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# **WOODBEND**

## **OUTLINE PLAN**



Prepared for: Carrington Woodbend Developments Ltd.  
Presented by: Select Engineering Consultants Ltd.  
Date: February 3, 2023  
RPT-1-175-22007-8.5-WoodbendOLP-230203

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# 1.0 Introduction

## 1.1 Purpose

The *West Area Structure Plan* Bylaw 863-2014 was approved by the City of Leduc Council on January 12, 2015. This ASP requires that Outline Plans be prepared to provide more details to guide future subdivision and development of the three quarter-sections included in the ASP. The Outline Plan included in this document, specific to SW-33-49-25-W4, is not in conformance with the recently approved ASP so a West ASP amendment is submitted concurrently under separate cover. This Woodbend Outline Plan provides a detailed planning framework for the future land use districting and subdivision for lands abutting the north boundary of 50 Avenue.

## 1.2 Location

Residential development is advancing west towards Woodbend from Deer Valley to the east. The west Plan area is bounded by 74 Street which also forms the boundary between the City of Leduc and Leduc County. 50 Avenue forms the south boundary and lands to the north are under agricultural land use. **(See Figure 1)**

## 1.3 Land Ownership

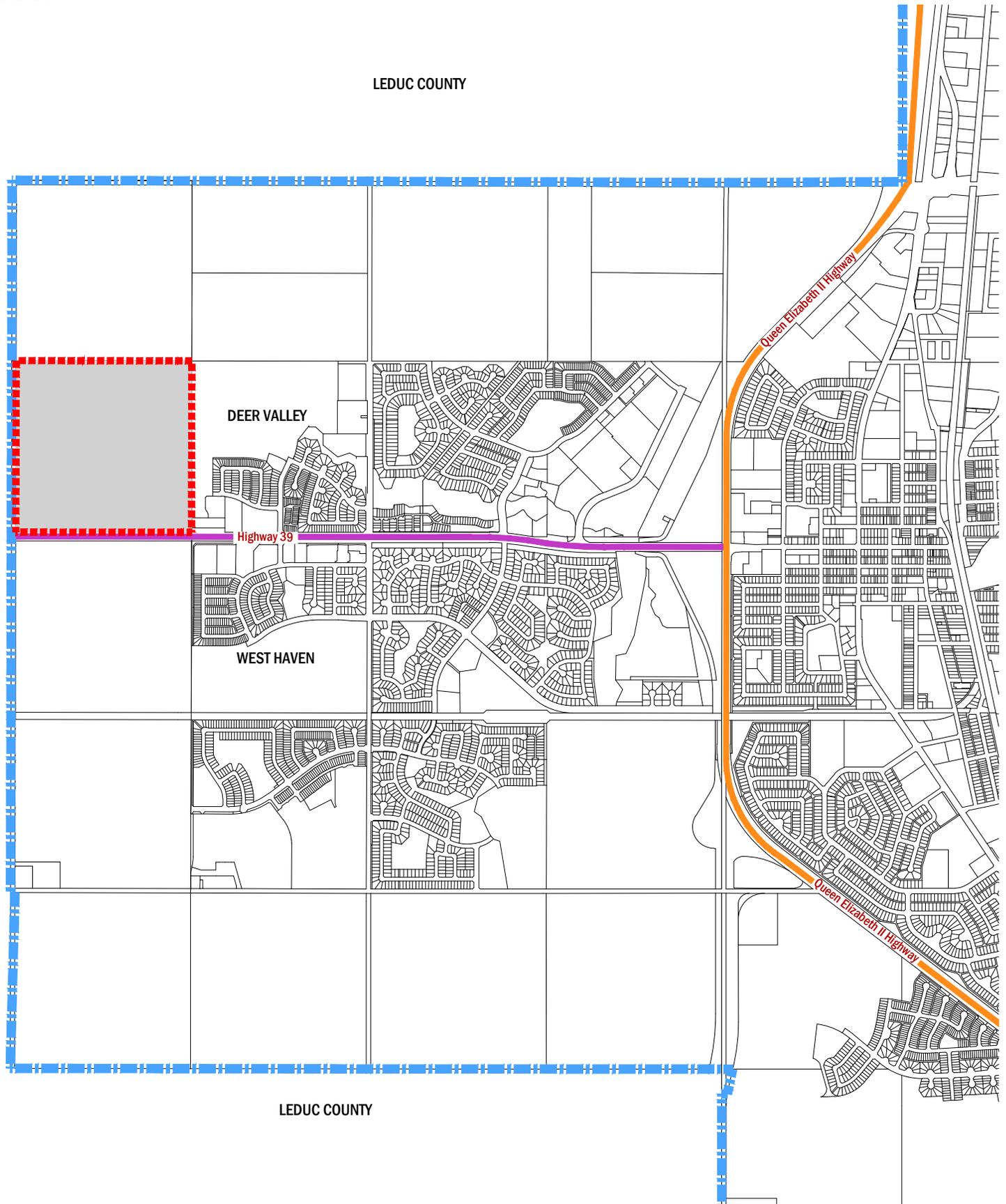
Woodbend contains approximately 63.08 hectares within SW-33-49-25-W4 and with the registration of Stages 1, 2 and 3, include multiple private owners. Melcor owns the commercial site in the southeast Plan area and the remaining undeveloped lands in Woodbend is held under one certificate of title registered to Carrington Woodbend Developments Ltd. **(See Figure 2)** Registered 50 Avenue right-of-way on the south boundary is also included within our boundary.

A utility right-of-way (ROW) operated by Alberta Products Pipeline Ltd. (URW Plan 4366 RA) extends north-south along the east boundary of the property. This utility ROW was moved to the east boundary to allow for more efficient development and was registered in 2021 (Plan 212 0609). URW Plan 4366 RA will be discharged and allow development in the area to proceed as planned. The new ROW is retained within the Plan as a public utility lot.

An AGT Limited ROW (Plan 952 0483) containing fibre optics exists along the north and east boundaries of Woodbend.

LEDUC COUNTY

LEDUC COUNTY



LEDUC COUNTY

**LEGEND**

- Outline Plan Boundary
- City Boundary
- Highway 39
- Queen Elizabeth II Highway



**LOCATION PLAN**

N.T.S.

