

BYLAW NO. 27-16

LEDUC COUNTY

A BYLAW OF LEDUC COUNTY, IN THE PROVINCE OF ALBERTA, TO ADOPT THE NORTHWEST SAUNDERS LAKE AREA STRUCTURE PLAN.

WHEREAS

the Council of Leduc County deems it to be in the public interest to adopt the Northwest Saunders Lake Area Structure Plan.

NOW THEREFORE

be it resolved that the Council of Leduc County, duly assembled, hereby enacts as follows:

1. The attached document, being Schedule "A", forms part of this Bylaw and is hereby adopted as the Northwest Saunders Lake Area Structure Plan.

This Bylaw shall take effect on the date of third reading.

Read a first time this 25th day of October, 2016.

John Whaley
MAYOR

[Signature]
COUNTY MANAGER

1. The attached document, (as amended) being Schedule "B", forms part of this Bylaw and is hereby adopted as the Northwest Saunders Lake Area Structure Plan.

Read a second time this 4th day of April, 2017.

John Whaley
MAYOR

[Signature]
COUNTY MANAGER

Read a third time this 22nd day of August, 2017.

John Whaley
MAYOR

[Signature]
COUNTY MANAGER

**Northwest Saunders Lake
Area Structure Plan**



Prepared for:
Saunders Lake Industrial Park Ltd.

Prepared by:
Stantec Consulting Ltd.

October 5, 2016

NORTHWEST SAUNDERS LAKE AREA STRUCTURE PLAN

OCTOBER 5, 2016

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1.0 INTRODUCTION

The lands governed by the Northwest Saunders Lake Area Structure Plan (ASP) reside within Leduc County, adjacent to the City of Leduc, and are 9.6 km south of the City of Edmonton, as shown on **Figure 1 Plan Location**.

The plan area encompasses approximately 601 ha and is bound by Range Road 250 to the west, Airport Road/Township Road 502 to the north, Saunders Lake to the east, and 65th Avenue/Township Road 500 to the South. The City of Leduc is adjacent to the west boundary of the plan area. The District Regional Waste Management Facility lies approximately 1.6 km beyond the south boundary of the plan area, with intervening agricultural land uses, as shown on **Figure 2 Plan Boundary and Adjacent Uses**.

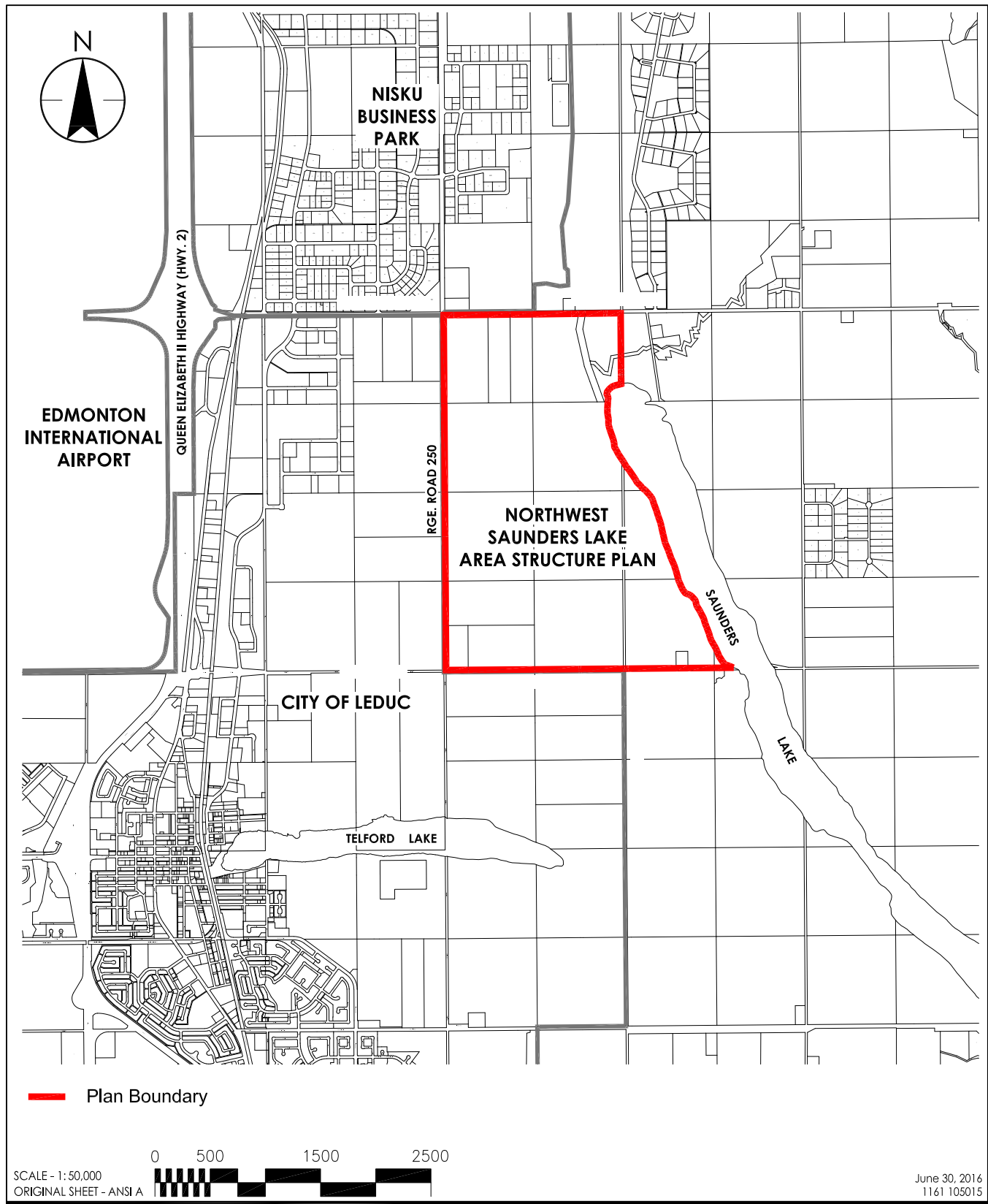
The former guiding statutory plan for the area was provided in the Saunders Lake ASP (2005, repealed 2016), which designated it primarily as Estate Residential. This plan is intended to replace the Saunders Lake ASP within the boundaries identified. The plan will guide future development that is compatible with both the City of Leduc industrial lands to the west and Saunders Lake to the east.

1.1 VISION AND PRINCIPLES

ASPs serve as a means of clarifying, communicating, and protecting the vision of future development for the plan area. The vision for the long-term future development of the lands in the plan area combines primarily business park development with significant areas of public open space around the lakeshore for low intensity recreation and environmental protection. The following points provide more detail:

1. The vision for this plan area on the northwest edge of Saunders Lake is to provide an important opportunity for employment growth in Leduc County, building on and integrating with the existing employment areas at the Edmonton International Airport, in Nisku Business Park and adjacent areas in the City of Leduc.
2. The vision of future development within the plan area acknowledges the current and future availability of regional and municipal utility services extending from the City of Edmonton/City of Leduc development corridor. Urban municipal services will extend to the plan area to help minimize the impact of development on Saunders Lake.
3. Saunders Lake is a significant community amenity. Open space adjacent to the lake will offer protection to steep slopes, preserve vegetation, provide public access, and preserve the aesthetic qualities that make the lake a valuable asset.

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1.0

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PLAN LOCATION

4. The vision emphasizes complementary and transitional uses between the lake and the various industrial land uses proposed within the County as well as the City of Leduc near its eastern boundary. This Area Structure Plan will build on the current City of Leduc/Leduc County Intermunicipal Development Plan (IDP), by addressing future land use and coordinated infrastructure development.

1.2 PURPOSE

The County recognizes that Saunders Lake and the adjacent lands are significant assets to the municipality. The purpose of this ASP is to provide specific direction regarding business development in the area, in a manner consistent with the County's Municipal Development Plan (MDP), as well as the City of Leduc and County of Leduc IDP. The plan proposes uses that are compatible with adjacent uses within the County as well as City of Leduc, and which recognize the opportunities identified for the area by the Aerotropolis Viability Study.

The area located between the northwest shore of Saunders Lake and the City of Leduc boundary is of interest to both municipalities, and will contribute to the generation of important employment for City of Leduc and Leduc County residents, and expanding and enhancing the importance of the Nisku/Leduc Industrial area within the Edmonton Region. The ASP will clarify a shared concept of what constitutes appropriate development of this area in the future.

1.3 INTERPRETATION

The boundaries of the land use designations and road layout are conceptual and subject to refinement at the Outline Plan and development permitting stage.

- 1.3.1 Where the boundary does not follow a property line or where there is uncertainty regarding the location of a boundary, the specific boundary location maybe determined at the time of rezoning, subdivision or at the time of consideration of local Outline Plans, through legal survey and/or supporting studies. The final boundaries will then be determined on consideration of such surveys, plans or supporting studies only by:

- a. Council;
- b. or the Chief Administrative Officer by resolution of Council, or;
- c. an assignee of the Chief Administrative Officer, such person or persons to be by resolution of Council.

The land use designations themselves are general indications of future development types. They do not correspond directly to the land use districts set out in the County's Land Use Bylaw. It is possible that, at the Outline Plan stage, other more specific land uses that are generally consistent with the designations identified in this plan may be approved. Similarly, Land Use

Bylaw districts that are generally consistent with the land use designations shown in this plan may be approved. For example, in an area designated for Saunders Lake Business in this plan, an Outline Plan or redistricting application might create a convenience commercial site to serve the general development. The introduction of such a complementary use would not require an amendment to this ASP.

The pace of development within the plan area will be affected by market conditions, but it is anticipated that it will take approximately 20-25 years for the Northwest Saunders Lake area to develop as described in this plan. Development within the plan area is dependent on several important variables, such as the availability of municipal services, the extension of transportation infrastructure, development sequencing, and market demands. This plan recognizes that in the interim, land uses that:

- are compatible with existing and/or anticipated neighbouring developments;
- do not negatively impact the implementation of the development concept; and
- are subject to time limitations (with or without extensions)

may be considered for development in the Northwest Saunders Lake area. Sites within the plan area that are developed for interim land uses may require environmental remediation prior to redevelopment consistent with the development concept.

As development proceeds within the plan area, requirements for parks, emergency service facilities, or other municipal use may be identified at the Outline Plan stage. This plan assumes that as development proceeds, the responsible agencies will acquire land by purchase or through the dedication of municipal reserve to accommodate these uses. Due to the predominantly business employment nature of the plan's land uses, however, it is also expected that the majority of Municipal Reserve obligations will be addressed through cash-in-lieu.

2.0 STATUTORY PLAN AND POLICY CONTEXT

Several statutory documents govern the plan area. The Northwest Saunders Lake ASP has been prepared in accordance with the Municipal Government Act, Capital Region Board Growth Plan, Leduc County Municipal Development Plan, and the Leduc County/City Intermunicipal Development Plan.

2.1 MUNICIPAL GOVERNMENT ACT

The Northwest Saunders Lake ASP has been prepared in accordance with the provisions of the Municipal Government Act (Revised Statutes of Alberta, 2000, Chapter M26). Section 633(1), Part 17, of the MGA provides for a municipality to adopt an ASP as a statutory planning document for the purpose of providing a framework for future land use, subdivision, and development within the Plan area.

Section 633 of the MGA enables municipalities to adopt ASPs as statutory plans for the purpose of providing a framework for future land use, subdivision, and development within a plan area. In accordance with Provincial Land Use Policies and the MDP, ASPs must further describe:

- a) The sequence of development proposed for the Plan Area;
- b) The land uses proposed for the area, either generally or with respect to specific parts of the area;
- c) The density of population proposed for the area, either generally or with respect to specific parts of the area; and
- d) The general location of major transportation routes and public utilities.

2.2 CAPITAL REGION BOARD REGULATION: CAPITAL REGION GROWTH PLAN

The Municipal Government Act, Capital Region Board Regulation (Alberta Regulation 17/2010, MGA) is the enabling legislation that establishes the Capital Region Board (CRB) and the Capital Region Growth Plan (CRGP).

Pursuant to **Section 11** of the Capital Region Board Regulation, the objectives of the CRGP are:

- e) to promote an integrated and strategic approach to planning for future growth in the Capital Region;
- f) to identify the overall development pattern and key future infrastructure investments that would;

- i. best complement existing infrastructure, services and land uses in the Capital Region;
 - ii. maximize the benefits to the Capital Region; and
- g) to co-ordinate decisions in the Capital Region to sustain economic growth and ensure strong communities and a healthy environment.

According to **Sections 17(1)** and **18** of the Capital Region Board Regulation, all statutory plans must meet the requirements of CRGP. In the event of a conflict, the CRGP will prevail. This ASP has been developed to comply with the CRGP.

2.3 EDMONTON INTERNATIONAL AIRPORT VICINITY PROTECTION AREA REGULATION

The Edmonton International Airport Vicinity Protection Area Regulation (EIAVPAR; 2006) identifies a range of limits on development to address the functional requirements and noise effects of airport operations. Specific to the plan area, the EIAVPAR identifies noise exposure forecast (NEF) contour areas, within which various types of development should be restricted.

A significant portion of the plan area is affected by the 25-30 NEF contour. This is the lowest threshold addressed by the EIAVPAR and has minimal restrictions. Within this contour, campgrounds are prohibited. This land use is not anticipated within the plan area.

A small portion of the plan area in the SW 6 (Lots 2, 3 and 4, Plan 9926636) is affected by the 30-35 NEF contour. This contour has more significant limitations on development. The following uses are prohibited within the 30-35 NEF contour:

- Hospitals
- Nursing Homes
- Outdoor Recreation Facilities
- Spectator Entertainment Facilities (Outdoor)
- Campgrounds
- Residences

As the portion of the plan area affected by the 30-35 NEF contour is identified for Saunders Lake Business land uses, the EIAVPAR is not anticipated to have any significant effect on development within the plan area. The 25 NEF and 30 NEF contours are shown in **Figure 4 Development Concept**.

2.3.1 All development within the plan area will be in compliance with the regulations of the EIAVPAR.

2.4 LEDUC COUNTY MUNICIPAL DEVELOPMENT PLAN

Approved in 1999, as amended, the Leduc County Municipal Development Plan (MDP) sets out the guidelines for orderly growth and development within the County. The MDP provides a comprehensive long term land use policy framework within which present and projected growth and development may take place. The MDP determines where growth is most feasible based on such factors as infrastructure, sustainable growth principles, and economic development opportunities, and addresses such factors as the environment, the economy and tourism, social wellness and safety, recreation and culture, governance, and the administration, monitoring, and implementation of the MDP policies.

The MDP identifies the area of this ASP for predominantly industrial land uses. The policies of this plan are consistent with the planning objectives and policies contained within the MDP.

2.5 LEDUC COUNTY / CITY OF LEDUC – LEDUC INTERMUNICIPAL DEVELOPMENT PLAN

The City of Leduc – Leduc County Intermunicipal Development Plan (IDP) was approved in 2011 to address the two municipalities' mutual issues, interests, and concerns as they relate to physical, social, and economic development in the IDP area. The plan is based upon five pillars of sustainability, which include:

- 1) Smart Growth
- 2) Creating Vibrant Communities
- 3) Environmental Stewardship
- 4) Economic Development
- 5) Responsible Governance

The IDP also includes procedures for the implementation of the IDP policies, dispute resolution, and amending the IDP. The plan allows for the intermunicipal agreements between the City of Leduc and County of Leduc. These agreements could allow for the sharing of revenue as well as the funding of infrastructure for the area.

The entirety of the plan area falls within the IDP Circulation and Referral Area, requiring City of Leduc referral of any future amendments to this plan, as well as referral of future proposals for land use redistricting and subdivisions.

The majority of the ASP plan area is within Area B – Saunders/Telford Lake Business, which allows for business, industrial and office development, and supporting commercial uses. A smaller portion of the plan area, that immediately abutting the western and northern shore of Saunders Lake, falls within Area I – Open Space and Greenways, allowing for natural area, parks and recreational development. Located between these two areas and forming a transition area of low impact business development, is Area J – Business to Greenways Transition, which identifies

the need for additional strategies to ensure development that is compatible with the recreational and open space activities and natural landscapes of Area I.

The Northwest Saunders Lake ASP aligns with **Section 4.0** of the IDP, which aims to utilize the existing municipal infrastructure to provide land for regional economic development, including industrial lands. The industrial lands within the ASP will also be designed to meet or exceed the development standards, required by Section 4.3.2.8 and Section 4.3.2.9.

2.6 AEROTROPOLIS VIABILITY STUDY

Further west of the plan area lies the Edmonton International Airport (EIA), which is a major infrastructure asset to the Region. Recognizing this asset, an Aerotropolis Viability Study (AVS) was completed for the airport and adjacent lands, including the Northwest Saunders Lake ASP plan area.

The study identifies potential industrial and business uses for the Northwest Saunders Lake ASP area, including energy, manufacturing, transport logistics and distribution, education, and agri-business. Specifically, AVS discusses land uses under the following conceptual categories as being appropriate for development within the Saunders Lake Northern District, consistent with the area of this ASP:

- Campus Office
- Flex Business Park
- Light Industrial Manufacturing
- Warehouse and Distribution
- Data Server Facility
- Educational Facility

The land uses proposed in the ASP accommodate these activities. Further detail as to the proposed geographic distribution of these different land uses, as well as other compatible land uses envisioned by this plan, are described in Section 5.0 Development Concept.

To support development, a Joint Infrastructure Master Plan and Service Evaluation (JIMPSE) was prepared by CIMA in 2016. The Plan outlines existing conditions and high-level upgrade requirements for the transportation network within Leduc County and the City of Leduc.

3.0 SITE ANALYSIS

3.1 EXISTING LAND USES

The majority of the plan area is presently in agricultural production with associated farmsteads dispersed throughout. Access to these farmsteads is provided via Range Road 250 and Township Road 500. There are currently two industrial businesses located near the intersection of Township Road 502 (Airport Road) and Range Road 250, uses similar to those anticipated by the land use concept of this plan.

Figure 3 Air Photo and Topography illustrates the predominately agricultural land use in the plan area.

There are several rights-of-way (ROW), including pipeline and power in the plan area that may constrain future development in their vicinity. Development setbacks are usually the edge of the right-of-way for pipelines, and can vary from power rights-of-way depending on the type of structures. The Alberta Energy and Utilities Board has not identified any sour gas wells within or immediately adjacent the plan boundary.

3.2 ADJACENT LAND USES

Figure 2 Plan Boundary and Adjacent Land Uses identifies existing land uses for adjacent areas.

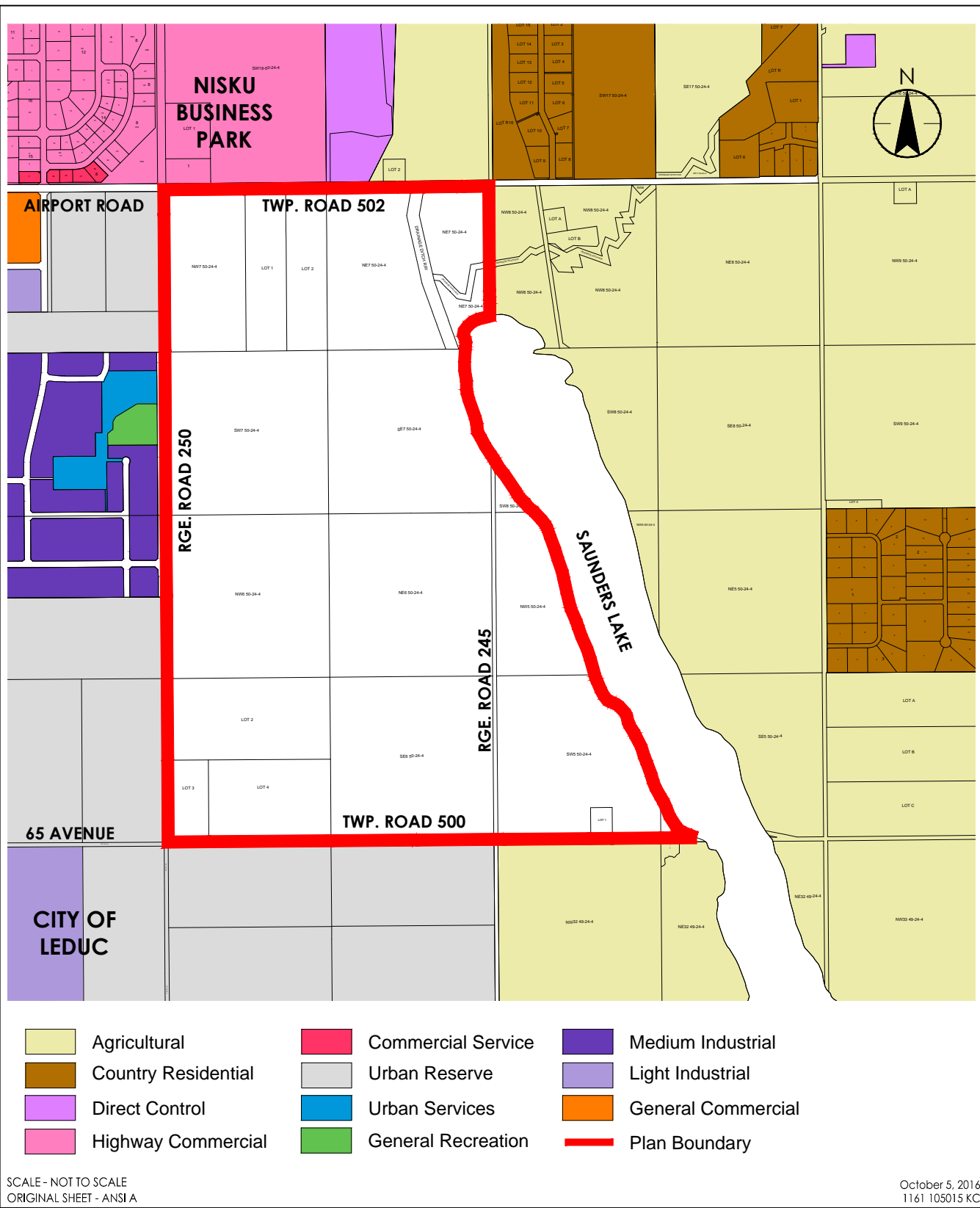
The Nisku industrial area is located to the north/northwest of the plan area, categorized as Area F in the IDP (Nisku/Leduc Business Industrial). This is an older fully serviced industrial area, with a variety of industrial and business occupants. To the immediate southeast of the plan area, east of Range Road 245 and south of Township Road 500, is an area identified in the MDP for Industrial Reserve uses, which may be developed at a later date with industrial uses consistent with those within this plan area, as market conditions permit. The Industrial Reserve area is currently zoned for Agricultural uses and are anticipated to continue for the short-to-medium term future. The remainder of the adjacent County land is in agricultural production and designated as Agricultural in the Municipal Development Plan.

