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1.0 DESCRIPTION OF PROPOSAL

1.1 Introduction

ParioPlan Inc. was retained by Qualico Communities to prepare an Agricultural Impact Assessment (AIA) to support the proposed Tussic Area Structure Plan (Tussic ASP) that was submitted to the Town of Stony Plain in August 2018. The Tussic ASP encompasses 129.5 hectares (320.0 acres) of land located at S ½ Section 30-52-27 W4M within the southeast part of the Town of Stony Plain, as shown in Figure 1.0. The Tussic ASP area consists of two quarter sections, bounded by Golf Course Road on the west, Veterans Boulevard on the east, and 79 Avenue (Highway 628) on the south.

This Agricultural Impact Assessment is only for the eastern quarter section of the Tussic ASP area, which is legally described as SE 30-52-27-W4M. The western portion of the Tussic ASP area (SW 30-52-27-W4M) is still within the Southeast ASP area. An amendment to the Southeast ASP is required to remove the western portion of land from the Southeast ASP area and consolidate that portion with the proposed Tussic ASP. This amendment has been submitted concurrent with the Tussic ASP. The Town of Stony Plain will prepare a bylaw to repeal this portion of the Southeast ASP, legally described as SW 30-52-27-W4M.

1.2 Purpose

In accordance with Policy 6.2.5 of the Edmonton Metropolitan Region Growth Plan (EMRGp), this AIA has been prepared because the new Tussic ASP is proposed within a metropolitan area that contains prime agricultural land as identified in Schedule 11 of the EMRGp. The purpose of this Assessment is to:

- Describe the proposed development and surrounding land use context;
- Identify active agricultural lands within and surrounding the study area, and identify the potential adverse impacts on these agricultural lands; and
- Recommend measures to mitigate potential land use conflicts.
1.3 Tussic Area Structure Plan (S ½ Section 30-52-27 W4M)

The Tussic Area Structure Plan was created in accordance with Section 633 of the Municipal Government Act for the purpose of providing a planning framework for the orderly and efficient development of the Tussic neighbourhood. The Tussic ASP in part replaces a portion of the Southeast ASP, which was adopted by the Town of Stony Plain in 1983. The Southeast ASP was outdated and did not reflect best planning practices in terms of complete community design and sustainability. The Tussic neighbourhood design builds upon the foundations and policy directions found in the Edmonton Metropolitan Regional Growth Plan (EMRGP) and Uniquely Stony Plain Municipal Development Plan. These policy directions have been summarized and applied to the Tussic ASP.

The Tussic neighbourhood has been designed to provide a range of housing choices, along with local convenience commercial services and other amenities that meet the day-to-day needs of residents and provide the opportunity to age in place. Transportation infrastructure is designed not only to accommodate the private automobile, but also public transit, pedestrians and cyclists. Walkability is a key component of the ASP with interconnected parks, open spaces, and trails identified to allow people to move within the Tussic neighbourhood, as well as to provide connectivity to adjacent neighbourhoods safely and comfortably year-round.

The Development Concept for the Tussic ASP also preserves and integrates the natural features of the site, as shown in Figure 2. The proposed realignment and enhancement of the natural areas associated with Atim Creek will provide recreational opportunities and a natural amenity for residents while restoring the watercourse and riparian area to a more natural state.

1.4 Study Area (SE ¼ 30-52-27-W4M)

The study area is located within the Central Parkland Natural Subregion, which is approximately 50,000 km² in size and the most densely populated Subregion in Alberta (Alberta Parks, 2014). This Subregion is also the most productive agricultural region in the Province with approximately 80% of the plains and 65% of the hummocky uplands covered by crops (Alberta Parks, 2014).
The soil within the study area consists mostly of silty loam, silty clay loam, and organic matter (AGRASID). The study area consists of gently rolling terrain that generally slopes toward Atim Creek, which runs north to south along the west portion of the study area, exiting the study area approximately halfway along the northern boundary. Atim Creek is the dominant water feature within the study area. It is assumed that the localized groundwater beneath the study area also flows north towards Atim Creek (Associated Engineering, 2015).

The climate of the area is characterized as having long, cold winters and short, mild summers. Monthly annual temperatures range from -14.3 degrees Celsius in January to 22.4 degrees Celsius in July. Recorded annual precipitation is 487.8 mm, with 371.2 mm falling as rain and 132 mm falling as snow (Environment Canada, 2018).

