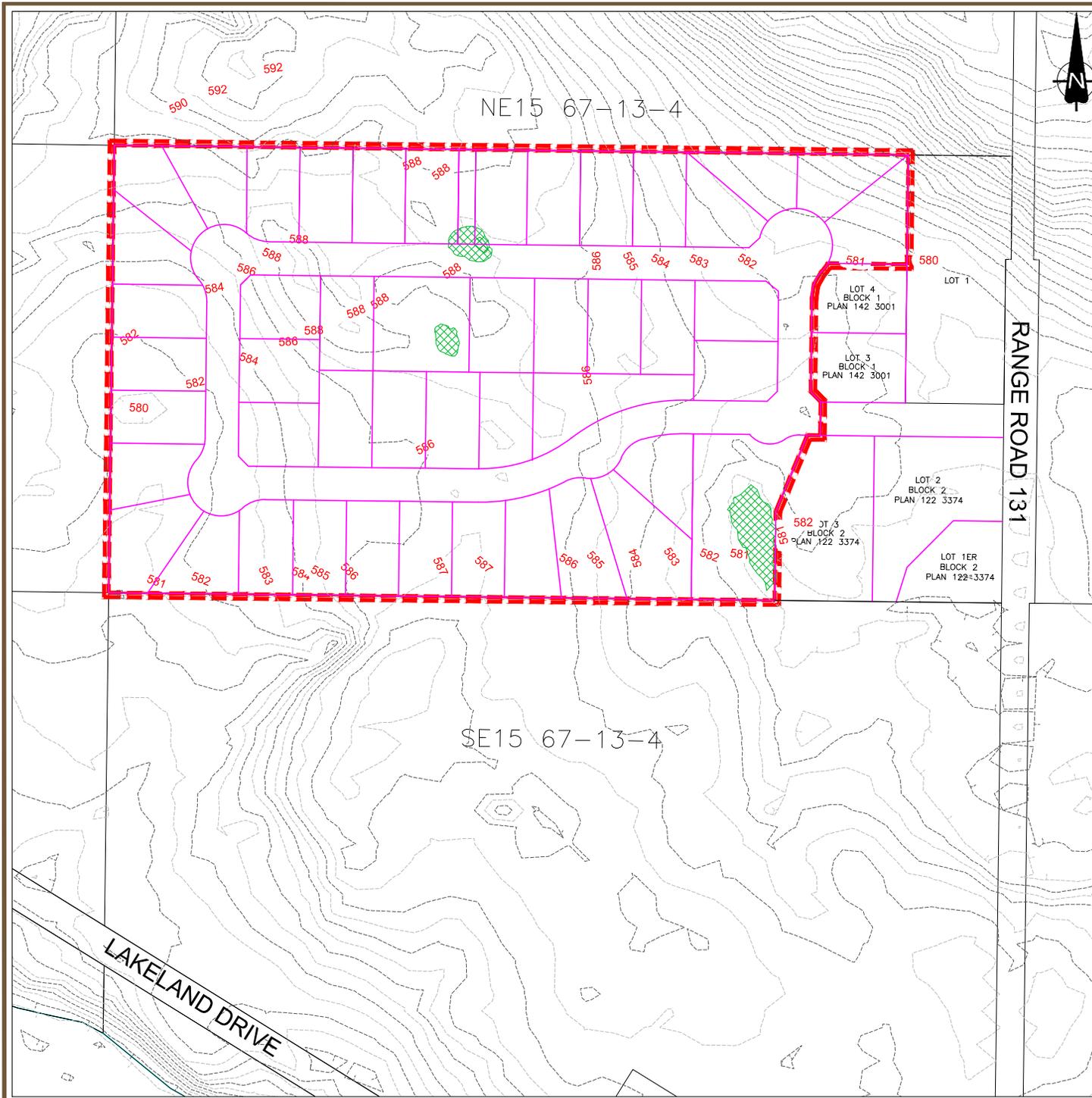
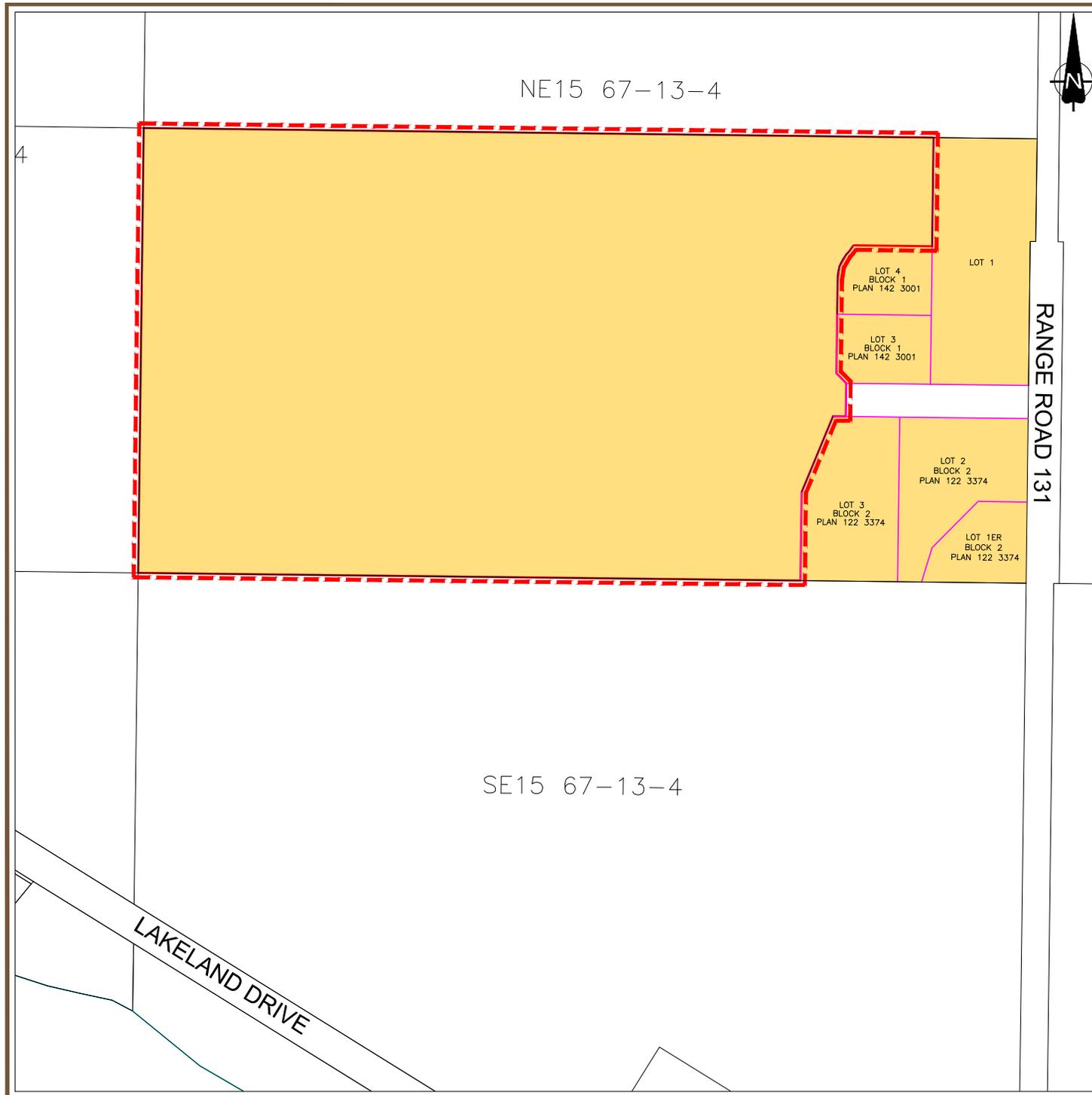