The lands immediately west of the plan area fall within the jurisdiction of the City of Leduc. Presently the lands to the west are predominantly in industrial use, or are planned for future industrial development, and also fall within Area F of the IDP. The City of Leduc Municipal Development Plan designates the land on the south side of Airport Road as Commercial and Industrial. The land south of Township Road 500 is designated a combination of Saunders/Telford Lake Business (Area B of the IDP) and IDP Reserve and Referral Area (Area H of the IDP).

There is a waste facility near the southwest side of Saunders Lake, approximately 1.6 km south of the plan area, with the remaining lands used for agricultural production.

In addition to agricultural uses, there are a number of country residential developments located east and northeast of Saunders Lake. These include the Mini Vista, Valley View, and Sunnyville.

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PLAN BOUNDARY AND
ADJACENT USES

3.3 NATURAL FEATURES

Topography

There is a substantial amount of relief (approximately 50 m) within the plan area, as shown on **Figure 3 Air Photo and Topography**. Saunders Lake is the low area of the plan (at approximately 690 m) with the lands around it rising quite quickly to a maximum elevation of approximately 734 m west of the lake.

With the exception of a small area at the intersection of Range Road 250 and Township Road 500 (65 Avenue), the entire plan area slopes towards Saunders Lake. Above the steep banks leading to the lake, the land is generally gently rolling.

Surface Water

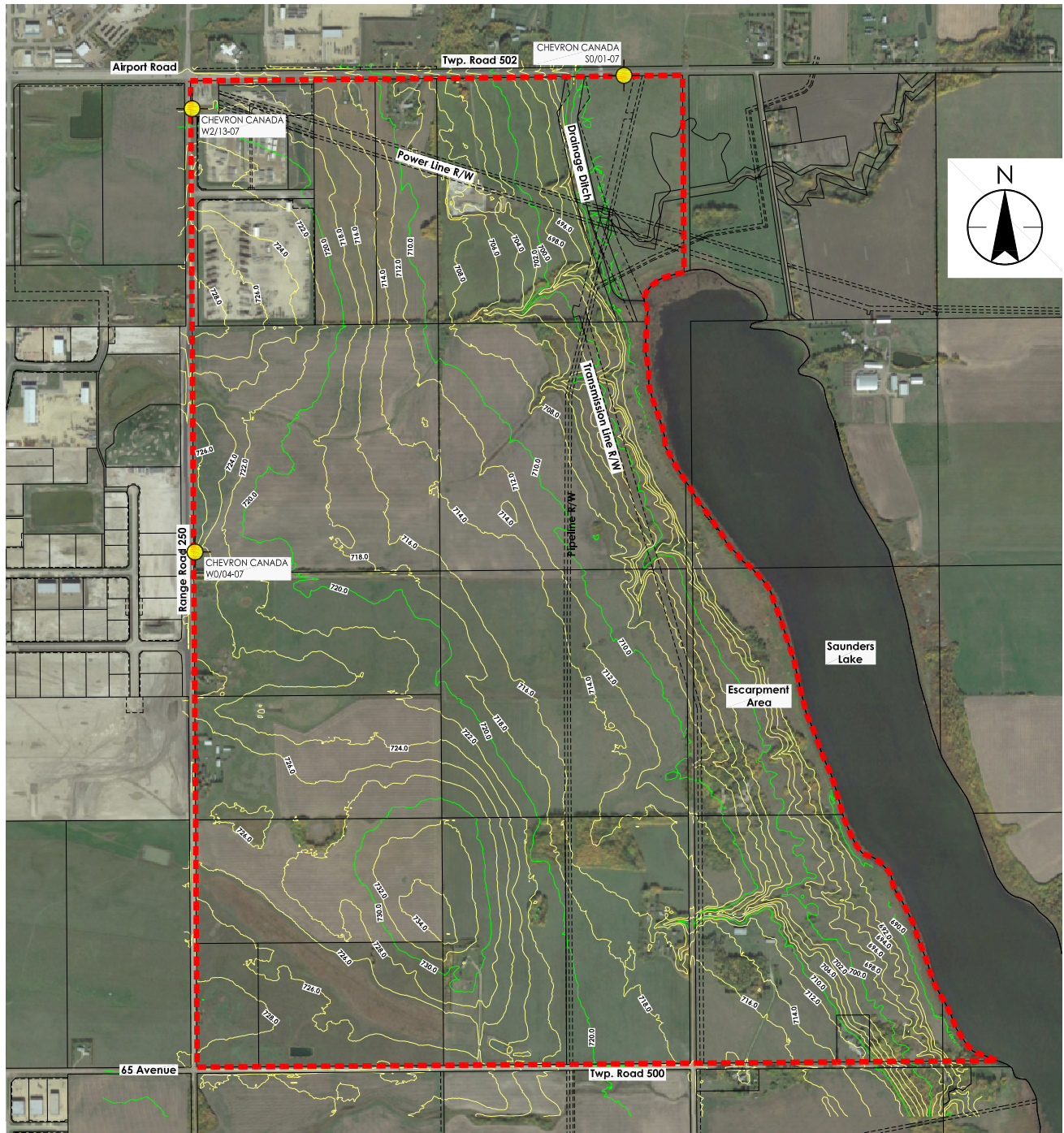
There are two main tributaries into Saunders Lake: Blackmud Creek enters from the south and Telford Creek enters from the west, but neither of these tributaries are located within the plan area. Intermittent overland flow of stormwater enters Saunders Lake from within the plan area, but forms no permanent watercourses.

The outflow from Saunders Lake is at the north end of the lake into the Blackmud Creek diversion channel, which ultimately feeds into the North Saskatchewan River. The outflow location has a control structure to help maintain the lake level of Saunders Lake.

Vegetation

The majority of the lands above the lakeside slopes have been or are in agricultural production. However, much of the slope leading to the lake is covered by deciduous forest. The dominant tree type is trembling aspen on the upper slopes and well-drained sites, and balsam poplar on lower slopes and poorly drained sites.

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- Surface Wellhead
- Plan Boundary

SCALE - 1:20,000
ORIGINAL SHEET - ANSI A

May 30, 2016
1161 105015



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AIR PHOTO AND
TOPOGRAPHY

Environment

The County's Environmentally Significant Areas Study was prepared in 2015 by Fiera Biological Consulting Ltd. The report identifies general areas within Leduc County that contain significant environmental elements to help guide future land use decisions.

Spencer Environmental Management Services Ltd. prepared an environmental assessment for the lands within the plan boundary under the previously prepared Saunders Lake Area Structure Plan in 2005 (repealed 2016), which included a larger land area. This report identified environmental constraints and opportunities and provided recommendations for protective measures. These measures were initially incorporated into the 2005 Saunders Lake ASP and have been subsequently included in this ASP.

- 3.3.1** At the Outline Plan stage, all watercourses, wetlands, environmentally sensitive and significant areas shall be identified with a biophysical report. Recommendations for opportunities for protection, conservation, and enhancement of riparian habitat, upland vegetation, and natural amenities shall be identified at the Outline Plan stage.
- 3.3.2** A Phase I Environmental Site Assessment must be prepared and submitted in support of the rezoning of any parcel of land within the ASP area, unless already addressed as part of the Outline Plan process.
- 3.3.3** At the discretion of Leduc County, a geotechnical report may be requested that details steep slopes, unstable areas, and hazard areas to the satisfaction of the County at the Outline Plan stage.

3.4 HISTORICAL RESOURCES

Although Alberta Culture and Tourism have not identified any existing sites of historical significance, they have identified this area as having a high potential for artifacts and noted that further detailed study to their satisfaction should be conducted prior to development.

- 3.4.1** At the Outline Plan stage, Submission of a Statement of Justification (SoJ) for Historical Resources Act Clearance is required by Alberta Culture and Tourism for development of lands within the Plan area.

3.5 AGRICULTURAL LAND CAPABILITY

The County's farmland assessment prepared for the Saunders Lake ASP (2005; repealed 2016) gives the majority of the land in the plan area a 51% to 100% capability rating for Agriculture. The land near the lake has a 31% to 40.9% capability rating.

3.6 GROUND WATER

A general assessment of groundwater availability and quality was undertaken by Hydrogeological Consultants Ltd. in support of the original Saunders Lake ASP in 2005 (repealed 2016).

This assessment found that groundwater supplies within one quarter to one half mile of the lake north of Township Road 500 are generally adequate in terms of yield, total dissolved solids, fluoride, and risk of groundwater contamination to support some residential development. As no residential development is anticipated within the plan area, however, this is not considered to be of concern.

- 3.6.1** At the Outline Plan stage, the County may request the preparation of a report detailing potentially high water table.

3.7 EXISTING MUNICIPAL INFRASTRUCTURE

Road Network

The plan area has excellent access west to the City of Leduc and Highway 2, and east to Highway 814 via Airport Road. Township Road 500 (65 Avenue within the City of Leduc) also provides access west into the City of Leduc and onto Highway 2.

The existing road network in the plan area is illustrated in **Figure 2 Plan Boundary and Adjacent Uses** and includes:

- Township Road 502/Airport Road - 2 lane paved highway
- Range Road 250/9th Street – 2 lane paved between Airport Road and Allard Avenue; 2 lane local gravel between Allard Avenue and 65 Avenue
- Township Road 500/65 Avenue - 2 lane local gravel

As of the approval of the Saunders Lake ASP (2005; repealed 2016) all major roadways carried less than 10,000 ADT. The numbers were taken from 2002 Alberta Transportation traffic count data, as well as from the Nisku Traffic Analysis and Functional Planning Study, Reid Crowther, 1997, scaled up to 2002 by using a growth factor of 3% per annum, similar to the Reid Crowther Study, and consistent with experience elsewhere in the Province.

No significant changes to roadway infrastructure have occurred within the plan area since that date. Industrial development has proceeded to the west within the City of Leduc, with recent access being provided to Range Road 250 via Allard Avenue.

Water and Sanitary Services

Currently there are no municipal sanitary or water mains within the plan boundary. The closest connection to the SERTS (South Edmonton Regional Trunk Sewer) line is located northwest of the plan area in the vicinity of Sparrow Drive and 24 Avenue. Municipal water connection to County lines is available to the west of 7th Street/Airport Road, to the east at 10th Street/Airport Road, and to the north between Section 18 and 19-50-24-4.

The City of Leduc North Leduc Industrial Area Structure Plan, which affects an area south of Airport Road and west of Range Road 250/9th Street, indicates that there may be potential for intermunicipal servicing arrangements. Such arrangements have not been negotiated between the City of Leduc and Leduc County as of the writing of this plan.

4.0 PUBLIC ENGAGEMENT

4.1 ONGOING PUBLIC INVOLVEMENT

Any future amendments to the plan, applications to create Outline Plans, redistrict or subdivide land within the plan area, or applications for Development Permits, will be required to adhere to the applicable notification requirements of the MGA and Leduc County.

4.2 PUBLIC MEETINGS

A public open house was held by the proponent of this plan on Tuesday, August 30, 2016. The meeting shared the land use and servicing proposals for the area with interested stakeholders who attended the meeting. 33 people attended the meeting, of whom 22 identified themselves as either a resident or landowner within the plan area. In addition, members of both City of Leduc and Leduc County Councils attended the meeting. Attendees asked questions of Stantec staff and provided feedback on the proposal. A summary of comments made by members of the public was provided to Leduc County staff following the meeting.

5.0 DEVELOPMENT CONCEPT

The plan area is divided into several different land uses, including two business employment uses – Saunders Lake Business and Saunders Lake Transition. Saunders Lake Business is the most extensive use (309.2 ha). The second most extensive land use is Natural Area/Open Space (120.4 ha), consisting of those areas adjacent to Saunders Lake and the escarpment; the large open space buffer provides an area for recreational activities, and transition to the lake, as detailed in the following sections. Saunders Lake Transition (42.1 ha) is located in locations adjacent to the Natural Area/Open Space designation, providing a land use transition between public open spaces and the more intensive business park development of the Saunders Lake Business designation. Transportation (96.2 ha) and Stormwater Management Facilities (33.7 ha) form the remainder of the plan area. These areas are shown in **Table 1 Land Use and Population Statistics**. No dedication of Municipal Reserve is anticipated to be required within the plan area, subject to confirmation or change by Leduc County at the Outline Plan stage.

The plan area is expected to generate approximately 11,000 jobs, as shown below in **Table 1 Land Use and Population Statistics**.

Table 1 Land Use and Population Statistics

	Area (ha)	% of GA	
Gross Plan Area	601	100%	
Natural Area / Open Space	120.4	20%	
Developable Area	481	80%	
		% of GDA	
Net Developable	481	100%	
Saunders Lake Transition	42.1	9%	
Saunders Lake Business	309.2	64%	
Transportation/PUL	96.2	20%	
Stormwater Management Facilities	33.7	7%	
		Jobs per ha	Jobs per Land Use Type
Projected Number of Jobs Generated			
Saunders Lake Transition	42.1	31.3	1,318
Saunders Lake Business	309.2	31.3	9,678
Total	351.3		10,996
*Municipal Reserves are assumed to be provided as cash-in-lieu, subject to confirmation by Leduc County at Outline Plan stage			

5.1 NATURAL AREA / OPEN SPACE

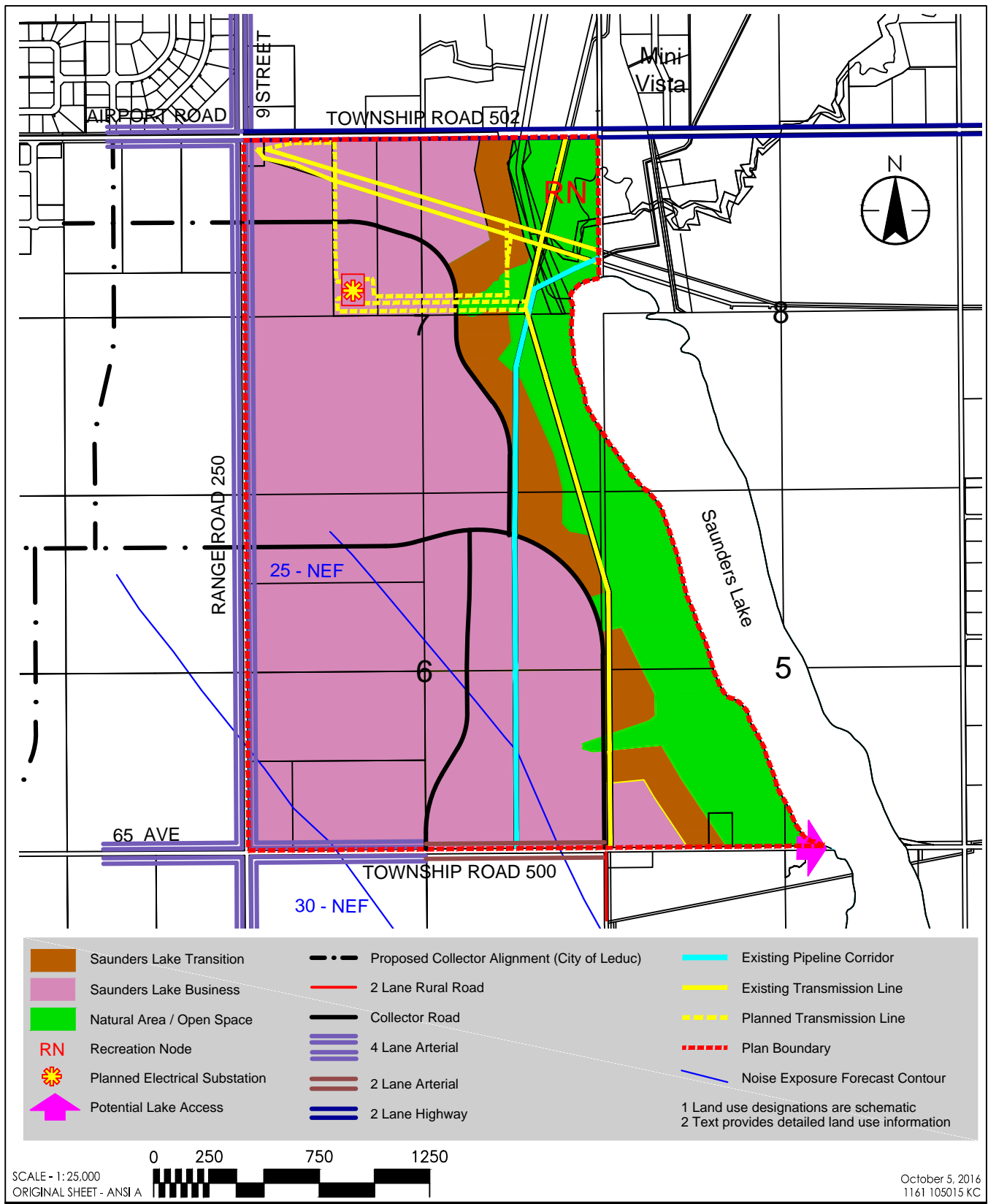
The lands designated as Natural Area / Open Space are part of a large recreational network proposed for the area surrounding Saunders Lake. Leduc County prepared a Parks and Open Spaces Master Plan in 2006. The Master Plan outlines the priority locations for future open spaces in the County. The Master Plan identifies Saunders Lake as a Regional Environmentally Sensitive Area. The Intermunicipal Development Plan also identifies regional trail connections between Saunders Lake and Telford Lake recreational areas, of which trails within this plan area will form a part.

The Saunders Lake Environmental Assessment Report, prepared by Spencer Environmental Management Services Ltd. for the Saunders Lake ASP (2005; repealed 2016), reviewed the existing environmental features and condition of the Saunders Lake corridor and made recommendations regarding the preservation and management of this resource. The report offers recommendations regarding three main issues: erosion control, retention of natural areas, and recreational opportunities. These recommendations were taken into consideration in the development of this Area Structure Plan.

Figure 4 Development Concept designates a substantial area of land surrounding the lake as Natural Area/Open Space. The general purpose of the Natural Area/Open Space designation is to ensure that Saunders Lake and its surrounding natural habitat are maintained in a healthy and natural state. Saunders Lake is a significant environmental and recreational amenity and the transition of land uses and buffering of natural areas will provide protection for the natural resource. Approximately 120 ha are designated for open space / natural area within the plan area. This area consists of the shore of Saunders Lake, steep slopes adjacent the lake, and watercourses draining into the lake. This designation is intended to protect the lakeshore, control development in the flood plain, allow for appropriate public access to the lake, allow the development of lake related recreational facilities, and to conserve wildlife habitat and movement corridors. The specific boundary of the Natural Area/Open Space designation will be determined through the Municipal Government Act's definition of Environmental Reserve and in consideration of the analysis contained within Leduc County's Environmental Significant Areas Study (2015) as it relates to the areas surrounding Saunders Lake.

Active and passive recreational opportunities will be available within the Natural Area/Open Space. Multi use trails will be developed within the Natural Area/ Open Space to provide connectivity to adjacent uses. The Recreational Node (RN) identified in the northeast of the plan area will form part of a larger recreational area, access to which will be provided from lands to the east outside of the plan area. The Recreational Node is intended to be developed with parking, a boat launch, trail connections and associated amenities, most or all of which may be located outside of the plan area due to poor soil conditions in the portion of the RN within the plan area. A second boat launch may be developed in the southeast corner of the plan area, where Potential Lake Access is identified by an arrow on **Figure 4 Development Concept**.

