

CITY OF EDMONTON ANNEXATION APPLICATION

APPENDIX 19.0

LEDUC COUNTY CROSSROADS AREA
STRUCTURE PLAN (ASP)



MARCH 2018

Edmonton

Crossroads Area Structure Plan



AREA STRUCTURE PLAN

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102344-28
January 2012

FOCUS

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1. Introduction

1.1 Vision

Crossroads Area Structure Plan (ASP) is envisioned as a hub of logistics, distribution, and related businesses supported by commercial uses geared to expand and diversify the industry, commerce and trade activity in Leduc County and the Greater Edmonton Region. Due to the international access provided by the Edmonton International Airport, the Plan area's proximity to the City of Edmonton, the promotion of Port Alberta and its location as a gateway to northern oil exploration, Crossroads ASP is positioned to become a key development area in the future growth of the Capital Region.

Development of the Plan area will serve as a catalyst for all future servicing and development west of the Queen Elizabeth II Highway in Leduc County. In addition, Crossroads' focus on the environment and enhanced architectural requirements will set the benchmark for neighbouring developments. Development of individual lots will be guided by a vision to employ a high standard of architectural design. This will ensure a level of cohesiveness and quality in the overall design and lot layouts, and will guide the style of development for the Plan area that will ensure high quality design within and between land uses.

1.2 Purpose

The purpose of this document is to provide a framework to guide the development of Crossroads ASP. This Plan will address planning issues in a comprehensive manner to effectively coordinate servicing and transportation infrastructure with the spatial organization of land uses. Additionally, this Plan seeks to introduce policy and guidelines that together will create a successful and environmentally responsible and sustainable development.

The Crossroads ASP describes how 581.5 hectares of farmland located north of Highway 19 and west of the Queen Elizabeth II Highway in Leduc County will be developed into an efficient and orderly commercial, business and industrial park. The ASP has been prepared on behalf of Remington Development Corporation and Capital Corridor Developments, who are significant land owners within the Plan area.

1.3 Area Structure Plan Objectives

The Crossroads ASP has the following objectives:

1. To create a comprehensive plan that describes appropriate development within the plan area.
2. To provide a policy framework that guides development within the plan area.
3. To identify land uses that will meet the needs of the development concept.
4. To detail a development concept that compliments and diversifies the regional economic market.
5. To provide diversification of development from that which currently exists within Leduc County.
6. To illustrate the physical characteristics of the plan area and describe any potential impact on the natural environment by the proposed development, including strategies to mitigate environmental impacts.
7. To identify any constraints to the plan area and how these issues will be addressed within the proposed development.
8. To complement and enhance the Gateway to the Capital Region along the Queen Elizabeth II Highway corridor.
9. To address the servicing, transportation and open space requirements associated with the proposed development, and.
10. To ensure compatibility with the policies and objectives of Alberta Transportation and the Edmonton International Airport within the Crossroads ASP development area.

1.4 Background

Locational Advantage

The Crossroads ASP lands are located less than four kilometres from the City of Edmonton limits, directly north across Highway 19 from the Edmonton International Airport (EIA) and directly west across the Queen Elizabeth (QE) II Highway from Nisku. As such, this location provides for the next logical step in furthering industrial and commercial expansion between existing development within Leduc County and the City of Edmonton, and will play a key role in the economic diversification of the area. The services proposed for the plan area would complement those available in the City of Edmonton and Nisku. The location for a Business Park is ideal due to its accessibility by automobile via the QE II and Highway 19.

The Crossroads ASP area is in close proximity to the East Vistas development area east of the Queen Elizabeth II, which has been planned for approximately 22,000 residents. These residents will be within 5 kilometres of the employment opportunities created within Crossroads ASP.

Oil and Gas Production

Oil and gas production continues to be of crucial importance to the economies of Alberta and Canada. The history of the extraction and processing of this natural resource goes back to 1947, when the drill site, Leduc No. 1, was discovered. This discovery propelled Alberta's economy from one of agricultural production to an oil-driven employment boom.

In 1963, Great Canadian Oil Sands (now Suncor) capitalized on the potential of the oil deposits in the Athabasca region. A decade later, Syncrude began to produce synthetic crude oil from extracted bitumen. These beginnings were to become the catalyst for one of the world's most influential economic regions.

As of August 2009, there were 91 active oil sands projects in Alberta (Government of Alberta, July 2010). There are an estimated total of 171.8 billion barrels of potentially recoverable oil in the oil sands (Government of Alberta, July, 2010). It is estimated that every dollar invested in the oil sands creates approximately \$9 worth of economic activity globally and \$6 in direct and indirect activity in the Alberta economy (Government of Alberta, September 2008). With a projected investment of over \$100 billion in the oil sands industry until 2020 and with new pipeline construction proposed to the Arctic, opportunities within the Port Alberta Region are favourable (Canadian Energy Research Institute, 2005).

The Capital Region is situated as the gateway to the oil-producing north. Crossroads ASP is ideally located within this gateway to provide opportunities for the development of new business ventures to support oil-related activities.

Nisku Industrial Park

Today, Nisku is a centre of diversified industry. Energy sector businesses that are located within Nisku include pipefitters, welders, oil-rig builders, and the like. More recently, manufacturing and service industries have been increasing in number, creating new types of employment and giving the community a broader industrial base. As the EIA continues to expand, there has been an increased demand for logistics and distribution-based businesses within Nisku and the surrounding area. Additionally, there has been an increase in international interest within the Nisku area due to heightened international connectivity through the EIA, value added services associated with Port Alberta, and the close proximity to the northern oil sands and local oil upgrading projects.

The existing Nisku area presently has capacity for new development and redevelopment of the present type of industrial land use. However, this area is unable to satisfy the growing demand for corporations to amalgamate their multiple site locations into one comprehensive site capable of accommodating a variety of uses such as offices and light industrial components within a campus like setting. These users are demanding a

broader range of uses and higher aesthetic standards, with more strictly controlled development guidelines. Crossroads ASP is in an ideal location to fulfil this need, and is intended to fulfil Leduc County's vision of more aesthetically appealing development.

Port Alberta

Port Alberta is staged to become a hub for cargo transportation combining air, rail, and road transportation infrastructure at a single location at the EIA. The EIA is Canada's fastest growing (by passenger) and second largest (by area) airport in Canada (Edmonton Airports, June 2007). The EIA is surrounded by enough land to accommodate Port Alberta and is strategically located at the crossroads of air, road, and rail transportation routes.

The Capital Region's rail network is extensive, reliable and cost-effective. Petroleum and chemicals, grain, fertilizers, coal, metals and minerals, forest products and automotive shipments are all transported quickly and efficiently on more than 8,000 kilometers of Alberta rail, linking the resource-rich north through mainline service to points west, south and southwest across the continent.

Port Alberta will serve as the prime service centre for northern resource development, the major distribution point for key North American centers and the direct rail connection to the port of Prince Rupert. Port Alberta offers excellent long-term prospects and significant cost and time advantages without international cross-border movement. The Edmonton International Airport is in a position to optimize its strategic location to fully capture market potential and to reinforce its position as part of the inter-modal transportation network of supplies and services to the north and of air cargo exports to global markets.

Within this context, it is clear that the development of Crossroads ASP, with its Business Park and Logistics and Distribution uses, provides an attractive opportunity and a prime location for future light industrial and business opportunities to support and sustain Port Alberta. The proximity to the Edmonton International Airport as well as to surrounding industrial development and road and rail infrastructure will make the Crossroads ASP an attractive choice for many businesses.

Aerotropolis

The EIA is currently expanding its international terminal, which will contribute to the role that the airport plays in providing connectivity between Northern Alberta and the rest of the world. As the number of flights increases, so does the demand for services required by passengers within and around the airport. The airport is one of the key economic drivers for industrial development to the north and the main portal for bringing newcomers to this area from other parts of the world. Leduc County is aiming to support and capitalize on the EIA growth by extending its functions past the terminals

to provide a variety of “outside the fence” broader Aerotropolis uses such as goods processing, logistics and distribution services, office and business services, and retail among others. One of the ways they are aiming to accomplish this is through the implementation of the Aerotropolis concept.

The Aerotropolis concept consists of an airport city and outlying corridors with clusters of aviation-linked businesses and associated residential development. This concept has been successfully implemented around many other large international airports around the world. Major airports can attract aviation-linked businesses of which can include industrial parks, time-sensitive manufacturing and distribution, hotel, entertainment, retail, convention, trade and exhibition complexes, and office buildings that house air-travel intensive executives and professionals. Aerotropolis is intended to provide a destination for local residents to utilize for their personal retail and service needs as well as provide opportunities for logistics and distribution services.

1.5 Public Consultation and Stakeholder Information

The Crossroads plan has been part of a previous over-arching Area Structure Plan program that has been underway since May, 2007. During that time, Leduc County has sponsored numerous open houses to present design options and processes for the larger plan area, which also include the Crossroads lands. Responses from the previous open houses have indicated general support for the principle of industrial and business development in this area of Leduc County.

Most recently, a public information session was held for the proposed Crossroads development on October 5th, 2011, in Leduc County. Members of the community and the public at large were invited to come and view the most recent proposed plans, and to discuss any and all ideas or issues they may have.

The open house, held in conjunction with Remington Development Corporation, attracted a variety of visitors. Overall, the consensus gathered from the open house attendants was positive, and no opposition to the Plan was made evident. Comment sheets were distributed at the open house, but only one was gathered at the end of the evening, stating no issues or planning considerations that needed to be addressed.

Further opportunities for public engagement will also be available through the approval process of this plan.

2. Development Area

2.1 Location and Context

Crossroads ASP is located adjacent to the Queen Elizabeth II Highway within Leduc County and is approximately 4 kilometres south from the municipal boundary of the City of Edmonton (see Figure 1).

The lands surrounding the Plan area are as follows:

- North – vegetated area and agricultural land;
- East - Queen Elizabeth II Highway with Nisku Business Park, beyond;
- South - Highway 19 with Edmonton International Airport, beyond, and;
- West – the future North-South arterial west of Range Road 252, agricultural land, beyond.

Transportation upgrades are proposed for Highway 19, in addition to the construction of a future interchange of Highway 19 and the Queen Elizabeth II Highway. These improvements will impact the Plan area along the south and east boundaries.

Proximity to the Edmonton International Airport means that the subject lands are situated directly under the flight path of a runway located south of the Plan area. As such, Crossroads ASP will be subject to the development restrictions of the Edmonton International Airport Vicinity Protection Area Regulation, as well as Transport Canada and NAV Canada policies and regulations.

Figure 1 - Site Context within Leduc County:



Source: <http://www.leduc-county.com>

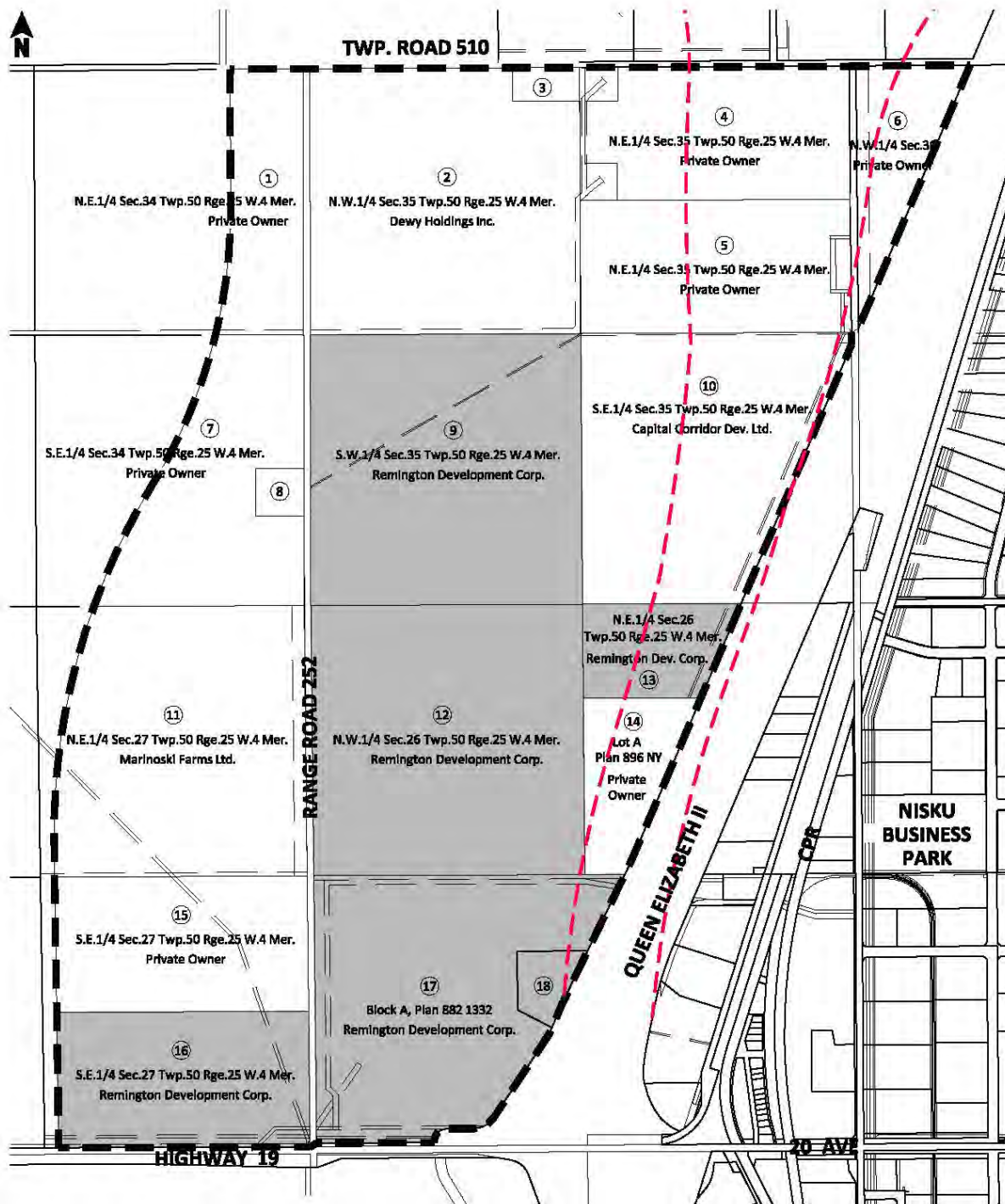
2.2 Legal Descriptions and Ownership

Lands within the ± 581.5 hectare Plan area are owned by several different property owners, as can be seen in Figure 2a on the following page. A significant portion of the Plan area (38.9%), a total of 224.85 hectares, is owned by Remington Development Corporation. A summary of property ownership is provided in the table below:




Property Ownership within the Crossroads ASP:

#	Legal Description	Owner	Certificate of Title (COT)	Area (ha)
1	NE ¼; 34; 50;25;4	Private Owner	052 434 423	17.72
2	NW ¼; 35; 50;25;4	Dewy Holdings Inc.	962 275 378	61.64
3	NW ¼; 35; 50;25;4	Private Owner	902 165 385	2.00
4	NE ¼; 35;50;25;4	Private Owner	022 261 684	31.78
5	NE ¼; 35; 50;25;4	Private Owner	912 311 578	31.86
6	NW ¼; 36; 50;25;4	Private Owner	208J246	13.27
7	SE ¼; 34; 50;25;4	Private Owner	052 437 461	32.91
8	Lot 1; 892 1300	Private Owner	892 145 741	2.04
9	SW ¼; 35; 50;25;4	Remington Development Corp	072 396 318	64.93
10	SE ¼; 35; 50;25;4	Capital Corridor Developments Ltd.	072 652 902	52.02
11	NE ¼; 27; 50; 25; 4	Marinoski Farms Ltd.	982 189 376	57.57
12	NW ¼; 26; 50; 25; 4	Remington Development Corp	072 169 983	64.96
13	NE ¼; 26; 50; 25; 4	Remington Development Corp	072 267 113	11.49
14	Lot A; Plan 896 NY	Private Owner	042 486 769	12.37
15	SE ¼; 27; 50; 25; 4	Private Owner	972 251 943	30.23
16	SE ¼; 27; 50; 25; 4	Remington Development Corp	052 169 405	30.12
17	Block A; Plan 8821332	Remington Development Corp	072 726 851	53.35
18	Lot 1; Block 1; Plan 0729782	Private Owner	072 667 777	3.24
19	Government Road Allowances	Leduc County	n/a	7.97
Total				581.47

Figure 2a - Ownership Plan:



Legend

-  ASP Boundary
-  Future QEI Alignment
-  Environmental Site Assessment Completed

2.3 Pipelines and Wellheads

Several pipelines and wellheads are located within or adjacent to the Plan area, as outlined in Figure 2b, and in the tables below. The Alberta Energy Resources Conservation Board (ERCB) regulates pipelines carrying oil, natural gas and related products. The ERCB has established minimum set-back distances for development from high pressure pipelines. As none of the pipelines located within or adjacent to the Plan area are considered to be high pressure, no additional set-backs outside of those in the Leduc County Land Use Bylaw are required.

