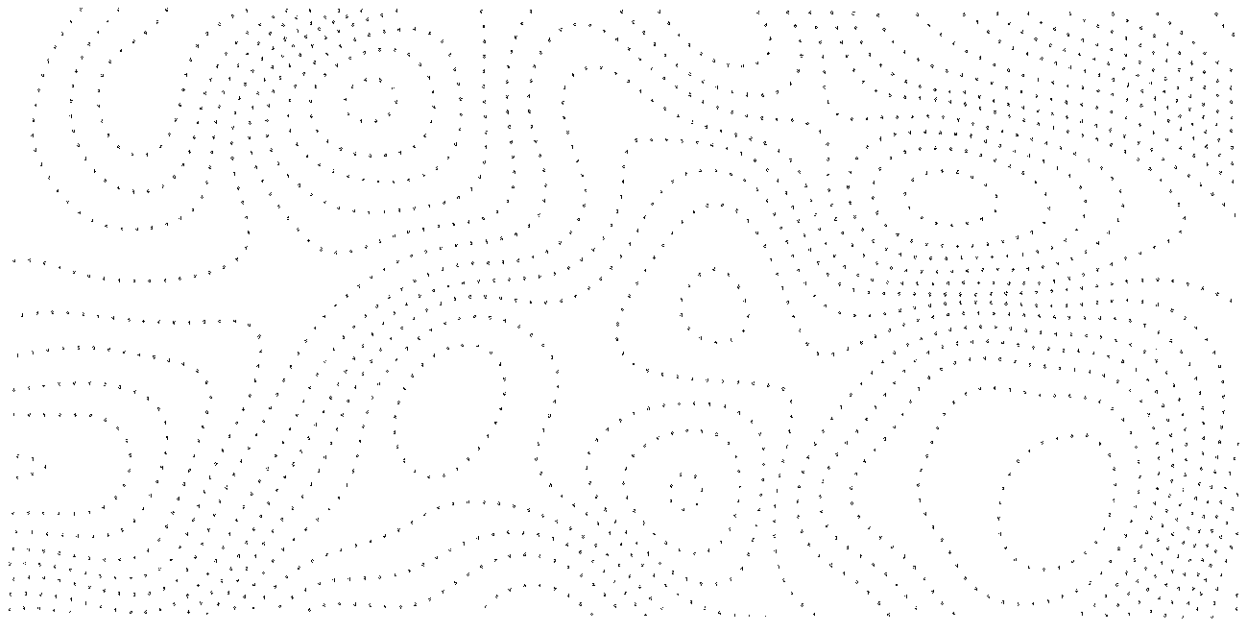




Source: Collaborative Futures™



Onicikiskwapowin Crossing
Area Structure Plan
March 26, 2025



Prepared For: Saddle Lake Cree Nation

Consulting Team: Greg MacKenzie + Associates Consulting Ltd. and Davis Consulting Group Ltd.
(operating as Collaborative Futures™)

C^oFutures

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*Aerial Photograph (Plan area outlined in red)
source: © 2021 Google Earth*

1.0 Introduction

1.1 Purpose + Background

The purpose of this Area Structure Plan (ASP) is to provide a framework to guide the rezoning, subdivision, and development of the ASP area, illustrated on Figure 1 – Location & Context, for commercial and industrial use. The ASP is governed by the County of St. Paul's Municipal Development Plan (MDP) a broad policy-based document which establishes the intended land use and high-level guidance for development of the land within the ASP area.

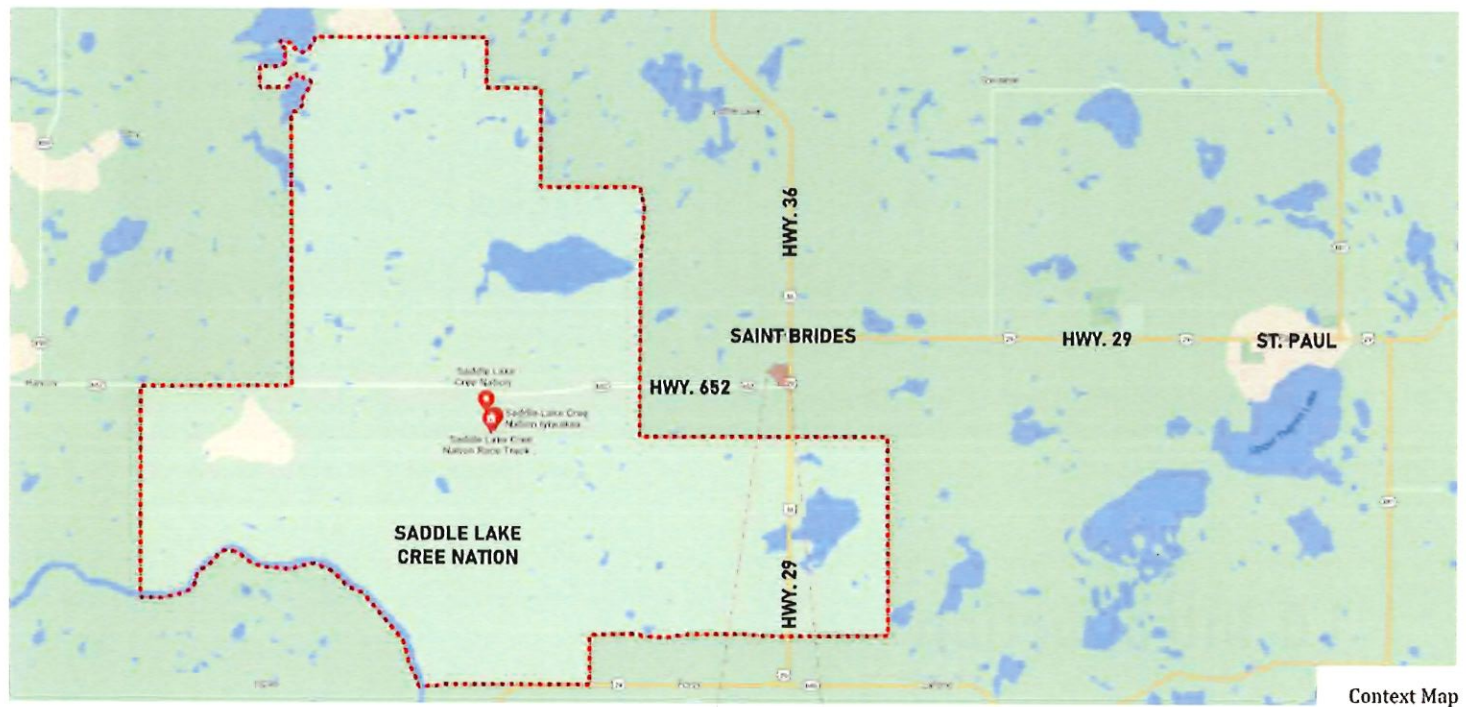
This ASP has been prepared on behalf of Saddle Lake Cree Nation (the Proponent).