Within the study area, approximately 16.0 ha. (39.5 ac.) is currently cultivated. Boundary RV and Auto Storage Ltd. occupies approximately 8.0 ha. (19.8 ac.) of land in the southeast corner of the quarter section. A portion of the topsoil has been stripped from the remaining 32.0 ha. (79.1 ac.) within the study area; however, enough topsoil has been left on site so that the tenant farmer can continue to cultivate until the land until urban development occurs. The study area has been subdivided into three parcels of land – two parcels are owned by Stony Plain Developments Ltd. and the parcel on which the Boundary RV & Auto Storage business is located is owned by Allan and Elaine Unterschultz (Refer to Figure 3: Study Area).
2.0 PLANNING AND CONTEXTUAL FACTORS

2.1 Applicable Planning Policies and Regulations

The Tussic ASP, which includes the study area, has been prepared within the context of existing statutory plans and other relevant policy documents. The following is a summary of the relevant planning documents that have been reviewed and referenced in the preparation of the Tussic ASP:

2.1.1 Municipal Government Act

The requirements of the Municipal Government Act (MGA) (R.S.A 2000, c. M-26) have been adhered to in the preparation of the Tussic ASP. The MGA allows municipalities to adopt ASPs to provide a framework for the future subdivision and development of land. Section 633, 636, 638 and 692 of the MGA relate specifically to ASPs, stipulating that an ASP must describe the sequence of development, land uses, population densities, and location of transportation routes and utilities proposed to service the ASP area.

The MGA also provides interested members of the public and school boards an opportunity to participate in the planning process through the stipulation that an ASP must be adopted by Bylaw and a public hearing must be held. Moreover, the MGA requires the ASP to conform to the Town of Stony Plain Municipal Development Plan (MDP) and other approved statutory plans.
2.1.2 Alberta’s Land Framework / Land Use Policies

Alberta’s Land Use Policies were established in 1996 pursuant to section 622 of the Municipal Government Act. All municipalities are expected to implement these policies in the course of carrying out their planning responsibilities. Since the adoption of the Land Use Policies, the Province has experienced rapid growth in population and economic activity.

Alberta’s Land Use Framework (LUF) is a new approach to managing the Province’s land and natural resources. The purpose of the LUF is to manage growth and sustain Alberta’s growing economy, while balancing this with the Province’s social and environmental goals. The LUF was published in December 2008, and consists of seven (7) basic strategies for improving the decision making for land-use and development:

**Strategy 1:** Develop seven regional land-use plans based on seven new land-use regions.

**Strategy 2:** Create a Land-use Secretariat and establish a Regional Advisory Council for each region.

**Strategy 3:** Use cumulative effects management at the regional level to manage the impacts of development on land, water and air.

**Strategy 4:** Develop a strategy for conservation and stewardship on private and public lands.

**Strategy 5:** Promote efficient use of land to reduce the footprint of human activities on Alberta’s landscape.

**Strategy 6:** Establish an information, monitoring and knowledge system to contribute to continuous improvement of land-use planning and decision making.

**Strategy 7:** Include Indigenous peoples in land-use planning.

To date, two of the seven regional plans have been approved. The Tussic ASP falls within the North Saskatchewan Regional Plan, which is being prepared. The Land Use Framework’s regional plans will be replacing the Land Use Policies as the plans are adopted.
2.1.3 Edmonton Metropolitan Region Growth Plan

The *Edmonton Metropolitan Region Growth Plan (EMRGP) - Re-Imagine. Plan. Build.* establishes a 50 Year Vision for the region. This Growth Plan establishes a path for Stony Plain, to “grow in a responsible manner through compact and contiguous development.”

The *Edmonton Metropolitan Region Growth Plan (EMRGP)* states that:

*Compact and contiguous development means planning for and developing lands in an adjacent, logical manner that minimizes the expansion of the Region’s development footprint. This type of development will help support viable multi-modal transportation options, facilitate a mode shift away from the private automobile, and also foster the creation of complete communities* (EMRGP Executive Summary, Page x).

The *Tussic ASP* supports responsible growth as described by the EMRGP by promoting the use of land and resources efficiently for the benefit of current and future generations; ensuring that growth is financially sustainable; optimizing public investment; maximizing the use of existing and planned infrastructure and services over the long-term; conserving the region’s agricultural land base for farmland to ensure long-term viability and regional food security; and conserving the region’s natural assets for future generations.

To achieve responsible growth, the EMRGP includes six closely interrelated policy areas - Economic Competitiveness and Employment; Natural Living Systems; Communities and Housing; Integration of Land Use and Infrastructure; Transportation Systems; and Agriculture. The applicable policies of the EMRGP, and a description of the ways in which this ASP supports these policies, is summarized in Table 1, below.
### Table 1: Edmonton Metropolitan Region Growth Plan Policy Review

<table>
<thead>
<tr>
<th>Edmonton Metropolitan Regional Growth Plan</th>
<th>The Tussic ASP</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1: Identify and conserve an adequate supply of prime agricultural lands to provide a secure local source of food security for future generations</td>
<td>By proposing to develop the area of this ASP at higher densities than other existing areas of Stony Plain, the amount of land required to house and service a certain growth population will be reduced, thereby conserving surrounding agricultural lands that would otherwise be consumed by development.</td>
</tr>
<tr>
<td>6.2: Minimize the fragmentation and conversion of prime agricultural lands to non-agricultural uses</td>
<td>Locating growth for the Town of Stony Plain in the ASP area aims to logically and efficiently extend growth in a contiguous manner that does not further fragment agricultural lands surrounding the Town. The ASP is contiguous to the residential development to the west and north and will provide links between these areas.</td>
</tr>
<tr>
<td>6.3: Promote diversification and value-added agriculture production and plan infrastructure to support the agricultural sector and regional food system</td>
<td>The Tussic ASP maintains and improves transportation infrastructure that supports access to agricultural lands and markets for goods through the addition of the arterial road along the north boundary.</td>
</tr>
</tbody>
</table>
2.1.4 Town of Stony Plain Municipal Development Plan (Bylaw 2489/D&P/13)

The *Uniquely Stony Plain: Municipal Development Plan* (MDP) was adopted to reflect the policies and objectives contained in the LUF and EMRGP. The MDP provides a framework to support a complete, sustainable community and includes policies to guide development in support of this objective.

