

BYLAW NO. 9834

The Saskatoon North Partnership for Growth Planning District Official Community Plan Amendment Bylaw, 2022

The Council of the City of Saskatoon enacts:

Short Title

1. This Bylaw may be cited as *The Saskatoon North Partnership for Growth Planning District Official Community Plan Amendment Bylaw, 2022*.

Purpose

2. The purpose of this Bylaw is to amend The Saskatoon North Partnership for Growth Planning District Official Community Plan to adopt the North Concept Plan and to outline the intent and process for implementation of concept plans.

Bylaw No. 9720 Amended

3. The Saskatoon North Partnership for Growth Planning District Official Community Plan, being Schedule “A” to Bylaw No. 9720 and forming part of that Bylaw, is amended in the manner set forth in this Bylaw.

Section 31 Amended

4. (1) Clause 31.3.12 is repealed and the following substituted:

“31.3.12 Purpose of a Concept Plan

A Concept Plan, as provided for in the Act, must be adopted by bylaw and appended to this Plan, for the purpose of providing a framework for subsequent subdivision and development of a portion of the District that exhibits common future development opportunities and challenges.”

- (2) The following clause is added after clause 31.3.12:

“31.3.12.1 Approved Concept Plans

The following Concept Plans are adopted by bylaw and are appended to this Plan. The specifics of each Concept Plan should be referenced for implementation in addition to the policies of this Plan.

- a) North Concept Plan – see Schedule D”

District Land Use Map Amended

5. The District Land Use Map, which forms part of the District Official Community Plan as Schedule B, is amended to change the land use designation of the lands described in this Section and shown on Schedule “A” to this Bylaw as follows:

- (a) from Urban Residential Neighbourhood to Urban Commercial/Industrial:

- i) Blk/Par A-Plan 101346173 Ext 201; NE 25-37-06-W3.

- (b) from Rural Commercial/Industrial to Urban Commercial/Industrial:

- i) SE 09-38-05-W3 Ext 201;
- ii) Blk/Par A-Plan 101648134 Ext 200; SE 09-38-05-W3;
- iii) Blk/Par B-Plan 102014110 Ext 0; SW 10-38-5-W3;
- iv) Blk/Par C-Plan 102014110 Ext 0; SW 10-38-5-W3;
- v) Blk/Par D-Plan 102014110 Ext 0; SW 10-38-5-W3;
- vi) SE 10-38-05-W3 Ext 212; and
- vii) LSD 2 & 7; SE 10-38-5-W3.

- (c) from Urban Commercial/Industrial to Rural Commercial/Industrial:

- i) SE 10-38-05-W3 Ext 212;
- ii) Blk/Par B-Plan 97S39102 Ext 1; SW, NW & NE 11-38-05-W3;
- iii) Blk/Par C-Plan 101648246 Ext 217; SW 11-38-05-W3;
- iv) Blk/Par A-Plan 101974507 Ext 0; SW 11-38-05-W3;
- v) Blk/Par D-Plan 101648224 Ext 215; SW 11-38-05-W3;
- vi) Blk/Par A-Plan 101648280 Ext 217; SW 11-38-05-W3;
- vii) NW 11-38-05-W3 Ext 0,
- viii) Blk/Par D-Plan 101648370 Ext 214; SE-11-38-05-W3,
- ix) LSD 15 NE 02-38-05-W3 Ext 125;
- x) Blk/Par A-Plan 101647087 Ext 56; NW-02-38-05-W3;
- xi) LSD 15 NE 02-38-05-W3 Ext. 124;
- xii) LSD 10 NE 02-38-05-W3 Ext. 103; and

- xiii) Blk/Par S-Plan 101916244 Ext 0; NW-02-38-05-W3.
- (d) from Rural Commercial Industrial to Regional Infrastructure:
 - i) Blk/Par A-Plan 102374007 Ext 0; NW 10-38-05-W3.

Future Urban Areas Growth Map Amended

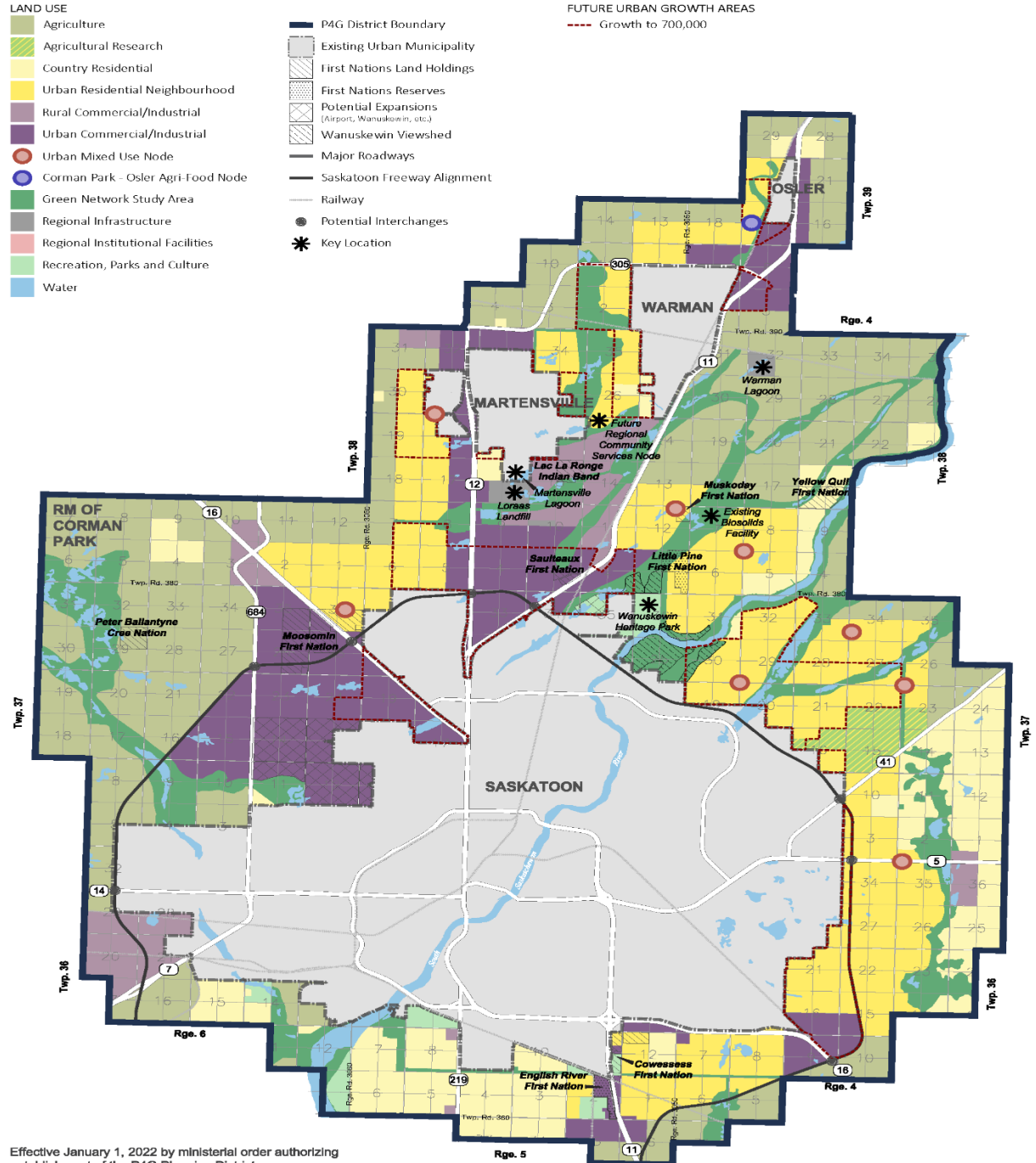
6. The Future Urban Growth Areas Map, which forms part of the District Official Community Plan as Schedule C, is amended to change the designation of the lands described in this Section and shown on Schedule “B” to this Bylaw as follows:
- (a) to add an area of Growth to 1,000,000:
 - i) SE 09-38-05-W3 Ext 201;
 - ii) Blk/Par A-Plan 101648134 Ext 200; SE 09-38-05-W3;
 - iii) Blk/Par B-Plan 102014110 Ext 0; SW 10-38-5-W3;
 - iv) Blk/Par C-Plan 102014110 Ext 0; SW 10-38-5-W3;
 - v) Blk/Par D-Plan 102014110 Ext 0; SW 10-38-5-W3;
 - vi) SE 10-38-05-W3 Ext 212; and
 - vii) LSD 2 & 7; SE 10-38-5-W3.
 - (b) to remove an area of Growth to 1,000,000:
 - i) SE 10-38-05-W3 Ext 212;
 - ii) Blk/Par B-Plan 97S39102 Ext 1; SW, NW & NE 11-38-05-W3;
 - iii) Blk/Par C-Plan 101648246 Ext 217; SW 11-38-05-W3;
 - iv) Blk/Par A-Plan 101974507 Ext 0; SW 11-38-05-W3;
 - v) Blk/Par D-Plan 101648224 Ext 215; SW 11-38-05-W3;
 - vi) Blk/Par A-Plan 101648280 Ext 217; SW 11-38-05-W3;
 - vii) NW 11-38-05-W3 Ext 0;
 - viii) Blk/Par D-Plan 101648370 Ext 214; SE-11-38-05-W3;
 - ix) LSD 15 NE 02-38-05-W3 Ext 125;
 - x) Blk/Par A-Plan 101647087 Ext 56; NW-02-38-05-W3;
 - xi) LSD 15 NE 02-38-05-W3 Ext. 124;
 - xii) LSD 10 NE 02-38-05-W3 Ext. 103; and
 - xii) Blk/Par S-Plan 101916244 Ext 0; NW-02-38-05-W3.

City Clerk

Schedule "A" to Bylaw 9834

SASKATOON NORTH PARTNERSHIP FOR GROWTH

SCHEDULE B: DISTRICT LAND USE



Effective January 1, 2022 by ministerial order authorizing establishment of the P4G Planning District

District Official Community Plan
RM of Corman Park No. 344 Bylaw 57/20
Town of Osler Bylaw 2020-08
City of Martensville Bylaw 12/2020
City of Saskatoon Bylaw 9720
City of Worman Bylaw 2020-09

LAST AMENDMENT APPROVED
approval date here

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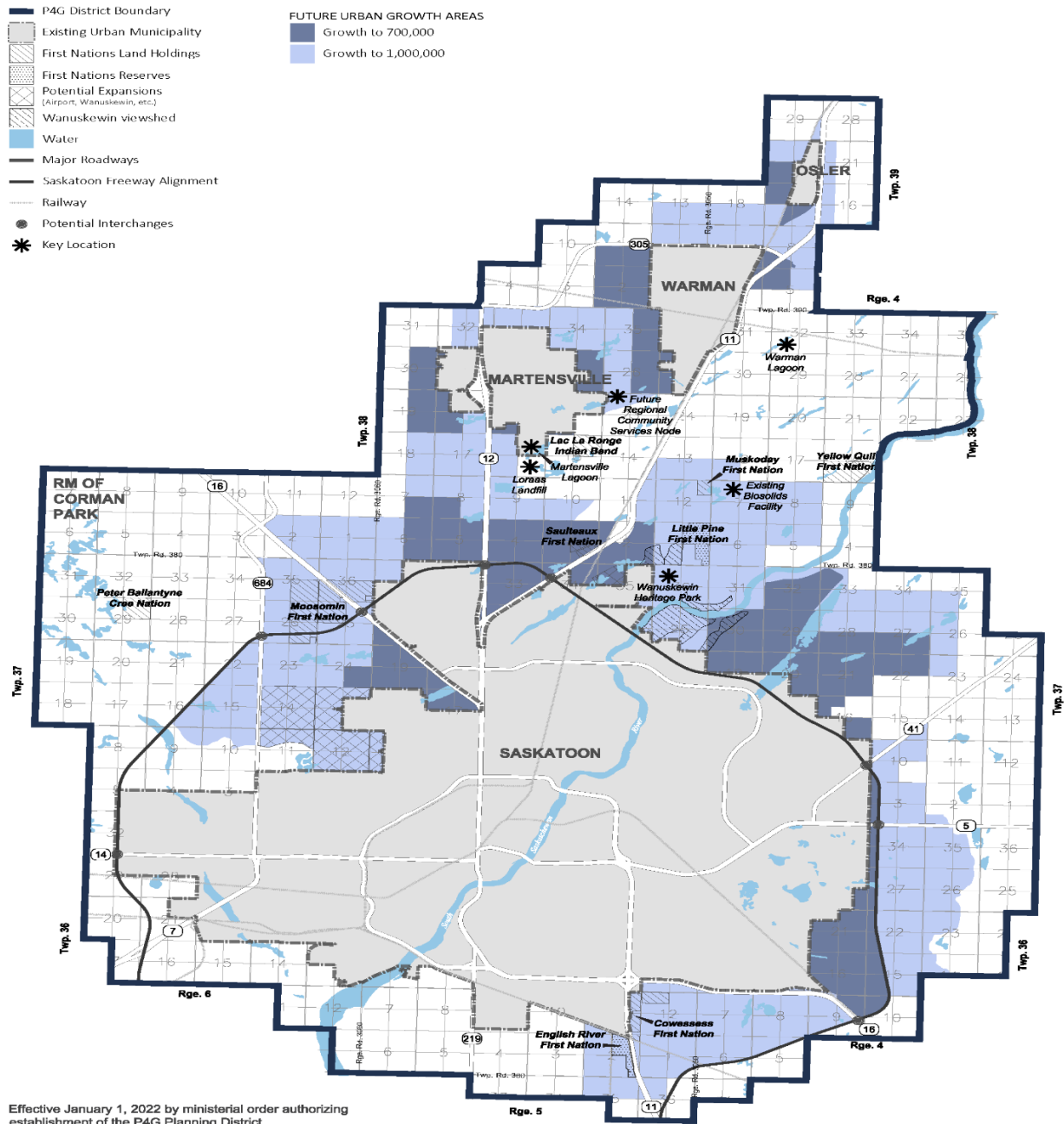
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June 3, 2022

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Schedule "B" to Bylaw 9834

SASKATOON NORTH PARTNERSHIP FOR GROWTH

SCHEDULE C: FUTURE URBAN GROWTH AREAS



Effective January 1, 2022 by ministerial order authorizing establishment of the P4G Planning District

District Official Community Plan
RM of Corman Park No. 344 Bylaw 57/20
Town of Osler Bylaw 2020-08
City of Martensville Bylaw 12/2020
City of Saskatoon Bylaw 9720
City of Worman Bylaw 2020-09

LAST AMENDMENT APPROVED
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Schedule "C" to Bylaw 9834



Saskatoon North Partnership for Growth P4G North Concept Plan

September 28, 2022

Prepared by:
City of Saskatoon:

Planning and Development
Saskatoon Water
Transportation



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1. Introduction

The North Concept Plan (the Plan, NCP) is a long-term planning document that provides a land use, transportation, and servicing plan to guide the development of 6,920 hectares of land situated within the Rural Municipality of Corman Park No. 344 (Corman Park, the R.M.) along the northern boundary of the city of Saskatoon (COS) and the southern boundaries of the cities of Martensville and Warman. The Plan Area falls within what will become the Saskatoon North Partnership for Growth (P4G) Planning District and therefore this Plan has been created in accordance with the P4G Planning District Official Community Plan Bylaw¹ (P4G DOCP).

The P4G Planning District is being formally created in 2021 from a voluntary regional collaborative involving political and administrative representatives from the five partnering municipalities: Corman Park; the Cities of Martensville, Saskatoon, and Warman, and the Town of Osler.

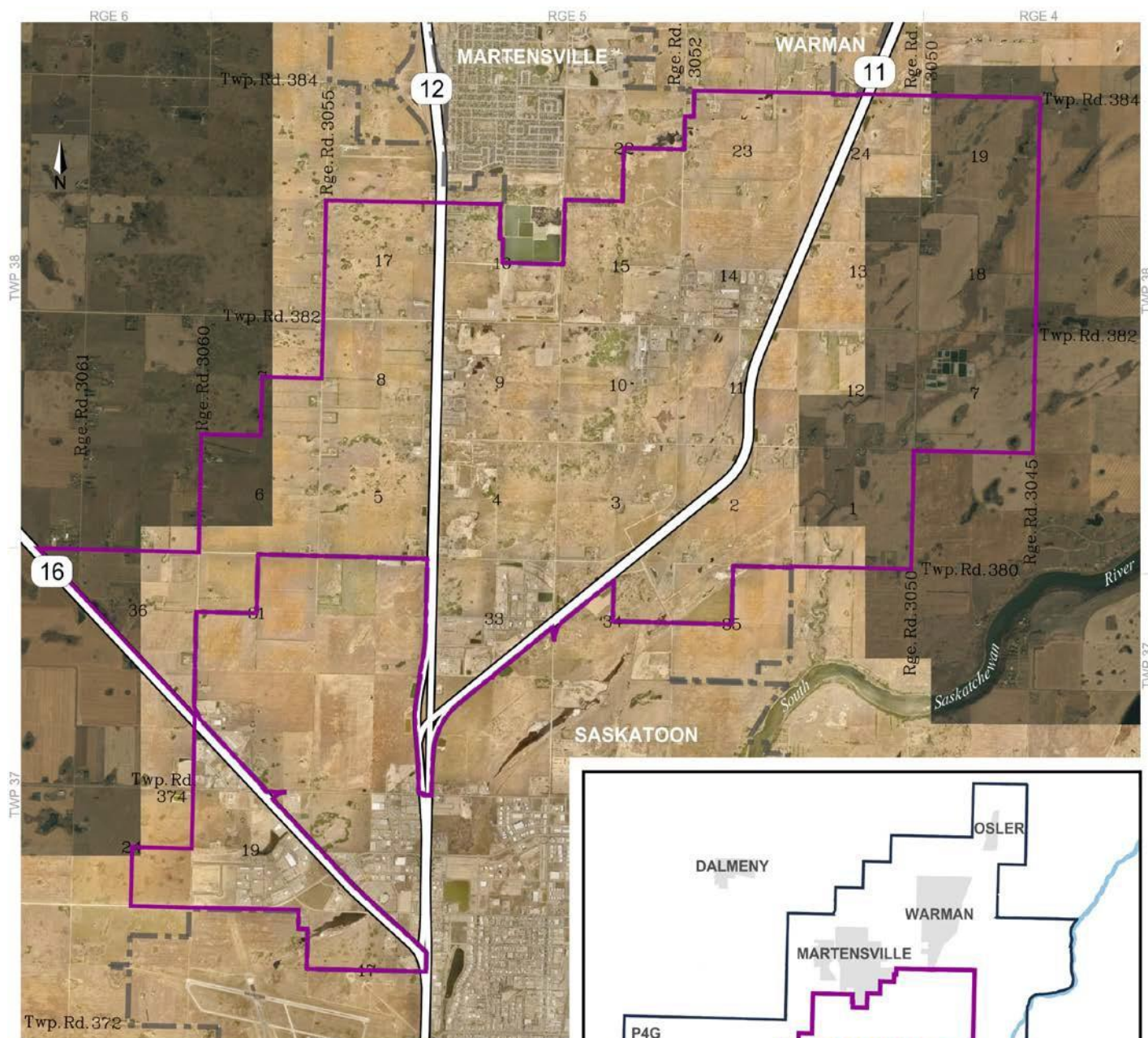
Over half of the Plan Area has been identified for future urban growth through the P4G DOCP (see Map 6). Much of the area is characterized as having little topographic relief and lacking well-defined surface drainage, meaning flooding is a persistent issue. The Plan Area is also traversed by three major highways collectively handling approximately 45,000 vehicles per day², with Canadian National Railway (CN) operating a line running parallel and west of Highway 11. Given the strategic location of the Plan Area, Corman Park is experiencing significant development pressures in this area. It is anticipated that development pressures will endure and intensify in the future, so the need for more detailed planning was identified to proactively guide development.

A common challenge throughout the Plan Area is how to facilitate current growth in a way that does not jeopardize the cost-effective expansion of future urban growth, all while avoiding flooding, erosion, and disturbances to natural areas. Therefore, one component of this Plan is to identify natural drainage courses and flood-prone areas so that as development occurs in the region, individual or regional storm water management plans are able to be used to maintain accurate and consistent flood zones, minimize environmental impacts, and reduce the risks from flooding and erosion.

¹ RM of Corman Park Bylaw No. 57/20
City of Martensville Bylaw No. 12/2020
City of Saskatoon Bylaw No. 9720
City of Warman Bylaw No. 2020-09

² Saskatchewan 2018 Traffic Volume Map, Average Annual Daily Traffic. Retrieved from:
<https://publications.saskatchewan.ca/api/v1/products/86557/formats/100199/download>

MAP 1 – STUDY AREA

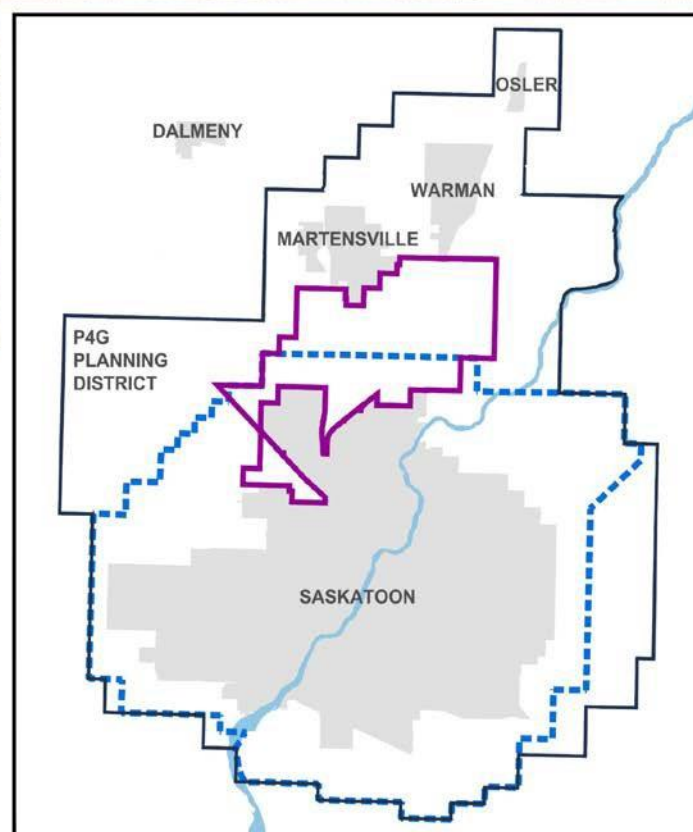


- North Concept Plan Study Area
- P4G District Boundary
- Existing Urban Municipality
- Corman Park - Saskatoon Planning District
- Existing Highway

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December 14, 2020

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1.1. Purpose

The Plan has three main purposes:

- a) Assist in the implementation of P4G's vision as outlined in the P4G DOCP to provide a high quality of life, a thriving and diverse economy, healthy and connected ecosystems, and efficient infrastructure to support sustainable growth and development.
- b) Provide a framework for the preparation of subsequent subdivision and development plans to ensure growth proceeds in a balanced and rational manner, including efficient and cost-effective transition to urban development in designated Future Urban Growth Areas, and captures future development opportunities that benefit the region.
- c) Identify the future land uses, servicing components, and major road networks required to support proposed development, taking into consideration where public investment in future infrastructure and services should be focused to maximize development potential.