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4.0
Title
DEVELOPMENT
CONCEPT

The following policies apply within the Natural Area / Open Space designation:

- 5.1.1** Public open spaces, trails, and natural areas within the Natural Area / Open Space designation shall be planned and managed in order to protect and enhance natural features such as ravines, natural vegetation, habitat, soil, groundwater, and surface water within water bodies such as creeks and Saunders Lake.
- 5.1.2** All developments adjacent to the Natural Area/Open Space shall provide a minimum 6.0 metre buffer from the geotechnical top-of-bank, plus additional setback if required to address geotechnical stability. This setback area shall be developed at the developer's expense with a multi-use trail and landscaping, providing recreation opportunities to future residents, workers and the public. Alternatively, at the discretion of Leduc County Administration, a multi-use trail may be provided below the geotechnical top of bank if it is determined to be preferable with respect to overall plans for recreational use and public access in the vicinity of Saunders Lake.
- 5.1.3** The area is to remain generally in its natural state with exceptions only for development related to or supporting recreation (e.g. trails, access for boating, nature interpretation sites, picnic sites, campgrounds). Tree stands will be preserved, and may be enhanced where funding is available.
- 5.1.4** Conceptual planning for open space and trails, including the locations for pedestrian access, approximate locations of trail systems and connections to adjacent areas and other regional recreational areas and networks, as applicable, shall be included at the Outline Plan stage.
- 5.1.5** Vehicular access to the lake will be limited to one point within the plan area, generally indicated by an arrow in **Figure 4**, to minimize the impact on the lake. Individual boat launching facilities are not to be permitted.
- 5.1.6** Proponents of recreational facilities (including the County or other public agencies) shall be required to provide the County, at the proponent's expense, an assessment, consistent with criteria established by the County, of the environmental impact of the proposed development. The County will take the assessment into account in making its decision regarding approval of the development.
- 5.1.7** In accordance with the provisions of the Municipal Government Act (MGA), upon subdivision the County will require the dedication of Environmental Reserve within the Natural Area/Open Space area. In cases where the definition of Environmental Reserve is not applicable, the County may also require the dedication of Municipal Reserve to ensure that the intent behind the Natural Area/Open Space designation is fulfilled. The requirement to dedicate Municipal Reserve will be determined by the County at Outline Plan stage.

- 5.1.8** The County will consider the use of Environmental Reserve easements, as provided for in the Municipal Government Act, where appropriate. This may include lands identified as Natural Area/ Open Space.
- 5.1.9** Development adjacent to the Natural Area/Open Space shall provide pedestrian access to the Natural Area/Open Space at intervals not greater than 400m.
- 5.1.10** Stormwater management facilities shall not be allowed within the lands designated as Natural Area / Open Space.
- 5.1.11** The County will require the full 10% Municipal Reserve dedication whether that is provided as land, cash-in-lieu of land, or a combination thereof, as deemed appropriate by Leduc County, in accordance with the MGA.
- 5.1.12** Landscaping, where required, of all lands designated as Natural Area / Open Space shall be comprised of drought resistant species to minimize maintenance.

5.2 SAUNDERS LAKE BUSINESS

The City of Leduc's North Leduc Industrial Area Structure Plan designates the majority of the area west of Range Road 250/9th Street for a mix of light and medium industrial uses adjacent to the Northwest Saunders Lake ASP lands. This context provides the opportunity for a range of compatible land uses within the Saunders Lake Business designation.

Within Leduc County, lands lying east of Range Road 250/9th Street are designated for Saunders Lake Business development, consisting of approximately 309 ha. The type of development proposed is a mix of employment uses similar to those successfully developed in Leduc Business Park, while also facilitating Aerotropolis employment uses, with opportunities for a range of industrial, manufacturing, research, information technology, institutional and office uses. This designation also offers opportunities for service commercial uses to support the needs of employees within the plan area. The area will be developed to ensure that offsite impacts such as noise, dust, vibration, light pollution, and odour do not extend beyond the boundaries of the area designated for Saunders Lake Business use, with these requirements to be implemented through zoning tools that will be defined at the Outline Plan stage.

Within the area that is designated for Saunders Lake Business, Altalink proposes an electrical substation on Lot 1, Plan 9021595. There are currently a number of transmission lines proposed for the site and potentially more in the future. Proponents are required to coordinate with the County as well as Altalink for future development.

The following policies apply within the Saunders Lake Business designation:

5.2.1 The following uses shall be considered appropriate for the intended character of the area designated for Saunders Lake Business development:

- Warehousing, storage and logistics
- Information technology services
- Institutional uses
- Industrial research and associated businesses
- Agricultural research, processing and associated businesses
- Greenhouses and other clean farm facilities
- Manufacturing facilities and associated businesses
- Office development and professional services
- Other industrial uses which do not create significant adverse impacts beyond the boundaries of the area designated for Saunders Lake Business uses
- Service and retail uses to support the daily needs of employees within the plan area
- Other uses consistent with the general intent for the area, excepting those identified as incompatible in Policy 5.2.2.

5.2.2 The following uses shall be prohibited within the area designated for Saunders Lake Business development, as they are incompatible with the intended character of the plan area:

- Abattoirs
- Frame and fabric structures
- Heavy industrial developments including but not limited to:
 - Pulp and paper mills
 - asphalt or gravel crushing plants
 - oil refineries
- Outdoor storage not associated with a principal use
- Pipe yards, wrecking and salvage yards

5.2.3 No development shall be approved that would produce airborne contaminants, dust, vibration, light and noise emissions, likely to have a detrimental impact on existing or planned residential areas.

5.2.4 Appropriate landscaping and screening shall be used to enhance important locations such as at roadway entrances to the plan area and corner lots within the development. Additional landscaping to that normally required in business and industrial areas by the Leduc County Land Use Bylaw shall be provided on corner sites, with additional requirements identified in zoning, to be defined at the Outline Plan stage.

5.2.5 The uses and regulations for the Saunders Lake Business lands adjacent to Range Road 250/9th Street located between the intersection of Township Road 500/65th Avenue

and Township Road 502/Airport Road shall be subject to joint planning between Leduc County and the City of Leduc and in light of the proposed uses within the North Leduc Industrial Area Structure Plan west of the existing Range Road 250 right-of-way.

- 5.2.6** During the development of any Outline Plan within the ASP boundary, coordination with Altalink and the County will be required to mitigate any effect on development due to the planned Substation and transmission lines associated with Lot 1, Plan 9021595.

5.3 SAUNDERS LAKE TRANSITION

The Saunders Lake Transition designation will provide a transitional use between the business development to the west and the natural area/open space designation on the eastern edge of the plan area adjacent to Saunders Lake.

The intent for Saunders Lake Transition development is to protect the integrity of Saunders Lake and respect the park-like nature of the land adjacent to the lake through limitations on the types of industrial and employment uses permitted, as well as additional requirements on the way buildings and sites within the Saunders Lake Transition designation are designed, to create a campus-like setting. Land uses and development standards shall ensure that no light pollution, noise, odour, dust or vibration is experienced beyond the edges of any individual Saunders Lake Transition site, and shall enhance the visual attractiveness of development through architectural standards and on-site landscaping requirements. Conditions regarding landscaping and special architectural requirements shall ensure that each development is aesthetically pleasing when viewed from existing and future development east of Saunders Lake, with requirements to be implemented through zoning, to be specifically defined at the Outline Plan stage.

Approximately 42 ha of land are designated as Saunders Lake Transition, distributed as an intervening use between Saunders Lake Business and Natural Area/Open Space areas. It will be supported by the access and exposure available from the collector roadways within the plan area.

The following policies apply within the Saunders Lake Transition designations:

- 5.3.1** The following uses shall be considered appropriate for the intended character of the area designated for Saunders Lake Transition development:

- Information technology services
- Institutional uses
- Industrial research
- Agricultural research
- Greenhouses
- Light manufacturing facilities and associated businesses
- Office development and professional services

- Other industrial uses which do not create significant adverse impacts beyond the boundaries of the individual site
- Service and retail uses to support the daily needs of employees within the plan area
- Other uses consistent with the general intent for the area, excepting those identified as incompatible in Policy 5.3.2.

5.3.2 The following uses shall be prohibited within the area designated for Saunders Lake Transition development, as they are incompatible with the intended character of the plan area:

- Abattoirs
- Asphalt and concrete plants
- Frame and fabric structures
- Heavy industrial development including but not limited to:
 - Pulp and paper mills
 - asphalt or gravel crushing plants
 - oil refineries
- Other industrial uses which create adverse impacts beyond the boundaries of a site
- Outdoor storage not associated with a principal use
- Pipe yards, wrecking and salvage yards

5.3.3 Lands with the Saunders Lake Transition designation area must provide for adequate buffering and screening from the Natural Area/Open Space lands and enhanced design standards, to protect the integrity of the natural area, and also to enhance the visual attractiveness of development within the Saunders Lake Transition area. Measures similar to those contained within the Telford Lake Industrial Overlay of the City of Leduc Land Use Bylaw 809-2013 shall be employed at zoning stage to ensure the protection of the integrity of Saunders Lake and respect for the park-like nature of the land adjacent to the lake. Building, siting, and landscape standards for the Saunders Lake Transition area shall exceed the standards for typical light industrial development. Measures to achieve this intent shall include:

- No parking or outdoor storage shall be located within setback areas adjacent to lands designated as Natural Area/Open Space.
- Additional landscaping requirements adjacent to lands designated as Natural Area/Open Space.
- Increased architectural design standards that contribute to a business campus-like setting with high quality façade treatments, screening of mechanical equipment, and other measures that enhance the appearance of buildings, particularly when viewed from lands to the east.

- Encouragement of building and site design enhancements such as green roofs, LEED or GreenBuilt certification, and Low Impact Development stormwater management strategies.
- Limits on lighting to minimize impacts on wildlife in the vicinity of Saunders Lake, as well as any existing or planned residential areas.

The appropriate zoning strategy for achieving this intent shall be identified at the Outline Plan Stage. Other measures deemed appropriate by Leduc County additional to those described above may also be identified at the Outline Plan stage and implemented through zoning.

- 5.3.4** Outdoor storage shall be permitted only when accessory to a permitted principal use and shall be screened to the height considered necessary by the Development Officer.

6.0 TRANSPORTATION

The schematic roadway network is shown on **Figure 5: Transportation Network**. The northern east/west highway, Township Road 502/Airport Road, is presently a four lane roadway from Highway 2 east to Range Road 250/9th Street and continues eastward to Highway 814 as a 2-lane highway.

A Functional Planning Study was completed for the Nisku Spine Road (9th street and Range Road 250), which will travel east of and parallel to Highway 2, providing a north-south arterial serving the growing Nisku area industrial corridor between the Cities of Edmonton and Leduc. The Spine Road will be the only contiguous north-south route between Highway 814 on the east and Highway 2 on the west, connecting south Leduc and possibly Highway 2A, with Nisku, the future Capital Region Ring Road and Anthony Henday Drive. It will offer a viable alternative to some of the commuters that presently must converge on to Highway 2 entering the Capital Region.

A Traffic Impact Assessment (TIA) completed for the ASP lands recommends that Airport Road, Range Road 250, 65 Avenue within the City of Leduc and a portion of Township Road 500 be upgraded to four-lane cross-sections, and that the 65th Avenue/Range Road 250 intersection be in place by the 20-year horizon. The TIA also recommends improvements to all intersections adjacent to the plan.

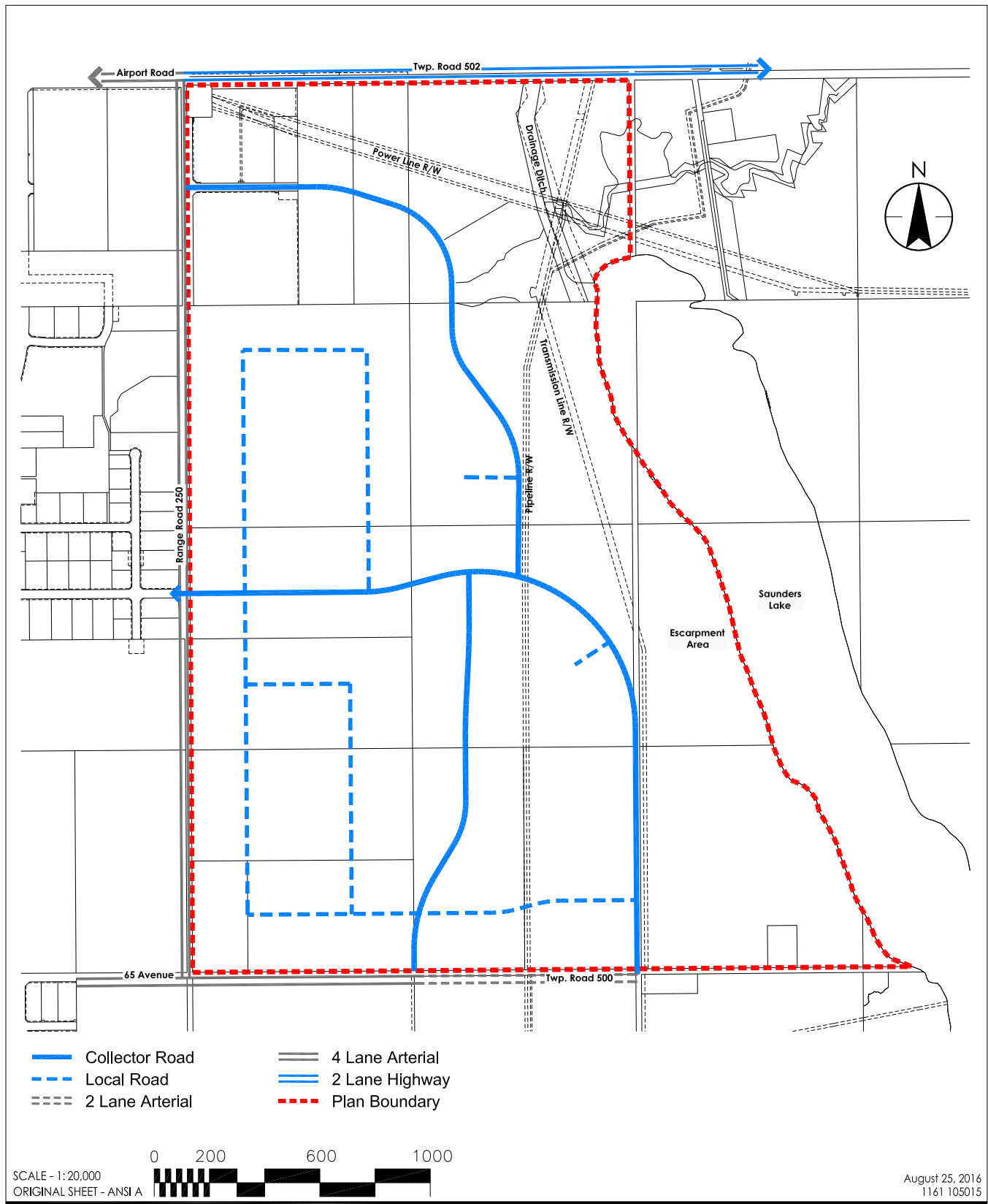
A conceptual collector road system to serve the internal workings of the future development area has been identified schematically. The specific alignment of these collector roads will be established at the Outline Plan stage. They will convey local industrial traffic to the surrounding arterial roads/highways. Collector roadways may be expected support transit service within the plan area, should Leduc County provide such service. This possibility will be explored in further detail at the Outline Plan stage, if considered appropriate by the County. Although it is anticipated that the majority of traffic to the plan area will arrive by private vehicle, pedestrian facilities will be provided to ensure basic pedestrian mobility and connections to transit, if applicable. The form and extent of pedestrian facilities within the plan area will be determined in consultation with Leduc County through the Outline Plan process.

The locations of these collectors in the northwest plan area have been aligned in consideration of future roadways in adjacent plans. The connections onto Range Road 250/9th Street have been located such that they can form four-way intersections with future connections identified in the North Leduc Industrial ASP. Access onto Range Road 250/9th Street is to have a minimum spacing of 800m or such greater or lesser intervals as determined by the two municipalities, taking into account the Transportation Association of Canada guidelines.

The following policies apply to roadway development in the plan area:

- 6.1.1** The County will establish a cost sharing mechanism such that all developable lands will contribute to the ultimate transportation network for the plan area.
- 6.1.2** As development occurs, local roads (and collectors as required) shall be developed to a two-lane paved rural standard. These roads are to be constructed, to the satisfaction of the County, at the cost of the developer.
- 6.1.3** Pedestrian facilities will be required within the plan area to ensure basic pedestrian mobility and connections to transit, if applicable. The form and extent of pedestrian facilities within the plan area will be determined in consultation with Leduc County through the Outline Plan process.
- 6.1.4** Should transit service be initiated or planned within the plan area, collector roadways will be expected to accommodate this transit service. At the discretion of Leduc County, Outline Plans may be expected to incorporate policies and strategies to allow for transit service within the plan area, and shall be expected to be integrated with pedestrian infrastructure.
- 6.1.5** Improvements to Airport Road may be required because of development within the plan area, in accordance with the approved TIA.
- 6.1.6** All lands will contribute proportionately to the cost of required arterial road upgrades. Actual construction shall be conducted with the development that triggers such upgrades, with recoveries from other benefiting developers.
- 6.1.7** The County may establish and charge development levies for roadways installed and/or upgraded by developers and/or the County.
- 6.1.8** Improvements to Range Road 250/9th Street will be cost-shared between the County and the City as per the Annexation Agreement. The re-alignment of these roads to make them continuous will require new cost sharing agreements between the County and the City. These should be based on detailed long-range transportation planning undertaken with the cooperation of the two municipalities.
- 6.1.9** Development within the plan area may have an impact on 65 Avenue within the City of Leduc. As development occurs, a joint traffic impact study will be required to assess these potential impacts and determine the need, if any, for intermunicipal agreements regarding joint responsibilities for the cost of upgrades and/or maintenance of 65 Avenue.

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5.0

Title

TRANSPORTATION
NETWORK

6.2 PROTECTIVE SERVICES

Protective services in the area are anticipated to be provided through joint agreement with the City of Leduc, similar to agreements already in place for the Nisku industrial area. Opportunities for shared services between Leduc County and the City of Leduc in coordination with intermunicipal efforts for regional emergency services should be identified at the Outline Plan stage.

7.0 SERVICING

7.1 WATER AND SANITARY SERVICING

Figures 6 Water Servicing and Figure 7 Sanitary Servicing show a conceptual servicing scheme for the plan area. Municipal servicing is required for development to proceed. To ensure that servicing of the entire plan area with municipal water and sanitary services is possible, the design and construction of these systems (particularly the first stages) must be properly oversized to accommodate lands to be serviced in the future. The northwest area of the plan is most readily serviceable.

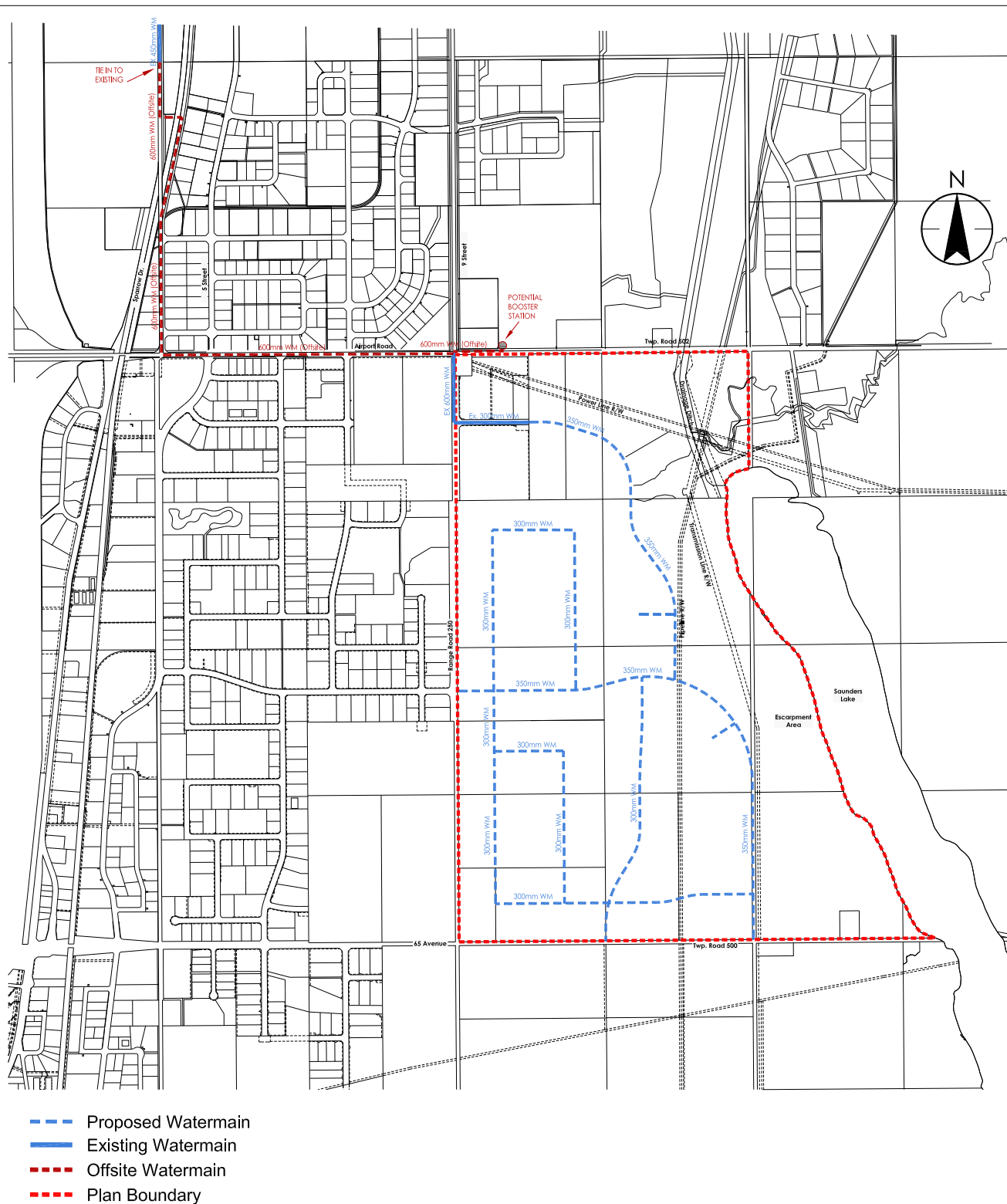
A connection to existing water services will require significant extensions, with existing service available within approximately 2 km in the vicinity of Sparrow Drive and 24 Avenue, as shown on **Figure 6: Conceptual Water Servicing**. The extension of this service will benefit development beyond the boundaries of the plan area.