Because the ASP proposes a conceptual layout of roadways and lots, all parcel and right-of-way boundaries shown on the maps contained within the ASP will need to be verified at the time of subdivision application. Potential minor deviations to the ASP land use concept are anticipated and should be supported provided they generally conform with the provisions of the ASP. Any major deviations to this ASP will require an amendment hereto.

Legend
 ■ ■ Plan Boundary

Futures
Figure 1: Location & Context
 Onickiskwapowin Crossing
 Area Structure Plan

Scale NTS
 N



1.2 Location + Plan Boundaries

The Plan area is located on the north side of Highway 652 and the east side of Highway 29. As illustrated on Figure 2 – Zoning Plan Context, the ASP area and surrounding lands are farmland, zoned (A) Agricultural District. The St. Brides Trading Post is located immediately to the northeast and zoned (IC) Industrial/Commercial District. An existing residence lies northeast of the ASP area, across Highway 29.

The Plan area is legally described as the SE ¼ Sec. 3-58-11 W4M, containing approximately 59.3ha (146.5ac).

1.3 Vision + Objective

The ASP envisions commercial and light industrial land uses strategically located at the intersection of Highways 652 and 29. This location takes advantage of its exposure to traffic between the Town of St. Paul (12 minutes) and the communities of Saddle Lake (8 minutes), Two Hills (26 minutes), Fort Saskatchewan (1.5 hours) and Edmonton (2 hours). Land uses within the ASP area will complement existing commercial services, including: the St. Brides Trading Post immediately north of the ASP area; a U-Haul Dealer to the east across Highway 29; and the nearby St. Brides General Store, enhancing services and economic opportunities for the County.

The ASP has been prepared to support rezoning, subdivision, and development of commercial and light industrial uses. A gas station and grocery store are envisioned within the first phase of development.

Development of the ASP area supports Saddle Lake Cree Nation's vision to be vibrant, healthy, unified, prosperous, and self-reliant by 2030. This prosperity and vitality is rooted in the creation of a sustainable standard of living, better quality of life, and realization of the cultural and economic value of natural and human capital. Key to this is economic development, emphasizing empowering and supporting creation of for-profit initiatives. By establishing commercial services and employment opportunities, connections between the Cree Nation and the County will be strengthened.

1.4 Land Ownership

The entirety of the ASP area is held under one certificate of title registered to Saddle Lake Cree Nation.

1.5 Public Engagement

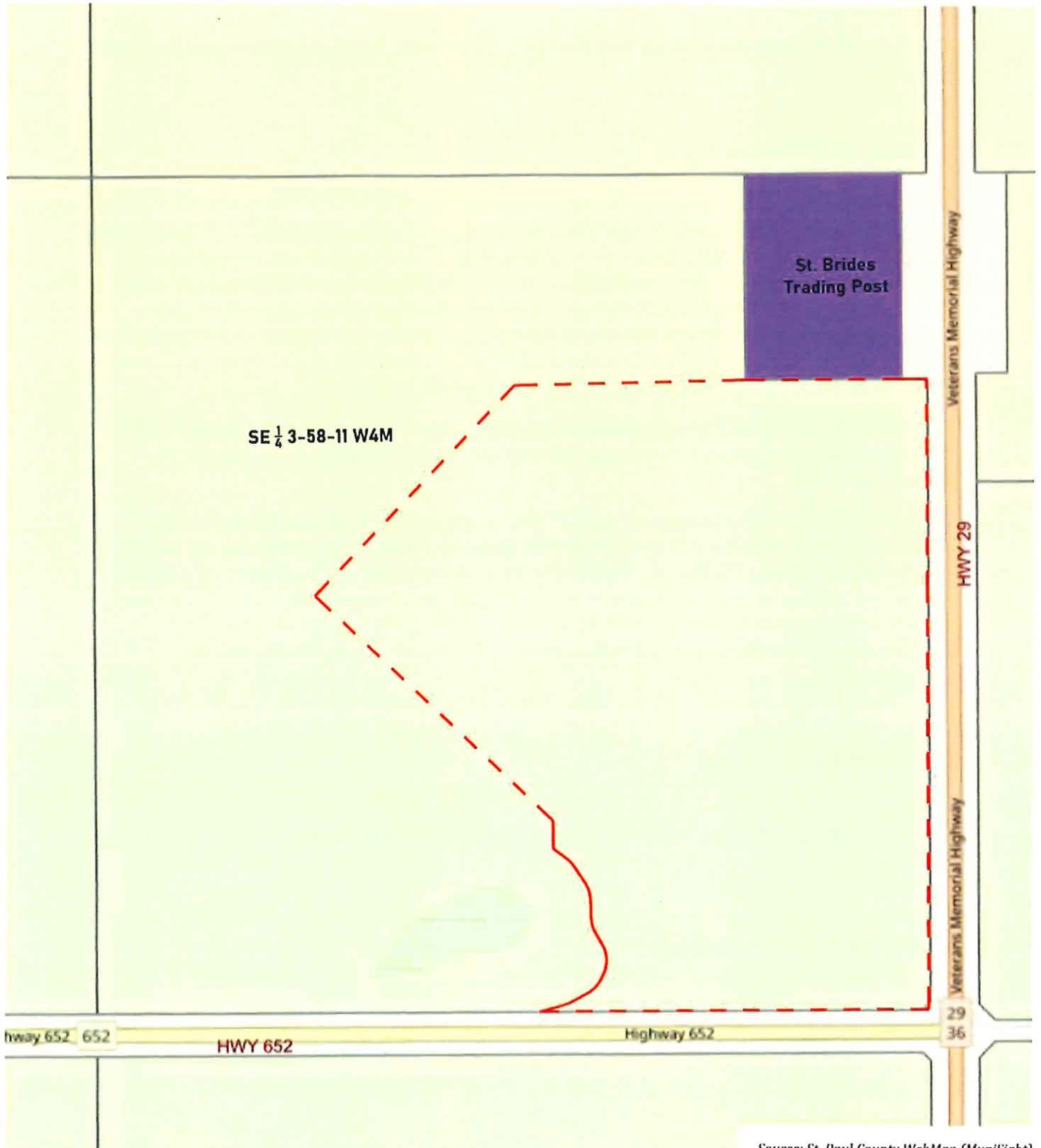
[NTD: Section to be completed after 1st Public Open House has occurred – will summarize the date, time, location, attendance, materials presented, inputs received/responses]