1.2. Legislative Authority

The Plan has been prepared per the requirements of Section 44 of The Planning and Development Act, 2007 (the Act), which allows municipalities to adopt Concept Plans to provide a framework for the subsequent development and subdivision of land in the Plan Area.

The P4G Planning District is enabled through Sections 97-99 of the Act, whereby the councils of two or more municipalities may, by bylaw, enter into an agreement respecting the establishment of a planning district.

The NCP will be a statutory planning document, approved as a Concept Plan per the requirements of the Act. Since a Concept Plan is an amendment to the DOCP, it must be consistent with the DOCP. Further, it must be adopted by bylaw after a Public Hearing by all affiliated municipalities.

1.3. Engagement Summary

In preparing the NCP, a series of pre-plan engagement meetings and information sessions were held between various municipal departments, agencies, ministries, First Nations, and stakeholders to identify opportunities, constraints, and facilitate establishing the overall planning approach. This included Councillors and representatives from each of the partner municipalities (Martensville, Corman Park, Saskatoon, and Warman), utility providers and crown corporations, and local businesses and landowners.

- **1:1 Meetings:** During the last half of 2019, a series of meetings was held with rights holders and stakeholders with interests in the Plan Area. They were informal one-on-one sessions, at which the team introduced the project, asked what was envisioned for the future of their land,

and answered any questions posed by the groups. Attendees included First Nations, emergency services, relevant Crown Corporations, telecommunications service providers, major and minor utilities, local business owners, and representatives from the Saskatoon Airport Authority and Wanuskewin Heritage Park (WHP). Detailed interviews were carried out with major landowners in the Plan Area to gain an understanding of the following:

- Specific information relating to individual parcels that could impact the NCP.
- Individual owner's development aspirations and timing.
- Landowner concerns with other existing and proposed developments in the Plan Area; and
- Landowner desires for the NCP.

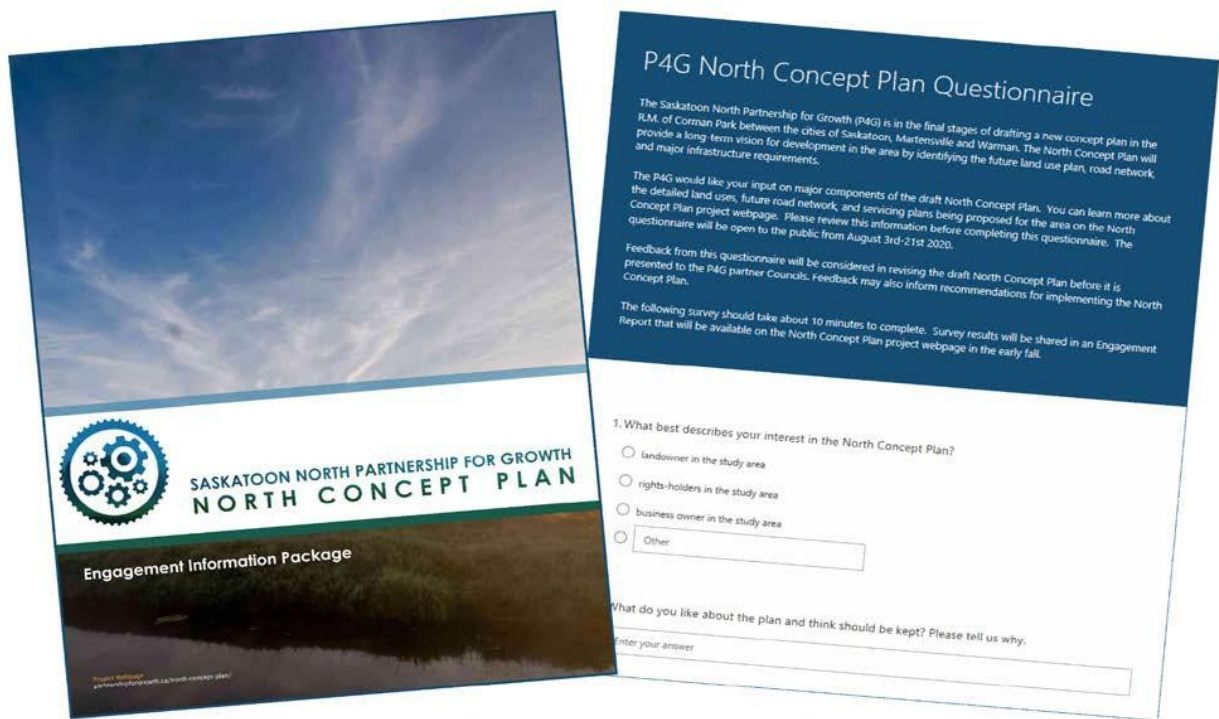
In addition to these meetings, discussions with rights holders, affected landowners, developers, and stakeholders also took place throughout 2020 to ensure open dialogue continued throughout the NCP planning process.

- Online Project Page: Since the inception of the NCP, a project page has been maintained on the P4G website – partnershipforgrowth.ca.
- Presentation to Corman Park-Saskatoon District Planning Commission (October 2, 2019): During the October DPC meeting, the Project Manager for the NCP made a presentation and provided an overview of the project scope and timeline, and fielded questions from the Commission.
- Public Presentation @ Corman Park Annual General Meeting (October 9, 2019): During the annual event, the Project Manager was present and accompanied by several presentation boards outlining the scope and schedule of the NCP. There was also an opportunity for ratepayers to sign-up to be included in the project stakeholder registry and be notified of future engagement events.
- Public Information Session (February 12, 2020): An event was held for rights holders, stakeholders, and property owners within the Plan Area. Owners were invited to the meeting through direct mailings, and approximately 90 people were in attendance. The Project Team displayed presentation boards that outlined the general themes of the proposed Plan and the



schedule for the project. An opportunity was given for the attendees to ask questions and give feedback with regards to the NCP.

- Virtual Public Open House (August 3 – 21, 2020): An online consultation process was held between August 3rd and August 21st of 2020. An online engagement package was created which explained the major components of the draft Plan, along with an online questionnaire which allowed participants to provide feedback. An invitation to participate in the consultation was mailed to 288 landowners within the study area, along with an email invitation sent to 77 individuals, groups, and organizations including rights holders, developers, utility companies, crown corporations, professional associations, relevant provincial Ministries, and other parties who have expressed interest throughout the project.



1.4. Plan Contents

This document contains seven sections:

- Section 1 & 2 provide administrative information and orientation of the Plan.
- Section 3 provides an overview of the existing features and conditions within and around the Plan Area.
- Section 4 provides an outline of the future land use concept.
- Section 5 provides the future arterial transportation network.
- Section 6 provides the conceptual design of the water, storm water, and wastewater systems, as well as the conceptual area grading of designated Future Urban Growth Areas within the Plan Area.
- Section 7 provides a discussion and recommendations for Plan implementation and monitoring.

The three core sections of the Plan (Land Use, Transportation, and Servicing) are accompanied by a set of recommendations. These will provide direction and help guide environmental, transportation, land use, and servicing considerations of future planning and development initiatives undertaken by private developers, landowners, and municipalities.

The recommendations have also been included to provide more specific planning direction to these parties when undertaking detailed planning work for their lands. These recommendations form the foundation used to develop the final land use concept outlined in Section 4.

2. Background

The five P4G partner municipalities are encompassed within the Saskatoon Census Metropolitan Area (CMA) which has experienced a surge in population and economic growth over the past decade. The Saskatoon CMA was one of the fastest-growing parts of Canada between 2011 and 2016. Population growth in the cities of Warman and Martensville during this period was among the highest in the country at 55% and 25% respectively. Between 2016 and 2021, the metropolitan area of Saskatoon grew by 7.6% to a population of 317,480³. The projected population for the Saskatoon CMA is 448,985 in the next 20 years, with net migration forecast to account for between 69% and 74% of this population increase⁴. Population and employment growth are likely to continue to increase but at a more moderate pace.

The current and expected levels of in-migration continue to create significant economic development opportunities for Saskatoon, Warman, Martensville, and Corman Park. However, years of rapid growth have brought increasing development pressure in areas where infrastructure and the level of services may be insufficient to respond to the needs of new development. This can lead to delays for developers in obtaining approvals, or development being approved in areas that lack adequate supportive infrastructure. This situation requires a coordinated approach to land use planning in areas deemed to have high growth potential.

2.1. Location

The Plan Area, identified in Map 1, is approximately 6,920 hectares (17,100 acres) in size, entirely located in Corman Park, and includes land adjacent to Saskatoon's northern boundary extending to the southern boundaries of the cities of Warman and Martensville, east to Range Road 3045, and west to Highway 16 including the Biz-Hub Industrial Park. The Plan Area also incorporates Highways No. 11, No. 12, No. 16, and a portion of the proposed Saskatoon Freeway.

2.2. Background Studies and Plans

Several studies and plans pertain to the Plan Area and inform this Plan.

- P4G District Official Community Plan (2020): The P4G DOCP provides the overarching vision, principles, and strategic directions that guide land use planning throughout the P4G Planning District. It also contains policies that guide development in a coordinated manner regarding land use, servicing, and natural/heritage resource protection.
- P4G Green Network Refinement Stage 1: Natural Areas Screening (2020): P4G commissioned a natural area screening for a large area within its northern boundaries, which was recognized

³ Statistics Canada, 2021 Census of Population. Released February 9, 2022.

⁴ City of Saskatoon. City of Saskatoon and Saskatoon Census Metropolitan Area Population Projection 2015 to 2035.

to contain significant natural and heritage resources. Knowledge of where natural areas and heritage sites reside in the landscape will help avoid or minimize impacts, and so the need to identify, protect and enhance these resources was recognized as development is anticipated to intensify.

- P4G Green Network Pilot Project: Report (2019): The Green Network Study Area (GNSA) has been identified by P4G as a key feature in the region's drainage. To map the flooding levels a 2D hydraulic model was built for the study area with its extents based on watersheds delineated from LiDAR data. The results from the model were mapped within the GNSA boundaries for the 1:100-year flood levels. This delineation provided a general representation of the drainage system within the P4G study area.
- Saskatoon Airport Master Plan 2040 (2018): The Saskatoon Airport Master Plan 2040 (2018) provides a long-term infrastructure plan and strategy for the development of the airport for the next 22 years. Increases in passenger and aircraft traffic over this timeframe are expected to continue, therefore the Master Plan serves as a long-term guidance document that contemplates conceptual development that may or may not materialize into actual projects. The Master Plan also assesses the capacity limitation of key pieces of infrastructure and identifies a timeline for improvements such as runway surface rehabilitation, and expansion of taxiways and the passenger terminal.

While the airport and its potential expansion areas are not located within the Plan Area, they are adjacent to one another. This means the airport has a significant influence over the land uses surrounding it. For example, the noise exposure forecast (NEF) areas which extend past the airport boundaries are intended to restrict residential or other incompatible development from locating where noise would be an issue. Also, airport approach and transitional surfaces that extend from each runway will influence the form of development (i.e. building heights) that occurs in those areas.

- City of Martensville Future Growth Plan (2016): The City of Martensville's Future Growth Plan (FGP) provides direction for managing growth over 25 years by reviewing the city's municipal infrastructure needs and long-range growth directions. The FGP provides a preferred growth option, particularly relevant to the NCP in areas where the study boundaries intersect.
- City of Martensville South East Sector Plan (underway): The City of Martensville South East Sector Plan will provide a land use and servicing plan that will help accommodate anticipated future growth in Martensville.
- Saskatoon NW Access Management Study (2009): The Saskatchewan Ministry of Highways and Infrastructure (MHI), the City of Saskatoon (COS), and Corman Park commissioned a Highway Access Management Plan north of Saskatoon. The study provides an assessment of the existing and future roadway classification and land uses to establish an access management plan compatible with the adjacent road network and distribution of land uses.

The study provides a recommended access plan, with particular relevance to the NCP indicated through a preferred arterial access route through the East Cory Industrial Park.

- North Saskatoon Network Planning Study: The COS is undertaking a study that will help plan the major roads around the city's northern boundaries. The study focuses on how intersections will connect to the provincial highway system, taking into consideration the future Saskatoon Freeway. The study will review whether road connections should be interchanges, or at-grade intersections, and will result in a preferred scenario for the future transportation network in this area.
- Highway 11/12 Planning Study (2013): The Saskatchewan MHI, Corman Park, City of Martensville, and the City of Warman jointly commissioned a study to assess the corridors along Highway 11 and 12 between the future interchange locations at the Saskatoon Freeway and north to Highway 305.
- City of Saskatoon Official Community Plan (2020): The COS Official Community Plan (OCP) provides a comprehensive policy framework to guide growth and development. It acts as the primary strategic land use planning document, providing high-level land use, development, economic development, social and servicing policy direction.
- City of Saskatoon Riel Sector Plan (2015): The COS approved the Riel Industrial Sector Plan in 2015 to initiate a new growth sector to expand the city's north employment area. The Riel Sector Plan stretches across the entire boundary between the COS and the NCP (with the future Saskatoon Freeway acting as the primary physical buffer). Due to the anticipated scale of employment and development that is expected for these areas, the interface between them is of significant regional interest, especially regarding transportation connections between the two areas and how to cost-effectively extend servicing.

The majority of the Riel Sector Plan Area is planned to accommodate fully-serviced light and heavy industrial land uses with an incorporated wetland complex (the Hudson Bay Swale). Initial servicing is scheduled to be provided by extending utilities from the Marquis Industrial Area into the Riel Industrial Sector, as development commences from south to north/northwest.

- City of Saskatoon Employment Area Study (2016): As one component of the COS *Growth Plan to Half a Million*, the Employment Area Study provides recommended policy directions to guide growth in new and existing employment areas to a population of 500,000.
- City of Saskatoon Transportation Master Plan (2021): This Plan unites all existing COS transportation policies and plans and aligns them with the direction included in the OCP, Growth Plan, and Strategic Plan.

3. Plan Area Context

The NCP encompasses approximately 6,920 ha entirely within Corman Park, adjacent to the municipal boundaries of the Cities of Saskatoon, Martensville, and Warman. The Plan Area is also traversed by three major highways (#11, #12, & #16), rail (CN), four established industrial parks, and several major commercial and industrial developments. Major neighbouring land uses include the Saskatoon John G. Diefenbaker International Airport and WHP, which is currently on the tentative list to become a UNESCO World Heritage Site⁵.

In total, the P4G Planning District is being planned to accommodate 1,000,000 people. The corridor between the cities of Saskatoon, Martensville, and Warman is an area with very high growth potential and is expected to accommodate a large portion of the employment and population growth needed to reach the regional target⁶. Of the total 6,920 ha within the Plan Area, 3,854 ha is intended to accommodate future urban growth. According to the land requirement assumptions used by P4G to attain future population and employment targets, approximately 76,044 people and 101,914 jobs would need to be accommodated within the NCP area. These figures are detailed in Table 1 below.

Table 1. Forecasted Land Use Statistics

Land Use	Total Area (Hectares)	Total Population	Total Jobs	People / Hectare (assumption)	Jobs / Hectare (assumption)
Urban Commercial / Industrial	2,163	0	82,194	0	38
Rural Commercial / Industrial	865	0	11,245	0	13
Country Residential	61	129	0	2.11	0
Urban Residential Neighbourhood	1,687	75,915	8,435	45	5
Agriculture	545	0	11	0	.02
Conservation/Drainage (GNSA)	1,314	0	26	0	.02
Regional Infrastructure	97	0	2	0	.02
Recreation, Parks & Culture	55	0	1	0	.02
TOTAL	6,787	76,044	101,914		

Table notes:

- Calculation of *total area* does not include existing highways and interchanges.

Most of the urban growth areas (Map 6) are not expected to be serviced and become *urban* (i.e., annexed by an adjacent urban municipality) in the short or medium term. It is intended that these areas would continue to accommodate rural development, either of a temporary nature or in a

⁵ United Nations Educational, Scientific and Cultural Organization (UNESCO), World Heritage Convention.
<https://whc.unesco.org/en/tentativelists/6342/>

⁶ A 1,000,000 regional population target minus the estimated total populations accommodated within existing urban municipalities, which at the time of this report is approximately 542,025.

manner that could be made compatible with future urban development patterns. The common challenge when trying to accommodate rural development has been poor surface drainage due to the area having little topographic relief. This leads to inconsistency in storm water management plans on an area-wide basis, making it a challenge to minimize or mitigate the effects of flooding. Adherence to this Plan is intended to improve the consistency of storm water management plans and the overall drainage within and extending from the Plan Area (i.e. Opimihaw Creek through WHP).

Map 2 shows the general land uses present within the Plan Area at the time of drafting this Plan.

3.1. Natural Features

Opimihaw Creek continues through the Plan Area to WHP, where it flows to the South Saskatchewan River. The creek itself typically resembles a series of wetlands (permanent and temporary), while some areas have been diverted into drainage ditches. Opimihaw Creek is critical for the conveyance of floodwaters to the river, and the sensitive ecological and heritage features along its banks and riparian areas. The creek, which also has critical cultural/historical significance for Indigenous people, is also connected to the Hudson Bay Swale, an important wetland complex and an environmentally significant area that lies along the southern tip of the Plan Area. In particular, the Opimihaw Creek valley where the creek meets the river contains a significant collection of archaeological sites dating back to pre-contact First Nations peoples.

In 2020, the COS's Sustainability Division was retained by P4G to complete a desktop natural area screening (NAS) for over 40,000 hectares in its northern boundaries, which captured the entire Plan Area. The purpose of the project was to identify potentially significant and/or sensitive ecological features, wetlands, water bodies, soil capability, species at risk (wildlife and plants), and important heritage resources, and to recommend potential management actions conserve or protect these features.

The research was conducted through literature reviews, aerial photo interpretation, and various geospatial databases to develop a series of maps that classified the area by ecological parameters such as soil capability, heritage sensitivity, class of wetland (vegetation zones), and presence of both wildlife and vascular plant species of concern.

3.2. Ownership

As shown on Map 2, there are approximately 103 residences within the Plan Area. Out of the total 6,920 hectares within the Plan Area, 58 hectares is provincial Crown land. The remaining balance of land is made up of private interests and businesses.

3.3. First Nations

In recognition of the P4G municipalities' commitment, 'to support reconciliation and healing efforts to build strong relationships with Indigenous people, and the inclusion of First Nations and Métis communities and Indigenous organizations in planning' (Section 5- P4G Official Community Plan), work was done to encourage dialogue and participation in the NCP with the First Nations with land interests in and near the Plan Area and with WHP Administration.

As shown on Map 2, there are five First Nations with land holdings in the Plan Area: Lac La Ronge Indian Band, Moosomin First Nation, Muskoday First Nation, Saulteaux First Nation, and Little Pine First Nation. Little Pine First Nation, whose land is in the southeast corner of the Plan Area along Penner Road, has acquired reserve status.

First Nations with lands in the Plan Area were engaged throughout the development of the NCP to identify existing or future development plans for their land. This information was then used to inform the NCP Future Land Use (Map 5). The P4G partner municipalities are committed to ongoing dialogue with First Nations to enhance relationships and facilitate compatible development.

Various types of communication were utilized and included in person meetings, phone discussions and email correspondence at the beginning of the project during the spring of 2019. Invitations were also provided to participate in engagement activities such as the virtual 'open house' event held in August 2020. It is acknowledged that factors including the serious impacts of the pandemic on many First Nation communities made engagement challenging.

The P4G municipalities will continue to have meaningful dialogue and seek input to ensure First Nation and WHP interests are appropriately reflected in the NCP and future plans.

Wanuskewin Heritage Park: WHP, a National Historic Site of Canada, includes significant natural and archaeological resources representing nearly 6000 years of history of the Northern Plains people and is an important cultural center. In 2016 it was announced that WHP would be pursuing UNESCO World Heritage designation, which would make it the first World Heritage Site in Saskatchewan. Opimihaw Creek – a tributary of the South Saskatchewan River – runs through WHP, of which the banks and surrounding areas are known to contain significant archeological resources.

While WHP lies outside the Plan Area, it is immediately adjacent to its southern boundary. The natural, cultural and historic resources found at the site are identified in the P4G DOCP as being inherently valuable to the region and shall be protected. The P4G DOCP identifies a viewshed around WHP as part of the GNSA; the viewshed comprises important natural views from key WHP features. A similar buffer is applied inside Saskatoon. Through the development of the P4G DOCP,

the P4G municipalities committed to work with WHP to ensure plans and policies are complementary, and that development in the viewshed protects important natural views.

3.4. Existing Land Uses

The majority of the Plan Area is undeveloped agricultural land that is currently being cultivated, while industrial activities comprise the second-largest use in terms of land area. A small number of tree stands, wetlands, and drainage courses are distributed across the land, which also includes approximately 103 farmstead dwellings.

The Plan Area also contains four existing industrial parks (Yellowhead Industrial, BizHub Industrial, East Cory Industrial, and Corman Industrial). In addition to these larger more comprehensive developments, several individual commercial, industrial and agricultural support service businesses have located in clusters along major transportation corridors, the majority of these situated adjacent to Highway 12.

The NCP also contains (or is adjacent to) some notable land uses that will have an impact on current and future growth in the area. The most significant influencers surrounding the Plan Area are the cities of Martensville, Saskatoon, and Warman, each of which share a border with the NCP. Rapid population and employment growth in each will continue to influence development within the Plan Area and put pressure on existing infrastructure in the area.

An overview of these key land uses follows:

Saskatoon John G. Diefenbaker International Airport: The Saskatoon John G. Diefenbaker International Airport (Saskatoon Airport), operated by the Saskatoon Airport Authority, is an international airport located at the southwest boundary of the Plan Area and along the northwest boundary of Saskatoon. In 2017 the airport saw a total of 1.46 million passengers.

The Saskatoon Airport includes an area of influence stretching beyond its legal boundaries, where things like building heights and storm ponds are restricted on regulated land through Airport Zoning Regulations (AZR). The purpose of these regulations is to protect aircraft from hazards like birds or electronic signal interference and protect existing and future airport operations⁷. At the time of drafting this Plan, the Saskatoon Airport is undergoing an update to their AZR's which, upon approval from Transport Canada, will create a new set of regulations that would apply to certain off-airport land.