A connection to existing sanitary services is available within 0.8 km. Sanitary servicing will be by gravity, which requires two lift stations; one near the northwest side of Saunders Lake and one at the south end of the study area at Township 500, as shown in **Figure 7: Sanitary Servicing**. From the north lift station, a connection will be made to the SERTS line. It is anticipated that as subdivision and development occur, both the sanitary and water lines will be extended through the area within the local or collector road rights-of-way.

An opportunity for intermunicipal servicing exists in the west area of the plan. West of Range Road 250/9th Street, the Leduc North ASP identifies storm and water connections east to County lands. Future connections of collector roads, sanitary drainage, and stormwater drainage must be addressed in detail at the Outline Plan and subdivision stages.

- 7.1.1** Prior to any development and in conjunction with the development of Outline Plans for any portion of the plan area, detailed engineering reports must be prepared by the proponent and accepted by the County.
- 7.1.2** Services shall be constructed with appropriate oversizing to accommodate future development within the plan area, as identified in detailed engineering reports.
- 7.1.3** The County shall prepare a mechanism by which a developer front-ending the cost of oversizing services will be reimbursed by future developers as they utilize the services.
- 7.1.4** The County may establish and charge development levies for utility and/or stormwater facilities installed by developers and/or the County.
- 7.1.5** Within the plan area, the potential for and structure of cost sharing mechanisms will be determined by the City of Leduc and Leduc County.

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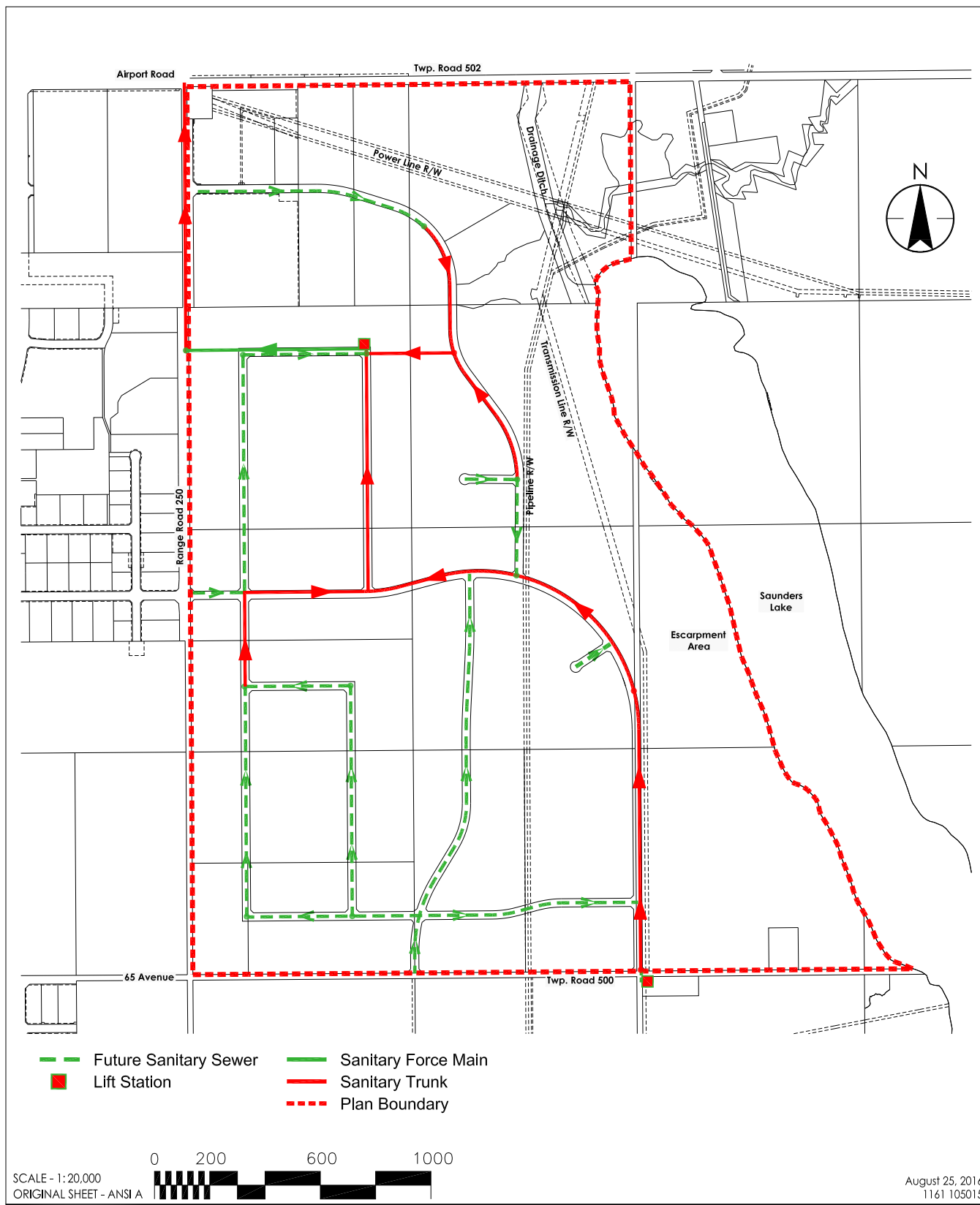
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CONCEPTUAL WATER
SERVICING

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CONCEPTUAL SANITARY
SERVICING

7.2 STORMWATER MANAGEMENT

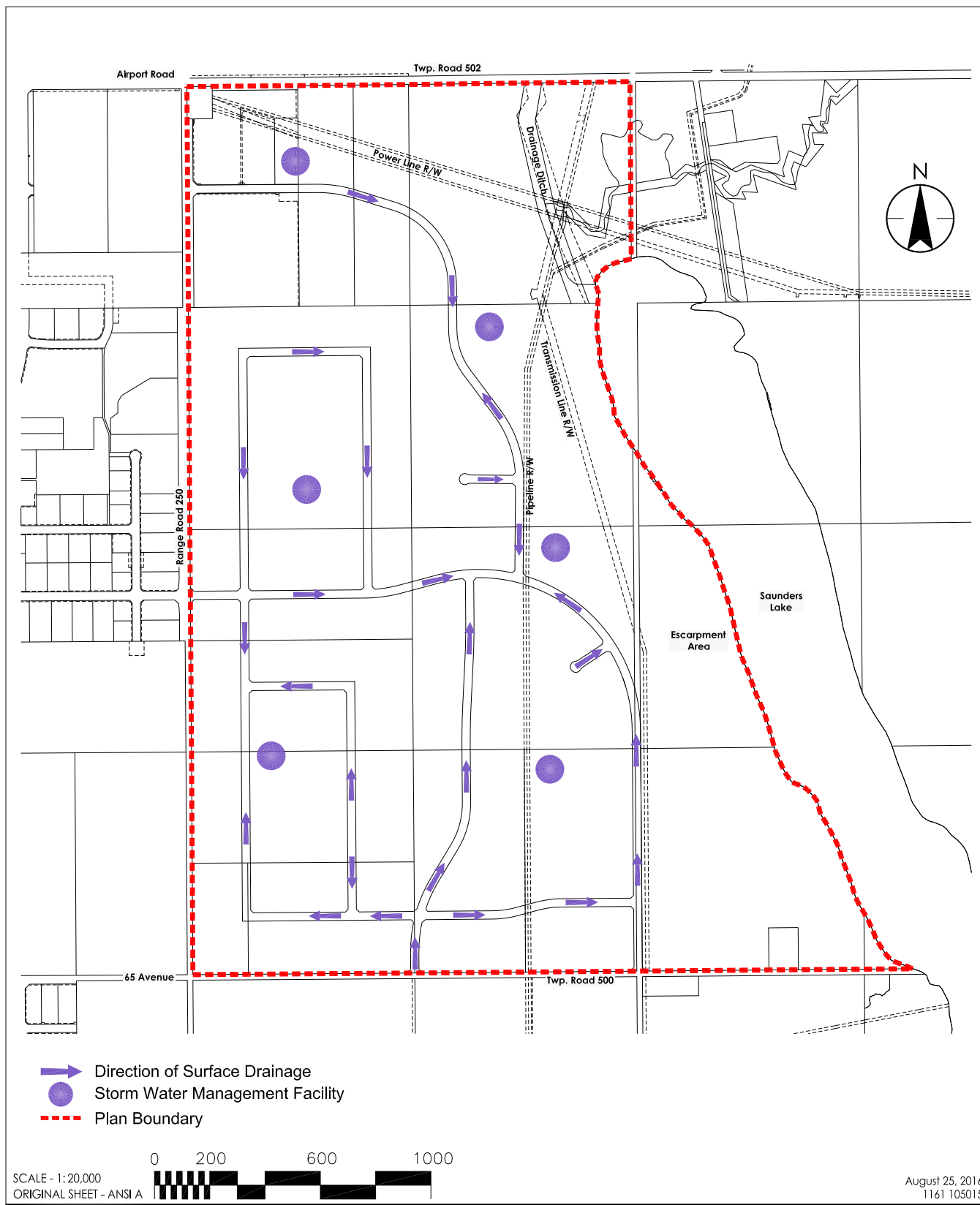
As shown in **Figure 8 Stormwater Servicing**, the ultimate receiving body for stormwater from the plan area is Saunders Lake. The majority of the plan area naturally drains toward the lake. Stormwater runoff must be properly managed to ensure that the water entering the natural water body is of a high quality with a low level of suspended solids.

The plan area has been divided into 5 drainage basins based on existing topography, shown conceptually in **Figure 8 Stormwater Servicing**. Within each basin, stormwater management facilities will drain via storm sewer linkages between stormwater management facilities, and ultimately outfall into Saunders Lake. As acknowledged in the City of Leduc's Leduc North ASP, detailed plans for storm water drainage in the area west of Range Road 250/9th Street must account for future development in the Saunders Lake plan area.

Stormwater management shall be provided in accordance with the following policies:

- 7.2.1** The County will not allow stormwater management facilities as part of every parcel. Larger facilities that receive overland flow from many parcels shall be created to efficiently manage the quantity and quality of stormwater discharged into Saunders Lake. To ensure an efficient stormwater management system, owners will have to coordinate development at the Outline Plan stage to ensure proper usage and location of stormwater management facilities.
- 7.2.2** Permanent stormwater management facilities shall be a minimum of 2.0 ha in size.
- 7.2.3** Stormwater ponds shall be designed in consultation with the Edmonton International Airport at the Outline Plan stage to mitigate bird hazards in the plan area.
- 7.2.4** Erosion will be mitigated by maintaining pre-development rates. These mitigation measures will be detailed at the Outline Plan stage.
- 7.2.5** The flood plain of Saunders Lake shall be identified at the Outline Plan stage.

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8.0
Title
STORM WATER
MANAGEMENT

8.0 IMPLEMENTATION

The implementation of this plan may require amendments to the Land Use Bylaw to create land use districts compatible with this plan.

Within this plan area, it is the County's policy to require development proponents to take full financial responsibility for the extension of all municipal utility services required to support the development. This includes the initial capital cost. In accordance with the provisions of the Municipal Government Act, the County will endeavour to ensure that the development proponent receives appropriate compensation from future benefiting developments as they occur, either through the establishment of a levy, cost sharing arrangements, or a combination thereof.

8.1 OUTLINE PLAN

This plan addresses future development adjacent to the northwest shore of Saunders Lake in general terms. Prior to re-districting and subdivision, it will be necessary for the County to approve detailed Outline Plans to ensure that individual developments are properly planned.

- 8.1.1** Prior to the approval of districting or subdivision that would allow development to proceed, detailed Outline Plans shall be prepared by the applicant and accepted by the County.
- 8.1.2** Each Outline Plan shall, to the satisfaction of the County, include a practical planning area based on natural and/or servicing boundaries and extending, if necessary, beyond the proponent's land ownership.
- 8.1.3** Each Outline Plan shall address how the proposed development will relate to its neighbours in terms of sound/visual/dust impacts, access requirements, traffic impacts, provision and extent of Municipal and Environmental Reserve, environmental, historical, palaeontological and archaeological considerations, identification of landscaping and buffering requirements/standards, storm water drainage and natural drainage courses, the provision of municipal utility and community services, the anticipated sequence of development, and other considerations deemed relevant by the County, all to the satisfaction of the County.
- 8.1.4** Outline Plans shall be subject to public review and comment prior to their consideration for approval.

8.2 STAGING OF DEVELOPMENT

The County intends that development will proceed based on the availability of adequate road access and, where applicable, the availability of municipal water and sewer.

It is intended that development will commence generally in the northwest portion of the plan area and proceed eastward and southward as shown in **Figure 9 Staging Concept**. Detailed staging within local areas will be required as part of the Outline Plans described in Section 6.1 of this plan.

While the sequence of development is expected to be in a north to south direction as adequate road access is available and water and sewer services are extended from Airport Road, this sequence may be varied depending on the final sequence of development of lands within the North Leduc Industrial Area Structure Plan immediately to the west, should intermunicipal servicing be pursued (i.e. access roads to Range Road 250/9th Street, service extensions to areas in close proximity to the plan area).

The development of lands immediately adjacent to the current intersection of 65 Avenue/Township Road 500 and Range Road 250/9th Street will depend on the sequencing of development in the adjacent City of Leduc and the finalization of the new alignment of Range Road 250/9th Street/Range Road 245.

Recreational areas will be developed by the County as dictated by demand for such uses.

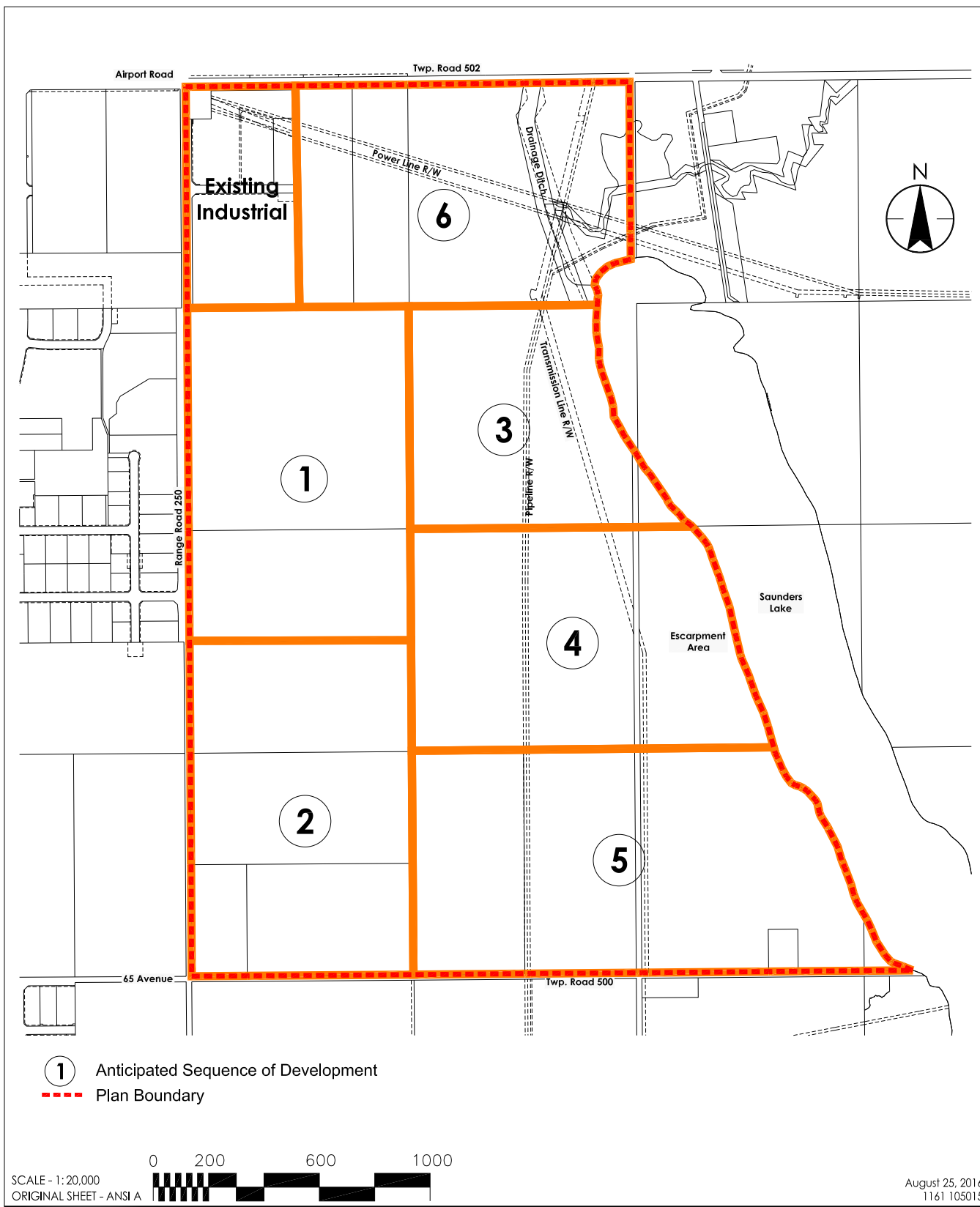
- 8.2.1** Development within the plan area shall be contiguous. Municipal infrastructure shall be extended as required.

8.3 INTERMUNICIPAL COORDINATION

The Leduc Intermunicipal Development Plan contains specific policies regarding the referral of proposed plans, re-districtings, subdivisions, etc. to the City of Leduc for comment. It also encourages cooperation and coordination between the two municipalities with respect to the provision of major utilities, drainage, and protective services.

- 8.3.1** The County will refer development applications within the plan area, including Outline Plan proposals and amendments, land use redesignations, and subdivisions to the City of Leduc in accordance with the provisions of the Leduc Intermunicipal Development Plan.

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9.0

Title

STAGING CONCEPT

8.4 FINANCIAL CONSIDERATIONS

The associated capital costs for development shall be borne predominantly by the developer. In some cases, this will require direct costs through the provision of infrastructure. Where required infrastructure is located off-site, levies will be applied by the County to ensure proportionate contributions to the land area being developed. An amendment to County bylaws may be required to facilitate the appropriate apportioning of costs to developments within the plan area.

**Northwest Saunders Lake
Area Structure Plan**



Prepared for:
Saunders Lake Industrial Park Ltd.

Prepared by:
Stantec Consulting Ltd.

February 10, 2017

NORTHWEST SAUNDERS LAKE AREA STRUCTURE PLAN

FEBRUARY 10, 2017

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1.0 INTRODUCTION

The lands governed by the Northwest Saunders Lake Area Structure Plan (ASP) reside within Leduc County, adjacent to the City of Leduc, and are 9.6 km south of the City of Edmonton, as shown on **Figure 1: Plan Location**.

The plan area encompasses approximately 601 ha and is bound by Range Road 250 to the west, Airport Road/Township Road 502 to the north, Saunders Lake to the east, and 65th Avenue/Township Road 500 to the South. The City of Leduc is adjacent to the west boundary of the plan area. The District Regional Waste Management Facility lies approximately 1.6 km beyond the south boundary of the plan area, with intervening agricultural land uses, as shown on **Figure 2: Plan Boundary and Adjacent Uses**.