WOODBEND  
CITY OF LEDUC

0175-22007\_01\_PR001.DWG  
Jcalder November 30, 2022

**FIGURE 1**

NE32 49-25-4

NW33 49-25-4

NE33 49-25-4

SE32 49-25-4

CITY BOUNDARY

CARRINGTON WOODBEND DEVELOPMENTS LTD.  
SW33 49-25-4

MELCOR DEVELOPMENTS LTD.  
LOT 1  
BLOCK 4  
PLAN 172 2010

NE29 49-25-4

NW28 49-25-4



LAND OWNERSHIP

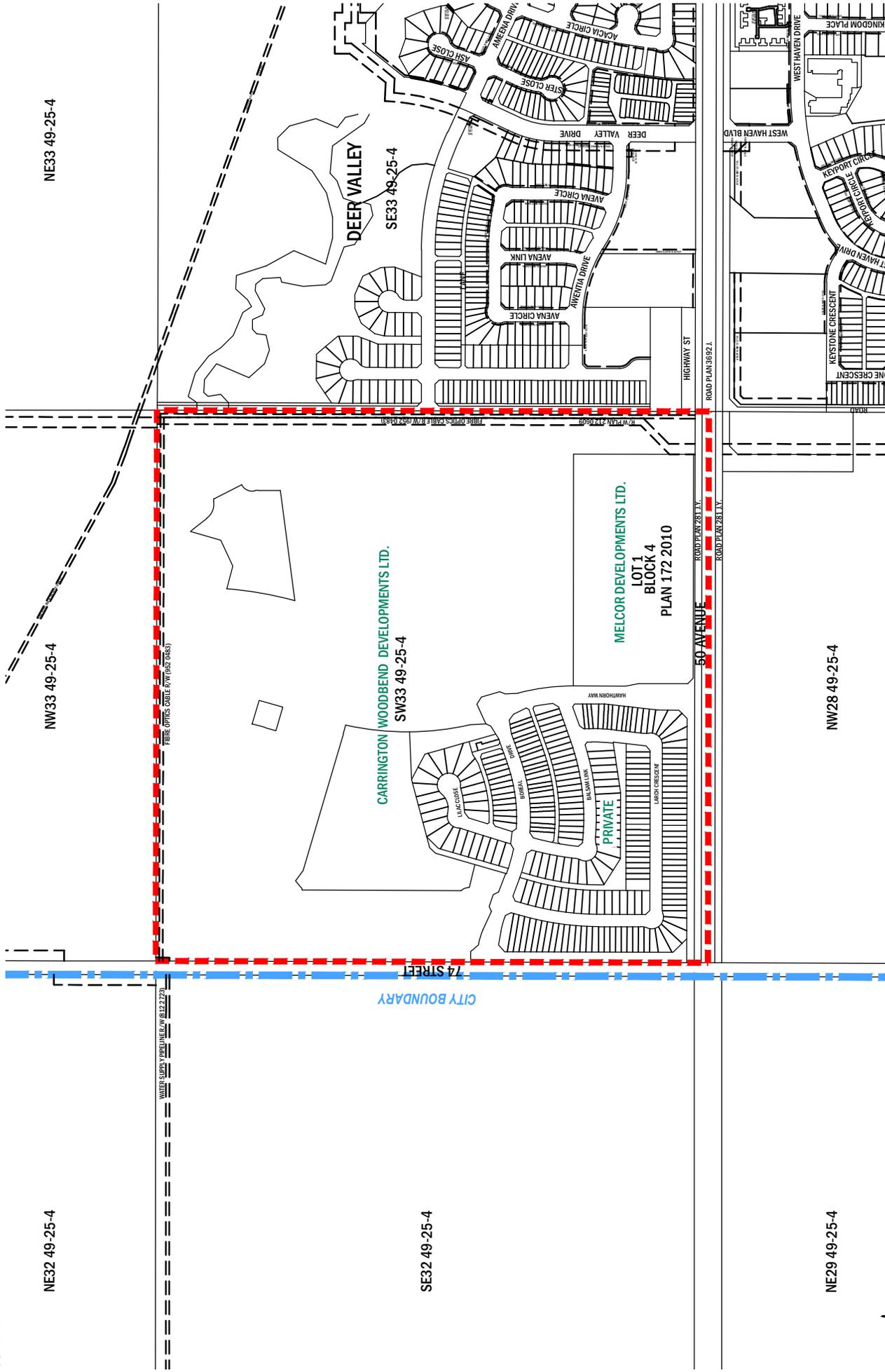


scale 1:7500

LEGEND

--- Outline Plan Boundary

--- WOODBEND  
--- CITY OF LEDUC



## 2.0 Policy Context

### 2.1 Background

The Woodbend Outline Plan complies with regional and City of Leduc policies.

### 2.2 Edmonton Metropolitan Region Board Growth Plan

The *Edmonton Metropolitan Region Growth Plan: Re-imagine, Plan, Build* (EMRBGP) was approved on October 31, 2017. This updated growth plan provides a substantive update to the original CRB growth plan including new density targets for new ASPs throughout the capital region. Seven guiding principles set an innovative path to plan growth across the region to advance prosperity and wellbeing.

All residential densities within Area Structure Plans and Outline Plans approved prior to EMRBGP approval are grandfathered to conform with the previous Capital Region Board Growth Plan (CRBGP). The CRBGP identified Woodbend within Priority Growth Area E, which requires a residential density of 25-30 dwelling units per net residential hectare.

The West ASP and Woodbend Outline Plan adhere to the requirements of the EMRBGP by providing a planned residential density of 36.7 upnrha.

### 2.3 Municipal Development Plan

The *City of Leduc 2020 Municipal Development Plan* (MDP) Bylaw 1057 is a statutory policy document to outline the framework for growth within the City of Leduc and how it will be managed. The MDP ensures that planning and development guidelines align with local and regional priorities and accurately captures the community's vision for future growth.

The City of Leduc's MDP determines where growth is most feasible based on such factors as infrastructure, sustainable growth principles, and economic development opportunities. This MDP also addresses the environment; the economy and tourism; social wellness and safety; recreation and culture; governance; and the administration, monitoring, and implementation of the MDP policies.

Woodbend is generally designated as a Residential policy area (Figure 10 Bylaw No. 1057-2020) in the MDP, but an employment policy area is located in the southeast area of Woodbend. An MDP amendment will not be required for Woodbend.

## 2.4 Land Use Bylaw

The *City of Leduc Land Use Bylaw 809-2013* (LUB) is a planning tool that defines land use districts in Leduc and prescribes the types of land uses allowed in each district. This LUB will be used to implement the Woodbend Outline Plan's land use concept as appropriate.

Development has proceeded within the south and southwest areas of Woodbend and have been redistricted. The remaining areas are designated as Urban Reserve District.

## 2.5 City of Leduc Fire Services Strategic Plan 2017-2020

The City of Leduc Fire Service is an integrated emergency service, which provides fire protection and emergency medical services. Three specific programs are included within the fire service, which include, operations, fires prevention and education. This strategic plan gives recommendations on how to plan emergency services to servicing the growing needs of the City by assessing risk management, funding, response times, staffing, fire prevention, service demand and station location.

A Fire Hall is constructed south of 50 Avenue immediately east of the Alberta Products Pipeline Ltd. (APPL) right-of-way. This Fire Hall, opened in October 2015, actively serves the Woodbend neighbourhood.

## 2.6 City of Leduc Transportation Master Plan

The *City of Leduc Transportation Master Plan* (TMP) adopted by Council on October 8, 2018, includes recommendations for the short, medium, and long term changes to Leduc's transit service, heavy vehicle traffic routes, and pedestrian and bicycle transportation networks. The objectives for the TMP are:

- Define the City's transportation needs in terms of roadway and transit improvements for the next 30 years,
- Estimate costs for the required roadway and transit improvements,
- Recommend short, medium and long-term capital plans, and
- Develop key policy statements that conform to the City's transportation directions, consistent with several policy documents.

50 Avenue south of Deer Valley is identified as medium-term capital planning in the TMP. 50 Avenue south of Woodbend is not currently identified within the 2012 capital plans. 74 Street on the west boundary is identified for long term capital planning and states that 74 Street will ultimately connect 65 Avenue with 50 Avenue and serve as a "Western Bypass".

## 2.7 West Area Structure Plan

Lands included in the Woodbend Outline Plan are one of three quarter-sections that are presently approved under the *West Area Structure Plan* Bylaw No. 1059-2020

An ASP amendment is necessary to:

- Realign the collector road alignment, and
  - + Adjust the development concept to align with the current engineering design standards.
- Adjust land use statistics.
  - + Updates to the Plan and land use statistics are required to reflect the relocation of APPL to the east, minor changes to high density residential, and removal of the east extension of linear park.

## 2.8 Outline Plan

An Outline Plan is required to provide a framework to guide the review and approval of development applications within a neighbourhood. It conceptually identifies land uses, the location of transportation routes, alignments for public utilities and servicing, and the anticipated sequence of development.

An Outline Plan is a non-statutory planning document approved by resolution of Council, not by Bylaw.

Woodbend Outline Plan provides a more detailed planning and preliminary engineering design than the approved West ASP. Residential land uses are clearly identified as well as location of roadways, parks and stormwater management facilities.

## 3.0 Site Context

### 3.1 Existing Site Features

The Woodbend neighbourhood is actively being developed with the commercial and southwest residential areas already being fully constructed and registered with Alberta Land Titles. Both stormwater management facilities and the sanitary lift station within the school site have also been registered with Stage 1. The total Plan area is approximately 63.08 hectares.

Deer Creek runs diagonally across the northeast corner of Woodbend and a small tree stand is located along the west boundary.

Woodbend's topography has a gentle slope with an approximate overall 5 metre change in elevation. A high elevation of 719 metres exists in the southeast and central Plan area to a low of 714 metres in the northeast. Drainage generally flows from the central Plan area southwest, northwest and northeast into Deer Creek. **(See Figure 3)**

### 3.2 Wells and Utility Rights-of-Way

ERCB identifies an abandoned well in the southeast Plan area, which was abandoned by Mallard Leduc Oils Ltd. on August 6, 1953. This well has been incorporated within the greenway north of the Commercial site so that requirements of Directive 079 of the Alberta Energy Regulator can be met. Tervita Corporation lowered and recapped the abandoned well on June 7, 2016. No gas migration was encountered around the well and no further work is required.

An approximately 15 metre right-of-way operated by Alberta Products Pipeline Ltd. (URW Plan 4366 RA) extends north-south, near the east boundary of Woodbend. This URW will be discharged as the pipeline has been relocated to the east boundary of the Plan and registered under Plan 212 0609. No building structures will be permitted within the right-of-way. Alberta Products Pipeline Ltd. currently handles development requirements within the right-of-way on a case-by-case basis. Exact requirements will be confirmed at the time of subdivision.

An AGT Limited fibre optics right-of-way (Plan 952 0483) extends along the north and east boundaries of Woodbend. **(See Figure 2)**

### 3.3 Surrounding Land Use

Woodbend is currently surrounded by cultivated farmland to the north, west and south. Associated farm related buildings are located adjacent to the north and west Plan area.

Development is moving west towards Woodbend from the existing Deer Valley neighbourhood to the east. Approximately 75% of Deer Valley is constructed. An extension of Aameena Drive through Deer Valley will tie into Woodbend and ultimately to 74 Street. Deer

Creek is located to the east and meanders through the northeast section of the Plan area continuing north.

A Fire Hall is located immediately south of 50 Avenue east of the Alberta Products Pipeline. The Fire Hall was completed in the fall of 2015.

