Bylaw No. 1073-2020

PAGE 1

A BYLAW OF THE CITY OF LEDUC IN THE PROVINCE OF ALBERTA, TO ADOPT THE AREA STRUCTURE PLAN FOR NW $\frac{1}{4}$ 35-49-25-4, Lots 1, 2, 3 Plan 922 3395, NW $\frac{1}{4}$ 34-49-25-4, and NE $\frac{1}{4}$ 33-49-25-4

WHEREAS, the Municipal Government Act, R.S.A. 2000, Chapter M-26, as amended (the "Act"), grants a Municipality the authority to adopt by Bylaw an Area Structure Plan for the purpose of providing a framework for subsequent subdivision and development of an area of land in a municipality.

WHEREAS, NW $\frac{1}{4}$ 35-49-25-4, Lots 1, 2, 3 Plan 922 3395, NW $\frac{1}{4}$ 34-49-25-4, and NE $\frac{1}{4}$ 33-49-25-4 Area Structure Plan addresses the requirements of an Area Structure Plan as outlined in the Act;

WHEREAS, notice of intention to pass this Bylaw has been given and a public hearing has been held in accordance with the Act;

THEREFORE, the Council of the City of Leduc in the Province of Alberta duly assembled hereby enacts as follows:

- 1. This Bylaw is to be cited as the "65th Avenue Area Structure Plan Bylaw".
- 2. The document titled "65th Avenue Area Structure Plan", attached as Schedule "A" to this Bylaw, is adopted as the 65th Avenue Area Structure Plan.
- 3. Bylaw No. 212-91, Bridgeport Area Structure Plan, is repealed.

READ A FIRST TIME IN COUNCIL THIS 14TH DAY OF DECEMBER, 2020.

READ A SECOND TIME IN COUNCIL THIS 8TH DAY OF MARCH, 2021.

READ A THIRD TIME IN COUNCIL THIS 8TH DAY OF MARCH, 2021.

"Original Signed"

Bob Young
MAYOR

"Original Signed"

"Original Signed"

Sandra Davis
CITY CLERK

Schedule "A"

65th Avenue Area Structure Plan

65th Avenue Area Structure Plan

November 25, 2020







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1. INTRODUCTION

1.1 Context

The 65th Avenue Area Structure Plan (ASP) encompasses approximately 227 hectares (ha) (561 acres) and is located in the northwest portion of the City of Leduc, just south of the Edmonton International Airport (EIA). The plan area is bounded by 65th Avenue to the north, the Queen Elizabeth 2 (QEII) Highway to the east, the Bridgeport and Deer Valley neighbourhoods to the south, and the West ASP to the west. The 65th Avenue ASP area is illustrated within *Figure 1: Location*. Land ownership in the ASP area is identified in *Figure 2: Ownership*.

1.2 Purpose

The ASP provides direction for the development of residential, commercial, and employment uses in the plan area, in a manner that is consistent with the City of Leduc and County of Leduc Intermunicipal Development Plan (IDP), the City of Leduc Municipal Development Plan (MDP), and the Edmonton Metropolitan Region Growth Plan (EMRGP). The Aerotropolis Viability Study (AVS) also provides a vision and understanding of opportunities related to the EIA which are incorporated into the ASP.

In order to clarify, communicate, and protect the vision of future development for the 65th Avenue area, the ASP includes the following:

- Office, business, and employment uses which leverage proximity to the EIA and provide opportunities for airport-connected development;
- Commercial uses which serve the needs of residents and employees in the plan area and regionally;
- A mixed-use node with vertically or horizontally integrated commercial and residential uses;
- Stormwater management facilities designed as both utilities and recreation opportunities;
- A greenway buffer between residential and non-residential uses, providing separation space, a multiway path, and wildlife corridor;
- Low and medium density residential with a diversity of housing types and connections to adjacent residential neighbourhoods; and
- 65th Avenue and Grant MacEwan Boulevard as major arterials to connect the neighbourhood with the future 65th Avenue / QEII Interchange, the EIA, and the rest of Leduc.

Legend

Plan Area



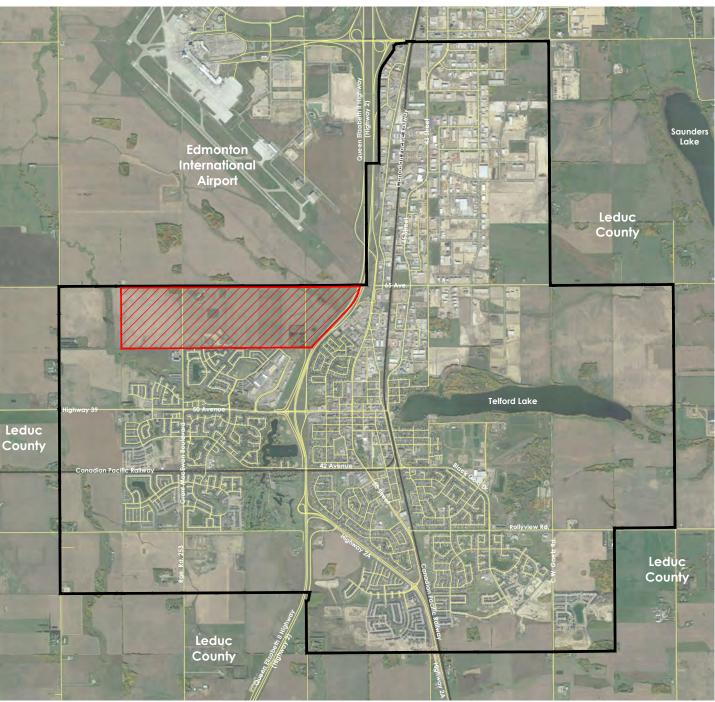


FIGURE 1

LOCATION





Legend

65th Avenue ASP Boundary
Private Lands
Public Lands



Edmonton International Airport

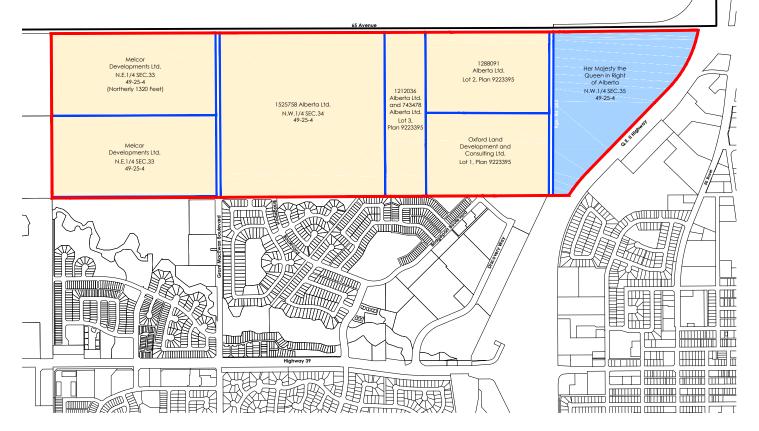


FIGURE 2

LAND OWNERSHIP





1.3 Stakeholder and Public Engagement Process

Landowners within the plan area, members of the public, and other stakeholders were involved in the creation of this plan throughout the process. Public engagement events and stakeholder/landowner meetings were held at two key points: Project Initiation / Visioning and Draft ASP Review. Public and stakeholder feedback was taken into consideration during the initial planning process and revisions to the 65th Avenue ASP.

1.3.1 Project Initiation / Visioning

Early in the planning process, stakeholders were invited to have one-on-one meetings with the project team to discuss the vision and principles of the plan. Stakeholders provided input on the high-level land use concept, targeted development types and economic clusters, major roadway alignments, and the planned development of the 65th Avenue interchange.

A public open house was held on October 25, 2018 at the Civic Centre. Through story boards and discussions with the project team, members of the public were informed about the project context, purpose, process, and next steps. Input was sought on what types of development and amenities should be included in the plan, how the plan should transition between houses and business areas, and any other elements to consider. Approximately 60 people attended the open house and were invited to provide input through comment cards and sticky notes. An online survey form was also publicly available to collect feedback. Public input indicated that noise and light impacts from the airport and roadways should be addressed, natural area preservation and maintaining open spaces should be emphasized, transitional land uses provided adjacent to existing residences, and major transportation routes should be planned to avoid residential areas.

1.3.2 Draft ASP Review

A public open house was held on January 29, 2020 at the Civic Centre. Through story boards and discussions with the project team, members of the public were provided the opportunity to review and comment on the draft 65th Avenue ASP. Approximately 30 people attended the open house and were invited to provide input through comment cards. Public input indicated that open space within the plan area was of high-priority, the variety of housing choices presented within the ASP would be beneficial to the community, concerns about the potential increase in traffic to the roadway network, and impacts from noise created by the airport and arterial roadways.

1.3.3 Public Hearing

In accordance with the *Municipal Government Act*, a public hearing was held to hear representations made by parties affected by the proposed bylaw.

1.4 Interpretation

Policies are written using shall, will, should, or may statements, and can be interpreted as follows:

- A statement containing shall or will denotes mandatory compliance or adherence to direction.
 Where a shall or will statement proves impractical, premature, unnecessary, or impossible to achieve, an amendment to the plan may be required.
- A statement containing should is an advisory statement and indicates the preferred principle, policy, and/or implementation strategy. If the should statement is not followed because it is impractical, premature, unnecessary, or impossible to achieve, the intent of the policy may be met through other agreed-upon means.
- A statement containing may denotes discretionary adherence or choice.

All map symbols, locations, and boundaries contained within the ASP shall be interpreted as approximate unless otherwise specified within the Plan or coinciding with clearly recognizable physical features or fixed (i.e. legal) boundaries.

1.5 Monitoring and Amendments

Policies, text, and mapping information contained within this document may be amended from time to time, by Council approved bylaw, in order to respond to and remain current with planning and development trends affecting suburban and airport-connected development, as well as more specific issues affecting the neighbourhood.

Amendments to the 65th Avenue ASP document involving policies, text, or mapping shall be completed in accordance with the *MGA*, Edmonton Metropolitan Region (EMRB) Growth Plan, City of Leduc – Leduc County IDP, City of Leduc MDP, and all other applicable bylaws, policies, and procedures.

2. PLANNING CONTEXT

2.1 Municipal Government Act

Part 17 of the *Municipal Government Act (MGA)* empowers municipalities to adopt ASPs and describes the elements which are required. This ASP has been prepared in accordance with the requirements of the *MGA*, including that the ASP must describe:

- The sequence of development proposed for the area,
- The land uses proposed for the area, either generally or with respect to specific parts of the area,
- The density of population proposed for the area either generally or with respect to specific parts of the area, and
- The general location of major transportation routes and public utilities.

The MGA also requires that ASPs must be consistent with any IDP and MDP in effect for the ASP area.