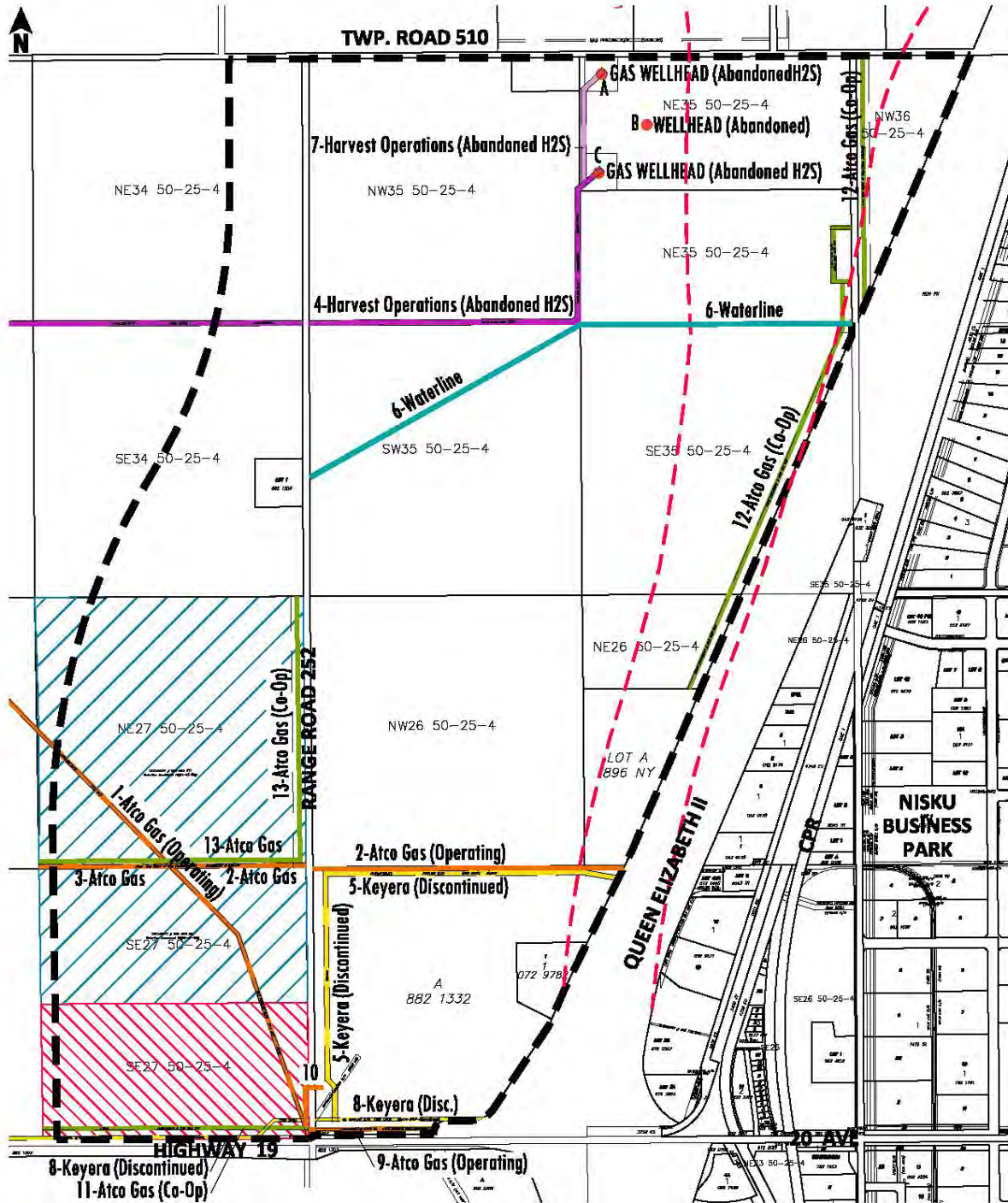
Pipelines within the Crossroads Boundary:

#	Company	Type	Status	High Pressure	H ₂ S	Set-Back
1	ATCO Gas	Natural Gas	Operating	No	No	Not Required
2	ATCO Gas	Natural Gas	Operating	No	No	Not Required
3	ATCO Gas	Natural Gas	Proposed	No	No	Not Required
4	Harvest Operations	H ₂ S Gas	Abandoned	No	Yes	Not Required
5	Keyera Energy Ltd.	Crude Oil	Discontinued	No	No	Not Required
6	Private	Water	Operating	No	No	Not Required
7	Harvest Operations	H ₂ S Gas	Abandoned	No	Yes	Not Required
8	Kyera Energy Ltd.	HVP Products	Discontinued	No	No	Not Required
9	ATCO Gas	Natural Gas	Operating	No	No	Not Required
10	ATCO Gas	Natural Gas	Operating	No	No	Not Required
11	ATCO Gas	Co-op	Operating	No	No	Not Required
12	ATCO Gas	Co-op	Operating	No	No	Not Required
13	ATCO Gas	Co-op	Operating	No	No	Not Required






Wellheads within the Crossroads Boundary:

#	Company	Type	Status	High Pressure	Set-Back
A	Ravenwood Energy	N/A	Abandoned	No	Not Required
B	Talisman Energy	N/A	Abandoned	No	Not Required
C	Harvest Operations	N/A	Abandoned	No	Not Required

Figure 2b - Pipelines and Wellheads:



Legend

-  ASP Boundary
-  Future QEII Alignment
-  Existing Wellhead
-  Blanket Waterline ROW
-  Atco Gas Caveat

Notes: This plan shows pipeline right of ways and wellhead information from current information available. Not all Gas Co-Ops are shown. The information shown is approximate only. All information should be verified prior to development.

2.4 Queen Elizabeth II Highway Realignment

Alberta Transportation has identified a need to realign the existing QEII from Highway 19 to 41st Avenue SW, of the City of Edmonton. The realignment will be necessary as a result of a planned outer ring-road, which will be located outside of the Crossroads ASP to the north.

The planned future right-of-way of the Queen Elizabeth II is indicated on Figure 3: Opportunities and Constraints and will affect approximately 48 hectares of developable land within the Plan area. During the implementation stage of the realignment, some phasing out of development will occur, with the then current uses being abandoned and the requisite lands being made available for sale to Alberta Transportation to accommodate the realignment.

2.5 Topography and Vegetation

The Crossroads ASP area is gently undulating with mild topographical relief. The highest point (715 metres) is located in the southeast corner of the Plan area. From that point, the land slopes gently downward in all directions with the lowest point (706 metres) located in the northeast corner of the Plan area.

Land within the Crossroads ASP area is currently used for agricultural purposes. Cultivated fields and pasturelands constitute approximately 94 percent of the area, with only 2 percent covered by native plant communities (Spencer Environmental, November 2008).

2.6 Soils and Groundwater

A geotechnical investigation was conducted for the Plan area in 2007 by J.R. Paine & Associates Ltd. The investigation identified that soils encountered in most of the test holes consisted of superficial topsoil underlain by glacial clay till and clay shale/sandstone bedrock. Sandy soils were encountered within the clay till and bentonitic soils in varying concentrations were found in the clay till, sandstone and clay shale materials. Recommendations for site preparation, grading, buildings, stormwater management and underground/surface utilities are provided in accordance with the findings.

The groundwater table was reported by J.R. Paine & Associates Ltd. to be variable from 1.7 metres below the surface to 6.14 metres below. The levels may fluctuate on a seasonal basis.

2.7 Significant Environmental Features

As part of the overall review process, five Phase I Environmental Site Assessments (ESAs) were carried out within the Crossroads ASP area according to ownership and legal descriptions (see Figure 2a: Ownership Plan). The purpose of a Phase I ESA is to identify actual and/or potential negative environmental conditions on the property and whether any additional investigation is required.

Of the reports, four out of five did not identify any potential environmental issues on the property and therefore, no further investigations are warranted at this time.

The Phase I ESA for legal description SW1/4; 26-50-25; W4M identified eight areas of concern and recommended further assessment for these areas to be conducted. Subsequently, a Phase II ESA was undertaken to address the eight areas of concern. The Phase II Report concluded areas of low, medium, and high risk within the site. Potential contaminants include surficial petroleum hydrocarbon, surficial metal, refrigerant, herbicide, and nitrate. Based on the data collected, the distance from the areas of concern to the neighbouring properties as well as the concentration of the contaminants and their mobility, the report concluded that the likelihood of trans-property migration in the future is considered to be low.

Further investigations may be warranted for the balance of the lands and should be undertaken in conjunction with a rezoning application.

2.8 Biophysical Significance

Biophysical Assessments were prepared by Spencer Environmental Management Services Ltd. in 2008 and 2011. The assessments provide a summary of biophysical information related to the Crossroads ASP area, identify environmental opportunities and constraints, as well as provide recommendations for environmental protection measures to be performed as part of site development.

In the Crossroads ASP, the assessments examined six full sections and one partial section of the ASP area. Natural features were found to be limited to NW and NE of 35 and NW of 36. Native habitat in the Plan area includes 21.8 ha of upland and 11.01 ha of wetland. Seven wetlands were delineated within the study area, using the Stewart and Kantrud (1971) system. The vast majority of these natural areas are situated in NW 35 and NE 35, with some disturbed wetland habitat in NW 36. Almost half of NE 35 is naturally vegetated. Those areas, particularly the uplands, are relatively undisturbed and provide a variety of habitat types for bird, mammal, amphibian and reptile species. Four *Sensitive* bird species (least flycatcher, Baltimore oriole, western wood peewee and pileated woodpecker) were recorded within the naturally vegetated

areas of NE 35 and there is a moderate to high potential for the presence of four additional special status species (long-tailed weasel, short-eared owl, common nighthawk and barn swallow). Retention of the naturally vegetated areas in the southern half and northeast corner of NE 35, as shown in Figure 4, is recommended by the assessment.

Although rich in bird species, the assessment notes that the Plan area is located within the Edmonton International Airport Bird Hazard Protection Zone. The provision of habitat opportunities for birds is discouraged within this area due to the associated risks to aviation safety and avian well-being. Due to this, the naturally occurring wetlands found within the Plan area will not be maintained as they are located within the Bird Hazard Protection Zone and pose a risk for attracting birds to the area. The stormwater management facility that is proposed is located within an area where standing water is allowable. As such, naturalization of a portion of this facility could be used as wetland compensation. These details are to be worked out in the detailed design phases for this development.

The removal of the natural wetlands on the site would require approval under the Alberta *Water Act* and would likely also require compensation pursuant to the *Interim Wetland Policy*. Details of the wetland compensation will be determined through subdivision, and efforts will be made to locate the compensation replacement within Leduc County (see Policy 4.2.7).

2.9 Archaeological Significance

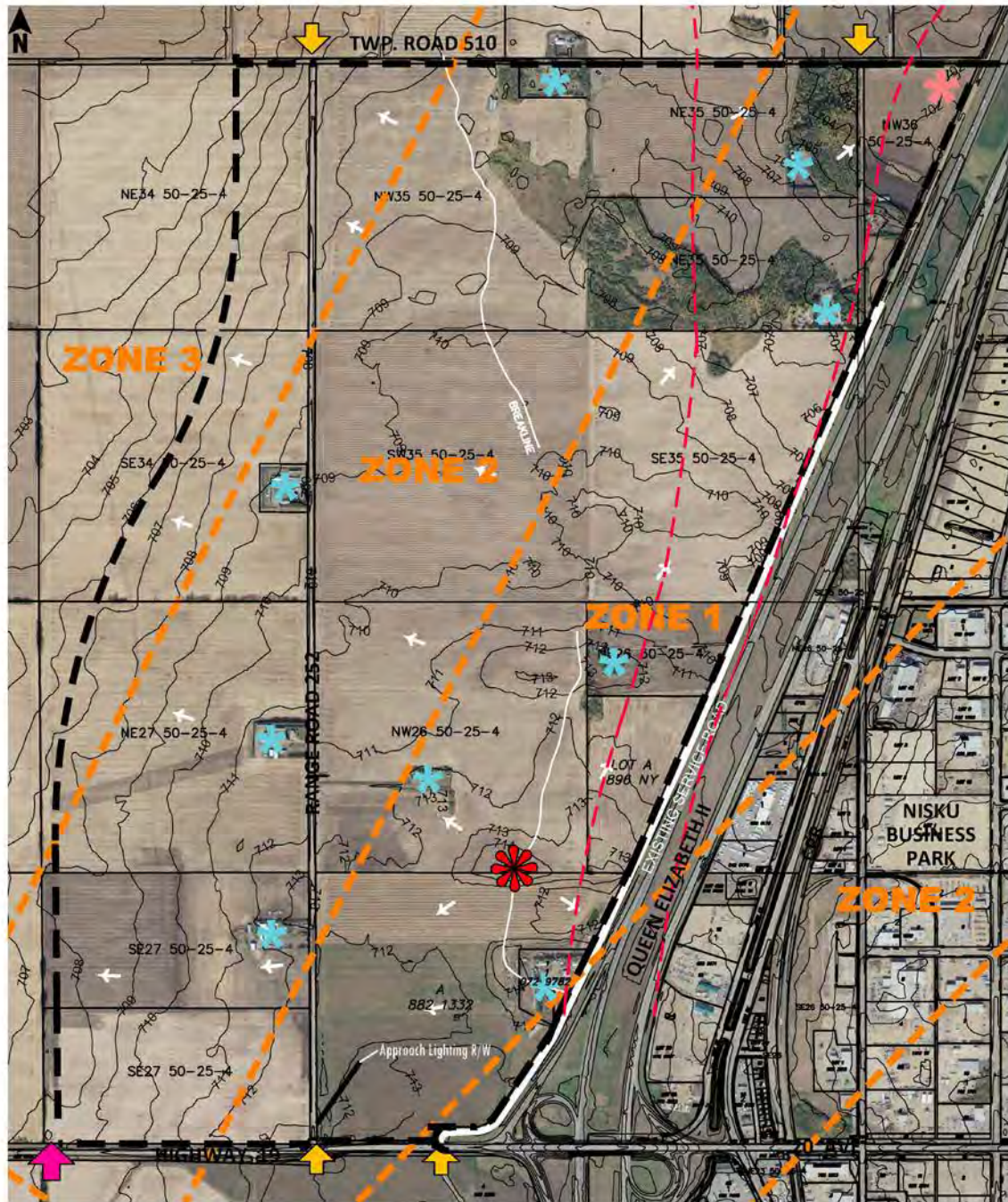
An Historical Resources Overview was prepared by Bison Historical Services Ltd. The Overview indicates that there are no known historical or archaeological sites within the Plan area.

2.10 Other Features

As seen in Figure 3: Opportunities and Constraints, nine existing residences have been identified in the Crossroads ASP. These residences will remain on the Crossroads ASP property until such time that the landowners choose to move forward with the plan to redevelop their lands.

Additionally, the existing service road for the Crossroads ASP that is situated outside of the plan area will remain in place until the future realignment of the Queen Elizabeth II Highway. Existing access points noted on Figure 3 will not be used for accessing the site in the future.

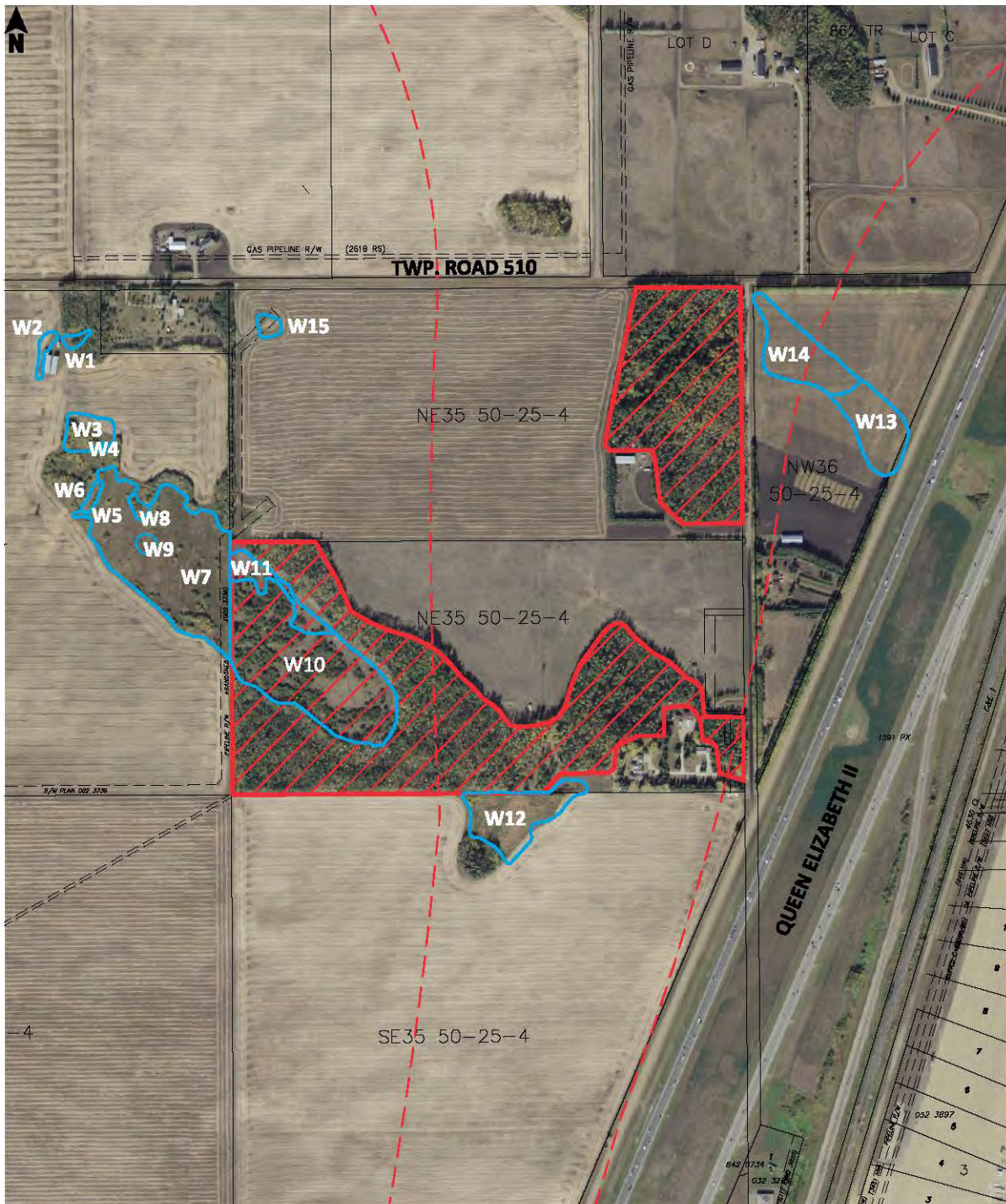
Figure 3 - Opportunities and Constraints:



- Legend
- ASP Boundary
 - Future QEII Alignment
 - 1 metre Contour
 - Edmonton International Airport Stormwater Management Zone Boundary
 - Overland Drainage Pattern
 - Approach Lighting Right-of-Way
 - Existing Residence
 - Existing Service Road
 - Existing Access
 - Low Area
 - High Point
 - Proposed Permanent Highway Access

Note: See specific figures for pipeline, wellhead and wetlands information.

Figure 4 - Recommended Crossroads ASP Retention Zones:



Legend

- - - Future QEII Alignment
- Area Recommended for Retention
- Wetland Plant Communities
- Wetlands

Note: The information shown is from the October 2011 Biophysical Report prepared by Spencer Environmental. For more specific information refer to this report.

3. Policy Context

3.1 General

The Crossroads ASP has considered applicable legislation and has achieved consistency with the regulations outlined in sections 3.2 through 3.10.