Legend

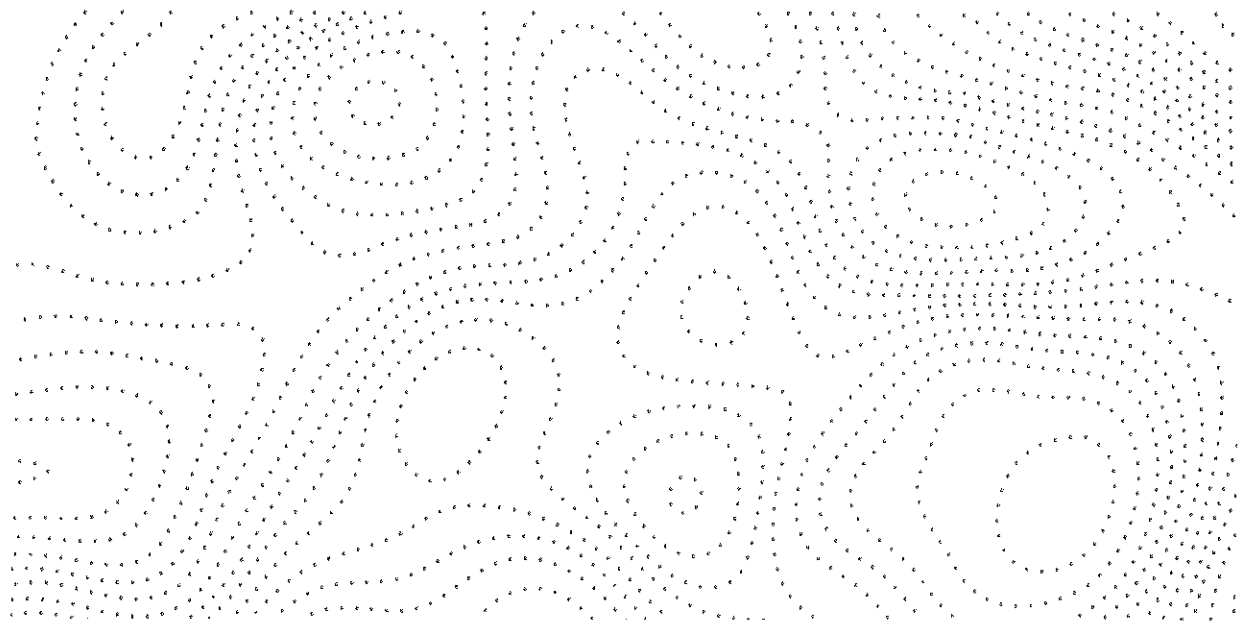
- Plan Boundary
- (A) Agricultural District
- (IC) Industrial/Commercial District

 Futures

Figure 2: Zoning Context
Onickiskwapowin Crossing
Area Structure Plan



Source: St. Paul County WebMap (MuniSight)



2.0 Policy Framework

This Section describes the existing planning documents and Bylaws that direct development of the ASP area. This ASP complies with the Municipal Government Act (MGA), the County's Municipal Development Plan (MDP), and Land Use Bylaw (LUB). At the time of writing, the North Saskatchewan Regional Plan was under development and the ASP area was not within the boundary of any intermunicipal development plan.

2.1 Municipal Government Act

Section 633 of the MGA governs the preparation of ASP Bylaws. In accordance with the MGA, this ASP provides a framework for subsequent subdivision and development and describes:

- The sequence of development;
- The land uses proposed; and
- The general location of major transportation routes and public utilities for the ASP area.

2.2 Municipal Development Plan

The County of St. Paul No. 19 Municipal Development Plan (MDP) Bylaw 2021-14 outlines how and where land can be developed in the County and is implemented through the Land Use Bylaw (LUB) 2021-13.

This ASP supports the MDP Land Use Goal 1.5 a) of encouraging "... environmentally sound, sustainable ... economic development, especially rural-based economic development ..." by:

- Working with the existing topography, to the extent feasible, to replicate existing drainage patterns and minimize cut and fill with development

- Controlling and directing stormwater to the existing wetland feature located immediately southwest of the ASP area, supporting retention of this feature in the developed context by ensuring adequate provision of water
- Increasing the diversity of economic activity in the County, by providing a greater variety of goods, services, and employment opportunities accessible to the rural population

The MDP designates the ASP area as “Agricultural” (MDP Map 4.1). To support the MDP’s Commercial and Industrial Development Objectives 1. to “... encourage new commercial and industrial businesses at appropriate locations” and 2. “... to provide a diverse range of economic development and employment opportunities” an application for Land Use Bylaw amendment to appropriate commercial and/or industrial districting has been submitted to the County.

In accordance with MDP Policy 2.2.13, and based on pre-application discussions with the County, this ASP has been prepared to address:

- Conformity with applicable statutory plans and the Land Use Bylaw
- Impacts on adjacent uses, environmentally sensitive areas, and mitigation methods
- Proposed land uses
- Proposed methods of water supply, stormwater management and sewage disposal
- Access and internal circulation and impact on the transportation network
- Allocation of municipal and environmental reserve
- Suitability of the development site in terms of soil stability, groundwater level, and drainage
- a method by which developers pay for off-site costs
- the location and geographic extent of any environmentally sensitive areas, hazard lands, and historic or archaeological sites
- integration of natural areas into the design of developments to form part of the linked and integrated parks and open space system, including the retention of forests, wildlife corridors, muskeg areas, and the provision of stormwater ponds and parks to form continuous open spaces

2.3 Land Use Bylaw

The County Land Use Bylaw (LUB) 2021-13 provides specific land use regulations for developments within the County. Zoning in the ASP area is (A) Agricultural District. Rezoning to (IC) Industrial/Commercial District is envisioned for subdivision and development of the ASP area.



3.0 Site Context

3.1 Legal Description and Ownership

The Plan area is owned by 544526 Alberta Ltd. and contains approximately 59.3ha (146.5ac) and is legally described as the SE ¼ Sec. 3-58-11 W4M (Appendix B Certificate of Title).

The Certificate of Title (number 932 364 813) contained the following two registered instruments, which were considered with the Concept Plan:

- 1) A Utility Right of Way (UROW), registration number 5154VE dated 03/12/1974 in the name of ICG Utilities (Plains Western Ltd.) for a pipeline to provide natural gas services. The UROW will be maintained on the Plan area with future subdivisions.
- 2) A Utility Right of Way (UROW), registration number 752 092 943 dated 25/07/1975 in the name of Canadian Natural Resources Limited for a pipeline to ship natural gas. The UROW will be maintained on the Plan area with future subdivisions.