## 3.4 Supporting Technical Documentation

Several professional and technical studies have been completed to support the Woodbend Outline Plan. These include:

### 3.4.1 Biophysical Survey

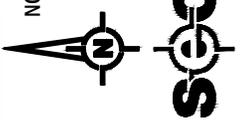
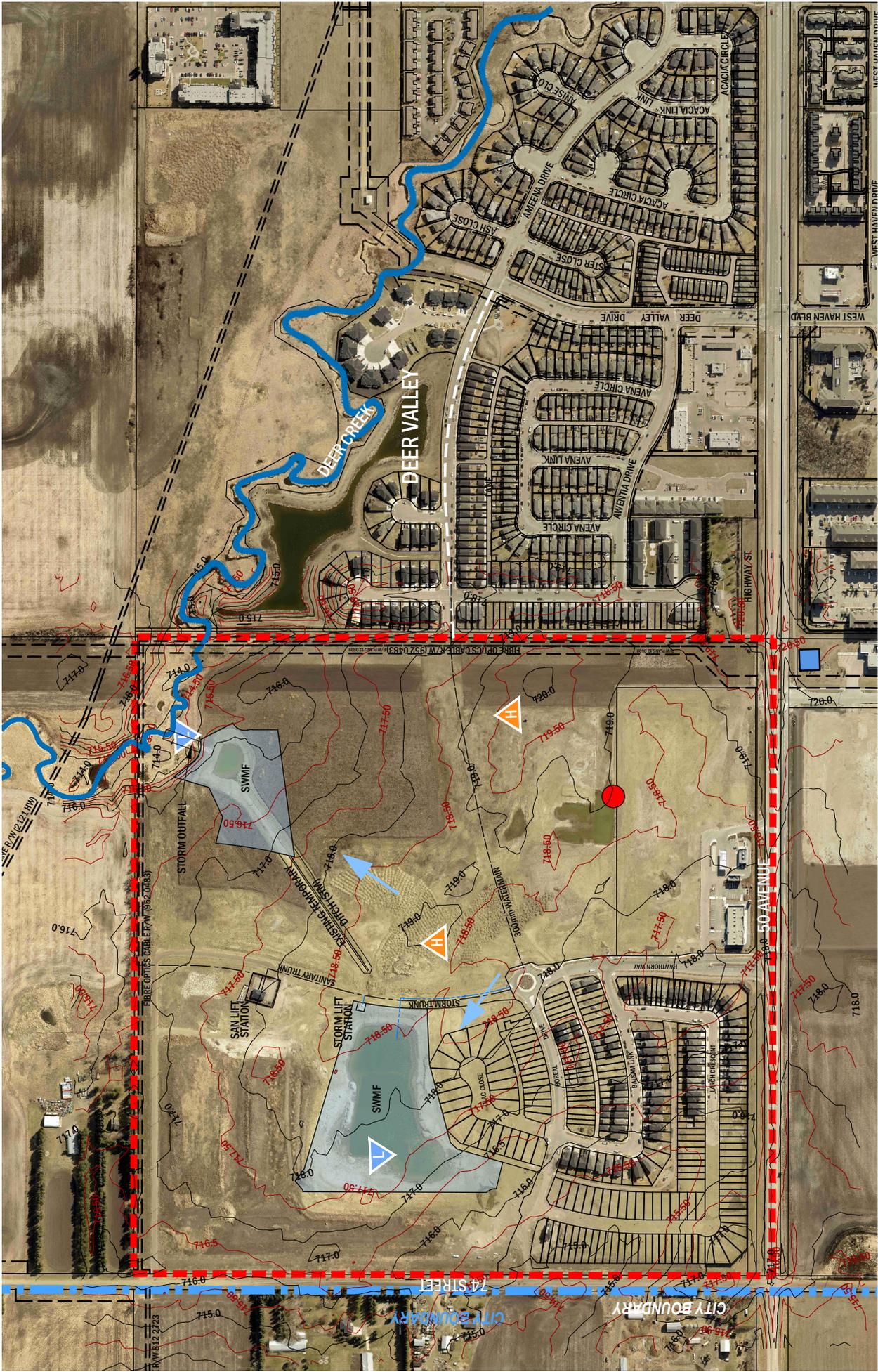
In May 2013 Klohn Crippen Berger Ltd. conducted an assessment called the *Pyrmont Development Biophysical Survey Proposed lands to be used for environmental reserve*. This report was specific to the Woodbend quarter. This assessment identified an area in the northeast suitable to be classified as environmental reserve (ER) because it included Deer Creek and some remnant riparian habitat. The assessment recommended a development setback of 6 metres from the stream edge. As a result, 1.51 hectares is designated as Environmental Reserve.

The historical photo review identified multiple wet areas within the property some with nearly complete cultivation. These wet areas were designated as Class-I and none contained water and all had been farmed. Compensation for these wetlands will not be required.

### 3.4.2 Geotechnical Assessment

Hoggan Engineering and Testing (1980) Ltd. performed a *Preliminary Geotechnical Assessment* of SW 33-49-25-W4 in June 2013. This assessment generally described soil conditions and provided preliminary comments on subdivision design and construction. Hoggan concluded that residential development is suitable within the assessment area due to the near surface native till-like clay.

Topsoil, clay, sand, and bedrock were encountered on site. Topsoil in general, was considered clayey and black. Clay material was generally silty, sandy, medium plastic, moist to very moist, brown mottled grey, and contained traces of coal, oxide, and gravel. Sand layers found in test holes 2013-6, 2013-7, and 2013-10 were considered fine to medium grained, clayey, and very moist. Bedrock (clay and sandstone) was encountered at all but one test hole. The clay shale was considered silty, sandy, medium to high plastic, damp to moist, grey, and was ground up with limited sampling.



NOTE: AIR PHOTO 2021, CITY OF LEDUC

**EXISTING SITE FEATURES**

- LEGEND**
- - - Outline Plan Boundary
  - ~ Contours
  - Abandoned Natural Gas Well
  - ▲ High Point
  - ▼ Low Point
  - Flow Direction
  - Fire Hall
  - Future Connection
  - Deer Creek

N.T.S.

WOODBEND  
CITY OF LEDUC

### 3.4.3 Environmental Site Assessment Phase I

Thurber Engineering Ltd. (Thurber) conducted a *Phase I Environmental Site Assessment (ESA)* for the SW ¼ of 33-49-25 W4M in May 2013. The Phase I included a historical review of the Woodbend property, a site inspection and documentation from various regulatory agencies. Generally, the site inspection did not encounter any historical evidence indicating that the subject property had been impacted by contaminants above generally accepted levels associated with sites of this nature. However, an abandoned natural gas well located in the southeast area of the subject property was identified as an area of environmental concern. To assess the potential environmental impact arising from the abandoned natural gas well a Phase II Environmental Site Assessment was conducted.

### 3.4.4 Environmental Site Assessment Phase II

On Behalf of Avillia Developments Ltd. Thurber Engineering Ltd. conducted a *Phase II Environmental Site Assessment (ESA)* specific to the oilfield well site and Alberta Products Pipeline Ltd in September 2013. Based upon the inspections, assessments and information reviewed in the Thurber engineering report, the Phase II ESA concluded that ESRD 2010 tier 1 residential and agricultural guidelines were not met, however, it is Thurber's experience that elevated calcium and sulphate levels in Leduc County's groundwater are common. It is Thurber's opinion that groundwater constituents within the conductivity anomaly match those that are naturally occurring in ESRD tier 1 guidelines and are these are not typically met within the entire region. Full copies of all the sub-consultant environmental reports will be submitted under separate cover.

## 4.0 Land Use Concept

### 4.1 Introduction

Woodbend will be a fully integrated residential community where people can live, learn, work, shop and play. The services and amenities required to meet the day to day needs of residents are all located within the community, connected by pedestrian routes, and dedicated greenways.

Woodbend will accommodate Low to High Density Residential land uses suitable for a wide range of people. **(See Figure 4)** Commercial land use is designated in the southeast Plan area immediately north of 50 Avenue.

To more accurately establish density and housing forms this Outline Plan defines a wider range and more specific densities. Land use statistics and student generation projections are included in Appendix A.