3.2 Leduc County Municipal Government Act

Area Structure Plans are regulated under Section 633 of the Municipal Government Act (MGA), which states that an Area Structure Plan must consider: proposed land uses and densities; general location of public utilities and transportation systems and staging of development as well as any other factors deemed necessary by Council.

An ASP is considered a statutory document, and must be consistent with all higher-order plans, including the Municipal Development Plan and Provincial land use policies.

3.3 Capital Region Growth Plan

The Capital Region Board (CRB) Growth Plan was completed in 2009. This ASP has been developed to comply with the Capital Region Growth Plan. The Crossroads ASP Plan area is found within Priority Growth Area Cw (west). This area has been targeted for future growth by the Capital Region Board. Population growth forecasts within Leduc County anticipate a population increase of 11.4% on average until the year 2044. The employment growth forecast predicts an increase in employment opportunities of 1.8% on average from now until 2044.

To ensure that the Crossroads ASP demonstrates an integrated, coordinated approach with Alberta Transportation, the EIA, Alberta Environment, the Regional Water Commission, South East Regional Trunk Sewer (SERTS), the City of Edmonton, Leduc County and the City of Leduc, the following relevant CRB land use principles have been addressed in this ASP:

- Development pattern and infrastructure investments have been identified;
- Buffer areas include airport AVPA regulations;
- PGA Cw is identified for growth of industrial and commercial land use
- Cluster Country Residential is not contemplated so is not applicable;
- Residential uses are not contemplated so density targets are not applicable;
- Policies relative to development outside of PGA's are not applicable;
- Employment projections have been identified;
- Inter-municipal Transit Corridor has been identified;
- Regional transportation and utility servicing has been identified;
- Edmonton International Air has been identified and accommodated;
- Provisions for environmental protection have been identified;
- Contiguous development with Nisku and EIA will help to minimize the regional footprint;
- The Plan will serve to strengthen the communities of Leduc County and surrounding areas;
- Increased transportation choices have been identified;

- The Plan supports regional economic development.

The CRB Growth Plan does not direct each municipality to identify areas for future industrial and commercial growth, understanding that each municipality knows its specific requirements for each type of land and can best allocate those lands in their Municipal Development Plans. The CRB has not targeted this area for future LRT service in the current Growth Plan, but does discuss other transit initiatives such as the provision of bus rapid transit (BRT) for the planning horizon set out in the Capital Region Growth Plan.

3.4 Leduc County Municipal Development Plan

Leduc County Municipal Development Plan (MDP) provides the long-range land use direction for lands within the jurisdiction of Leduc County (see Figure 5 – Leduc County Municipal Development Plan). The MDP will be amended at the County’s discretion.

3.4.1 Existing Designation

The MDP designates the Plan area as Agricultural Area B, the purpose of which is to “conserve and protect extensive areas of land for agricultural uses” (p. 7). Policy 3.3.3(b) states that County Council may consider lands designated Agricultural Area B for alternate uses provided that “the land is required to allow hamlets, industrial or other non-agricultural uses to expand in a logical manner” (p. 8). Given the economic development opportunities afforded by the surrounding area, Crossroads ASP should be considered for non-agricultural uses to facilitate regional growth.

3.4.2 MDP Land Use Objectives

The MDP includes direction for the development of specific land uses within the boundaries of Leduc County. Relevant objectives have been listed below and refer to industrial and commercial uses environmental protection, heritage conservation, transportation, environmental services and inter-municipal relations.

Economic Development and Tourism

- 1.1.1 To expand and diversify the County’s economic base.
- 1.1.2 To attract tourists to the County through the development and enhancement of tourist and recreation destinations and attractions, services and infrastructure.
- 1.2.6 The County shall encourage the distribution of desirable economic activities throughout the County, with the primary foci being Nisku Business Park, the Edmonton International Airport area, and those areas appropriately identified under Area Structure Plans and the Capital Region Growth Plan and Priority Growth Areas.

Industrial and Commercial Uses

2.1.2 To minimize conflicts between proposed industrial development, existing land uses and environmentally sensitive areas.

2.1.3 To accommodate commercial development ancillary to the primary use site.

Urban Growth Areas

6.1.4 To attract business investment, broaden, and strengthen the economic base of Leduc County.

6.1.9 To facilitate the efficient and sustainable implementation of public transit services in Leduc County.

Recreation Development and Community Services

7.1.2 To make available land suitable for parks and recreation uses to serve the County's residents.

Environmental Protection

8.1.1 To identify and protect internationally, provincially and regionally significant environmentally sensitive areas.

8.1.2 To control the subdivision and use of land in environmentally sensitive areas.

8.1.3 To ensure compatibility between uses and environmentally sensitive areas.

Heritage Conservation

9.1.1 To improve the information regarding historic and archaeological sites lost to development.

9.1.2 To minimize the number of significant historic and archaeological sites lost to development.

Transportation

10.1.1 To limit the number of vehicle access points onto major County roads.

10.1.2 To minimize disturbance from air traffic noise.

10.1.3 To upgrade the County road system in response to needs and in anticipation of future requirements.

Environmental Services

11.1.1 To ensure the development of an efficient utility infrastructure of an acceptable environmental standard consistent with the needs and desires of residents.

11.1.2 To work with neighbouring municipalities and agencies in the development, improvement or extension of utility services.

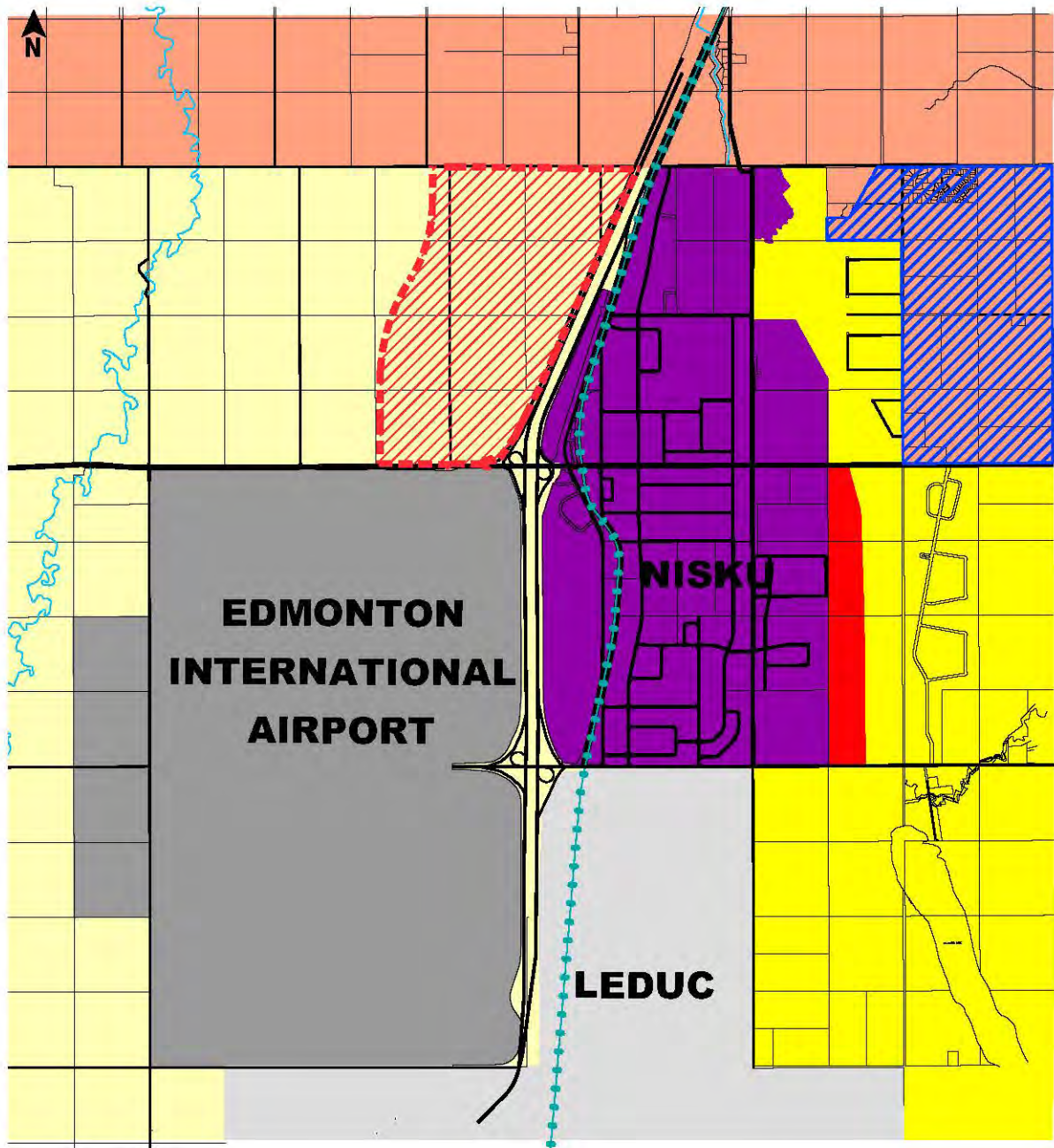
11.1.3 To provide for the safe and efficient disposal of solid wastes.

Inter-municipal Relations

13.1.1 To achieve harmonious and compatible land use patterns with adjacent municipalities.

13.1.2 To establish joint planning and referral mechanisms for the resolution of inter-jurisdictional issues and conflicts through cooperative efforts.

Figure 5 -Leduc County Municipal Development Plan:



Legend

- | | | | | | |
|---|--------------------|---|--------------------------------|---|--------------------|
|  | ASP Boundary |  | Agriculture Area A |  | Agriculture Area B |
|  | Urban Municipality |  | Industrial |  | Business Park |
|  | North Major ASP |  | Edmonton International Airport |  | East Vistas |

3.5 Leduc County Land Use Bylaw No. 7-08

Lands located within the Crossroads Plan area are currently zoned AG – Agricultural. The purpose of the AG –Agricultural district is to “provide primarily for larger agricultural operations and limited higher intensity agricultural activities on smaller lots, while at the same time providing for limited residential and other uses having a secondary role to agriculture” (p. 9-1). The lands within the Plan area must be re-zoned to develop Crossroads in accordance with the Development Concept for this ASP.

3.6 Highway 2 Corridor Design Guidelines

The Highway 2 Corridor Design Guidelines were approved in 1995 and apply to lands located adjacent to the Queen Elizabeth II Highway, including publicly-owned rights-of-way and adjacent privately-owned land.

The Design Guidelines are non-binding but provide design recommendations for development along the Corridor relating to visual quality, thematic symbols, signage, landmarks, landscaping, separation, public art and lighting. The Design Guidelines are intended to preserve significant features, promote the region and provide aesthetically pleasing development for the travelling public.

3.7 Leduc County North Major Area Structure Plan (Bylaw No. 25-05)

Crossroads ASP is located just south of Leduc County North Major ASP, which covers land located east and west of the Queen Elizabeth II Highway. The lands included within Leduc County North Major ASP that are in closest proximity to Crossroads ASP have been designated for agricultural, estate residential and future residential uses. The proposed mix of Business Park, Logistics and Distribution, and commercial uses within Crossroads ASP will appropriately consider its interface with potential future neighbouring residential uses and is not expected to have any adverse effects outside of the Crossroads ASP Plan area.

3.8 Edmonton International Airport Master Plan 2010 - 2035

The Edmonton International Airport Master Plan 2010 - 2035 guides the future development of the Alberta Capital Region’s international airport. The key functions of the EIA Master Plan are:

1. To describe the long-term facilities development, consistent with EIA’s Vision and its Strategic Plan. The flexible Master Plan will allow the authority to update the land-use plan so that all future developments are consistent with the updated Master Plan.
2. To involve and inform the airport’s community and business partners. The plan provides clarity and a better understanding of the developments proposed at the airport so that surrounding municipalities have meaningful information to base their planning on and to engage the EIA about their plans.

The Master Plan helps to map out the next 25 years of the EIA's development by using the latest technical reports, studies and available demographic information to forecast aviation activity at the EIA.

3.9 EIA Vicinity Protection Area Regulation (Alta. Reg. 55/2006)

The Edmonton International Airport Vicinity Protection Area (AVPA) Regulation specifies uses and limitations for development within the Airport Vicinity Protection Area, as defined by the regulations. The purpose of the Protection Area Regulation is to allow for land use compatibility and protection of occupants from airport noise (see Figure 6a). The regulations apply to any lands located within the Protection Area and are subject to subdivision or development permitting (see Appendix 3).

The Regulation specifies requirements relating to acoustics and requires all buildings constructed on lands located within the Protection Area to comply with acoustical requirements set out by the Alberta Building Code at time of issuance of a building permit. Its purpose is to:

1. Prohibit certain uses within various areas of the protection area;
2. Reinforce acoustical requirements of the Alberta Building Code, and;
3. Identify a performance-based approach to commercial development within the protection area.

Municipalities are required to notify the EIA of any developments that will change the land use within the AVPA in any NEF area of 30 or more, and before adopting or amending a statutory plan or land-use bylaw. The Edmonton International Airport will be notified of this ASP.

3.10 TP 1247 - Land Use in the Vicinity of Airports

Transport Canada publication TP 1247 - Land Use in the Vicinity of Airports familiarizes planners and developers with the land use compatibility in and around airport lands. This guideline includes recommended land use restrictions. More specifically, this publication aims to provide recommendations that serve to: limit obstacles within the runway approach paths, limit the use of electronic interference devices that would affect airport operations, recognize and make recommendations to limit land uses that may attract birds, identify the effect of aircraft noise on development (see Figure 6a), and provide recommendations to mitigate noise impacts.

This publication also aims to raise awareness with respect to the effects on visibility near airports as a result of industrial uses that generate smoke, dust or other visual inhibitors and other impacts that could physically restrict visibility and line of sight to airport operators. Airports are permitted to entrench the recommendations of TP 1247 through zoning. Crossroads ASP policy guidelines pertaining to the TP 1247 land use recommendations can be found in section 4.1 of this plan.

3.11 Stormwater Management Restriction Zones

The Stormwater Management Restrictions Zones establish 3 areas within which stormwater management facilities are regulated (see Figure 6a - Edmonton International Airport Diverge Area) as follows:

- **Zone 1:** dry stormwater management ponds are permitted and wet stormwater management ponds are not permitted. The maximum storage duration shall not exceed 48 hours.
- **Zone 2:** dry stormwater management ponds are permitted and wet stormwater management ponds are not permitted. The maximum storage duration shall not exceed 96 hours.
- **Zone 3:** wet and dry stormwater management ponds are permitted.

3.12 Edmonton International Airport Zoning Regulations (CRC, c 81)

As the Crossroads ASP lands sit just north of the EIA, Airport Zoning Regulation CRC, c81 will be incorporated into the ASP design. Regulations respecting zoning at the Edmonton International Airport state that:

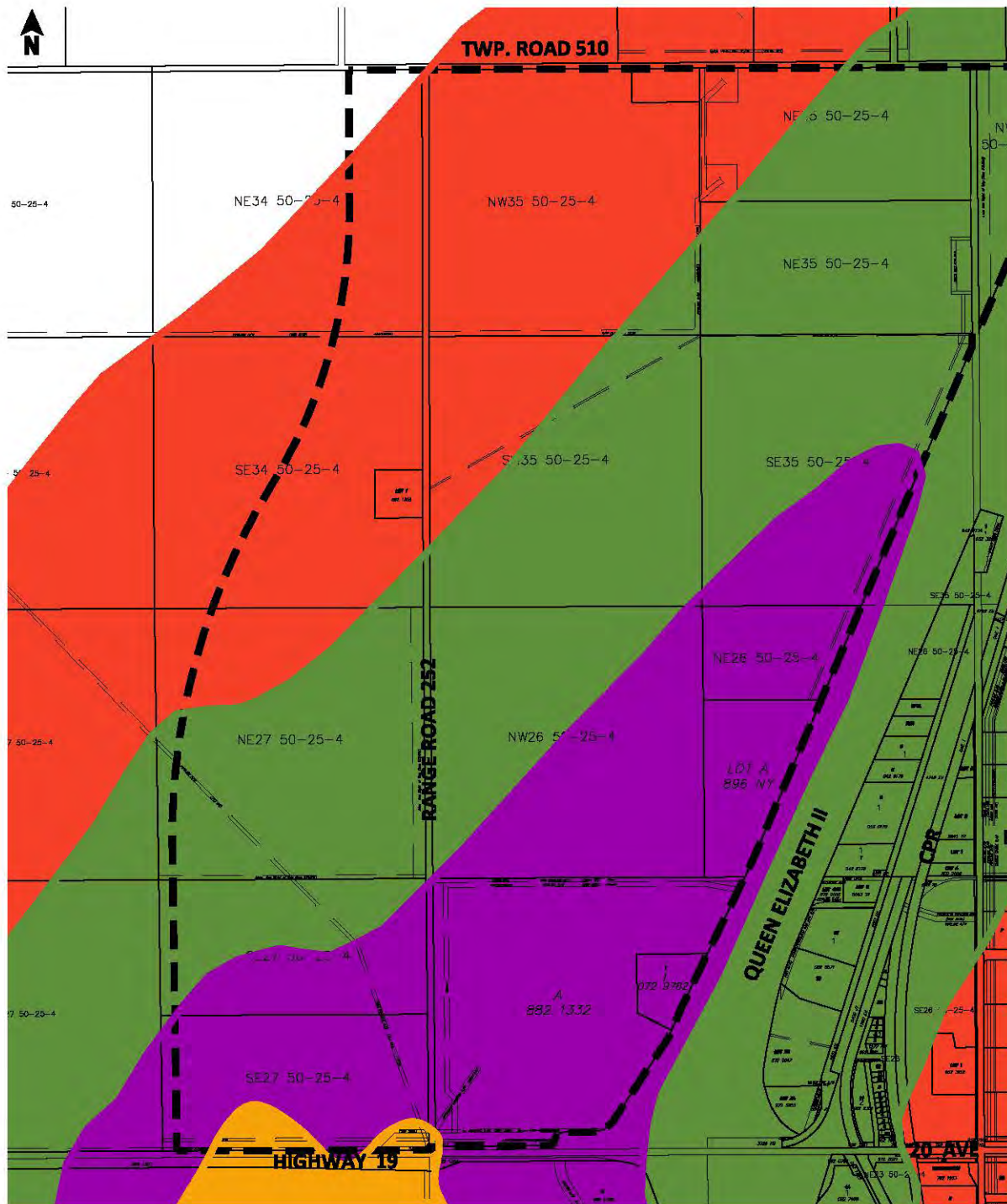
1. No person shall erect or construct, on any land to which these Regulations apply, any building, structure or object, the highest point of which will exceed in elevation at the location of that point any of the surfaces hereinafter set out that project immediately over and above the surface of the land at that location, namely: the approach surfaces, the outer surface or the transitional surfaces. Crossroads ASP falls within these surfaces.
2. Where an object of natural growth on any land exceeds in elevation any of the surfaces mentioned above, the owner or occupier of the land may have to remove the excessive growth.
3. No owner or occupier of any land to which these Regulations apply shall permit that land or any part of it to be used for the disposal of any waste that is edible or attractive to birds.