3.2 Existing Conditions and Land Use

A Wetland Assessment and Impact Report (WAIR), prepared by Urban Systems Ltd. identified three wetlands within the ASP area. These include:

- Two temporary graminoid marshes ("TG1" in the west area of the ASP and "TG2" in the northeast adjacent to Highway 29), totalling 0.24ha
- A seasonal graminoid marsh ("SG1" in the east-central area of the ASP adjacent to Highway 29), totalling 0.35ha

Additional wetlands in proximity to the ASP area include:

- Two ephemeral wetlands ("E1" in the Highway 652 right-of-way southeast of the ASP and "E2" west of the ASP area), totalling 0.06ha
- A semi-permanent graminoid marsh ("SPG1" immediately southwest of the ASP area), occupying 2.18ha
- A temporary graminoid marsh ("TG3" west of the ASP area), totalling 0.09ha

Wetlands TG1, TG2, SG1 and E1 have an ABWRET class "D" score and are proposed to be removed with development of the ASP area, with compensation provided in accordance with the provisions of the Alberta Wetland Policy (noting compensation is not required for removal of ephemeral wetlands).

SPG1 (also ABWRET class "D") is anticipated to be retained on the landscape. Stormwater management for the ASP area has been proposed to provide this wetland with water to support its retention in the developed context.

E2 and TG3 are not anticipated to be impacted with development of the ASP area.

At the time of writing, the ASP area contained croplands and did not contain any structures. The ASP area excludes the existing parcel for the St. Brides Trading Post, subdivided from the northeast corner of the ¼ Section. See Figure 3 – Existing Site Features.

The lands surrounding the Plan area are undeveloped croplands, with an existing residence located immediately northeast of the ASP area across Highway 29. Neither the ASP area nor the adjacent parcels are within an Area Structure Plan (ASP).

3.3 Historical Uses of the Site

An Historical Resources Overview was completed by Western Heritage and Historical Resource Act approval was granted on January 31, 2022 (Appendix A Historical Resources Act Approval).

If development proponents and/or their agents become aware of historic resources during the course of development activities, they are required, under Section 31 of the Historical Resources Act, to report these discoveries to the Heritage Division of Alberta Culture and Status of Women.

If previously unrecorded historic resources are discovered, proponents may be ordered to undertake further salvage, preservative or protective measures or take any other actions that the Minister of Alberta Culture considers necessary.

Legend

- Plan Boundary
- Wetland
- ▨ Contour (5m Interval)
- ▨ Resource Pipeline R/W
- Low Pressure Gas Pipeline
- ▲ High Point
- ▼ Low Point

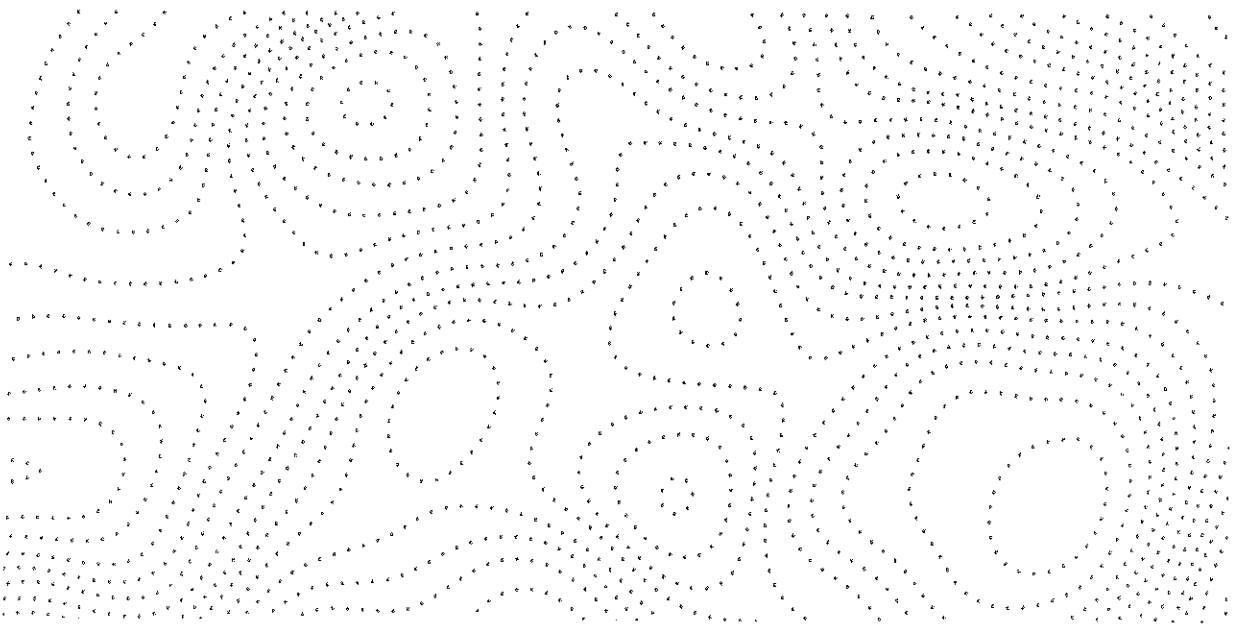
∞Futures

Figure 3: Existing Site Features

Onicikiskwapowin Crossing
Area Structure Plan



Source: Urban Systems Ltd.



4.0 Physical Site Features

4.1 Topography

The Plan area can be described as flat fields, sloping approximately 10m from the higher elevations (above 645m) in the northwest to the lower elevations (below 635m) in the southeast, as illustrated in Figure 3: Existing Site Features. The ASP area has not been stripped or pre-graded.

4.2 Hydrology and Geotechnical

A Geotechnical Investigation was undertaken within the ASP area by Hoggan Engineering & Testing (1980) Ltd. in July 2022. This investigation determined that topsoil covered most of the site ranging in depth from 50mm to 100mm. Native clay and glacial clay till soils, interbedded with layers of sand, underlaid the topsoil found across the ASP area.

Water tables were low to moderate across the Plan area, with recommendations for fill and the dispersion of drainage provided in the report.

4.3 Vegetation, Soils, and Wetlands

The ASP area is in the Boreal Forest Natural Region and the Dry Mixedwood Subregion of the province. Native vegetation consists of aspen forests with an understory of shrubby species such as rose, beaked hazelnut, and low-bush cranberry. The majority of the ASP area has been historically cultivated and presents very little natural vegetation outside of the wetland areas described herein. The windrow along the north edge of the Project Site is vegetated with natural poplar/trembling aspen communities, while the west edge is vegetated with a mixed community of willows and

aspen. The remainder of the perimeter is vegetated with a typical smooth brome/bluegrass community.