In the MDP, the western quarter section of the ASP area is identified as an Area of New Residential Development and the eastern quarter section is identified as an Area for Future Urban Development. According to the policies of the MDP, the Area for Future Urban Development is to be protected for future development with no major buildings or services permitted. Concurrent with this ASP, an application to amend the MDP was submitted to designate the eastern quarter section as an Area of New Residential Development.

The applicable policies of the MDP, and a description of the ways in which this ASP supports these policies, is summarized in Table 2, below:

### Table 2: Town of Stony Plain Municipal Development Plan Policy Review

<table>
<thead>
<tr>
<th>Town of Stony Plain MDP 2013</th>
<th>The Tussic ASP</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Growth Management and Land Use Plan</em></td>
<td>The Tussic neighbourhood is envisioned to be developed as a complete community providing a wide range of housing choices along with shopping and other amenities and services.</td>
</tr>
<tr>
<td><em>Growth should occur in a more urban pattern, reducing intrusion into the region’s agricultural lands. This requires redevelopment and new contiguous development at targeted densities.</em></td>
<td>The study area is currently identified as <em>Future Urban Development Areas</em> in the <em>Figure 1: Urban Growth Pattern of the Town of Stony Plain MDP 2013</em>. The proposed density of the Tussic ASP is 35 du/ha, complying with the policy of 35 du/ha identified in the <em>Edmonton Metropolitan Region Growth Plan</em> (EMRGP).</td>
</tr>
</tbody>
</table>


2.1.5 Adjacent Planning Areas

Development in the adjacent areas is guided by previously approved ASPs. As shown in Figure 4.0 Surrounding Plan Areas, these ASP areas include the Southeast ASP (Bylaw 2519), South Creek ASP (Bylaw 2275) and Country Plains Estates ASP (Bylaw 2034), located to the west, north, and southwest of the study area, respectively. In addition, two other ASPs, the Edgeland ASP (Bylaw 2540) and Lake Westerra Estates ASP (Bylaw 2290), are located to the northeast and southwest of the ASP area (Figure 4: Surrounding Plan Areas). All the approved ASPs provide guidance for land uses, including vehicular and pedestrian linkages to developments in the adjacent planning areas.

Southeast ASP (Bylaw 2519)

The lands legally described as SW ¼ Sec. 30-52-27 W4M, SE ¼ Sec. 25-52-28-W4M, and NW ¼ Sec. 30-52-27-W4M fall within the boundaries of the Southeast ASP area. This ASP was adopted by the Town of Stony Plain in 1983. Since the approval of Southeast ASP, high level policies such as the Stony Plain Municipal Development Plan and the Edmonton Metropolitan Region Growth Plan have been amended. Given this condition, the Southeast ASP is out of date and does not reflect current policies. To bring the Plan up to date and to align it with the current policies, the Town of Stony Plain will prepare a bylaw to repeal a portion of the Southeast ASP. An amendment to remove SW ¼ Sec. 30-52-27 W4M from the Southeast ASP was submitted concurrent with the Tussic ASP.

The Southeast ASP identified the area to the north and west of the Tussic ASP area as primarily residential. As shown in Figure 2.0, two collector roadway linkages are proposed in the ASP area to connect with Highridge Way to the west of the ASP area and Harvest Drive to the north of the ASP area. These potential linkages are integrated into the Tussic ASP’s roadway network and development concept. In addition, a multi-use trail runs north along the west boundary of the ASP area. A pedestrian crossing on Golf Course Road connects the existing multi-use trail with Highridge Way.

A collector roadway linkage located at the north of the existing Boundary RV and Auto Storage business is proposed to connect to Veterans Boulevard. The land to the east and southeast of the ASP area is currently used for agriculture and there is a farmstead located near the ASP area. At the time of preparation of the Tussic ASP, no area structure plan for the east of the ASP area had been approved.
South Creek ASP (Bylaw 2275)

The lands legally described as NE ¼ Sec. 30-52-27 W4M are located within the South Creek ASP, adopted by the Town of Stony Plain in 2006. This ASP proposes a logical extension of the primarily residential land uses and servicing from the South Creek area to the north.

The South Creek ASP anticipates South Creek Drive, a collector roadway, to intersect the new arterial roadway along the north boundary of the ASP area. This potential linkage is integrated into the Tussic ASP’s collector roadway network and development concept, as shown in Figure 2.0.