Development within the Crossroads ASP shall comply with these regulations.

3.13 Approach Lighting Right-of-Way

A small strip of land located in the south-west corner of the Plan area has been delineated on Figure 2a: Ownership Plan as an Approach Lighting Right-of-Way. Development within the Crossroads ASP Plan area must respect the requirements of this Right-of-Way.

Figure 6a - Edmonton International Airport Vicinity Protection Area Regulation 55/2006 NEF Contours:

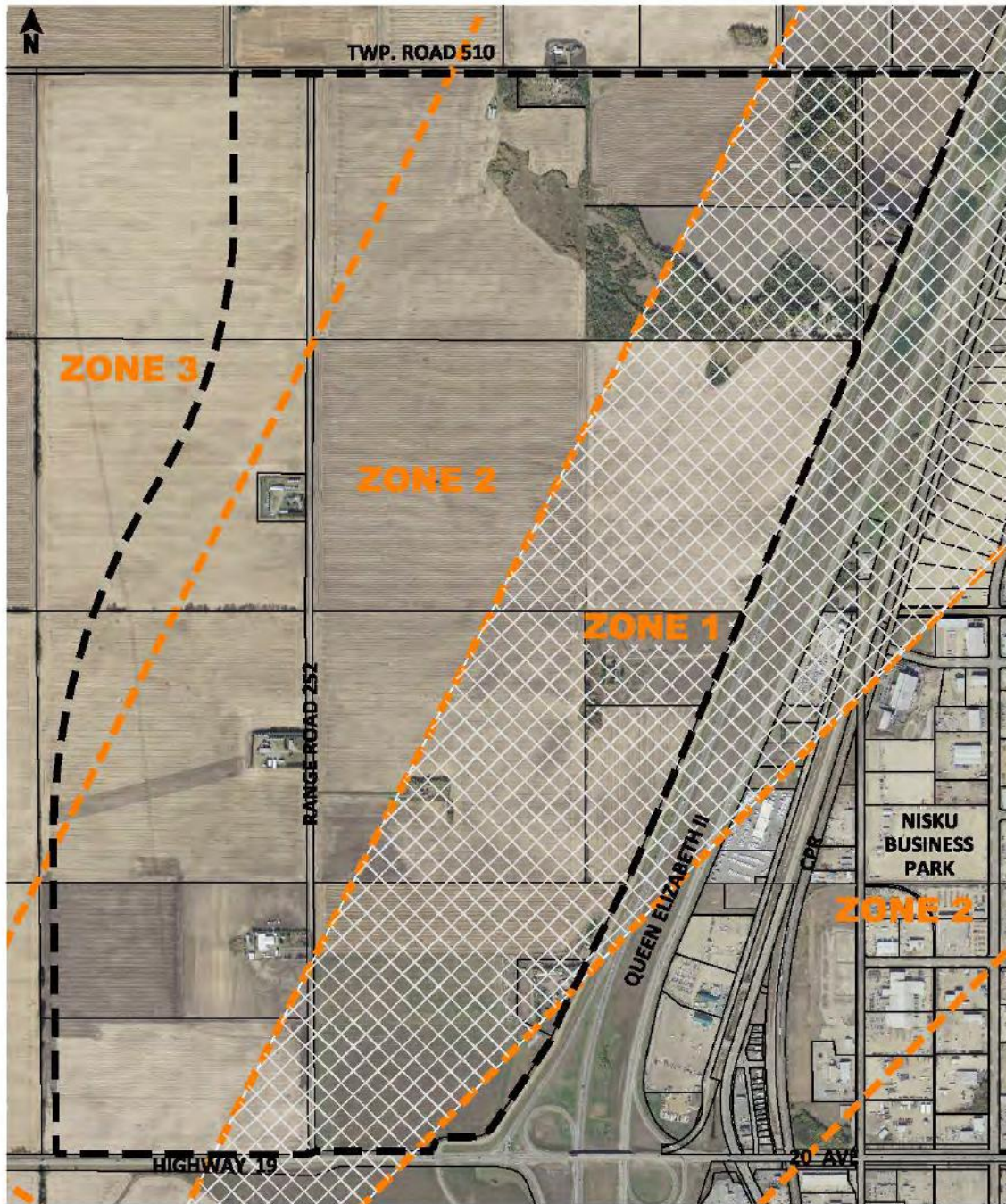


Legend




- ASP Boundary
- NEF 25
- NEF 30
- NEF 35
- NEF 40

Note: NEF contours shown are in accordance with the Municipal Government Act, Alberta Regulation 55/2006, Edmonton Airport Vicinity Protection Area Regulation

Figure 6b - Edmonton International Airport Stormwater Management Restriction Zones:



Legend

-  ASP Boundary
-  Edmonton International Airport Diverge Area
-  Edmonton International Airport Stormwater Management Zone Boundary

- Zone 1** - Wet ponds prohibited
Dry ponds permitted - 48 hour discharge
- Zone 2** - Wet ponds prohibited
Dry ponds permitted - 96 hour discharge
- Zone 3** - Wet ponds permitted
Dry ponds permitted

4. Development Concept

The development concept for the Crossroads ASP is illustrated in Figure 7. It incorporates the development principles and objectives put forth in sections 4.1-4.3 of this report.

The current Queen Elizabeth II corridor will be considered for a higher level of aesthetic appeal due to its nature as a gateway to the City of Edmonton. Development within the Plan area must conform to Leduc County’s policies regarding development guidelines and aesthetics along corridors and at major intersections.

4.1 Land Use

Goal Statement

The Crossroads ASP intends to capitalize on the locational advantage of the lands by providing opportunities for major commercial and employment-driven land uses.

Distribution of Land Uses

The Crossroads ASP area is planned as an industrial, commercial and logistics and distribution centre of approximately 581.5 hectares. A statistical summary of the proposed land uses is:

	<i>Area (ha)</i>	<i>GDA (%)</i>
Gross Area	581.5	
Environmental Reserve	0.0	
Gross Developable Area (GDA)	581.5	100.0
Municipal Reserve*		
Parks	29.0	5.0
Dry Pond (50% MR dedication)	16.4	2.8
Public Utility Lots		
Water Reservoir	1.0	0.2
Dry Pond (50% MR dedication)	16.4	2.8
Stormwater Facility - Wet Pond	9.7	1.7
Roadways	51.7	8.9
Roadways (Transit Corridor)	6.4	1.1
Sub-Total	130.6	22.5
Net Developable Area	450.9	77.5
Logistics & Distribution	295.8	50.9
Business Park	110.7	19
Commercial	44.4	7.6
Sub-Total	450.9	77.5
Total	581.5	100.0

<i>Employment Statistics</i>	<i>Area (ha)</i>	<i># of Jobs</i>
Logistics & Distribution	295.8	7,395
Business Park	110.7	5,535
Commercial	44.4	4,440
Total	450.9	17,370

* denotes that Municipal Reserve percentages are subject to confirmation at the time of subdivision

Land Use Objectives, Policies and Implementation Strategies

Objective	Policy	Implementation
To provide opportunities for major destination-oriented commercial development.	4.1.1 <i>Commercial lands shall be located on those lands identified as ‘commercial’ on the Development Concept Plan (Figure 7).</i>	Those lands identified as Commercial on the Development Concept Plan shall be rezoned to Commercial prior to development.
To provide aesthetically pleasing land uses.	4.1.2 <i>All development within 200m of the QEII Highway and the future arterial shall conform to the Highway 2 Corridor Design Guidelines.</i>	Development permits will be evaluated with regards to the Highway 2 Corridor Design Guidelines, architectural controls, and Land Use Bylaw during the development process.
To ensure that development and infrastructure are designed to accommodate the potential realignment of the QEII.	4.1.3 <i>Lands within the QEII policy area shall develop in accordance with the land uses identified in this plan until they are needed by Alberta Transportation.</i>	Caveats on affected titles may be required at the time of subdivision to notify future land owners of the relocation of the QEII.
To provide a diversity of business employment uses that complements the Aerotropolis concept.	4.1.4 <i>Airport-related uses shall be encouraged in all areas within Crossroads ASP.</i>	Airport proximity and target marketing shall be used to encourage airport-related uses.
To provide commercial development that will service Leduc County, the greater Edmonton region, the travelling public, and compliment and support other uses within Crossroads ASP.	4.1.5 <i>Commercial land uses shall be permitted in the area designated as shown in Figure 7.</i>	A land use Bylaw amendment will be required for the commercial development areas.
To provide opportunities for businesses in the Logistics and Distribution areas needing outdoor storage.	4.1.6 <i>Accessory storage shall be permitted within the Logistics and Distribution area provided that any negative visual impacts associated with the storage are sufficiently mitigated through the use of building placement, landscaping, berming and other suitable forms of screening.</i>	Details of the specific requirements will be established through the introduction of architectural controls and/or through regulations contained in the Land Use Bylaw.
	4.1.7 <i>Accessory or outdoor storage shall not be permitted in the Business Park or Commercial areas.</i>	

	4.1.8	<i>All service areas including vehicular activity yards, garbage enclosures, outside storage, loading areas, at-grade or rooftop mechanical equipment - shall be located so as to be visually screened from public thoroughfares.</i>	
To provide open space amenities within the Plan area.	4.1.9	<i>Land dedication for parks and open space will be limited to 4-6% to provide for open space opportunities while optimizing development potential.</i>	Land will be dedicated at subdivision stage. Money in place of land for the balance of Municipal Reserve owing will be collected through the servicing agreement at the time of subdivision.
To support the safety policies and principles of the EIA in relation to airport operations	4.1.10	<i>Land use within the Crossroads ASP area shall have regard to the Transport Canada publication TP1247 - Land Use in the Vicinity of Airports.</i>	Details of the specific requirements will be established through the introduction of development guidelines and/or through regulations contained in the Land Use Bylaw.

Discussion

The Crossroads ASP Plan area has been divided into three uses: Commercial, Business Park and Logistics and Distribution. The Commercial area is independent and only allows for commercial uses. The rest of the Plan area can be utilized in its entirety for Business Park functions excepting that in the Logistics and Distribution area, additional Logistics and Distribution functions (including the ability for outdoor storage) would also be appropriate.

Aesthetics will be a major concern with the development of Crossroads. Outdoor activities, including storage areas, are a necessity for business operations, but should not be created so as to detract from the overall aesthetic appearance of the area. Visual screening and buffering techniques shall be used to facilitate the screening, including: building placements, screen fencing, landscaping and site grading. Details of the specific aesthetic requirements will be established through the introduction of architectural controls and/or through the regulations contained in the Land Use Bylaw to protect the integrity of the QEII corridor.

Commercial

Approximately 44.4 hectares of land has been designated *Commercial* and is indicated on Figure 7 – Development Concept Plan. Located at the intersection of Queen Elizabeth II Highway and Highway 19, the commercial area is highly visible to the traveling public. The

intent of the commercial area is to provide destination-oriented highway commercial and shopping centre uses consisting of a mix of retail and vehicle oriented commercial uses.

The commercial uses within Crossroads ASP will be designed to create the desired “gateway” effect that Leduc County is encouraging along these corridors. It is estimated that approximately 100 jobs per net commercial hectare will be created in Crossroads, to total an estimated 4400 commercial and related jobs.

Business Park

Approximately 110 hectares of land has been designated *Business Park* and is indicated on Figure 7 – Development Concept Plan. The Business Park area is intended for building oriented development that may include such things as light indoor industrial and manufacturing operations without outdoor storage, and several retail outlets. It is estimated that an average of 50 jobs per net hectare of Business Park will be developed to total an estimated 5,500 business and related jobs. The Business Park area runs along the QEII corridor (see Figure 7). As such, the Business Park area is highly visible in its proposed location and will be subject to a high level of aesthetic appeal.

Logistics and Distribution

Approximately 295 hectares of land has been designated *Logistics and Distribution* generally in accordance with that shown in Figure 7 – Development Concept Plan. The intent for these lands is to provide Logistics and Distribution uses that would benefit from the locational attributes of the area and support the future Aerotropolis and Port Alberta concepts, while offering greater flexibility for outdoor storage than that available within the Business Park Area.

This area may also accommodate light industrial activities. Land uses within this area may require outdoor storage and/or display areas which may be accommodated as long as they are in compliance with Leduc County Land Use Bylaw and other relevant policies. Possible uses within lands designated in the *Logistics and Distribution* area may include, but are not limited to business park, warehousing, light manufacturing and accessory outdoor storage.

It is estimated that 25 jobs per net hectare on average will be generated within the logistics and distribution area, totalling an estimated 7400 light industrial, manufacturing and related jobs.

Figure 7 – Development Concept Plan:



- Legend**
- ASP Boundary
 - Future QEII Alignment
 - Transit Corridor
 - ← Possible Access Locations
 - Existing Service Road
 - Logistics and Distribution
 - Business Park
 - Commercial
 - Park / Municipal Reserve
 - Transitional Policy Areas
 - 48 Dry Pond (48 hour discharge)
 - 96 Dry Pond (96 hour discharge)
 - WP Wet Pond Facility
 - ✱ Possible Reservoir Location

Note: This plan is conceptual and the exact location and alignment of uses, facilities, roadways, local roadways and services will be determined at the zoning and subdivision stage.

4.2 Parks and Open Space

Goal Statement

To provide adequate access and appropriate open space opportunities to meet the needs of the plan area’s employee base.

Parks and Open Space Objectives, Policies and Implementation Strategies

Objective	Policy	Implementation
To encourage the conservation and preservation of natural areas within the plan to the fullest extent possible.	4.2.1 <i>Section 8 (Environmental Protection) of the Leduc County Municipal Development Plan will be considered when evaluating the potential for natural area conservation.</i>	A biophysical evaluation has been undertaken and will be used as a basis for determining the viability of natural area retention prior to any rezoning application.
To provide opportunities for open space and recreation for employees within the plan area.	4.2.2 <i>Municipal Reserve dedication will be in the form of a combination land and cash in lieu of land for the Plan area and should total 10%, generally in accordance with Figure 16 and Leduc County policies.</i>	Land dedicated for Municipal Reserve should be provided through the subdivision process when development is adjacent to a proposed park area.
	4.2.3 <i>Money generated through the sale of the Municipal Reserve (MR) lands as a result of the QEII realignment should be used for future park acquisition or enhancement of existing parks.</i>	
To preserve and maintain ecologically healthy features and natural areas in the Crossroads ASP.	4.2.4 <i>Notwithstanding Policy 4.2.2, the full 10% dedication of the two parcels of park shall be provided as land in NE 35 (as see in Figure 4) in order to maximize the protection of the natural areas in Crossroads ASP.</i>	Details of Municipal Reserve dedication will be determined through subdivision. Additional opportunity for natural area preservation may be made available at the time of subdivision through acquisition by the County.
To encourage healthy lifestyles by providing maximum efficient and accessible pedestrian and bicycle connectivity between open space areas.	4.2.5 <i>Lands dedicated as municipal reserve shall be located generally in accordance with the areas delineated in Figure 7 and 16.</i>	Money in place of land dedication should occur concurrently with the subdivision of the land. Cash-in-lieu values will be determined at the time of subdivision in accordance with the provision of the MGA.

To integrate portions of the required stormwater management facilities as open space elements in the Crossroads ASP.	4.2.6 <i>Stormwater management facilities should incorporate walkways and landscaping to enhance these lands as open space or park areas.</i>	The provision of multi-use trails and associated landscaping will be required as a condition of subdivision approval and shall be included in the servicing and/or development agreement.
To provide the opportunity for dual-use dry ponds as a means to optimize the use of public land.	4.2.7 <i>Dry ponds that are developed with joint-use recreational facilities will be eligible for a credit of 50% of the joint-use area as Municipal Reserve dedication.</i>	Engineering design for dual use facilities shall be prepared in accordance with the Leduc County standards and the provisions of this ASP.
To minimize bird habitat for large, migratory birds to reduce the risk of attracting wildlife that would cause interference with airport safety and operations.	4.2.8 <i>Wetland compensation placement should be located within Leduc County, if possible.</i>	Details of wetland compensation will be determined through subdivisions, and removal of natural wetlands in the Crossroads ASP would require compensation pursuant to the <i>Interim Wetland Policy</i>

Discussion

Section 666(1) of the *Municipal Government Act* permits municipalities to require up to 10 percent of the developable area (or the cash equivalent) of a proposed subdivision to be dedicated as Municipal Reserve. Specifically, Section 666(1) states that a subdivision authority may require the owner of a parcel of land that is the subject of a proposed subdivision:

- a) to provide part of that parcel of land as municipal reserve, school reserve or municipal and school reserve;
- b) to provide money in place of municipal reserve, school reserve, or municipal and school reserve, or;
- c) to provide any combination of land or money referred to in clauses a) and b).

In Crossroads ASP, a number of park areas will be provided and intended for use by the area businesses as indicated in Figure 16. In addition, opportunities for enhancing some dry ponds may exist, thereby creating additional recreational amenities for the area. As a result 50% of the land area that is being used for recreation within those dry ponds that include these recreational features may be eligible for credit towards the Municipal Reserve dedication requirements. Cash-in-lieu will be provided for any additional Municipal Reserve requirements that the dedication of park spaces and joint-use dry ponds do not satisfy. Design and size of Municipal Reserve park space will be determined at the subdivision stage.

In addition, the two naturally vegetated areas in the southern half and northeast corner of NE 35, as previously shown in Figure 4, are recommended for retention by the Spencer Environmental Inc. assessment. As such, full land dedication of Municipal Reserves, in the form

of land only, will be applicable on these parcels to maintain and preserve the natural areas in the Crossroads ASP.