2.2 Edmonton Metropolitan Region Growth Plan

Approved in 2017, the Edmonton Metropolitan Region Growth Plan (EMRGP) guides the work of the Edmonton Metropolitan Region Board (EMRB) and puts forward policies that support the long term economic prosperity and quality of life for all residents in the Region.

The following guiding principles shape the policies of the EMRGP:

- 1. Collaborate and coordinate as a Region to manage growth responsibly.
- 2. Promote global economic competitiveness and regional prosperity.
- 3. Recognize and celebrate the diversity of communities and promote an excellent quality of life across the Region.
- 4. Achieve compact growth that optimizes infrastructure investment.
- 5. Ensure effective regional mobility.
- 6. Ensure the wise management of prime agricultural resources.
- 7. Protect natural living systems and environmental assets.

The 65th Avenue ASP supports these principles and facilitates the following objectives of the EMRGP:

• 1.1 – Promote global economic competitiveness and diversification of the regional economy;

- 1.3 Enhance competitiveness through the efficient movement of people, goods and services to, from and within the Region;
- 1.4 Promote the livability and prosperity of the Region and plan for the needs of a changing population and workforce;
- 3.1 Plan and develop complete communities within each policy tier to accommodate people's daily needs for living at all ages;
- 3.2 Plan for and promote a range of housing options;
- 4.3 Plan and develop greenfield areas in an orderly and phased manner to contribute to complete communities;
- 4.6 Prioritize investment and funding of regional infrastructure to support planned growth;
- 4.7 Ensure compatible land use patterns to minimize risks to public safety and health; and
- 5.4 Support the Edmonton International Airport as northern Alberta's primary air gateway to the world.

2.3 EIA Vicinity Protection Area Regulation

Due to its proximity to the EIA, the 65th Avenue ASP has specific land use constraints that must be considered. The Province of Alberta's Edmonton International Airport Vicinity Protection Area (AVPA) Regulation (AVPA; AR 55/2006) identifies certain limits on types of development which are not suitable to the functional requirements and noise impacts of the airport.

Noise exposure forecast contours provide a model of predicted noise impacts of aircraft, and define the boundaries within which certain land uses are restricted. As shown in Schedule 2 of the AVPA, the 65th Avenue ASP Area contains land within the following contour areas: NEF 25-30, NEF 30-35, NEF 35-40, and NEF 40+. Prohibited uses increase with the increasing NEF number. As a result, potential land uses for the Plan area, particularly in the NEF 35-40 and NEF 40+ areas, are limited. Residential uses may only be located within the NEF 25-30. Details are provided in Appendix A.

The ASP recognizes the necessity of sensitive land use restrictions to protect the continued successful operation of the EIA. The Plan carefully considers the NEF contour lines in the land use concept, and conforms with the AVPA.

2.4 EIA Zoning Regulations (C.R.C., c.81)

The Edmonton International Airport Zoning Regulations are set out in the Consolidated Regulations of Canada, Chapter 81 (C.R.C, c.81), as enabled by the Aeronautics Act. Zoning Regulations indicate that for most of the plan area, building heights up to 45 metres are permitted, while a small portion of the plan area limits building heights to 9 metres.

2.5 Intermunicipal Development Plan

In 2011, the City of Leduc and Leduc County adopted the Intermunicipal Development Plan Bylaw No. 772-2011, a collaboratively prepared plan for development of land near the boundaries of the two municipalities, as required by the *Municipal Government Act*. As amended since its adoption through Bylaws 871-2014 and 933-2016, the IDP applies to the 65th Avenue ASP area due to its proximity to the City of Leduc Boundary.

The Guiding Principles of the IDP are regional in scope and are based upon five Sustainability Pillars:

- Smart Growth
- Creating Vibrant Communities
- Environmental Stewardship
- Economic Development
- Responsible Governance

As shown in *Figure 5: IDP*, The IDP identifies long term development (planned to 2044) of commercial/industrial uses in the north portion of the plan area (Policy Area E1 – West Business Industrial), and mixed use transitions in the south portion (Policy Area C – Transitional Residential Mixed Use). It also identifies a future municipal water reservoir and water main within the plan area and a future major roadway and potential transportation and utility corridor along the north boundary.

2.6 Municipal Development Plan

The City of Leduc MDP was adopted in 2020 (Bylaw 1057-2020), and sets out a vision that "The City of Leduc is a vibrant community with a thriving economy that offers a high quality of life for residents, respect for the environment, and diversity and inclusiveness for all. We cultivate creativity, aim to preserve our rich and diverse history, and continue to foster our citizen-focused and responsible approach to community development." The MDP provides a framework for development within the City.

As shown in Figure 4: MDP Context, the 65th Avenue ASP area consists of two policy areas within the MDP. The eastern portion is entirely Employment Area, while the western portion is split between Employment Area to the north and Residential Area to the south.

The Employment Area allows for commercial, industrial, and institutional uses, which will buffer residential neighbourhoods from highway and airport noise. Natural barriers are encouraged as tools to mitigate airport and highway impacts on residential areas.

The MDP also directs the future transportation network for the City, including future arterial and collector roads through the plan area and a future interchange at 65th Avenue and the QEII Highway.

2.7 Aerotropolis Viability Study (2015)

Between 2014 and 2015, MXD Development Strategists and Stantec prepared the Aerotropolis Viability Study (AVS) for the Leduc Partnership, comprised of the City of Leduc and Leduc County. The AVS aimed to provide a comprehensive plan and feasibility study for the development of an Aerotropolis, which includes land uses and economic industries that value connectivity to the Edmonton International Airport. With the creation of a new commercial and industrial hub, development is anticipated to generate approximately 55,500 new regional jobs when fully implemented (estimated by 2044).

Four priority areas are identified in the AVS for future commercial and industrial growth. As depicted in *Figure 3: AVS Priority Areas*, the priority areas total about 2,345 ha (5,795 acres) of primarily developable greenfield land. The 65th Avenue West area, which contains the 65th Avenue ASP area, contains 140 ha (345 acres) of developable land.

The AVS indicates that due to its direct proximity to EIA, the 65th Avenue West priority area provides the highest viability for uses that are time-sensitive and require direct transportation connections.

Economic cluster focus areas identified for the 65th Avenue West priority area are:

- Aerospace and Aviation
- Education
- General Business
- Information Communication Technology (ICT)
- Life Sciences
- Retail
- Transit-Oriented Development
- Transportation, Logistics, and Distribution

The land use allocations for the 65th Avenue West priority area planned in the AVS provide for 7,398 direct new jobs by 2044, spread across the sectors identified above. Catalyst projects identified for the area include a Discovery Park Incubator, Aerotropolis Campus, Distillery and Dining District, Aerospace Research Park, and Retail Fulfillment Hub.

From a transportation and accessibility perspective, the 65th Avenue / QEII Interchange is identified as a catalyst project, along with 65th Avenue, an east-west arterial along the north edge of the 65th Avenue ASP area. A potential higher order transit line is also identified to terminate in the ASP area.

2.8 Economic Sector Diversification Analysis (2018)

Building upon the findings of the Aerotropolis Viability Study, an Economic Sector Diversification Analysis was conducted in 2018 to identify current and emerging economic sectors in the province and region, targeted to inform the 65th Avenue ASP.

2.8.1 Information, Communications, and Technology (ICT)

The analysis found that the ICT cluster is rapidly evolving, with significant recent investments in the Edmonton Metropolitan Region. Immediate development of ICT-related opportunities was recommended, to take advantage of the proximity to the EIA and low costs of business relative to downtown Edmonton and the University of Alberta. Immediate focus could be on uses that require larger and more affordable spaces than what is available in the Edmonton market.

The following sub-clusters were highlighted:

- Data Science
- Artificial Intelligence & Machine Learning
- Robotics
- Financial Technology (FinTech)
- Cyber Security
- Software & App Development
- New Mobility Testing
- Research & Development (Assembly and Testing)
- Component Manufacturing

2.8.2 Transportation and Logistics

The analysis found that as a result of its strategic position in the middle of Western Canada and as a gateway to Northern Canada, the Edmonton Metropolitan Region is uniquely positioned for development related to Transportation and Logistics. Further, the 65th Avenue ASP area provides easy access to the QEII Highway for trucking activity and the EIA for 24/7 air service and cargo capabilities.

Current trends toward single-day and overnight shipping have resulted in demand for distribution centres closer to consumers, while autonomous vehicles will greatly impact transportation options in the future. Although the presence of Transportation and Logistics will be limited to the northern portion of the ASP area due to proximity of established residential areas, the planned 65th Avenue / QEII

Interchange will serve to catalyze time-sensitive Aerotropolis uses requiring direct connections to the EIA and the QEII corridor.

The recommended sub-clusters for the ASP area are as follows:

- Third-Party Logistics (P3)
- Last Mile Logistics
- Packaging & Labeling
- Warehousing & Long-Term Storage
- Value-Added Logistics Providers

- Cold Chain Facilities
- E-Commerce Fulfillment & Retail Distribution
- Shipment Consolidation
- International Freight Forwarding

2.8.3 Aerospace and Aviation

As the fastest growing airport in the country, the EIA is transforming into a growing hub for Aerospace and Aviation training, manufacturing, maintenance, and company headquarters. In particular, the Alberta Aerospace and Technology Centre (AATC), which was launched at the EIA in 2015, has established the region as an international flight training hub and centre of innovation.

The following sub-clusters are recommended for the ASP area:

- Robotics & Unmanned Aircraft Systems (UAS)
- Air Cargo Logistics
- Manufacturing, Maintenance, Repair, and Overall (MMRO)
- Telecommunications, Remote Sensing, & Avionic Systems
- Specialized Materials & Surface Engineering
- Aircraft Components
- Skills Training & Education
- Research & Development

2.8.4 Life Sciences

With approximately 60% of Alberta's Life Sciences companies located in the Edmonton Metropolitan region, the cluster is well-established. Progress in technology related to Life Sciences, proximity to the EIA, and Leduc's growing bio-industrial and biotechnology industry present opportunities for Life Sciences in the ASP area, particularly in the following recommended sub-clusters:

- Bioscience Manufacturing
- Biotechnology & Bio-Industrial
- Pharmaceuticals

- Instruments & Medical Devices
- Diagnostics
- Health Research

2.9 Real Estate Market Overview (2018)

An overview of the current trends in the Edmonton region's real estate market was completed in 2018.

2.9.1 Retail

The analysis found that retail vacancy increased to 5.5% in 2017, largely as a result of the Sears bankruptcy. Grocery and pharmacy anchored sites are in high demand with the growth of new neighbourhoods, while trends toward service-based retail and the introduction of the legal cannabis industry have changed market demand. Food and beverage and health & wellness are drivers for the retail market in new and existing retail centres.