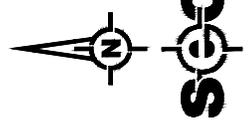
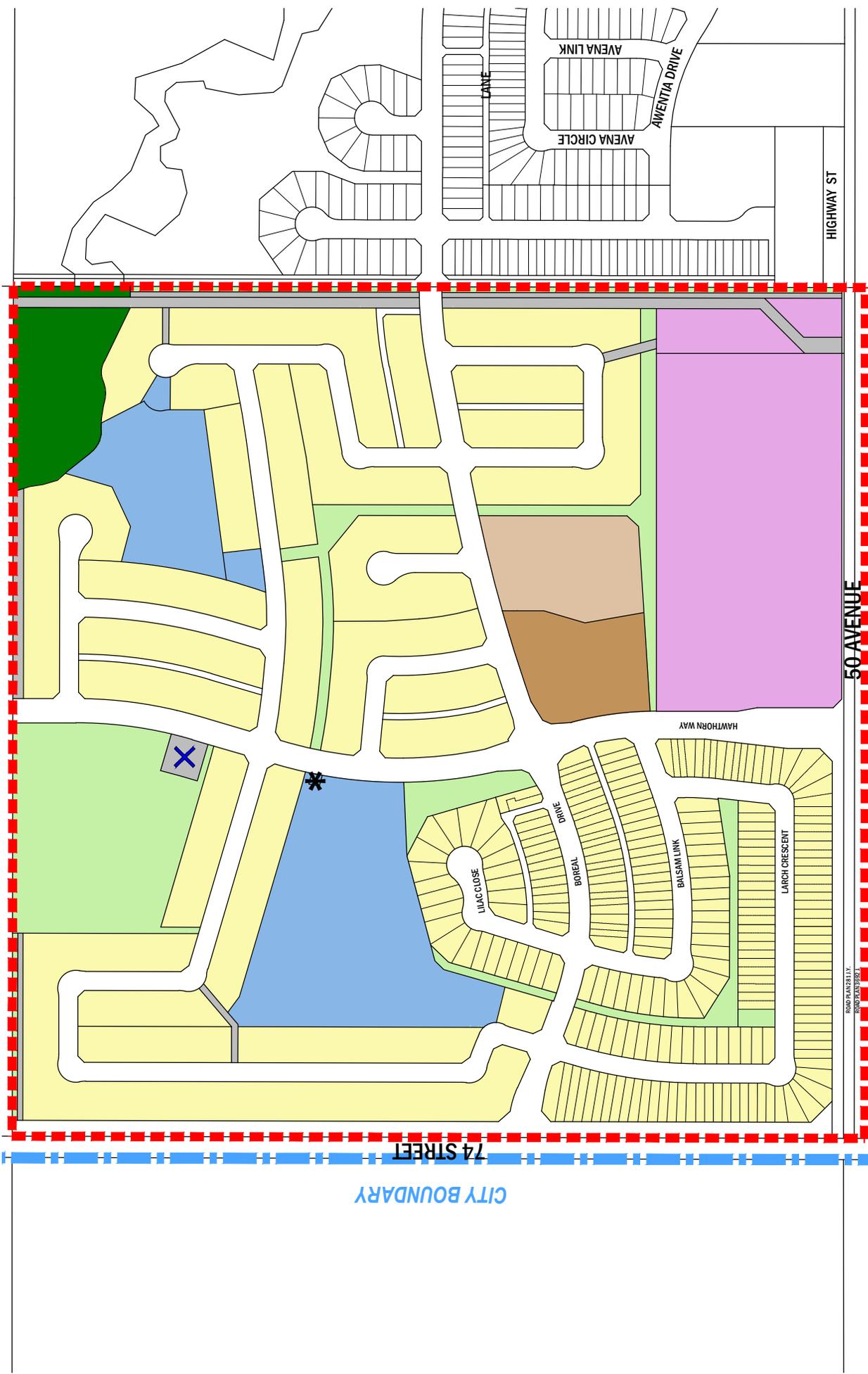
### 4.2 Low Density Residential

Low Density Residential is the primary land use proposed within the Outline Plan area. Single detached, duplex side-by-side and townhouse dwelling units are permitted in areas designated for Low Density Residential development. Low Density Residential units will be accessed by either a front drive garage or a rear lane.

Townhouse will generally be designated adjacent to collector roadways, but it may also be developed along local roads. Townhouse may be accessed by a front drive garage or a rear lane. Street orientation created by a rear lane can eliminate backing issues and create a more interactive street front. They will have a maximum height of 3 storeys and may have a maximum of 6 units per building.

Several residential districts are available in the existing Land Use Bylaw 809-2013 that may be utilized to implement a variety of Low-Density Residential forms. The Plan intends to utilize RNL, RSD, RCD and MUR existing districts. A Direct Control District has been implemented in Stage 1 to accommodate 26-foot pocket sizes with front drive garages and 20-foot pocket sizes with rear detached garages accessible by a lane. Additional Direct Control Districts may be used within the Woodbend neighbourhood to enable a greater diversity of low-density housing projects and create affordability for different levels of income and lifestyle choices.

Both ownership and rental opportunities may be available within the Woodbend neighbourhood.



**DEVELOPMENT CONCEPT**



**LEGEND**

- |   |                            |   |                        |   |                         |
|---|----------------------------|---|------------------------|---|-------------------------|
|  | Low Density Residential    |  | Commercial             |  | Lift Station - Storm    |
|  | Medium Density Residential |  | Storm Water Management |  | Lift Station - Sanitary |
|  | High Density Residential   |  | Park                   |  | Outline Plan Boundary   |
|  | WOODBEND                   |  | Environmental Reserve  |   |                         |
|  | CITY OF LEDUC              |  | Public Utility Lot     |   |                         |

### 4.3 Medium Density Residential

One Medium Density Residential (MDR) site is located east of the High Density Residential site and north of the commercial site. A north-south and east-west greenway is located adjacent to the MDR site to allow for a transition between the commercial and Low Density Residential dwellings to the south and east. This MDR site is intended to be developed as either a townhouse site or a 1-4 storey apartment building. Access will be provided from Boreal Drive.

### 4.4 High Density Residential

The High Density Residential (HDR) land use is conveniently located next to the collector entrance and the Commercial area. This HDR site will accommodate a 1 to 4 storey apartment or 4 plus storeys. A dedicated greenway south of the site provides a transition between the HDR site and the Commercial land use. The proximity of the HDR site to the greenway will encourage and support pedestrian access to shopping and services provided in the Commercial area. Development in this area would be implemented by a MUC - Mixed Use Comprehensive District in the Land Use Bylaw.

### 4.5 Commercial

Commercial land use is designated along the southeast boundary of the Plan area all the way up to Hawthorn Way. This Commercial area provides shopping and services to future residents in the neighbourhood and surrounding area. The Commercial has been districted CSC - Commercial Shopping Centre District. The Commercial site has two accesses designated north from 50 Avenue and one from the internal collector roadway. The eastern access to the Commercial site from 50 Avenue aligns with the existing Fire Hall access.

With the realignment of the APPL ROW to the eastern Plan area, additional commercial space in the southeast Plan area can be accommodated. This commercial space will require shared access agreements between the registered commercial area in Stage 1 as no direct access to 50 Avenue will be permitted. Crossing agreements will also be required to access the commercial area southeast of the APPL ROW.

A greenway that varies in width from 6-15 metres provides a transition between the Commercial, High density Residential, Medium Density Residential and Low Density Residential housing to the north.

### 4.6 Parks and Open Space

The City of Leduc has a comprehensive network of parks, open space and multiways that allow residents to explore the community as it contributes to a better overall quality of life for everyone. The combination of parks and open space proposed in Woodbend will expand the pedestrian linkages and consists of a combination of municipal reserve, environmental reserve, and stormwater management facilities. The proposed pedestrian linkages extend northeast crossing Deer Creek and ultimately connecting into the Deer Valley / Creekside neighbourhood.

## 4.6.1 Municipal Reserve

Municipal Reserve in Woodbend is designated for the south portion of a shared school park site, dedicated greenways, and pocket parks. The Woodbend neighbourhood is currently dedicated 5.55 hectares or 9.0% Municipal Reserve. The remaining 0.6ha or 1.0% of MR will be paid to the City as cash in-lieu.

Overall municipal reserve throughout the West ASP will remain at 10% of the total gross developable area.

### 4.6.1.1 School/Park

Woodbend is designating approximately 3.12 hectares of its municipal reserve allocation to facilitate development of a future school and park site in the north central Plan area. This joint site will have excellent access from the north south collector roadway.

### 4.6.1.2 Greenways and Pocket Parks

Dedicated greenways wind north, south, east, and west through the Plan area. These greenways open up in several areas and create small pocket parks which will provide opportunities for both active and passive recreation for residents and visitors. These greenways allow for a well-defined, easily accessible, and walkable network in the neighbourhood. Greenways are also located in the southeast Plan area to transition Commercial, medium density residential and high-density residential land uses to low density residential land uses. The greenways also provide a connection to the stormwater management facility which ultimately connects to the Environmental Reserve adjacent to it in the northeast corner of the Plan area. **(See Figure 5)**

A multiway will run north south within the APPL right-of-way in the east Plan area. APPL approval will be required to construct the multiway and landscaping within their right-of-way.