⁷ Lands within the airport boundary are under the control of the airport operator and do not require AZR. Since Transport Canada certification requirements normally extend beyond airport boundaries, AZR apply to surrounding off-airport land. (<https://tc.canada.ca/en/aviation/operating-airports-aerodromes/airport-zoning-regulations>)

The long-term nature of the NCP calls for these future AZR's to be considered and included. Therefore, the buffers and approach surfaces shown on Map 2 - Existing Features depict the regulations in place during the drafting of this Plan; the buffers and approach surfaces shown on Map 5 - Future Land Use Concept depict the proposed future AZR's.

A four-kilometre buffer around the airport encompasses a portion of the Plan Area. This buffer applies to all open water facilities which require review prior to development due to their potential to cause concentrations of migratory birds which may introduce hazards to aircraft. A larger 8-kilometre buffer also exists for waste/garbage facilities which can also serve to attract concentrations of migratory birds. In addition to these areas, a portion of one of the runway Approach Surfaces extends into the Plan Area which may impose limitations such as the height of structures.

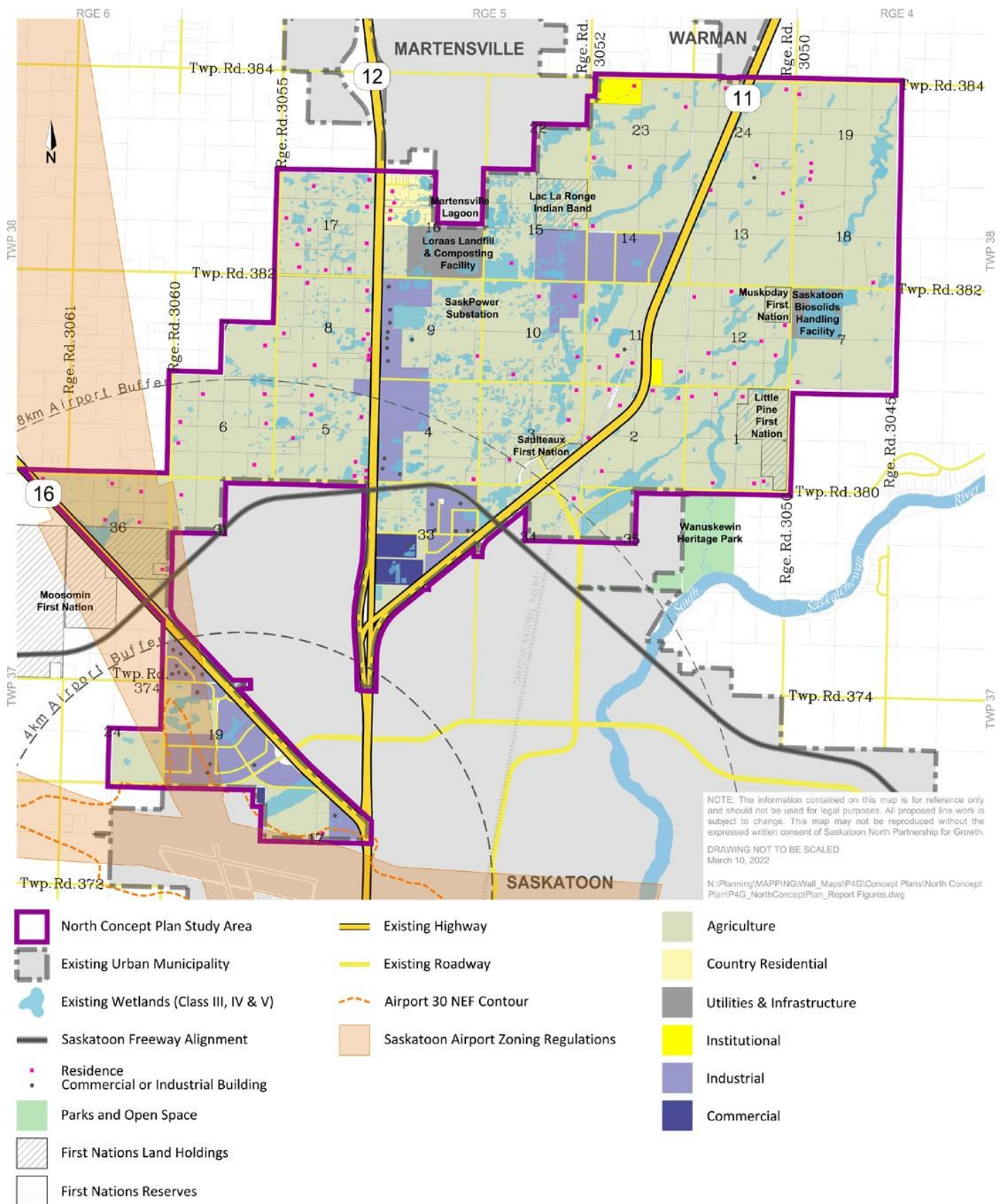
City of Saskatoon Biosolids Handling Facility: The COS operates a Biosolids Handling Facility in the eastern portion of the Plan Area (NW ¼ Sec.7 Twp.38 Rge.4 W3M). After treatment at Saskatoon's Wastewater Treatment Plant (WWTP), any remaining solids are sent via force main to this facility to be handled and applied to neighbouring agricultural land as fertilizer using a wet injection program. The facility itself is projected to be viable for another 30 years before expansion or an alternative would be needed.

Martensville Wastewater Lagoon: The City of Martensville operates its primary wastewater treatment system with an aerated lagoon located just outside the northern boundaries of the Plan Area, north of the Loraas Landfill. Future lagoon expansions are not anticipated once a planned pipeline to Saskatoon has been installed. The lagoon may also be partially decommissioned in the future, depending on future holding capacity required.

Loraas Disposal Landfill and Composting Facility: Loraas Disposal Services Ltd. (Loraas) located on Twp. Road 382 adjacent to the southern boundary of Martensville provides solid waste collection and disposal services for Martensville, Warman, and Osler, and many other municipalities in the region. Loraas also provides solid waste collection and disposal services to commercial and industrial businesses in Saskatoon. Residents of Corman Park utilize the landfill to dispose of their solid waste directly. The currently estimated lifespan of the landfill is 37 years, at which time the landfill would need to be decommissioned and reclaimed. Changes in technology, market cycles, and other factors play a large role in determining the lifespan of a facility. As such, these figures are subject to change.

Until such time that the landfill is decommissioned, the area immediately adjacent to it is not recommended for urban-style mixed-use or residential development given the potential for land use incompatibilities.

MAP 2 – EXISTING FEATURES





3.5. Existing Utilities

The Plan Area is serviced with major utilities (Map 3) by their respective service providers. The area is crisscrossed by utility corridors and easements, the locations of which may impact development on a site-by-site basis. Some of the key facilities include the following:

- Shaw, Access Communications, and SaskTel telecommunications and fiber-optic cable (buried and aerial).
- SaskPower overhead transmission lines, and underground/overhead distribution lines.
- SaskPower Martensville Switching Station and Substation
- Natural gas lines (SaskEnergy/Trans Gas).

Power, gas, and telephone services are readily available within the Plan Area and will be extended contiguous with the advancement of development.

Natural Gas: SaskEnergy operates a system of gas distribution lines throughout the Plan Area providing service to homes, businesses, and institutions. There also exists natural gas transmission lines running east to west through the Plan Area. As development in the area progresses over time, distribution lines can readily be relocated or abandoned as needed, whereas the higher-pressure transmission lines are generally more permanent components of the system and would be costly to move.

Electrical Utility: Electrical service is available through a mixture of overhead and underground distribution lines dispersed throughout the Plan Area. There are existing overhead 230 kV transmission lines with a 30 m right-of-way (ROW) beginning at the SaskPower substation south of Martensville running northeast to Aberdeen, and south to Saskatoon as shown on Map 3. Relocation of this substation is not anticipated as SaskPower has expressed interest in future upgrades, including a potential new 138kV transmission line from the Martensville station to a new station near Dalmeny⁸.

Communications: Traditional telephone and cable servicing within the NCP area will be facilitated by extensions to the existing system (Shaw, SaskTel, and Access Communications) and will largely take place by trench installation. Other communication facilities, such as telecommunication towers will typically be planned for in later stages of development as increased coverage becomes required. This would be done in conjunction with telecommunication service providers, at which time things like size, design and height are established based on the need in the area.

⁸ At the time of drafting the NCP, these plans remained conceptual in nature, so no detailed line routing or environmental assessments had been conducted.

The map displays the North Concept Plan for the City of Saskatoon, highlighting the proposed sewer main alignment in yellow. The alignment starts near Martensville and Worman, runs through the center of the city, and ends near the South Saskatchewan River. The map also shows various land use designations, including residential areas (purple) and industrial areas (orange). Key landmarks and facilities are labeled, such as the Saskatoon Biosolids Handling Facility, the SaskPower Substation, and the H. McIvor Weir Pollution Control Plant. The map includes a north arrow and a scale bar.

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March 10, 2022

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3.6. Existing Transportation System

The Plan Area is served by major transportation infrastructure including Provincial and National highways and railway (Map 4). The Plan Area also contains an established rural road network that typically follows the existing section and quarter section boundaries. The rural road network has been upgraded in certain areas in response to industrial, commercial, and intensive agricultural developments.

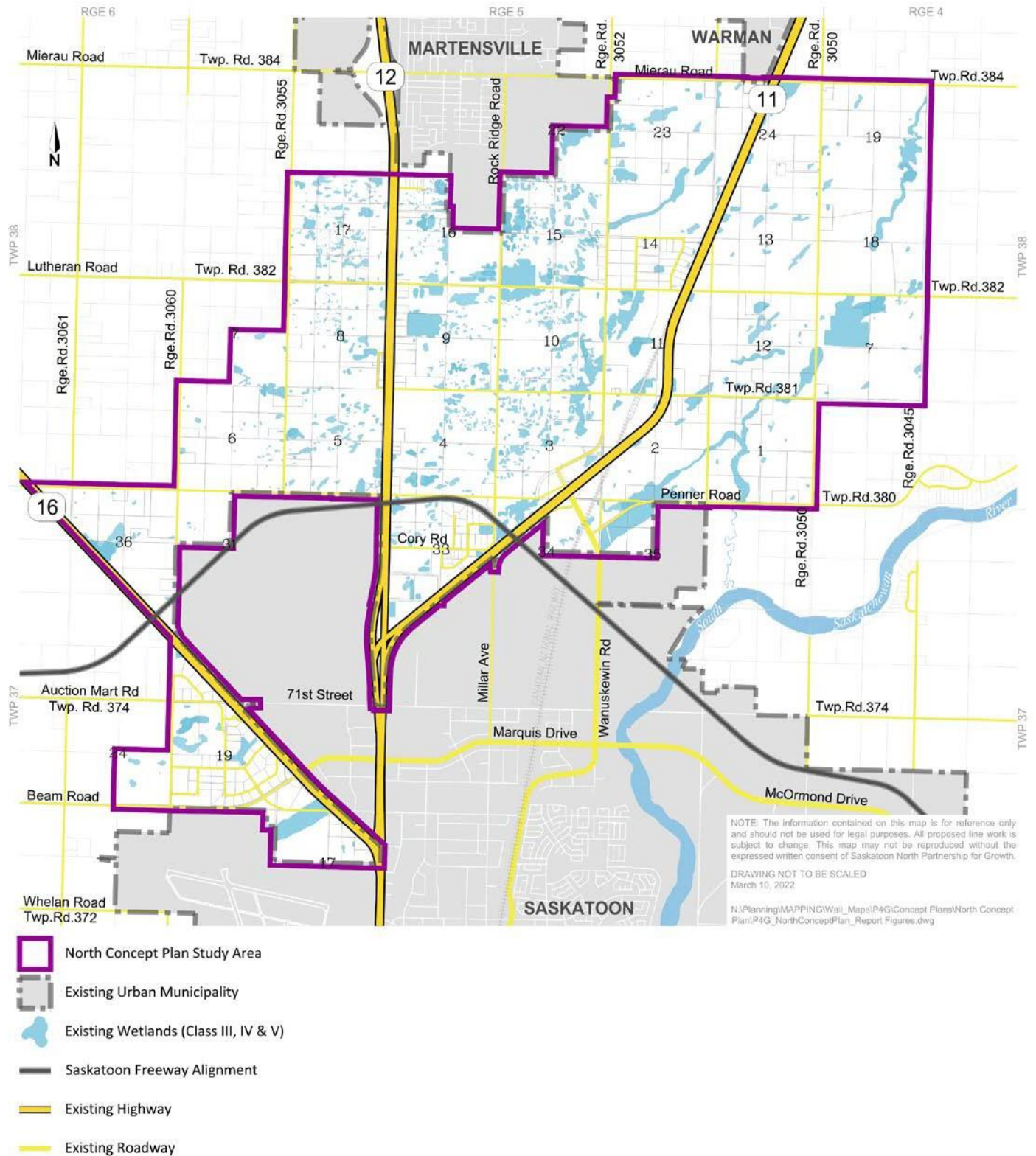
Provincial Highway Network: The Plan Area contains three major provincial highways, Highways 11, 12, and 16. Three proposed interchanges along the Saskatoon Freeway are currently being planned within the Plan Area. Highway 16 is the Yellowhead Highway and provides access to northern Canada. It is part of the National Highway System (NHS) and carries a high level of commuter traffic. Highway 11 is also part of the NHS, providing access to northern Saskatchewan communities and carrying a high level of commuter traffic. Highway 12 is a collector highway servicing mainly regional, local, and commuter traffic. The future Saskatoon Freeway will provide an NHS corridor around Saskatoon and is expected to serve a large volume of commuter and long-haul commercial vehicle traffic.

Provincial Highways 16, 11, and 12 run north to south through the Plan Area. The MHI retains a degree of influence over lands within 90 m of the ROW. MHI also restricts access and egress to the Highways from adjacent lands, controls arterial roadway access points near highway interchanges, and controls directional and commercial signage adjacent to highways.

Planned Saskatoon Freeway: The future Saskatoon Freeway is expected to be a 4-lane, 55-kilometre stretch of divided highway that will circle and bypass Saskatoon and provide connections to 8 provincial highways. At the time of drafting this Plan, the Government of Saskatchewan, through the MHI, has engaged in a Functional Planning Study for the segment of the Saskatoon Freeway that is located in the Plan Area. The functional study, which builds on the work of the Saskatoon Freeway General Location Study completed in 2018, will determine where the centerline of the road will be and define the type of interchanges, service roads, and access on/off of the freeway. Once complete, the Functional Planning Study will identify the ROW requirements for construction and removal of some land restrictions that were temporarily put in place for land along the freeway corridor following the general location study.

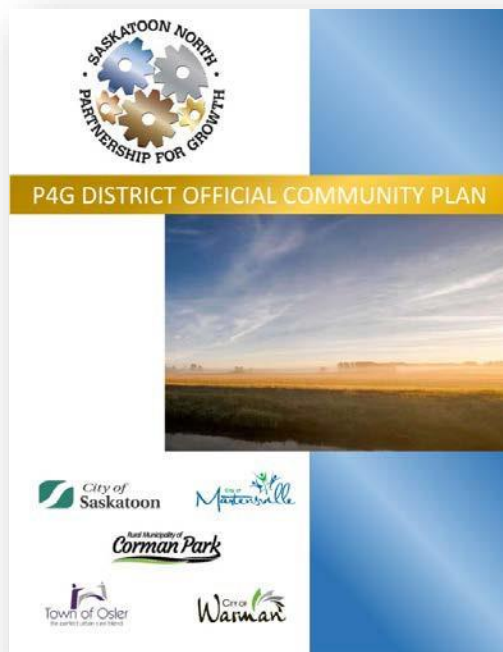
Canadian National Railway (CN): CN operates one rail line which bisects the Plan Area, running north-south from Saskatoon to Warman adjacent to Highway 11. Given the anticipated allocation of commercial and industrial land uses within the Highway 11 corridor, implementation of rail-serviced industrial may be accommodated in this area. As part of the subdivision process affecting lands within the Highway 11 corridor, developers must consult with CN to determine specific requirements for potential rail access.

MAP 4 – EXISTING TRANSPORTATION NETWORK



4. Land Use Concept

The Land Use Concept shown in Map 5 is based upon an analysis of the Plan Area's opportunities and constraints and represents P4G's vision for this portion of the region. The P4G DOCP (Schedule B: District Land Use Map) guides the physical organization of land uses in the Plan Area by identifying the general land use areas and the approximate boundaries of the land use areas (see Figure 1). The P4G DOCP also contains the policies that guide development in each area. The NCP future land use concept will form part of the P4G DOCP and provide a refinement of those established land uses – and in some areas a reorganization of them – based on further planning, engineering, and consultation undertaken during the creation of this Plan.

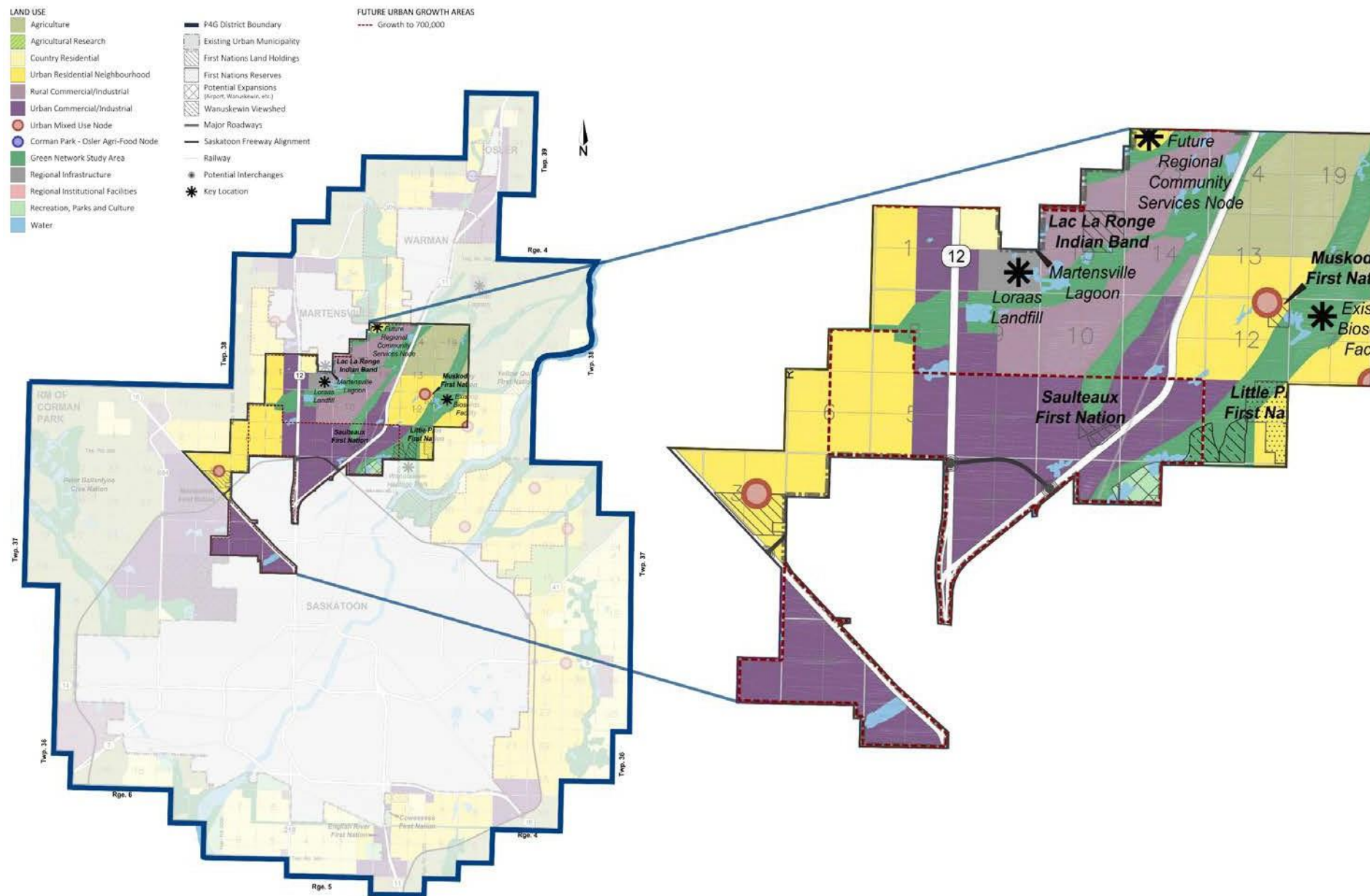


Major components of the Land Use Concept include:

- A range of urban, rural, and regional land uses as shown in Table 2.
- A land use pattern and arterial road network that separates incompatible uses utilizing buffers, the location of roadways, and natural features.
- The proposed alignment of Phase 1 of the future Saskatoon Freeway and interchange configurations for Highway 16, 12, and 11-Wanuskewin Road-Penner Road.
- Integration of the GNSA, including the channel, banks, and surrounding riparian areas of Opimihaw Creek, with the future land uses, servicing and transportation systems.
- Organization of the Plan Area into distinct planning cells.

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REAS





4.1. Future Land Use Designations

The Future Land Use Concept (Map 5) provides for a future land use pattern comprised of the following land use designations:

Rural Commercial

This accommodates a range of local and service commercial uses compatibly situated within the industrial areas and with rural servicing. Commercial uses here serve the local population and are generally located at the intersection of two existing or future major roads to create a node of activity.

Rural Light Industrial

This accommodates a wide variety of general industrial and agriculture-related industrial uses, both as standalone developments and within the context of a rural industrial park. Development in this area is intended to support the agriculture industry through value-added activities, with the exception of intensive livestock operations. Developments in this area would maintain rural servicing and a typical rural roadways cross-section and would be compatible with and provide a transition from any adjacent heavy industrial uses.

Rural Heavy Industrial

This accommodates lightly serviced industrial developments that may influence the safety, use, amenity, or enjoyment of adjacent or nearby sites due to appearance, noise, odour, emissions, fire or explosive hazards, or dangerous goods. Locations that have been designated Rural Heavy Industrial on the Future Land Use Concept (Map 5) have been clustered to concentrate these activities in one area. Developments under this designation may differ in operation and appearance from those in the *Urban* Heavy Industrial category in that servicing will be offered at a rural standard, typically through on-site storm water and septic systems.

Urban Mixed-Use Nodes

These are intended to accommodate higher density development within urban residential neighbourhoods and are comprised of a mix of uses including residential, commercial, institutional, and recreational uses typically found in suburban centres. Currently, the nodes (three within the Plan Area) are situated at the intersection of major arterial roads. It is anticipated that the size and boundaries of these areas would be refined at a later stage of planning such as when a Neighbourhood Concept Plan is being drafted.

Urban Commercial

This accommodates a broad range of commercial activities including office and retail, institutional, and recreation uses. In the future, these areas will contain full urban servicing. It should be recognized that there is a trend towards a component of residential development in urban commercial areas because of the proximity to services and amenities. Subject to further analysis



or concept plans, these areas have the potential to include multi-unit residential and/or mixed-use development.