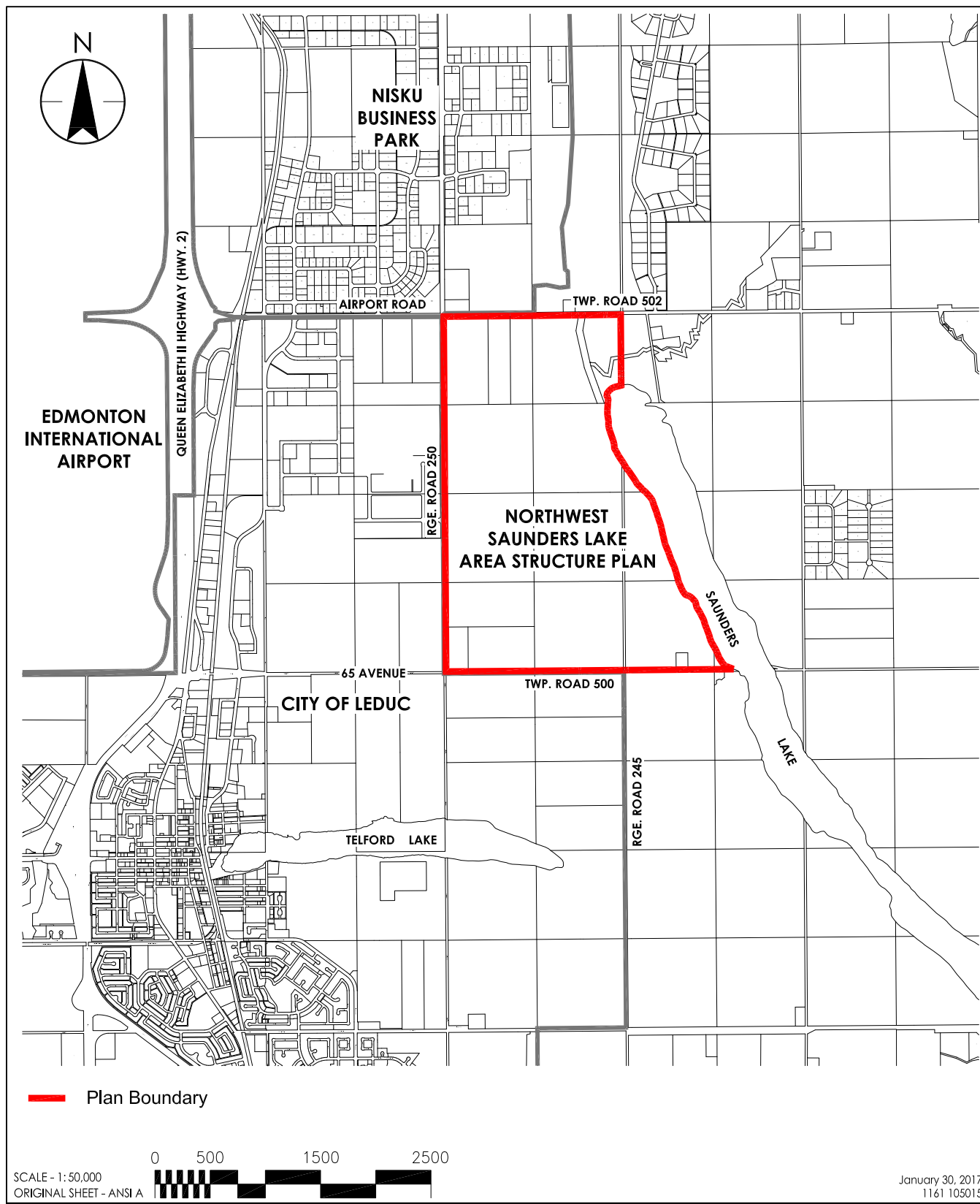
The former guiding statutory plan for the area was provided in the Saunders Lake ASP (2005, rescinded 2017), which designated it primarily as Estate Residential. This plan is intended to replace the Saunders Lake ASP within the boundaries identified. The plan will guide future development that is compatible with both the City of Leduc industrial lands to the west and Saunders Lake to the east.

1.1 VISION AND PRINCIPLES

ASPs serve as a means of clarifying, communicating, and protecting the vision of future development for the plan area. The vision for the long-term future development of the lands in the plan area combines primarily business park development with significant areas of public open space around the lakeshore for low intensity recreation and environmental protection. The following points provide more detail:

1. The vision for this plan area on the northwest edge of Saunders Lake is to provide an important opportunity for employment growth in Leduc County, building on and integrating with the existing employment areas at the Edmonton International Airport, in Nisku Business Park and adjacent areas in the City of Leduc.
2. The vision of future development within the plan area acknowledges the current and future availability of regional and municipal utility services extending from the City of Edmonton/City of Leduc development corridor. Urban municipal services will extend to the plan area to help minimize the impact of development on Saunders Lake.
3. Saunders Lake is a significant community amenity. Open space adjacent to the lake will offer protection to steep slopes, preserve vegetation, provide public access, and preserve the aesthetic qualities that make the lake a valuable asset.

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4. The vision emphasizes complementary and transitional uses between the lake and the various industrial land uses proposed within the County as well as the City of Leduc near its eastern boundary. This Area Structure Plan will build on the current City of Leduc/Leduc County Intermunicipal Development Plan (IDP), by addressing future land use and coordinated infrastructure development.

1.2 PURPOSE

The County recognizes that Saunders Lake and the adjacent lands are significant assets to the municipality. The purpose of this ASP is to provide specific direction regarding business development in the area, in a manner consistent with the County's Municipal Development Plan (MDP), as well as the City of Leduc and County of Leduc IDP. The plan proposes uses that are compatible with adjacent uses within the County as well as City of Leduc, and which recognize the opportunities identified for the area by the Aerotropolis Viability Study.

The area located between the northwest shore of Saunders Lake and the City of Leduc boundary is of interest to both municipalities, and will contribute to the generation of important employment for City of Leduc and Leduc County residents, and expanding and enhancing the importance of the Nisku/Leduc Industrial area within the Edmonton Region. The ASP will clarify a shared concept of what constitutes appropriate development of this area in the future.

1.3 INTERPRETATION

The boundaries of the land use designations and road layout are conceptual and subject to refinement at the Outline Plan and development permitting stage.

- 1.3.1** Where the boundary does not follow a property line or where there is uncertainty regarding the location of a boundary, the specific boundary location maybe determined at the time of rezoning, subdivision or at the time of consideration of local Outline Plans, through legal survey and/or supporting studies. The final boundaries will then be determined on consideration of such surveys, plans or supporting studies only by:

- a. Council;
- b. or the Chief Administrative Officer by resolution of Council, or;
- c. an assignee of the Chief Administrative Officer, such person or persons to be by resolution of Council.

The land use designations themselves are general indications of future development types. They do not correspond directly to the land use districts set out in the County's Land Use Bylaw. It is possible that, at the Outline Plan stage, other more specific land uses that are generally consistent with the designations identified in this plan may be approved. Similarly, Land Use

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Bylaw districts that are generally consistent with the land use designations shown in this plan may be approved. For example, in an area designated for Saunders Lake Business in this plan, an Outline Plan or redistricting application might create a convenience commercial site to serve the general development. The introduction of such a complementary use would not require an amendment to this ASP.

The pace of development within the plan area will be affected by market conditions, but it is anticipated that it will take approximately 20-25 years for the Northwest Saunders Lake area to develop as described in this plan. Development within the plan area is dependent on several important variables, such as the availability of municipal services, the extension of transportation infrastructure, development sequencing, and market demands. Agriculture shall be the interim land use within the plan area.

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2.0 STATUTORY PLAN AND POLICY CONTEXT

Several statutory documents govern the plan area. The Northwest Saunders Lake ASP has been prepared in accordance with the Municipal Government Act, Capital Region Board Growth Plan, Leduc County Municipal Development Plan, and the Leduc County/City Intermunicipal Development Plan.

2.1 MUNICIPAL GOVERNMENT ACT

The Northwest Saunders Lake ASP has been prepared in accordance with the provisions of the Municipal Government Act (Revised Statutes of Alberta, 2000, Chapter M26). Section 633(1), Part 17, of the MGA provides for a municipality to adopt an ASP as a statutory planning document for the purpose of providing a framework for future land use, subdivision, and development within the Plan area.

Section 633 of the MGA enables municipalities to adopt ASPs as statutory plans for the purpose of providing a framework for future land use, subdivision, and development within a plan area. In accordance with Provincial Land Use Policies and the MDP, ASPs must further describe:

- a) The sequence of development proposed for the Plan Area;
- b) The land uses proposed for the area, either generally or with respect to specific parts of the area;
- c) The density of population proposed for the area, either generally or with respect to specific parts of the area; and
- d) The general location of major transportation routes and public utilities.

2.2 CAPITAL REGION BOARD REGULATION: CAPITAL REGION GROWTH PLAN

The Municipal Government Act, Capital Region Board Regulation (Alberta Regulation 17/2010, MGA) is the enabling legislation that establishes the Capital Region Board (CRB) and the Capital Region Growth Plan (CRGP).

Pursuant to **Section 11** of the Capital Region Board Regulation, the objectives of the CRGP are:

- e) to promote an integrated and strategic approach to planning for future growth in the Capital Region;
- f) to identify the overall development pattern and key future infrastructure investments that would;

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- i. best complement existing infrastructure, services and land uses in the Capital Region;
 - ii. maximize the benefits to the Capital Region; and
- g) to co-ordinate decisions in the Capital Region to sustain economic growth and ensure strong communities and a healthy environment.

According to **Sections 17(1)** and **18** of the Capital Region Board Regulation, all statutory plans must meet the requirements of CRGP. In the event of a conflict, the CRGP will prevail. This ASP has been developed to comply with the CRGP.

2.3 EDMONTON INTERNATIONAL AIRPORT VICINITY PROTECTION AREA REGULATION

The Edmonton International Airport Vicinity Protection Area Regulation (EIAVPAR; AR 55/2006) identifies a range of limits on development to address the functional requirements and noise effects of airport operations. Specific to the plan area, the EIAVPAR identifies noise exposure forecast (NEF) contour areas, within which various types of development should be restricted.

A significant portion of the plan area is affected by the 25-30 NEF contour. This is the lowest threshold addressed by the EIAVPAR and has minimal restrictions. Within this contour, campgrounds are prohibited. This land use is not anticipated within the plan area.

A small portion of the plan area in the SW 6 (Lots 2, 3 and 4, Plan 9926636) is affected by the 30-35 NEF contour. This contour has more significant limitations on development. The following uses are prohibited within the 30-35 NEF contour:

- Hospitals
- Nursing Homes
- Schools
- Spectator Entertainment Facilities (Outdoor)
- Spectator Sports Facilities (Outdoor)
- Campgrounds
- Residences

As the portion of the plan area affected by the 30-35 NEF contour is identified for Saunders Lake Business land uses and constitutes a very small portion of the plan area, the EIAVPAR is not anticipated to have any significant effect on development. The 25 NEF and 30 NEF contours are shown in **Figure 4: Development Concept**.

2.3.1 All development within the plan area will be in compliance with the regulations of the EIAVPAR Alberta Regulation 55/2006, and any subsequent and future amendments thereto.

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2.4 LEDUC COUNTY MUNICIPAL DEVELOPMENT PLAN

Approved in 1999, as amended, the Leduc County Municipal Development Plan (MDP) sets out the guidelines for orderly growth and development within the County. The MDP provides a comprehensive long term land use policy framework within which present and projected growth and development may take place. The MDP determines where growth is most feasible based on such factors as infrastructure, sustainable growth principles, and economic development opportunities, and addresses such factors as the environment, the economy and tourism, social wellness and safety, recreation and culture, governance, and the administration, monitoring, and implementation of the MDP policies.

The MDP identifies the area of this ASP for predominantly industrial land uses. The policies of this plan are consistent with the planning objectives and policies contained within the MDP.

2.5 LEDUC COUNTY / CITY OF LEDUC – LEDUC INTERMUNICIPAL DEVELOPMENT PLAN

The City of Leduc – Leduc County Intermunicipal Development Plan (IDP) was approved in 2011 to address the two municipalities' mutual issues, interests, and concerns as they relate to physical, social, and economic development in the IDP area. The plan is based upon five pillars of sustainability, which include:

- 1) Smart Growth
- 2) Creating Vibrant Communities
- 3) Environmental Stewardship
- 4) Economic Development
- 5) Responsible Governance

The IDP also includes procedures for the implementation of the IDP policies, dispute resolution, and amending the IDP. The plan allows for the intermunicipal agreements between the City of Leduc and County of Leduc. These agreements could allow for the sharing of revenue as well as the funding of infrastructure for the area.

The entirety of the plan area falls within the IDP Circulation and Referral Area, requiring City of Leduc referral of any future amendments to this plan, as well as referral of future proposals for land use redistricting and subdivisions.

The majority of the ASP plan area is within Area B – Saunders/Telford Lake Business, which allows for business, industrial and office development, and supporting commercial uses. A smaller portion of the plan area, that immediately abutting the western and northern shore of Saunders Lake, falls within Area I – Open Space and Greenways, allowing for natural area, parks and recreational development. Located between these two areas and forming a transition area of

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low impact business development, is Area J – Business to Greenways Transition, which identifies the need for additional strategies to ensure development that is compatible with the recreational and open space activities and natural landscapes of Area I.

The Northwest Saunders Lake ASP aligns with **Section 4.0** of the IDP, which aims to utilize the existing municipal infrastructure to provide land for regional economic development, including industrial lands. The industrial lands within the ASP will also be designed to meet or exceed the development standards, required by Section 4.3.2.8 and Section 4.3.2.9.

2.6 AEROTROPOLIS VIABILITY STUDY

Further west of the plan area lies the Edmonton International Airport (EIA), which is a major infrastructure asset to the Region. Recognizing this asset, an Aerotropolis Viability Study (AVS) was completed for the airport and adjacent lands, including the Northwest Saunders Lake ASP plan area.

The study identifies potential industrial and business uses for the Northwest Saunders Lake ASP area, including energy, manufacturing, transport logistics and distribution, education, and agri-business. Specifically, AVS discusses land uses under the following conceptual categories as being appropriate for development within the Saunders Lake Northern District, consistent with the area of this ASP:

- Campus Office
- Flex Business Park
- Light Industrial Manufacturing
- Warehouse and Distribution
- Data Server Facility
- Educational Facility

The land uses proposed in the ASP accommodate these activities. Further detail as to the proposed geographic distribution of these different land uses, as well as other compatible land uses envisioned by this plan, are described in Section 5.0 Development Concept.

To support development, a Joint Infrastructure Master Plan and Service Evaluation (JIMPSE) was prepared by CIMA in 2016. The Plan outlines existing conditions and high-level upgrade requirements for the transportation network within Leduc County and the City of Leduc.

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3.0 SITE ANALYSIS

3.1 EXISTING LAND USES

The majority of the plan area is presently in agricultural production with associated farmsteads dispersed throughout. Access to these farmsteads is provided via Range Road 250 and Township Road 500. There are currently two industrial businesses located near the intersection of Township Road 502 (Airport Road) and Range Road 250, uses similar to those anticipated by the land use concept of this plan.

Figure 3: Air Photo and Topography illustrates the predominately agricultural land use in the plan area.

There are several rights-of-way (ROW), including pipeline and power in the plan area that may constrain future development in their vicinity. Development setbacks are usually the edge of the right-of-way for pipelines, and can vary from power rights-of-way depending on the type of structures. The Alberta Energy and Utilities Board has not identified any sour gas wells within or immediately adjacent the plan boundary.

3.2 ADJACENT LAND USES

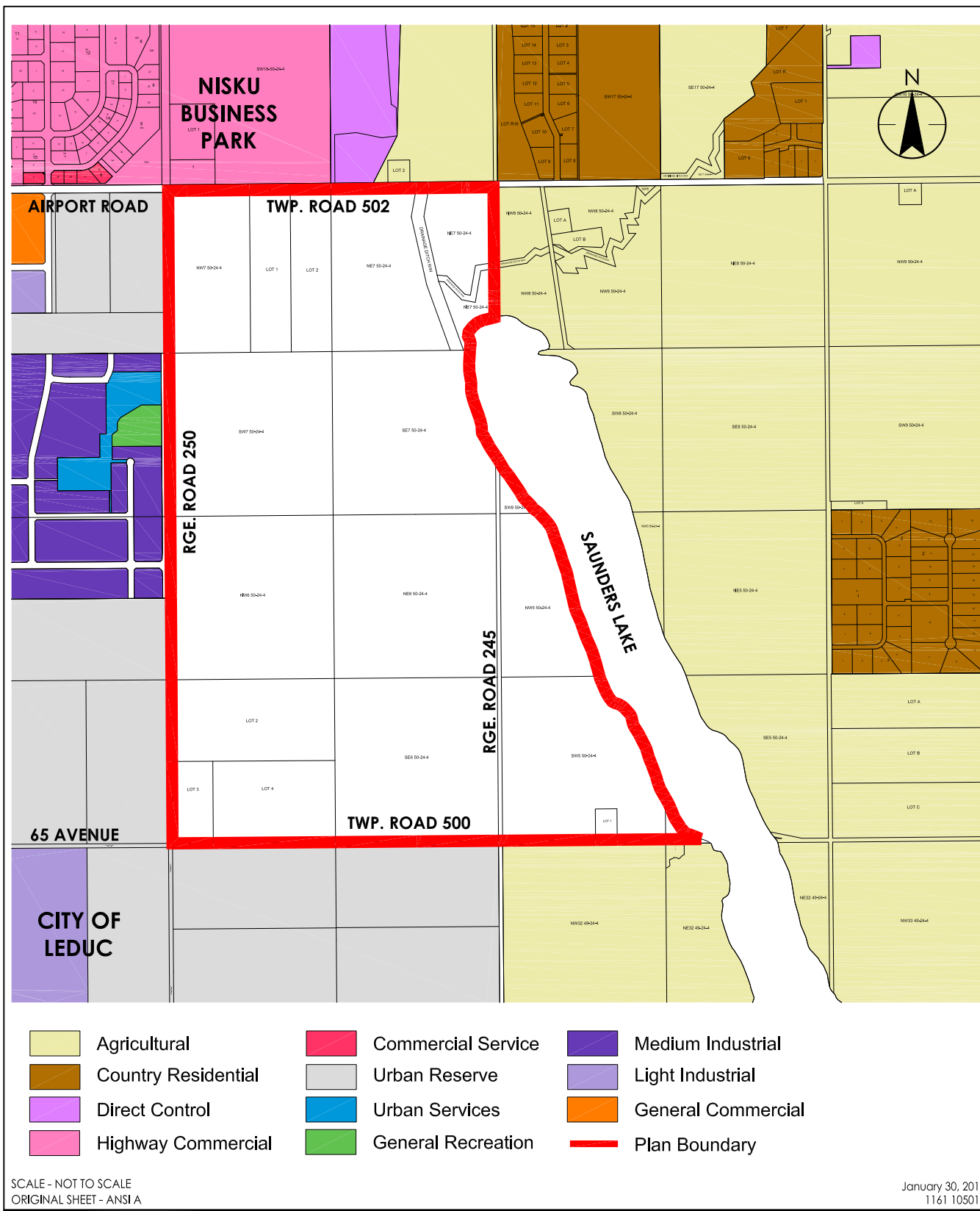
Figure 2: Plan Boundary and Adjacent Land Uses identifies existing land uses for adjacent areas.

The Nisku industrial area is located to the north/northwest of the plan area, categorized as Area F in the IDP (Nisku/Leduc Business Industrial). This is an older fully serviced industrial area, with a variety of industrial and business occupants. To the immediate southeast of the plan area, east of Range Road 245 and south of Township Road 500, is an area identified in the MDP for Industrial Reserve uses, which may be developed at a later date with industrial uses consistent with those within this plan area, as market conditions permit. The Industrial Reserve area is currently zoned for Agricultural uses and are anticipated to continue for the short-to-medium term future. The remainder of the adjacent County land is in agricultural production and designated as Agricultural in the Municipal Development Plan.

The lands immediately west of the plan area fall within the jurisdiction of the City of Leduc. Presently the lands to the west are predominantly in industrial use, or are planned for future industrial development, and also fall within Area F of the IDP. The City of Leduc Municipal Development Plan designates the land on the south side of Airport Road as Commercial and Industrial. The land south of Township Road 500 is designated a combination of Saunders/Telford Lake Business (Area B of the IDP) and IDP Reserve and Referral Area (Area H of the IDP).

There is a waste facility near the southwest side of Saunders Lake, approximately 1.6 km south of the plan area, with the remaining lands used for agricultural production.

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PLAN BOUNDARY AND
ADJACENT USES

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In addition to agricultural uses, there are a number of country residential developments located east and northeast of Saunders Lake. These include the Mini Vista, Valley View, and Sunnyville.

3.3 NATURAL FEATURES

Topography

There is a substantial amount of relief (approximately 50 m) within the plan area, as shown on **Figure 3: Air Photo and Topography**. Saunders Lake is the low area of the plan (at approximately 690 m) with the lands around it rising quite quickly to a maximum elevation of approximately 734 m west of the lake.

With the exception of a small area at the intersection of Range Road 250 and Township Road 500 (65 Avenue), the entire plan area slopes towards Saunders Lake. Above the steep banks leading to the lake, the land is generally gently rolling.