2.9.2 Industrial

With a resilient industrial market, Edmonton has seen rising lease rates and lower vacancy rates compared to many markets in North America. The Nisku-Leduc submarket has a positive absorption rate, particularly in response to any short-term economic upswings in the energy industry. Nevertheless, the oil and gas sector continues to create challenges for major industrial expansion in the Leduc area. Demand has been primarily focused towards small to medium size sites, particularly within the 1-5 acre range. Further, catalyst projects at the EIA have caused growth in the industrial market.

2.9.3 Office

With an office vacancy rate of 16.35% for 2018, the office market has seen limited growth. High vacancies in downtown Edmonton limit the potential for office development in Leduc in the near future.

2.9.4 Implications for the ASP

The greatest opportunities in real estate development fall within the Flex Business and Aero Employment policy areas. Population growth near the ASP area and a healthy retail market indicate that opportunities also exist for retail, service, and food & beverage development.

2.10 AVS Review (2018)

To ensure that the 2015 Aerotropolis Viability Study remains relevant, a review was carried out in 2018 which identified both the directions that were still applicable and those that required updating. Key current trends identified include the high office vacancy rate, a growing industrial market, and increased demand for flex industrial and flex commercial space. The four core clusters originally identified in the AVS remain viable, though ICT should be seen as a supporting cluster to other sectors since ICT continues to be primarily located in the City of Edmonton.

Crucial projects for the viability of economic growth in the 65th Avenue area include the 65th Avenue / QEII Interchange and planned transit-oriented development around a future public transportation line. Planned phasing was identified as an area needed further exploration, due to the availability of utilities, including sanitary servicing.

Case studies were provided of recent developments in airport connected contexts similar to the 65th Avenue ASP area. Examples of the types of development appropriate for a 10 to 15 minute drive time

from an international airport (which is the case for the ASP area) include a mixed-use centre, transit oriented development with Smart City technology, and an Amazon logistics hub.

Once the 65th Avenue interchange is constructed, connecting the ASP area with the Perimeter Road at EIA, some land within the ASP area will fall within the 5 to 10 minute drive time window. The AVS identifies additional sectors appropriate for airport connected development, such as ground logistics, bio-life sciences and diagnostics, and research and development.

2.11 Bridgeport ASP

Adopted in 2004, the Bridgeport ASP (Bylaw 585-2004) included portions of the 65th Avenue ASP plan area as well as two quarter sections to the south. While the two quarter sections were developed as the Bridgeport neighbourhood, the north portion of the Bridgeport ASP was not developed. Due to changes in the location of the NEF contours following the adoption of the Bridgeport ASP, the land uses proposed for this area are no longer viable, and the plan does not align with the MDP.

The 65th Avenue ASP replaces a portion of the Bridgeport ASP in order to provide an updated land use concept and policies that align with the current MDP, IDP, and EIAVPAR. The Bridgeport ASP will need to be amended or rescinded to facilitate the adoption of the 65th Avenue ASP.



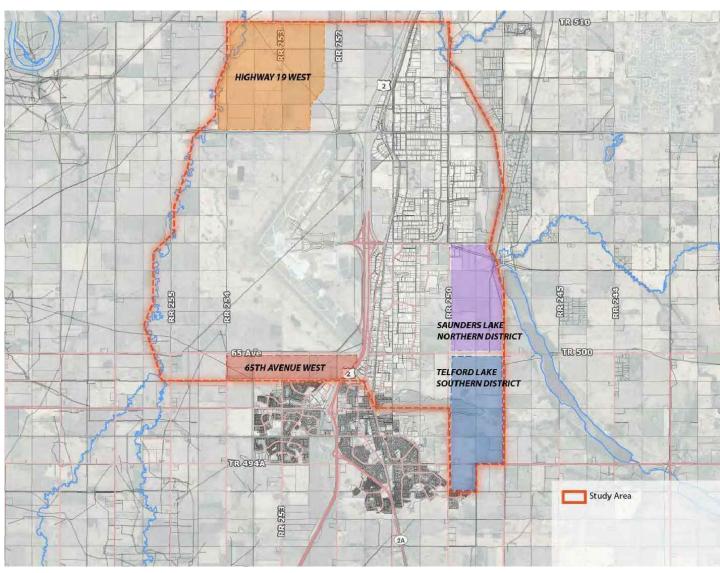


FIGURE 3

AVS PRIORITY AREAS







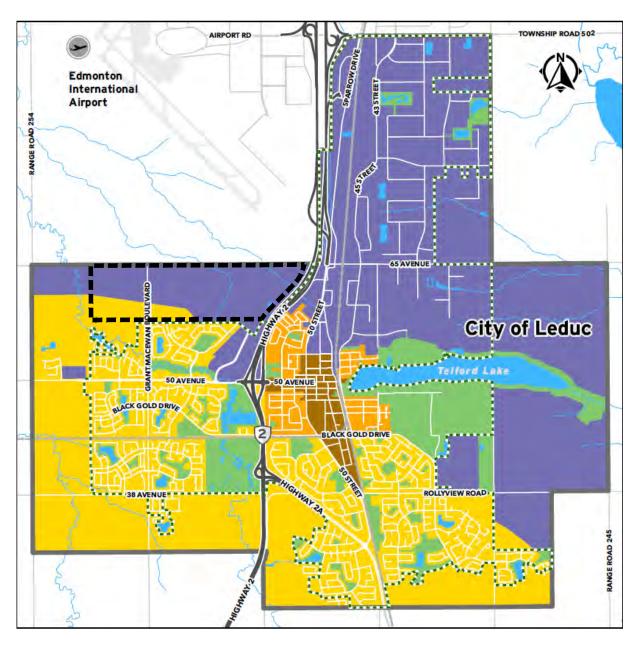


FIGURE 4

MDP CONTEXT





City of Leduc 65th Avenue ASP

Legend IDP Area Boundary IDP Reserve and Referral Area → Railway City of Leduc Boundary Open Space and Greenways Proposed Future Major Roadway Primary Urban Residential Growth Business to Greenways Transition Runway Saunders / Telford Lake Business Future Runway & Clearance Zone LeducTransit Transitional Residential Mixed Use Approved Residential ASPs N.E.F. 30 Contour Town Centres Open Space Creeks & Rivers Temporary Industrial Use West Business Industrial Regional Landfill Site (to be reclaimed as open space in the future) 65th Avenue ASP Boundary West Business Industrial Reserve Regional Landfill Site (West Expansion Area) Nisku/Leduc Business Industrial Riparian Areas Southeast Business Industrial Leduc County Environmental Study Area Boundary QEII) Edmonton International Airport B В E1 D G West Town Centre Н Ηp **QEII** 814

FIGURE 5

IDP CONTEXT





3. EXISTING CONDITIONS

3.1 Existing Land Uses and Zoning

The ASP area is currently used for agricultural production. No structures are present, but a historical farmstead has been identified in air photos in the south part of the ASP.

As of 2019, the ASP area was designated as UR (Urban Reserve) in the Land Use Bylaw (Bylaw 809-2013). The UR zone provides for agricultural uses on land that is intended for future development. The Airport Vicinity Protection Overlay and Highway 2 Corridor Design Guidelines apply to portions of the plan area, further impacting the potential land uses.

3.2 Adjacent Land Uses and Zoning

South of the plan area, the Bridgeport neighbourhood consists primarily of residential land uses, with a mix of low density and medium density residential uses zoned Residential Standard District (RSD) and Residential Narrow Lot (RNL). There are also two areas of parkland zoned General Recreation (GR) that border the 65th Avenue ASP area. A commercial area is located along the east side of the Bridgeport neighbourhood adjacent to the QEII Highway, zoned Commercial Shopping Centre (CSC).

65th Avenue defines the north boundary of the ASP area, which is also the boundary of the City of Leduc. North of 65th Avenue is the Edmonton International Airport lands, with an open field and runways closest to the ASP area.

The QEII Highway runs along the east boundary of the plan area, with commercial, industrial, and residential uses along the other side zoned Commercial Shopping Centre (CSC), General Commercial (GC), and Residential Manufactured Home (RMH). West of the plan area are agricultural uses of the same nature of the existing uses within the plan area, zoned Urban Reserve (UR).

3.3 Biophysical Assessment

A desktop Biophysical Assessment was prepared to support the preparation of the 65th Avenue ASP (Stantec, 2018). The ASP area contains historically agricultural land with one wooded area, as well as a drainage feature and wetland in the northeast portion.

The following sections summarize major findings from the Biophysical Assessment as well as recommendations for retention and development considerations.

3.3.1 Topography and Soils

The ASP area slopes from the southeast to the northwest, though is overall relatively flat. Some lower lying wet areas exist.

Soil stratigraphy consists of fill or topsoil overlying clay till, underlain by clay shale or sandstone bedrock. A variety of soil types are identified within the ASP area.

On a scale from 1 (no significant limitations to agriculture) to 7 (no capacity for agriculture), soils within the ASP area are generally classified with a Suitability Class of 2. This indicates that there are slight limitations that may restrict the growth of some crops. A small portion of soils in the north central part of the ASP area is classified with a Suitability Class of 5, indicating severe limitations.

3.3.2 Hydrogeology and Hydrology

Regionally, the ASP area is located within the North Saskatchewan River drainage basin and the Whitemud Watershed. Groundwater flow is in a northerly and downward direction toward Whitemud Creek and the North Saskatchewan River. Groundwater levels range from 0.6 m to 5.7 m below ground surface.

Stormwater management discharge release rates are estimated at between 2 and 8 litres per second per hectare. With some ephemeral field drainage features and one main drainage feature in the northeast portion of the plan area, watercourses are unmapped and considered Class D waterbodies with no associated restricted activity period.

3.3.3 Vegetation and Wetlands

Five Natural Areas (NAs) are identified in the ASP area. NA 73 is a wooded area classified as anthropogenic upland, associated with a former farmstead. NA 74 is a wetland with an apparent origin of a borrow pit approximately 50 years ago. NA 81 is a dugout formed within the last 10 years, with limited to no native vegetation. NA 83 is a wooded are classified as an aspen woodland alliance community type. NA 85 is a wetland area formed between 1976 and 1982 which functions as a stormwater management system.

Both wetlands within the ASP area are classified as category D, with the lowest wetland value.

The Biophysical Assessment recommends that NA 85 be retained for continued use as a stormwater management system. If, due to the proposed QEII Highway corridor realignment, this is not possible, future development will need to consider stormwater management and design a new system accordingly. Stormwater management facilities should be designed to deter waterfowl, due to the close proximity to the EIA. This wetland is located on lands owned by the Province of Alberta.

Ephemeral drainage features are also recommended for retention for hydrological functions where feasible. Wooded areas should be considered to provide habitat for wildlife and preserve existing forested areas.

The other NAs are not prioritized for retention.