A review of the Alberta Soil Information Viewer indicates the ASP area is predominately Eluviated Black Chernozem on medium textured till or on medium textured sediments deposited by wind and water (Appendix C Geotechnical Investigation).

Wetland boundaries and classifications were based on a combination of historical photographs, historical precipitation data, and field verification of current site conditions including changes in vegetation communities, topography, and/or hydric soil indicators as outlined in the Directive. A Wetland Assessment Impact Report (WAIR) was prepared by Urban Systems in October 2022, which identified the wetlands illustrated on ASP Figure 3: Existing Site Features (Appendix D Biophysical Site Assessment).

The Alberta Conservation Information Management System search didn't result in any sensitive element occurrences of rare or listed species. The Fish and Wildlife Information Management System results indicated three species historically recorded within 3 km of the ASP area: Canadian toad, common yellowthroat, and short-eared owl.

Three "D" value wetlands will be compensated for under the monetary in lieu replacement pathway through the 2013 Alberta Wetland Policy. The ASP area falls within RWVAU #17 (replacement rate \$18,600/ha), with a total compensation value of \$11,522.70 (including GST) for all wetlands proposed to be removed. Compensation is not required for removal of ephemeral wetlands.

4.4 Existing Transportation and Utility Considerations

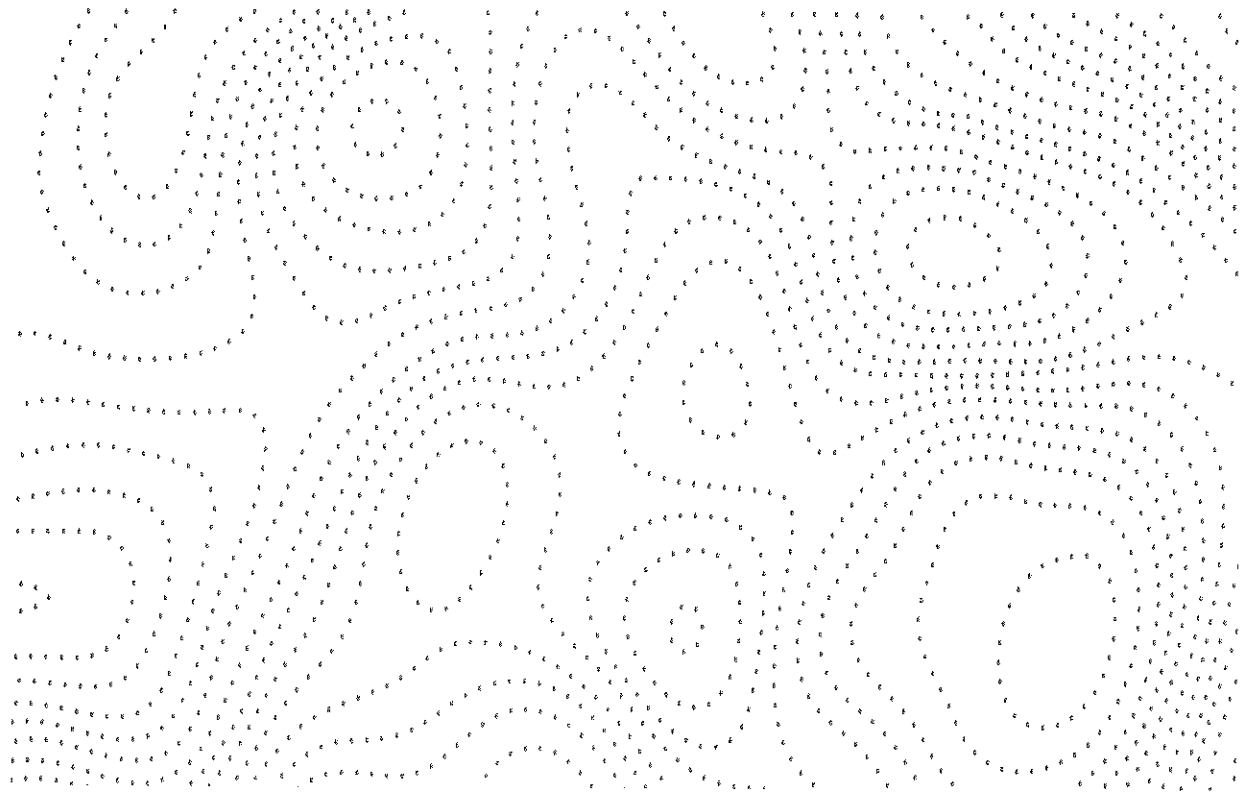
Highway 652 forms the southern boundary of the ASP area. It's classified as a Level 3, paved, two-lane, undivided, provincial highway with a posted speed limit of 100 km/hr adjacent to the ASP area. This highway connects the ASP area to Saddle Lake and the settlement of Hamlin, further west.

Forming the east ASP boundary, Highway 29 is an undivided, two-lane, paved road with a posted speed limit of 100 km/hr. Immediately north of the ASP area, an undeveloped service road right-of-way has been provided fronting the St. Brides Trading Post property. Highway 29 connects the ASP area to the Town of St. Paul, Fort Saskatchewan, Edmonton, Two Hills, and other nearby settlements including Foisy, Lafond, Ashmont, and Spedden.

No existing water, sanitary, or stormwater management infrastructure currently extends to the ASP area. Low pressure gas lines are present transecting the subject lands immediately north of the ASP area.

4.5 Existing Oil and Gas Infrastructure

A high pressure natural gas pipeline traverses the ASP area diagonally central north boundary to central east boundary. Permanent structures (buildings and/or storage) will not be permitted within this pipeline right-of-way. No active or abandoned resource wells have been identified within the ASP area.



5.0 Development Concept

The development concept for the ASP area envisions a mixture of industrial and commercial development which balances market responsiveness through flexible zoning, efficiency in the provision of services and infrastructure, and low-impact development to minimize negative environmental impacts with development.

Located within 20km of Town of St. Paul and 10km of Saddle Lake, and along the route between St. Paul and Edmonton, development will take advantage of the access and exposure the site affords. Development in the ASP area will leverage its strategic location at the intersection of Highways 29 and 652 to:

- expand the commercial opportunities for Saddle Lake Cree Nation
- increase tax revenue and create economic opportunities in the county
- provide additional experiences and services to the travelling public

Development in the ASP area is envisioned to be in accordance with the Industrial/Commercial (IC) District of the County's Land Use Bylaw.