4.3 Queen Elizabeth II Highway Transitional Policy Area

Goal Statement

To provide the ultimate realignment of the QEII highway in the event that it is needed to accommodate future transportation network improvements.

QEII Highway Transitional Policy Area Objectives, Policies and Implementation Strategies

Objective	Policy	Implementation
To provide for the ultimate potential realignment of the QEII in the event that it is needed to accommodate future regional transportation network improvements.	4.3.1 <i>Uses within the area identified as “Transitional Policy Area” shall be subject to review and approval by the Minister of Transportation.</i>	All subdivision and rezoning applications for lands within the Transitional Policy Area submitted to Leduc County shall be circulated to, and approved by, Alberta Transportation in accordance with the Municipal Government Act and the Subdivision and Development regulations.
	4.3.2 <i>Infrastructure designs for lands located within the boundaries of the Transitional Policy Area shall consider the future highway development and include both pre and post realignment options for infrastructure development.</i>	Engineering design and servicing agreements will ensure that the QEII realignment lands are designed to allow for efficient removal of infrastructure, if necessary.
To consider the Highway 2 Corridor Design Guidelines both in developing the affected lands and in the event that the QEII is realigned.	4.3.3 <i>All lands labelled ‘Highway 2 Corridor Design Guideline Area of Applicability’ on Figure 8 – Policy Area of this Plan shall consider recommendations provided within Section 2.3.3 of the Highway 2 Corridor Design Guidelines for development within this part of the Plan area.</i>	Details of the development compatibility will be reviewed at the servicing/development permit stage.

Discussion

The existing Queen Elizabeth II Highway alignment adjacent to Crossroads ASP will accommodate the highway needs for the foreseeable future. However, the future interchange

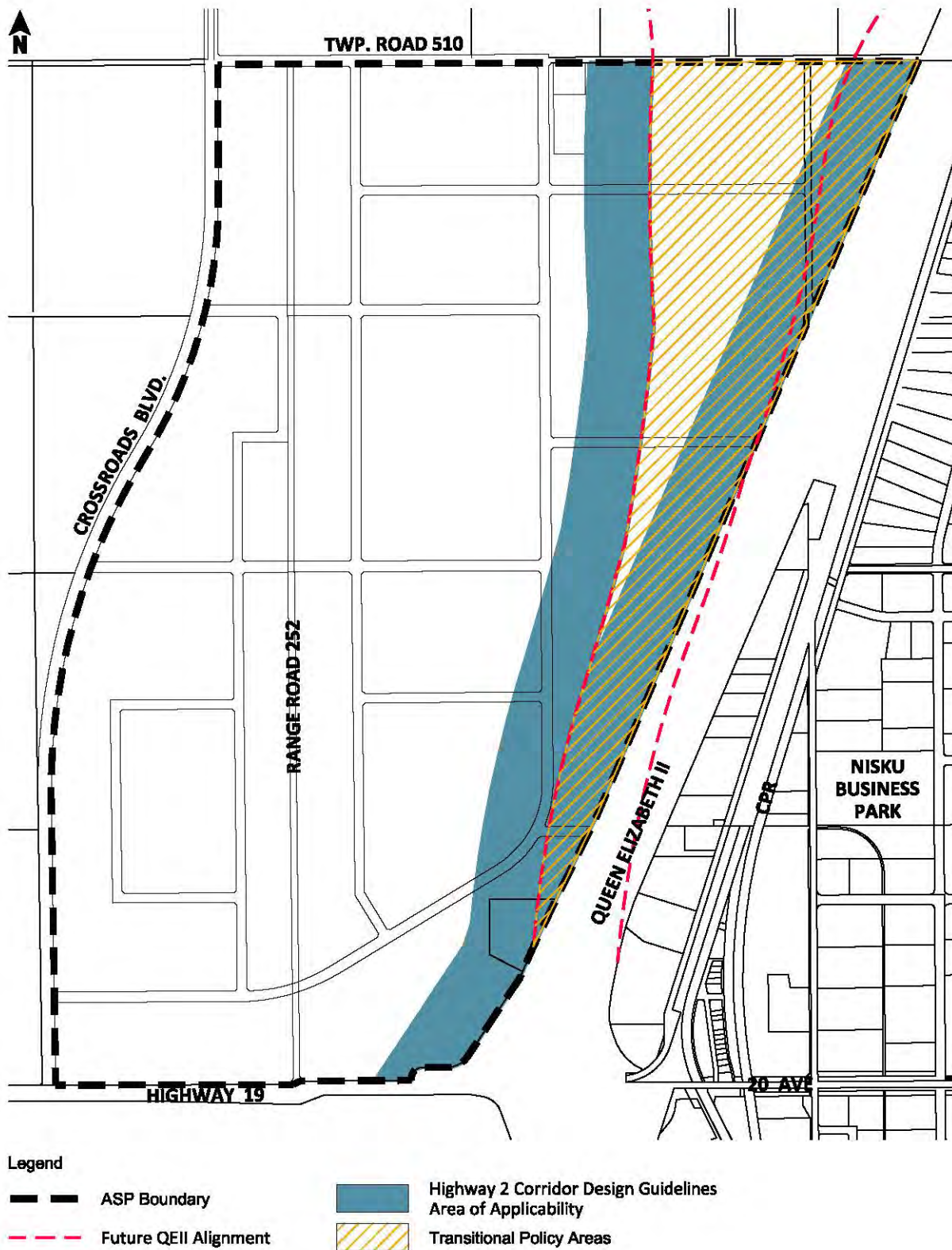
design for the major east-west highway / ring road (as identified by Alberta Transportation) will necessitate a realignment of a portion of the Queen Elizabeth II. The future right-of-way shift of the Queen Elizabeth II will then affect approximately 48 hectares of developable land within the Plan area (See Figure 7 - Development Concept Plan).

Certain areas in the Crossroads ASP require special consideration due to major planning constraints. In all cases, these constraints involve the co-operation of multiple stakeholders. A Transitional Policy Area has been designated in the Crossroads ASP for the 48 hectares of developable land that will eventually be affected by the Queen Elizabeth II realignment (see Figure 8).

It is anticipated that lands within the Queen Elizabeth II Highway Transitional Policy Area will initially develop normally in the Business Park area to help serve the needs of County business for the next few decades. If required, some phasing out of development will occur, and the requisite lands will be purchased by the relevant authority and the current uses will be abandoned. Infrastructure designs will consider this future abandonment with both pre- and post-realignment options. Details relating to lot sizing, lot siting and land use will also be addressed in the later stages of the development process to ensure that land uses transition appropriately in the future.

Proponents will be required to collaborate with affected agencies and to produce additional/special documentation and/or reports. These proponents shall work with Leduc County and Alberta Transportation to determine compatible land uses in the Queen Elizabeth II Transitional Policy Area during the preparation of their proposed land use and tentative plans.

Figure 8 - Policy Area:



4.4 Aviation Navigational Aids and Safety

Goal Statement

To safely and effectively integrate the Crossroads ASP into airport operations and future development.

Aviation Navigational Aids and Safety Objectives, Policies and Implementation Strategies

Objective	Policy	Implementation
To support the safety policies and principles of Leduc County and the EIA in relation to airport operations.	4.4.1 <i>Uses and development that emit smoke, vapour, dust or light in quantities that may, in the opinion of Leduc County or EIA, reduce visibility of airport operations, shall not be permitted in the plan area.</i>	Land use districts within Crossroads ASP shall include provisions to protect airport operations. Notifications, in the form of caveats or restrictive covenants, should be placed on titles at the time of subdivision to raise the awareness of airport operational restrictions within the Plan area.
	4.4.2 <i>Uses and developments that have the potential of obstructing airport operations either by height or locations shall be prohibited in the plan area.</i>	
	4.4.3 <i>Uses and developments that may interrupt NAVCANADA radar, VHF/UHF communications and navigational aids shall be prohibited in the plan area.</i>	
	4.4.4 <i>Uses and developments shall not have characteristics that increase wildlife and bird hazards for EIA.</i>	Leduc County’s Land Use Bylaw shall include appropriate landscaping guidelines to protect airport operations.
	4.4.5 <i>Landscaping guidelines will be put into place to minimize attractants to birds and wildlife that may affect safe airport operations.</i>	
	4.4.6 <i>The Crossroads ASP will mitigate, control and prohibit the feeding of wildlife in the plan area to reduce the risk of attracting wildlife to the area causing issues with airport operations.</i>	

<p>To support the safety policies and principles of Leduc County and the EIA in relation to airport operations.</p>	<p>4.4.7 <i>Traffic/Automobile lights, Traffic Control Devices, street lighting and building lighting shall not interfere with the operation of any airport function (i.e: runways).</i></p>	<p>Leduc County’s land use bylaw shall include appropriate landscaping guidelines to protect airport operations.</p>
	<p>4.4.8 <i>The Crossroads ASP prohibits food sources in outdoor storage areas to reduce the risk of attracting wildlife to the area causing issues with airport operations.</i></p>	
	<p>4.4.9 <i>The Edmonton International Airport shall be notified of all development and building permits and land use changes, or building-use changes within the Crossroads ASP.</i></p>	<p>Land use districts within Crossroads ASP shall include provisions to protect airport operations.</p>
	<p>4.4.10 <i>All development within the Plan area shall be subject to the provision of EIA AVPA regulations as needed.</i></p>	

Discussion

The Crossroads ASP Plan area is uniquely situated at an important intersection of air, highway and rail infrastructure. Its location beneath a major international air traffic runway presents unique challenges. It is incumbent upon all stakeholders to recognize that the safety of air travelers is of paramount importance. The Plan recognizes the necessary legislation and physical requirements and includes the provisions to minimize the attractions of migratory birds, interference of radio communication and distractions that could affect air traffic movements. Policies contained herein provide the direction and, together with the Leduc County Land Use Bylaw, will provide the tools to evolve a harmonized and symbiotic relationship between Crossroads ASP businesses and the EIA.

5. Transportation

5.1 Circulation, Access and Roadways

Goal Statement

To provide a safe, efficient and effective hierarchical transportation network to adequately service the future commercial, business and industrial needs of the plan area.

Transportation Objectives, Policies and Implementation Strategies

Objective	Policy	Implementation
To efficiently move people and goods to, from, and through the Plan area	5.1.1 <i>Roadways within Crossroads ASP will be developed in accordance with the designs identified in this plan, and with the County engineering standards.</i>	Engineering drawings and servicing agreements shall depict the appropriate roadway standards and staging suitable to meet the current and future needs of Crossroads ASP users.
	5.1.2 <i>Parking is not permitted on any roadways within the Plan area.</i>	
To provide for the possible future expansion of a transit corridor connection from Edmonton to the Edmonton International Airport.	5.1.3 <i>The transit corridor identified in Figure 15 shall act as an interim pedestrian corridor, and will be retained as such with the development of the potential future transit corridor expansion.</i>	Engineering design shall provide for the ultimate transit use while accommodating pedestrian traffic.
To accommodate convenient access to the airport in support of the Aerotropolis concept and Port Alberta.		
To create a roadway hierarchy of collectors and local roadways.	5.1.4 <i>The determination of the roadway hierarchy will be in accordance with the results of the TIA.</i>	
To maintain the existing service road access for those properties that front onto the QEII.	5.1.5 <i>The existing service road along the QEII shall remain until alternative access is provided or the QEII realignment is constructed.</i>	

To encourage safe and efficient connectivity and access to Highway 19.	5.1.6	<i>Access to Highway 19 shall be limited to the north-south arterial roadway and a possible interim / transit connection at Range Road 252.</i>	Subject to detailed design at the time of subdivision.
	5.1.7	<i>Interim right-in/right-out access to Range Road 252 may be made available at the discretion of Alberta Transportation.</i>	Details of whether the right-in/right-out access is possible at RR 252 from Highway 19 will be further evaluated through a detailed design process and will be determined at the exclusive discretion of Alberta Transportation.
	5.1.8	<i>The right-in/right-out access identified in Policy 5.1.7 above, if constructed, shall be extinguished once the need for the LRT right-of-way is realized.</i>	
	5.1.9	<i>Proponent with lands impacted by the Highway 19 twinning and QEII Transitional Policy areas shall work with Alberta Transportation to determine the future land needs(ultimate right-of-way locations) for the final realignment and twinning of Highway 19 and the final realignment of QEII</i>	Subject to detailed design at the time of subdivision.
	5.1.10	<i>Northbound transportation connections shall be required and will be provided in accordance with the results of a Transportation Impact Assessment and Policy 7.1.4 herein.</i>	Future TIA's will determine the need for the northbound arterial roadway connections

Discussion

Circulation and Access

Crossroads ASP is uniquely situated at the intersection of two significant Provincial Highways, Highway 19 and the Queen Elizabeth II. These major corridors have excellent vehicle capacity, but limited access opportunities. As such, access to the QEII will not be permitted. However, access will be available to Highway 19 for the Plan area, but will be subject to evaluation and some infrastructure improvements.

In 2011, in conjunction with the preparation of the ASP, a Traffic Impact Assessment was undertaken for the Plan area to evaluate the surrounding access characteristics. The following

Highway 19 improvement scenarios were deemed to adequately support development in Crossroads:

Scenario 1:

Improve Highway 19 to 6 lanes east of the arterial intersection, and provide a right in/right-out access at Range Road 252.

Scenario 2:

Improve Highway 19 to 6 lanes east of the arterial intersection, but not permit the right-in/right-out noted in Scenario 1. Instead, improve the arterial road/Highway 19 intersection to increase its capacity.

This scenario will accommodate a similar range of developments as in Scenario 1. However, in the event that the right-in/right-out access becomes unfeasible, an alternate scenario of additional intersection improvements will be utilized. As in Scenario 1, this scenario is also dependent on detailed engineering design to confirm its viability

These two scenarios are deemed appropriate to accommodate 50% of the development as outline in the TIA. Detailed design and analysis will be required to confirm the viability and functionality of the right-in/right-out access. Future stages will require a northbound connection and possible future improvements to the arterial road/Highway 19 intersection.

It should be noted that each successive development phase following the first should necessitate a revised TIA. It is expected that an on-going evaluation of the intersection and a re-evaluation of prospective trip generation values will be warranted as development proceeds. Also, as improvements to Highway 19 and the QEII are imminent, further discussion and collaboration with Alberta Transportation will be necessary.

Internal Roadways

A hierarchical roadway network consisting of arterial, collector and local roadways will service the Plan area. Internal local roadways represent a level of detail that is not provided in this plan. Provisions of local roadways will be provided where needed in accordance with the design standards set out in this plan and approved by Leduc County. Arterial roads will be developed with vegetated ditches. Within the Commercial area, collector and local roads will be designed with curb and gutter and sidewalks on both sides. Within the Logistics and Distribution area, collector and local roads will be designed with vegetated ditches. The existing service road adjacent to the QEII will continue to operate as it currently does, providing access to the eastern properties within the ASP area. Upon relocation of the Queen Elizabeth II Highway, this service road will be closed.

Road designs have been developed in regard to the industrial, commercial and business park nature of the Crossroads ASP, and in consideration of the major commercial development proposed adjacent to Highway 19. As such, two distinct roadway types will be utilized for the

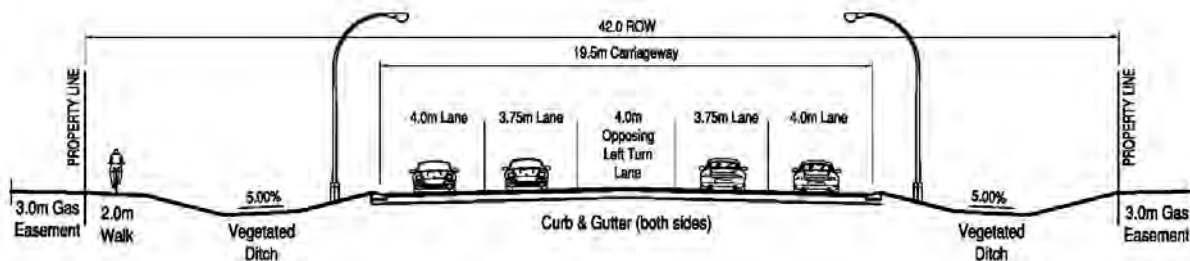
development of Crossroads ASP: urban style roadways with curb and gutter; and rural style industrial roadways with shoulders and vegetated ditches. Parking is not permitted on any of the roadways within Crossroads ASP.

URBAN ROADWAYS

Urban Arterial Roadway

To the west of the ASP area, Crossroads Boulevard forms the western boundary of the plan area and will be constructed in stages as development proceeds. It has been designed as an undivided, five-lane arterial with a 42m right-of-way. Of these five lanes, four will be travelling lanes, and one will be a centre opposing left turn lane contained within the curb and gutters. Vegetated ditches will provide drainage and will also offer some stormwater treatment and retention. A 2 meter wide separate walkway/bike path will be provided on one side of this arterial.

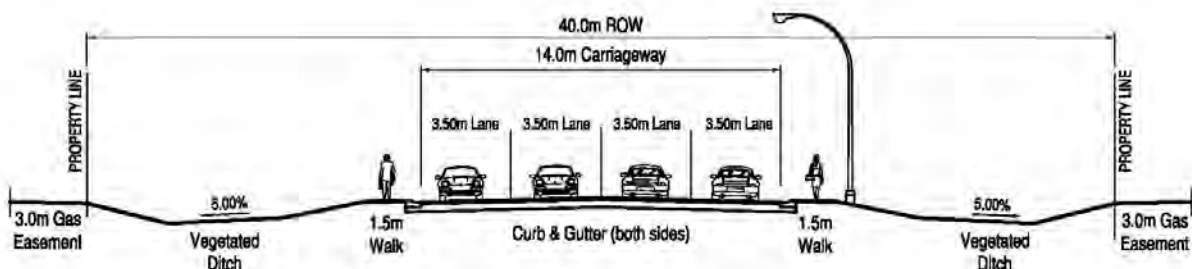
Figure 9: Urban Arterial Roadway in Crossroads ASP



Urban Collector Roads

The commercial area will be developed as a high quality, aesthetically pleasing, and pedestrian-friendly area. The area may also include a commercial shopping centre, and is located at the entrance to the area. The roadway design that is proposed for the business park will include a 40 m right-of-way, monolithic pedestrian walks on both sides of the street and a 14m wide carriage way accommodating two vehicle travel lanes in each direction. Stormwater drainage will be handled using vegetated ditches as noted in Figure 10 below:

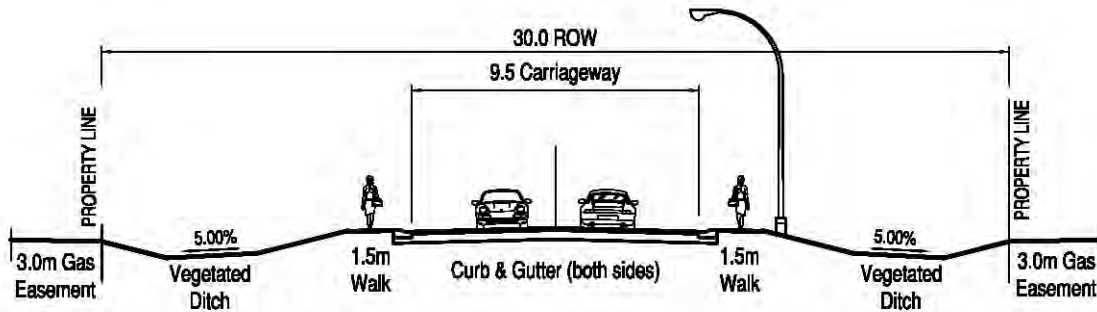
Figure 10: Major Urban Collector Roadway in Crossroads ASP



Urban Local Road

The commercial area is expected to generate a high volume of business, office, and other related administrative workers. Local roads within the business park have been designed to include a 30m wide right-of-way, a 9.5m carriageway with a curb and gutter, monolithic sidewalks on both sides of the street, and vegetated ditches to convey storm water.