Figure 2  
Existing Topography





Figure 4 – Site Photos



The Estates of  
Arborfield  
NE 15-67-13-4  
Area Structure Plan  
Lac La Biche County

Legend:

- - - DEVELOPMENT BOUNDARY
- - ES2 - SERVICED ESTATE RESIDENTIAL DISTRICT 2

Figure 5  
Existing Districting

## 4 Development Concept

The proposed development concept is illustrated in **Figure 6**. Table 1 demonstrates a breakdown of the proposed land uses, and Table 2 outlines the demographic and density profile.

**TABLE 1  
LAND USE DISTRIBUTION**

	Area (ha)	% of GDA
<b>Gross Development Area</b>	25.78	
Less Environmental Reserve	0	0
<b>Net Developable Area</b>		
Roadways	4.72	18%
Public Parks (MR)	0.13	0.5%
Public Utility Lots	1.67	6.5%
Residential Estate	19.26	75%
Total Area	25.78	100%

**TABLE 2  
DEMOGRAPHIC AND DENSITY PROFILE\***

	Area	Units	%	People/Unit*	Population
Residential Estate	19.26	45	38.46	2.6	117

\*Stats Canada 2011 Census: Average Household Size for Alberta

Net Residential Density (NRD): 2.5

# The Estates of Arborfield

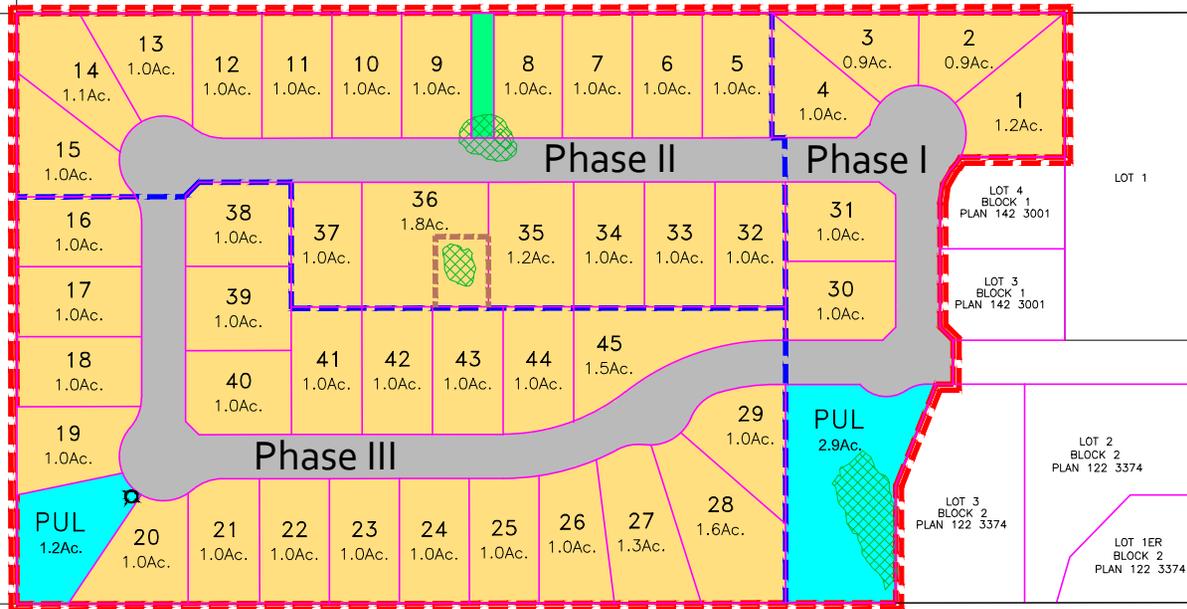
## NE 15-67-13-4

### Lac La Biche County

#### Area Structure Plan



NE15 67-13-4



RANGE ROAD 131

SE15 67-13-4

LAKELAND DRIVE

### Legend:

- DEVELOPMENT BOUNDARY
- PHASE BOUNDARY
- RESIDENTIAL ESTATE
- PUBLIC OPEN SPACE
- PUL -PUBLIC UTILITY LOT
- WETLAND
- DRY HYDRANT
- ENVIRONMENTAL CONSERVATION EASEMENT (LOT 36)

Table 1

LAND USE DISTRIBUTION		
	Area (ha)	% of GDA
ASP Development Area	25.78	100
Net Development Area		
Roadways	4.72	18.31
Public Utility Lot	1.67	6.48
Country Residential	19.26	74.71
Public Open Space	0.13	0.50
Total Development Area	25.78	100

Table 2

DEMOGRAPHIC PROFILE					
	Area (ha)	Units	%	People/Unit	Population
Country Residential	19.26	45	38.46	2.6	117
Density pp/gda = 2.51					

## Figure 6

### Development Concept

SE DESIGN AND CONSULTING INC.

## 4.1 Future Land Uses

The proposed development concept will consist of single detached residences in a country residential setting on 25.78 hectares with 0.13 hectares of land dedicated for public open space.

### 4.1.1 Residential Policies

**Subdivision Applications** Figure 6 - Development Concept proposes to use the entire plan area to create 45 residential lots and ancillary uses that will be developed in three (3) phases. Future subdivision phasing shall be consistent with Figure 6. The proposed residential development concept conforms with the County of Lac La Biche MDP.

**Shall be according to Figure 6 - Development Concept**

**Serviced Estate Residential District 2 Land Use** The future land use shall be phased in as Serviced Estate Residential. Although the provision of water is to be handled on an individual lot basis, as future water services become available, lot owners shall be required to connect to municipal infrastructure.

**Fire Risk and Mitigation** With respect to adjacent land use, density, access (right-of-way width, travel surface, emergency access), and public utilities (enough available water for fire suppression), it is encouraged that residential lots sizes and widths conform to the Fire Smart guidelines to mitigate risk from the spread of wildfire.

### 4.1.2 Parks and Open Space

The plan includes one (1) site to be used as a linear walkway. There are no areas identified for Environmental Reserve (ER) dedication for the development.