Urban Light Industrial

This accommodates industrial uses with full urban servicing that have minimal to no impacts on adjacent landowners in terms of operational nuisance. Light industrial developments and activities are primarily carried out within an enclosed building and no significant nuisance is apparent to adjacent developments. Appropriate uses may include manufacturing, processing, warehousing, storage, and distribution of goods or materials that do not create conditions that have a significant adverse impact or create a nuisance beyond the boundaries of the site by way of noise, odours, airborne emissions, lighting, or vibration.

Urban Heavy Industrial

This accommodates full-serviced industrial developments that may affect the safety, use, amenity, or enjoyment of adjacent or nearby sites due to appearance, noise, odour, emissions, fire or explosive hazards, or dangerous goods. Locations that have been designated Urban Heavy Industrial are buffered from incompatible land uses and are well-connected to major transportation corridors.

Green Network Study Area

The GNSA includes connected areas of wetlands, swales, natural areas, the South Saskatchewan River corridor, the WHP viewshed, and other areas providing storm water storage and conveyance, groundwater recharge, wildlife habitat, and, where appropriate, multifunctional green spaces that deliver environmental, cultural, and recreational benefits. The area accommodates compatible agricultural, outdoor recreation, and sensitively integrated storm water management infrastructure.

Urban Residential

This accommodates future urban residential and supporting commercial and institutional uses, all with urban servicing. Locations with this designation are intended to develop into complete urban neighbourhoods which will be critical for accommodating the expected increase in regional population in the coming decades.

Country Residential

This accommodates multi-parcel Country Residential subdivisions at rural densities, typically containing rural servicing through on-site systems.

Agricultural

This accommodates agriculture and pasture uses including complimentary or compatible uses, as well as agricultural residential uses.



Recreation, Parks & Culture

This includes areas of valued recreational, open space, and cultural resources that contribute to the high quality of life in the region.

Regional Infrastructure

The Plan Area is strategically located between cities of Saskatoon, Martensville and Warman, and is destined to become one of the more densely developed areas of Corman Park as the region grows. To support future levels of development, future regional infrastructure uses such as water and wastewater facilities, solid waste management sites, fire services, utility infrastructure corridors, etc. will need to be located in the Plan Area.

4.2. Land Use Statistics

The land requirement assumptions within this Plan regarding population and employment remain consistent with the P4G District OCP and the COS's *Growth Plan to Half a Million*. In addition to Table 2, the following assumptions were used in the creation of the NCP to estimate growth potential and determine the ratio of employment land (industrial, commercial, mixed-use) to residential land:

- Population to employment ratio: .55 jobs/person
- Average household size: 2.88 people/dwelling unit
- Urban Residential neighbourhood density: min. 17.3 units per gross developable hectare (50 people/ha) or 50 residents and jobs combined per gross developable hectare⁹
- Mixed-Use Nodes density: 75 residents and jobs combined per gross developable hectare
- Country Residential density: 2.11 people/ha¹⁰
- Rural Industrial & Commercial density: 13 jobs/ha¹¹
- Urban Industrial & Commercial density: 38 jobs/ha¹²

⁹ Based on P4G DOCP, Sec. 15.3.18.

¹⁰ Based on RM of Corman Park Zoning Bylaw provision of 2.5 acre lots.

¹¹ Based on precedents of similar scaled developments, and representative of lower density rural development with on-site servicing.

¹² Based on the City of Saskatoon's ratio of employment space stated in the 2011 *City of Saskatoon Commercial and Industrial Development Study* and intended to reflect a general mix of employment-focused land uses.

The following Land Use Statistics are based on the Land Use Concept (Map 5):

Table 2. Future Land Use Statistics

Land Use	Gross Area (ha)	Net Developable Area (ha)	Total Population	Total Jobs	People / Hectare (assumption)	Jobs / Hectare (assumption)
Rural Light Industrial	604	585	0	7,605	0	13
Rural Heavy Industrial	96	96	0	1,248	0	13
Rural Commercial	116	116	0	1,508	0	13
Urban Light Industrial	1,187	1,106	0	42,028	0	38
Urban Heavy Industrial	433	433	0	16,454	0	38
Urban Commercial	389	372	0	14,136	0	38
Urban Mixed-Use Node	51	51	2,805	1,020	55	20
Urban Residential ¹³	1,644	1,610	72,450	8,050	45	5
Country Residential	62	62	131	0	2.11	0
Regional Infrastructure ¹⁴	130	130	0	3	0	0.02
GNSA	1,314	1,314	0	26	0	0.02
Recreation, Parks & Culture	54	51	0	1	0	0.02
Agriculture	549	545	0	11	0	0.02
TOTAL	6,629	6,471	75,386	92,090		

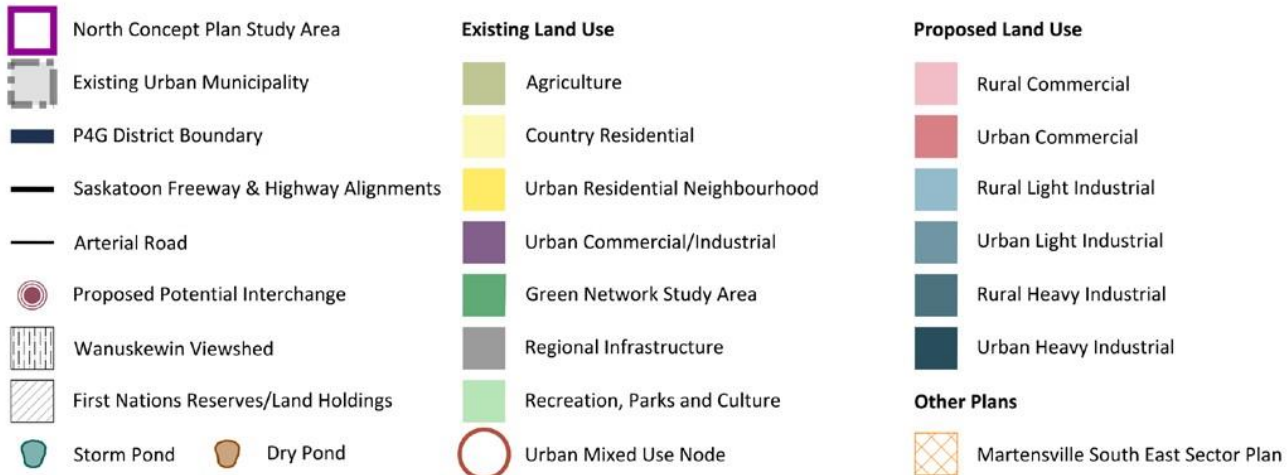
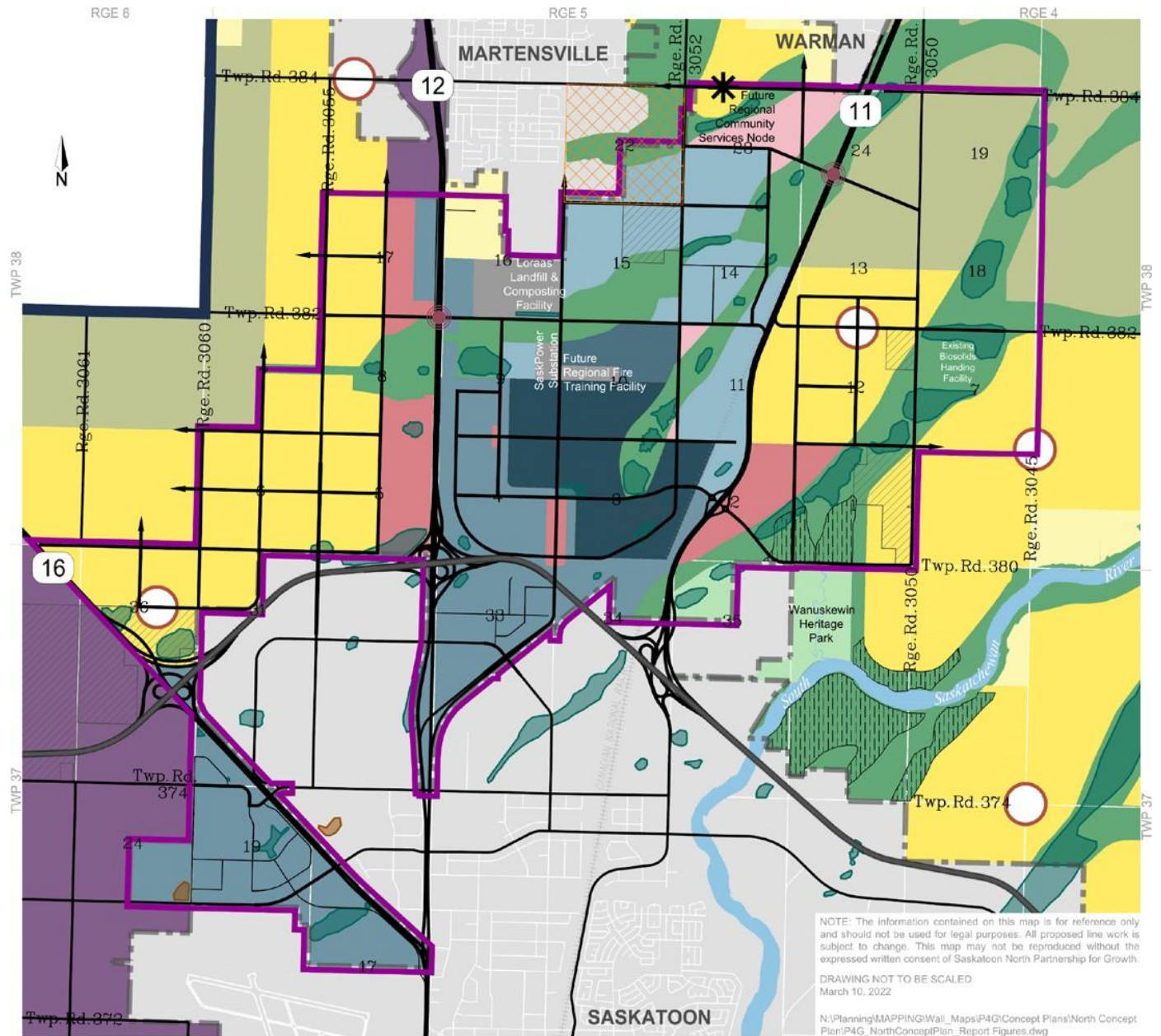
Table notes:

- All areas are approximate and should be considered as "more or less".
- The total may not sum to 100% due to rounding of figures.
- A Mixed-Use Node covers approximately 23 ha. Population estimates for these areas do not include the underlying land use (i.e., the Urban Residential areas under each node were not included in the calculation)
- Calculation of *net (developable) area* does not include lands that are expected to be covered by the Saskatoon Freeway alignment but does include lands where existing highways are anticipated to change configuration as the Saskatoon Freeway is constructed (i.e., the future Penner Road/HW 11 interchange). *Net* figures were used as a basis to calculate the future jobs and population estimates.
- Calculation of *gross area* includes all land use areas as depicted on Map 5 – Future Land Use Concept minus the existing Highways 11, 12, & 16 alignments that are not anticipated to change.

¹³ 45 people and 5 jobs per hectare split were used (50 people + jobs). Jobs account for small-scale local neighbourhood commercial and institutional that is not detailed at the scale of this Plan.

¹⁴ Regional Infrastructure increased due to the SaskPower Station and SFD regional fire training facility being added; this caused the cumulative total for the rural commercial and industrial land uses to decrease by the same amount.

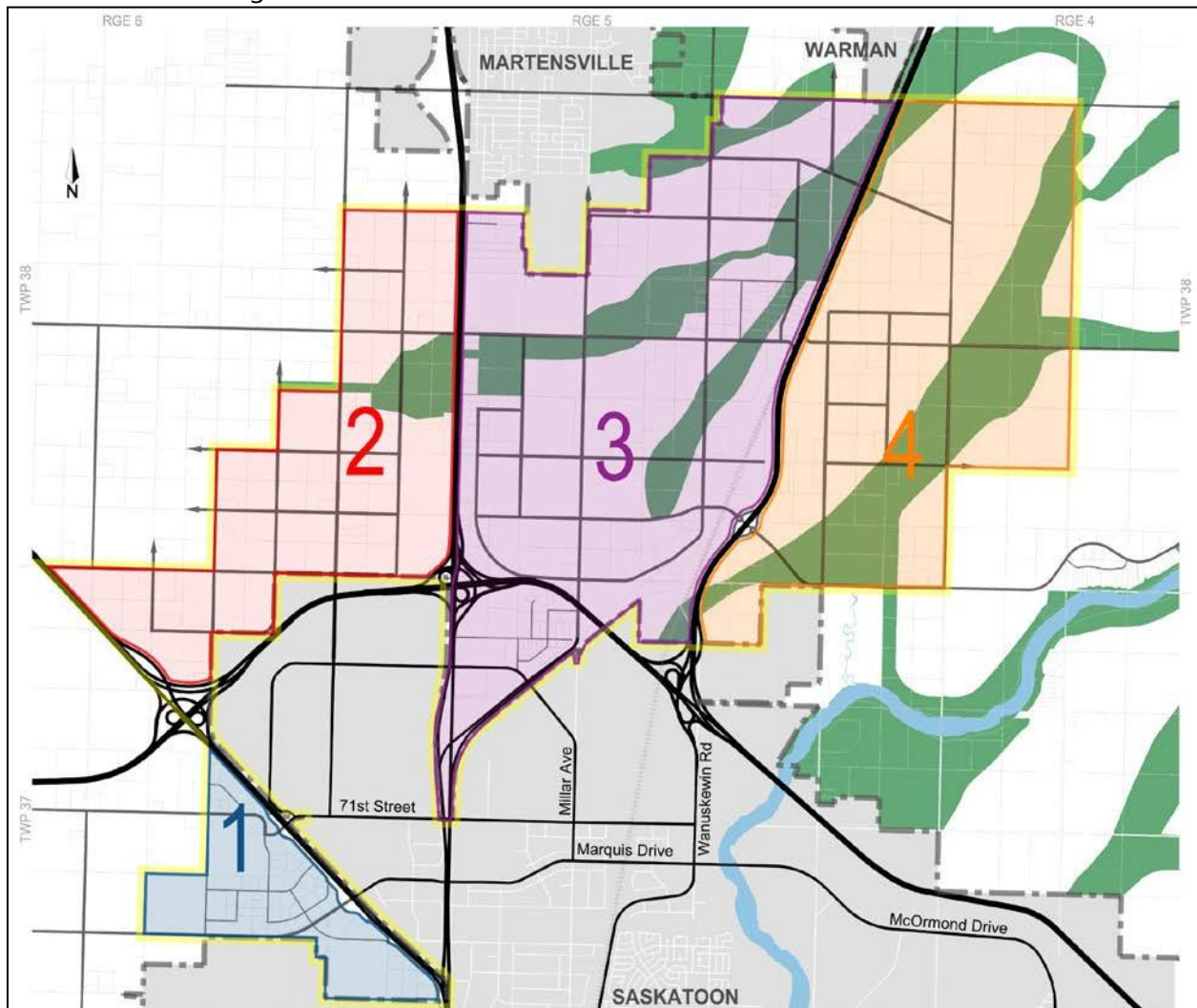
MAP 5 – FUTURE LAND USE CONCEPT



4.3. Planning Cells

The Plan Area has been divided into four distinct Planning Cells (Figure 2) which are defined by major transportation routes. While concept plans are typically designed as one contiguous planning unit, the NCP Area – at almost 7,000 hectares and encompassing three major highways with up to six future interchanges and bordering three cities – needed an approach that considered these distinct areas in their own context. It is noted that the Cell numbers assigned are for planning purposes only and are not intended to imply development phasing. The Cells are outlined generally in this sub-section.

FIGURE 2 - Planning Cells



Cell 1: This Cell (Figure 3) is in the southwest portion of the Plan Area, west of Highway 16, and is comprised of the Yellowhead and BizHub industrial parks. It is somewhat distinct from the other Cells in that a large portion of the Cell is comprised of established land uses developed to a rural standard.

Directly to the south of this Cell is the Saskatoon Airport. Portions of this Cell fall under the airport's 30 NEF contour, meaning residential development is restricted. The Cell is further restricted by 4-kilometre and 8-kilometre buffer zones regulating open water storage (storm ponds and sewage lagoons) and developments that attract wildlife, such as landfills, to ensure aviation operations are not interfered with.

Development in this Cell must pay particular attention to the interface between the existing Highway 16 corridor to the northeast, and the airport to the south.

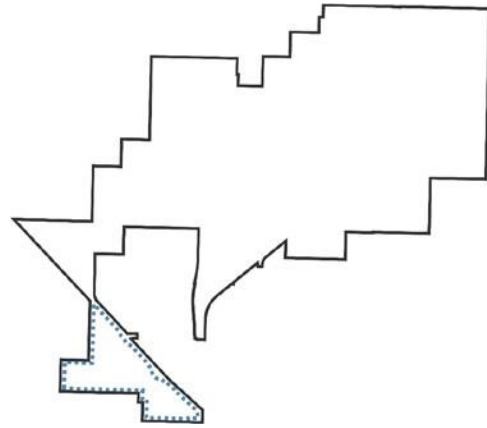
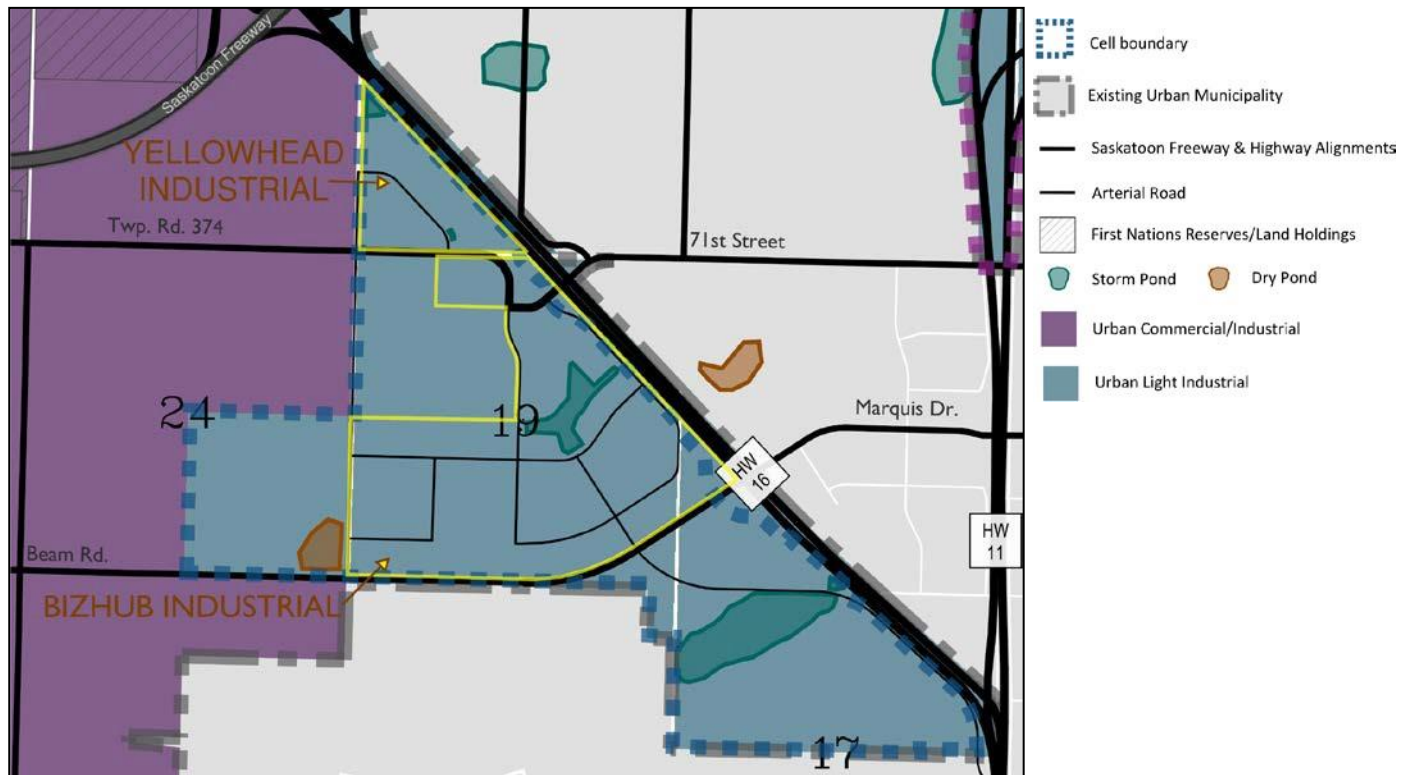


FIGURE 3 - Planning Cell 1



Cell 2: This Cell (Figure 4) is bounded between Highway 16 to the west and 12 to the east and consists entirely of areas dedicated to future urban growth. The majority of Cell 2 will be developed as multiple complete Urban Residential Neighbourhoods. The remainder of the Cell situated adjacent to Highway 12 is identified for future Urban Commercial and Light Industrial.

The MHI has identified a potential interchange location at Lutheran Road and Highway 12, which is currently a very heavily utilized intersection and will provide key access to Martensville and Corman Park developments in the future. Development in proximity to the interchange will be governed by the MHI by a control circle (427.5 m radius) until a functional plan is completed by the MHI, at which time restrictions adjacent to the interchange could be reduced.