Figure 11: Urban Local Roadway in Crossroads ASP



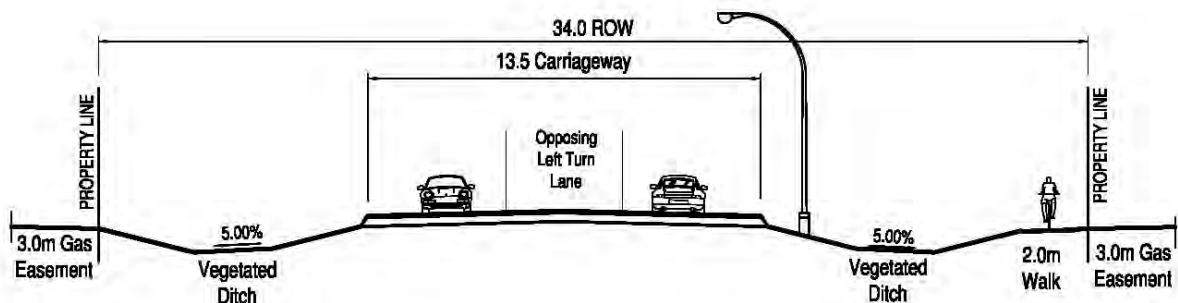
INDUSTRIAL ROADWAYS

Industrial roadways in Crossroads ASP will be rural-style with shoulders, vegetated ditches and a walkway / bikeway on one side. For Crossroads ASP, two levels of collectors are proposed within the logistics and distribution area to efficiently serve the area, as shown on Figure 15.

Minor Industrial Collector

In order to efficiently convey traffic within the neighbourhood, a minor collector roadway design has been developed. The minor collector will include the 34m right-of-way that will accommodate a 13.5m carriageway, a single vehicle travel lane for each direction, an opposing centre left turn lane and a sidewalk / bikeway on one side only.

Figure 12: Minor Industrial Collector Roadway in Crossroads ASP

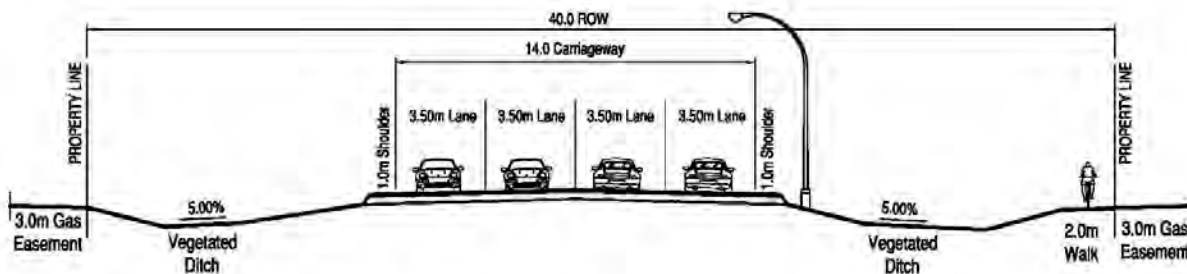


Major Industrial Collector

There is anticipated to be a significant volume of traffic generated from the ultimate development of Crossroads, as well as from future developments to the north. A major industrial collector design has therefore been developed to accommodate this anticipated

demand. The major industrial collector will include a 40m right-of-way, a separate walkway / bikeway on one side of the street only and a 14m wide carriageway accommodating two vehicle lanes of traffic in each direction. Storm water drainage will be handles using vegetated ditches as noted on Figure 13 below:

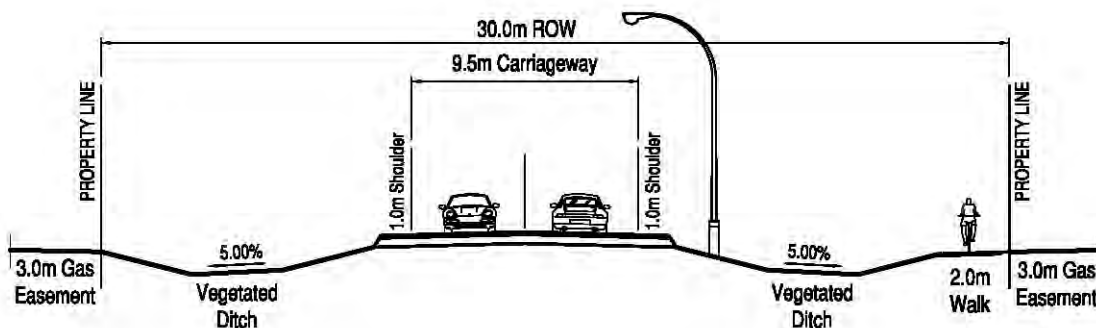
Figure 13: Major Industrial Collector Roadway in Crossroads ASP



Industrial Local

Local roadways within the Logistics and Distribution area will serve to provide efficient service to each industrial parcel. The local roadway design that is proposed for the Logistics and Distribution area in Crossroads will include a 30m right-of-way, a separate pedestrian walkway / bikeway on one side of the street only and a 9.5m wide carriageway accommodating a single vehicle travel lane in each direction. Storm water drainage will be handled using vegetated ditches as noted in Figure 14 below:

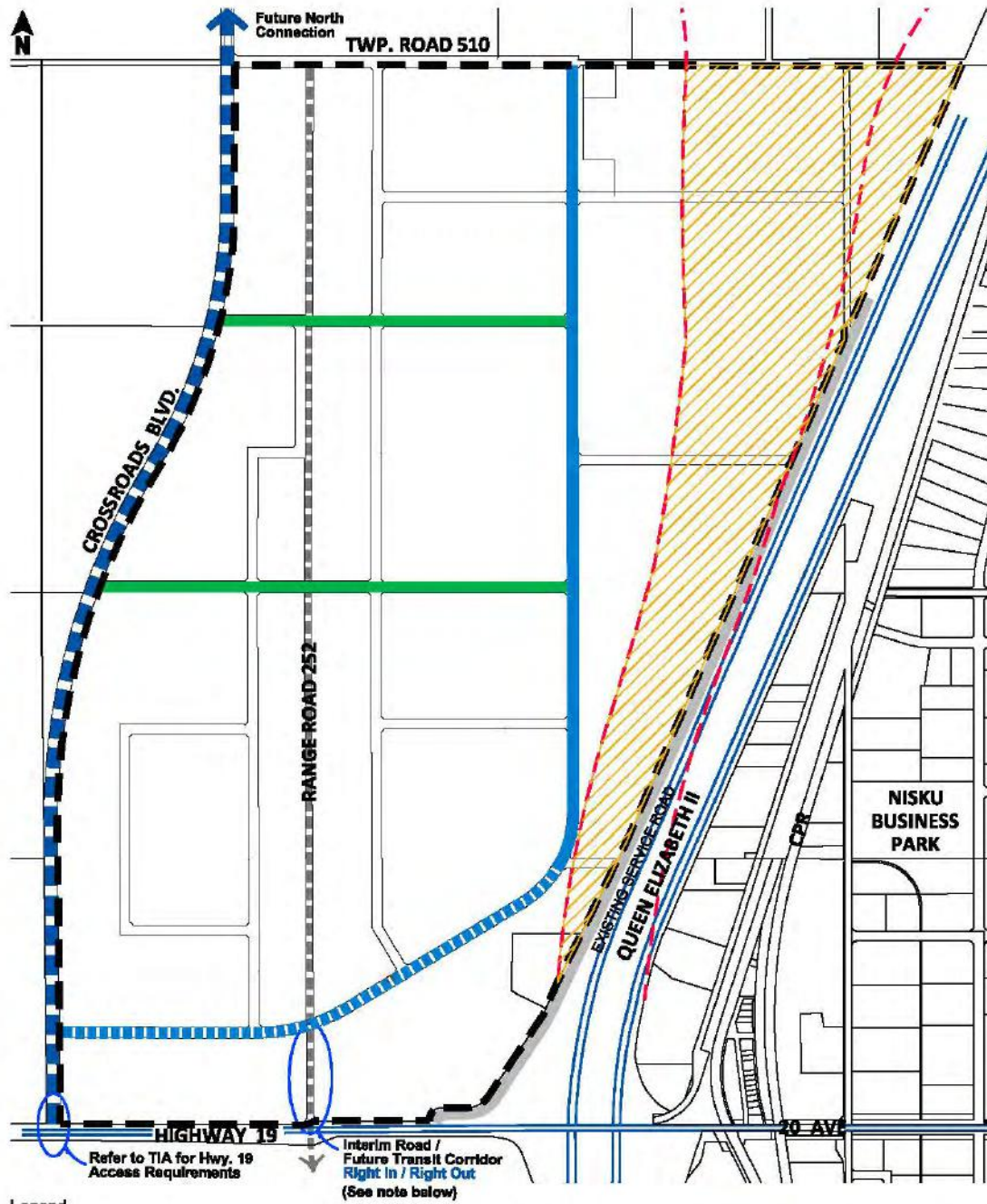
Figure 14: Industrial Local Roadway in Crossroads ASP



Future Transit Corridor

The transit corridor identified in Figure 15 (RR 252) shall act as an interim pedestrian corridor, and will be retained as such with the development of the potential future transit corridor expansion. The corridor shall be a minimum of 20m wide, with vegetated ditched on both sides of the corridor, and a 2.0m wide pedestrian walkway on one side.

Figure 15 - Mobility Plan:



Legend

- ASP Boundary
- Future QEII Alignment
- Highway
- Existing Service Road
- Urban Arterial Roadway
- Major Urban Collector Roadway
- Major Industrial Collector Roadway
- Minor Industrial Collector
- Transitional Policy Areas
- Transit Corridor

Note: This plan is conceptual and the exact location and alignment of uses, facilities, roadways, local roadways and services will be determined at the zoning and subdivision stage. Right in / right out access shall be confirmed by Alberta Transportation through detailed design and abandoned with development of future transit corridor.

5.2 Pedestrian/Cycling Linkages

Goal Statement

To promote efficient and accessible pedestrian circulation opportunities to the area.

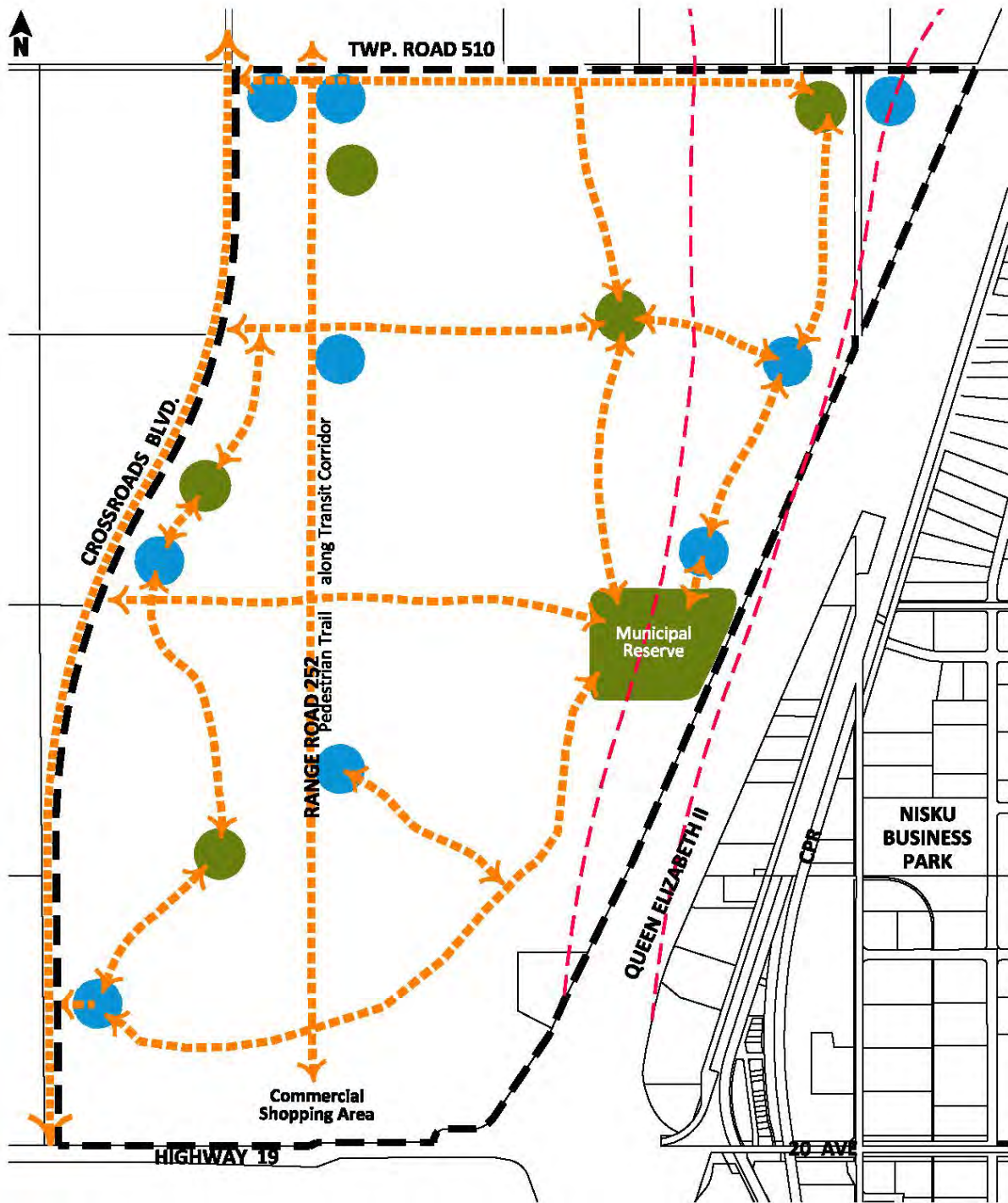
Pedestrian/Cycling Linkage Objectives, Policies and Implementation Strategies

Objective	Policy	Implementation
To provide convenient pedestrian and cycling infrastructure throughout the Plan area to encourage a modal shift away from the personal automobile.	5.2.1 <i>All roads shall include a minimum 1.5m wide walkway/bike path on at least 1 side.</i>	Engineering drawings will include the minimum 1.5m-wide walkway/bike path on at least one side as depicted in Figures 9-14.
To provide functional services to pedestrians, bicyclists and transit users, through the placement of pedestrian amenities.	5.2.2 <i>All walkways and trails shall contain functional pedestrian amenities for the specific user.</i>	↓

Discussion

Pedestrian and cycling linkages will be provided throughout the Plan area in the form of sidewalks and multi-use trails. Multi-use trails will be located on one side of all local, collector and arterial roads throughout the Business Park and Logistics and Distribution areas, see Figure 16 – Pedestrian Circulation. This multi-use trail will provide cyclist and pedestrian connectivity throughout the Plan area and will connect to lands located north and west of the Plan area. Sidewalks with pedestrian amenities on both sides of the street will be provided along all roads throughout the Business Park and Commercial areas. These pedestrian linkages will provide connectivity from the entrances of buildings to the circulation network through the Plan area.

Figure 16 - Pedestrian Circulation:



Legend

-  ASP Boundary
-  Future QEII Alignment
-  Pedestrian Trail
-  Park / Municipal Reserve
-  Dry Pond or Wet Pond

Note: This plan is conceptual and the exact location and alignment of uses and pedestrian trails will be determined at the zoning and subdivision stage.

5.3 Park and Ride

Goal Statement

To offer an opportunity within Crossroads ASP for Park and Ride for both airport travellers and commuters.

Park and Ride Objectives, Policies and Implementation Strategies

Objective	Policy	Implementation
To recognize the opportunity and need for Park and Ride facilities within the plan area.	5.3.1 <i>Park and Ride facilities will be permitted within the Logistics and Distribution area only.</i>	The Land Use Bylaw shall include Park and Ride as a discretionary use within the Logistics and Distribution area only.

Discussion

Crossroads ASP supports Park and Ride uses within the Plan area to support both public transit and airport uses. Developers within the Crossroads ASP area will work with Leduc County to identify appropriate locations for Park and Ride facilities, but they will be limited to the Logistics and Distribution areas of the plan.

5.4 Traffic Impact Assessment

Alberta Transportation requires that a Traffic Impact Assessment (TIA) be prepared for any development located within 800 metres of a Provincial highway. The proximity of Crossroads ASP to the Queen Elizabeth II Highway and to Highway 19 necessitates the development of a TIA to identify the proposed number of vehicle trips that the development will create and to ensure that existing and proposed road infrastructure will be able to accommodate traffic demands for the Plan area.

A TIA was developed by Focus Corporation to identify and assess potential impacts of the proposed development on the surrounding road network and to develop strategies to mitigate any adverse impacts. The boundaries of the study area considered for the TIA were Highway 19, Township Road 510, QEII and the proposed arterial road (Crossroads Boulevard) located west of Range Road 252.