NA 73, a 3.8 ha area with a mix of native and planted tree species, was subject to a health analysis which showed that it is dying and will be removed in 2020.

3.3.4 Wildlife

Wildlife species in the ASP area are typical of the Central Parkland Natural Subregion and are likely exposed and habituated to existing human disturbances. A wide variety of wildlife may be found in this area. There are several Species of Management Concern which may be found within the ASP area, as well as the potential for protected features for the bald eagle and sharp-tailed grouse. Wildlife surveys should be completed prior to development to confirm the presence of habitat and/or protected features, and if they are identified, restricted activity periods and setback distances may apply.

3.3.5 Environmentally Significant Areas

There are no Provincial or Local Environmentally Significant Areas within the ASP area.

3.4 Environmental Site Assessment

A desktop Phase I Environmental Site Assessment was prepared for the ASP area (Stantec, 2018). The following are major considerations which must be incorporated into the ASP. Further assessment of the site, including a site visit, is recommended in order to investigate the concerns identified below and determine whether further assessment is required.

3.4.1 Pipelines

One pipeline, an operational Natural Gas line, is located within the site. Three pipelines are located adjacent within 60 m of the north boundary of the Site, two of which are discontinued Crude Oil lines. The third is an operational pipeline that carries low vapour liquids. It turns off of the north boundary of the ASP area to run along the west boundary as well.

The ESA recommends that development protocol setbacks related to the pipelines be adhered to during development and construction according to Directive 79 of the Alberta Energy Regulator (AER).

3.4.2 Well Sites

One historical oil well located in 10-34-049-25 W4M, designated 00/10-34-049-25 W4M, was drilled and abandoned in 1962. Reclamation certificate #3086 was obtained in 1966 as documented in the Alberta Environment Site Assessment Repository (ESAR) for this well, although environmental site assessment for subsurface impacts was reported. The well is considered a potential environmental concern to the Site based on potential subsurface impacts due to drilling activities and potential waste disposal activities.

The ESA recommends that the well be assessed for subsurface impacts at the outline plan stage. It further recommends that development protocol setbacks related to the well be adhered to during development and construction according to Directive 79 of the Alberta Energy Regulator (AER).

3.4.3 Historical Farmstead

A farmstead located in the southeast area of the ASP area was identified in aerial photographs form at least 1950 to 2011. This is considered a potential environmental concern due to potential fuel storage and use, chemical storage and use, and waste generated that could result in subsurface impacts.

One water well is identified to be within the ASP area, possibly in relation to the former farmstead.

The ESA recommends that, at the outline plan stage, the farmstead be further investigated for potential environmental concerns, including fuel and chemical storage and use, the possible presence of a septic tank, and the possible presence of a water well. If present, the septic system and water well should be properly decommissioned as per applicable legislation.

3.5 Geotechnical Study

A desktop Geotechnical Study was prepared in support of the 65th Avenue ASP (Stantec, 2019). The following are key considerations included in the Geotechnical Study. A detailed geotechnical investigation will be required to confirm the subsurface conditions.

3.5.1 Surficial Geology

Surficial deposits in this area are identified as glaciofluvial with a landform consisting of eroded lacustrine plain, associated with glaciolacustrine sediments. These are anticipated to have a thickness of 5 to 20 m and consists of fine to medium-grained sand overlaying silt and clay, overlaying till and a bedrock base. Local gravelly lenses may also be expected. Bedrock was found to be in the range of 3 to 5 m below ground surface.

3.5.2 Groundwater

Groundwater was identified as shallow as 0.6 m below ground surface. Interviews with City engineering staff revealed that seepage was encountered within the top 3 m to 5 m during borrow pit excavations within the Bridgeport neighbourhood to the south of the ASP area.

The Geotechnical Report recommends that the high groundwater table be considered during development, and indicates that design features and permanent de-watering systems may be needed for control of seepage.

3.5.3 Stormwater Management Facilities

As a result of low permeability clay and clay till soils in the area, the Geotechnical Report recommends that native soils be altered or replaced with more suitable material for stormwater management facilities. Further, a clay liner should be constructed over the bedrock.

3.5.4 Potential Presence of Fill

Aerial photograph reviews suggest that a borrow pit in NW 35-49-25-4 (Provincial lands) may have been excavated and backfilled, with the nature and composition of this fill unknown. The Geotechnical Report recommends that a future geotechnical investigation include investigation of the historical borrow area.

3.5.5 Soil Considerations

Thickened layers of organic material may be present in previously forested areas located in NW 34-49-25-4, and borehole records showed topsoil thicknesses of 150 to 800 mm.

Medium to high plastic clays were found in borehole drilling, which are subject to swelling or shrinking when moisture is added or removed. Moisture conditioning of the clay may be required during construction sue to natural moisture content. The Geotechnical Report recommends that further investigation should be conducted to confirm the suitability of these clays for potential use as fill for future development.

Dewatering methods may also be required for challenges posed by interbedded sand pockets in the till layer. The Geotechnical Report recommends confirming the groundwater elevation and developing a detailed soil stratigraphy for the site as part of a detailed geotechnical investigation during the detailed design stages.

The Geotechnical Report includes many further recommendations for site preparation and temporary excavations as a result of variable soils and a high groundwater table.

Shallow and deep foundations for building construction are feasible.

3.6 Agricultural Impact Assessment

An Agricultural Impact Baseline Assessment was prepared for the ASP area and lands within 1 km around it (Stantec, 2020). The assessment identifies that both the Edmonton Metropolitan Region Growth Plan and the City of Leduc Municipal Development Plan direct that compatible agricultural uses should be maintained for as long as possible until urban development occurs within the plan area. T

Based on historic air photos, the planning area has been predominantly used for cultivated annual agricultural cropping since the late 1940s. Soils in the area are predominantly moderate to fine textured loam and clay loam Eluviated Black Chernozems. There are also some areas of fine textured Gleyed Black Chernozems. Under the Land Suitability Rating System (LSRS), soils in the planning area are generally classified with a Suitability Class of 2H. This indicates a high productivity for a wide range of field crops and is one of the best Agro climate ratings in Alberta. However, wetlands and treed areas in the plan area pose some natural constraints to agricultural uses.

3.7 Historic Resources

A Statement of Justification (SoJ) for *Historic Resources Act* requirements was completed in June 2019 and submitted to Alberta Culture and Tourism in support of the ASP. The SoJ indicates that the ASP area has been cultivated extensively and contains minimal potential for heritage resources. However, there is a potential for deep archaeological deposits around former sloughs and a deep (backhoe) testing program is recommended. Further, one farmyard, located in LSD09-Section 34-TO49-R25 W4M,is evident in a 1950 historic air photo and has high potential for intact historic deposits and building/feature remains. Standing buildings and features in this yard should be recorded in detail, as per Alberta Heritage Survey guidelines.

Historical Resources Act approval was granted in September 2019, subject to Section 31, "a person who discovers an historic resource in the course of making an excavation for a purpose other than for the purpose of seeking historic resources shall forthwith notify the Minister of the discovery." The chance discovery of historical resources is to be reported to the contacts identified within Standard Requirements under the Historical Resources Act: Reporting the Discovery of Historic Resources.

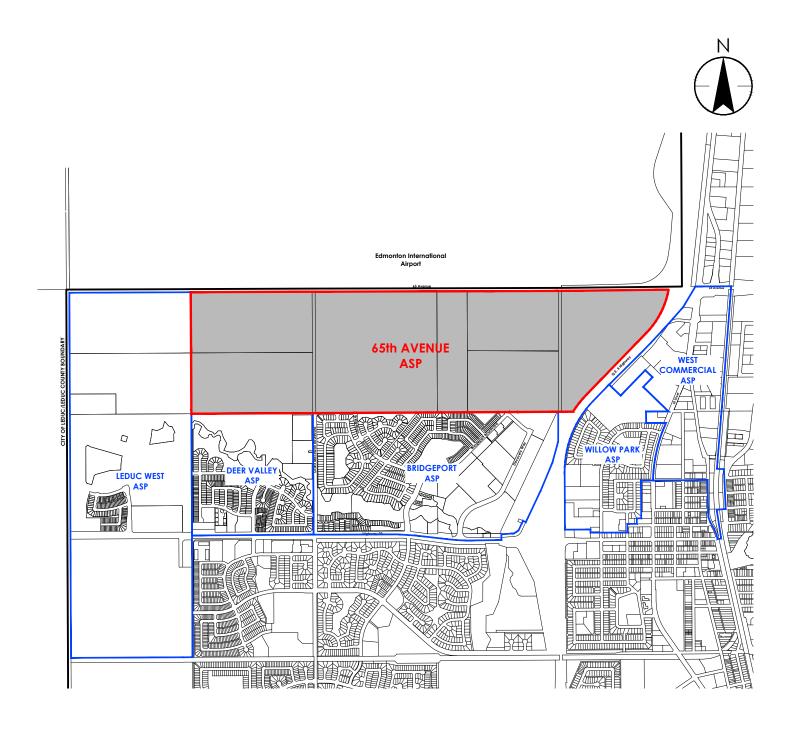


FIGURE 6

ASP CONTEXT





Legend

65th Avenue ASP Boundary

Watercourse

Existing Pipelines Existing Oil and Gas Wells

Hydrological Function Considered for Retention

EIA Airport Vicinity Protection Area (AVAP)

EIA Noise Exposure Foreceast (NEF)



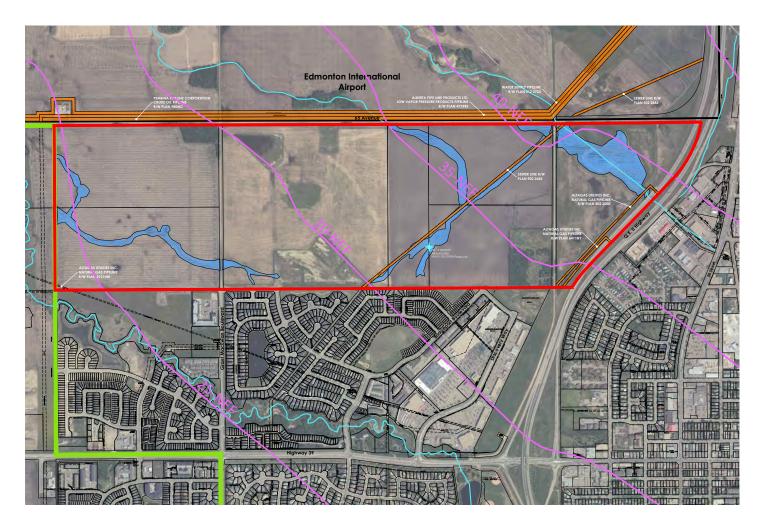


FIGURE 7

EXISTING CONDITIONS





4. LAND USE CONCEPT

The 65th Avenue ASP area will accommodate the development of primarily employment and business uses, along with commercial areas and residential uses which transition into adjacent neighbourhoods. Figure 8: Land Use Concept shows the conceptual land use allocations, major roadway alignments, and other land use features such as stormwater management facilities and open space. The land use concept achieves the intent EMRGP, IDP, MDP, and AVS, and is in alignment with the land use restrictions imposed by the AVPA noise contours.