Country Plains Estates ASP (Bylaw 2034)

The lands legally described as NW ¼ Sec. 19-52-27-W4M are located in the Country Plains Estates ASP. Adopted by the Town in 1998, this ASP proposes a primarily residential neighbourhood with parks and institutional uses south of Highway 628. A potential collector roadway linkage bisecting the south boundary of the ASP area is proposed to intersect with Highway 628 and align with the east boundary of Country Plains Estates ASP, as shown in Figure 2.0.

Edgeland ASP (Bylaw 2540)

The lands within NW ¼ Sec. 29-52-27 W4M are located to the northeast of the study area, east of the South Creek ASP area and Veterans Boulevard. The Edgeland ASP area is primarily occupied by low density residential uses. A portion of the lands facing onto Veterans Boulevard are designated to accommodate commercial uses and medium to higher density residential development. Development within the Edgeland ASP area has not begun.

Lake Westerra Estates ASP (Bylaw 2290)

The lands legally described as NE 13-52-28-W4M are located in the Lake Westerra Estates ASP area, west of the Country Plains ASP area and Golf Course Road. The Lake Westerra Estates ASP area is primarily occupied by low to medium density residential uses. The majority of the park and natural areas are located on the north and east portion of the ASP area, facing onto Golf Course Road and Highway 628. The area has not reached full build-out.
2.1.6 Parks and Open Space Master Plan

The purpose of the Parks and Open Space Master Plan is to guide acquisition, development and management of parks, open spaces and outdoor recreation amenities to meet the needs of residents in the Town of Stony Plain.

The parks and open spaces planned within the Tussic ASP area support the goals and objectives of the Parks and Open Space Master Plan (which align with the Town’s MDP policy guidance as described above). These objectives are as follows:

- Protect and enhance the quality, integrity and sustainability of the environment.
- Accommodate the outdoor recreation needs of the community as the population expands and evolves.
- Provide a connected and accessible trail system that links parks, recreation/community centres, schools and key destinations.
- Strengthen the involvement and attachment of residents to the community.
- Provide high quality experiences and opportunities to retain existing and attract future residents to the community.
- Provide a diverse range of facilities to meet community needs as efficiently as possible.

2.2 On-site Physical Resource Inventory

2.2.1 Agricultural Capability

According to the Edmonton Metropolitan Region Board Geographic Information Services data, the majority of the soils in Parkland County are Class 2, as shown in Figure 5. Land in this class is considered to be highly productive with slight limitations that may restrict the growth of specified crops or require modified management practices. The agricultural soil resource capability of the study area was analyzed by using the Land Suitability Rating System (LSRS) through the Government of Alberta Soil Information Viewer.
The study area is associated with two soil polygons, as shown in Figure 6. Much of the quarter section has a Land Suitability Rating of 2H(8)-7WV(2) and has a rating of slight limitations to growth, as shown in Table 3, below. The limitation for land rating 2H(8) is caused by inadequate heat units. The limitation of land rating 7WV(2) is under two subclasses, including excess water and a pH value either too high or too low. The other intersecting polygon has a Land Suitability Rating of 2T(10). This limitation is caused by steep slopes that incur a risk of water erosion or limit cultivation. The breakdown of these ratings can be found in Table 3, below.

### Table 3: Summary of Land Suitability Rating System (LSRS) for the Tussic ASP Agricultural Impact Assessment Study Area

<table>
<thead>
<tr>
<th>Polygon ID</th>
<th>Land Suitability Rating</th>
<th>Class</th>
<th>General Restrictions</th>
<th>Subclass</th>
<th>Limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>14325</td>
<td>2H(8)</td>
<td>Class 2 – Slight limitation</td>
<td>Climate</td>
<td>Temperature</td>
<td>Inadequate heat units for the optimal growth</td>
</tr>
<tr>
<td></td>
<td>7WV(2)</td>
<td>Class 2 – Slight limitation</td>
<td>Climate</td>
<td>Drainage</td>
<td>Soils in which excess water (not due to inundation) limits the production. Excess water may result from a high water table or inadequate soil drainage.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Soil reaction</td>
<td>Soils with a pH value either too high or too low for optimum growth</td>
</tr>
<tr>
<td>14330</td>
<td>2T(10)</td>
<td>Class 2 – Slight limitation</td>
<td>Landscape</td>
<td>Slope</td>
<td>Landscapes with slopes steep enough to incur a risk of water erosion or to limit cultivation</td>
</tr>
</tbody>
</table>
Soil conditions for the study area were gathered from the Alberta Soil Information Viewer (AGRASID). The majority of the study area falls within the soil polygon 14325, as shown in Figure 6. This polygon has an undulating landform and is broken into two components - Mid-slope, which makes up 80% of the area and Depression, which makes up the other 20%. The Mid-slope soils consist of two A horizons (18 cm and 43 cm depths) of Silty Loam, two B horizons (61 cm and 109 cm depths) of Silty Clay Loam, a BC horizon (120 cm) of Silty Loam and a C horizon (150 cm depth) of Silty Loam. The Depression soils consist of three O horizons (25 cm, 80 cm and 160 cm depths) of Organic matter.