#### 4.1.2.1 Municipal Reserve Policies

**Municipal Reserve (MR)** The MGA specifies that 10% of the development lands be dedicated as MR. The proposed development designates 0.13 hectares to be retained as Municipal Reserve (MR) upon subdivision approval. This requires that the remaining 2.65 hectares for this plan area be provided to the County as cash-in-lieu.

**Configuration of  
Municipal Reserve(MR)**

The MR is strategically located to provide a pedestrian connection onto adjacent lands. Where storm water facilities are located, open space will be designed and constructed surrounding these facilities in such a way to contribute to the overall visual quality. No centralized park area is planned since lot sizes provide adequate open space for residents.

## 4.2 Transportation

### 4.2.1 Roadway Network Policies

**Access**

One vehicular access point is provided to the plan area, located at the east boundary from an existing access that connects onto Range Road 131 going south onto Lakeland Drive (Secondary Highway 868). A Traffic Impact Assessment (TIA) is not required in preparation of this plan since it is located more than 800 m from a provincial highway.

**Internal Road Layout**

The internal road layout includes one local road that loops around the development area providing access to individual lots. The road shall be constructed according to the County's General Municipal Servicing Standards (GMSS). An illustration of a road cross section for the development is provided in the appending documents as per the County's standards. The cross section requires a 30 metre road right-of-way for this type of residential development. The layout of the roadway network is shown in **Figure 6 – Development Concept**.

## 4.3 Utilities

### 4.3.1 Storm Water Management and Facilities (SWMF) Policies

The site's drainage will be designed for two principle catchment areas with two storm water management facilities (SWMF). These facilities will generally be connected through overland flows.

**Storm Water  
Management Plan**

The plan will include the submission of a storm water management plan that shall meet Alberta Environment's storm water management guidelines for water quantity and quality. Alberta Environment requires storm water discharges from new development to be restricted to

predevelopment flows. Storm water facilities will be designed to minimize water quality degradation including the release of hydrocarbons into the lake. The design of all facilities for storm water management will meet all provincial requirements. Included in the design is a dry hydrant to allow the use of pump truck should it be required. A typical dry hydrant design is provided in the appending documents for illustration.

**Preliminary Layout  
According to Figure 7 –  
Storm Water Collection  
System**

The preliminary layout of the proposed storm water management system is shown in **Figure 7 – Storm Water Collection System**. The exact location and details of the size and drainage outlet will be determined at the subdivision stage for approval by the County and Alberta Environment.

**Storm Water  
Management Facility  
(SWMF) Design**

The design of the SWMF will be enhanced to support habitat in the area and its visual quality. This may be accomplished through plantings that support wildlife and birds that rely on wetlands and marshes. The layout and design of the SWMF will also provide visual amenities for passive recreational uses.

**Drainage**

All site grading and drainage plans within the ASP boundary will be prepared in accordance with the storm water management plan and based on the preliminary designs shown in **Figure 7 – Storm Water Collection System**. The drainage is designed to follow predevelopment flows, rates, and existing patterns.

**Public Utility Lot (PUL)**

Storm Facilities shall be acquired by the County as Public Utility Lots in the plan area.

The Estates of  
 Arborfield  
 NE 15-67-13-4  
 Area Structure Plan  
 Lac La Biche County

Legend:

-  - DEVELOPMENT BOUNDARY
-  - PROPOSED STORM FLOW
-  - STORM WATER POND LOCATION
-  - NATURAL STORM FLOW
-  - STORM CATCHMENT BOUNDARY