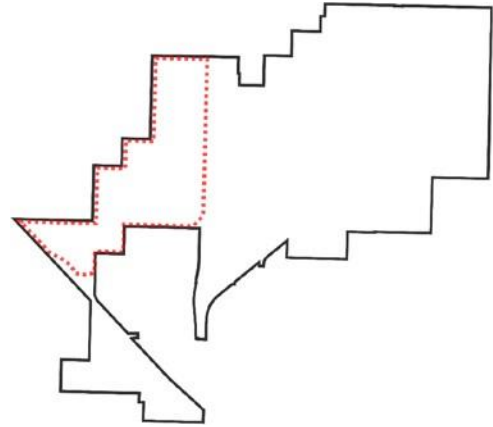
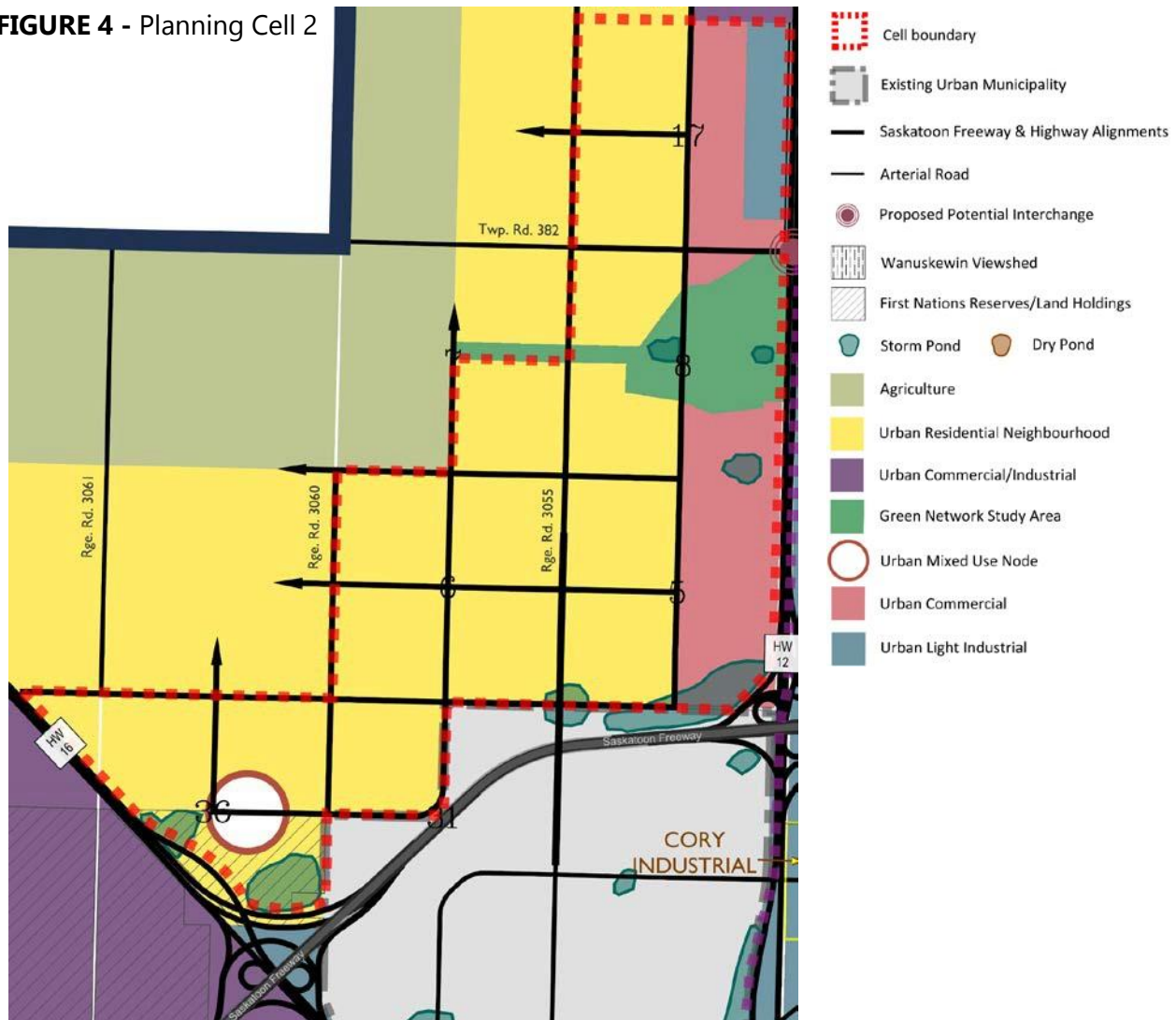
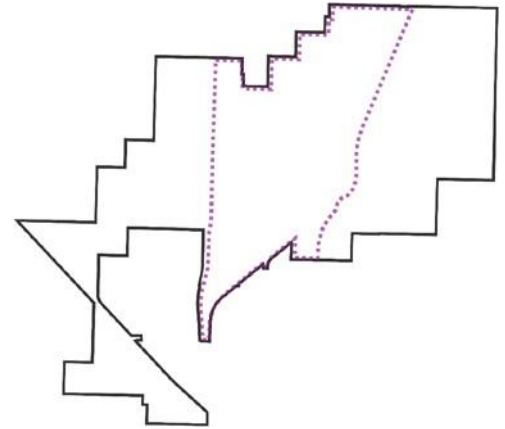


FIGURE 4 - Planning Cell 2



Cell 3: This Cell (Figure 5) is bounded by Highway 12 to the west and Highway 11 to the east, and by the municipal boundaries of Martensville and Warman to the north and Saskatoon to the south. It includes a central Urban and Rural Heavy Industrial area, which allows for a range of manufacturing and processing facilities. The design of this area supports heavy industrial development by providing access to rail, highways, and services, compatibility with adjacent land uses, and a location with surrounding transition buffers to minimize nuisance and risk. Lands identified as Regional Infrastructure are concentrated in the north-central parts of the Cell and primarily are intended to align with existing land uses. A portion of the NE $\frac{1}{4}$ of Sec.9 Twp.38 Rge.5 W3M contains a SaskPower substation and the SE $\frac{1}{4}$ and a portion of the SW $\frac{1}{4}$ of Sec.16 Twp.38 Rge.5 W3M contains the existing Loraas landfill and composting facility. The SFD is also proposing to locate a regional fire training facility on 40 acres in the SW $\frac{1}{4}$ Sec.10 Twp.38 Rge.5 W3M and the land has been identified as Regional Infrastructure to align with that use.

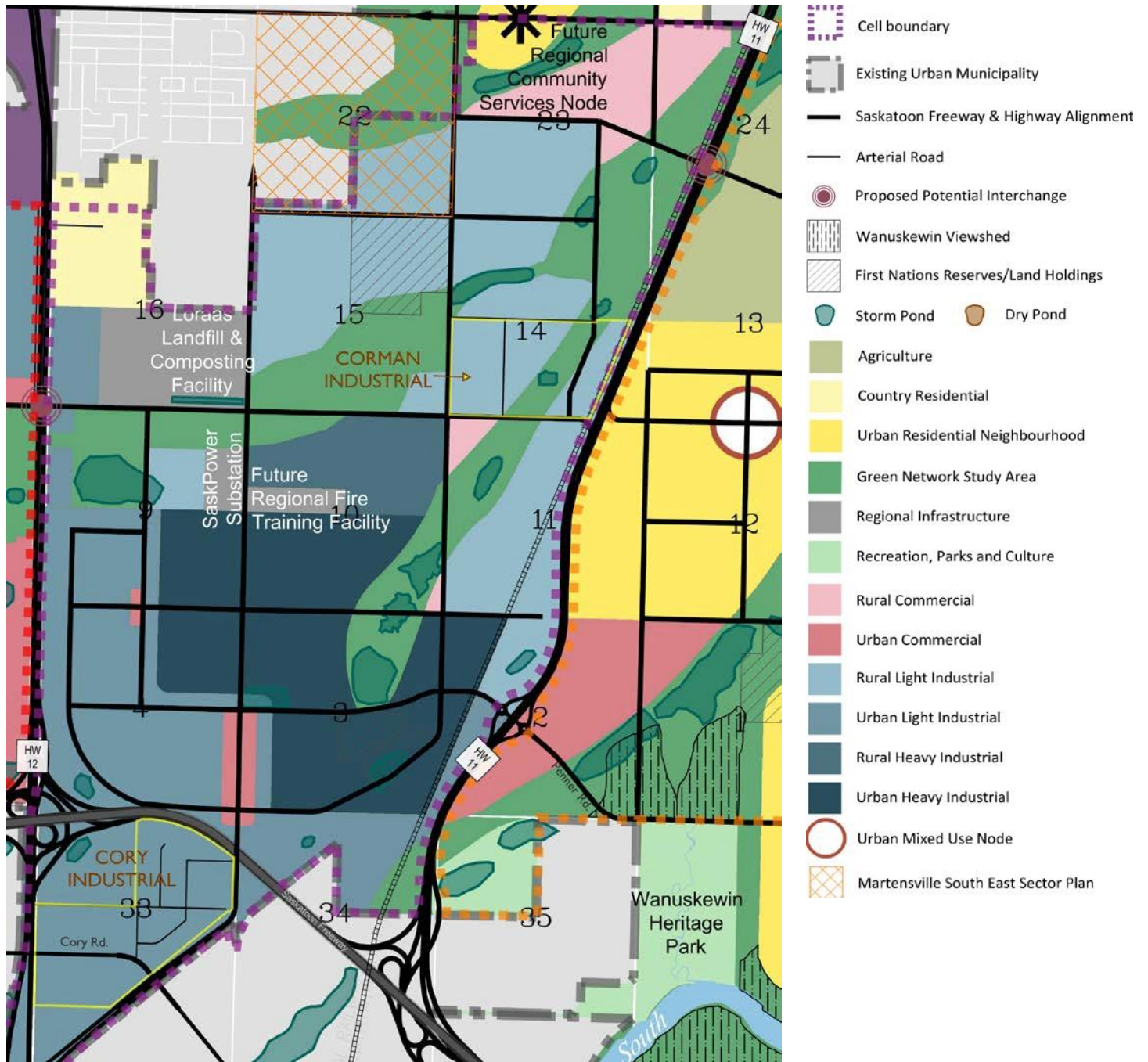


A significant portion of lands within Cell 3 are identified as Urban Light Industrial. These lands provide a transition between heavy industrial activities within the center of Cell 3 and other non-industrial activities in Cells 2 and 4. This area will provide for light industrial uses that support adjacent heavy industrial development. While exposure from Highways 11 and 12 will be high for adjacent lands, basic highway design considerations and existing constraints will ultimately affect access on to and off of Highways 11 and 12. It is anticipated that most existing accesses on to Highways 11 and 12 will be removed and access will be limited to a system of interchanges once construction of the Saskatoon Freeway commences. The design and planning of these adjacent lands relative to the provincial highways will be critical and must be sensitive to this interface.

This Cell includes Rural Industrial uses at scales ranging from Light to Heavy. With the proximity to existing and planned rural industrial developments in the vicinity, an extension of similar uses is appropriate to capitalize on future investments in infrastructure. Clustering these types of land uses also plays a role in capturing economic synergies between competitive and collaborative firms, cooperative suppliers, and service providers who each share a common need for talent, technology, and infrastructure. A gradient of land uses will transition from heavy industrial to light industrial uses that surround the Cell boundary.

Commercial areas (Rural and Urban) have been dispersed in small clusters throughout Cell 3 to provide service and local commercial and retail amenities to support the large employment base that will eventually be expected in this area. Overall, the locations identified as future Urban Commercial were selected based on their location along or at the intersection of a major arterial road. The exception to this is the connection between Martensville and Warman along Township Road 384, where a future Regional Community Services Node is located, and a large Rural Commercial area.

FIGURE 5 - Planning Cell 3



Commercial uses located in this area are intended to provide a greater diversity of employment with lower land requirements, and to preserve and strengthen the connection between the two cities.

A CN line, officially known as the “Carlton Trail Railway”, crosses the Plan Area within Cell 3 from north to south parallel to Highway 11 and services many agricultural and industrial operations within and beyond the NCP boundaries. The rail line provides both development opportunities and constraints. For instance, the potential exists to develop spur lines in proximity to the main rail line to assist industrial or agricultural development. Adequate setbacks will need to be maintained from the line as per CN regulations and P4G Planning District bylaws.

Cell 4: This Cell (Figure 6) is in the eastern portion of the Plan Area. There are existing agricultural operations in the northern portion of the Cell, and these are expected to endure throughout the build-out of the Plan Area.

The remaining portion of the Cell will consist of several complete Urban Residential Neighbourhoods anchored by an Urban Mixed-Use Node and complemented to the south by a large Urban Commercial area. The location of the future Urban Mixed-Use Node – which was originally located approximately 400m to the east – is now centrally located within the future Urban Residential Neighbourhood. A wide range of uses that would benefit from the adjacent road network and future urban services are considered appropriate for this area, including a mix of medium density residential, commercial, institutional, and community uses.

The Cell is adjacent to Opimihaw Creek, the GNSA, and WHP, and must continue to be planned in a manner that is sensitive to these features.

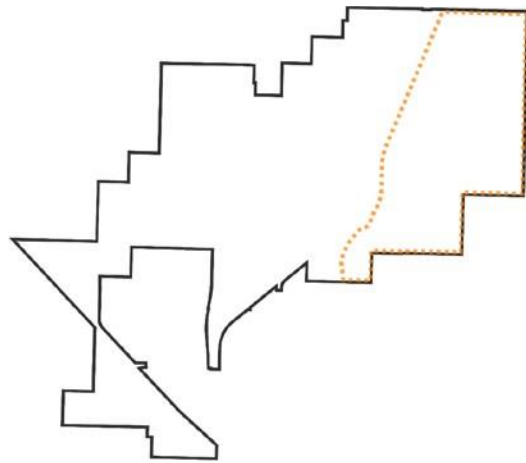
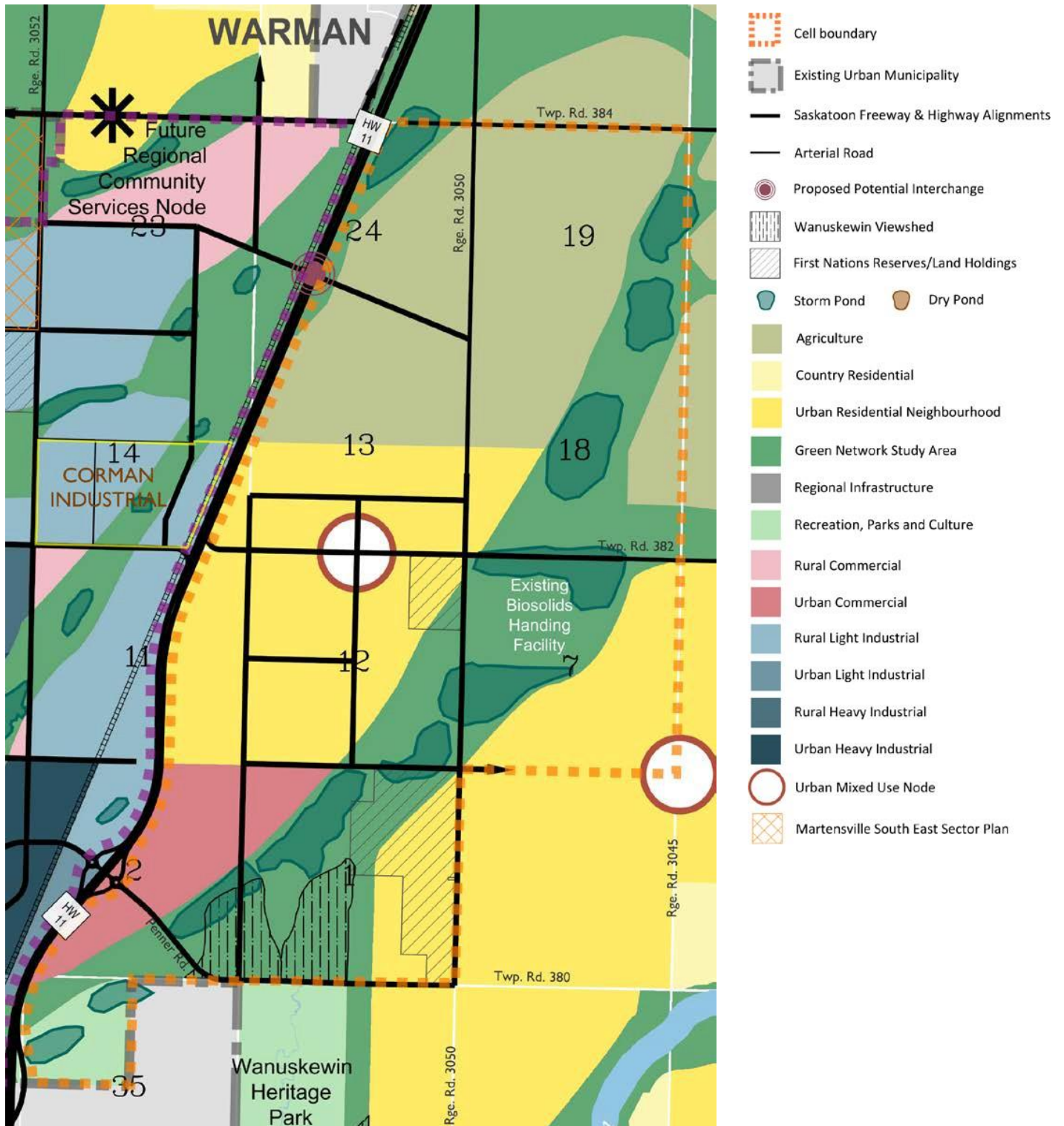


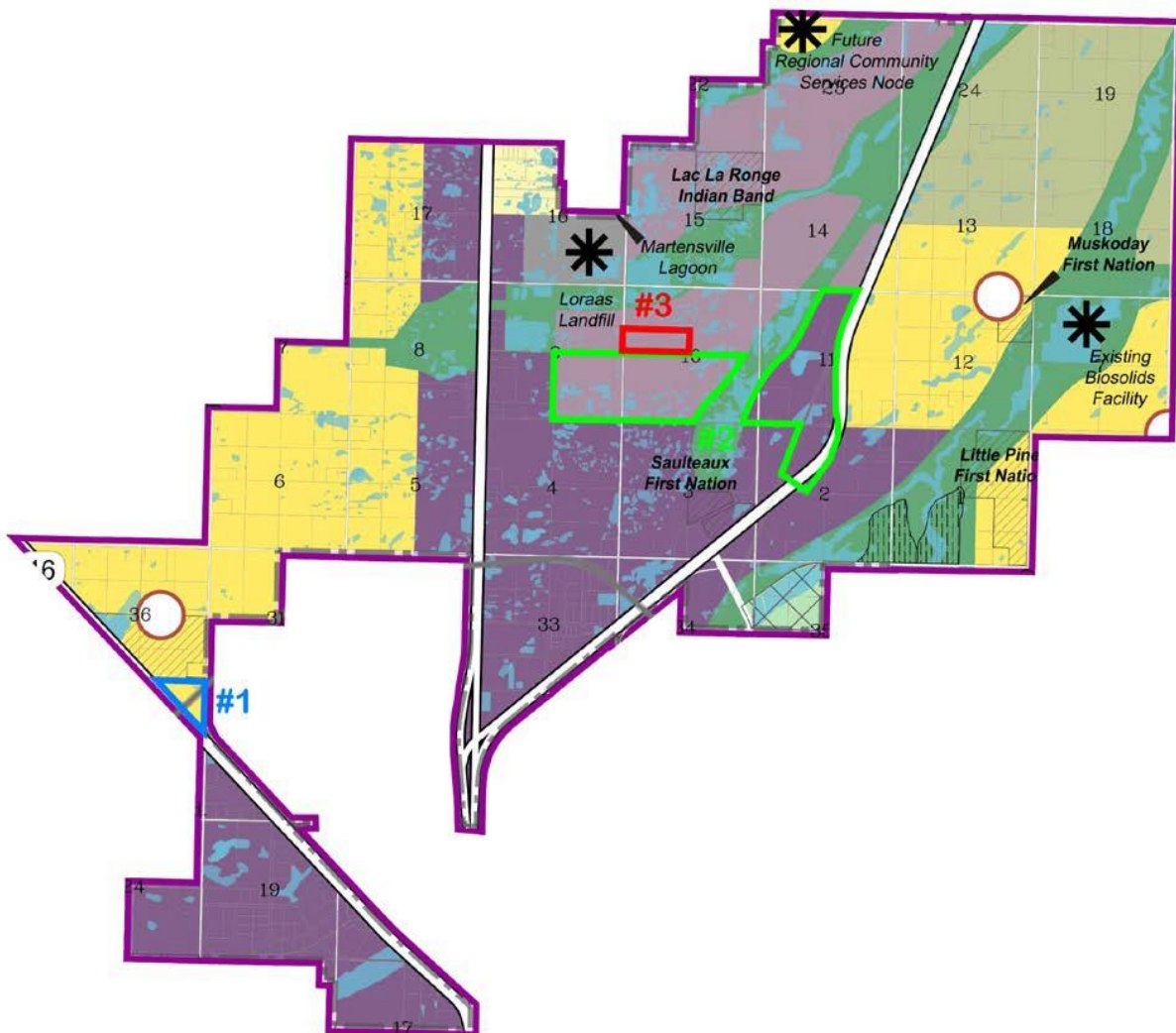
FIGURE 6 – Planning Cell 4



4.4. Proposed Category Changes to P4G DOCP Maps

Based on the Future Land Use Concept, three land use category changes are proposed to the maps in the P4G DOCP. Unlike many of the changes outlined above that would be considered refinements of the land use, each of these includes a change to the land use category (i.e., changes between Urban and Rural or between Residential and Commercial/Industrial). Figure 7 shows the locations of the proposed changes to Schedule B – District Land Use Map and Map 6 shows the proposed change to Schedule C - Future Urban Growth Areas Map. Additional details on each category change are included below.

FIGURE 7 – Location of changes to P4G DOCP



Change

The first proposal is to change the future land use situated under the future Saskatoon Freeway interchange at Highway 16. The P4G DOCP designates this land as Urban Residential, whereas the NCP proposes to change this designation to Urban Light Industrial (Figure 8). The area was planned to accommodate a major interchange which would physically sever the land from the rest of the neighbourhood. Temporary or interim development would be the only suitable use for the land until such time that the interchange is constructed. Therefore, this land use change is primarily to accommodate more flexible interim developments. This change does not have any effect on the current configuration of rural and urban growth areas – it will remain in the urban growth to 1,000,000 population area.

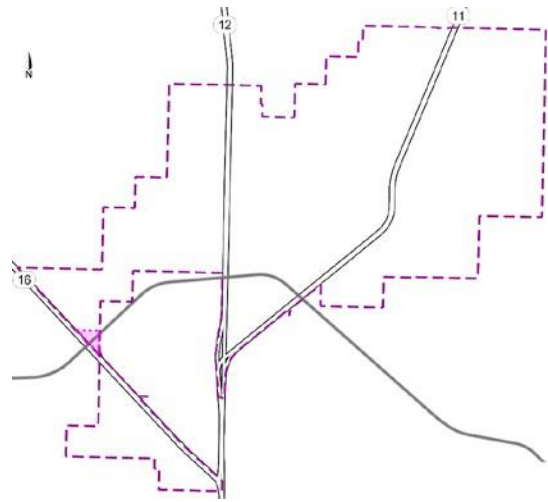
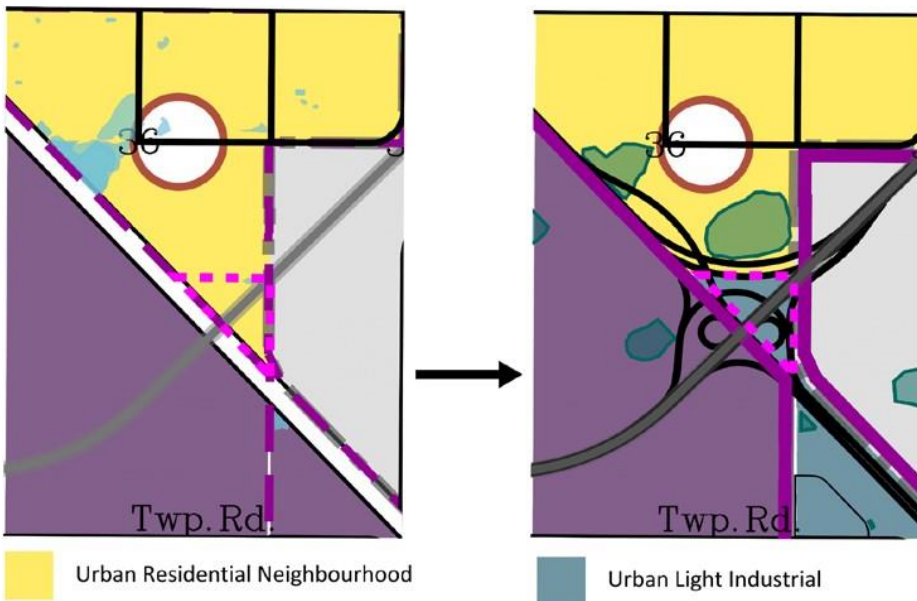


FIGURE 8 – Change #1: Urban Residential to Urban Light Industrial



Change

The second proposal consists of swapping the future land use designations (rural growth vs. urban growth) of two areas (Figure 9) which contain approximately the same land area – 160 hectares (396 acres). This proposed change is based on the following growth management rationale:

- The newly proposed urban growth area is largely undeveloped and forms a more contiguous extent of future urban industrial development.
- The newly proposed rural growth area contains existing agricultural uses and forms a more contiguous extent to other existing rural industrial developments (i.e., Corman Industrial Park to the north).
- The newly proposed rural growth area abuts the CN rail line which provides a vital transport link for existing and future rural/agricultural land uses.