The southeast corner of the study area overlays the 14330 soil polygon. This polygon has hummocky landforms and consists of two components (Upper-slope 50% and Mid-slope 50%). The first Upper-slope soils consist of an A horizon (15 cm depth) of Clay and a C horizon (100 cm depth) of Clay Loam. The second Mid-slope soils consist of two A horizons (18 cm and 43 cm depths) of Silty Loam, two B horizons (61 cm and 109 cm depths) of Silty Clay Loam and Silty Loam, a BC horizon (120 cm depth) and a C horizon (150 cm depth) of Silty Loam.

A Geotechnical Investigation was completed for the Tussic ASP area in 2016 by J.R. Paine & Associates Ltd. In general, the soil conditions at this site consist of surficial topsoil underlain by silty sand, which is underlain by a lacustrine silty clay material. In all of the test holes, a surficial topsoil was the first soil encountered and typically extended to between approximately 300 mm and 600 mm. Deeper topsoil with thicknesses of up to 1700 mm was noted in test holes associated with local low-lying areas. In areas of deeper organic deposits associated with low-lying areas, the organic materials included peat and marl.

The study area surface soils are a mix of Orthic Dark Grey Chernozems on Loam and Silty Loam (Agrasid, 2015). The local geological formation is the Horseshoe Canyon Formation. This formation is made up of fine to very fine-grained feldspathic sandstone interbedded with siltstone, bentonitic mudstone, carbonaceous mudstone, concretionary sideritic layers, and laterally continuous coal seams (Associated Engineering, 2015). Altered sandstone and mudstone intervals are located near the surface of the bedrock. The formation includes some material of a marine nature, but it is mostly non-marine in nature (Associated Engineering, 2015).
2.2.2 Slope / Topography

The study area consists of gently rolling terrain that generally slopes toward Atim Creek, which flows south to north along the western boundary of the study area. Areas of higher elevation are located within the Boundary RV & Auto Storage Site and to the west within the Tussic ASP area (SW 30-52-27-W4M) near Golf Course Road and Highway 628, as shown in Figure 7. Low, wet areas are scattered throughout the study area and the Tussic ASP area. The lowest point is directly north within the study area where Atim Creek exits the study area, as shown in Figure 7.

2.2.3 Drainage, Flood Control and Irrigation Improvements

According to the Fish and Wildlife Management Information System (FWMIS) Website, Atim Creek is the nearest surface water body and flows north through the west portion of the Study Area (APE 2015a, Google Earth TM 2015). Since the Atim Creek is the dominant water feature within the study area, it is assumed that the localized groundwater flows towards Atim Creek, refer to Figure 8: Groundwater Flow and Water Wells.

Based on the information collected, no agricultural improvements (e.g. irrigation infrastructure and machinery investments) have been installed in the study area. However, historical research identified evidence of human disturbance to the natural state of Atim Creek (Associated Engineering, 2015). In addition, Associated Engineering identified a former wetland that had been converted to a dugout located approximately 300 m east of the Atim Creek during their site inspection for the Phase I ESA (Associated Engineering, 2015).

To service the future development as planned in the Tussic ASP, a series of stormwater management facilities (SWMFs) are proposed. This infrastructure will provide water quality and quantity control before the stormwater is discharged into the existing natural systems. Two stormwater management facilities of 1.8 ha. and 2.6 ha. in size are proposed to be constructed in the north half of the study area and one 3.5 ha stormwater management facility is planned for SW 30-52-27-W4M, which is within the Tussic ASP area, as shown in Figure 9: Conceptual Storm Servicing Plan.

The planned SWMFs and supporting infrastructure will control stormwater runoff and outflow, providing flood control measures to reduce the potential negative impacts on the existing agricultural lands located to the southeast of the study area. In addition, the stormwater management
system has been designed to minimize discharge of nutrients and suspended sediments. The system has been designed to take advantage of the existing site drainage pattern, incorporating the existing natural features and wet areas in the study area.

A realignment and enhancement of the natural areas of Atim Creek is proposed as part of the *Tussic ASP* development. The enhancement of the riparian area around Atim Creek will provide recreational opportunities for future residents while also providing stormwater management functions. The Atim Creek realignment requires supporting technical studies, assessments, and supplementary information that will be reviewed by Alberta Environment and Parks. Communication about the proposed Creek realignment has been initiated with Alberta Environment and Parks.

2.2.4 Groundwater and Irrigation

Within the study area, two water well records for domestic well use were identified through a search of the Government of Alberta Water Well Information Database (Government of Alberta, 2018). Four additional water wells for domestic use were identified within the *Tussic ASP* area (SW 30-52-27-W4M) (*Figure 8: Groundwater Flow and Water Wells*). Within 300m of the *Tussic ASP* area there are an additional six water wells – one industrial well, one stock well, one well for domestic use and stock, two wells for domestic use, and one well for an unknown use (Associated Engineering, 2015 and Government of Alberta, 2018).