5.1 Design and Development

Development of the ASP area will be guided by Figure 4: Development Concept and will implement the following principles:

Development and Site Design (to be confirmed at the time of subdivision and/or Development Permit issuance)

- 5.1.1 Retain existing natural features and work with the existing topography, to the extent feasible while meeting the County's grading and drainage standards, in the provision of stormwater management
- 5.1.2 Create an efficient roadway network to accommodate traffic, provide safe access and egress to Highway 652, and facilitate emergency response
- 5.1.3 Where feasible, orient buildings close to the internal ASP area roadways or to the adjacent Highways to support attractive frontages while promoting exposure
- 5.1.4 Screen and/or orient loading, storage, and waste collection for concealment from internal ASP area roadways or to the adjacent Highways
- 5.1.5 Exterior lighting to promote visibility, safety and attractive development within the ASP Area should also minimize energy consumption and light pollution
- 5.1.6 Native, low maintenance, drought tolerant landscaping species should be prioritized for landscaped areas within development sites, public road rights-of-way, and stormwater management facilities

Building Design

- 5.1.7 Building frontage visible from internal ASP area roadways or the adjacent Highways should incorporate attractive design elements and quality materials of varied types and colours
- 5.1.8 Mechanical systems for buildings should be located and/or screened to minimize their visibility from internal ASP area roadways or to the adjacent Highways, as well as to mitigate any nuisance (e.g. noise) to adjacent properties
- 5.1.9 Where feasible, a combination of rooftop solar and/or roofing materials with higher reflectivity and/or green roofing will be encouraged to minimize environmental impacts (e.g. produce renewable energy, reduce urban heat island effect, reduce energy consumption, decrease runoff)
- 5.1.10 Rainwater and/or greywater capture, storage, and reuse systems will be encouraged, where feasible, to minimize environmental impacts (e.g. reduce potable water use for irrigation, decrease runoff, support groundwater recharge)

5.2 Open Spaces

Municipal Reserve (MR) will be provided as Money-in-Place of land to the satisfaction of the County and in accordance with the Municipal Government Act (MGA). Dedication of MR will be assessed and negotiated at the time of subdivision. Each development site should consider appropriate amenity spaces (indoor and/or outdoor) for employees, based on the envisioned site use.

Open space, in the form of Stormwater Management Facilities (SWMFs), dedicated to the County as Public Utility Lots (PULs) may provide amenity opportunities and support attenuation of nuisance impacts associated development in addition to their drainage function. These SWMFs are envisioned north of Highway 652, immediately east of the retained wetland, and adjacent to Highway 29, immediately north of the pipeline right-of-way. Locations, sizes, and configurations of SWMFs will be refined through the subdivision and development process. Dry hydrants will be provided at SWMFs to allow for truck refills to support fire suppression within the ASP area and beyond.

5.3 Development Statistics

The following table outlines the anticipated land use statistics for the Plan area.

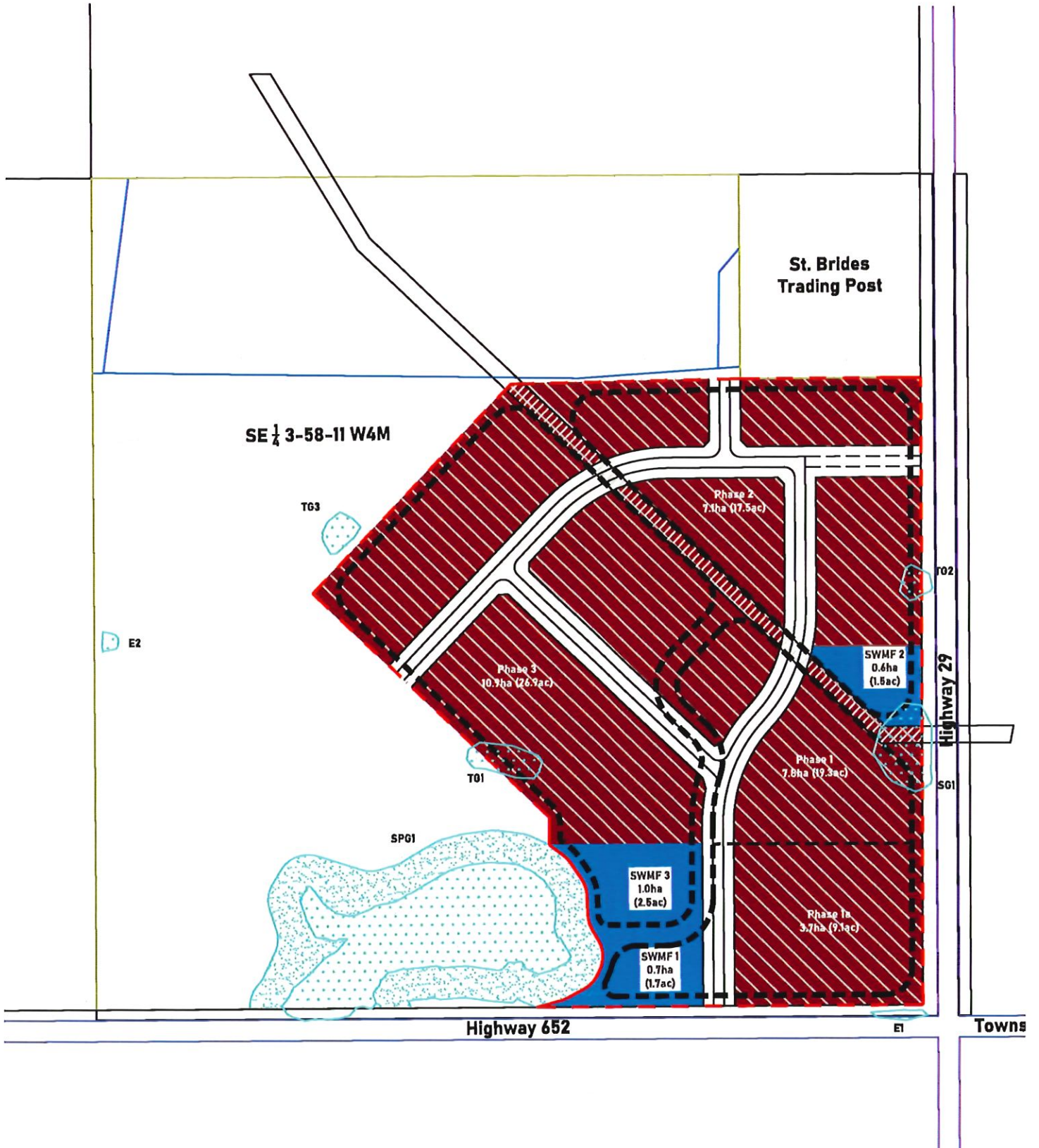
TABLE 1: LAND USE STATISTICS

LAND USE STATISTICS	AREA (HA)	% OF GA	% OF GDA
GROSS AREA (GA)	25.8	100	
NON-DEVELOPABLE AREA	0.0	0	
GROSS DEVELOPABLE AREA (GDA)	25.8	100	
Municipal Reserve (MR)	0.0	0.00	0.00
Local Roadways	4.3	16.7	16.7
Public Utility Lot (PUL)	2.3	8.9	8.9
Commercial / Light Industrial	19.2	74.4	74.4