Surface Water

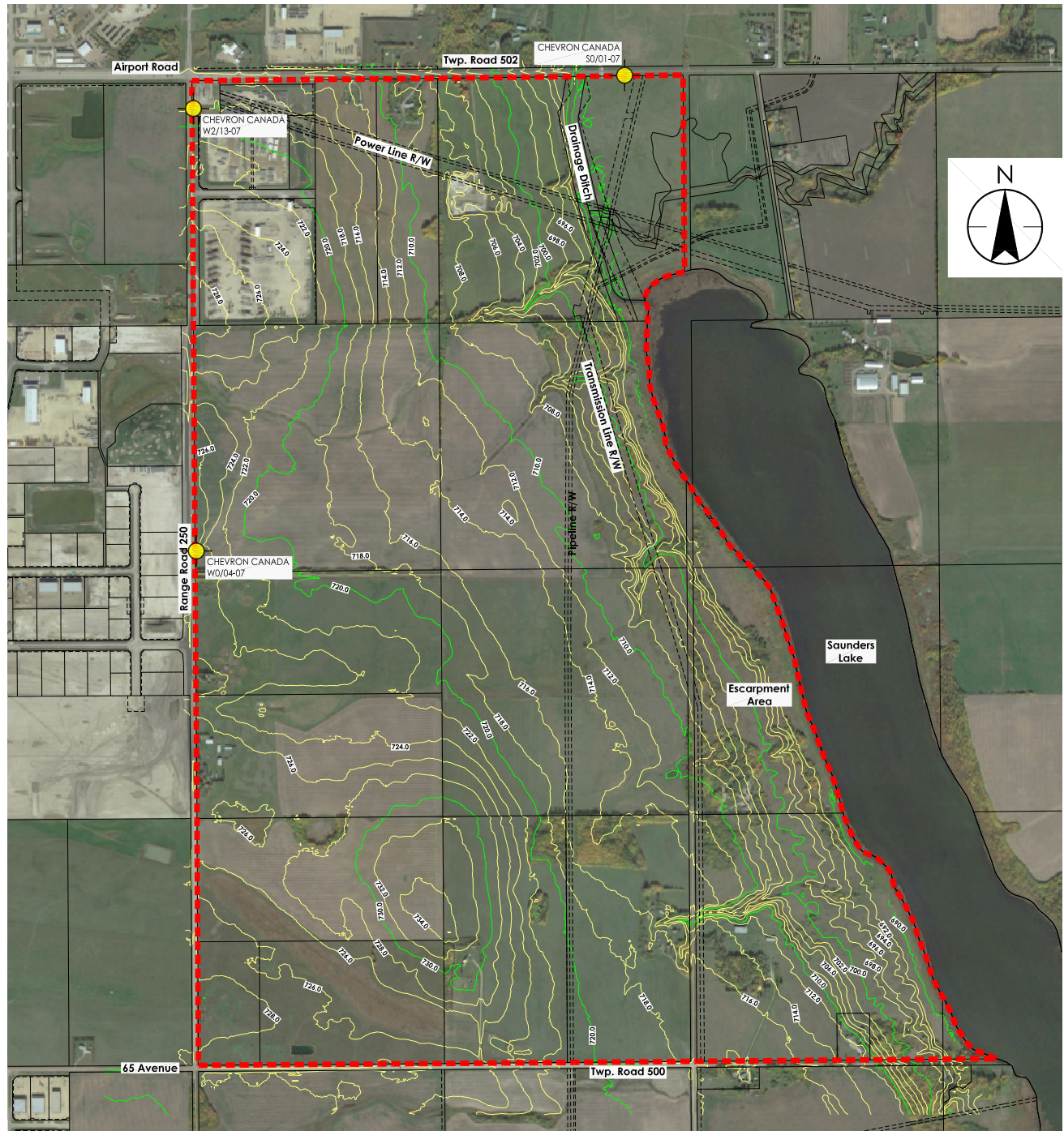
There are two main tributaries into Saunders Lake: Blackmud Creek enters from the south and Telford Creek enters from the west, but neither of these tributaries are located within the plan area. Intermittent overland flow of stormwater enters Saunders Lake from within the plan area, but forms no permanent watercourses.

The outflow from Saunders Lake is at the north end of the lake into the Blackmud Creek diversion channel, which ultimately feeds into the North Saskatchewan River. The outflow location has a control structure to help maintain the lake level of Saunders Lake.

Vegetation

The majority of the lands above the lakeside slopes have been or are in agricultural production. However, much of the slope leading to the lake is covered by deciduous forest. The dominant tree type is trembling aspen on the upper slopes and well-drained sites, and balsam poplar on lower slopes and poorly drained sites.

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- Surface Wellhead
- Plan Boundary

SCALE - 1:20,000
ORIGINAL SHEET - ANSI A

January 30, 2017
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Title

AIR PHOTO AND
TOPOGRAPHY

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Environment

The County's Environmentally Significant Areas Study was prepared in 2015 by Fiera Biological Consulting Ltd. The report identifies general areas within Leduc County that contain significant environmental elements to help guide future land use decisions.

Spencer Environmental Management Services Ltd. prepared an environmental assessment for the lands within the plan boundary under the previously prepared Saunders Lake Area Structure Plan in 2005 (rescinded 2017), which included a larger land area. This report identified environmental constraints and opportunities and provided recommendations for protective measures. These measures were initially incorporated into the 2005 Saunders Lake ASP and have been subsequently included in this ASP.

- 3.3.1** At the Outline Plan stage, all watercourses, wetlands, environmentally sensitive and significant areas shall be identified with a biophysical report. Recommendations for opportunities for protection, conservation, and enhancement of riparian habitat, upland vegetation, and natural amenities shall be identified at the Outline Plan stage.
- 3.3.2** A Phase I Environmental Site Assessment must be prepared and submitted in support of the rezoning of any parcel of land within the ASP area, unless already addressed as part of the Outline Plan process.
- 3.3.3** At the discretion of Leduc County, a geotechnical report may be requested that details steep slopes, unstable areas, and hazard areas to the satisfaction of the County at the Outline Plan stage.

3.4 HISTORICAL RESOURCES

Although Alberta Culture and Tourism have not identified any existing sites of historical significance, they have identified this area as having a high potential for artifacts and noted that further detailed study to their satisfaction should be conducted prior to development.

- 3.4.1** At the Outline Plan stage, Submission of a Statement of Justification (SoJ) for Historical Resources Act Clearance is required by Alberta Culture and Tourism for development of lands within the Plan area.

3.5 AGRICULTURAL LAND CAPABILITY

The County's farmland assessment prepared for the Saunders Lake ASP (2005; rescinded 2017) gives the majority of the land in the plan area a 51% to 100% capability rating for Agriculture. The land near the lake has a 31% to 40.9% capability rating.

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3.6 GROUND WATER

A general assessment of groundwater availability and quality was undertaken by Hydrogeological Consultants Ltd. in support of the original Saunders Lake ASP in 2005 (rescinded 2017).

This assessment found that groundwater supplies within one quarter to one half mile of the lake north of Township Road 500 are generally adequate in terms of yield, total dissolved solids, fluoride, and risk of groundwater contamination to support some residential development. As no residential development is anticipated within the plan area, however, this is not considered to be of concern.

- 3.6.1** At the Outline Plan stage, the County may request the preparation of a report detailing potentially high water table.

3.7 EXISTING MUNICIPAL INFRASTRUCTURE

Road Network

The plan area has excellent access west to the City of Leduc and Highway 2, and east to Highway 814 via Airport Road. Township Road 500 (65 Avenue within the City of Leduc) also provides access west into the City of Leduc and onto Highway 2.

The existing road network in the plan area is illustrated in **Figure 2: Plan Boundary and Adjacent Uses** and includes:

- Township Road 502/Airport Road - 2 lane paved highway
- Range Road 250/9th Street – 2 lane paved between Airport Road and Allard Avenue; 2 lane local gravel between Allard Avenue and 65 Avenue
- Township Road 500/65 Avenue - 2 lane local gravel

As of the approval of the Saunders Lake ASP (2005; rescinded 2017) all major roadways carried less than 10,000 ADT. The numbers were taken from 2002 Alberta Transportation traffic count data, as well as from the Nisku Traffic Analysis and Functional Planning Study, Reid Crowther, 1997, scaled up to 2002 by using a growth factor of 3% per annum, similar to the Reid Crowther Study, and consistent with experience elsewhere in the Province.

No significant changes to roadway infrastructure have occurred within the plan area since that date. Industrial development has proceeded to the west within the City of Leduc, with recent access being provided to Range Road 250 via Allard Avenue.

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Water and Sanitary Services

Currently there are no municipal sanitary or water mains within the plan boundary. The closest connection to the SERTS (South Edmonton Regional Trunk Sewer) line is located northwest of the plan area in the vicinity of Sparrow Drive and 24 Avenue. Municipal water connection to County lines is available to the west of 7th Street/Airport Road, to the east at 10th Street/Airport Road, and to the north between Section 18 and 19-50-24-4.

The City of Leduc North Leduc Industrial Area Structure Plan, which affects an area south of Airport Road and west of Range Road 250/9th Street, indicates that there may be potential for intermunicipal servicing arrangements. Such arrangements have not been negotiated between the City of Leduc and Leduc County as of the writing of this plan.

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4.0 PUBLIC ENGAGEMENT

4.1 ONGOING PUBLIC INVOLVEMENT

Any future amendments to the plan, applications to create Outline Plans, redistrict or subdivide land within the plan area, or applications for Development Permits, will be required to adhere to the applicable notification requirements of the MGA and Leduc County.

4.2 PUBLIC MEETINGS

A public open house was held by the proponent of this plan on Tuesday, August 30, 2016. The meeting shared the land use and servicing proposals for the area with interested stakeholders who attended the meeting. 33 people attended the meeting, of whom 22 identified themselves as either a resident or landowner within the plan area. In addition, members of both City of Leduc and Leduc County Councils attended the meeting. Attendees asked questions of Stantec staff and provided feedback on the proposal. A summary of comments made by members of the public was provided to Leduc County staff following the meeting.

5.0 DEVELOPMENT CONCEPT

The plan area is divided into several different land uses, including two business employment uses – Saunders Lake Business and Saunders Lake Transition. Saunders Lake Business is the most extensive use (304.2 ha). The second most extensive land use is Natural Area/Open Space (120.5 ha), consisting of those areas adjacent to Saunders Lake and the escarpment; the large open space buffer provides an area for recreational activities, and transition to the lake, as detailed in the following sections. Saunders Lake Transition (46.9 ha) is located in locations adjacent to the Natural Area/Open Space designation, providing a land use transition between public open spaces and the more intensive business park development of the Saunders Lake Business designation. Transportation (96.2 ha) and Stormwater Management Facilities (33.7 ha) form the remainder of the plan area. These areas are shown in **Table 1 Land Use and Population Statistics**.

Table 1 Land Use and Population Statistics

	Area (ha)	% of GA	
Gross Plan Area	601.4	100%	
Natural Area / Open Space	120.5	20%	
Developable Area	480.9	80%	
		% of GDA	
Net Developable	480.9	100%	
Saunders Lake Transition	46.9	10%	
Saunders Lake Business	304.2	63%	
Transportation/PUL	96.2	20%	
Stormwater Management Facilities	33.7	7%	
		Jobs per ha	Jobs per Land Use Type
Projected Number of Jobs Generated			
Saunders Lake Transition	46.9	31.3	1,467
Saunders Lake Business	304.2	31.3	9,521
Total	351.1		10,988

The plan area is expected to generate somewhere in the range of 7,500-11,000 jobs, as shown above in **Table 1 Land Use and Population Statistics**. This range is based upon the Aerotropolis Viability Study¹, which estimated 7,773 jobs would be generated in the Saunders Lake Northern District (over a smaller developable land area of 248 ha), and also assumed 31.3 jobs per net developable hectare. A 2006 Stantec Industrial Development Study² for Alberta oil and gas-related industrial development, which can be assumed to form a component of development within the plan area, estimated these employment areas generate 26 jobs per net developable

¹ Aerotropolis Viability Study – Final Report, MXD Development Strategists and Stantec Consulting Ltd., 2015. Accessed on Dec 12, 2016: <https://www.leduc.ca/alberta-aerotropolis-viability-study-final-report>

² Industrial Development Study: Joint Economic Development Initiative, Stantec Consulting Ltd., 2006. Accessed on December 12, 2016: <http://www.jedialberta.com/DocumentCenter/View/43>

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hectare, an estimate falling in the middle of the range. As such, this range is considered to be a reasonable estimate of future employment within the plan area.

5.1 NATURAL AREA / OPEN SPACE

Figure 4: Development Concept designates a substantial area of land surrounding the lake as Natural Area/Open Space. The general purpose of the Natural Area/Open Space designation is to ensure that Saunders Lake and its surrounding natural habitat are maintained in a healthy and natural state. Saunders Lake is a significant environmental and recreational amenity and the transition of land uses and buffering of natural areas will provide protection for the natural resource. Approximately 120 ha are designated for open space / natural area within the plan area. This area consists of the shore of Saunders Lake, steep slopes adjacent the lake, and watercourses draining into the lake, a wide strip of land varying in width from 200 m to well over 400 m in some locations. This designation is intended to protect the lakeshore, control development in the flood plain, allow for appropriate public access to the lake, allow the development of lake related recreational facilities, and to conserve wildlife habitat and movement corridors. The specific boundary of the Natural Area/Open Space designation will be determined through the Municipal Government Act's definition of Environmental Reserve and in consideration of the analysis contained within Leduc County's Environmental Significant Areas Study (2015) as it relates to the areas surrounding Saunders Lake.

The lands designated as Natural Area / Open Space are part of a large recreational network proposed for the area surrounding Saunders Lake. Leduc County prepared a Parks and Open Space Concept Plan in 2008. The Concept Plan outlines the priority locations for future open spaces in the County. The Master Plan identifies Saunders Lake as a Regional Environmentally Sensitive Area. The Intermunicipal Development Plan also identifies regional trail connections between Saunders Lake and Telford Lake recreational areas, of which trails within this plan area will form a part. The conceptual alignment of a Primary Trail, generally following the Top of Bank adjacent to the west bank of Saunders Lake, is identified in **Figure 4: Development Concept**, generally consistent with the alignment identified in the 2008 Parks and Open Space Concept Plan. The specific alignment of this trail will be subject to refinement at the Outline Plan and subdivision stages. It is anticipated that this trail will form part of a larger trail network, with other trail segments to be developed by the County, City of Leduc or other landowners, ultimately connecting to the east side of Saunders Lake, as well as to trails in the vicinity of Telford Lake, as described in the Parks and Open Space Concept Plan.

The Saunders Lake Environmental Assessment Report, prepared by Spencer Environmental Management Services Ltd. for the Saunders Lake ASP (2005; rescinded 2017), reviewed the existing environmental features and condition of the Saunders Lake corridor and made recommendations regarding the preservation and management of this resource. The report offers recommendations regarding three main issues: erosion control, retention of natural areas, and recreational opportunities. These recommendations were taken into consideration in the development of this Area Structure Plan.

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Active and passive recreational opportunities will be available within the Natural Area/Open Space. Multi use trails will be developed within the Natural Area/ Open Space to provide connectivity to adjacent uses, with pedestrian connections to Top of Bank area provided at approximately 400 m intervals. The Recreational Node (RN) identified in the northeast of the plan area will form part of a larger recreational area, access to which will be provided from lands to the east outside of the plan area. As described in the Parks and Open Space Concept Place, the Recreational Node is intended to be developed with parking, a boat launch, trail connections and associated amenities, most or all of which may be located outside of the plan area due to poor soil conditions in the portion of the RN within the plan area. A second boat launch may be developed in the southeast corner of the plan area, where Potential Lake Access is identified by an arrow on **Figure 4: Development Concept**. This Potential Lake Access should be provided via the existing Township Road 500 right-of-way.

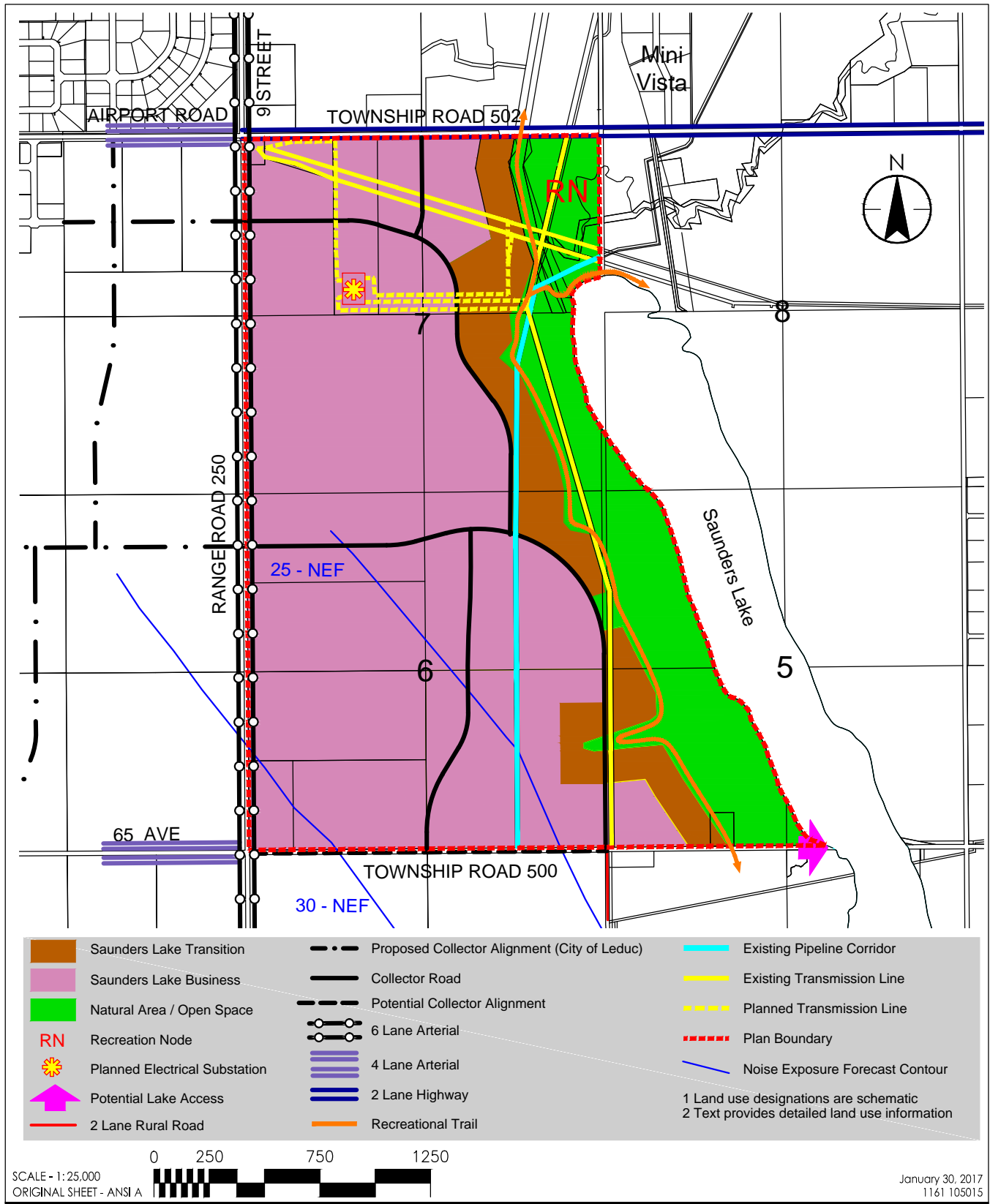
Natural Area/Open Space lands located below the surveyed Top of Bank adjacent to Saunders Lake, plus a reasonable setback to allow for public access, are anticipated to be acquired through the Environmental Reserve (ER) mechanism of the Municipal Government Act at time of subdivision. Alternative strategies that may be pursued by Leduc County to acquire and/or manage the use of these lands prior to subdivision, as identified in the Parks and Open Space Concept Plan (2008), include:

- Conservation Easements or Environmental Reserve Easements applied to Natural Area/Open Space lands
- Land acquisition / Ecogifts for lands designated as Natural Area/Open Space
- Incentive payments for the preservation of Natural Area/Open Space in a natural state
- Education & awareness of landowners within the Natural Area/Open Space designation to limit activities that may degrade the natural conditions of the land.

The selection and application of appropriate tools and strategies for the preservation of the Natural Area/Open Space lands will be at the discretion of Leduc County.

The need for the application of Municipal Reserve (MR) designation to acquire additional lands for public use is not anticipated at this time. However, at its discretion, the County may choose to identify additional lands adjacent to the Top of Bank at the Outline Plan stage to enhance the amenity and recreational opportunities in the area. Furthermore, as development proceeds within the plan area, requirements for other parks, the preservation of tree stands, emergency service facilities, or other appropriate municipal uses may be identified at the Outline Plan stage, with any MR dedication requirements identified in Outline Plan policies. Any MR obligations not provided for via dedication of land shall be provided via cash-in-lieu of land at appraised market value, as per the provisions of the Municipal Government Act.

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4.0

Title

DEVELOPMENT
 CONCEPT

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The following policies apply within the Natural Area / Open Space designation:

- 5.1.1** Public open spaces, trails, and natural areas within the Natural Area / Open Space designation shall be planned and managed in order to protect and enhance natural features such as ravines, natural vegetation, habitat, soil, groundwater, and surface water within water bodies such as creeks and Saunders Lake.
- 5.1.2** All developments adjacent to the Natural Area/Open Space shall provide a minimum 6.0 metre buffer from the geotechnical top-of-bank, plus additional setback if required to address geotechnical stability. This setback area shall be developed at the developer's expense with a multi-use trail and landscaping, providing recreation opportunities to future residents, workers and the public. Alternatively, at the discretion of Leduc County Administration, a multi-use trail may be provided below the geotechnical top of bank if it is determined to be preferable with respect to overall plans for recreational use and public access in the vicinity of Saunders Lake.
- 5.1.3** The area is to remain generally in its natural state with exceptions only for development related to or supporting recreation (e.g. trails, access for boating, nature interpretation sites, picnic sites, campgrounds).
- 5.1.4** Tree stands will be preserved, and may be enhanced where funding is available. The County may consider the use of Municipal Reserve to acquire tree stands, to be determined at Outline Plan stage.
- 5.1.5** Conceptual planning for open space and trails, including the locations for pedestrian access, approximate locations of trail systems and connections to adjacent areas and other regional recreational areas and networks, as applicable, shall be included at the Outline Plan stage.
- 5.1.6** Vehicular access to the lake will be limited to one point within the plan area, generally indicated by an arrow in **Figure 4**, to minimize the impact on the lake. Individual boat launching facilities are not to be permitted.
- 5.1.7** Proponents of recreational facilities (including the County or other public agencies) shall be required to provide the County, at the proponent's expense, an assessment, consistent with criteria established by the County, of the environmental impact of the proposed development. The County will take the assessment into account in making its decision regarding approval of the development.
- 5.1.8** In accordance with the provisions of the Municipal Government Act (MGA), upon subdivision the County will require the dedication of Environmental Reserve within the Natural Area/Open Space area. In cases where the definition of Environmental Reserve is not applicable, the County may also require the dedication of Municipal Reserve to ensure that the intent behind the Natural Area/Open Space designation is fulfilled. The

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requirement to dedicate Municipal Reserve will be determined by the County at Outline Plan stage.