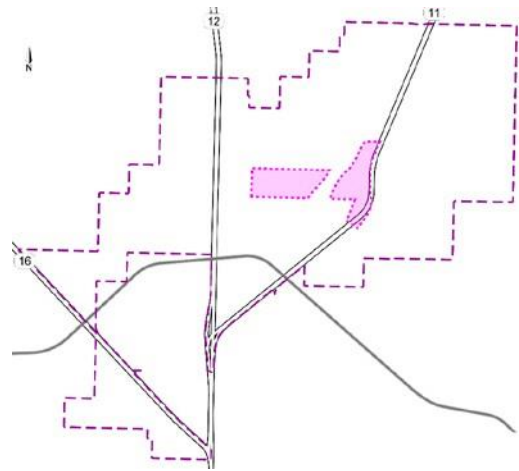
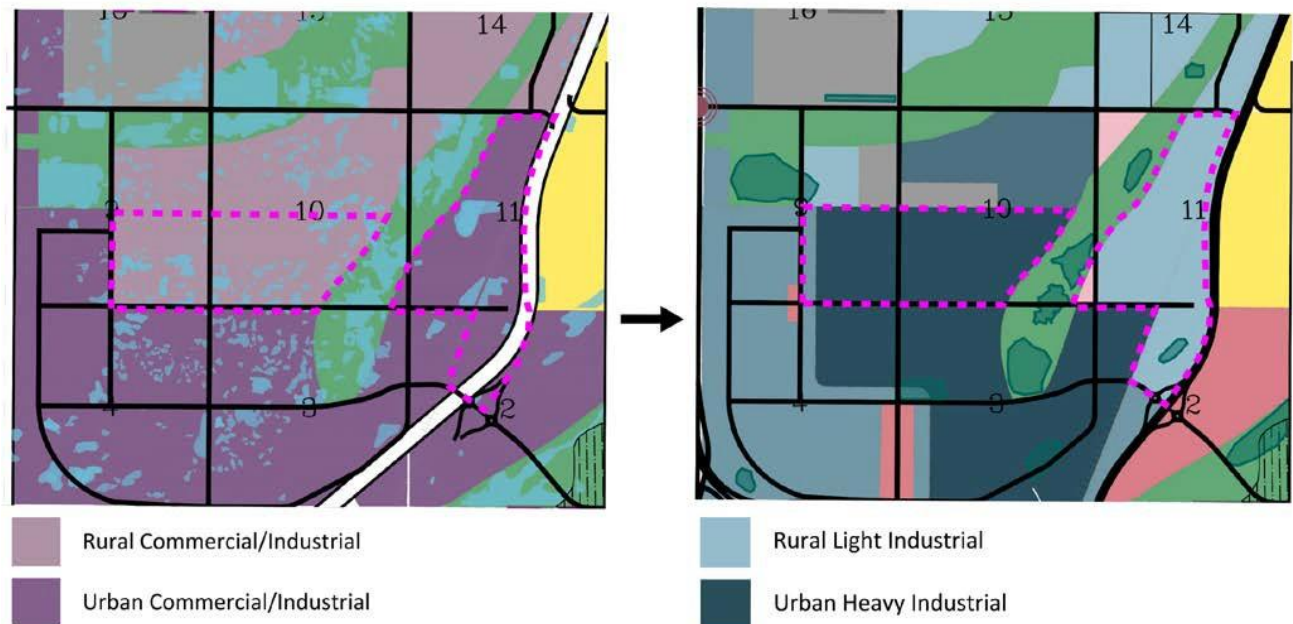


FIGURE 9 – Change #2: Rural area becomes Urban Heavy Industrial urban area becomes Rural Light Industrial



Change

The third proposal consists of re-designating 40 acres (16 hectares) of land located in the southern portion of the NW ¼ of Sec.10 Twp.38 Rge.5 W3M from Rural Commercial/Industrial to Regional Infrastructure. The decision for this change was based on the COS and the Saskatoon Fire Department's (SFD) need for a fire training facility. The SFD has identified this as a strategic location for such a facility, which offers sufficient vehicle access, space for phased development and proximity to other partners in the region that may have an interest in using the facility in the future.

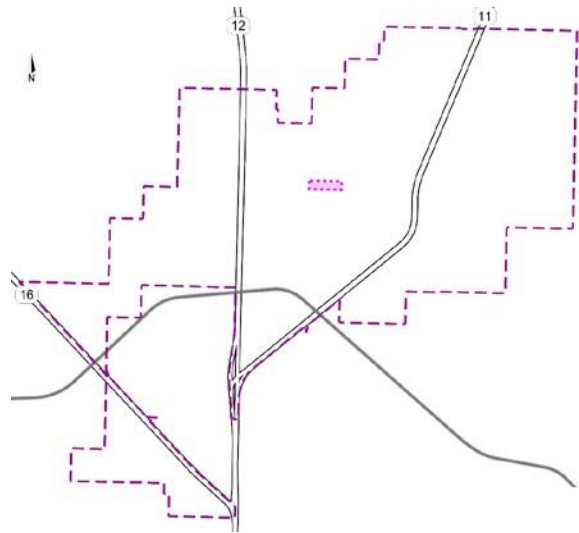
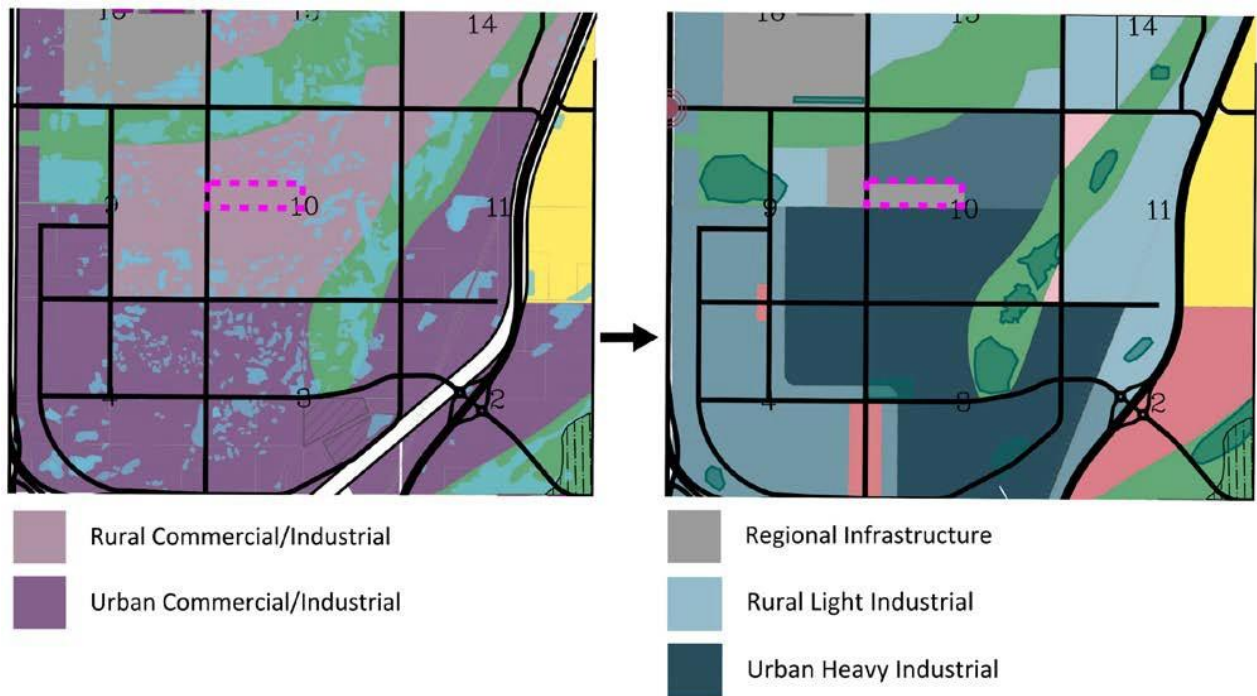
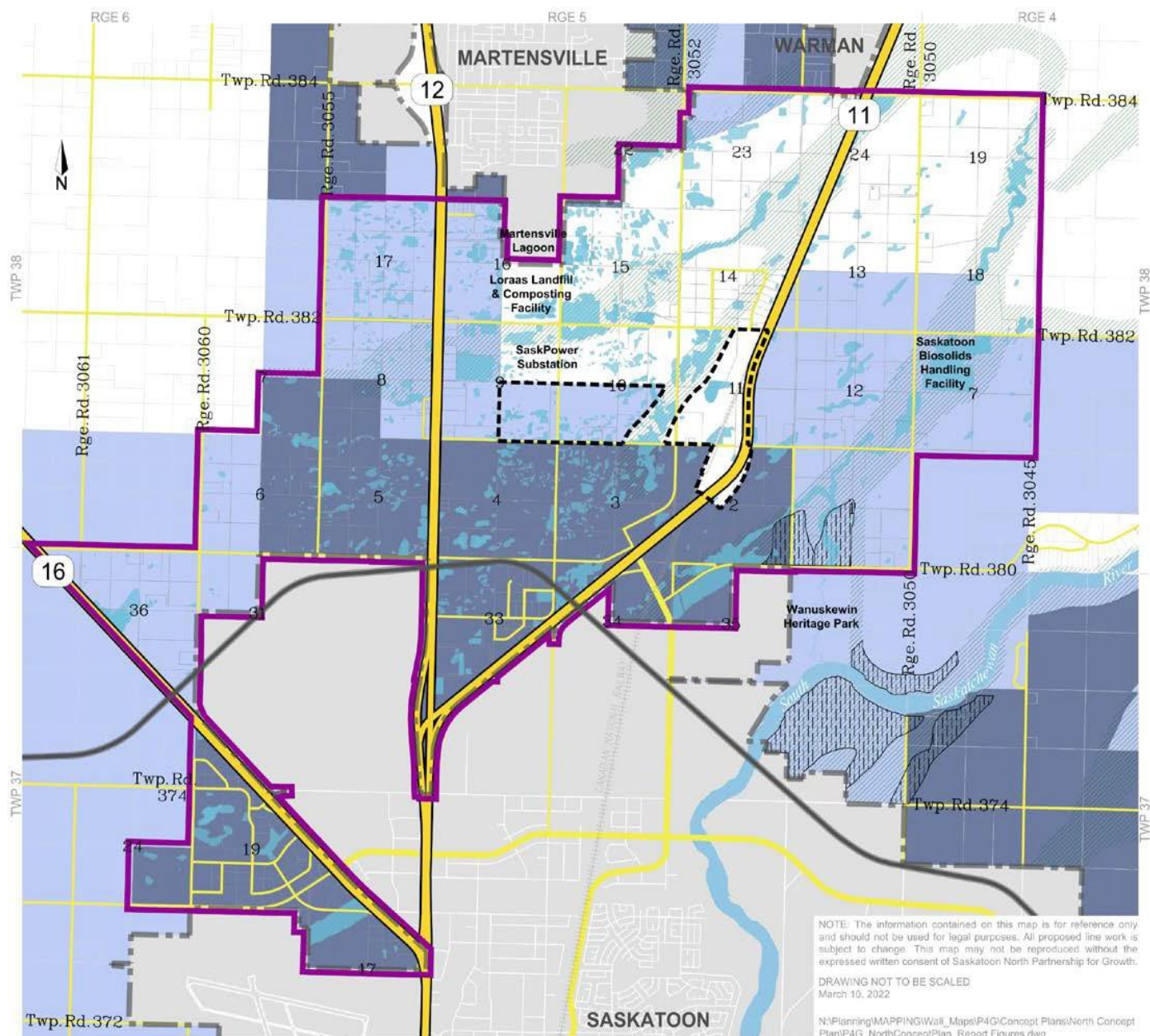


FIGURE 10 – Change #3: Rural Heavy Industrial to Regional Infrastructure

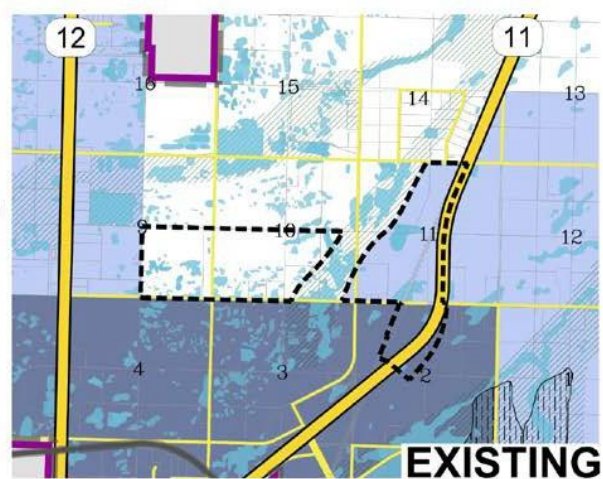


MAP 6 – FUTURE URBAN GROWTH AREAS



- North Concept Plan Study Area
- Existing Urban Municipality
- Existing Wetlands (Class III, IV & V)
- Wanuskewin Viewshed
- Green Network Study Area (under review)
- Saskatoon Freeway Alignment
- Existing Highway
- Existing Roadway

- Future Urban Growth Areas**
- Growth to 700,000
 - Growth to 1,000,000
 - Proposed Amendment to Future Urban Growth Areas



4.5. Split Land Use Designations

There are instances where the legal boundaries of a parcel include more than one future land use. This has potential to create challenges when trying to interpret which set of regulations apply to a proposal for interim development. In cases where interim development is proposed on land with multiple future land uses, the land use category with the more restrictive interim development criteria or restrictions will prescribe the interim development requirements.

4.6. Recommendations

The following is a summary of the overall findings and recommendations identified throughout the NCP planning process:

- As subdivisions occur, Opimihaw Creek, including its banks and riparian areas, should be considered for dedication as Environmental Reserve pursuant to the Act to ensure its protection.
- Existing agricultural operations in designated Future Urban Growth Areas should be protected until the land is re-designated and serviced for development. This would include ensuring that grading limits associated with adjacent development do not negatively impact operations and maintaining access to agricultural lands for farm machinery.
- Highways 11 and 12 are major gateways to Martensville, Saskatoon, and Warman. A zoning framework should be applied and comprehensive design guidelines should be created to ensure that developments near these gateways are lower intensity and present a high standard of design and landscaping.
- Existing high voltage transmission line infrastructure must be considered in consultation with the provider (SaskPower) as part of any Comprehensive Development Review, Development Permit application, or at any other detailed planning stage. If a proposed development results in the need to move this infrastructure, the developer would be required to finance the required front-end costs.
- Protection of the privately operated Loraas landfill and compost site from the encroachment of incompatible uses should be maintained until the facility nears the end of its lifespan, and a suitable regional alternative to waste management is available, as the landfill acts as the sole waste management facility to a large and growing regional land base.
- Due to the space requirements and the potentially noxious nature of operations in the urban and rural industrial areas, regional or large-scale retail uses should be directed to the areas designated rural or urban commercial to avoid incompatible development.
- Some urban municipalities may have stronger interests regarding land use in future urban growth areas than others, depending on the proximity to their current municipal boundaries. Interim development in these areas must be compatible. The future boundaries of each urban

municipality's Future Urban Growth Areas should be confirmed so that the relevant standards and expectations can be determined. A clear outline of split jurisdictional responsibilities and shared goals should also be developed.

- Subject to the results of future analysis or concept plans, land designated Urban Commercial has the potential to include multi-unit residential or mixed-use development. When reviewing interim development proposals, compatibility with potential future urban residential or mixed-used development in these areas should be considered.
- The major flow path running through Sections 9 & 10 (see Map 10, south of Township Road 382, near the Martensville SaskPower substation), while not captured in the current GNSA boundary, is an important conveyance of surface and floodwater, and its impact should be considered in any future development plans as part of a storm water management plan.
- Urban residential development in the Plan Area will be further articulated as part of either a Sector Plan or Neighbourhood Concept Plan. At that time, the size, boundaries, and more detailed development concepts would be established. While overall residential form will vary in these areas, they would be required to meet the minimum density requirements established in the P4G DOCP.
- Subdivision and development, including redevelopment, of lands within the GNSA must be in conformance with the policies in the P4G DOCP including Natural and Heritage Resources, Natural Hazards, Water Resources and Wetlands, and the GNSA.

5. Transportation

The proposed transportation network for the NCP includes major transportation corridors and a hierarchy of arterial roadways that will support existing uses and future development. Map 4 illustrates the existing major transportation network components within the Plan Area.

The Plan Area is based on the framework of Township and Range Road ROWs, with a north/south road every mile and an east/west road every two miles. Not all these roads have been constructed.

Intersections between future major and minor arterial roads will be provided every 800 – 1600 m (.5 to 1 mile) where possible. The grid-based development approach can accommodate a wide range of uses and flexibility in parcel size. Should smaller lots and/or greater access be required, additional collector and local roads may be designed to further subdivide the area. While the NCP only includes a future arterial road network, the Plan Area contains areas where potential exists to develop internal roads and linkages to accommodate infill or interim development.

5.1. Trip Generation

The proposed arterial network was developed based on the trips generated from the proposed land uses shown on Map 5 – Future Land Use. Trips generated by the proposed land uses were developed in accordance with the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition.

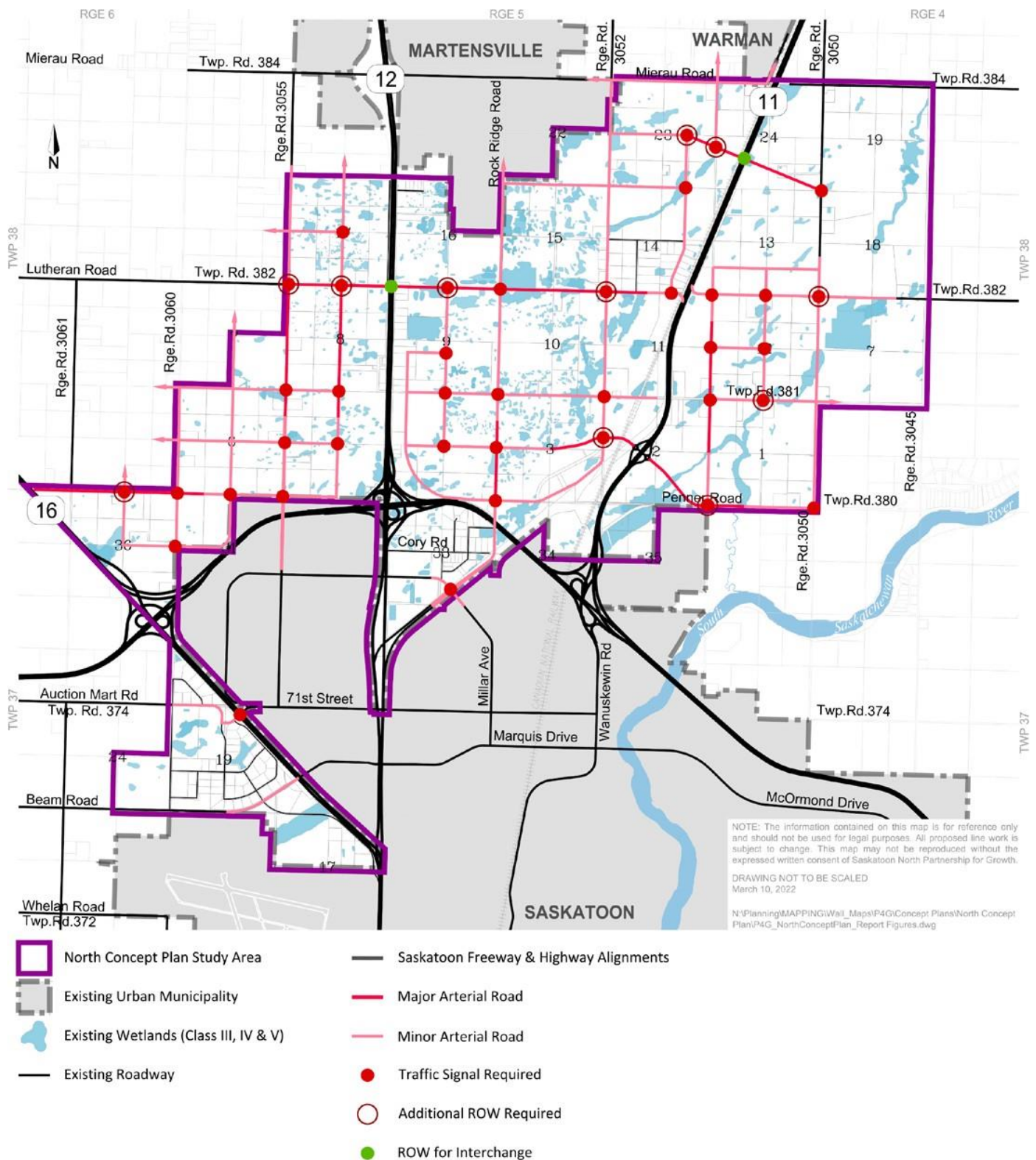
The following land use targets were used to determine and calculate the trips generated per hectare. These are based on the assumptions provided in Section 4.2 - Land Use Statistics.

- Urban Residential neighbourhood density: minimum 17.3 units per gross developable hectare (50 people/ha) and 5 jobs per gross developable hectare
- Rural Industrial & Commercial density: 13 jobs/ha.
- Urban Industrial & Commercial density: 38 jobs/ha.
- Urban Mixed-Use density: minimum 20.76¹⁵ units per gross developable hectare (60 people/ha) and 15 jobs per gross developable hectare.
- Mixed-Use nodes density: minimum 17.3 units per gross developable hectare (50 people/ha) and 25 jobs per gross developable hectare¹⁶.