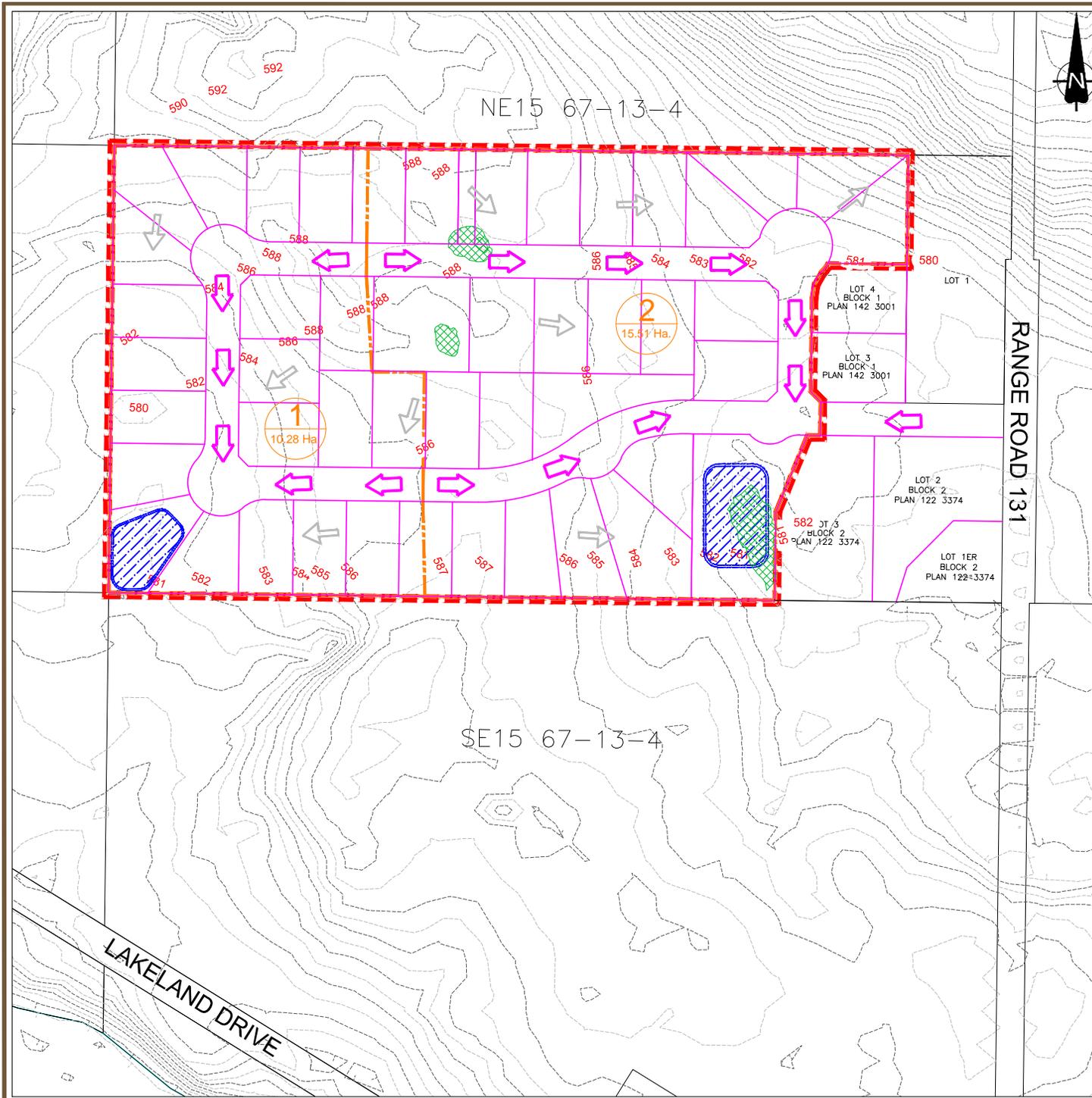


Figure 7  
 Storm Water  
 Collection System

#### 4.3.2 Waste Water Collection System (Sanitary) Policies

**On-Site Treatment of Waste Water (Sanitary)** Sewage using holding tanks shall be permitted for the interim prior to a future municipal sanitary system. The sanitary sewer system is intended to be designed as a rural low pressure service using a Septic Tank Effluent Pump System (STEP). This system requires an on-site septic tank for each individual lot that will receive sewage flow from the house. Using a septic tank and pump the system effluent will be pumped in to a pressurized sewer main located within the road allowance. Until this system is in place, the sewage will have to be removed by individual home owners.

**Future Municipal Connection** The sewer system requirements, final connection location and phasing strategy will have to be determined in consultation with Lac La Biche County. Any connection fees to municipal services will be established according to existing agreements or negotiated at the time of development by Lac La Biche County and in accordance with the County's General Municipal Servicing Standards (GMSS).

**Future Sanitary Figure 8 – Sanitary Sewer System** – The preliminary layout of the proposed sanitary sewer system is illustrated in **Figure 8 – Sanitary Sewer System**. The sanitary system components will be of appropriate size and depth, carried throughout the development and extend to the edge of the ASP at the east boundary, as determined acceptable by the County. The wastewater collection system will use a pressure sewer (STEP) system and will flow toward the sewage system connection.

#### 4.3.3 Water Supply and Distribution Policies

**Water Supplied by Individual Lots** At this time, the provision of water will be handled by owners on an individual lot basis. Individual landowners may consider the construction of cisterns to ensure consistent water quality until such time a potable water distribution system is supplied by the County.

**Future Municipal Connection**

The water distribution system requirements, final connection location and phasing strategy will have to be determined in consultation with Lac La Biche County. Any connection fees to municipal services will be established according to existing agreements or negotiated at the time of development by Lac La Biche County and in accordance with the County's General Municipal Servicing Standards (GMSS).

**Future Water Supply and Distribution Design According to Figure 9 – Water Distribution System**

The ASP contemplates one future connection to a line located along the east boundary at Range Road 131, as per **Figure 9 – Water Distribution System**. Based on a preliminary analysis carried out in preparation for the plan this connection should provide adequate service for the additional dwelling units associated with the development.

4.3.4 Shallow Utilities Policies

**Utility Right of Ways**

Natural gas, telephone, cable, and power servicing for the proposed development will be installed within the proposed road rights of way and provided for during the subdivision approval process via subdivision registration and upon entrance into a development agreement with Lac La Biche County. The proposed shallow utilities will be extended from existing utilities adjacent to the property and accommodated during the development through Utility Right of Way agreement. A 6.0 metre right-of-way shall be required within the front property line of each lot for the installation of franchised services.

**Franchised Agreements**

The franchised services to the area will be provided through agreements established with the developer.

The Estates of  
 Arborfield  
 NE 15-67-13-4  
 Area Structure Plan  
 Lac La Biche County



Legend:

- - - - DEVELOPMENT BOUNDARY
- - - - PROPOSED SANITARY

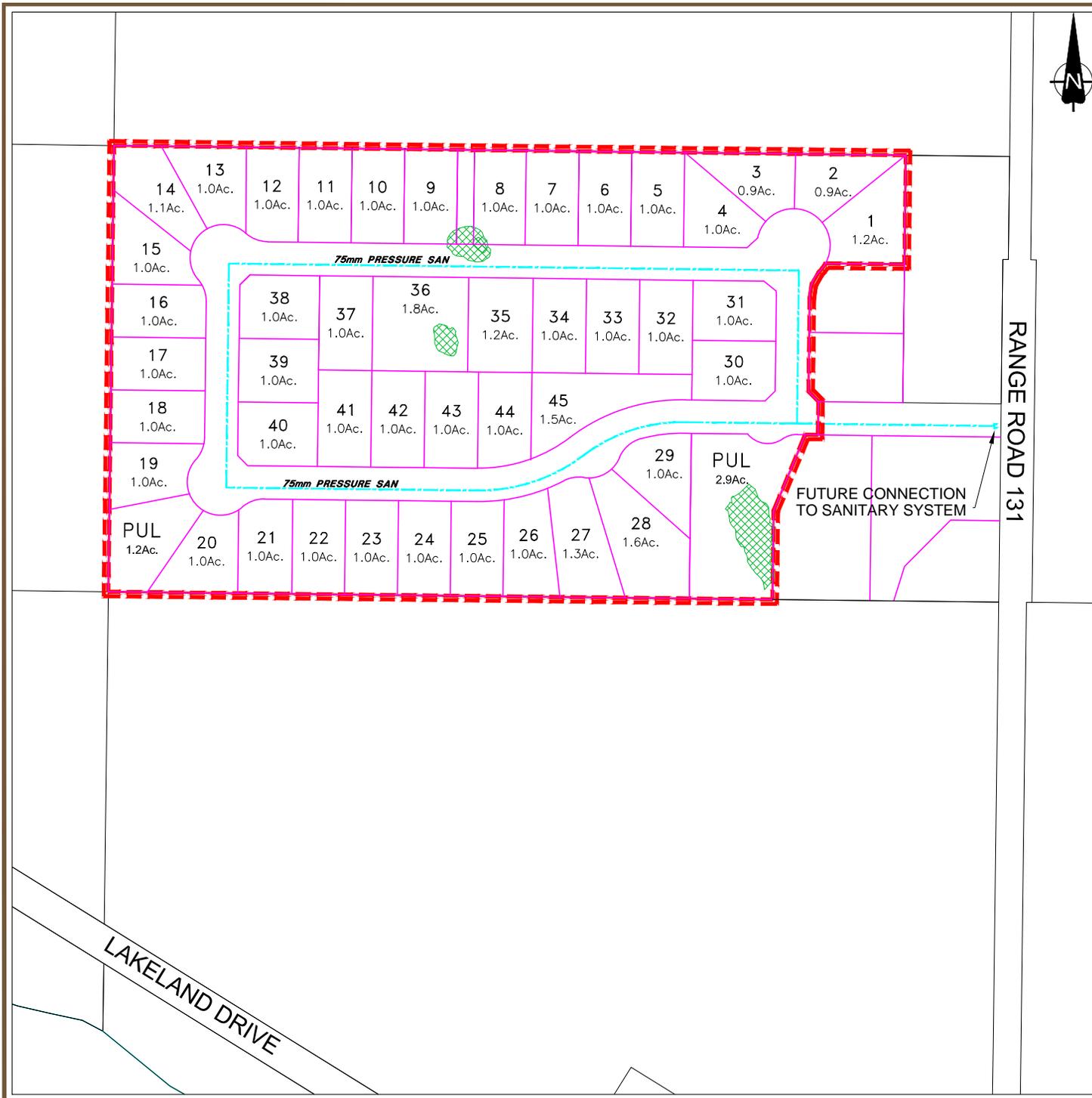


Figure 8  
 Sanitary Sewer  
 System

The Estates of  
 Arborfield  
 NE 15-67-13-4  
 Area Structure Plan  
 Lac La Biche County