As per the net residential density requirements for the plan area that are outlined in the EMRB's Growth Plan, the net residential density for the 65th Avenue ASP is **35 dwelling units per net residential hectare**.

The approximate area of each land use is shown in the table below.

Table 1: 65th Avenue ASP Total Land Use & Population Statistics

Land Use	Area (ha)	% of GA	% of GDA
Gross Area (GA)	209.48	100.00%	
Arterial Roadway Dedication	7.27	3.47%	
Government of Alberta Land	23.08	11.02%	
Gross Developable Area (GDA)	179.13	85.51%	100.00%
Circulation	10.73		5.99%
Stormwater Facilities (PUL)	15.01		8.38%
Greenways & Open Space (MR)	7.02		3.92%
Pump Station (PUL)	1.01		0.56%
Commercial	15.94		8.90%
Flex Business	57.55		32.13%
Aero Employment	44.68		24.94%
Total Non-Residential Area	151.94		84.82%
Net Residential Area	27.19		15.18%

				% Total		
Residential Land Use Summary	Area (ha)	Units/ha	Units	Units	People/Unit	Population
Low Density Residential (LDR)	24.78	30	743	77%	2.8	2,082
Medium Density Residential (MDR)	2.41	90	217	23%	1.8	390
Total	27.19		960	100%		2,472

Net Population Density:91persons per net residential hectareNet Unit Density:35units per net residential hectare

Table 2: Melcor NE 33-49-25-4 Land Use & Population Statistics

Land Use	Area (ha)	% of GA	% of GDA
Gross Area (GA)	64.09	100.00%	
Arterial Roadway Dedication	4.84	7.55%	
Gross Developable Area (GDA)	59.25	92.45%	100.00%
Circulation	3.64		6.14%
Stormwater Facilities (PUL)	4.75		8.02%
Greenways & Open Space (MR)	2.76		4.66%
Commercial	0.00		0.00%
Flex Business	12.67		21.38%
Aero Employment	18.60		31.39%
Total Non-Residential Area	42.42		71.59%
Net Residential Area	16.83		28.41%

				% Total		
Residential Land Use Summary	Area (ha)	Units/ha	Units	Units	People/Unit	Population
Low Density Residential (LDR)	15.38	30	461	78%	2.8	1,292
Medium Density Residential (MDR)	1.45	90	131	22%	1.8	235
Total	16.83		592	100%		1,527

Net Population Density:91persons per net residential hectareNet Unit Density:35units per net residential hectare

Table 3: 1525758 Alberta Ltd. NW 34-49-25-4 Land Use & Population Statistics

Land Use	Area (ha)	% of GA	% of GDA
Gross Area (GA)	64.55	100.00%	
Arterial Roadway Dedication	4.87	7.54%	
Gross Developable Area (GDA)	59.68	92.46%	100.00%
Circulation	3.13		5.24%
Stormwater Facilities (PUL)	4.75		7.96%
Greenways & Open Space (MR)	3.16		5.29%
Commercial	0.00		0.00%
Flex Business	16.08		26.94%
Aero Employment	22.20		37.20%
Total Non-Residential Area	49.32		82.64%
Net Residential Area	10.36		17.36%

				% Total		
Residential Land Use Summary	Area (ha)	Units/ha	Units	Units	People/Unit	Population
Low Density Residential (LDR)	9.40	30	282	77%	2.8	790
Medium Density Residential (MDR)	0.96	90	86	23%	1.8	156
Total	10.36		368	100%		945

Net Population Density:91persons per net residential hectareNet Unit Density:36units per net residential hectare

Table 4: Remaining Parcels within NE 25-49-34-4 Land Use & Population Statistics

Land Use	Area (ha)	% of GA	% of GDA
Gross Area (GA)	64.22	100.00%	
Arterial Roadway Dedication	4.02	6.26%	
Gross Developable Area (GDA)	60.20	93.74%	100.00%
Circulation	3.96		6.58%
Pump Station (PUL)	1.01		1.68%
Stormwater Facilities (PUL)	5.51		9.15%
Greenways & Open Space (MR)	1.10		1.83%
Commercial	15.94		26.48%
Flex Business	28.80		47.84%
Aero Employment	3.88		6.45%
Total Non-Residential Area	60.20		100.00%
Net Residential Area	0.00		0.00%

City of Leduc 65th Avenue ASP

Legend

65th Avenue ASP Boundary
City Boundary
Low Density Residential
Medium Density Residential
Flex Business
Aero Employment
Park/Greenway

Retail/Commercial
Province of Alberta Lands
Storm Water Management Facility (SWMF)
Public Utility Lot
Arterial Road
Collector Road



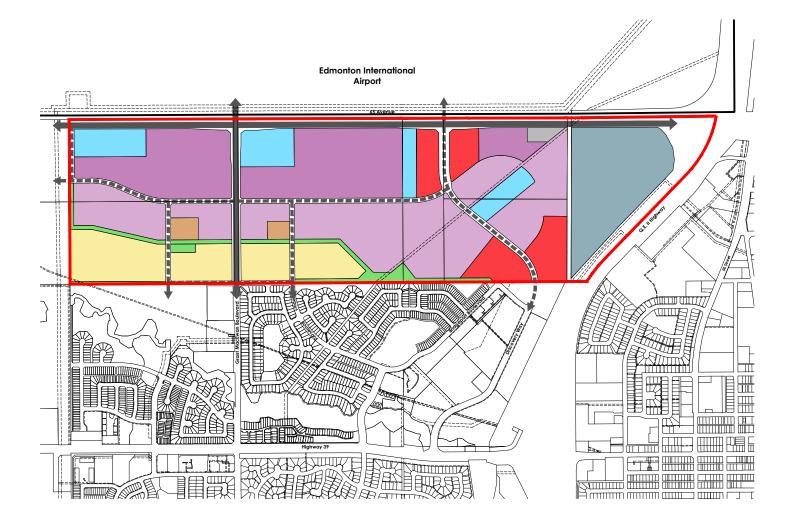


FIGURE 8

LAND USE CONCEPT





4.1 Overall Residential

4.1.1 Overview

A mix of residential uses provide opportunities for different housing types and demographics to live in the ASP area. At the ASP level, the EMRB density targets are met, contributing to regional development goals for intensification.

4.1.2 Objectives

- To provide diverse housing forms which meet the needs of a variety of demographics, income levels, and lifestyles.
- To meet regional density targets set out by the Edmonton Metropolitan Region Growth Plan.

4.1.3 Policies

- A. A variety of housing types shall be provided, within both the Low Density Residential and Medium Density Residential policy areas.
- B. Overall residential density in the ASP area shall meet or exceed the minimum City of Leduc residential density target in accordance with the Edmonton Metropolitan Region Growth Plan.

4.2 Low Density Residential

4.2.1 Overview

The intent of the Low Density Residential designation is to provide a transition between the Flex Business uses in the north part of the ASP area and the residential uses in the Bridgeport and Deer Valley neighbourhoods. Appropriate housing types include single detached homes, duplexes, and townhouses, with opportunities for garage suites, secondary suites, and garden suites. A greenway is provided between the residential area and non-residential designations, ensuring additional separation space.

4.2.2 Objectives

- To provide diverse low density housing forms which meet the needs of a variety of demographics, income levels, and lifestyles.
- To appropriately buffer residential uses from non-residential uses and transportation corridors.
- To locate residences with convenient access to amenities and services that meet daily needs.
- To achieve high quality landscape and urban design outcomes.

4.2.3 Policies

- A. A variety of housing types shall be provided, which may include single detached, duplexes, and townhouses.
- B. Opportunities for garage suites, secondary suites, and garden suites shall be provided.
- C. Opportunities for the integration of appropriate home-based businesses and live-work uses shall be provided.
- D. Townhouses should be located adjacent to a collector road, or to act as a transitional land use between residential and non-residential land uses.
- E. Residential development adjacent to an arterial roadway may require a noise attenuation assessment to determine the appropriate level of noise attenuation measures prior to subdivision approval.
- F. Residential areas shall be developed in a manner compatible in scale and density to adjacent residential developments that existed prior to the approval of this ASP.
- G. Development shall achieve high quality design outcomes in alignment with the City of Leduc Neighbourhood Design Guidelines.
- H. Development should demonstrate high quality landscaping and incorporate elements of low impact development, such as bioswales and rain gardens.











4.3 Medium Density Residential

4.3.1 Overview

The Medium Density Residential designation aims to provide greater housing diversity in the ASP area by accommodating residential uses from townhouses to four-storey apartments. These uses are located adjacent collector roadways in order to promote transit access and reduce traffic impacts on adjacent low density residential. As with the Low Density Residential designation, a greenway is provided between residential and non-residential areas, ensuring additional separation space.

4.3.2 Objectives

- To provide diverse medium density housing forms which meet the needs of a variety of demographics, income levels, and lifestyles.
- To include housing forms with greater densities than low density residential areas.
- To provide appropriate transition and complementarity between residential uses, non-residential uses, and transportation corridors.
- To locate residences with convenient access to amenities and services that meet daily needs.
- To achieve high quality landscape and urban design outcomes.

4.3.3 Policies

- A. A variety of housing types shall be provided, which may include townhouses, stacked townhouses, and apartment housing up to four storeys.
- B. Single detached homes shall not be permitted.
- C. Opportunities for garage suites, secondary suites, and garden suites should be provided.
- D. Townhouses and apartment housing shall be located adjacent to an arterial or collector road, or to act as a transitional land use between higher density and lower density land uses.
- E. Residential development adjacent to an arterial roadway may require a noise attenuation assessment to determine the appropriate level of noise attenuation measures prior to subdivision approval.
- F. Residential areas shall be developed in a manner compatible in scale and density to adjacent residential developments that existed prior to the approval of this ASP.
- G. Development shall achieve high quality design outcomes in alignment with the City of Leduc Neighbourhood Design Guidelines.

H. Development should demonstrate high quality landscaping and incorporate elements of low impact development, such as bioswales and rain gardens.







4.4 Commercial

4.4.1 Overview

The Commercial designation aims to meet the daily needs of people living and working within and surrounding the ASP area. General Commercial uses such as retail stores, health services, entertainment, accommodation and eating and drinking establishments are accommodated in this designation.

4.4.2 Objectives

- To provide commercial, retail, and service uses that meet the daily needs of residents and employees within and surrounding the ASP area.
- To achieve high quality landscape and urban design outcomes and integrate development with the surrounding uses in a pedestrian-oriented manner.