Legend

- Plan Boundary
- ▨ Commercial | Light Industrial
- ▨ Stormwater Management Facility (SWMF)
- ▨ Phase Boundary
- - Sub-Phase Boundary
- ▨ Wetland
- Access Road
- - Emergency Access
- ▨ High Pressure Gas Pipeline Right-of-Way
- Low Pressure Gas Pipeline

Figure 4: Development Concept Onickiskwapowin Crossing Area Structure Plan





6.0 Transportation

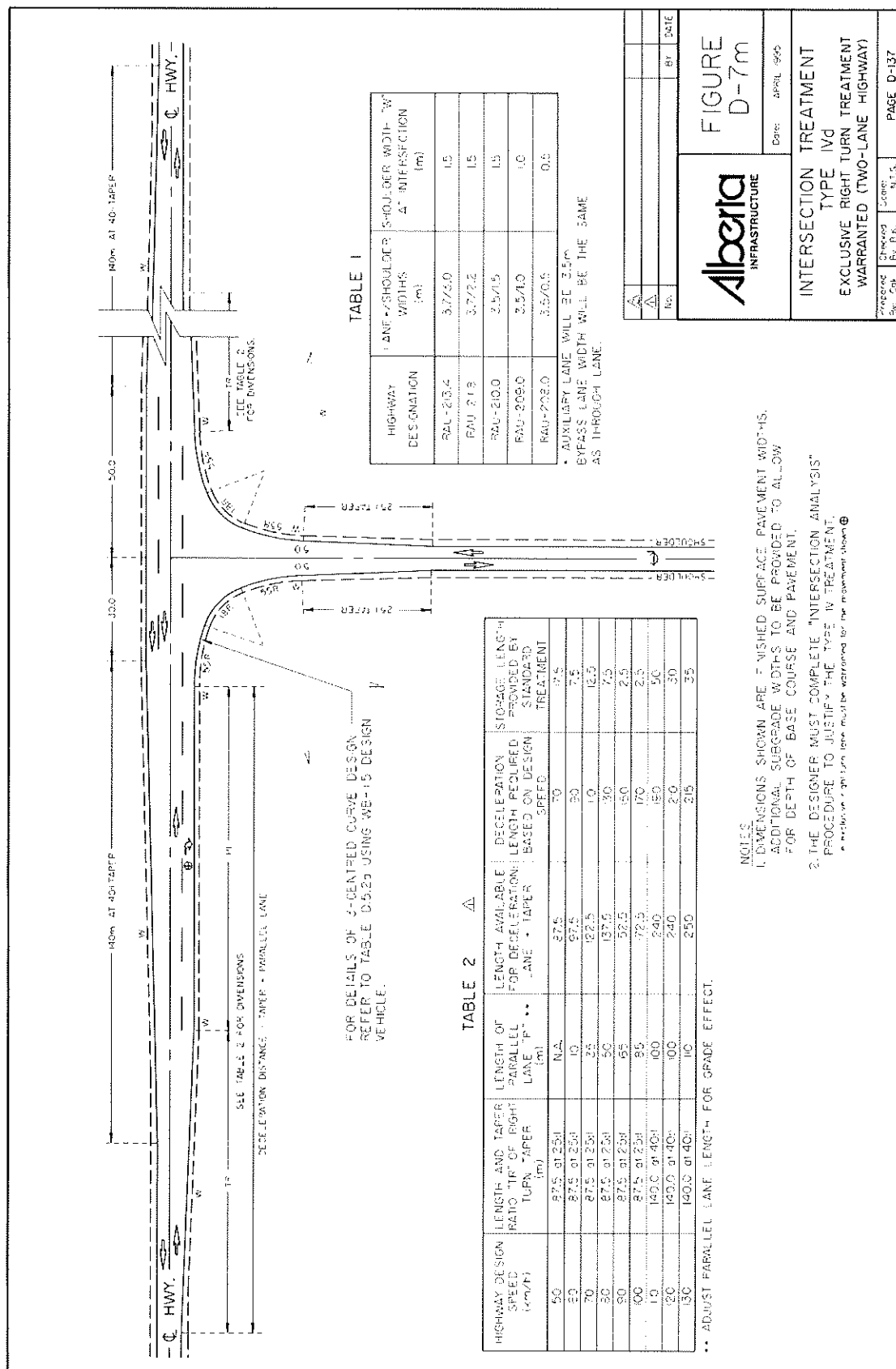
A Traffic Impact Assessment Study Report was prepared by Urban Systems Ltd. in September 2022 based on the proposed development plan for the ASP area (Appendix E Transportation Impact Assessment). The analysis was completed in accordance with Alberta Transportation requirements for obtaining a Roadside Development Permit for Phase 1 and provides a long-term overview of potential improvements to accommodate potential development in the ASP area.

Analysis was completed based on growth over various “horizons”, see Figure 4, including 2023 (opening day), 2043 (Phase 2 build-out), and 2053 (Phase 3 + 4 build-out). Three intersections were assessed: the ASP area access on Highway 652; the Highway 29 / 652 intersection; and the Highway 29 / 36 intersection. As the timing and land use is only known for Phase 1, future land use for Phases 2 – 4 was assumed to be a mix of commercial and light industrial. An additional TIA will be required prior to the subdivision and development of futures phases (Phases 2-4).

Improvements recommended to support Phase 1 development include a Type IVd intersection and westbound turn lane at the Highway 652 site access as well as delineation lighting at the Highway 29 / 652 intersection (see Figure 5). Alberta Transportation will be circulated on the subdivision application for Phase 1 development, to review and approve detailed designs for these improvements.

The proposed roadway system for the ASP area is illustrated in Figure 4: Development Concept. Internal roadways will be developed as paved, Class 2, roads in accordance with the County's General Municipal Servicing Standards.