Legend:

- - - - DEVELOPMENT BOUNDARY
- - - - PROPOSED WATER

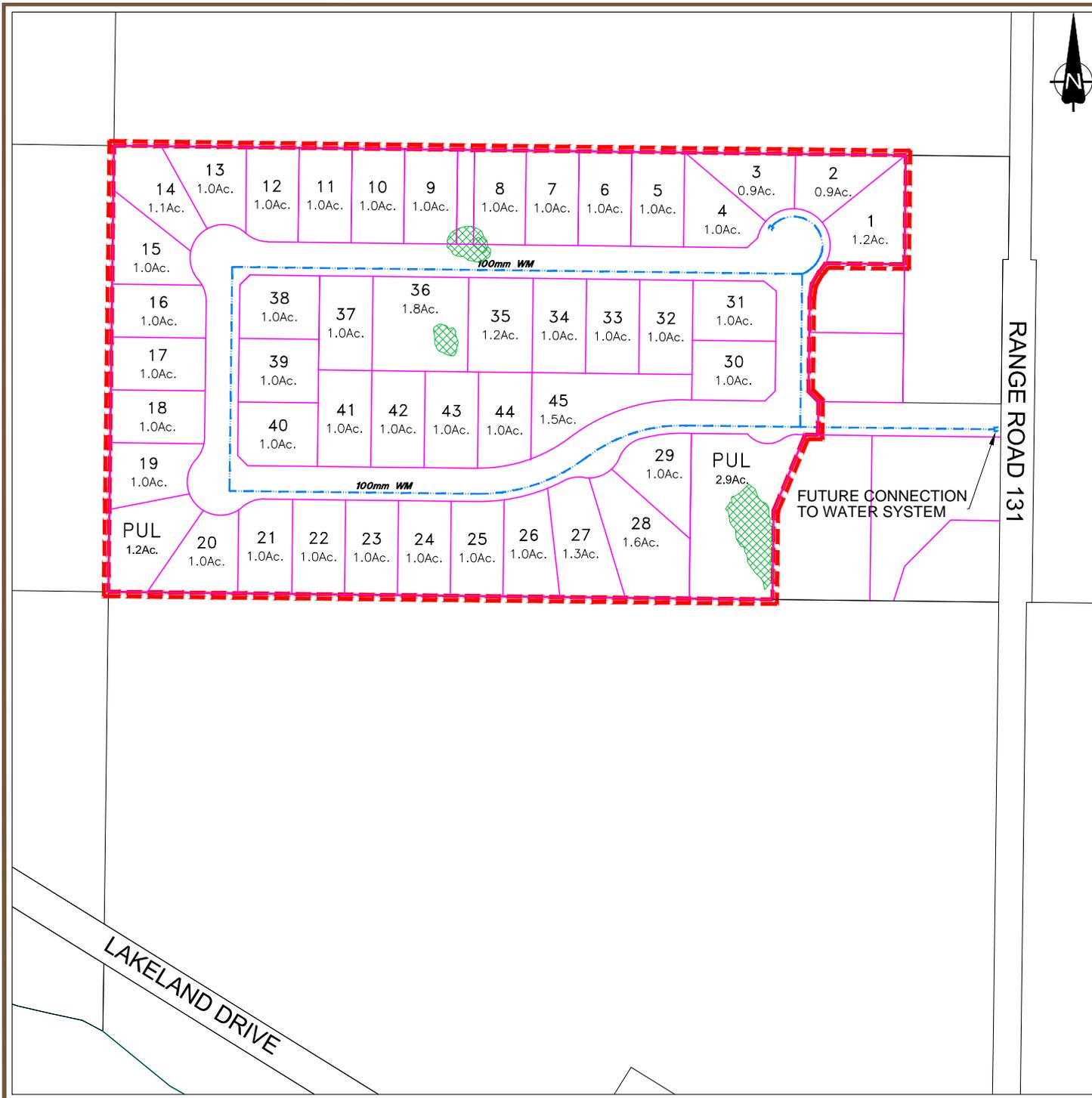


Figure 9  
 Water Distribution  
 System

## 4.4 Community Services

### 4.4.1 Emergency Services

Fire service for the proposed development will be provided from the Hamlet of Lac La Biche Fire Stations. The County provides policing services to the area for bylaw enforcement and the Traffic Act. Other policing services are provided from the RCMP detachment located in the Hamlet of Lac La Biche and is provided for this location through existing agreements. Ambulance service will be provided from the William J. Cadzow Community Health Centre, located in the Hamlet of Lac La Biche.

### 4.4.2 Solid Waste and Recycling

The plan area will include curbside waste and recycling pick-up service that is the same as in the Hamlet of Lac La Biche for all residential properties.

### 4.4.3 Schools

Based on the information provided by the relevant school authorities, public schools for students of this area are provided by the following school districts:

- Northern Lights School Division No. 69; and
- East Central Francophone Education Region (ECER) #3Ecole.

Referrals shall be made to individual school authorities to confirm if school reserve dedication is necessary prior to the time of ASP approval.

## 5 Implementation

---

### 5.1 Development Phasing

It is anticipated that the development will be built out in three (3) phases. Phasing will proceed with the east portions including lots 1 to 4, 30, 31 and a PUL, then it will proceed with areas in the northwest and conclude with the southwest portion. The timing will be dictated by market conditions. See **Figure 6 – Development Concept** for the anticipated development phases.

### 5.2 Redistricting and Subdivision

All subsequent redistricting and subdivision applications shall be in accordance with the land uses prescribed in the ASP.

## Appendix

# **AER**

## **Land Development Information Package**

**For**

**NE-15-067-13W4**

For mapping purposes only; not to be used for digging or excavation purposes.

Please contact Licensee directly for questions or clarifications about the infrastructure or corresponding information. If you don't know the Licensee's contact information or are dissatisfied with the Licensee's response, please contact the AER Customer Contact Centre at 1-855-297-8311.