- 5.1.9** The County will consider the use of Environmental Reserve easements, as provided for in the Municipal Government Act, where appropriate. This may include lands identified as Natural Area/ Open Space.
- 5.1.10** Development adjacent to the Natural Area/Open Space shall provide pedestrian access to the Natural Area/Open Space at intervals of approximately 400m.
- 5.1.11** Stormwater management facilities shall not be allowed within the lands designated as Natural Area / Open Space.
- 5.1.12** The County will require the full 10% Municipal Reserve dedication whether that is provided as land, cash-in-lieu of land, or a combination thereof, as deemed appropriate by Leduc County, in accordance with the MGA. The specific strategy for dedication of Municipal Reserve shall be determined by the County at Outline Plan stage.
- 5.1.13** Landscaping, where required, of all lands designated as Natural Area / Open Space shall be comprised of drought resistant species to minimize maintenance.

5.2 SAUNDERS LAKE BUSINESS

The City of Leduc's North Leduc Industrial Area Structure Plan designates the majority of the area west of Range Road 250/9th Street for a mix of light and medium industrial uses adjacent to the Northwest Saunders Lake ASP lands. This context provides the opportunity for a range of compatible land uses within the Saunders Lake Business designation.

Within Leduc County, lands lying east of Range Road 250/9th Street are designated for Saunders Lake Business development, consisting of approximately 304 ha. The type of development proposed is a mix of employment uses similar to those successfully developed in Leduc Business Park, while also facilitating Aerotropolis employment uses, with opportunities for a range of industrial, manufacturing, research, information technology, institutional and office uses. This designation also offers opportunities for service commercial uses to support the needs of employees within the plan area. The area will be developed to ensure that significant adverse offsite environmental impacts in the form of noise, dust, vibration, light pollution, and odour are contained within sites designated for Saunders Lake Business use, with these requirements to be implemented through zoning tools that will be defined at the Outline Plan stage.

Within the area that is designated for Saunders Lake Business, Altalink proposes an electrical substation on Lot 1, Plan 9021595. There are currently a number of transmission lines proposed for the site and potentially more in the future. Proponents are required to coordinate with the County as well as Altalink for future development.

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The following policies apply within the Saunders Lake Business designation:

5.2.1 The following uses shall be considered appropriate for the intended character of the area designated for Saunders Lake Business development:

- Agricultural research, processing and associated businesses
- Greenhouses and other clean farm facilities
- Information technology services
- Institutional uses
- Industrial research and associated businesses
- Manufacturing facilities and associated businesses
- Office development and professional services
- Warehousing, storage and logistics
- Other industrial uses which do not create significant adverse environmental impact or nuisance beyond the boundaries of the site
- Service and retail uses to support the daily needs of employees within the plan area
- Other uses consistent with the general intent for the area, excepting those identified as incompatible in Policy 5.2.2

5.2.2 The following uses shall be prohibited within the area designated for Saunders Lake Business development, as they are incompatible with the intended character of the plan area:

- Abattoirs
- Frame and fabric structures
- Heavy industrial developments including but not limited to:
 - Pulp and paper mills
 - asphalt or gravel crushing plants
 - oil refineries
- Outdoor storage not associated with a principal use
- Pipe yards, wrecking and salvage yards

5.2.3 A minimum Floor Area Ratio (FAR) of 0.2 shall be achieved on all sites, to be implemented through zoning regulations.

5.2.4 No development shall be approved that would produce airborne contaminants, dust, vibration, light and noise emissions, likely to have a detrimental impact on existing or planned residential areas.

5.2.5 Appropriate landscaping and screening shall be used to enhance important locations such as at roadway entrances to the plan area and corner lots within the development. Additional landscaping to that normally required in business and industrial areas by the Leduc County Land Use Bylaw shall be provided on corner sites, with additional requirements identified in zoning, to be defined at the Outline Plan stage.

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- 5.2.6** The uses and regulations for the Saunders Lake Business lands adjacent to Range Road 250/9th Street located between the intersection of Township Road 500/65th Avenue and Township Road 502/Airport Road shall be subject to joint planning between Leduc County and the City of Leduc and in light of the proposed uses within the North Leduc Industrial Area Structure Plan west of the existing Range Road 250 right-of-way.
- 5.2.7** During the development of any Outline Plan within the ASP boundary, coordination with Altalink and the County will be required to mitigate any effect on development due to the planned Substation and transmission lines associated with Lot 1, Plan 9021595.

5.3 SAUNDERS LAKE TRANSITION

The Saunders Lake Transition designation will provide a transitional use between the business development to the west and the natural area/open space designation on the eastern edge of the plan area adjacent to Saunders Lake.

The intent for Saunders Lake Transition development is to protect the integrity of Saunders Lake and respect the park-like nature of the land adjacent to the lake through limitations on the types of industrial and employment uses permitted, as well as additional requirements on the way buildings and sites within the Saunders Lake Transition designation are designed, to create a campus-like setting. Land uses and development standards shall ensure that no light pollution, noise, odour, dust or vibration is experienced beyond the edges of any individual Saunders Lake Transition site, and shall enhance the visual attractiveness of development through architectural standards and on-site landscaping requirements. Conditions regarding landscaping and special architectural requirements shall ensure that each development is aesthetically pleasing when viewed from existing and future development east of Saunders Lake, with requirements to be implemented through zoning, to be specifically defined at the Outline Plan stage.

Approximately 47 ha of land are designated as Saunders Lake Transition, distributed as an intervening use between Saunders Lake Business and Natural Area/Open Space areas. It will be supported by the access and exposure available from the collector roadways within the plan area.

The following policies apply within the Saunders Lake Transition designations:

- 5.3.1** The following uses shall be considered appropriate for the intended character of the area designated for Saunders Lake Transition development:
- Agricultural research
 - Greenhouses
 - Information technology services
 - Institutional uses
 - Industrial research
 - Light manufacturing facilities and associated businesses

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- Office development and professional services
- Other industrial uses which do not create significant adverse environmental impact or nuisance outside the principal building, and which do not extend beyond the boundaries of the site
- Service and retail uses to support the daily needs of employees within the plan area
- Other uses consistent with the general intent for the area, excepting those identified as incompatible in Policy 5.3.2

5.3.2 The following uses shall be prohibited within the area designated for Saunders Lake Transition development, as they are incompatible with the intended character of the plan area:

- Abattoirs
- Asphalt and concrete plants
- Frame and fabric structures
- Heavy industrial development including but not limited to:
 - Pulp and paper mills
 - asphalt or gravel crushing plants
 - oil refineries
- Other industrial uses which create adverse impact or nuisance beyond the boundaries of a site
- Outdoor storage not associated with a principal use
- Pipe yards, wrecking and salvage yards

5.3.3 A minimum FAR of 0.2 shall be achieved on all sites, to be implemented through zoning regulations.

5.3.4 Lands with the Saunders Lake Transition designation area must provide for adequate buffering and screening from the Natural Area/Open Space lands and enhanced design standards, to protect the integrity of the natural area, and also to enhance the visual attractiveness of development within the Saunders Lake Transition area. Measures similar to those contained within the Telford Lake Industrial Overlay of the City of Leduc Land Use Bylaw 809-2013 shall be employed at zoning stage to ensure the protection of the integrity of Saunders Lake and respect for the park-like nature of the land adjacent to the lake. Building, siting, and landscape standards for the Saunders Lake Transition area shall exceed the standards for typical light industrial development. Measures to achieve this intent shall include:

- No parking or outdoor storage shall be located within setback areas adjacent to lands designated as Natural Area/Open Space.
- Additional landscaping requirements adjacent to lands designated as Natural Area/Open Space.

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- Increased architectural design standards that contribute to a business campus-like setting with high quality façade treatments, screening of mechanical equipment, and other measures that enhance the appearance of buildings, particularly when viewed from lands to the east.
- Encouragement of building and site design enhancements such as green roofs, LEED or BuiltGreen certification, and Low Impact Development stormwater management strategies.
- Limits on lighting to minimize impacts on wildlife in the vicinity of Saunders Lake, as well as any existing or planned residential areas.

The appropriate zoning strategy for achieving this intent shall be identified at the Outline Plan Stage. Other measures deemed appropriate by Leduc County additional to those described above may also be identified at the Outline Plan stage and implemented through zoning.

- 5.3.5** Outdoor storage shall be permitted only when accessory to a permitted principal use and shall be screened to the height considered necessary by the Development Officer.

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6.0 TRANSPORTATION

The schematic roadway network is shown on **Figure 5: Transportation Network**. The northern east/west highway, Township Road 502/Airport Road, is presently a four lane roadway from Highway 2 east to Range Road 250/9th Street and continues eastward to Highway 814 as a 2-lane highway.

The Range Roads 245 and 250 Functional Planning Study (McElhanney, 2010) was completed for the Nisku Spine Road (9th street and Range Road 250), which will travel east of and parallel to Highway 2, providing a north-south arterial serving the growing Nisku area industrial corridor between the Cities of Edmonton and Leduc. Spine Road will be the only contiguous north-south route between Highway 814 on the east and Highway 2 on the west, connecting south Leduc and possibly Highway 2A, with Nisku, the future Capital Region Ring Road and Anthony Henday Drive. It will offer a viable alternative to some of the commuters that presently must converge on to Highway 2 entering the Capital Region. Spine Road is ultimately intended to have a 6 lane configuration, and as such development of lands immediately east of Spine Road will be expected to dedicate sufficient road right-of-way for this facility.

A Traffic Impact Assessment (TIA) completed for the ASP lands recommends that Airport Road west of Spine Road, the Spine Road south to 65 Avenue, and 65 Avenue within the City of Leduc be upgraded to four-lane cross-sections, and that the 65th Avenue/Spine Road intersection be in place by the 20-year horizon. The TIA also recommends improvements to all intersections adjacent to the plan. The TIA also indicates that Township Road 500 will handle significant traffic and that it should be upgraded, if this roadway is maintained on its current alignment. However, with the anticipated development of the Spine Road, this alignment may need to be revisited in future in conjunction with any planning for lands south of the ASP area. The City of Leduc is initiating the creation of the East Telford Lake ASP in 2017, which will consider the locations and configuration of collector roadways and intersections with Spine Road south of the NW Saunders Lake ASP. The transportation recommendations of this planning process will need to be considered as part of any Outline Plan adjacent to the southern boundary of this ASP area, and may result in adjustments or refinements to the potential collector roadway alignments identified on **Figure 5**.

A conceptual collector road system to serve the internal workings of the future development area has been identified schematically. The specific alignment of these collector roads will be established at the Outline Plan stage. They will convey local industrial traffic to the surrounding arterial roads/highways. Collector roadways may be expected support transit service within the plan area, should Leduc County provide such service. This possibility will be explored in further detail at the Outline Plan stage, if considered appropriate by the County. Although it is anticipated that the majority of traffic to the plan area will arrive by private vehicle, pedestrian facilities will be provided to ensure basic pedestrian mobility and connections to transit, if applicable. The form and extent of pedestrian facilities within the plan area will be determined in consultation with Leduc County through the Outline Plan process.

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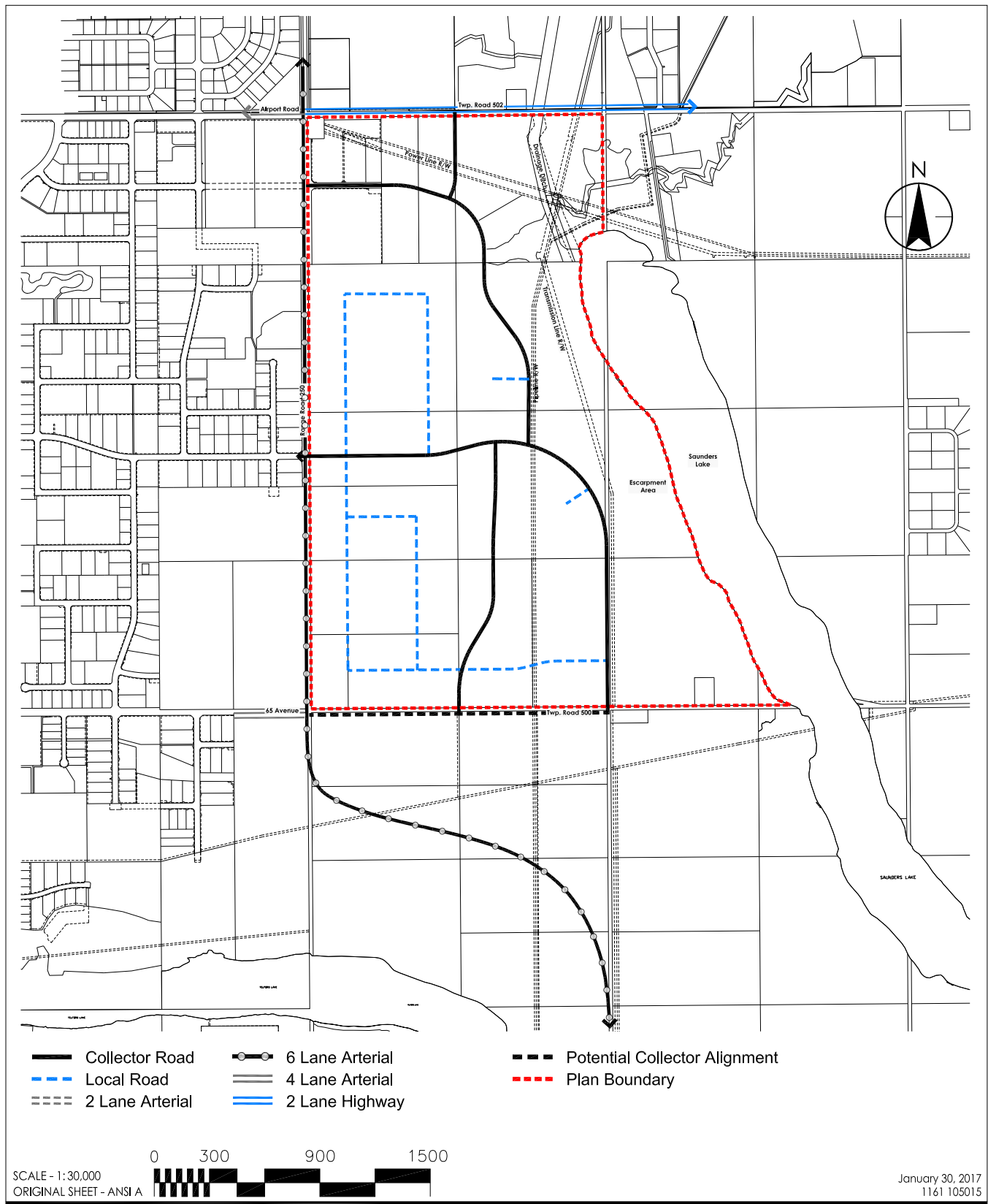
The locations of these collectors in the northwest plan area have been aligned in consideration of future roadways in adjacent plans. The connections onto Spine Road have been located such that they can form four-way intersections with future connections identified in the North Leduc Industrial ASP. Access onto Spine Road is to have a minimum spacing of 800m or such greater or lesser intervals as determined by the two municipalities, taking into account the Transportation Association of Canada guidelines.

Updates to the off-site levy bylaw will be required to address roadway upgrades that will require developer contributions.

The following policies apply to roadway development in the plan area:

- 6.1.1** The County will establish a cost sharing mechanism such that all developable lands will contribute to the ultimate transportation network for the plan area.
- 6.1.2** As development occurs, local roads (and collectors as required) shall be developed to a two-lane paved rural standard. These roads are to be constructed, to the satisfaction of the County, at the cost of the developer.
- 6.1.3** Pedestrian facilities will be required within the plan area to ensure basic pedestrian mobility and connections to transit, if applicable. The form and extent of pedestrian facilities within the plan area will be determined in consultation with Leduc County through the Outline Plan process.
- 6.1.4** Should transit service be initiated or planned within the plan area, collector roadways will be expected to accommodate this transit service. At the discretion of Leduc County, Outline Plans may be expected to incorporate policies and strategies to allow for transit service within the plan area, and shall be expected to be integrated with pedestrian infrastructure.
- 6.1.5** Improvements to Airport Road may be required because of development within the plan area, in accordance with the approved TIA.
- 6.1.6** All lands will contribute proportionately to the cost of required arterial road upgrades. Actual construction shall be conducted with the development that triggers such upgrades, with recoveries from other benefiting developers.
- 6.1.7** The County may establish and charge development levies for roadways installed and/or upgraded by developers and/or the County.
- 6.1.8** Improvements to Spine Road (Range Road 250) will be cost-shared between the County and the City. The re-alignment of these roads to make them continuous will require new cost sharing agreements between the County and the City. These should be based on detailed long-range transportation planning undertaken with the cooperation of the two municipalities.

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TRANSPORTATION
NETWORK

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- 6.1.9** Development within the plan area may have an impact on 65 Avenue within the City of Leduc. As development occurs, a joint traffic impact study will be required to assess these potential impacts and determine the need, if any, for intermunicipal agreements regarding joint responsibilities for the cost of upgrades and/or maintenance of 65 Avenue.

6.2 PROTECTIVE SERVICES

Protective services in the area are anticipated to be provided through joint agreement with the City of Leduc, similar to agreements already in place for the Nisku industrial area. Opportunities for shared services between Leduc County and the City of Leduc in coordination with intermunicipal efforts for regional emergency services should be identified at the Outline Plan stage.

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7.0 SERVICING

7.1 WATER AND SANITARY SERVICING

Figures 6 Conceptual Water Servicing and **Figure 7 Conceptual Sanitary Servicing** show a conceptual servicing scheme for the plan area. Municipal servicing is required for development to proceed. To ensure that servicing of the entire plan area with municipal water and sanitary services is possible, the design and construction of these systems (particularly the first stages) must be properly oversized to accommodate lands to be serviced in the future. The northwest area of the plan is most readily serviceable.

A connection to existing water services will require significant extensions, with existing service available within approximately 2 km in the vicinity of Sparrow Drive and 14 Avenue, as shown on **Figure 6: Conceptual Water Servicing**. The extension of this service will benefit development beyond the boundaries of the plan area. Hydraulic network analysis will be required at the Outline Plan stage to confirm the concept, and adjustments may be required at the Outline Plan stage to ensure efficient and effective approaches to suit the long-term water servicing needs of Leduc County, both with respect to servicing alignments and capacity. The potential for extending services south of the ASP area into future development lands within Leduc County should also be considered at the Outline Plan stage, with appropriate adjustments to system capacity made to accommodate this intent, if technically feasible.

Intermunicipal water servicing is not considered feasible due to differing service standards between the Leduc County and City of Leduc water systems. However, emergency connections to facilitate short-term water service can be made to provide redundancy to the water system. A possible location for such a connection is identified on **Figure 6: Conceptual Water Servicing**; any such connection would be a closed valve connection, and would require the approval of both Leduc County and the City of Leduc.

A connection to existing sanitary services is available within 0.8 km. Sanitary servicing is intended to be achieved by gravity, which requires two lift stations; one near the northwest side of Saunders Lake and one at the south end of the study area at Township 500, as shown in **Figure 7: Conceptual Sanitary Servicing**. From the north lift station, a connection will be made to the SERTS line. It is anticipated that as subdivision and development occur, both the sanitary and water lines will be extended through the area within the local or collector road rights-of-way. The sanitary servicing system identified in this plan is conceptual and subject to refinement and/or adjustment at the Outline Plan stage as more detailed servicing studies are undertaken. Adjustments to the sanitary servicing concept may result in the need for the dedication of utility rights-of-way through the plan area. If required, these utility rights-of-way should be collocated with existing utility corridors such as the electrical transmission corridor or pipeline corridor identified in **Figure 4: Development Concept**. The collocation of utility rights-of-way with roadway

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corridors within the plan area is also desirable to reduce right-of-way requirements and impacts on adjacent land uses.

Lands within Leduc County and the City of Leduc to the south of the plan area may be developed in future, and this possibility should be considered in detailed servicing concepts developed at the Outline Plan stage, with an analysis of the maximum sanitary flow capacity through the ASP area identified, in order to address what portion of lands to the south could be reasonably serviced through the system developed for the ASP. Depending on the identified servicing capacity, it may be advantageous for the County to service lands to the south through upsizing of infrastructure within the NW Saunders Lake ASP, or to provide separate infrastructure for these future development lands. Advantages of servicing lands to the south via infrastructure developed for this ASP area may include the consolidation of required infrastructure such as sanitary lift stations; for instance, a shared servicing approach could combine two lift stations into a single facility located generally in the southeast portion of the plan area, reducing capital and maintenance costs. Although the servicing concept within this plan reflects the most likely servicing option given the information available at the time of writing, questions remain which must be confirmed and/or resolved at the next stage of planning and addressed through the policies and servicing concepts of Outline Plans for the area to ensure the most efficient and effective approaches to suit the long-term sanitary servicing needs of Leduc County. As that servicing for the City and County south of the plan area is not known at this time, an alignment for future forcemain(s) from a joint lift station will be protected through the plan area, as identified in the Northwest Saunders Lake Servicing Report. This right-of-way will be reserved during the planning process so that servicing can connect from south of the plan area to the Alberta Capital Region Wastewater Commission tie-in to the north, unless alternative servicing strategies that do not require this right-of-way are identified at the Outline Plan stage.

Updates to the off-site levy bylaw will be required to accommodate water and sanitary servicing within the plan area.