¹⁵ 20.76 dwellings per unit was calculated based on 17.3 dwelling units equaling 50 people.

¹⁶ This calculation was based on the P4G OCP (Sec. 15.3.27) minimum requirement of 75 residents and jobs combined for Urban Mixed-Use Nodes

MAP 7 – FUTURE TRANSPORTATION NETWORK



5.2. Arterial Network

Based on the trip generation, distribution and assignment, an arterial network was developed that comprises of four-lane (minor) and six-lane (major) arterial streets. The arterial network is shown in Map 7 above. The six-lane arterial streets primarily connect to the provincial highway network. As the network moves further away from the highway network, the demand decreases, allowing the arterial street to narrow to four-lanes. The network resulted in approximately 80,000 meters of four-lane arterial streets and 20,600 meters of six-lane arterial streets.

5.3. Intersection Controls

Typically, all arterial-to-arterial intersections will be signalized. The locations requiring traffic signals are shown above in Map 7. Traffic control has not yet been determined at all other locations – roundabouts and other forms of traffic control may be considered. The intersection control was determined based on the Level of Service (LOS) the intersection operates at and connectivity of the roadway. LOS categorizes traffic flow and assigns quality levels based on measures like speed, density, and congestion.

Map 7 identifies at least 39 traffic signals in the future arterial network that would be required to accommodate full build-out of the Plan Area. Additional traffic signals will likely be required on arterial streets where they intersect with collector and local streets. These locations were not analyzed as a part of this study. Eleven signalized intersections are anticipated to experience a LOS “F”, meaning the intersections do not have the capacity to handle the traffic demand. Additional ROW should be set aside at these locations as shown on Map 7 to accommodate future intersection designs.

5.4. Interchange Locations

In addition to the approved interchange locations along the Saskatoon Freeway, two additional service interchanges are identified within the Plan Area:

- Highway 12 & Township Road 382
- Highway 11 & $\frac{3}{4}$ mile south (approx.) of Township Road 384

The location of these interchanges is informed by the MHI’s current recommended access management plan¹⁷, and will ultimately be informed through the preparation of a functional plan (undertaken by the MHI). Until such time, development may be restricted near these locations.

The proposed interchange location along Highway 11 will be impacted by the proximity to the CN Railway located to the west that runs parallel to the corridor. This rail line will influence the design and location of the future Highway 11 interchange. A functional plan will be necessary to determine the location and layouts for interchanges along Highway 11 and Highway 12 that will

¹⁷ See *Highway 11 / 12 Planning Study. Figure 9: Recommended Access Management Plan.* (2013). MMM Group Ltd.

account for the CN railway alignment. Ultimately the final design and configuration of interchanges will impact land uses and the arterial network in the immediate vicinity. Once the final location of the future Highway 11 south of Township Road 384 interchange is determined, the arterial network design should include a strong connection from this interchange to both Warman and Martensville via Township Road 384.

5.5. Right-of-Way Requirements & Cross-Sections

The arterial cross-sections will need to be constructed according to the Indicative Cross Section¹⁸ shown in Figure 11.

FIGURE 11 – Indicative Cross Section

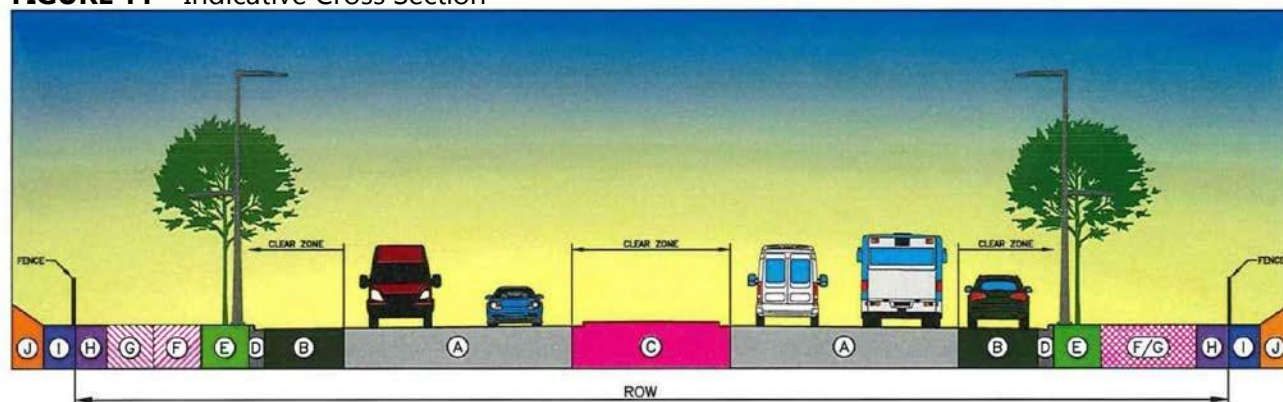


Table 3 contains the required minimum widths for each section on the four-lane arterials and the six-lane arterials including the total ROW width. These represent the expected widths of ROWs. At the time of subdivision, the maximum width listed below for each category must be dedicated, unless a detailed transportation analysis for the site and surrounding development area showing otherwise has been submitted and approved.

Table 3. Required Minimum Widths for Arterial Cross Section

	4- Lanes (minor)	6-Lanes (major)
A: Driving Lanes	4 @ 3.6m	6 @ 3.6m
B: Parking Lanes	2 @ 2.5m (parking may be considered for minor arterials)	parking not permitted on 6-lane arterials
C: Median	5.0 m *	5.0 m*
D: Curb & Gutter	2 @ 0.3m	2 @ 0.3m
E: Amenity Strip	2 @ 1.5m (increase to 2.0m if trees are desired)	2 @ 1.5m (increase to 2.0m if trees are desired)
F/G: Multi-Use Pathway	2 @ 3.0m	2 @ 3.0m
H: Boulevard	2 @ 1.0m (this dimension may increase for utility installations etc.)	2 @ 1.0m (this dimension may increase for utility installations etc.)
Total ROW	36 m – 41 m	38 m – 43 m

¹⁸ Indicative Cross Section Arterial can be found in City of Saskatoon Standard Construction Drawing No. 102-0029-061.

*Minimum width. Additional width required if intersection is noted as requiring additional ROW.

5.6. Cost Estimate

A high-level transportation cost for the arterial network is \$1,120,480,000. A breakdown of the cost estimate can be found in the table below.

Table 4. Future Arterial Network Cost Estimate

Item	Unit Price	Quantity	Total Cost
Traffic Signals	\$300,000/signal	39 signals	\$11,700,000
4-lane Arterial	\$9,450/m	80,000 m	\$756,000,000
6-lane Arterial	\$12,300/m	20,600 m	\$253,380,000
Interchange	\$50,000,000/interchange	2 interchanges	\$100,000,000
		SubTotal	\$1,121,080,000

This is a high-level cost based on 2020 construction costs. This does not include the price of land that may need to be purchased to accommodate the infrastructure. Unit prices for the arterial streets include a 20% contingency built into the price. The interchange assumes that one loop and three ramps will be required. Additional loops will require an additional ~\$5,000,000 per loop.

5.7. Recommendations

- Proposed amendments to land use designations should be assessed against the arterial network as part of the review process to ensure that any impacts to the overall network are addressed.
- ROW required for the arterial streets should be set aside as soon as possible to ensure that development does not prevent the construction of the future arterial network.
- Additional ROW at intersections that have been flagged as LOS F as shown on Map 7 should be reserved to ensure that future intersection improvements will not be hindered by development. Additional functional transportation design should be undertaken to determine ROW size.
- The ROW for arterial streets should provide for multi-use paths (that is, Active Transportation facilities) on both sides of arterial streets to provide accessible pedestrian facilities and All Ages and Abilities (AAA) cycling facilities.
- The final configuration of the arterial network should include a strong connection between both Warman and Martensville and the future Highway 11 interchange as currently shown south of Township Road 384.
- P4G must work with the MHI to regularly monitor the intersections with the highways to ensure that they have an acceptable LOS and traffic safety. As development increases the traffic control may need to change to ensure an acceptable LOS.
- P4G must work with the MHI to reserve ROW at the highway intersections to ensure that future development will not hinder the construction of planned interchanges.
- P4G must explore strategies to finance and construct the infrastructure required for development, to provide certainty and encourage growth.
- An access plan should be developed to discourage uncontrolled development of driveways along the future arterial street network and establish appropriate spacing future intersections and

access points to ensure proper traffic operations within the functional areas of future intersections.

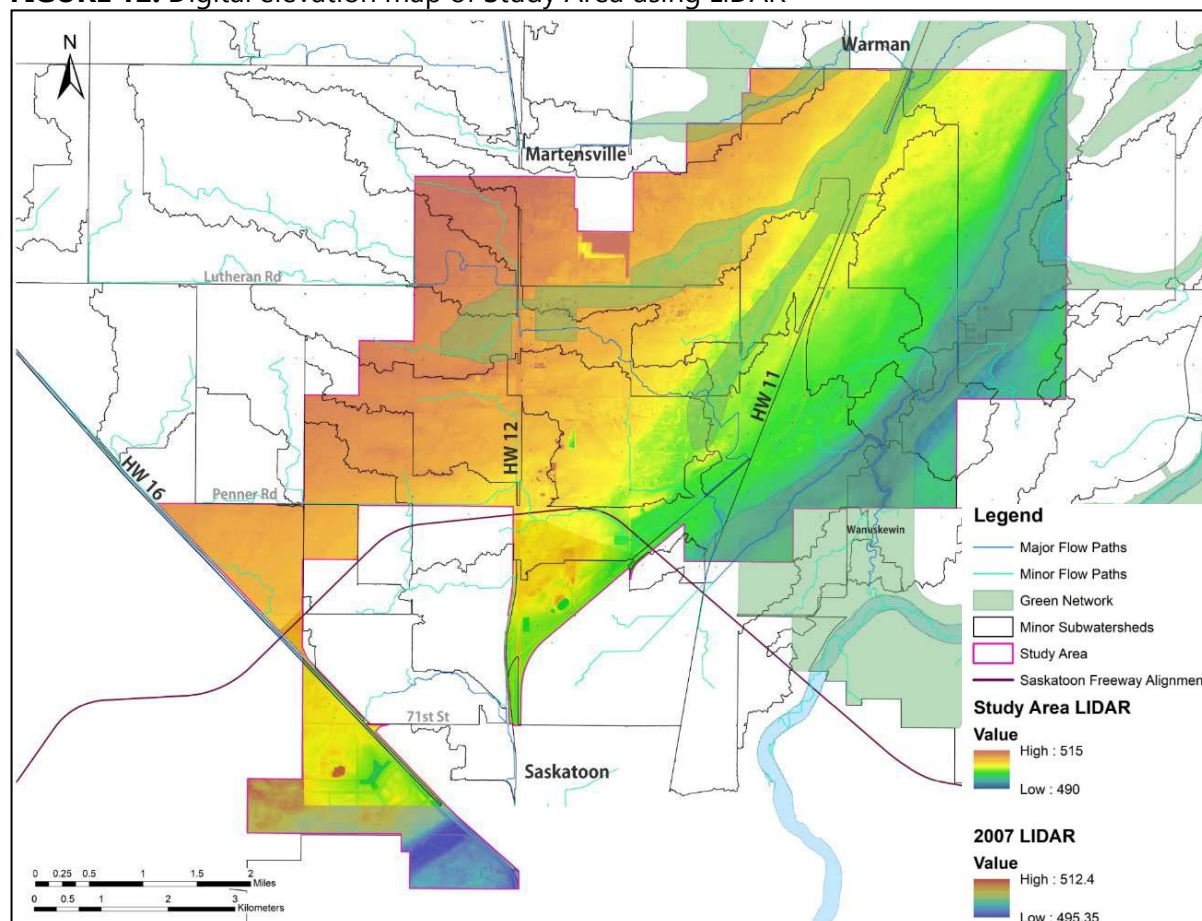
6. Servicing

The following sections contain servicing plans and recommendations for potable water, sanitary sewer, and storm water drainage across the entire Plan Area (both rural and urban growth areas). These plans are based on existing natural topography while considering some existing features (highways, current industrial parks, GNSA boundary) and planned future projects (the Saskatoon Freeway). It is anticipated that the current rural servicing for the Plan Area will remain until urban services are available. The serviced area will expand slowly over time, as market demand and investment allow.

Servicing recommendations are categorized as **Regional**, **Urban**, and **Rural**.

REGIONAL	Regional recommendations are intended to be applied across the entire Plan Area as they implicate all areas, regardless of whether the land is intended to be urban or rural.
URBAN	Urban Recommendations are intended to be applied to the Future Urban Growth Areas.
RURAL	Rural recommendations, while still regionally oriented, are intended to account for areas that are not identified for future urban growth (the rural areas).

FIGURE 12. Digital elevation map of Study Area using LiDAR



The servicing plans were designed to follow the natural slope of the land, which provides the lowest cost, easiest-to-construct system by minimizing pipe depths and earth moving required during area grading. When a subdivision proposal includes land required for infrastructure as shown on Map 9, dedication of ROW will be required. Where possible, servicing was designed to be co-located in existing ROWs and follow quarter section lines in straight segments in order to increase the cost-effectiveness of the system. Reserving space for pipes and ponds will ensure an efficient, lower cost system in the future with the largest possible serviceable area. Knowledge of where the trunks will be installed allows developers to consider future service connection points. It also allows development throughout the area to be planned and constructed in a way that will minimize costs and fit together when urban servicing is provided.

Plans at this scale may be updated as more detailed information becomes available and as other decisions are made that influence servicing. For example, the Saskatoon Freeway and associated interchanges have been accommodated as they are currently planned. If the footprint of this project changes, then servicing maps will also have changes. Still, this Plan gives a skeleton that ensures that more detailed work will fit into the overall big picture.

6.1. Potable Water System

The Plan Area will be serviced by primary water mains extending from Saskatoon City limits at Highway 16, Highway 11, 60th Street, and at the railway tracks near Wanuskewin Road as depicted on Map 8 – Water Distribution. The primary water mains form large loops to ensure that potable water with adequate pressure is provided at all points in the system¹⁹. Extending water service into this area to accommodate urban growth will require additional fill mains, reservoir, and water treatment plant capacity from a second water treatment plant identified by the COS. The current COS water treatment plant cannot supply enough water to fully service the Plan Area. Overall, the water system will require major infrastructure improvements to reach and service the Plan Area, including fill mains extending from the water treatment plant and new reservoirs.

¹⁹ The potable water system operates under pressure and is not dependent on topography.

6.1.1. Potable Water Recommendations:

APPLICATION	RECOMMENDATION
REGIONAL	• P4G must explore strategies to finance and construct the infrastructure required for development, to provide certainty and encourage growth. • Collaboration with First Nations to explore the potential for efficiencies in planning, construction and maintenance of potable water infrastructure should be encouraged. • If a development proposal may affect the alignment of water distribution infrastructure shown on Map 8, the proposal will be reviewed with the relevant service provider to determine if any changes to the alignment may be considered. If the service provider cannot accommodate changes to the alignment, the development proposal must be revised to be consistent with Map 8. • When a subdivision proposal includes land required for water distribution infrastructure as shown on Map 8, dedication of a minimum of 10 metres of ROW will be required. • Extensions of the water system must have connection points to the current system and rely on an available supply of treated water.
URBAN	• Interim developments should be designed and constructed with a connection to future urban servicing in mind. • Interim developments should be built to the standards of the urban municipality in proximity until such time as regional design standards are developed and adopted to ensure that different projects fit together.
RURAL	• Rural developments should be designed and constructed with a connection to rural servicing in mind.

The map illustrates the North Concept Plan for the City of Saskatoon, focusing on the proposed H. McIvor Weir Pollution Control Plant (Wastewater Treatment Plant) and its connection to the existing sewer system. The map includes the city of Martensville, Worman, and Saskatoon, along with the South Saskatchewan River and various regional features like the Saskatoon Biosolids Handling Facility and Wanuskeewin Heritage Park. The map is divided into numbered sections (1-36) and includes a legend for the proposed line work.

Legend:

- Proposed Line Work
- Existing Line Work
- Future Water Reservoir
- 8km Airport Buffer
- 4km Airport Buffer

Map Labels:

- Martensville
- Worman
- Saskatoon
- Martensville Lagoon
- Loraas Landfill & Composting Facility
- SaskPower Substation
- Saskatoon Biosolids Handling Facility
- Wanuskeewin Heritage Park
- Future Water Reservoir
- South Saskatchewan River
- 8km Airport Buffer
- 4km Airport Buffer

Map Details:

- Map is divided into numbered sections (1-36).
- Map includes a legend for the proposed line work.
- Map includes a north arrow.
- Map includes a scale bar (0 to 1000 meters).
- Map includes a title block with the following information:
 - H. McIvor Weir Pollution Control Plant (Wastewater Treatment Plant)
 - NOTE: The information contained on this map is for reference only and should not be used for legal purposes. All proposed line work is subject to change. This map may not be reproduced without the expressed written consent of Saskatoon North Partnership for Growth.
 - DRAWING NOT TO BE SCALED
 - March 10, 2022
 - N:\Planning\MAPPING\Wall_Maps\P4G\Concept Plans\North Concept Plan\P4G_NorthConceptPlan_Report_Figures.dwg



6.2. Sanitary Sewer System²⁰

The entire Plan Area will be served by one, continuous sanitary sewer system that must begin at the lowest elevation at the connection point to a new wastewater treatment plant in the south-east corner of the Plan Area. Upstream parts of the system rely on downstream parts to handle the flow. There is no downstream capacity within the COS, so sanitary servicing for this area cannot progress until there is a connection point to a trunk that goes around the current COS limits.

Areas designated for future urban growth within the Plan Area will be serviced by a network of gravity sanitary sewer trunk pipes as depicted on Map 9 – Sanitary System. These trunks are expected to be in Rights of Way (ROW) and should be planned for as part of any development applications or proposed improvements to the area. The typical minimum width to accommodate a trunk is 20 metres. The main trunk follows the alignment of the Saskatoon Freeway, flowing east from the Highway 16 future interchange to the Highway 11 future interchange. It then moves to follow the GNSA boundary to the north along the Opimihaw Creek valley. It crosses the GNSA just north of the COS Biosolids Handling Facility and then connects to a proposed wastewater treatment plant before releasing flow to the river. The BizHub area requires two lift stations at the low points. Overall, servicing the Plan Area to accommodate future urban growth will require a second wastewater treatment plant.

It was assumed that land inside the GNSA will not be developed and so trunks were located at its boundary across the Plan Area. If the GNSA boundaries are refined or if sanitary sewer service is desired in these areas, the sanitary sewer system plan will require adjustment. At this scale, the same flow assumptions were applied to the full serviced area regardless of zoning. This provides flexibility to the sanitary system, where adjustments to planned future land uses can still be accommodated by the planned trunks. Reducing the ultimate serviced area would make trunks smaller, but not change their location as they follow the low points in the landscape.

²⁰ Assumptions:

- GNSA does not require service.
- Parameters set as follows for flow calculations:
 - Manning's Roughness Coefficient $n = 0.013$
 - Population of 50 persons/ha
 - Average dry weather flow = 290 L/person/day
 - Infiltration and Inflow = 0.08 L/s/ha
 - Weeping tile flow = 0.05 L/s/house
 - 12 houses/ha

Note: Inconsistency between the assumptions used for servicing and those used for population density targets are attributed to the inclusion of the GNSA in the flow calculations, but not the density calculations.

6.2.1. Sanitary Sewer Recommendations:

APPLICATION	RECOMMENDATION
REGIONAL	• P4G must explore strategies to finance and construct the infrastructure required for development, to provide certainty and encourage growth. This includes the studies needed to determine the location of a second wastewater treatment plant, secure the required land, and create a strategy to finance and construct the facility. • Collaboration with First Nations to explore the potential for efficiencies in planning, construction and maintenance of sanitary sewer infrastructure should be encouraged. • If a development proposal may affect the alignment of sanitary sewer infrastructure shown on Map 9, the proposal will be reviewed with the relevant service provider to determine if any changes to the alignment may be considered. If the service provider cannot accommodate changes to the alignment, the development proposal must be revised to be consistent with Map 9. • When a subdivision proposal includes land required for sanitary sewer infrastructure as shown on Map 9, dedication of a minimum of 20 metres of ROW will be required.
URBAN	• Interim developments should be designed and constructed with a connection to future urban servicing in mind. • Interim developments should be built to the standards of the urban municipality in proximity until such time as regional design standards are developed and adopted to ensure that different projects fit together.
RURAL	• Urban infrastructure may be required to pass through some rural areas to connect urban developments to the treatment plant. If urban infrastructure runs through rural areas, connection is potentially feasible subject to the location, design and capacity of the infrastructure, and conditions such as full cost recovery, as the area was included in flow calculations.



6.3. Storm Water System²¹

The storm water management plan (Map 10 – Storm Water System) extends throughout the entire Plan Area and is intended to operate together as a whole, regardless of whether it is urban or rural. The storm water system has many wet ponds or wetlands that are connected by a conventional underground pipe system in combination with overland drainage. Within the GNSA, drainage channels are preferred for conveyance as they are lower cost than large pipes and provide storage in addition to a conveyance. The storm water system is designed to minimize impacts to the natural areas and retain major wetlands. Keeping wetlands in the natural low locations minimizes construction costs and maintains natural flow paths. Considerations should be made to limit or avoid reshaping wetlands based on their assessed ecological value.

The storm water management system aligns with the GNSA through much of the area and, where possible, storage ponds and wetlands are planned within the GNSA. The GNSA is not planned for development as it is a high flood risk and provides valuable natural habitat and ecosystem services. The storm water drainage plan does not consider other regulatory or policy requirements related to wetlands. This Plan addresses only the technical requirements for runoff storage and conveyance.

The storm water system connects to the COS limits in three places and directly to the river in two places. Each branch of the storm water system must progress from the south east connections points (the downstream outlets) to the upstream portions of the system. Where topography forces the system to connect to the COS, large ponds are required to buffer the flow. This allows the downstream City system time to drain before it drains the Plan Area. These border ponds were sized to accommodate a 1:100-year rainy season (May – November), rather than a 24-hour 1:100-year storm. The entire watershed area was considered, including that outside the Plan Area, to allow drainage potential for all areas.

²¹ Assumptions:

- The GNSA will not be developed and is the preferred location for storm water infrastructure.
- Ponds and ditches are designed for a 1:100 storm. Pipes are designed for a 1:2 storm, with larger storms also moving across the surface to the nearest pond.
- Ponds are shown with a 20 m buffer around them meant to show the distance between normal water level and high-water level (+1.8m depth) and freeboard (+1m depth) at 5:1 slope.
- Ponds at the border between the Plan Area and the COS storm sewer system are designed to contain the runoff from a 1:100-year rain season and to drain by November 1 of the year.
- Modelling was completed using XPSWMM with:
 - 50% impervious surface
 - 2% slope on catchment area to the nearest pipe

The central and east watersheds connect to the river via Opimihaw Creek through the WHP. The Opimihaw Creek ravine that runs through WHP has been identified as at risk from erosion if flows increase, and upstream storage is critical to managing the flow rates through this area.