## AER LDIP - Pipelines Lookup Report

Note: Licence No. labels are in Black

Licence No.	Line No.	From Location	To Location	Status	Substance	Licensee
11652	3	6-10-67-13-4	7-6-67-13-4	Operating	Natural Gas	Lac La Biche County
11652	6	11-9-67-13-4	6-10-67-13-4	Operating	Natural Gas	Lac La Biche County
11652	7	6-10-67-13-4	6-10-67-13-4	Operating	Natural Gas	Lac La Biche County
20522	2	6-10-67-13-4	6-10-67-13-4	Operating	Natural Gas	Chinook Energy Inc.
20522	5	6-10-67-13-4	6-10-67-13-4	Operating	Natural Gas	Chinook Energy Inc.
47966	1	4-7-67-12-4	6-10-67-13-4	Operating	Natural Gas	Chinook Energy Inc.
47966	4	1-10-67-13-4	6-10-67-13-4	Operating	Natural Gas	Chinook Energy Inc.
47966	5	3-13-67-13-4	6-11-67-13-4	Operating	Natural Gas	Chinook Energy Inc.

## AER LDIP - Wells Lookup Report

Notes: Licence No. labels are in Green.

<b>Sour H2S Wells</b>			
<b>Licence No.</b>	<b>Status</b>	<b>Surface_Location</b>	<b>Licensee</b>
		N/A for this AOI	
<b>Sweet H2S Wells</b>			
<b>Licence No.</b>	<b>Status</b>	<b>Surface_Location</b>	<b>Licensee</b>
0263119	Abandoned	06-10-067-13W4	Canadian Natural Resources Limited
0263129	Abandoned	07-15-067-13W4	Canadian Natural Resources Limited
<b>Unknown H2S /Historial Wells</b>			
<b>Licence No.</b>	<b>Status</b>	<b>Surface_Location</b>	<b>Licensee</b>
0016244	Abandoned Gas	06-10-067-13W4	Canadian Natural Resources Limited
0034054	Abandoned	07-15-067-13W4	Talisman Energy Inc.
0090383	Abandoned	02-14-067-13W4	Talisman Energy Inc.

**AER LDIP - Facility List Lookup Report**

*Notes: Reporting Facility ID labels are in Blue.*

Reporting Facility ID	Licence Type	Licence No.	Status	Sub-type	LE	LSD	Sec	Twp	Rge	Mer	Operator
ABGS0002988			Active	Gas Gathering System		6	10	67	13	4	Chinook Energy Inc.

## AER LDIP - Incidents and Complaints Lookup Report

Note: Incident No. labels are in Brown

The Licensee name is at the time of Incident submitted.

Complaints									
Incident No.	Licence No.	Licence Type	Qtr	LSD	Sec	Twp	Rge	Mer	Licensee
		N/A for this AOI							
Release - Other Substance									
Incident No.	Licence No.	Licence Type	Qtr	LSD	Sec	Twp	Rge	Mer	Licensee
		N/A for this AOI							
Release - Fresh Water									
Incident No.	Licence No.	Licence Type	Qtr	LSD	Sec	Twp	Rge	Mer	Licensee
		N/A for this AOI							

## AER LDIP - Coal Mine Permits Lookup Report

*Note: Coal Mine No. labels are in Pink*

Coal Mine No.	Permit No.	Status	Owner
			N/A for this AOI

## AER LDIP - Coal Mines Lookup Report

*Note: Coal Mine No. labels are in Violet*

Coal Mine No.	Status	Owner
		N/A for this AOI

Via e-mail: [mniles@cantega.com](mailto:mniles@cantega.com)

May 5, 2015

Project File 4835-15-0058  
OPaC Application 006638653

Marty Niles  
Cantega Technologies  
100, 17866 – 106A Avenue  
Edmonton, AB T5S 1V3

Dear Mr. Niles:

**SUBJECT: HISTORICAL RESOURCES ACT (HRA) APPROVAL 4835-15-0058-001  
APPLICANT - MARTY NILES  
AREA STRUCTURE PLAN  
NE ¼ OF SECTION 15, TOWNSHIP 67, RANGE 13, W4M**

Alberta Culture and Tourism (CT) has reviewed the potential for activities associated with subdivision development in the NE ¼ of Section 15-67-13-W4M to impact historic resources and has determined that Historic Resources Impact Assessment studies are not required.

### ***HISTORICAL RESOURCES ACT (HRA) APPROVAL***

*Historical Resources Act (HRA) approval is granted for the lands included within the proposed Area Structure Plan as illustrated on the attached Land Use Concept map. For reference purposes this approval is identified as HRA Approval 4835-15-0058-001. The lands subject to this approval are illustrated in Appendix "A".*

#### **Terms and conditions of approval**

The applicant and agents representing the applicant must comply with standard conditions under the *HRA* applicable to all land surface disturbance activities in the Province, requiring applicants to report the discovery of historic resources. These requirements are stated in Attachment 1: *Standard Requirements under the Historical Resources Act, Reporting the Discovery of Historic Resources*.

Should you require additional information or have any questions concerning this approval,

Mr. Marty Niles  
May 5, 2015  
Page 2

HRA Approval 4835-15-0058-001  
NE-15-67-13-W4M Area Structure Plan

please contact Dean Wetzel (Land Use Planner) at 780-431-2332 (toll-free 310-0000) or [dean.wetzel@gov.ab.ca](mailto:dean.wetzel@gov.ab.ca).