- 7.1.1** Prior to any development and in conjunction with the development of Outline Plans for any portion of the plan area, detailed engineering reports must be prepared by the proponent and accepted by the County.
- 7.1.2** Services shall be constructed with appropriate oversizing to accommodate future development within the plan area, as identified in detailed engineering reports, as well as future offsite development, if feasible and required by Leduc County.
- 7.1.3** The County shall prepare a mechanism by which a developer front-ending the cost of oversizing services will be reimbursed by future developers as they utilize the services.
- 7.1.4** The County may establish and charge development levies for utility and/or stormwater facilities installed by developers and/or the County.



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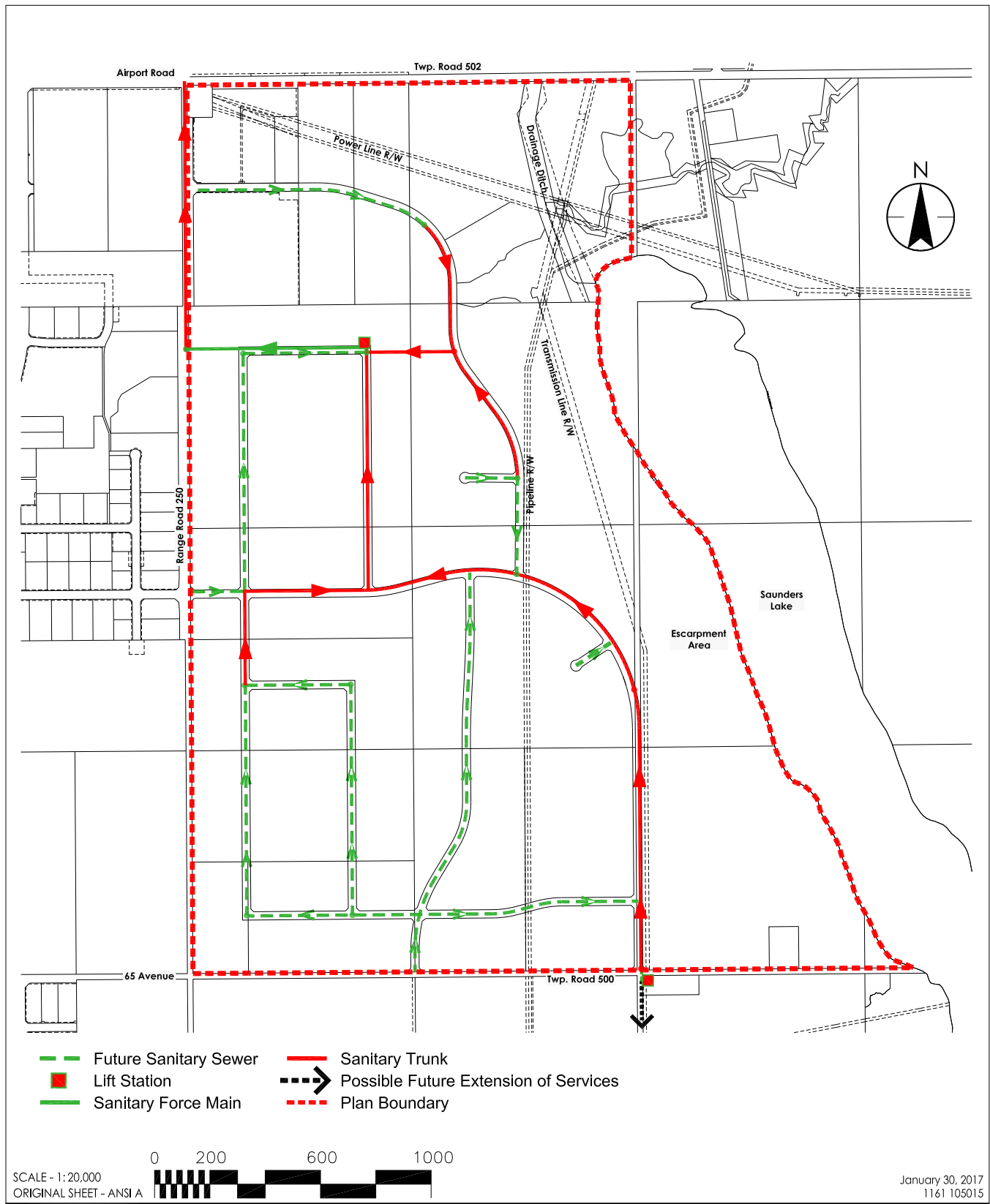
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CONCEPTUAL WATER SERVICING

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- 7.1.6** Within the plan area, the potential for and structure of cost sharing mechanisms will be determined by the City of Leduc and Leduc County.

7.2 STORMWATER MANAGEMENT

As shown in **Figure 8: Conceptual Stormwater Servicing**, the ultimate receiving body for stormwater from the plan area is Saunders Lake. The majority of the plan area naturally drains toward the lake. Stormwater runoff must be properly managed to ensure that the water entering the natural water body is of a high quality with a low level of suspended solids. The strategy for achieving this is the incorporation of Low Impact Development (LID) concepts into the design of the stormwater management system.

LID is an approach that uses simple ecological principles to reflect natural ecosystem processes with respect to managing stormwater in a developed area. Stormwater management systems designed using LID concepts can simultaneously satisfy regulatory requirements, act as amenities for the surrounding area, protect the environment by reducing runoff, and improve water quality. One concept is to implement alternative conveyance systems to slow the erosive velocity of stormwater, increase time of concentration, and use natural systems to filter pollutants such as sediment, nutrients and heavy metals. Another initiative is to reduce the quantity of stormwater runoff to improve the quality of water entering Saunders Lake. This can be achieved through the installation of various infiltration systems which encourage the downward movement of water into the underlying soil to reduce the total quantity of overland runoff and pollutants from impervious surfaces. The strategies best suited to achieving these goals within the plan area are bioswales and stormwater management facilities (SWMFs) designed as constructed wetlands.

Bioswales are vegetated swales which are an alternative to piping stormwater, with significant environmental advantages. Bioswales reduce storm water velocities, allow sediment and pollutants contained within stormwater to be filtered, as well as allowing water infiltration into the ground. When used in conjunction with stormwater management facilities, bioswales collect and convey stormwater, and function as initial sites for stormwater treatment. These vegetated channels improve water quality by decreasing water velocity and thus allowing suspended solids and heavy metals to fall out of the flow. Some metals and nutrients (like nitrogen or phosphorous) will also be absorbed by the plant life in the channels.

This ASP also proposes a series of constructed wetlands as a key step in stormwater retention, filtration and infiltration. Constructed wetland systems use soils, vegetation, and hydrology to remove pollutants from stormwater through increased contact time with soils and plant materials. The systems are effective in attenuating flood flows, reducing pollutant loadings, and providing wildlife habitat. As compared with conventional stormwater management systems, constructed wetlands more closely mimic the natural hydrologic cycle, allowing soils and plants to filter pollutants from stormwater and permitting the processes of infiltration, evaporation, and transpiration to occur. The systems create wildlife habitat, minimize erosion, and recharge local groundwater supplies. Similar to their natural counterparts, constructed wetlands can vary from

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seasonally inundated to year-round, open-water systems, depending on seasonal rainfall levels and soil conditions. To optimize pollutant removal capacities, engineers aim to maximize flow paths through wetland systems to prolong exposure to soils and vegetation, thereby facilitating nutrient and pollutant uptake, retention, and settling. Both bioswales and constructed wetlands are identified as Stormwater Best Management Practices by Alberta Environmental Protection (*Stormwater Management Guidelines for the Province of Alberta*, Alberta Environmental Protection, January 1999).

The plan area has been divided into 5 drainage basins based on existing topography, shown conceptually in **Figure 8: Conceptual Stormwater Servicing**. Within each basin, stormwater management facilities will drain via storm sewer linkages between stormwater management facilities, and ultimately outfall into Saunders Lake. As acknowledged in the City of Leduc's Leduc North ASP, detailed plans for storm water drainage in the area west of Range Road 250/9th Street must be accounted for by future development in the Northwest Saunders Lake ASP area. Stormwater pond locations and overland flow directions are conceptual at the ASP stage and may be subject to refinement or change at the Outline Plan stage, in consideration of detailed analysis of site topography, conditions and environmental constraints and resulting servicing concepts. Furthermore, stormwater management systems may require intermunicipal agreements to address stormwater which may feed into the stormwater system from adjacent development areas, and Province of Alberta Water Act approval, prior to the construction of any stormwater management infrastructure within the plan area.

Updates to the off-site levy bylaw will be required to accommodate stormwater servicing within the plan area.

Stormwater management shall be provided in accordance with the following policies:

- 7.2.1** Prior to any development and in conjunction with the development of Outline Plans for any portion of the plan area, detailed stormwater engineering reports must be prepared by the proponent and accepted by the County.
- 7.2.2** The County shall prepare a mechanism by which a developer front-ending the cost of stormwater management infrastructure will be reimbursed by future developers as they utilize the system within the basin.
- 7.2.3** The stormwater management system will accommodate overland drainage via a system of vegetated bioswales and constructed wetlands to reduce stormwater velocity and manage flow rates, improve groundwater infiltration, and enhance filtration and water quality prior to release into Saunders Lake.
- 7.2.4** The County will not allow stormwater management facilities as part of every parcel. Larger facilities that receive overland flow from many parcels shall be created to efficiently manage the quantity and quality of stormwater discharged into Saunders Lake. To ensure an efficient stormwater management system, owners will have to

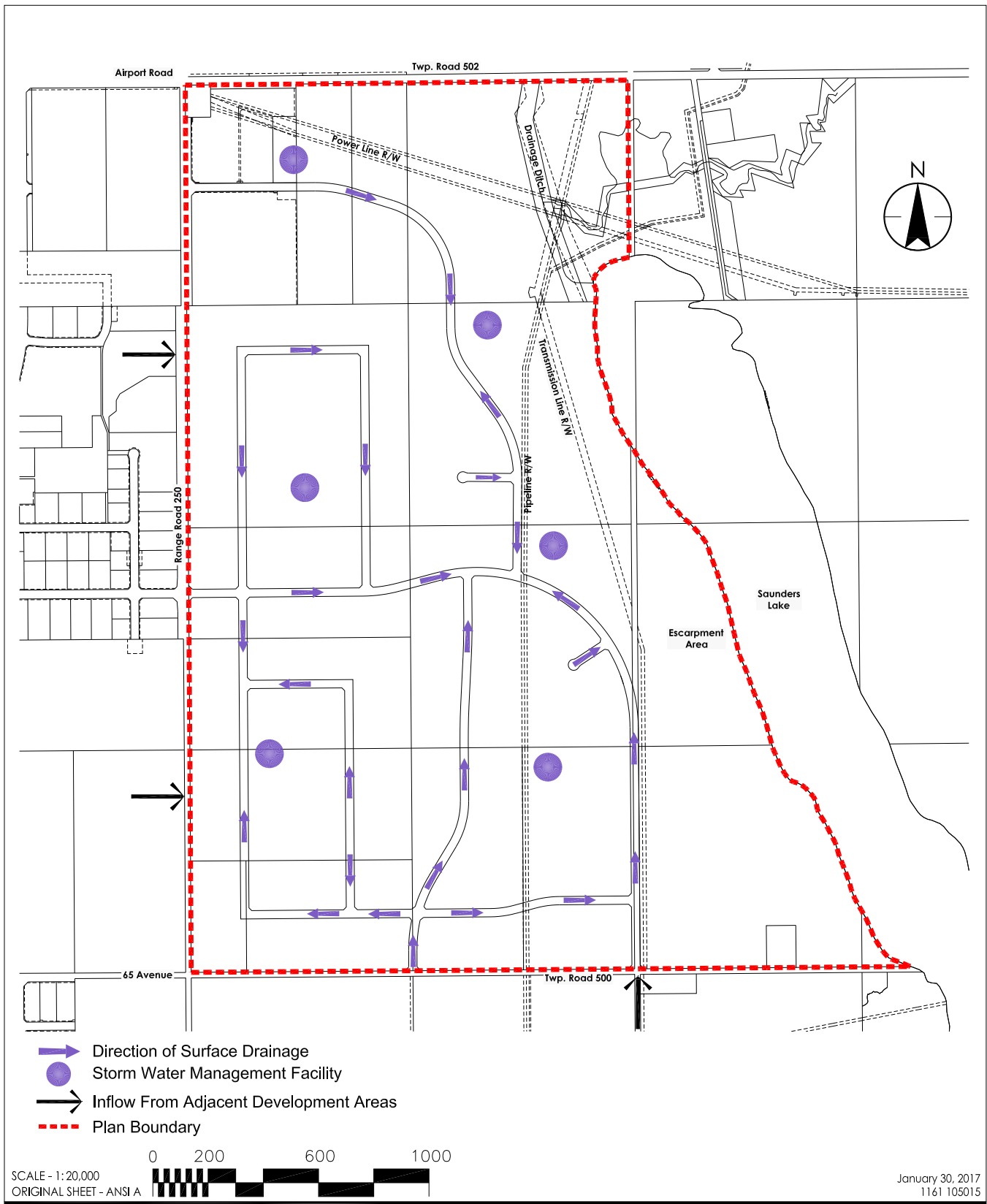
NORTHWEST SAUNDERS LAKE AREA STRUCTURE PLAN

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coordinate development at the Outline Plan stage to ensure proper usage and location of stormwater management facilities.

- 7.2.5** Permanent stormwater management facilities shall be a minimum of 2.0 ha in size.
- 7.2.6** Stormwater ponds shall be designed in consultation with the Edmonton International Airport at the Outline Plan stage to mitigate bird hazards in the plan area.
- 7.2.7** Erosion will be mitigated by maintaining pre-development rates. These mitigation measures will be detailed at the Outline Plan stage.
- 7.2.8** The flood plain of Saunders Lake and the locations of required stormwater outfalls shall be identified at the Outline Plan stage.

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SAUNDERS LAKE INDUSTRIAL PARK LTD.
NORTHWEST SAUNDERS LAKE
AREA STRUCTURE PLAN

Figure No.

8.0

Title

CONCEPTUAL STORM
WATER MANAGEMENT

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8.0 IMPLEMENTATION

The implementation of this plan may require amendments to the Land Use Bylaw to create land use districts compatible with this plan.

Within this plan area, it is the County's policy to require development proponents to take full financial responsibility for the extension of all municipal utility services required to support the development. This includes the initial capital cost. In accordance with the provisions of the Municipal Government Act, the County will endeavour to ensure that the development proponent receives appropriate compensation from future benefiting developments as they occur, either through the establishment of a levy, cost sharing arrangements, or a combination thereof.

8.1 OUTLINE PLAN

This plan addresses future development adjacent to the northwest shore of Saunders Lake in general terms. Prior to re-districting and subdivision, it will be necessary for the County to approve detailed Outline Plans to ensure that individual developments are properly planned.

- 8.1.1** Prior to the approval of districting or subdivision that would allow development to proceed, detailed Outline Plans shall be prepared by the applicant and accepted by the County.
- 8.1.2** Each Outline Plan shall, to the satisfaction of the County, include a practical planning area based on natural and/or servicing boundaries and extending, if necessary, beyond the proponent's land ownership.
- 8.1.3** Each Outline Plan shall address how the proposed development will relate to its neighbours in terms of sound/visual/dust impacts, access requirements, traffic impacts, provision and extent of Municipal and Environmental Reserve, environmental, historical, palaeontological and archaeological considerations, identification of landscaping and buffering requirements/standards, storm water drainage and natural drainage courses, the provision of municipal utility and community services, the anticipated sequence of development, and other considerations deemed relevant by the County, all to the satisfaction of the County.
- 8.1.4** Outline Plans shall be subject to public review and comment prior to their consideration for approval.

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8.2 STAGING OF DEVELOPMENT

The County intends that development will proceed based on the availability of adequate road access and, where applicable, the availability of municipal water and sewer.

It is intended that development will commence generally in the northwest portion of the plan area and proceed eastward and southward as shown in **Figure 9: Staging Concept**. Detailed staging within local areas will be required as part of the Outline Plans described in Section 6.1 of this plan.

While the sequence of development is expected to be in a north to south direction as adequate road access is available and water and sewer services are extended from Airport Road, this sequence may be varied depending on the final sequence of development of lands within the North Leduc Industrial Area Structure Plan immediately to the west, should intermunicipal servicing be pursued (i.e. access roads to Range Road 250/9th Street, service extensions to areas in close proximity to the plan area).

The development of lands immediately adjacent to the current intersection of 65 Avenue/Township Road 500 and Range Road 250/9th Street will depend on the sequencing of development in the adjacent City of Leduc and the finalization of the new alignment of Range Road 250/9th Street/Range Road 245.

Recreational areas will be developed by the County as dictated by demand for such uses.

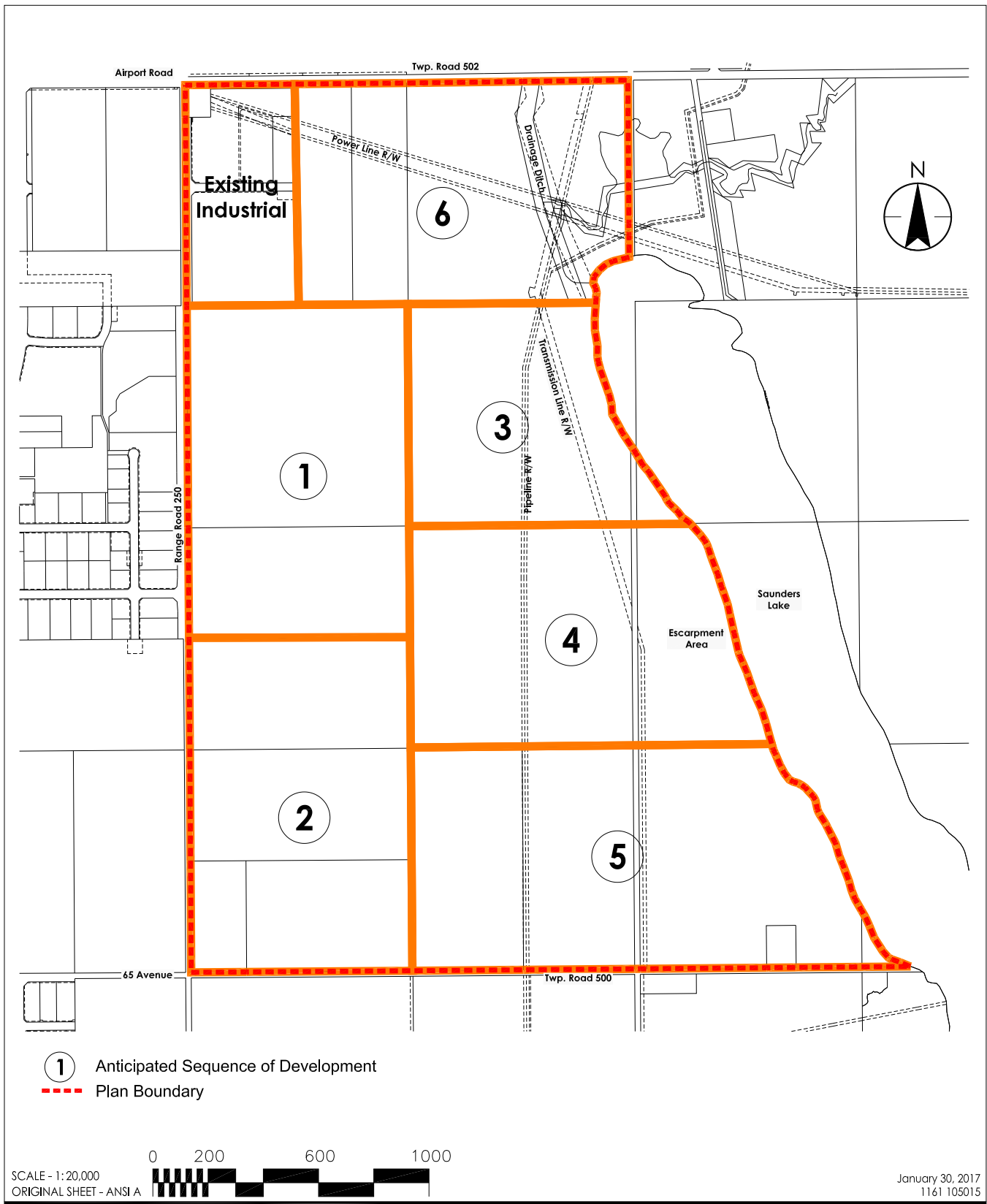
- 8.2.1** Development within the plan area shall be contiguous. Municipal infrastructure shall be extended as required.

8.3 INTERMUNICIPAL COORDINATION

The Leduc Intermunicipal Development Plan contains specific policies regarding the referral of proposed plans, re-districtings, subdivisions, etc. to the City of Leduc for comment. It also encourages cooperation and coordination between the two municipalities with respect to the provision of major utilities, drainage, and protective services.

- 8.3.1** The County will refer development applications within the plan area, including Outline Plan proposals and amendments, land use redesignations, and subdivisions to the City of Leduc in accordance with the provisions of the Leduc Intermunicipal Development Plan.

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Figure No.

9.0

Title

STAGING CONCEPT

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8.4 FINANCIAL CONSIDERATIONS

The associated capital costs for development shall be borne predominantly by the developer. In some cases, this will require direct costs through the provision of infrastructure. Where required infrastructure is located off-site, levies will be applied by the County to ensure proportionate contributions to the land area being developed. An amendment to County bylaws may be required to facilitate the appropriate apportioning of costs to developments within the plan area.