Ponds are mapped at their required sizes, but the shape and/or precise location is intended be adjusted when a detailed design is completed prior to development. There is an opportunity to adjust pond locations within the system or to reshape a large pond into several smaller ponds, but the overall capacity must be maintained to protect downstream neighbours and ensure the system operates together as a whole. Ponds and wetlands constructed or adapted to the storm water system will provide or maintain habitat and ecosystem services to the area and are preferred to dry ponds for this reason. Storm ponds are discouraged within 4km of the airport reference point due to the attraction of migratory birds they create. Map 11 identifies two dry ponds which are located within the 4km airport buffer.

Where a future storm water pond is identified on a parcel of land, the developer must develop a full-size pond or identify an acceptable financing and/or land swap strategy to develop a portion of the pond to manage current development with a provision to expand when required to accommodate other development in that pond's catchment area.

FIGURE 13 – Example storm water pond



Runoff storage requirements must be incorporated into development plans. The failure to build storage ponds in advance of or in tandem with new developments increases flooding risk throughout the system. The Plan Area already experiences significant drainage challenges and improving both drainage and storage must be a priority as the landscape changes. When a developer creates a development plan, they should work with a qualified environmental specialist and a storm water engineer to create a plan that is appropriate to both the existing natural wetlands and the storage required to manage the change in land use.

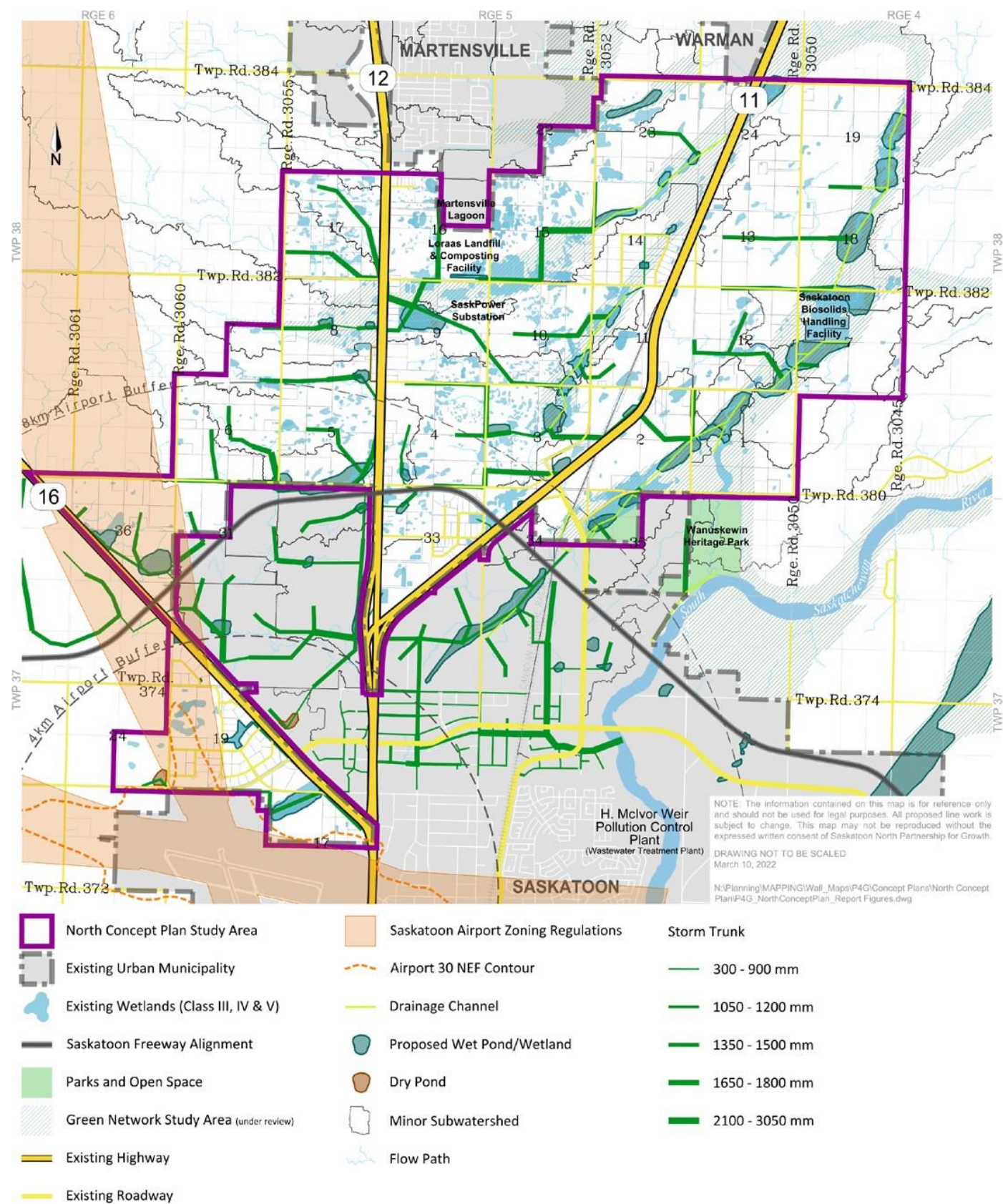
6.3.1. Storm Water Recommendations:

APPLICATION	RECOMMENDATION
REGIONAL	• P4G must explore strategies to finance and construct the infrastructure required for development, to provide certainty and encourage growth. • Collaboration with First Nations to explore the potential for efficiencies in planning, construction and maintenance of storm water infrastructure should be encouraged. • Prior to development, an on site storm water model and plan must be completed to assess and establish the storage volume, pipe sizes, and overland flow paths. This model/plan must demonstrate how the development will be tied into the rest of the system to ensure each part of the storm water management system works harmoniously to serve the entire Plan area. • If a development proposal may affect the alignment of storm water infrastructure including sub-catchment areas, wet ponds/wetlands, dry ponds, drainage channels or storm trunks as shown on Map 10, the proposal will be reviewed with the relevant service provider to determine if any changes to the alignment may be considered. If the service provider cannot accommodate changes to the affected infrastructure, the development proposal must be revised to be consistent with Map 10. • When a subdivision proposal includes land required for storm water infrastructure including sub-catchment areas, wet ponds/wetlands, dry ponds, drainage channels or storm trunks as shown on Map 10, dedication of land will be required. For storm trunks, dedication of a minimum of 20 metres of ROW will be required. • In addition to the technical requirements of this Plan, future planning must consider any other relevant regulatory requirements regarding wetlands and natural areas. • Any development that may result in flow changes in Opimihaw Creek must be shared with WHP and any relevant watershed association and their feedback considered in the review of any development proposals. • During the development review process, proposed changes to the storm water system must be reviewed against the original models to ensure that any significant impacts are mitigated.
URBAN	• Interim developments should be designed and constructed with a connection to future servicing in mind. • Interim developments should be built to the standards of the urban municipality in proximity until such time as regional design standards are developed and adopted to ensure that different projects fit together.

RURAL

- Rural development that proposes more than 10% rooftop or paved area is required submit a storm water plan for approval.

MAP 10 – STORM WATER SYSTEM



6.4. Plan Area Grading

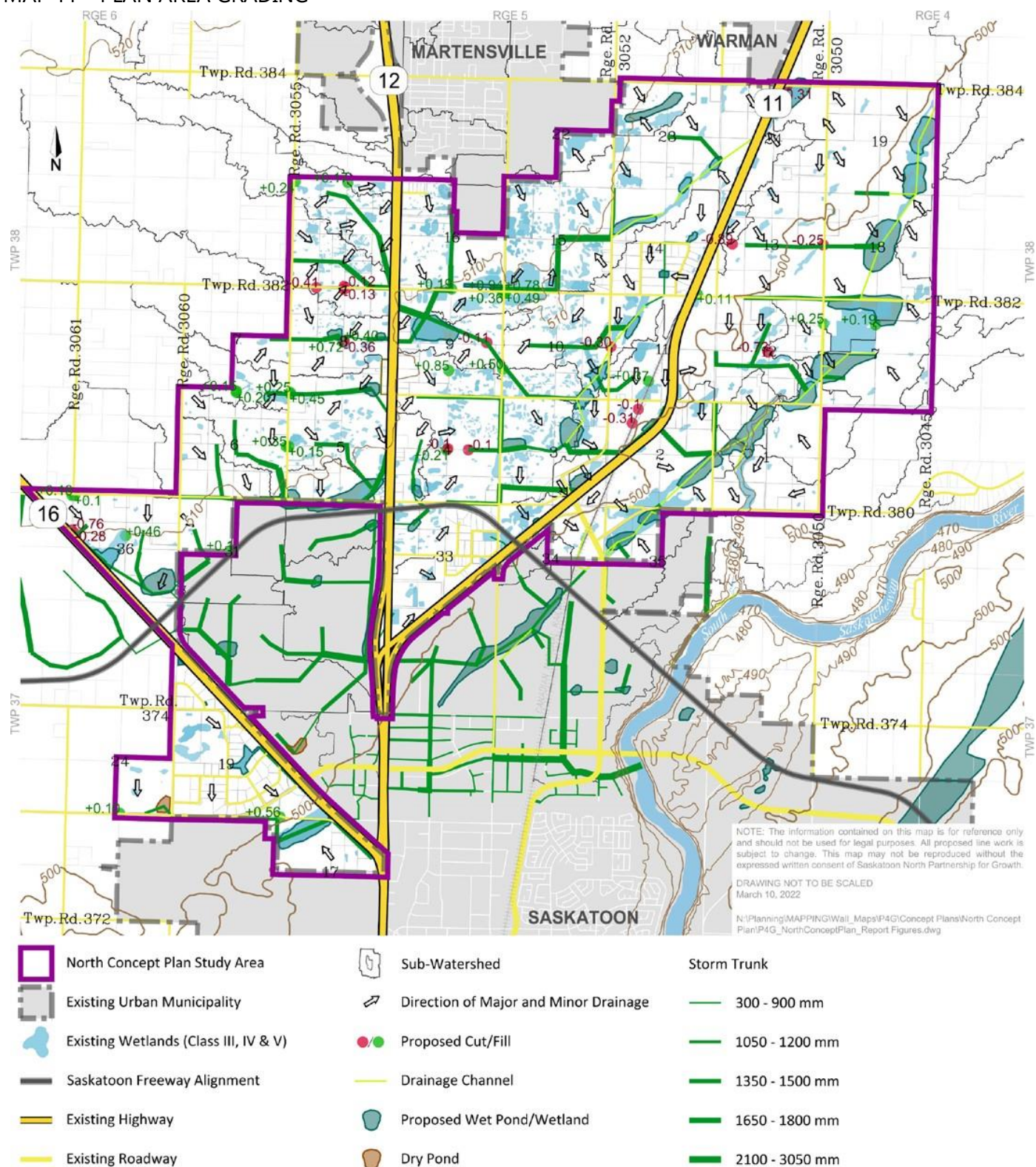
Area grading is provided at a high level that shows the sub-catchments, flow paths, and drainage direction as depicted on Map 11 – Plan Area Grading. It is critical for development to maintain the existing natural sub-catchment areas and drainage paths. This will ensure that there are no adverse effects on upstream or downstream neighbours and that the locations planned for future trunks, channels, and ponds do not get developed. Interim ponds should be located as close to the natural drainage path as possible and connected to the existing overland drainage system, with a release rate equal to the pre-development runoff flow. Any changes to a part of the overland drainage system should be evaluated to see what impact it will have on upstream and downstream neighbours.

Lands near railways, highways, and existing grid roads are locations of concern as these transportation corridors create barriers to natural drainage and lands adjacent to the upstream side are flood prone. This can potentially be remedied by raising the grade, improving the connectivity by adding culverts, or both. Modelling of improvements is required prior to development to anticipate whether these improvements will negatively impact other properties. Early engagement with relevant agencies will be important to ensure solutions will be acceptable.

6.4.1. Plan Area Grading Recommendations:

APPLICATION	RECOMMENDATION
REGIONAL	- A detailed area grading plan must be submitted prior to development. The area grading plan must include a cut/fill and elevation points across the area and demonstrate that the development drains internally to the desired low points while at the same time tying into the surrounding lands in such a way as to not impact the land outside the development area. - If a detailed area grading plan affects the Plan area grading shown on Map 11, the proposal will be reviewed with the relevant municipalities to determine if any changes may be considered. If changes cannot be accommodated, the detailed area grading plan must be revised to be consistent with Map 11. - Collaboration with First Nations in the preparation of detailed area grading plans should be encouraged.

MAP 11 – PLAN AREA GRADING



6.5. Infrastructure & Utility Corridors

Given the nature of anticipated uses and population in the study area, there will be a need for reliable utilities, including power, water, telecommunications, and gas. These utilities must be provided in a highly efficient, cost-effective, and sustainable manner to optimize existing and future capital investment.

The study area contains existing major utilities (high pressure gas transmission and overhead electrical transmission lines), which are not anticipated to be moved in the foreseeable future and may be subject to improvements and expansions. As such, subsequent planning within the study area must consider these and aim to maximize the utility of parcels located along existing and future utility and infrastructure corridors.

Focusing investment on strategic improvements and locations will help to provide cost-effective development and orderly long-term expansion or urban areas. This will also help to maximize the study area's developable area, protect the GNSA and other sensitive areas, and ensure efficient delivery. While the final utility system and infrastructure alignment will be determined as part of subsequent planning stages, the section below contains recommendations intended to guide development in the interim.

6.5.1. Infrastructure & Utility Corridor Recommendations:

APPLICATION	RECOMMENDATION
REGIONAL	• Future infrastructure and utilities should locate into existing infrastructure or utility corridors where they exist. Such corridors must be protected from incompatible development. • Where a new corridor is required, the proponent must avoid areas of incompatible land uses and sensitive features. • Future shallow utility infrastructure should aim to co-locate in common locations to maximize the developability of lands and reduce any off-site impacts (such as within existing or future road ROW). • Future utility alignment must avoid lands designated GNSA; however, where it is unavoidable, impacts shall be mitigated, and new infrastructure must co-locate with other linear infrastructure where feasible to reduce disturbance. • The location of any required easements must be determined in consultation with utility service providers.

6.6. Phasing of Servicing

The DOCP identifies the locations of urban growth at a regional population of 700,000 and a regional population of 1 million. This urban growth phasing was initially considered when preparing the servicing plans for the NCP. Through the review and analysis conducted as part of the NCP, a more efficient servicing strategy has been proposed that does not align directly with the phasing outlined in the DOCP. Further studies to determine and plan for the required regional infrastructure relative to the phasing of urban growth may need to be completed or updated. Full realization of the NCP relies on major new infrastructure, such as a water treatment plant and a wastewater treatment plant, somewhere in the system. The current plants will be at capacity servicing land within the current COS limits. The completion of regional servicing strategies should be prioritized to determine whether there are alternative solutions (e.g., plant locations, capacity shifting, lift station/force mains) that could provide for alternative approaches. A review of the locations of the 700,000 and 1 million growth areas in the DOCP may then be necessary depending on the results of studies completed.

6.7. Sequence of Development

The Land Use Concept is future-oriented and depicts how the Plan Area is to be developed over an extended period through a series of public and private sector initiatives. An inherent objective of the NCP is to ensure that development of the Plan Area proceeds in a coordinated and cost-effective manner.

It is assumed that the sequence of *urban* development will typically be guided by the logical extension of urban services as generally outlined in Section 6 - Servicing. The sequence of urban growth will have to consider the locations of additional water and wastewater treatment plant(s) which at the time of writing this report have not been determined. For *rural* development inside areas identified for future urban growth, the need for collaboration between municipalities will be critical moving forward. This will help ensure that the future growth and land use decisions made today will reflect the needs and aspirations of the local business and industrial community, without jeopardizing a cost-effective and efficient transition to urban development sometime in the future.

The time frame and phasing of urban development will ultimately be determined by the criteria for prioritization and growth sequencing as determined by each respective municipality, in coordination with the region, in addition to many other factors beyond the scope of this Plan.

6.8. Cost Estimate for Urban Servicing

The table below reflects high-level estimates of the current cost of supply and installation of urban servicing infrastructure. This does not include the price of land that may need to be purchased to accommodate the infrastructure.

Table 5. Servicing Cost Estimate

TOTAL	\$845,020,000
WATER	\$107,377,000
SANITARY	\$285,227,000
STORM²²	\$301,406,000
PONDS	\$151,010,000

²² Estimated at \$1M/ha cost of storm ponds; assumed 20% of storage size for forebays as constructions costs in GNSA.

7. Framework for Transition to Future Urban Infrastructure

7.1. Planning for Transition to Urban Infrastructure

The P4G DOCP provides a framework for the growth of the Region that supports a balance of future rural and urban development. Within the DOCP are objectives and policies that guide development on lands planned for urban growth. A plan or mechanism for the full cost recovery of urban services, while not included in the scope of this Plan, will be needed to ensure that water, sanitary sewer, storm water and transportation systems are adequately financed for sustainability over the long term. Development that occurs before urban growth reaches these areas must be designed in a way that enables well-planned, cohesive future urban growth, integrates with future urban land uses and infrastructure, and ensures the costs of urban growth can be recovered. Proposals for developments in designated Future Urban Growth Areas must adequately demonstrate capability of transitioning from a rural to urban form. At minimum, applications for development must demonstrate:

- The servicing for the site considers the future land requirements and standards of the relevant urban municipality (typically demonstrated through a conceptual servicing plan identifying the general location of future connections).
- Future resubdivision can be accommodated in accordance with the requirements of an urban zoning in the future (typically demonstrated through a shadow plan where the rural lot size and depth, building locations and on-site services are shown to support the future redevelopment as urban lots).
- All interim and future internal roadways are dedicated, securing a basis for future resubdivision and site servicing.

7.2. Servicing Agreements

A significant portion of the NCP is within the designated Future Urban Growth Areas in the P4G DOCP. Over time, these lands will be incorporated into the adjacent urban fabric. Regional coordination is required to ensure future urban infrastructure – transportation networks, water and wastewater systems, and storm water – is planned, developed, and paid for in the most cost efficient, fair, and equitable manner.

The P4G will be developing regional transportation, servicing and cost recovery plans that will include strategies and detailed mechanisms to address the planning and recovery of costs to upgrade the servicing within the Plan Area as urban infrastructure is phased into existing rural serviced developments. To guide land use and development decisions before these plans are completed, an interim NCP framework is proposed.

The interim framework is guided by the principles, strategic directions, and policies within the P4G DOCP including the efficient provision of infrastructure for both existing and new growth, reduce

costs, increase quality of services, facilitate coordination between P4G partners, plan to common standards and reduce service overlaps. To achieve the above, plans for interim infrastructure must consider the extension and integration of urban infrastructure in the future, and ensure costs and benefits are shared in a fair and equitable way through a transparent and consistent financial model.

Detailed costing and funding are not available due to the very large scale of the NCP and its long-term and conceptual nature. Further, there are numerous uncertainties regarding timing of development and specific thresholds that need to be met prior to urban services being extended and constructed. However, the NCP supports future infrastructure planning that ensures the costs of new growth areas are funded in a fiscally sustainable manner, and by acknowledging that growth should be paid for by those who benefit from it.

Until the above-mentioned regional transportation, servicing and cost recovery plans have been completed, the following framework will guide servicing agreements for new development within designated Future Urban Growth Areas:

- Proponents of subdivision and development shall be responsible for all costs associated with the development.
- All services and facilities constructed to a rural standard in support of a subdivision or development within designated Future Urban Growth Areas shall be considered interim until urban services extend to the site.
- All proposed subdivisions within designated Future Urban Growth Areas will require the applicant to enter into a servicing agreement with Corman Park that addresses the provision of services and facilities that directly or indirectly serve the subdivision, and the future transition of the subdivision to an urban standard.
- Proponents will be responsible for designing future urban services and facilities in accordance with the engineering standards of the relevant urban municipality in proximity to the site. The proponent must contact Corman Park to confirm the relevant urban municipality prior to undertaking the design.
- Future urban services and facilities shall be designed to the relevant urban municipality's standard; however, with the support of the relevant urban municipality, they may be constructed to a rural standard with a plan to transition to the urban standard in the future. The design shall include the projected costs for the transition to the urban standard and a mechanism to recover the costs that is acceptable to the relevant urban municipality. The servicing agreement shall be registered on each parcel created by the subdivision.
- Corman Park will enter into an intermunicipal agreement with the relevant urban municipality regarding planning future urban services and facilities, and recovering the costs for providing, altering, expanding or upgrading services and facilities that will be required when the subject lands transition to urban servicing.

8. Implementation

The NCP will be part of the DOCP. It will be used to guide land use and development decisions including proposals to amend the DOCP, rezone land or amend the text of the P4G District Zoning Bylaw, subdivide land, and establish discretionary uses. It will guide the partner municipalities' capital project priorities including regional transportation, servicing, and cost recovery plans.

8.1. Monitoring, Review, and Evaluation

The NCP is a long-term planning document that promotes a vision for coordinated, compatible, and consistent development within the Plan Area in the short- and long-term and provides guidance and recommendations that work towards achieving that vision over time. The NCP should be periodically reviewed and updated to reflect current priorities and circumstances until the build-out of the Plan Area is achieved.

8.2. Amending the Concept Plan

Where an amendment to the NCP is proposed, supporting information necessary to evaluate and justify the amendment must be submitted to Corman Park. The amendment will be referred to the P4G partner municipalities for review and comment and to the P4G District Planning Commission, who in turn will make a recommendation to the partner Councils. Since the NCP is adopted as part of the P4G DOCP, all the partner Councils must adopt by bylaw any amendment to the NCP. Approval of the amending bylaws rests with the Minister of Government Relations.

8.3. Plan Interpretation

To assist with the accurate interpretation of this Plan, the guidelines below are intended to provide further clarification.

- Unless otherwise specified in this Plan, the boundaries or locations of any symbols or areas shown on a map are approximate only and should be interpreted as such. They are not intended to define exact locations except where they coincide with clearly identifiable physical features or fixed boundaries such as road or utility ROWs.
- Exact measurements of distances or areas should not be taken from the maps in this Plan.
- The land uses identified on the Land Use Concept are not to be interpreted as an approval for a use on a specific site. No representation is made within this Plan that any specific site is suitable for a particular purpose as detailed site conditions or constraints must be assessed on a case-by-case basis as part of any development proposal.
- Where the boundaries of a land use do not follow a recognizable physical feature or fixed boundary, their precise location should be determined by Corman Park, in consultation with the relevant urban municipality if the site is in a designated Future Urban Growth Area, at the time of application.