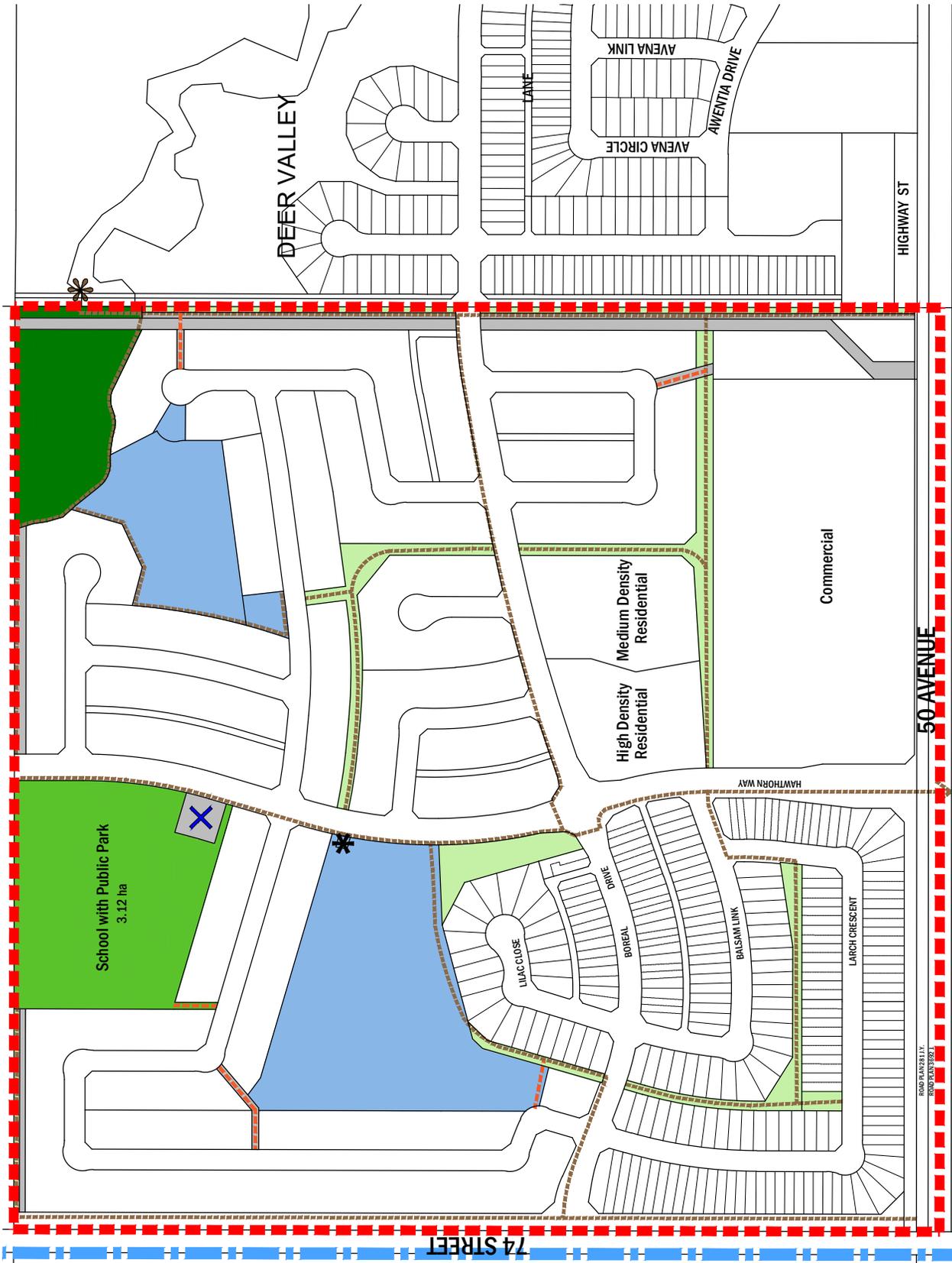
Multiways will be constructed in accordance with the City's *Minimum Engineering Design Standards*. The type and exact location of these multiways will be determined at the time of subdivision.

## 4.6.2 Environmental Reserve

Deer Creek runs along the east side of Woodbend and curves north, bisecting the northeast corner. This results in 1.5 hectares of environmental reserve being dedicated in this area.

## 4.6.3 Stormwater Management Facility

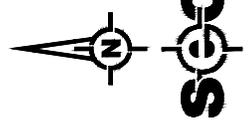
Stormwater management facilities (SWMF) are located in the west central and northeast Plan areas. Due to the natural topography of the overall drainage basin as well as the elevation of Deer Creek two interconnected SWMF's are required. These stormwater management facilities will provide visual amenity in the community and provide for a variety of passive recreational activities.



**LEGEND**

- Outline Plan Boundary
- Storm Water Management
- Park
- School with Public Park
- Environmental Reserve
- Public Utility Lot
- Future Bridge
- Pedestrian Connections
- 3.0m Asphalt Multiway
- Lift Station - Storm
- Lift Station - Sanitary

**PARKS AND OPEN SPACE**



## 4.7 Population and Student Generation Projections

Student generation count for the City of Leduc is as follows:

Student Generations	Public	Catholic
Elementary	269	54
Junior High	135	27
Senior High	135	27
<b>TOTAL</b>	<b>540</b>	<b>108</b>

## 5.0 Transportation

The transportation network for Woodbend accommodates the movement of automobiles, pedestrians, bicycles, and transit. A network of arterial, collector and local roads will be utilized to accommodate traffic activity efficiently and effectively. **(See Figure 6)** A Transportation Impact Assessment (TIA) was completed to support the West Area Structure Plan. Because the internal road alignment is modified slightly from the ASP an addendum to the TIA was submitted in 2016. This addendum also looked at the details of intersection spacing, and capacity and the operation of the roundabout in the central Plan area. 50 Avenue and 74 Street will both incorporate an enhanced entrance to alleviate traffic congestion and queuing issues entering/exiting the neighbourhood.

### 5.1 50 Avenue

The south boundary of Woodbend is formed by 50 Avenue and ultimately ties into Queen Elizabeth II Highway east of the Plan area. Primary access to the Woodbend neighbourhood is provided from 50 Avenue past the Commercial and HDR sites along Hawthorn Way. All directional access will be allowed into the commercial area opposite the access to the Fire Hall south of 50 Avenue. An additional right-in /right-out access is located a little further west along 50 Avenue.

### 5.2 74 Street

The west boundary of Woodbend is formed by 74 Street. With the construction of Stage 2, 74 Street has been paved from 50 Avenue to Boreal Drive as a two-lane rural cross section, which is intended to serve as an interim roadway until the ultimate 4 lane divided arterial is constructed by the City of Leduc. 74 Street is identified in the *City of Leduc Transportation Master Plan* (2012) as a long-term capital planning objective aimed at alleviating internal City congestion however the timing of these improvements is uncertain. Another all-directional access is provided at 74 Street. This access ties into Boreal Drive within Woodbend in the central Plan area.

### 5.3 Collector Road Network

Primary access within Woodbend is provided by two collector roadways which intersect near the centre of the neighbourhood. A roundabout proposed at this intersection will provide traffic calming and create a focal point in the Plan area. Boreal Drive will ultimately extend east from Deer Valley via Ameena Dr. and tie into the central intersection and onto 74 Street at the west boundary. Parking restrictions in proximity to major intersections and the roundabout may be required to avoid vehicular or pedestrian conflicts and will be confirmed by the City at the detailed design stage.

Hawthorn Way extends north from 50 Avenue, past the school/park site, and will become the primary north-south link through Woodbend.

## 5.4 Local Road Network

The internal road network will be designed to meet the City of Leduc standards for local roads, lanes, and cul-de-sacs. These standards will ensure safe and easy access for emergency and public service vehicles as well as garbage collection.