4.4.3 Policies

- A. Commercial sites shall be located along an arterial or collector road to ensure visibility and access.
- B. Commercial uses shall be accessible by multiple modes of transportation, including car, transit, bike, and walking.
- C. Pedestrian and cyclist access shall be designed to prioritize safety.
- D. Development shall achieve high quality design outcomes in alignment with the City of Leduc Neighbourhood Design Guidelines.
- E. Landscaping and screening shall be used to limit the visibility of garbage and loading areas to adjacent development.
- F. There shall be no outdoor storage permitted in the commercial area.









4.5 Flex Business

4.5.1 Overview

Flex Business will provide for a range of office, commercial, and employment uses. These developments will border new residential areas built in the southwest area of the plan, and current residential in the Bridgeport neighbourhood.

4.5.2 Objectives

- To develop flexible business uses that are compatible with and complement the neighbouring residential areas.
- To provide development that is lighter and smaller in scale than that of development in the Aero Employment area.
- To achieve high quality landscape and urban design outcomes.
- To establish a buffer between residential to the south and Aero Employment to the north.
- To leverage adjacency to the southern edges of Edmonton International Airport by incorporating principles of "Airport Connected Development". This includes economic synergies with Edmonton International Airport.
- To focus on providing development typologies that assist in economic diversification and support the economic development principles of the City.
- To locate commercial uses within the area to provide amenities for nearby employees, residents, and transient people.
- To allow for flexibility to respond to market conditions in the City of Leduc and the Edmonton Metropolitan Region.

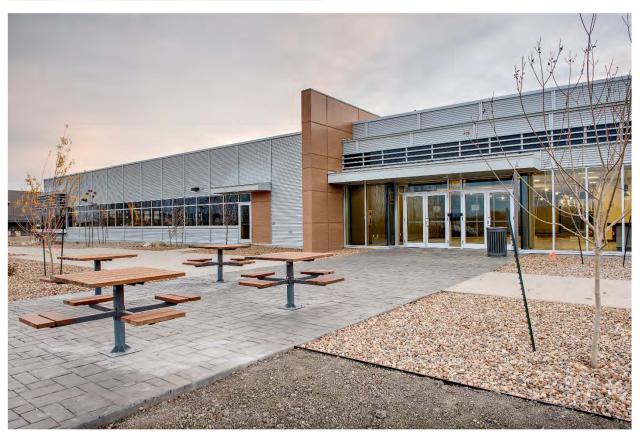
4.5.3 Policies

- A. Any use that creates a nuisance factor outside an enclosed building shall not be permitted within the Flex Business area, aside from the movement of goods in and out of enclosed buildings. Any manufacturing, fabrication, assembly, testing of goods, and similar activities are required to be completed in an enclosed building.
- B. Business Light Industrial land uses shall be permitted.
- C. Commercial uses intended to serve employees, residents and transient people within in the ASP area shall be permitted, such as personal services, retail wholesale, and food and beverage.
- D. Single-use, large-scale warehouses/logistics buildings shall not be permitted.

- E. Developments should be constructed in a manner that enables the building(s) to house a wide range of uses. Single purpose buildings shall be designed to have the ability to be altered to allow for multiple uses based on the needs of the end user tenant(s).
- F. Developments that include multiple uses within a singular building or multiple connected buildings shall be allowed, as permitted under the Land Use Bylaw. Uses may include, but are not limited to, office, general commercial, laboratories, product testing, light assembly, storage, warehousing, and distribution.
- G. Long term outdoor storage shall be not be permitted.
- H. Office and commercial uses shall be located in the front of buildings that face a public roadway, while other employment uses may operate on the side or back of lots.
- I. Office and commercial uses should be accessible by multiple modes of transportation, including car, transit, bike, and walking.
- J. Setbacks from the lot line to the building along the primary roadway and primary entrance to the building shall be attractively landscaped to create a pleasing visual environment.
- K. Where a proposed business or commercial use is located adjacent to a stormwater management facility or greenway, the City of Leduc may require:
 - a. Measures such as noise attenuation, setbacks, buffers, and particular site design which mitigate potential development impacts on adjacent lands; and
 - b. Enhanced architecture, urban design, and landscaping to ensure an attractive interface with adjacent lands.
- L. Appropriate landscaping and screening shall be used to enhance important locations such as at roadway entrances to the plan area, and corner lots within the development. Additional landscaping to that normally required in business and industrial areas by the City of Leduc Land Use Bylaw shall be provided on corner sites, with additional requirements identified in zoning, to be defined at the Outline Plan stage.
- M. Development should incorporate elements of environmental design, green building techniques, recycled construction materials, and Low Impact Development to reduce ecological impact.







4.6 Aero Employment

4.6.1 Overview

Aero Employment will provide for a range of warehouse, logistics, and manufacturing facilities. These development uses will be in the north area of the plan and will front the future 65th Avenue roadway. These development uses will also be located directly across from the southern boundary of Edmonton International Airport.

4.6.2 Objectives

- To provide development typologies larger in scale than those within the Flex Business area.
- To achieve high quality landscape and urban design outcomes.
- To ensure a visually appealing interface near the future 65th Avenue interchange, the gateway to the west side of Leduc.
- To provide for a transition from the Edmonton International Airport to the Flex Business and residential uses located within the ASP area.
- To leverage direct connectivity to 65th Avenue by focusing on warehousing and logistics that support the efficient movement of goods to Edmonton International Airport for air cargo and to the QEII Highway for transport across the province.
- To leverage adjacency to the southern edges of Edmonton International Airport by incorporating principles of "Airport Connected Development". This includes economic synergies with Edmonton International Airport.
- To focus on providing development typologies that assist in economic diversification and support the economic development principles of the City.
- To allow for flexibility to respond to market conditions in the City of Leduc and the Edmonton Metropolitan Region.

4.6.3 Policies

- A. Light Industrial land uses shall be permitted.
- B. Medium Industrial may be permitted subject to the following conditions:
 - i. No nuisance factors are created outside an enclosed building, aside from the movement of goods in and out of enclosed buildings;
 - ii. Medium industrial land use will be based on the preparation of an Outline Plan; and

- iii. The Outline Plan will make provisions for the mitigation of any adverse effects on adjacent Light Industrial development.
- C. Commercial uses intended to serve employees within the ASP area may be permitted at the discretion of the City of Leduc.
- D. Land uses that facilitate the implementation of an agribusiness hub within the Aero Employment area shall be permitted.
- E. Land uses that contribute to the Aerotropolis concept, such as airport-connected logistics, warehousing, and distribution, should be encouraged.
- F. Eco-industrial development, such as value-added food chain, renewable energy, resource recovery, bio-technology, environmental technology, and green building industries should be encouraged.
- G. Uses that provide added value to the agricultural crops that are grown locally, regionally, and nationally shall be permitted. Value added agriculture is recognized as enhancing the potential of a raw product through a particular production process.
- H. Development should incorporate elements of environmental design, green building techniques, recycled construction materials, and Low Impact Development to reduce ecological impact.













4.7 Open Space

4.7.1 Overview

Open space, dedicated as Municipal Reserve (MR), in the 65th Avenue ASP is allocated as a linear greenway dividing the Residential areas from the Flex Business. The greenway aims to provide separation space between the uses, amenity space for residents and employees, and a corridor for wildlife movement. The greenway is designed to connect to park spaces and natural areas in the adjacent Bridgeport and Deer Valley neighbourhoods.

4.7.2 Objectives

- To establish separation space between residential and non-residential designations with a greenway.
- To provide connections for pedestrians and other active modes along multiway trails.
- To achieve high quality, attractive, and functionable landscaping.
- To identify additional park space at that Outline Plan stage.

4.7.3 Policies

- A. Dedication of an approximately 30 m wide Municipal Reserve greenway shall occur at the time of subdivision, or prior, subject to separate agreements between the City of Leduc and landowners.
- B. The City of Leduc will require the full 10% MR dedication, whether that is provided as land, cash-in-lieu of land, or a combination thereof, as deemed appropriate by the City of Leduc and in accordance with the MGA. The specific strategy for dedication of MR shall be determined at the Outline Plan stage.
- C. A multiway trail shall be provided along the length of the greenway, with frequent connections to the pedestrian network in adjacent land uses.
- D. The greenway shall employ screening, including, but not limited to, a berm and planting, to visually obscure employment uses from residential developments.
- E. Opportunities for additional parks, open spaces and a greenway along the sanitary line in the eastern portion of the plan area, while ensuring unobstructed access to the line, may be identified at the Outline Plan stage. Examples could include amenity areas to serve neighbourhood residents, employees, customers and visitors.







4.8 Stormwater Management Facilities (SWMF)

4.8.1 Overview

Four Stormwater Management Facilities (SWMFs) are located within the ASP concept area. The easternmost area (Provincial Lands) takes advantage of the previously existing wetland and drainage area.

4.8.2 Objectives

- To minimize impacts to wetland features and provide natural ecosystem features.
- To provide amenity and recreation space.
- To achieve high quality, attractive, and functionable landscaping.

4.8.3 Policies

- A. Wherever possible, development impacts to wetland features not taken as ER should be minimized. Where impacts cannot be avoided, compensation will be provided for damage or loss pursuant to the provisions of the Alberta *Water Act* and Wetland Policy.
- B. SWMFs shall be landscaped and designed as open space amenities through the utilization of non-bird attracting landscaping materials and treatments.
- C. SWMFs that are adjacent to employment uses should provide multiway connections to ensure that they are accessible to employees.
- D. The minimum amount of multiways around the perimeter of SWMFs within the plan area shall be provided in accordance with the City of Leduc's Parks, Open Space, and Trails Master Plan.
- E. All storm management servicing within the 65th Avenue Right of Way will be piped via gravity.



4.9 Agriculture

4.9.1 Overview

While no long-term agricultural uses are planned for the 65th Avenue ASP area, existing agricultural uses are expected to continue until required for planned development. Ranching or livestock raising is prohibited due to incompatibility with adjacent land uses. Interim agricultural uses producing specialty crops that can be processed in nearby facilities should be encouraged.

4.9.2 Objectives

- To permit low impact agricultural uses in the interim until urban development occurs.
- To promote value added food chain and agricultural uses.

4.9.3 Policies

- A. Existing agricultural activity shall be permitted to continue as an interim use as set out by the regulations in the Land Use Bylaw (Urban Reserve district).
- B. Ranching and livestock raising should be discouraged where adjacent to lands that do not permit agriculture as a use.
- C. Value-added agricultural and food chain uses that contribute to aerotropolis development should be encouraged in the Flex Business and Aero Employment designations.

4.10 Province of Alberta Lands

The Province of Alberta owns 22.91 ha of land in the eastern portion of the ASP area. The land is being held for future use and is not directed by policy in this ASP. Once the Government of Alberta has made a decision about the future use of their land holdings, the City of Leduc will collaborate to update and/or amend the ASP as necessary.