A *Phase I Environmental Site Assessment (Phase I ESA)* was completed for the *Tussic ASP* area by Associated Engineering Alberta Ltd. in August 2015. The *Phase I ESA* indicated very low potential of any significant soil, vapour, and/or groundwater contamination related to past or current activities.
2.3 On-Site Features

2.3.1 Past Farming Practices
According to the historical records documented in the Phase I ESA, the study area was cleared for agricultural purposes in 1926 and has been under continuous cultivation since that time. Based on a review of the Land Title Certificates, it has been determined that the parcel was first owned by Charles Schultz in 1926 and was inherited by his son, Jacob Unterschultz, in 1940. Jacob’s son, Richard Unterschultz, inherited the property in 1974. From 1975 to 1978, a small livestock operation existed in the southeast corner of SE 30-52-27-W4M, and included cattle, chickens, and hogs (Associated Engineering, 2015).

2.3.2 Existing Agricultural Production
Since 2000, the land within the study area has been continuously farmed as a grain crop using no-till practices by the Unterschultz family who are the tenant farmers (Associated Engineering, 2015). An interview was planned with the current tenant farmer to confirm the current crops, but we were unable to reach him. Based on observation, wheat was farmed at this location in 2018.

2.3.3 Non-Agricultural Land Use On-Site
Boundary RV & Auto Storage is located on the severed 8.0 ha. (20.0 ac.) of the southeast portion of the property, as shown in Figure 10. This business has been in operation at this location since 2000. Additions were made to the business in 2002, 2005, and 2009 (Associated Engineering, 2015). No utility rights-of-way were noted to cross the study area at the time of the ESA inspection in 2015 (Associated Engineering, 2015).

2.3.4 Parcel Size Configuration and Agricultural Accessibility
The study area is approximately 56.0 ha. (138.4 ac.) in size. Approximately 16.0 ha. (39.5 ac.) is currently cultivated and another 32.0 ha. (79.1 ac.) will continue to be cultivated from 2019 until the land is developed, as shown in Figure 10: Existing On Site Features. The farm field is
accessed on the eastern side of the site via an approach from Veterans Boulevard (Range Road 275), and on the south side via an approach from Highway 628. Atim Creek flows south to north along the western boundary of the study area, exiting the study area in the north.

2.3.5 Existing Farm Management
The approximately 16.0 ha. (39.5 ac.) parcel of land is currently farmed by Allan Unterschultz. Since 2000, Allan Unterschultz has been the tenant farmer farming crops on this site (Phase I ESA – Associated Engineering, 2015). As shown in Figure 10, a portion of the topsoil was stripped from 32.0 ha. (79.1 ac.) of the study area; however, this area will also continue to be cultivated by Allan Unterschultz until the land is developed.

2.3.6 Capital Investment in Agriculture
The capital investment in agriculture on this site has been minimal. The land is currently leased to a tenant farmer who is active in the Stony Plain area. The tenant farmer utilizes his own equipment.

2.3.7 Local and Regional Context
The Town of Stony Plain is located in Parkland County. As of 2011, the total area of farmland in Parkland County was approximately 162,000 ha. (401,800 ac.), which made up 0.76% of the total area of farms in Alberta (Stantec, Toma & Bouma, 2016). Farm types in the County include dairy, cattle, hog, poultry and egg, wheat, other grains, hay, fruit, tree nut, vegetable, and other farm types including equine (Stantec, Toma & Bouma, 2016). Of the crops identified, alfalfa, canola, barley, wheat, and other hay were the predominant crops being farmed in Parkland County in 2011 (Stantec, Toma & Bouma, 2016).

Being located immediately west of Edmonton, Parkland County continues to face development pressure. According to the Town of Stony Plain Municipal Development Plan, the study area is identified as an area for Future Urban Development. These areas are protected for future development potential within the Town’s boundaries. The Town only permits uses that will not adversely impact urban settlement or that will
not be detrimental to future urbanization in these areas. Conflicts between Boundary RV & Auto Storage and the existing agricultural uses or potential on-site crop cultivation uses are not anticipated.

### 2.4 Off-site Features

#### 2.4.1 Surrounding Land Use Types

As shown in Figure 11: Surrounding Land Uses, the study area is surrounded by current existing and proposed developments in all directions except for the agricultural lands to the southeast. However, the land to the southeast is identified as a *Future Urban Development Area* in the MDP. It can be anticipated that these agricultural lands will be phased out over time as new developments are proposed and depending on the market demand for housing.

The properties located south of Highway 628, to the south and southeast, are developed as residential acreages, farmsteads, and agricultural uses (Associated Engineering, 2015). The property to the south (NE 19-52-27 W4M) did not contain any buildings while the property to the southeast (NW 20-53-27 W4M) included a farmstead that was more than 650m from the Study Area (Associated Engineering, 2015).

The lands to the east of the study area (SW 29-53-27 W4M) are currently used for agricultural purposes observed to be for crop production and a farmstead is located on the southwest corner of the property (Associated Engineering, 2015). This site is slightly elevated compared to the Study Area and a windrow of large balsam poplar is present along its western boundary (Associated Engineering, 2015).