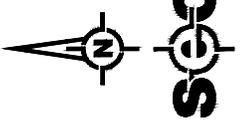
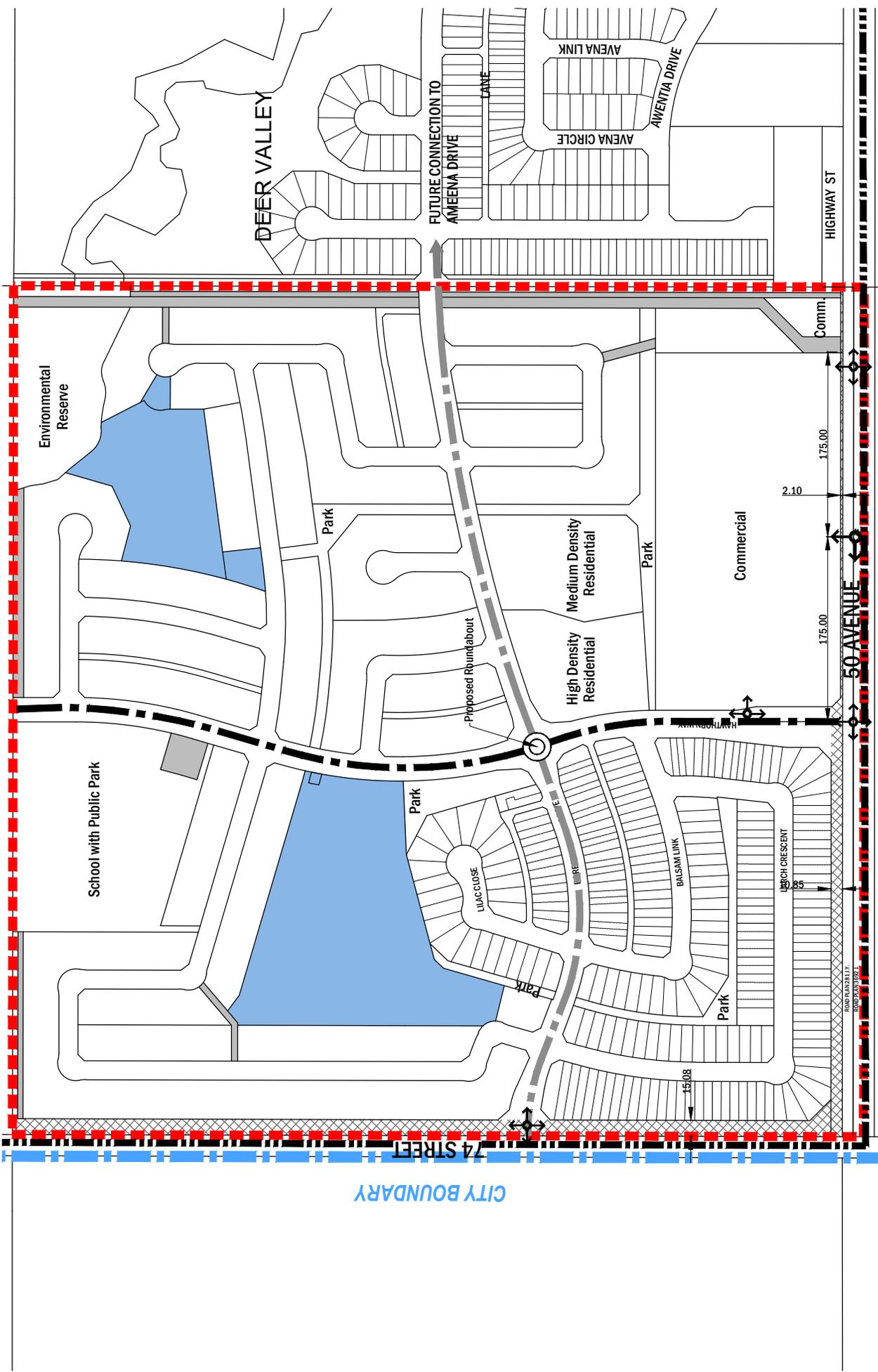
## 5.5 Pedestrian Linkages

Non-vehicular transportation (pedestrians, bicycles, etc.) will be able to utilize the dedicated greenway system in the Plan area as well as the sidewalks fronting and flanking residential lots. Pedestrian links will be designed to allow efficient and accessible connections and access points for neighbourhood residents to parks, school site, the commercial area and adjacent neighbourhood amenities.

## 5.6 Noise Attenuation

Noise abatement from arterial routes will be provided as per City policy (*City of Leduc E1 - Part 1: Minimum Engineering Standards section 1.15*) which generally requires noise abatements for any arterial roadway that passes through a development.

An *Environmental Noise Impact Assessment* for the Woodbend Neighbourhood and specifically for 50 Avenue and 74 Street was completed by Acoustical Consultants Inc. (ACI) in December 2015. This Assessment was utilized to confirm road widths and berm requirements within the Plan area and ensure that City of Leduc noise attenuation requirements can be met.



# TRANSPORTATION NETWORK



- LEGEND**
- Outline Plan Boundary
  - Storm Water Management
  - Public Utility Lot
  - Road Widening
  - All Directional Access
  - Right In/Right Out
  - Environmental Reserve
  - School with Public Park
  - Park
  - High Density Residential
  - Medium Density Residential
  - Commercial
  - "T" Intersection
  - Arterial Road
  - Major Collector Road
  - Minor Collector Road

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## 6.0 Servicing Infrastructure

### 6.1 Water Servicing

Water service in Woodbend is provided by two 350mm diameter watermain connections. The first connection is established south of 50<sup>th</sup> Avenue on Hawthorn Way. The second feed comes from the existing Deer Valley subdivision on the West end of Ameena Drive. A watermain stub has been provided to the land west of 74<sup>th</sup> Street and will be provided north of 65<sup>th</sup> Avenue. **(See Figure 7)**

### 6.2 Sanitary Servicing

Woodbend has a lift station to service the "West Area Structure Plan" (WASP). The location is just off Hawthorne Way in the future school site. (See Figure 8) This lift station also includes a forcemain to the east 750/900mm trunk sewer connection point at manhole 89-7. The sanitary trunk for WASP crosses 50th avenue from the south and travels north along Hawthorne Way. The trunk sewer is at sufficient depth that there will be no anticipated cover issues.

### 6.3 Stormwater Management System

The stormwater management system will consist of two stormwater management facilities (SWMF) and an associated minor storm sewer system, ultimately discharging at a controlled rate to Deer Creek located in the northeast corner of Woodbend. **(See Figure 9)** Due to the natural topography of the overall drainage basin as well as the elevation of Deer Creek, two interconnected SWMF's will be required. One stormwater management facility will be located on the west central portion of the Plan area (Pond 1), with a second smaller facility to be located in the northeast corner adjacent Deer Creek (Pond 2). A proposed stormwater lift station will be installed in the northeast corner of pond 1 and will discharge via a forcemain into Pond 2. A stormwater lift station has been installed in the northeast corner of pond 1 and will discharge via a future forcemain into Pond 2.

The stormwater management system will also be designed to provide for a 1:5 Year flow rate for 50 Avenue road right-of-way as well as a 1:100 Year flow rate for half of the 74 Street right-of-way. Alberta Transportation requires that no increased storm flows will be permitted from the planned development to enter Highway 39 (50 Avenue) ditches. There are no requirements to receive storm flows from lands directly south of Woodbend (NW-28-49-25-4). This has been confirmed through their Consultant ISL Engineering.

Select Engineering completed a review of elevation constraints with adjacent ditches and Deer Creek. Based on this analysis the existing elevations / depths would not provide acceptable stormwater discharge points unless the servicing basin was filled to an excessive amount of fill which would basically stall development within Woodbend. The use of a stormwater lift station provides the ability to lift the storm flows to a more manageable level and is the proposed option to the stormwater servicing strategy.

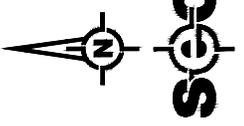
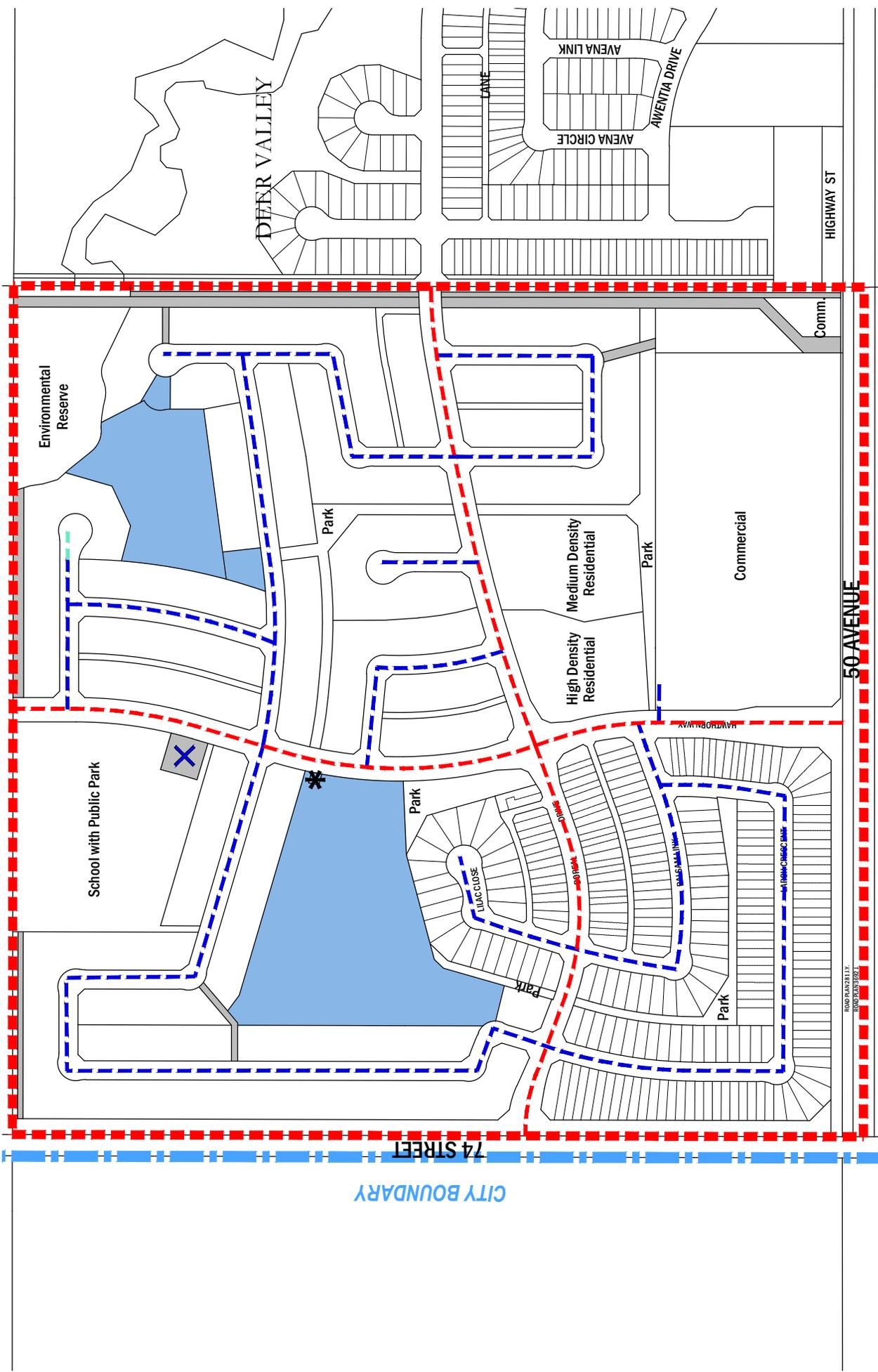
The controlled flow rate for Deer Creek was obtained from the SWMF design for Deer Valley. That SWMF release rate to Deer Creek was based on 1.9 l/s/ha. We assume this will also be the same release rate for Woodbend.