FIGURE 55: INTERSECTION TREATMENT TYPE IVD





7.0 Servicing Scenario

This ASP is supported by an engineering servicing review completed by Urban Systems Ltd. Servicing strategies presented in this ASP are conceptual, with the final design of the servicing, including details regarding connection points, to be confirmed at time of subdivision approval (Appendix F Servicing Report).

7.1 Potable Water Supply

The proposed development will be supplied with water wells on a site-by-site basis. The County may require a groundwater assessment be conducted at the subdivision stage to confirm water quantity and quality. Should groundwater prove to be insufficient or unsuitable to support the proposed development, water cisterns can be utilized, on a site-by-site basis.

7.2 Wastewater Management

Septic mounds and fields are to provide sanitary disposal on a site-by-site basis. The County may require a geotechnical investigation at the development stage for each private lot to confirm percolation rates, groundwater levels, hydraulic conductivity, and the general adequacy of soils.

Should mounds and fields prove unsuitable for individual lots, septic holding tanks would be a suitable alternative.

7.3 Stormwater Management

The stormwater management approach for the proposed development consists of two stormwater management facilities (SWMFs). Figure 4: Development Concept illustrates the locations and configurations of proposed SWMFs. Stormwater will be collected and conveyed to the proposed SWMFs via ditches in roadsides.

It's anticipated that the east SWMF would discharge to the Highway 29 ditch at controlled pre-development rates (Alberta Transportation approval required).

Discharge for the south SWMF is to the retained wetland at controlled pre-development rates. This will help sustain the wetland in the development context, with approval from Alberta Environment based on a wetland assessment to be completed at the subdivision and development stage. Should discharge to the wetland prove not to be accepted, discharge can be directed to the Highway 652 ditch.

The County may require a Stormwater Management Plan at the subdivision and development stage, to confirm catchment boundaries, pond sizes, and discharge locations.

Acknowledging fire flows cannot be provided through the provision of private wells / cisterns, dry hydrants are proposed at the SWMFs to allow for the refill of trucks for firefighting purposes (in combination with on-site measures to minimize and slow the spread of any fire).

7.4 Shallow Utilities

Shallow utility services including electrical power, natural gas, telephone, cable, and internet services will be provided by local utility companies. An ATCO Electric 3-phase distribution line exists on the east side of Highway 29. Two AltaGas / Apex low-pressure gas lines traverse the subject lands immediately north of the ASP area. Copper and fibre TELUS infrastructure is located at the intersection of Highways 29 and 652. It is assumed that each lot will be serviced by power, natural gas, telephone, cable, and internet.



8.0 Phasing and Implementation

It is anticipated the ASP area will be developed in stages, from southeast to north providing a logical extension of infrastructure.

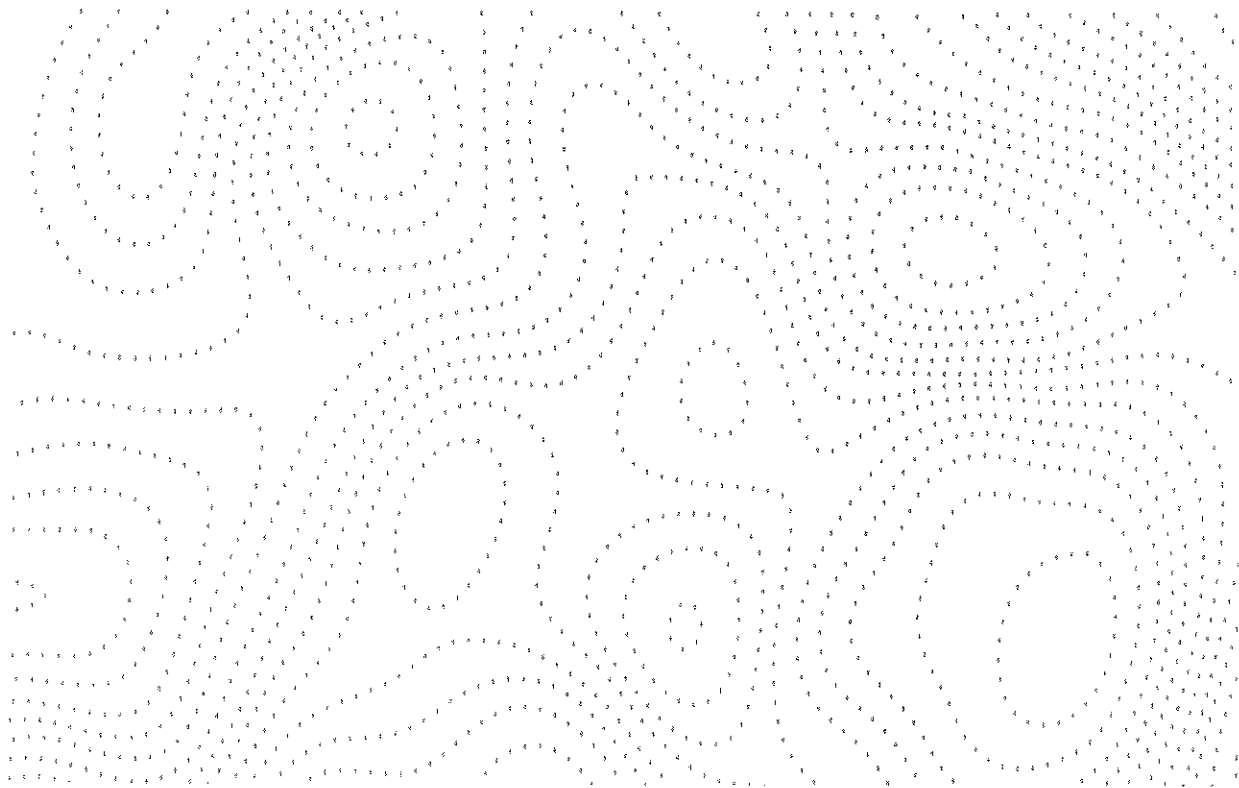
Phase 1 is anticipated to consist of a gas bar and a small, convenience-oriented, grocery store in Phase "1a" (see Figure 4). Should demand at the time of initial development warrant it, additional highway-oriented commercial development may be realized, as represented by the expanded Phase "1" area. Opportunity to attract a wider target market through cultural attractions and/or eco-tourism options may be explored in an expanded Phase 1 (these uses may be pursued in subsequent stages as well).

While the longer term uses for subsequent phases of development are currently unknown, some potential uses SLCN may have interest in developing include:

- Truck stop
- Hotels
- Building supplies centre
- Self-storage

Zoning and subdivision applications will be submitted for approval on a phase basis, responding to market demand and identifying uses for future Phases of development.

Apart from access improvements, there are no off-site costs associated with development.



Appendices