The *Edgeland ASP* area is located to the northeast (NW 29-53-27 W4M). At the time of Associated Engineering’s inspection in 2015, this quarter section was observed to be an agricultural field. No structures were noted on this property at the time of the site inspection (Associated Engineering, 2015). To the west of the Edgeland ASP area is the *South Creek ASP* area (NE 30-52-27 W4M). The western half of this ASP area is being developed as a new residential neighbourhood. A farmstead is located within the *South Creek ASP* area and is located approximately 200m north of the study area (Associated Engineering, 2015).
The property to the northwest (NW 30-52-27-W4M) is located in the Southeast ASP area and is currently used for agricultural operations. At the time of Associated Engineering’s inspection in 2015, an old house, a new house, a large barn/shop complex, seven grain bins, and two grain silos were observed on site (Associated Engineering, 2015).

The land to the west (SW 30-52-27 W4M) is the western half of the Tussic ASP plan area. This land has been dedicated for residential development in the Town of Stony Plain’s Municipal Development Plan. Currently, a residential acreage consisting of a bungalow and an apartment building, Cedar Brae Court Condominiums, are located in this quarter section. Access to the Cedar Brae condo building is from a paved road off of Golf Course Road and at the time of AE’s inspection, the parking area was a gravel lot (Associated Engineering, 2015). The building is serviced with natural gas, power, water, and sewer (Associated Engineering, 2015).

The property to the southwest of the study area (NW 19-52-27 W4M) is within the Country Plains ASP. At the time of inspection in 2015, a farmstead and agricultural field were located along the north boundary and a residential acreage was located 300m east of the farmstead (Associated Engineering, 2015). Another residential acreage development was located in the southwest corner of the property (Associated Engineering, 2015).

2.4.2 Existing and Potential Constraints to On-Site Agriculture

Atim Creek, which flows north through the west portion of the study area, is the dominant water feature throughout the site. The flood plain associated with Atim Creek occupies a large portion of land within the study area and creates a constraint to existing agriculture. Three small temporary marshes and the existing Boundary RV and Auto Storage also create existing constraints to on-site agriculture (Figure 12: Existing On-Site Constraints).
2.4.3 Regional Land Use, Lot and Tenure Patterns

The study area is surrounded by current and proposed developments from all directions except for the agricultural lands to the southeast which are also identified as areas for Future Urban Development in the MDP. As urban development continues, the lands will be further fragmented from regional agriculture activities.

2.4.4 Availability of Agriculture Services

No agricultural support services or irrigation improvements were identified in the surrounding area at the time of preparing this Agricultural Impact Assessment.

3.0 AGRICULTURAL VIABILITY

According to the Town of Stony Plain Municipal Development Plan, the study area is identified as an area for Future Urban Development and protected for future development potential. The Town will only permit uses in the Future Urban Development areas that will not adversely impact urban settlement or that will not be detrimental to future urbanization.

The study area and the Tussic ASP area are surrounded by current and proposed urban development from all directions except for the agricultural lands to the southeast, which are also identified as areas for Future Urban Development in the MDP. As urban development continues, the lands will be further fragmented from regional agriculture activities.
While the study area is located on the lands with highly productive agricultural soils, Atim Creek and wetlands occupy a large area within the study area and as a result, the efficiency of agriculture operations is reduced. Further, the fragmentation of agricultural lands in the immediate area has an impact on the viability of agriculture in the area.

### 4.0 POTENTIAL IMPACTS ON AGRICULTURE

As previously mentioned, the *Town of Stony Plain Municipal Development Plan* identifies the study area as an area for Future Urban Development and as such, is protected for future development potential. The study area and the *Tussic ASP* area are surrounded by current and proposed developments in all directions except for the agricultural lands to the southeast. However, the land to the southeast is also identified as a *Future Urban Development Area* in the MDP, so it can be expected that these agricultural lands will be phased out over time as new developments are proposed.

Within the study area, approximately 16.0 ha. (39.5 ac.) of land was cultivated in 2018 and another 32.0 ha. (79.1 ac.) is expected to be cultivated from 2019 until the land is developed to accommodate urban growth. Based on the information collected, no agricultural improvements (e.g. irrigation infrastructure and machinery investments) have been installed in the study area. In total, 48.0 ha. (118.6 ac.) will be removed from agricultural production if the study area is developed as contemplated by the *Tussic ASP*.

### 5.0 ALTERNATIVE LOCATION ANALYSIS

The study area is located on the lands identified as Future Urban Development Areas in the MDP. The western quarter section of the *Tussic ASP* is identified as a Residential Area in the MDP and a mix of residential and associated uses in the Southeast ASP. The *Tussic ASP* is surrounded by existing and proposed developments and future development areas. This location is the most logical next step for development, and the Tussic ASP establishes a framework to guide the future development of the lands and to meet the needs of urban growth in the Town of Stony Plain.
6.0 MITIGATION MEASURES

The development of the Tussic neighbourhood will be staged over the next 10 - 15 years. The developer, Qualico Communities, is committed to continuing the farm lease until such time that the land is required for development to accommodate urban growth in Stony Plain. This commitment to allow for continued agricultural operations until development occurs, will aid in avoiding the premature fragmentation of agricultural land.