5. TRANSPORTATION

The overall transportation network as shown in *Figure 9: Transportation Plan* will accommodate the proposed land uses in this ASP. The Transportation Plan establishes approximate alignments for arterial and collector roadways, while local roadways will be identified by Outline Plans.

A Transportation Impact Assessment was prepared in support of the ASP, submitted under separate cover (Stantec, 2020). The TIA indicates background traffic conditions in the vicinity of the proposed ASP, estimates the magnitude and characteristics of traffic generated from full build out of the ASP, evaluates the impacts of vehicular traffic generated by the proposed development on the adjacent roadway network, and provides recommendations for appropriate roadway improvements.

5.1 Roadway Network

5.1.1 Overview

The 65th Avenue ASP identifies a series of internal collector roadways intended to accommodate vehicular traffic generated by the proposed land uses and allow for the future provision of public transit.

5.1.2 Objectives

- To ensure that sufficient circulation to and through the plan area.
- To support alternative modes of transportation such as public transit and active modes.
- To ensure that the roadway network can evolve over time to meet the demands of the residents and visitors within the plan area.

5.1.3 Policies

- A. Arterial and collector roadways within the 65th Avenue ASP shall be developed in general accordance with Figure 9: Transportation Plan
- B. Arterial and collector roadways within the 65th Avenue ASP shall be designed to an urban standard.
- C. As development occurs, the City of Leduc will review opportunities and requirements for higher order public transit. Arterial and collector roadways may, at discretion of the City, be designed to accommodate potential higher order transit routes and stops. Locations of potential higher order transit stops and routes will be determined at the Outline Plan stage.
- D. Requirements for local roadways will be determined at the Outline Plan stage.
- E. Local roadway alignments will be identified at the Outline Plan stage and will be designed and developed to an urban standard, in accordance with the City of Leduc Minimum Engineering and Design Standards

5.2 65th Avenue Interchange

5.2.1 Overview

A functional planning study has been completed for the proposed 65th Avenue interchange spanning over the Queen Elizabeth II (QEII) Highway. While detailed design has not been completed on this project, it must be considered as a driving factor in the transportation network and land use concept presented in the 65th Avenue ASP.

5.2.2 Objectives

 To ensure that the design and eventual construction of the 65th Avenue interchange is accounted for an incorporated into the land use concept and transportation network of the 65th Avenue ASP

5.2.3 Policies

A. The 65th Avenue interchange and its related transportation infrastructure (abutments, on and off ramps, and connector roadway linkages) shall be considered and incorporated into the transportation network and land use concept for the 65th Avenue ASP.

5.3 Active Transportation

5.3.1 Overview

The active transportation network will also serve to connect the various open spaces, neighbourhood focal points, and employment opportunities. Active transportation will be provided throughout the plan area to enable multi-modal access to and through the plan area and will be implemented through the arterial and collector road networks.

5.3.2 Objectives

- Provide multi-modal transportation options to and through the plan area
- Create a pedestrian and cyclist friendly environment that is accessible to all users all seasons
- Connect major destinations such as commercial centres and the open space network through active modes of transportation

5.3.3 Policies

A. Transportation concepts shall include a system of greenways/shared-use paths and walkways to facilitate pedestrian movement across the neighbourhoods to parks and open spaces and commercial / neighbourhood amenities.

B. Multi-modal transportation facilities should be designed to ensure access for all ages and abilities through all seasons.

5.4 Transit

5.4.1 Overview

The transit network throughout the 65th Avenue ASP will serve to provide convenient and effective mobility opportunities to connect residents, employees and visitors to the various neighbourhood focal points, employment opportunities, and to the broader community.

5.4.2 Objectives

- To encourage residents, employees, and visitors of the 65th Avenue plan area to make use of transit on a regular basis.
- To encourage transit ridership through the provision of multi-modal transportation networks.
- To effectively connect residents to employment opportunities through the provision of transit.
- To connect residents, employees, and visitors to the broader regional transit network and the EIA's protected transit corridor.

5.4.3 Policies

A. As development occurs, the City of Leduc will review opportunities and requirements for a West Transit Corridor as outlined in the City of Leduc's Transportation Master Plan.

Legend

65th Avenue ASP Boundary

City Boundary

Arterial Road With Multiway

Collector Road With Multiway

Potential Higher Order Transit

Open Space Multiway



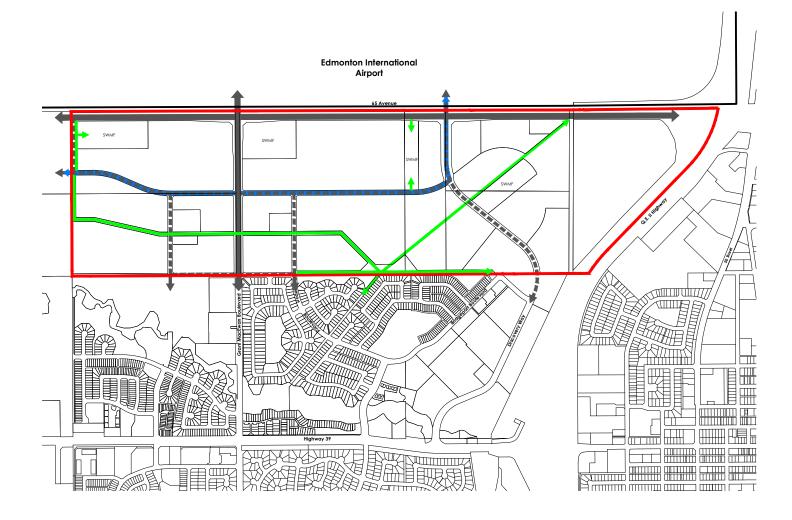


FIGURE 9

TRANSPORTATION PLAN





6. SERVICING

A Servicing Study outlining the stormwater, sanitary, and water systems for the ASP area, was prepared and submitted under separate cover (Stantec, 2020). This section provides a description of the conceptual servicing schemes, and provides policy direction. All water, sanitary and storm servicing plans will need to be confirmed at subsequent design stages.

6.1 Stormwater Management

6.1.1 Overview

Figure 10: Stormwater Servicing shows the proposed stormwater servicing plan. Several stormwater management facilities (SWMFs) are identified based on the existing topography and drainage patterns and the land use and transportation designs. The location and configuration of the proposed stormwater management facilities will be further refined based on the detailed drainage area grading and internal roadway network requirements.

6.1.2 Policies

- A. Prior to any development and in conjunction with the development of Outline Plans for any portion of the plan area, detailed engineering reports must be prepared by the proponent and accepted by the City of Leduc.
- B. Stormwater management facilities shall be in general accordance with the servicing scheme shown in Figure 10: Stormwater Servicing.
- C. Low Impact Development stormwater management techniques are encouraged to be incorporated into roadway and site design.
- D. The City may consider innovative servicing and utility technologies if they are proven to be equally or more efficient, cost-effective, aesthetically acceptable, and environmentally beneficial than existing technologies, and if they will result in long-term economic, social, and environmental benefits to the community. Innovative servicing must be sustainable in the long term and cannot increase liability or maintenance for the City of Leduc, on an objective quantitative basis, to be considered

Legend

65th Avenue ASP Boundary

City Boundary

Storm Water Management Facility (SWMF)

Proposed Storm Main

Direction of Flow



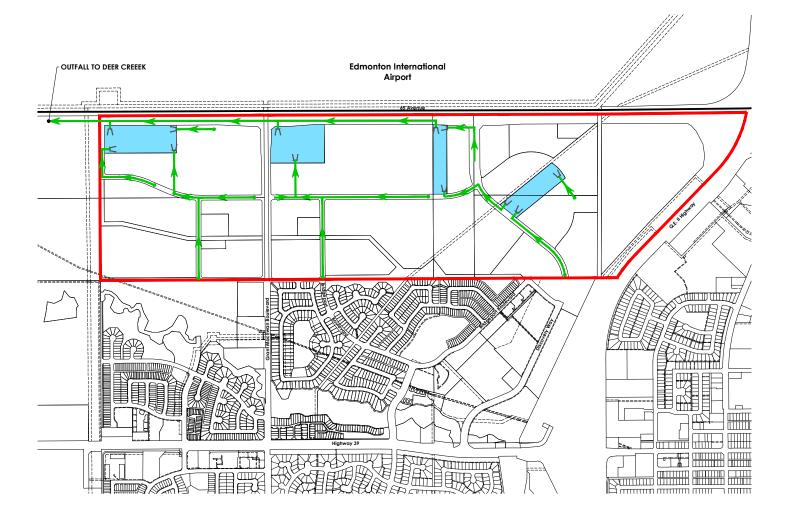


FIGURE 10

STORM WATER MANAGEMENT





6.2 Sanitary Sewer

6.2.1 Overview

Figure 11: Sanitary Servicing shows the proposed sanitary servicing plan. The location and configuration of the proposed sanitary servicing facilities will be further refined based on the detailed drainage area grading and internal roadway network requirements.

6.2.2 Policies

- A. Prior to any development and in conjunction with the development of Outline Plans for any portion of the plan area, detailed engineering reports must be prepared by the proponent and accepted by the City of Leduc.
- B. The City may consider innovative servicing and utility technologies if they are proven to be equally or more efficient, cost-effective, aesthetically acceptable, and environmentally beneficial than existing technologies, and if they will result in long-term economic, social, and environmental benefits to the community. Innovative servicing must be sustainable in the long term and cannot increase liability or maintenance for the City of Leduc, on an objective quantitative basis, to be considered.
- C. Sanitary servicing facilities shall be in general accordance with the servicing scheme shown in Figure 11: Sanitary Servicing.
- D. The status of the sanitary trunk ROW shall be determined at the Outline Plan stage in order to ensure sufficient access can be maintained.
- E. Only localized sanitary mains will be permitted to connect to the existing sanitary trunk within the plan area.
- F. Sanitary mains will be required to be oversized for adjacent development when required.