## 6.4 Shallow Utilities

Power to the Woodbend neighbourhood will be supplied off an existing power line which runs north-south along 74 Street and/or a combination of connections ultimately to Deer Valley.

AltaGas currently has a high-pressure transmission main which runs in northwest to southeast and is located entirely within the  $\frac{1}{4}$  section north of Woodbend. There are 2 rural distribution lines which are currently within the Woodbend neighborhood. The first distribution main runs east-west along the south boundary of Woodbend (north of 50 Avenue). The second distribution line runs north-south along the west side of Woodbend (east of 74 Street). Options for relocating these distribution lines as well as servicing Woodbend will be discussed with AltaGas prior to any development. We expect there will also be gas servicing through Deer Valley.

Communication lines are also available within the adjacent areas. An AGT Limited fibre optics line currently runs along the eastern and northern boundaries of Woodbend.



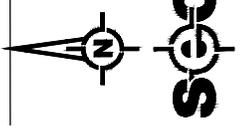
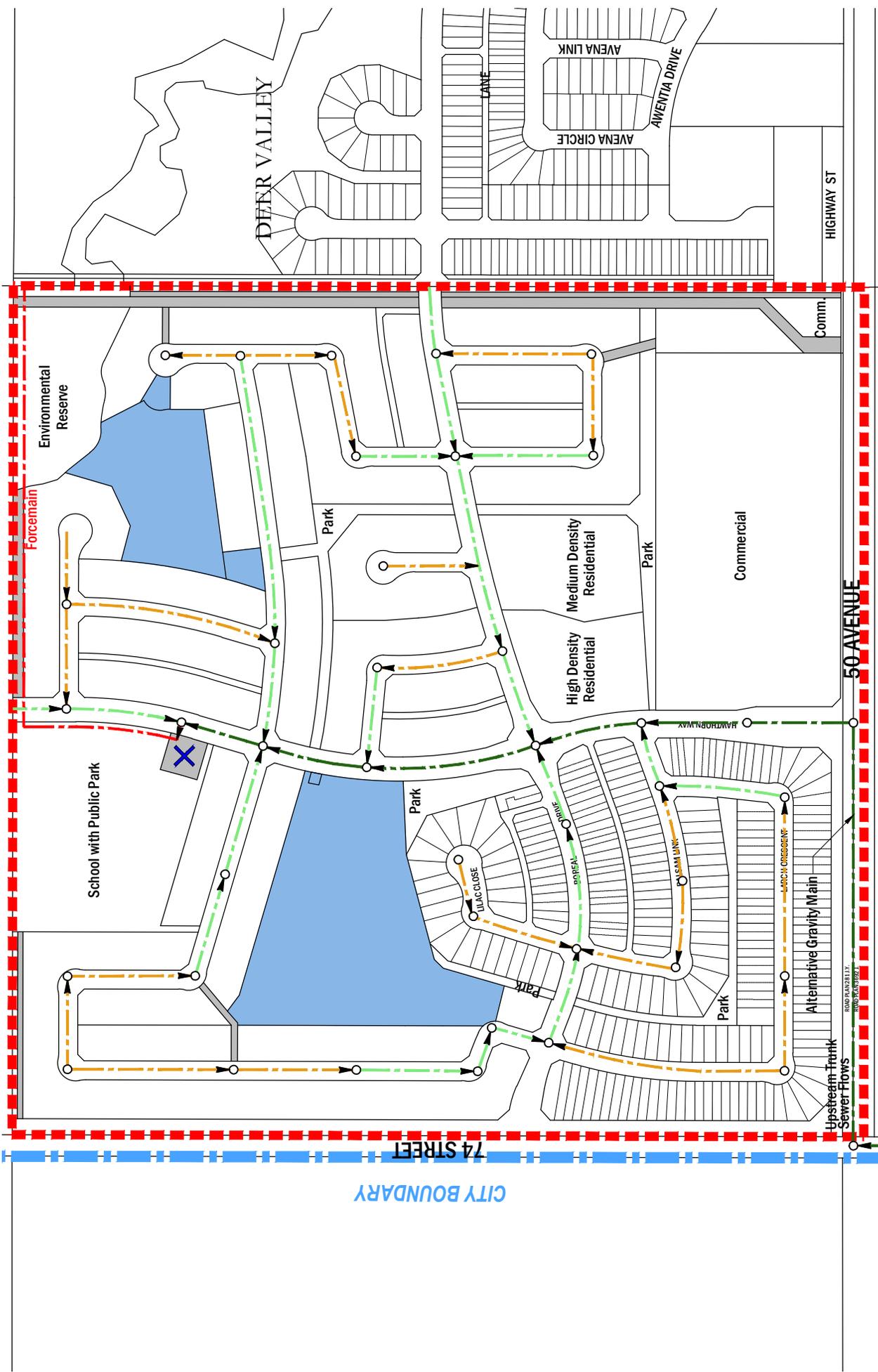
# WATER SERVICING



- LEGEND**
- Outline Plan Boundary
  - Storm Water Management
  - Public Utility Lot
  - Storm Water Management
  - Lift Station - Storm
  - Lift Station - Sanitary

- Proposed 350mm Water Main
- Proposed 200mm Water Main
- Proposed 150mm Water Main

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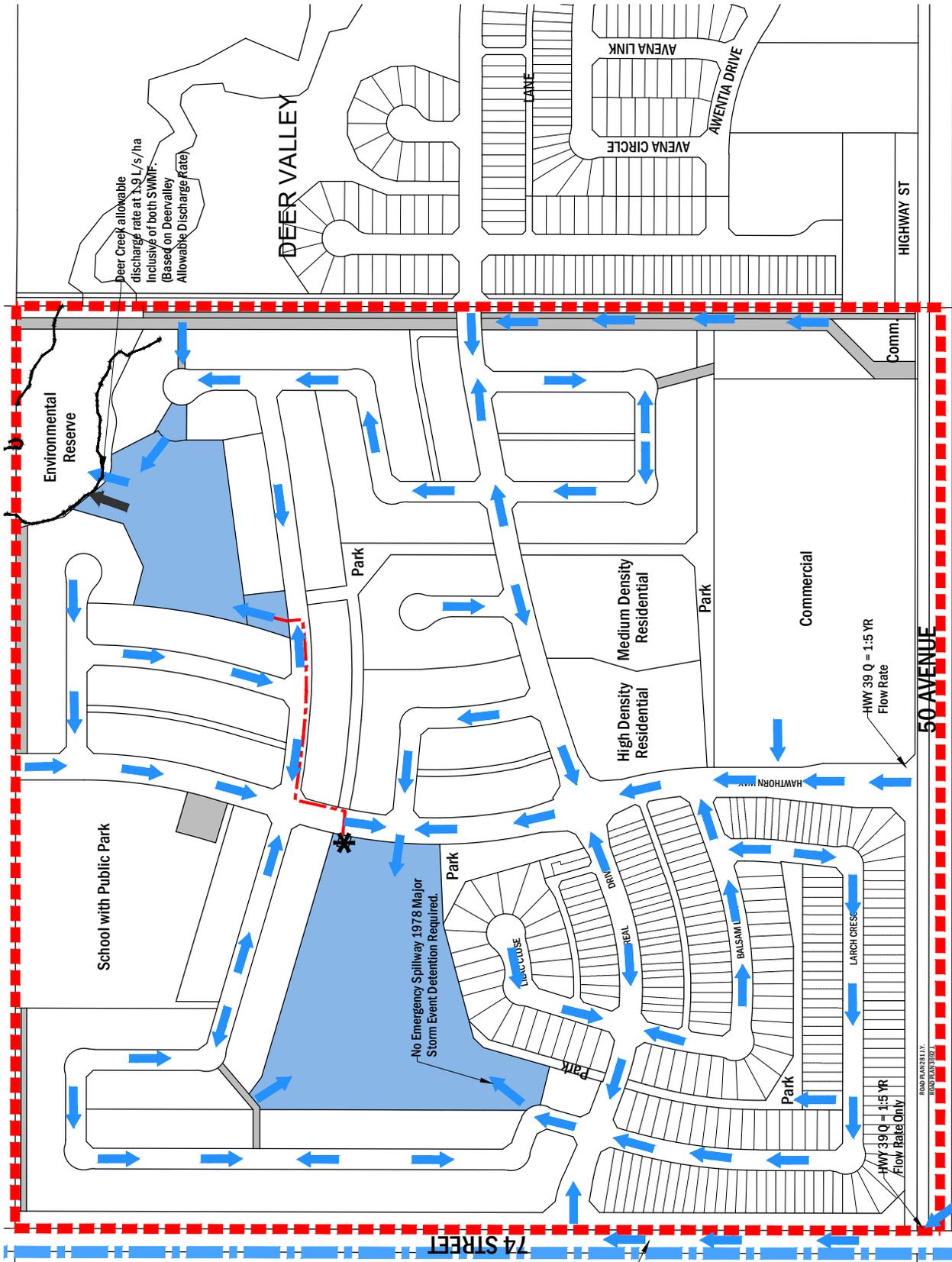