The reality is that the Town of Stony Plain is expected to continue to grow and this area has been identified as an area for Future Urban Development. Given the approved plans and development happening in the areas surrounding the Tussic ASP area, the Tussic ASP area will become a logical and efficient location to extend services and develop when market conditions permit.

The Tussic ASP has been prepared in response to current and expected future housing market trends. The staged development is planned to achieve much higher density targets, slowing the outward growth of urban neighbourhoods into the primarily agricultural land in Parkland County.
7.0 CLOSURE

This report has been prepared by ParioPlan Inc. for the exclusive use of Qualico Communities.

If you have questions or require any further details, please contact the undersigned.

Sincerely,

ParioPlan Inc.

Report Prepared by: __________________________

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Reviewed by: __________________________

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President, ParioPlan Inc.
Figure 2.0
Development Concept
Agricultural Impact Assessment
(SE 30-52-27-W4M)
Tussic ASP
Stony Plain, Alberta

Legend
- Tussic ASP Boundary
- AIA Study Area Boundary
- Low to Medium Density Residential
- Potential High Density Residential Location
- Potential Commercial Location
- Potential Pocket Park Location
- Environmental Reserve (ER)
- Stormwater Management Facility / PUL
- Park / Open Space / Greenway (MR)
- School (MR)
- Proposed Atim Creek Realignment
- Proposed Multi-Use Trail
- Existing Multi-Use Trail
- Collector Road
- Arterial Road
- Road Widening
- Existing Cedar Brae Site
- Existing Boundary RV and Storage Site
- Potential Future Secondary Access

*Note: The Boundary RV and Auto Storage Site could be residential or commercial for future development
Figure 3.0
Study Area
Agricultural Impact Assessment
(SE 30-52-27-W4M)

Tussic ASP
Stony Plain, Alberta

Legend
- Tussic ASP Boundary
- AIA Study Area Boundary
- Atco ROW
- Existing Building
- Road Widening
- Non Participating Lands

- Portion SW ¼ Sec 30-52-27-4
- Portion SW ¼ Sec 30-52-27-4
- Portion SE ¼ Sec 30-52-27-4
- Portion SE ¼ Sec 30-52-27-4
- Lot 10, Plan 782 1916
- Lot 1, Blk 1, Plan 062 4145
- Proposed Atim Creek Realignment
- Existing Atim Creek

Date: November 2018
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Figure 4.0
Surrounding Plan Areas
Agricultural Impact Assessment
(SE 30-52-27-W4)

Tussic ASP
Stony Plain, Alberta
Figure 5.0
Parkland County Soil Classification
Agricultural Impact Assessment
(SE 30-52-27-W4M)

Tussic ASP
Stony Plain, Alberta

Legend

- **Black**: Tussic ASP Boundary
- **Red**: AIA Study Area Boundary
- **Yellow**: Class 2
- **Green**: Class 7
- **White**: Unrated
Figure 6.0
Soil Polygons & Land Suitability Rating System
Agricultural Impact Assessment
(SE 30-52-27-W4M)
Tussic ASP
Stony Plain, Alberta

Legend
- AIA Study Area Boundary
- Polygon 14325
- Polygon 14330
- Polygon 14319

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Figure 7.0
Tussic ASP Area Topography
Agricultural Impact Assessment (SE 30-52-27-W4M)
Tussic ASP
Stony Plain, Alberta
Figure 8.0
Groundwater Flow & Water Wells
Agricultural Impact Assessment
(SE 30-52-27-W4M)
Tussic ASP
Stony Plain, Alberta

Legend

- Tussic ASP Boundary
- AIA Study Area Boundary
- Inferred Groundwater Flow Direction
- Water Well
- Proposed Atim Creek Realignment
- Existing Atim Creek
Figure 10.0
Existing On-Site Features
Agricultural Impact Assessment
(SE 30-52-27-W4M)
Tussic ASP
Stony Plain, Alberta

Legend
- Tussic ASP Boundary
- AIA Study Area Boundary
- Farm Lease Area - 2019
- Area Subject to Topsoil Stripping / Grading - 2019
- Access Road (2019)
- Atim Creek
Figure 11.0
Surrounding Land Uses
Agricultural Impact Assessment
(SE 30-52-27-W4M)

Tussic ASP
Stony Plain, Alberta

Legend
- Tussic ASP Boundary
- AIA Study Area Boundary
- Existing Urban Development
- Boundary RV Storage
- Farmstead

Date: November 2018
Project No: 15-014
Figure 12.0
Existing On-Site Constraints
Agricultural Impact Assessment
(SE 30-52-27-W4M)
Tussic ASP
Stony Plain, Alberta

Legend
- Tussic ASP Boundary
- AIA Study Area Boundary
- Marsh - Seasonal
- Marsh - Semi Permanent
- Marsh - Temporary
- Wooded Swamp - Temporary
- Dugout / Slough Area
- Flood Plain
- Existing Atim Creek
- Potential Drainage
- Naturally Vegetated Area

Date: November 2018
Project No: 15-014
REFERENCES