Sincerely,



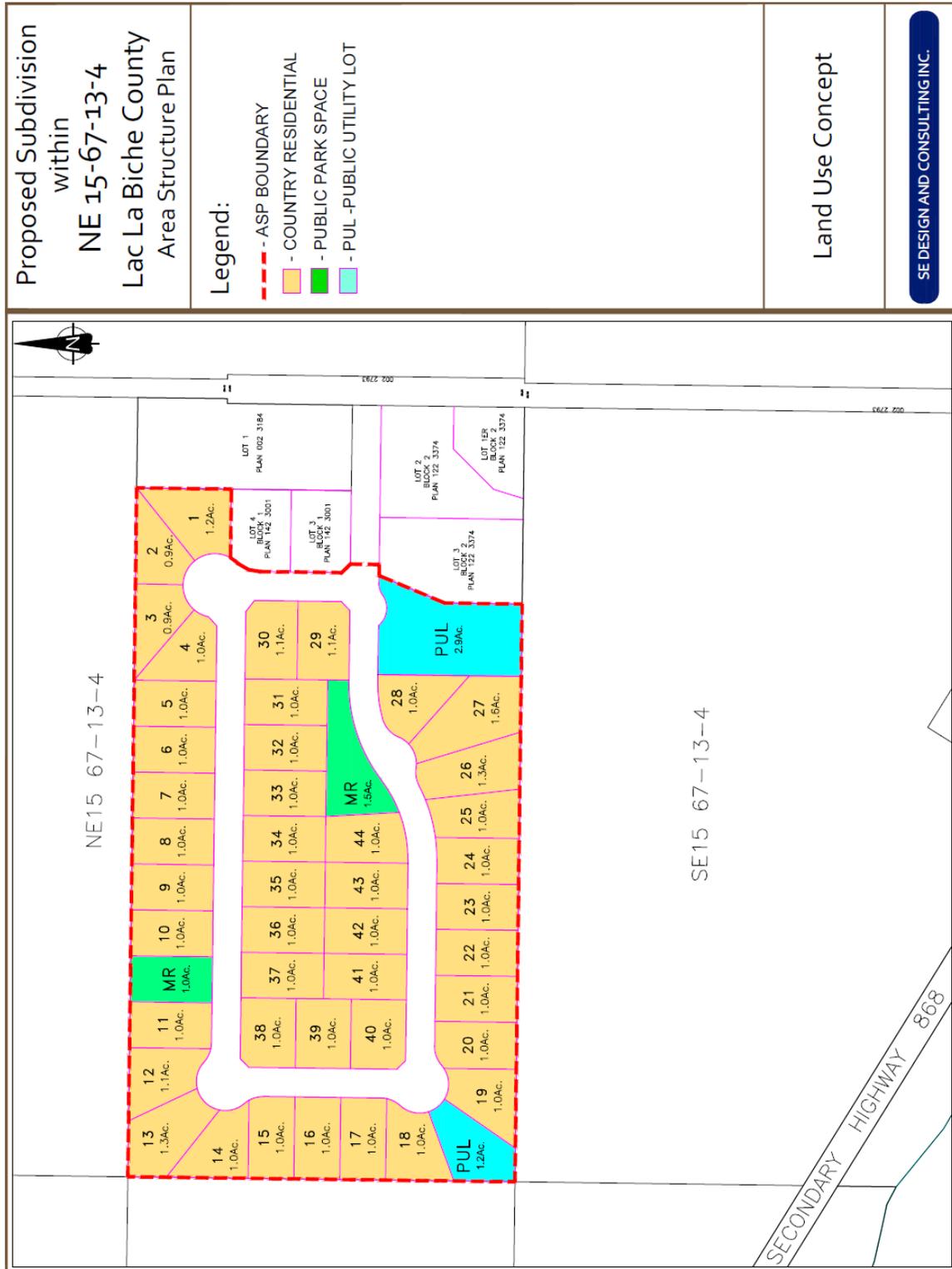
Dean Wetzel  
Land Use Planner

Attachments

cc: Karolina Drabik, SE Design & Consulting Inc. ([kdrabik@me.com](mailto:kdrabik@me.com))

HRA APPROVAL 4835-15-0058-001

APPENDIX "A"



## ATTACHMENT 1

### STANDARD REQUIREMENTS UNDER THE *HISTORICAL RESOURCES ACT* REPORTING THE DISCOVERY OF HISTORIC RESOURCES

---

Pursuant to Section 31 of the *Historical Resources Act*, Proponents are required to report the discovery of historic resources. These requirements are applicable to all activities in the Province. This bulletin provides Proponents and their agents with instructions for contacting the Heritage Division of Alberta Culture and Tourism. “Proponent” includes agents acting on behalf of the Proponent.

#### 1.0 ARCHAEOLOGICAL RESOURCES

##### 1.1 Reporting the discovery of archaeological resources

During the conduct of developments, Proponents may become aware of and/or encounter archaeological resources. The discovery of archaeological resources is to be reported to Martina Purdon, Head, Archaeological Information and Regulatory Approvals at 780-431-2331 (toll-free 310-0000) or e-mail [martina.purdon@gov.ab.ca](mailto:martina.purdon@gov.ab.ca).

#### 2.0 PALAEOLOGICAL RESOURCES

##### 2.1 Reporting the discovery of palaeontological resources

During the conduct of developments, Proponents may encounter palaeontological resources. The discovery of palaeontological resources is to be reported to Dan Spivak, Head, Resource Management, Royal Tyrrell Museum of Palaeontology at 403-820-6210 (toll-free 310-0000) or e-mail [dan.spivak@gov.ab.ca](mailto:dan.spivak@gov.ab.ca).

#### 3.0 HISTORIC PERIOD SITES

##### 3.1 Reporting the discovery of historic period sites

During the conduct of developments, Proponents may become aware of and/or encounter historic period sites. The discovery of historic period sites is to be reported to Martina Purdon, Head, Archaeological Information and Regulatory Approvals at 780-431-2331 (toll-free 310-0000) or e-mail [martina.purdon@gov.ab.ca](mailto:martina.purdon@gov.ab.ca). Some historic period sites may also be considered Aboriginal Traditional Use Sites.

...continued

## ATTACHMENT 1 REPORTING THE DISCOVERY OF HISTORIC RESOURCES

---

### 4.0 ABORIGINAL TRADITIONAL USE SITES

#### 4.1 Reporting the discovery of Aboriginal traditional use sites

During the conduct of consultation processes and/or activities associated with developments, Proponents may become aware of and/or encounter Aboriginal Traditional Use Sites which Alberta Culture may consider as historic resources under the *Historical Resources Act*. A listing of Aboriginal Traditional Use Sites considered as historic resources under the *Historical Resources Act* is provided in Attachment 2: *Aboriginal Traditional Use Sites*. The discovery of any Aboriginal Traditional Use Site that is of a type described in Attachment 2 is to be reported to Valerie Knaga, Director, Aboriginal Heritage Section at 780-431-2371 (toll-free 310-0000) or e-mail [valerie.k.knaga@gov.ab.ca](mailto:valerie.k.knaga@gov.ab.ca).

### 5.0 FURTHER SALVAGE, PRESERVATIVE OR PROTECTIVE MEASURES

Based upon the results of reporting of the discovery of archaeological resources, palaeontological resources, historic period sites and/or Aboriginal Traditional Use Site(s) of a type described in Attachment 2, Proponents may be ordered to undertake further salvage, preservative or protective measures or take any other actions that the Minister responsible for the *Historical Resources Act* considers necessary.

This attachment may be cited as:

***Standard Requirements under the Historical Resources Act, Reporting the discovery of historic resources.*** Land Use Planning, Historic Resources Management Branch, Heritage Division, Alberta Culture and Tourism, Edmonton, Alberta.