City of Leduc 65th Avenue ASP

Legend

65th Avenue ASP Boundary

—— City Boundary

Existing Sanitary Main (900mm)

--- Existing Sanitary Forcemain

Proposed Sanitary Main

--- Proposed Sanitary Forcemain

Existing Lift Station

Deer Valley Lift Station Contributing Area Boundary



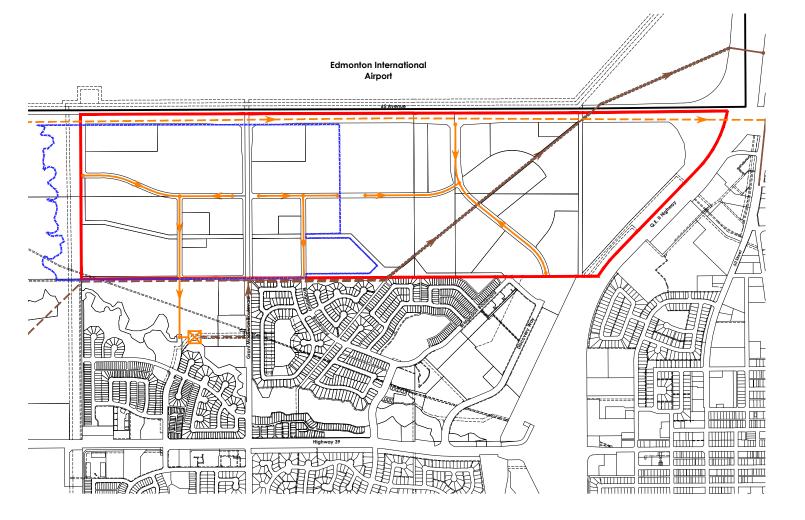


FIGURE 11

SANITARY SERVICING





6.3 Water Network

6.3.1 Overview

Figure 12: Water Servicing shows the proposed water servicing plan. The location and configuration of the proposed water servicing facilities will be further refined based on the detailed drainage area grading and internal roadway network requirements.

6.3.2 Policies

- A. Prior to any development and in conjunction with the development of Outline Plans for any portion of the plan area, detailed engineering reports must be prepared by the proponent and accepted by the City of Leduc.
- B. Services shall be constructed with appropriate oversizing to accommodate future development within the plan area, as identified in detailed engineering reports, as well as future offsite development, if feasible and as required by the City of Leduc.
- C. Water servicing facilities shall be in general accordance with the servicing scheme shown in Figure 10: Water Servicing.
- D. The specific location of a water reservoir located within north eastern portion of the plan area shall be determined at the Outline Plan stage.
- E. Water main sizing shall be provided in accordance with the City of Leduc's Water Master Plan.

6.4 Emergency Response Services

Local emergency services will be available to all future developments located in the ASP area. Ambulance services are supplied by the City of Leduc and contracted out to Alberta Health Services. The closest hospital is located in the City of Leduc. Police Services in the City of Leduc are provided by the Royal Canadian Mounted Policy (RCMP), with a detachment located in the City of Leduc. Fire Protective Services are provided from two fire halls with permanent staffing, the closest being along 50th Avenue southwest of the ASP area, within the Crystal Creek Outline Plan.

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City of Leduc 65th Avenue ASP

Legend

65th Avenue ASP Boundary

City Boundary

Proposed Water Main

Proposed West Reservoir and Pumphouse



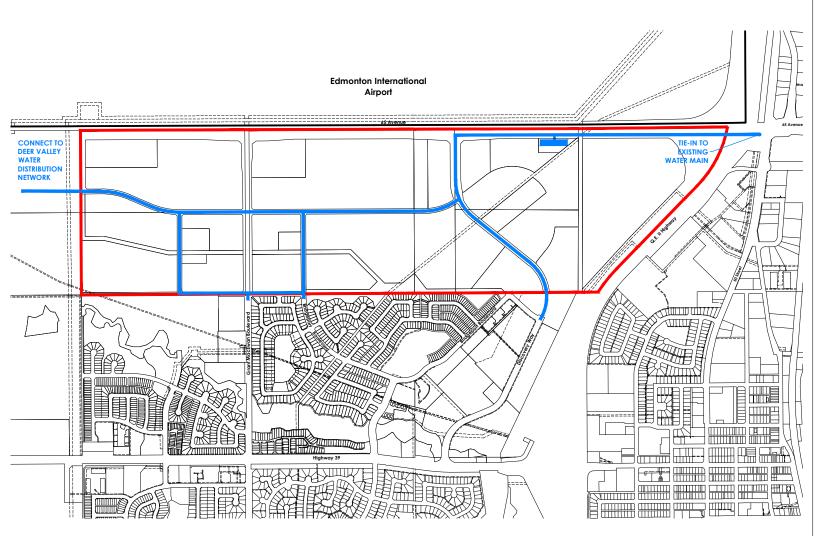


FIGURE 12

WATER SERVICING





7. IMPLEMENTATION

Outline Plans will be required prior to any redistricting or subdivision to ensure that sub-areas within the ASP are planned to an appropriate level of detail.

Amendments to the Land Use Bylaw may be required during the implementation of this plan in order to create or modify districts or overlays in support of the policy direction in this plan.

Within the ASP area, the City of Leduc will require development proponents to assume financial responsibility for the extension of all required municipal utility services, including initial capital costs. In accordance with the provisions of the *MGA*, the City will ensure that development proponents receive appropriate compensation from future benefiting developments as they occur, through the establishment of a levy, cost sharing arrangements, or some combination thereof.

7.1 Outline Plans

7.1.1 Policies

- A. Prior to the approval of redistricting or subdivision that would allow development to proceed, detailed Outline Plans shall be prepared by the applicant and accepted by the City of Leduc.
- B. Outline Plans shall be consistent with the 65th Avenue ASP, and with all adjacent Outline Plans.
- C. At the Outline Plan stage, further assessment of the site, including a site visit, will be required in order to investigate concerns identified in the Environmental Site Assessment report.
- D. Further studies identified in the Biophysical Assessment report will be required to be conducted at the Outline Plan stage.

7.2 Land Use Bylaw

7.2.1 Policies

A. Amendments to the Land Use Bylaw may be required to ensure that development occurs as envisioned in the 65th Avenue ASP. The City of Leduc and/or landowners shall be responsible for initiating the Land Use Bylaw amendment process.

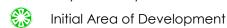
7.3 Staging

Development is anticipated to begin in the east portion of the ASP area and proceed toward the west as services are extended as indicated in *Figure 13: Staging Plan*. Development will generally proceed in a manner that is contiguous, logical, and economical with respect to municipal servicing. Development of individual phases may vary from Outline Plans and redistricting and subdivision applications, depending on market demand and the aspirations of respective landowners. Should sufficient demand warrant, or engineering design be made more efficient, portions of separate phases may be developed concurrently.

City of Leduc 65th Avenue ASP

Legend

65th Avenue ASP Boundary
City Boundary



Indicates General Direction of Development



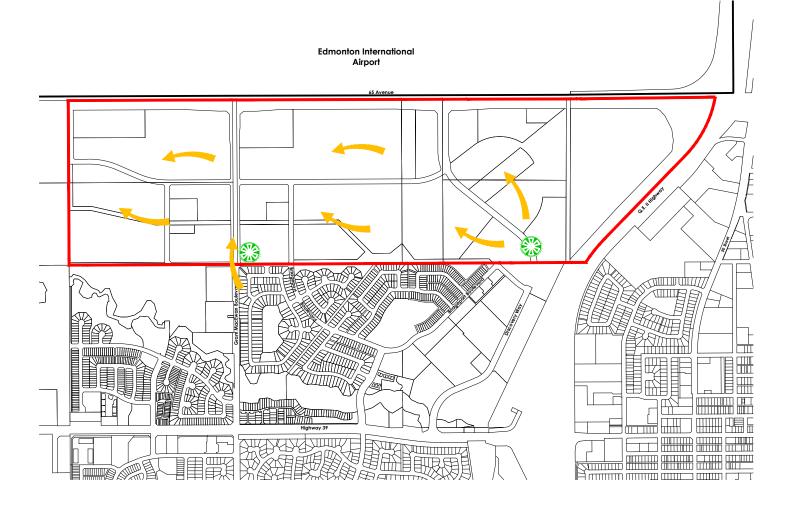


FIGURE 13

STAGING PLAN





8. REFERENCES

MXD Development Strategists, Stantec. 2015. Aerotropolis Viability Study – Final Report. Prepared for the Leduc Partnership comprised of the City of Leduc and Leduc County.

Stantec. 2018. 65th Avenue ASP – Desktop Phase I Environmental Site Assessment – Leduc, AB. Prepared for the City of Leduc.

Stantec. 2018. Agricultural Impact Baseline Assessment. Prepared for the City of Leduc.

Stantec. 2018. City of Leduc Area Structure Plan Desktop Biophysical Assessment 33, 34 and 35-49-25 W4M. Prepared for the City of Leduc.

Stantec. 2018. Economic Sector Diversification Analysis. Prepared for the City of Leduc.

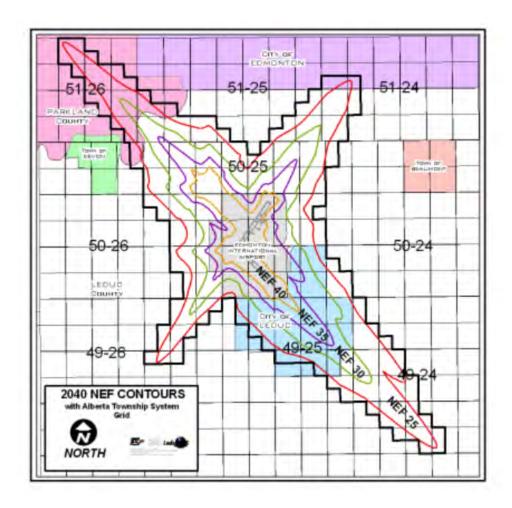
Stantec. 2018. Real Estate Market Review Summary. Prepared for the City of Leduc.

Stantec. 2019. 65 Avenue Area Structure Plan Geotechnical Desktop Study. Prepared for the City of Leduc.

Appendix A PROHIBITED USES ACCORDING TO NEF AREA (EIAVPAR; AR 55/2006)

The figure below shows the noise exposure forecast contour lines. In the table,

- a. "NEF 40+ Area" means an area of land located between noise exposure forecast contour line 40 and the runway;
- b. "NEF 35-40 Area" means an area of land located between noise exposure forecast contour lines 35 and 40;
- c. "NEF 30-35 Area" means an area of land located between noise exposure forecast contour lines 30 and 35;
- d. "NEF 25-30 Area" means an area of land located between noise exposure forecast contour lines 25 and 30.



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

Table 5: Prohibited Uses by NEF Contours

Column 1	Column 2	Column 3	Column 4	Column 5
Land Uses	NEF 40+	NEF 35-40	NEF 30-35	NEF 25-30
	Area	Area	Area	Area
Commercial Uses				
Billiards, Bowling and 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				
Places of Worship	PR	PR	-	-
Day Care	PR	PR	-	-
Emergency Response Services	PR	-	-	-
Exhibition and Fairgrounds	PR	PR	-	-
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	-
Spectator Entertainment Facilities				
Outdoor	PR	PR	PR	-
Indoor	PR	PR	-	-
Spectator Sports Facilities				
Outdoor	PR	PR	PR	-
Indoor	PR	PR	-	-
Residential Uses				
Campgrounds	PR	PR	PR	PR
Residences	PR	PR	PR	-