### SANITARY SERVICING



- LEGEND**
- - - Outline Plan Boundary
  - - - Storm Water Management
  - Public Utility Lot
  - X Lift Station - Sanitary
  - - - Forcemain (300mm Stage 1)

- . - . - 900 mm Trunk Sewer
- - - 200mm Collection System
- - - 250mm Collection System



Deer Creek allowable discharge rate at 1.9 L/s/ha Inclusive of both SWMF. (Based on Deer Valley Allowable Discharge Rate)

Environmental Reserve

School with Public Park

Park

Medium Density Residential

High Density Residential

Commercial

50 AVENUE

HWY 39 Q = 1:5 YR Flow Rate

HWY 39 Q = 1:5 YR Flow Rate Only

74 STREET

CITY BOUNDARY

DEER VALLEY

LANE

AVENTA CIRCLE

AVENTA DRIVE

HIGHWAY ST

HAWTHORN

BALSAM

LARCH CRESS

REAL

ORCHARD

THORN CREEK

DEER CREEK

Q = 1.5 YR Flow Rate Plus 1:100 YR Flow for 1/2 Right of Way

Note: No storm flows from lands to the south are anticipated.

LEGEND

- Outline Plan Boundary
- Storm Water Management
- Public Utility Lot
- Lift Station - Storm
- Force Main

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STORMWATER SERVICING

scale 1:5000

0 50 100 m

SEC

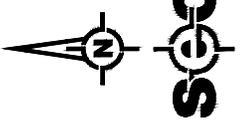
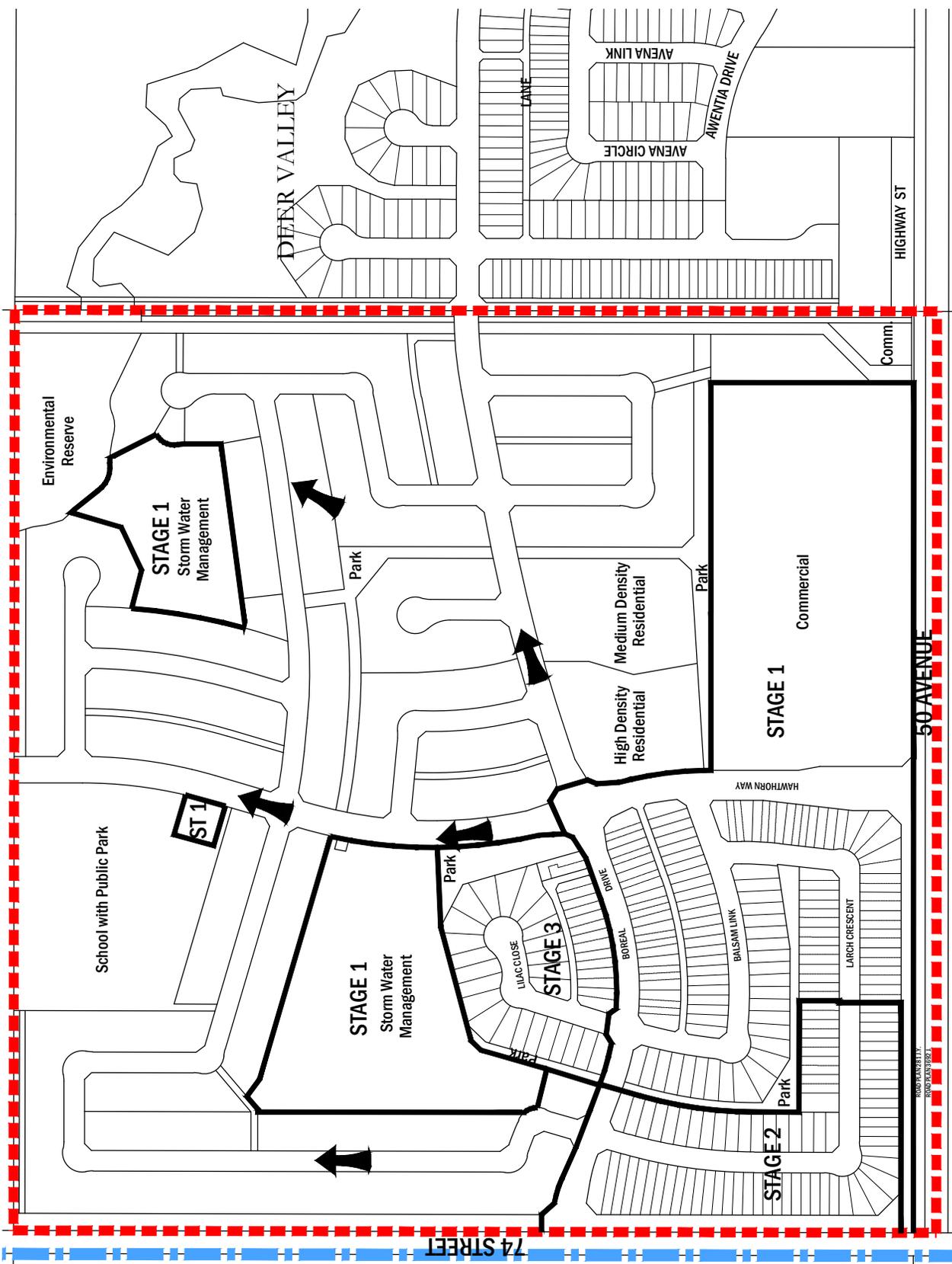
## 7.0 Implementation

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### 7.1 Development Staging

The Outline Plan is generally being developed from north from 50 Avenue and will continue to do so based on market demands. **(See Figure 10)**

Stages 1 and 2 are located within the south and southwest Plan areas. The commercial site and residential units south of Boreal Drive and west of Hawthorn Way have been constructed and registered at Alberta Land Titles. Stage 3 redistricting and subdivision approvals are in place with construction commencing in 2022.



### STAGING PLAN



- LEGEND**
- Outline Plan Boundary
  - Staging Boundary
  - ➔ Future Staging Direction

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# APPENDIX A

Land Use Statistics

**Table 1: Proposed Land Use Statistics**

Land Uses	Ha	%	Units	%	Pop.	%
<b>GROSS AREA</b>	<b>64.70</b>	<b>100.0%</b>				
Environmental Reserve	1.50					
50 Avenue	1.60					
Subtotal	3.10					
<b>GROSS DEVELOPABLE AREA</b>	<b>61.60</b>					
<b>LAND USES</b>						
<b>Municipal Reserve @ 10%</b>	<b>6.158</b>	<b>10.0%</b>				
Commercial	6.59	10.7%				
Municipal Reserve	5.55	9.0%				
Stormwater Management Facility/PUL	6.21	10.1%				
Collector Road	11.17	18.1%				
Arterial Roadway Dedication	1.73	2.8%				
Pipeline Right-of-Way	0.8	1.3				
<b>SUBTOTAL - LAND USES</b>	<b>32.05</b>	<b>52.0%</b>				
<b>RESIDENTIAL</b>						
Low Density Residential	27.06	43.9%	541	61.1%	1,406	65.0%
Medium Density Residential	1.33	2.2%	113	12.7%	293	13.5%
High Density Residential	1.16	1.9%	232	26.2%	464	21.5%
<b>SUBTOTAL - RESIDENTIAL</b>	<b>29.55</b>	<b>48.0%</b>	<b>886</b>	<b>100.0%</b>	<b>2,163</b>	<b>100.0%</b>
	<b>61.58</b>	<b>100.0%</b>				

Units /Net Residential Hectare 30.0

#### Residential Density

Low Density Residential 20 units / hectares  
 Medium Density Residential 85 units/ hectares  
 High Density Residential 200 units / hectares

#### Population Density

Low Density Residential 2.6 persons / unit  
 Medium Density Residential 2.6 persons / unit  
 High Density Residential 2.0 persons / unit