Updated: October 1, 2014

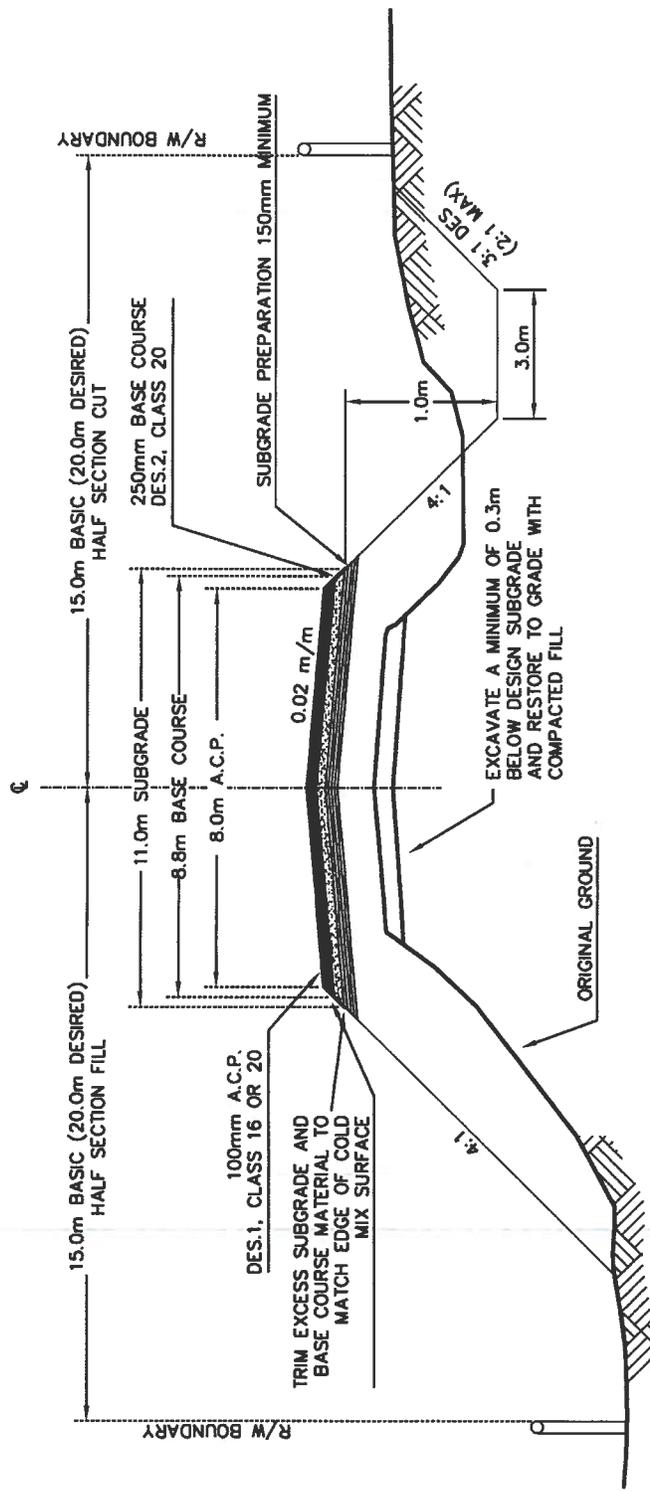
## ATTACHMENT 2

### ABORIGINAL TRADITIONAL USE SITES

---

Aboriginal Traditional Use Sites considered by Alberta Culture and Tourism as historic resources under the *Historical Resources Act* may include:

Historic cabin remains;  
Historic cabin (unoccupied);  
Cultural or historical community camp site;  
Ceremonial site/Spiritual site;  
Gravesite(s);  
Historic settlement/Homestead;  
Historic site;  
Oral history site;  
Ceremonial plant or mineral gathering site;  
Historical Trail Feature; and,  
Sweat/Thirst/Fasting Lodge Sites.



**FILL SECTION**

- 4:1 SLOPE FOR ALL FILLS
- ON FILLS GREATER THAN 8.0m THE USE OF GUARDRAIL SHOULD BE CONSIDERED
- WHERE GUARDRAIL IS INSTALLED A 2:1 SIDESLOPE IS ADEQUATE

NOTE: THIS STANDARD AND SURFACING STRUCTURE IS INTENDED FOR LOW VOLUME ROADS (AADT < 200)

**CUT SECTION**

- WIDTH OF DITCH - 3.0m STANDARD; V-DITCH MINIMUM
- BACKSLOPE VARIABLE UP TO 2:1 MAXIMUM

# LAC LA BICHE COUNTY

General Municipal Servicing Standards



Lac La Biche County  
welcoming by nature.

Rev.
Rev.
Rev.
Rev.
Date: APRIL 2009

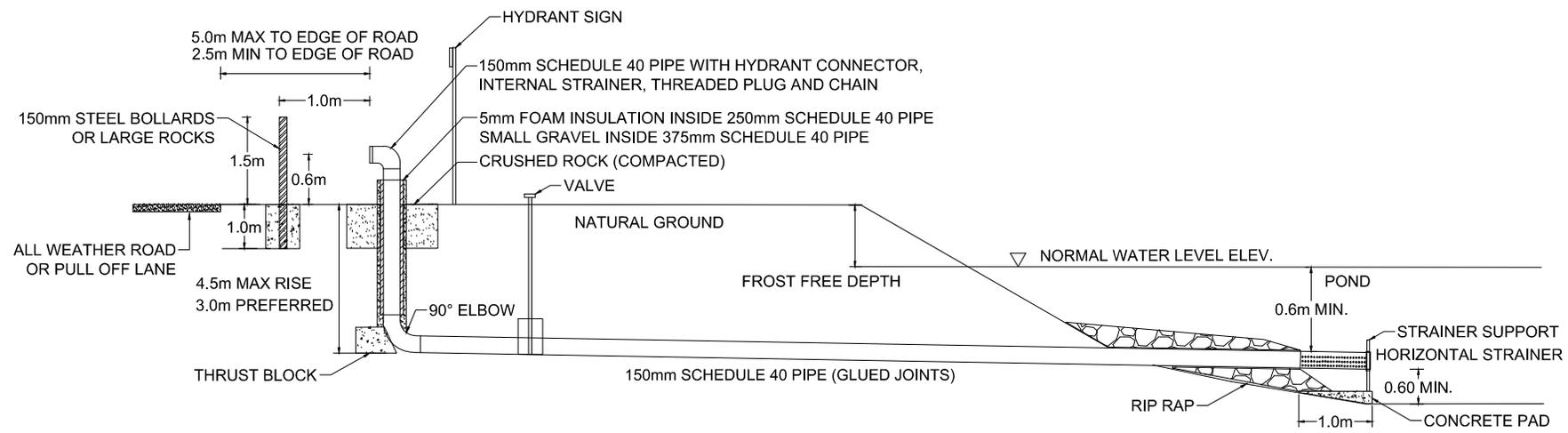
**Stewart Weir**

File No.: ED60.33156	Design:
Drawn: TLB	Scale NTS

TYPICAL CROSS SECTION FOR ASPHALT CONCRETE PAVEMENT SURFACING PAVED LOCAL ROAD 8.0m

Approved:

Drawing  
**G-07**



# TYPICAL DRY HYDRANT

NOT TO SCALE

LEGEND					SCALE NTS	PROJECT No.		TYPICAL DRY HYDRANT
					DESIGNED BY	DRAWN BY		DRY HYDRANT PRELIM DESIGN
					CHECKED BY	DATE APRIL 11, 2016	<small>713 Lakeshore Drive PH: (780) 594-0380          5016 Leduc, Alberta FAC: (780) 594-4486          T9W 0C4 www.seesign.co</small>	PAGE 1 OF 1   DWG. No. 01
	NO.	DATE	DESCRIPTION	BY	APP.	REVISIONS		