The TIA determined that the surrounding roadway infrastructure is capable of supporting the development at full build out. Several improvements will be required including improved access to Highway 19 and access northwards to the City of Edmonton roadways and the future proposed outer ring road. Details of the staged development capacities and infrastructure requirements are provided in the TIA.

6. Servicing

Servicing of the Crossroads ASP area will consist of water, storm and sanitary infrastructure as well as utilities such as power, natural gas, phone and cable. Extensions or connections to regional water and wastewater trunks for servicing are planned. With the first stage of development, a connection to the Water Commission supply line and a connection to the Southeast Regional Trunk sewer will be required.

This section depicts the general servicing concepts for Crossroads ASP. The details of these concepts will be further defined through subsequent reports and detailed engineering design in the future.

Goal Statement

To provide full municipal services to meet the needs of the plan area and beyond.

6.1 Water Servicing

Water Servicing Objectives, Policies and Implementation Strategies

Objective	Policy	Implementation
To provide adequate water supply to meet the day-to-day needs of the Crossroads business, commercial and industrial users.	6.1.1 <i>All developments shall connect to the municipal water system in the Crossroads ASP.</i>	Water servicing, as per the approved water network concept, will be a condition of engineering drawing approval associated with future servicing agreements.
To provide adequate water supply to meet fire protection needs.	6.1.2 <i>Water system infrastructure will be provided in accordance with the approved Water Servicing Plan (see Figure 17) to the satisfaction of the water provider’s Water Network Services and Leduc County standards.</i>	Water servicing, as per the approved water network concept, will be a condition of engineering drawing approval associated with future servicing agreements.

Discussion

The Capital Region South-West Water Commission will service the Plan area from a water transmission pipe located along the existing right-of-way of the Queen Elizabeth II Highway to a proposed reservoir pumphouse to be located in the southeast corner of the Plan area. Water will be supplied from the reservoir to a fill station connected to the reservoir pumphouse. The reservoir will be sized to provide fire storage equal to providing 227 litres per second for a duration of 4 hours (or 3.3 million litres), including equalization storage of 25 percent peak day and two-day average storage. Water will be distributed through the Plan area via water mains (see Figure 17 – Water Servicing Plan).

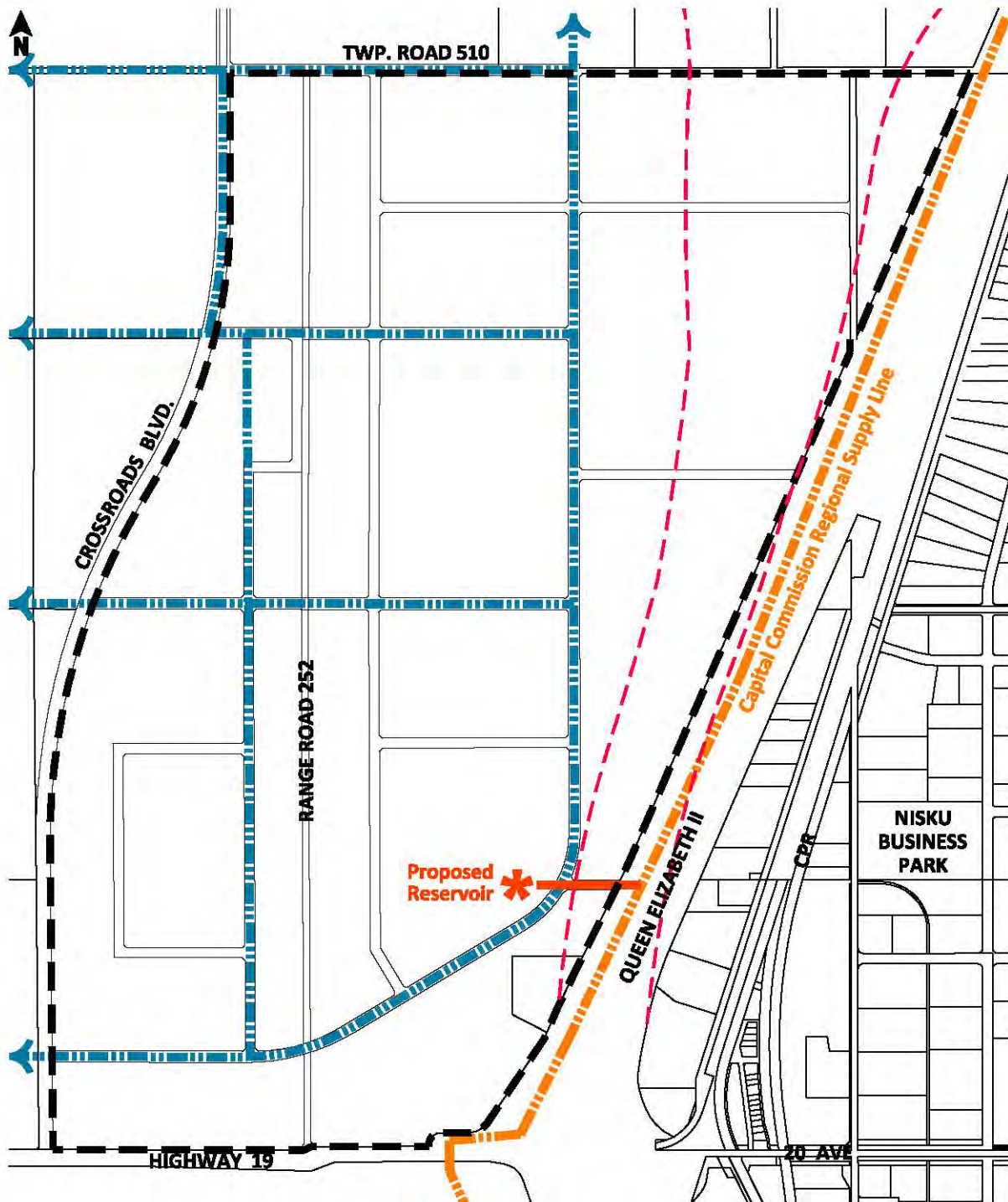
The infrastructure construction will be staged to service approximately 50 percent of the development area and be upgraded in the future as required to keep pace with any increases in demand. Treated water storage is to be constructed in increments, with total storage of 65,000 c.m. (or 65 million litres) at the reservoir site proposed within close proximity to the Plan area.

Water servicing for Crossroads ASP is dependent on some pertinent factors, as follows:

- Initial discussions with the Water Commission have confirmed that there is capacity to supply the area; however, the Commission will need to confirm the flow rate and any associated restrictions.
- Presently, only two connections are permitted to the Water Commission supply line, which include the existing Nisku reservoir and a connection to the airport. A third connection for the Plan area is required. Leduc County will be requested to assist with an application for a third connection;
- Funding for the reservoir and pumphouse, supply line and oversizing trunk mains is an issue that will need to be addressed by both Leduc County and the Water Commission as the source of funding for construction has yet to be determined.

Figure 17 on the following page depicts the major water infrastructure and servicing strategy for Crossroads. Minor distribution water mains have not been shown in the figure, and will be designed and engineered in detail at the subdivision stage.

Figure 17: Water Servicing Plan:



Legend

- ASP Boundary
- Future QEII Alignment
- Proposed Reservoir
- Capital Region Southwest Commission Supply Line (750mm)
- Major Water Mains
- Reservoir Fill Line

Note: Infrastructure locations and alignments are conceptual only and will be determined with detailed engineering design.

6.2 Sanitary Sewer

Sanitary Sewer Objectives, Policies and Implementation Strategies

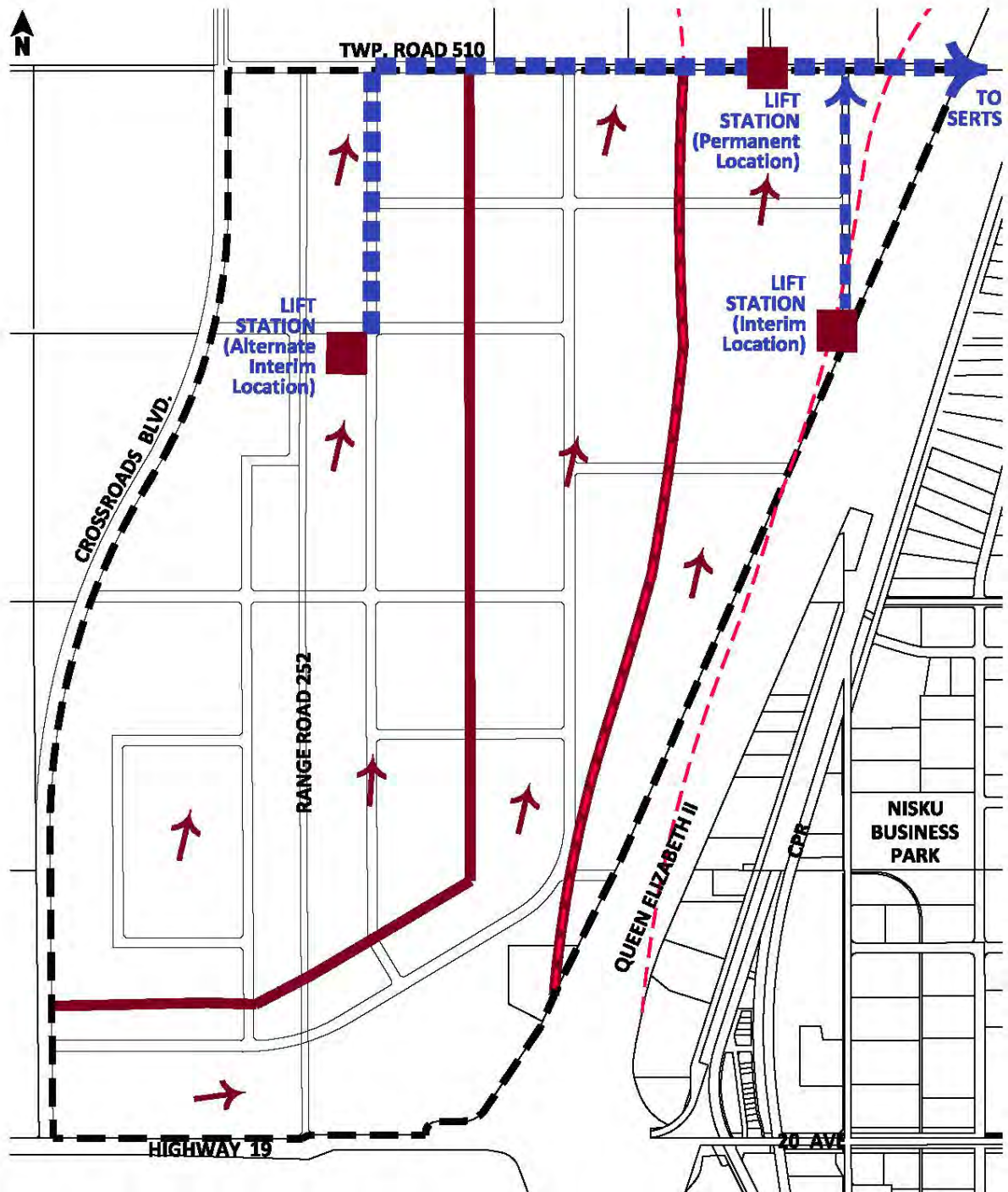
Objective	Policy	Implementation
To provide reliable municipal sanitary sewer servicing to all users within the plan area.	6.2.1 <i>Municipal Sanitary sewerage shall be provided to all lots with a connection to the South East Regional Sewer Trunk (SERT).</i>	Sanitary sewer servicing, as per the approved sewer network concept, will be a condition of engineering drawing approval associated with future servicing agreements.
	6.2.2 <i>All developments within the Crossroads ASP area shall connect to the municipal sanitary sewer system available within the plan area.</i>	

Discussion

Sanitary servicing will require constructing gravity sanitary sewers sloping from south to north and discharging to an interim lift station located in the north portion of the Plan area (see Figure 18 – Sanitary Servicing Plan). Wastewater pumped from the lift station will be conveyed to the South East Regional Sewer Trunk (SERT) outfall located on the east side of the Queen Elizabeth II Highway and through an interim forcemain proposed to service Crossroads ASP. The interim lift station shall be relocated as development dictates.

Wastewater servicing for Crossroads ASP is dependent on the available capacity of the SERT outfall to accept the wastewater flows as well as approval by the Alberta Capital Regional Wastewater Commission. Initial discussions with the Alberta Capital Regional Wastewater Commission have confirmed there is available capacity. The Wastewater Commission and Leduc County should prepare guidelines for connection to the outfall.

Figure 18 - Sanitary Servicing Plan:




Legend

- | | | | |
|---|--------------------------|---|-----------------------|
|  | ASP Boundary |  | Basin Boundary |
|  | Future QEII Alignment |  | Direction of Flow |
|  | 300mm Sanitary Forcemain |  | Proposed Lift Station |

Note: Infrastructure locations and alignments are conceptual only and will be determined with detailed engineering design.

6.3 Low Impact Development and Stormwater Management

Low Impact Development and Stormwater Objectives, Policies and Implementation Strategies




Objective	Policy	Implementation
To meet Alberta Environment’s requirements for stormwater retention, treatment and discharge.	6.3.1 <i>Prior to finalizing the stormwater management concept, an optimum stormwater strategy shall be determined with effort to minimize site grading.</i>	Stormwater servicing, as per the approved stormwater network concept, will be a condition of engineering drawing approval associated with future servicing agreements.
To meet airport requirements for minimizing bird hazards in relation to stormwater management facilities.	6.3.2 <i>Stormwater management wet ponds shall be permitted within Zone 3 of the Diverge Area; dry ponds shall be permitted within Zone 1 and 2 of the Diverge Area with limitations on duration of water detention</i>	
To encourage the use of environmentally sustainable water management practices.	6.3.3 <i>Prior to issuance of a Development Permit, a Landscaping Plan shall be prepared to the satisfaction of the approving agency. The Plan shall incorporate regionally-appropriate, water-efficient plantings and shall demonstrate inclusion of Low Impact Development techniques, which may include, but are not limited to: tree box filters, rain gardens and green roofs.</i>	

LID Discussion

Crossroads ASP will encourage the design and integration of Low-Impact Development (LID) principles. LID is an approach to stormwater management that strives to mimic natural processes in an effort to distribute infiltration rather than providing artificial, point-source treatment.

The following section outlines various ways that on-site LID stormwater management practices can be integrated into the development:

<p>Permeable pavers – permeable surfaces used in place of non-porous surfaces for sidewalks, parking areas and driveways.</p>	<p>Dry Wells - aggregate-filled pits that are used to infiltrate runoff that has been redirected from rooftops.</p>
	
<p>Rain barrels - containers for the collection and storage of rainwater from roofs. Often used for on-site irrigation.</p>	<p>Tree Box Filters - in-ground containers for the collection and pre-treatment of stormwater.</p>
	

<p>Rain gardens – vegetated areas intended to capture run-off from impervious surfaces.</p>	<p>Bioswales – sloped drainage courses intended to capture run-off from impervious surfaces. The pre-treated stormwater is then directed to a watershed or storm sewer.</p>
	
<p>Infiltration trenches – rock-filled trenches through which pre-treated stormwater infiltrates into the soil structure</p>	<p>Green roofs – vegetated areas of a roof which may or may not include root systems</p>
	

Stormwater Management Discussion

In November 2008, Leduc County released a draft Conceptual Stormwater Servicing Strategy for the greater planning area. According to this report, the maximum allowable release rate for the study area has been set to 4.25 L/s/ha (0.4265 m³/s/km²).

The Edmonton International Airport Diverge Area (see Figure 6a) establishes restrictions on the provision of stormwater management ponds within the Plan area based on the following 3 zones:

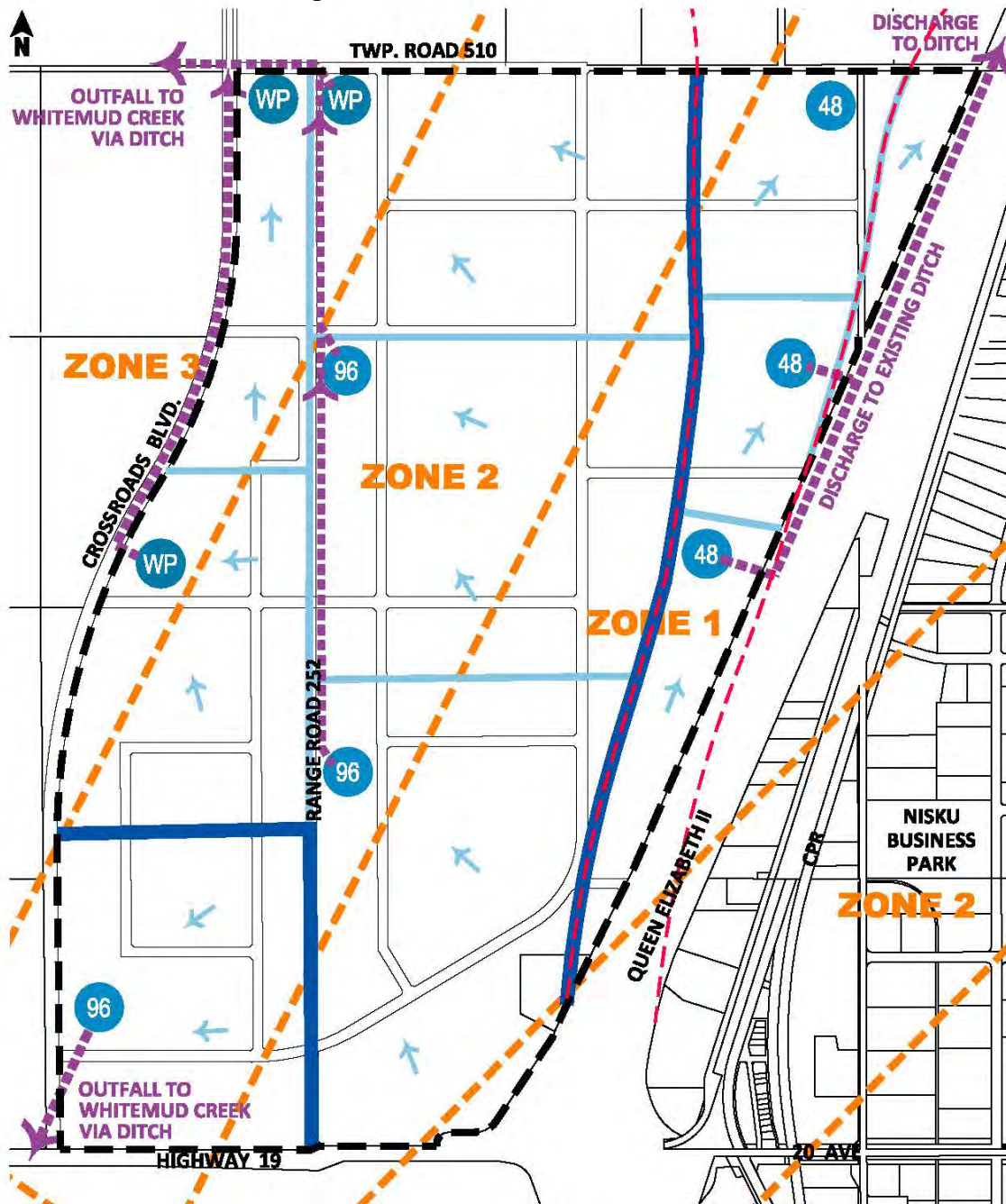
1. **Zone 1** – Wet ponds are prohibited. Dry ponds are permitted but must not retain open water for longer than 48 hours.
2. **Zone 2** – Wet ponds are prohibited. Dry ponds are permitted, but must not retain open water longer than 96 hours. Fencing and overhead wire systems might be required to prevent waterfowl from approaching the stormwater management facilities.
3. **Zone 3** – Wet ponds are permitted. They should be located in safe areas and modified (designed with steep banks) so as not to attract hazardous birds.

Based upon the above guidelines, several stormwater management facilities are proposed to service the Plan area, as outlined on Figure 19 – Stormwater Servicing Plan. The stormwater management facilities will consist of a combination of wet ponds and dry ponds, each independent of the other.

The plan area has been generally divided into three main storm water basin catchment areas. The most south-westerly basin contains a single dry pond which will be designed to detain the stormwater runoff during major rainfall events for a maximum of 96 hours following the completion of the storm. The most north-easterly basin uses the future QEII proposed alignment as its western boundary. That basin is independent from the balance of the property and uses three dry ponds that will be designed to drain completely within 48 hours following the completion of a severe rainfall event. Each pond will act independently from the other and will discharge northward to the Blackmud Creek via the existing ditches along the QEII.

The last basin is the largest and is centrally located throughout the plan area. The basin includes several ponds, both dry and wet, that are independent of each other, but discharge into the surface ditches to the north and west, and ultimately to the Whitemud Creek.

Figure 19 - Stormwater Servicing Plan:



Legend

- ASP Boundary
- Future QEII Alignment
- Edmonton International Airport Stormwater Management Zone Boundary
- Drainage Basin Boundary
- Primary Drainage Basin Boundary
- 48 Dry Pond - 48 Hour Discharge
- 96 Dry Pond - 96 Hour Discharge
- WP Wet Pond
- ← Direction of Flow

Note: Infrastructure locations and alignments are conceptual only and will be determined with detailed engineering design.

6.4 Shallow Utilities

Goal Statement

To provide reliable municipal shallow utilities servicing to all users within the plan area.

Shallow Utilities Objectives, Policies and Implementation Strategies

Objective	Policy	Implementation
To ensure that the Crossroads ASP is serviced to Leduc County Standards	6.4.1 <i>All shallow utility infrastructure required to provide service to development will be located underground, with an exception to power.</i>	Underground utilities services will be required as a condition of subdivision and executed through the associated servicing agreements.
	6.4.2 <i>Notwithstanding policy 6.1.4 above, aerial power distribution facilities may be installed provided that road crossings are located underground.</i>	

Discussion

Shallow utilities such as natural gas, power, street lighting, phone and cable are available in both the Nisku and Edmonton International Airport areas. Utilities will be extended by the respective franchise utility companies from their major trunk services. Utilities will be placed within road rights-of-way or within easements registered to lands within the Plan area. Fibre optic technology should be utilized wherever possible and available.

6.5 Emergency Response Services

Development within Crossroads ASP will be designed to accommodate emergency services.

Ambulatory services for Crossroads ASP will be provided by Alberta Health Services. Policing within Crossroads ASP will be managed by the RCMP from the base within the City of Leduc. Fire protection services within Crossroads ASP will be covered by Leduc County Fire Services from the Nisku Fire Hall, located at 606 21st Avenue, Nisku. Leduc County has an intermunicipal agreement for Fire Protection Services with surrounding municipalities and the Edmonton International Airport.


7. Implementation

The Crossroads ASP provides a policy framework for development. Once adopted, policies contained within the Plan will be binding and will direct the manner in which development occurs within the Plan area. There are a number of studies, approvals and infrastructure improvements that will directly influence the ability of Crossroads ASP to function as envisioned within this Plan, such as:

- Upgrades to Highway 19;
- Servicing funding and approvals; and
- Favourable market conditions.

This Plan recognizes that development is subject to market conditions and has sought to provide flexibility to facilitate development under a range of conditions. This Plan should be understood to be a living document in so much as it can be adapted to accommodate for changes in areas such as sustainable technology, stormwater management techniques, etc. The Plan should be interpreted in a manner that considers the importance of these activities and allows for modification of the Plan through approval processes as required.

Implementation Objectives, Policies and Strategies

Objective	Policy	Implementation
To provide opportunities for contiguous development in the ASP.	7.1.1 <i>Development will proceed from South to North, generally in accordance with the Development Staging Plan (Figure 20) in this ASP</i>	Engineering drawings will provide for contiguous development and servicing.
To execute a seamless transition into the subdivision and development permit stages.	7.1.2 <i>Prior to developing the first subdivision, lands shall be re-designated to the appropriate land use districts in accordance with the county’s land use bylaw.</i>	The county should prepare and approve appropriate land use districts to properly implement this plan.
To retain flexibility in the plan to adapt to minor fluctuations in land use over time.	7.1.3 <i>Development shall be generally in accordance with the land use concept in Figure 7. Minor variations of land use boundaries and roadway alignments are expected and will not require amendments to the plan.</i>	
To monitor and evaluate the on-going operation and efficiency of the transportation infrastructure as development proceed.	7.1.4 <i>Following the first stage of development, the TIA shall be reviewed and updated for each subsequent subdivision application, to fully confirm the safe operation of the Highway 19 accesses.</i>	The TIA will be evaluated to confirm the as-built trip generations from development through Stage 1.

Discussion

Zoning

Lands within the Crossroads ASP boundaries are currently zoned AG (Agricultural) by Leduc County Land Use Bylaw No. 7-08. The purpose of the AG (Agricultural) district is to “provide primarily for larger agricultural operations and limited higher intensity agricultural activities on smaller lots, while at the same time providing for limited residential and other uses having a secondary role to agriculture” (page 9-1).

Lands designated for Commercial, Business Park, Logistics and Distribution, Park and Public Utility uses within this Plan will require rezoning to an appropriate land use district within Leduc County Land Use Bylaw.

Development Staging

Development is expected to commence in the southern portion of the Plan area adjacent to Highway 19 to take advantage of the access, with offsite water and sewer facilities constructed with the initial stage (see Figure 20 – Development Staging). Stormwater management will be constructed as necessary as part of the first stage. Notwithstanding the staging plan, a significant amount of the infrastructure for the entire development will need to be constructed as part of stage 1.

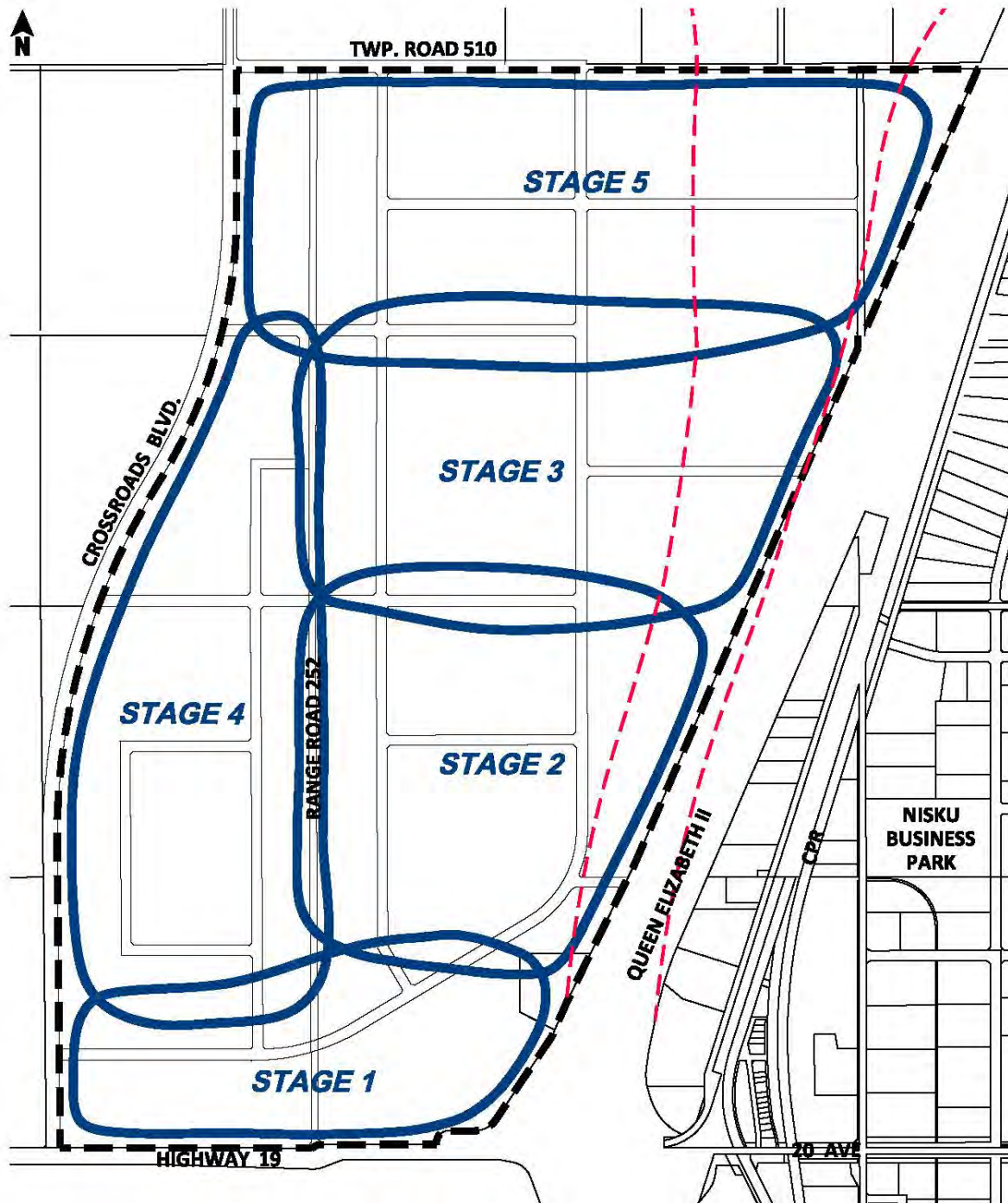
Cost Sharing

Off-site levies are anticipated to assist with the cost sharing of off-site infrastructure. As development proceeds, negotiations with the County and developers will determine the levels of contribution.




Amendments to the Plan

Amendments to the Crossroads ASP Area Structure Plan may be initiated by person(s) with interest in the plan area. In this event, the proponent must follow all Leduc County procedures for statutory plan amendment.

Figure 20 - Development Staging:



Legend

-  ASP Boundary
-  Future QEII Alignment
-  Staging Boundary

Note: This plan is conceptual and the exact location and alignment of uses, facilities, roadways, local roadways and services will be determined at the zoning and subdivision stage. Staging boundaries are conceptual only and provide a general progression of development. Actual development staging will be in accordance with market forces.

Appendix

A1. Edmonton International Airport Vicinity Protection Area Regulation 55/2006

The following table takes into consideration aircraft noise and safety for EIA and Leduc County. Permitted uses and requirements for land use and development within the Crossroads ASP shall be based on the table below.

A land use shown in Column 1 of the following table is prohibited on land that is located in an NEF Area shown in Column 2,3,4, or 5 of the table if the expression “PR” appears in the column opposite that land use.

Table of Prohibited Uses According to EIA Noise Exposure Forecast Areas:

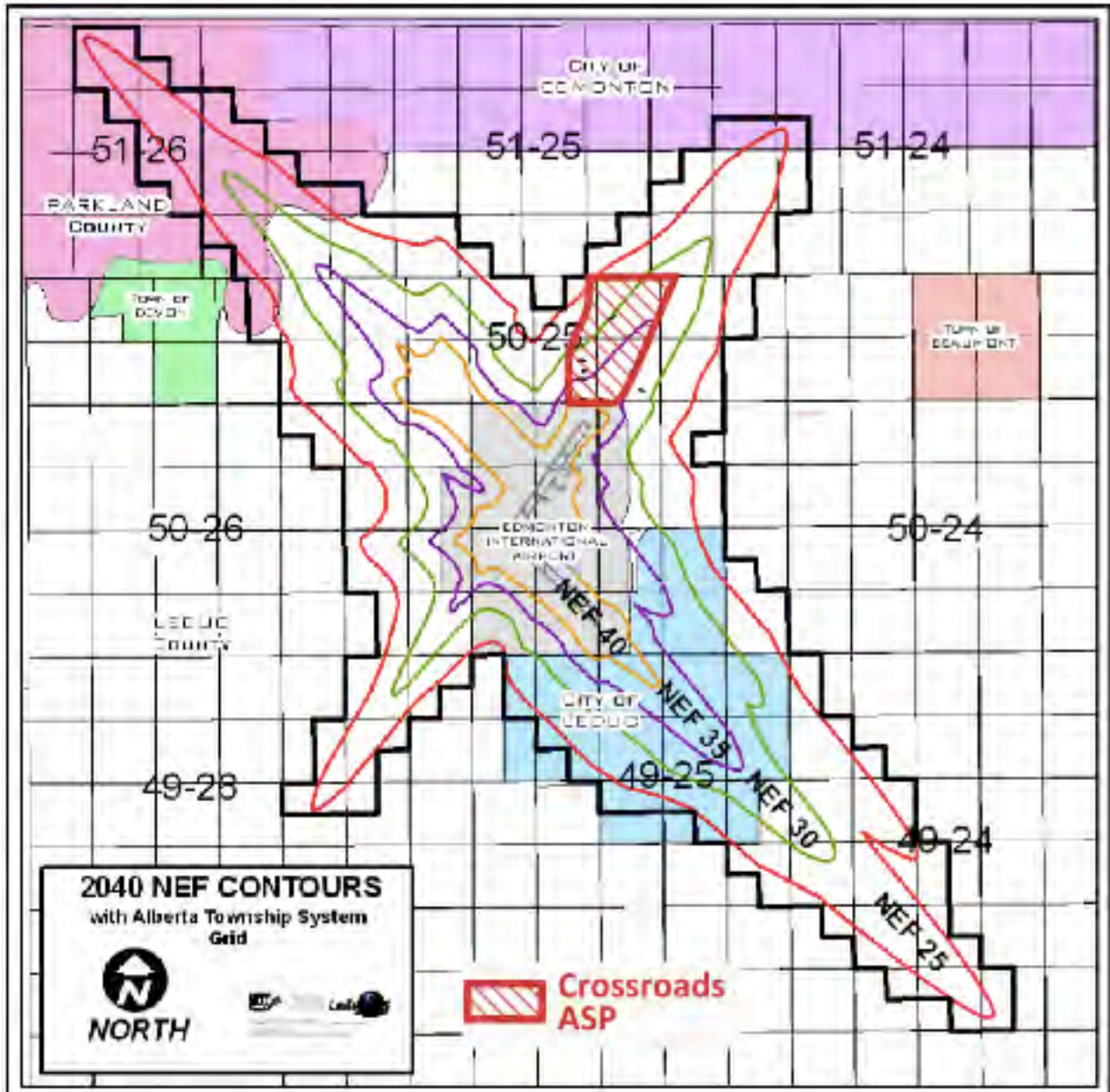
1	2	3	4	5
Land Uses	NEF 40+	NEF 35-40	NEF 30-35	NEF 25-30
Public and Semi-Public Uses				
Halls/Auditoriums	PR	PR		
Hospitals	PR	PR	PR	
Clinics	PR			
Libraries	PR	PR		
Nursing Homes	PR	PR	PR	
Outdoor Recreation Facilities	PR			
Schools	PR	PR	PR	
Outdoor Spectator Entertainment Facilities	PR	PR	PR	
Indoor Spectator Entertainment Facilities	PR	PR		
Outdoor Spectator Sports Facilities	PR	PR	PR	
Indoor Spectator Sports Facilities	PR	PR		
Residential Uses				
Campgrounds	PR	PR	PR	PR
Residences	PR	PR	PR	

1	2	3	4	5
Land Uses	NEF 40+	NEF 35-40	NEF 30-35	NEF 25-30
Commercial				
Billiards, Bowling, Arcades	PR			
Cinemas	PR			
Eating and Drinking Establishments	PR			
Funeral Homes	PR			
Gambling Facilities	PR			
Hotels/Motels	PR			
Office and Retail Facilities	PR			
Private Clubs and Lodges	PR			
Public and Semi-Public Uses				
Churches	PR	PR		
Day Care	PR	PR		
Emergency Response Services	PR			
Exhibition and Fairgrounds	PR	PR		

Table Interpretation:

Column	Description
2	NEF 40+ - means as area of land located between NEF contour line 40 as shown on the map in Appendix A2 and A3.
3	NEF 35-40 - means as area of land located between NEF contour lines 35-40 as shown on the map in Appendix A2 and A3.
4	NEF 30-35 - means as area of land located between NEF contour lines 30-35 as shown on the map in Appendix A2 and A3.
5	NEF 25-30 - means as area of land located between NEF contour lines 25-30 as shown on the map in Appendix A2 and A3.

A2. Edmonton International Airport Noise Exposure Forecast Zone Contours:



Source: EIA Vicinity Protection Area Regulation, Alberta Regulation 55/2006

A3. Noise Exposure Forecast Zone Contours and Land Use Development:



- Legend
- ASP Boundary
 - NEF 25
 - NEF 30
 - NEF 35
 - NEF 40

Note: NEF contours shown are in accordance with the Municipal Government Act, Alberta Regulation 55/2006, Edmonton Airport Vicinity Protection Area Regulation

